Does Public Pension Policies of Canada Create Jobs for the Youth?

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1. INTRODUCTION

The rapid increase in life expectancy combined with a decline in fertility and early withdrawal from the labour force is changing the age composition of the labour force in Canada[1]. There are concerns among policy makers that this shift in the age structure associated with population ageing rate may have several consequences for the Canadian economy. According to Statistics Canada, as the baby boom generation (those born between roughly 1946 and 1965) retires, the labour force growth rate will be slower and the overall participation rate will decline sharply over the next few decades[2]. Looking at the large change in the age composition, the potential impact of labour market trends in one age segment on other age segments has become an important question.

On the production side of the economy, younger and older workers in theory can be either substitutes or complements. In Canada there is a popular belief that employment of older individuals crowds out employment of youth individuals[3]. This belief was the motivation for the policy reforms of the public pension system in Canada during the 1980s[4]. These policies favouring the early retirement are often supported and promoted with the justification that they may induce a reduction in youth unemployment rates in Canada[5]. However, as a result of these public pension policies the trend in early

[1] Health Canada (2002)
[2] http://www.statcan.gc.ca/daily-quotidien/070615/dq070615b-eng.htm
[3] *Baker, Gruber and Milligan (2008)*
[4] *Baker, Gruber and Milligan (2008)*
[5] http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0006599

retirement has been widespread until recently in Canada and the average age of retirement has declined sharply compared to the past several decades[6].

But today with the rapid pace of population aging, policy makers are searching for new ways to retain the older workers as they are now being considered as a potential source of labour for the Canadian labour market. Besides, the rapid aging of Canada's population is going to impose soon serious cost pressures on the pension system. Therefore, the public pension policies need to avoid distortions in favour of early retirement. An important question is whether or not the early withdrawal from the labour market of the older workers opens up opportunities for the youth to enter the Canadian labour force. Especially with the recent economic slowdown and higher unemployment rate (8.7%, in 2009[7]) the labour market situation has become very critical. The scope of this paper is to show the influence of retirement options and benefits of older workers on Canadian working youth. To keep our assessment simple we will only be dealing with the cases of men. Historically the women participation (especially older women) rate was less than the men (see Table-1.1). Though in the recent years the trend in female participation rate is steadily moving upward, it is still less than the male participation of the Canadian labour force. But as we will be dealing with past data going back to 1976, female inactivity in those years can distort our analysis.

[6] Milligan, Baker and Gruber (2001)

[7] http://www.statcan.gc.ca/daily-quotidien/090508/dq090508a-eng.htm

The paper is organized as follows. Section 2 defines the "youth" and "old" and then provides an overview of statistical information on youth and older population in Canada. Section 3, gives a historical overview of public pension reforms in Canada, explaining how these provisions has affected the retirement decision of the older workers. Section 4 presents the long-term employment and unemployment trends of both the old and youth in Canada. Section 5 reports correlations between employment of the age group 15 to 24 (youth) and the age group 55 to 64 (old) and discusses how the two age groups are affected by early retirement policies. Then the paper concludes with final remarks and policy implications.

2. "YOUTH" AND "OLD" IN THE CANADIAN LABOUR FORCE

In order to examine the relationship between the employments of youth and old, we define the two age groups: "youth" and "old" as follows:

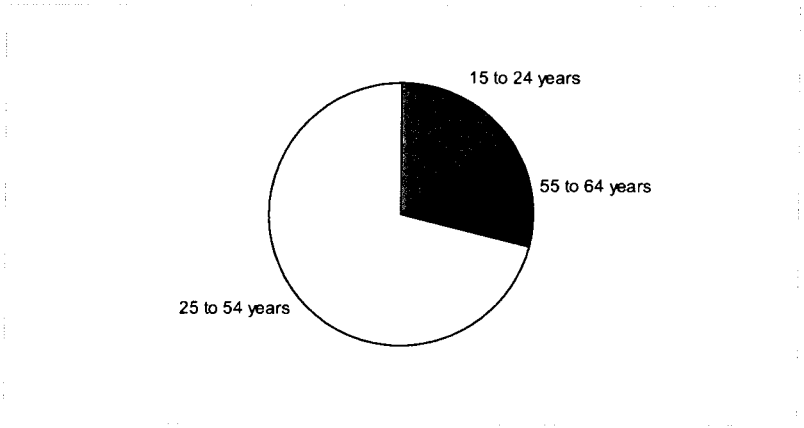
- "Youth" is referred to people aged 15 to 24. This is the age group which consists of people graduating from high school or continuing studies to junior colleges and universities[8]. It is assumed that most students in Canada complete undergraduate programs by the age of 24. We also assume that those who are out of the labour force at ages 15 to 24 are in school (colleges, graduate, and vocational schools).

[8] http://www.un.org/esa/socdev/unyin/index.html

- "Old" is referred to those aged 55 to 64 that is considered to be near retirement age[9]. Here, we are disregarding the age group 65 years and over, as the majority of the people of this age group has little interest in remaining in the labour force.

According to Statistics Canada, population share of the age group 15 to 24 was 14% and of the age group 55 to 64 was 12% in 2008[10]. Canada has a labour force of 18.18 million (est.) in 2008.[11] Among this, youth occupies 16% and older workers 13% of the total labour force of Canada in 2008 (see **Figure-2.1**).

Figure-2.1: Share of the two age groups (youth and old) in the Canadian labour force



Source: Statistics Canada

[9] http://www.who.int/healthinfo/survey/ageingdefnolder/en/index.html
[10] Statistics Canada (2008)
[11] https://www.cia.gov/library/publications/the-world-factbook/print/ca.html

3. History of public pension reforms and retirement pattern of the older workers in Canada

A pension is a private or government payment from which intermittent and regular benefits or allowances are paid to a person upon his or her retirement or disability[12]. In Canada the pension system has 2 basic goals[13] : to ensure elderly persons a basic income (the anti-poverty objective) and to maintain a reasonable relationship between an individual's income before and during retirement. This pension system in Canada is crystallized around three tiers[14] :

- The first tier includes a flat pension (Old Age Security) and an income-tested supplement (Guaranteed Income Supplement),
- The second tier is comprised of the Canada Pension Plan (CPP) and the Quebec Pension Plan (QPP),
- Finally, the third tier is comprised of private, employer sponsored Registered Retirement Plans (RRPs) and individual retirement savings accounts called Registered Retirement Savings Plans (RRSPs).

Canada's pension system has been the subject of controversy and change over the past few decades. Critics argued that the system failed to achieve its basic objectives. It was also argued that the younger generation will have to pay substantially more than its

[12] http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0006205
[13] World Bank (2005)
[14] Béland and Myles (2005)

parents and grandparents to sustain the CPP and QPP[15]. Therefore both the public and the private pensions have undergone major reforms since the mid-1980s.

3.1. Public pension reforms in Canada

The public pension reforms in Canada can be divided into five distinct eras, where each has its own social concerns, policy actions and policy debates[16]. Here we discuss each of these eras in order to provide the historical background for the popular debate about public pension policies affecting the employment of youth and elderly.

3.1.1. 1940s/1950s: Introduction of the OAS

The OAS pension is the public pension component of the post-war policy development, which was enacted in 1951 in order to replace the 1927 Old Age Pensions Act. It is an almost universal flat-rate benefit paid to those ages of 65 and over meeting residency requirements. It is funded on a pay-as-you-go basis from dedicated taxes[17]. The OAS was subject to many debates because of its nature of funding and base for taxation. Six editorials in the Globe and Mail between 1950 and 1953 criticized the Old Age Security system for its lack of pre-funding[18] and the non-relationship at an individual level between taxes paid and benefits received[19].

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[15] Baker, Gruber and Milligan (2008)
[16] Baker, Gruber and Milligan (2008)
[17] Baker, Gruber and Milligan (2001)
[18] Pre-funding is the approach used for pension plans. It requires that the government pay an annual amount of money to set aside and invest to pre-fund future retirees with pension benefits. This annual pre-funded amount funds the pension system so the money does not run out.

3.1.2. 1960s: Introduction of the CPP and QPP

During the 1960s, there has been concern about the well-being of the elderly, which eventually led to pressure for an expansion of the public pension system. There was debate about pre-funding the pension, which was one of the central reasons for Quebec's decision to form its own plan so that Quebec could pursue its social investing goals. At the end the CPP became a law and started to pay benefits as a pay-as-you-go plan[20]. Enacted in 1966, the CPP and QPP are two separate but highly coordinated earnings-related schemes financed from a payroll taxes levied on employers, employees and the self-employed. In addition to a retirement pension, the CPP and QPP also provide disability, survivor, orphans and death benefits. Benefits are fully indexed to the cost of living each year[21].

Initially, benefits between ages 65 and 70 under the CPP and QPP was conditioned on low earnings levels, with earnings above these ceilings taxed away at high rates, which might have influenced the employment decision of the older workers during that period. These earnings tests were eliminated from the CPP and QPP, in 1975 and 1977 respectively[22].

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[19] Baker, Gruber and Milligan (2008)
[20] Baker, Gruber and Milligan (2001)
[21] Battle (1997)
[22] Baker, Gruber and Milligan (2001)

3.1.3. 1980s: Early retirement in the CPP/QPP

In this era, the reform was motivated by two social concerns[23]. First, the high unemployment, especially among the youth, led to demands that older workers be forced out of the labour force in order to increase the possibilities for youth to find a job. Second, there was a desire to allow older workers to have more time in retirement to enjoy leisure.

In order to lower unemployment, the Quebec government introduced an early retirement option to the Quebec Pension Plan in 1984, which allowed for actuarially-adjusted retirement with benefits as early as age 60. In 1987 the Government of Canada implemented a similar early retirement package in the rest of the country for the CPP[24]. Since entitlement for CPP/QPP benefits is available from the age of 60 and since other sources of support such as OAS and GIS are not available until age 65, early retirement became very common among older workers during that period.

3.1.4. 1990s: Reforming the CPP

In the mid-1990s, long-term financial health of the program motivated a new reform. As CPP was originally designed as a pay-as-you-go, defined-benefit scheme with a small reserve fund equal to two-year' costs (benefits and administrative charges), it was projected that it would become very costly for future cohorts of workers. Therefore, it was suggested that contribution rates need to be raised dramatically if promised benefits were to be paid[25]. Moreover, programs established during this period were focusing more on the reintegration of displaced older workers into the labour market. But the early

[23] Baker, Gruber and Milligan (2001)
[24] Baker, Gruber and Milligan (2001)
[25] http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0006205

retirement policy, considered necessary in 1987, was considered a disadvantage by 1997 when unemployment rates were falling and older workers were a substantially larger and rapidly increasing share of the labour force[26].

Several possibilities for the reform were proposed. Higher payroll taxes were considered as affecting the intergenerational burdens and the labour markets. It was also feared that higher payroll taxes would increase unemployment. In addition, proposals to increase the retirement age were met with the charge that this would "clog up job opportunities" (Globe and Mail, 1996).

3.1.5. 2000s: Labour market shortages

From the years 2000 the attention shifted from unemployment to worker shortages, as the unemployment rate during this period reached as low as 6.9% (see **Table-4.2.1**).

During this period, because of the labour market tightness, there were little concern about the impact of these changes on the work opportunities of the youth. Therefore, policy actions had the objective to encourage more work and also to change the contractual mandatory retirement (CMR) regulations[27]. CMR provisions are the result of collective agreements and associated pension plans; They force the workers to retire at a pre-determined age, such as 65 and create a constraint to those workers who wish to work longer than the policy suggests. Mandatory retirement was associated with subsidized early retirement provisions that are common in employer-sponsored pension plans

[26] Neill and Schirle (2007)
[27] Milligan (2005)

(Pesando and Gunderson 1988)[28]. The mandatory retirement regulations fostered the labour and skill shortages in the country. Kesselman (2004) reports that the mandatory retirement policies were the reason for retirement of one out five retirees who left the labour force at 65 years old and over in 2004[29]. Several provinces changed their labour laws to make them less amenable to mandatory retirement in union contracts and in recent years almost all provinces in Canada has banned the CMR policy[30]. Despite couple of reforms in the 1990s, Milligan criticizes the public pension system in Canada as it still adversely affects the financial well-being of Canada's seniors[31].

3.2. Early Retirement in Canada

According to Statistics Canada's standard definition, 'retired' refers to a person who is aged 55 and older, is not in the labour force, and receives 50% or more of his or her total income from retirement-like sources[32]. The transition towards retirement can occur in many different ways and at different ages. Again, workers may retire voluntarily from their jobs or involuntarily. The involuntary retirement could result from illness, mandatory retirement policies, layoffs, plant closures or not finding another job. Involuntarily retirement actually causes less positive outcomes for retirees, such as lower enjoyment of life in retirement and shortage in the labour market.

Again, some people retire early and some retire later. Two features of social-security plans have an important effect on labour-force participation incentives. The first is the

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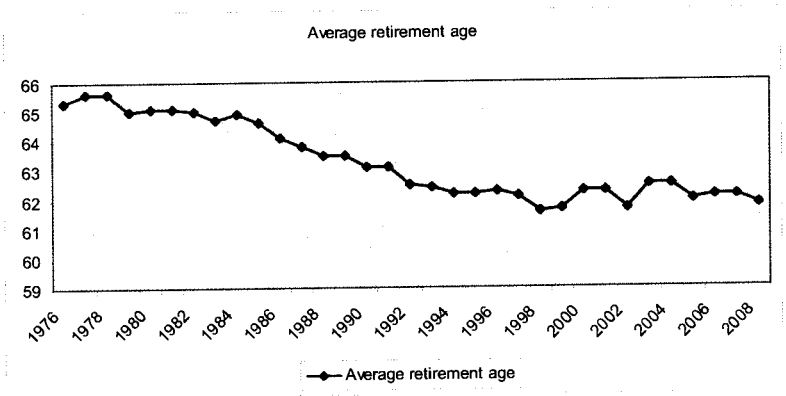
[28] Gunderson (2004)
[29] Kesselman *(2004)*
[30] *http://www2.canada.com/edmontonjournal/news/story.html?id=d0a8e28e-cfc1-47f6-a131-6cbb5482a49f*
[31] Milligan (2005)
[32] Bowlby (2007)

age at which benefits are first available; this is the early-retirement age. Second, the "normal" retirement age, which matters but to a less degree than the early-retirement age[33]. The trend in early retirement has been widespread in Canada and the average age of retirement has declined sharply in the past several decades, as it can be seen from **Figure-3.2.1.** According to the figure, the average age of retirement dropped from 65.3 in 1976 to 61.6 in 1998. Then it remained constant around age 62 from the mid 1999 till 2007, then it again dropped to 61.8 in 2008. Therefore, we can say that the decline in the early retirement trend has halted since 1998 till 2007, but it again started to drop since 2008. The worldwide recession of 2008 could be a reason for the drop in the average age of retirement, as recessions were among the factors behind the drop in the 1980s and 1990s.

Figure-3.2.1: Average age of retirement, men



Source: Using data from Statistics Canada (Table-3.2.1)

Apart from recession, the decline in the average age of retirement during the 1980s could be explained by the introduction of the early retirement provision in CPP and QPP during that period. The effect of the 1980s reforms is evident from ***Figure- 3.2.1.***

[33] Milligan, Baker and Gruber (2001)

We can see that before the 1984 and 1987 reforms in QPP and CPP respectively, the average age of retirement was around 65 and after the reforms 62 became the most frequent average age of retirement, reflecting the various incentives provided for early retirement. It could be because, until 1984 for the QPP and 1987 for the CPP, benefits could not be claimed before the 65th birthday, and after the reforms, individuals were allowed to claim benefits as early as age 60, with an actuarial reduction of 0.5 percent for each month of early claiming (before age 65), and an actuarial increase of 0.5 percent for each month of delayed claiming (after age 65, and up to the age of 70)[34]. Again, the large scale government cutbacks and corporate downsizing in the 1990s made it difficult for the older workers to continue with their jobs, which resulted in a drop of the average age of retirement during that period.

But we have to remember that the public pension system alone is not responsible in influencing individuals' retirement decisions. One of the most common reasons for people to retire earlier is that it is financially possible for them, which is more common among the voluntary retirees than the involuntary retirees. In many cases, the employers, including governments, offer during recessions generous packages to encourage older workers to retire from the labour force, which make retirement suddenly 'financially possible'. According to the Workplace and Employee Survey (GSS Cycle 16) in 2002, the reasons that retirees gave for retiring are as follows[35] :

[34] Milligan, Baker and Gruber (2001)
[35] Gomez and Gunderson (2007)

Financially possible	59.7%
Wanted to stop working	55.5%
Wanted to do other things	39%
Qualified for a pension	38.6%
Health	28.4%
Early retirement incentive	13.3%
No longer enjoyed work	12.8%
Job downsized	11.3%
Mandatory retirement	11.1%
Care for a family member	11%
Unemployed	4.8%.

Early retirement causes a lower participation rate and an increased inactivity, which have widespread consequences as the population ages. Milligan (2005) points out that, when an individual retires early, the annual pension income he receives for the rest of his life typically is smaller than if he had retired later. Furthermore early retirement causes the economy to lose a worker and the government to lose the worker's tax payments on employment income.

From the above discussion we can say that the current labour-force departure rates in Canada correspond closely to the public pension provisions. But today, given the

slower growth rate of the Canadian labour force, policy makers and employers are searching for new ways to retain the older workers in their jobs as long as possible. Therefore, it has become important to see the impact of early retirement incentives on the youth unemployment, because if the early retirement actually doesn't make "enough room" for the youth then further reform in public pension policies are required. So in the next section we will try to find out what is the relationship between the employment of youth and old in Canada.

4. THE LONG-TERM EMPLOYMENT AND UNEMPLOYMENT TRENDS OF BOTH THE OLD AND YOUTH IN CANADA

This section overviews the long-term trends of participation rates, employment and unemployment of two age groups (youth and old) in Canada since 1976.

4.1 Labour force Participation

According to Statistics Canada, the participation rate for a particular group (age, sex, marital status, geographic area, etc.) is the total labour force in that group as a percentage of the population in the same group. The labour force participation rate measures the extent of an economy's working-age population that is economically active. It also provides an index of the relative size of the supply of labour available for the production activity of the economy and the breakdown of the labour force by sex and age

group gives a profile of the distribution of the economically active population within a country[36].

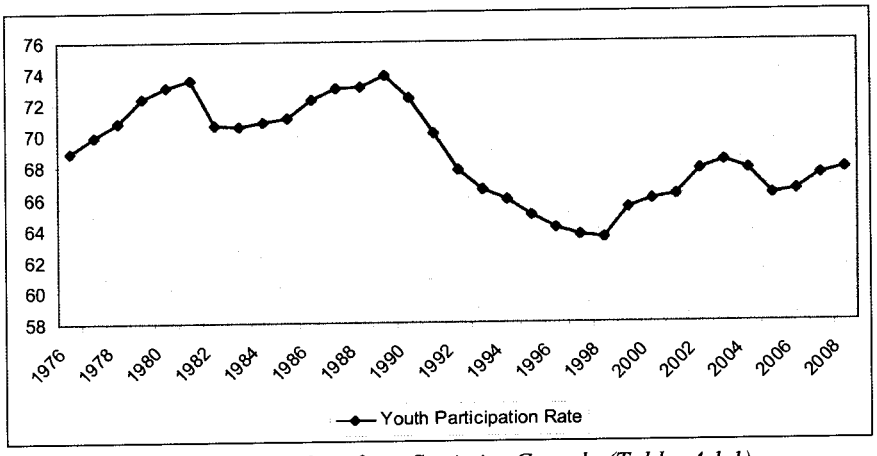
Over the last 30 years, there have been significant changes in the participation rate of the Canadian workforce. In this section, we focus on the recent trends in labour force participation of both youth and old men and then examine how the change is related to the public policies of Canada.

4.1.1. Youth Participation Rate

The share of youth people in the labour force population has a very fluctuating trend in Canada. **Figure-4.1.1** exhibits that the youth participation rate rose up from 68.9% in 1976 to 73.1% in 1980. Following the 1981-82 recession, the participation rate declined to 70.6% in 1983, then recovered slowly until 1990. However, after the 1990-91 recession, the youth participation rate continued to decline, falling to 63.4% in 1998, the lowest participation rate of all time. From 1999, the youth participation rate started to increase and reached 67.8% in 2008.

[36] Statistics Canada (2007)

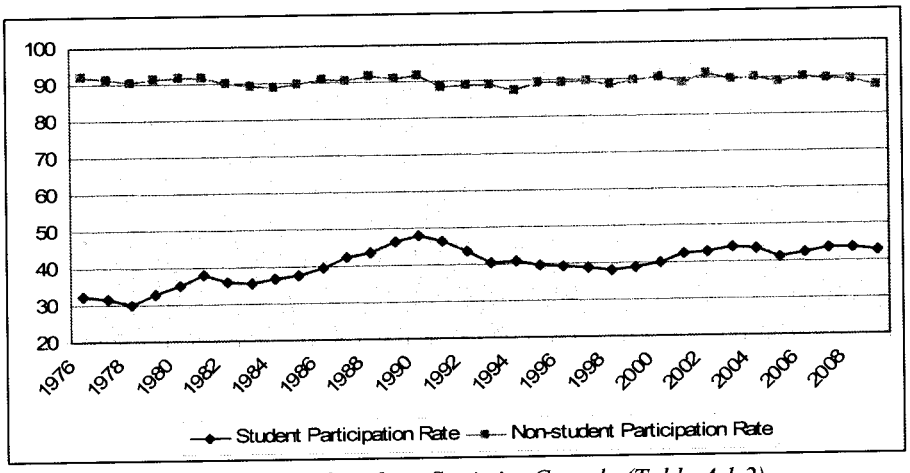
Figure 4.1.1.: Youth Participation Rate



Source: Using data from Statistics Canada (Table-.4.1.1)

Now, if we separate the participation rate for the 15- to 24-year-old into students (both full time and part time) and nonstudents **(Figure 4.1.2),** then we notice that these groups exhibit very different participation rates. Over the period as a whole, the participation rate of non-students was on average of 50 percentage points higher than that of students. However, between 1976 and 1989, the student participation rate increased more than the non-student rate. From 1989 to 1997, the student participation rate dropped by 6.7 percentage points, while the non-student participation rate fell by only 2.2 percentage points. Since the end of the 1990-91 recession, and particularly since 1994, the non-student participation rate has begun to increase gradually. On the other hand, the student participation rate has stabilised at about 38% since 1995. Between 1989 and 1997, the participation rate of non-students declined less than that of students. After the year 2000 both participation rates shows less vulnerability, student rate was 40%-45% whereas non student rate stayed around 90% **(Figure 4.1.2).**

Figure 4.1.2.: Student (full time and part time) and Non Student Participation Rate



Source: Using data from Statistics Canada (Table-4.1.2)

Factors affecting Youth Participation Rate

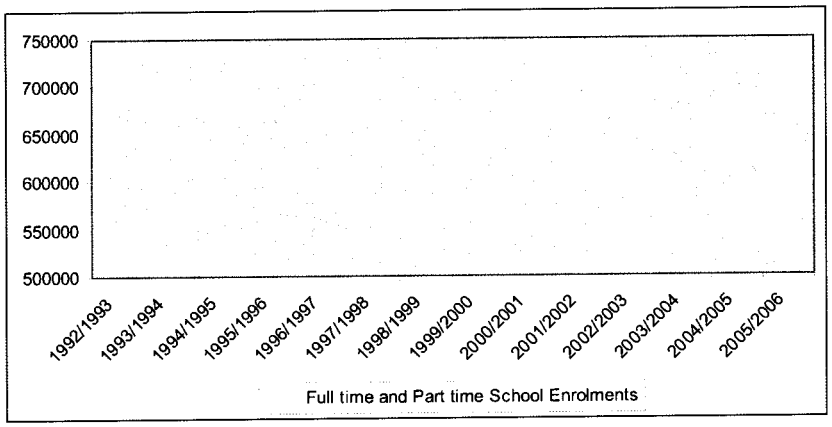
Below I discuss five factors that have been identified in the literature as affecting the youth participation rate.

1. **Figure-4.1.1** illustrates that the youth labour force participation rate in Canada had a downward trend during the 1990s, indicating that the labour market conditions during this period have been difficult for youths. This resulted in a drop in hiring and a rise in layoffs for those with lower skills and little seniority[37]. According to Archambault and Grignon (1999) about 40% to 50% of the decline in the youth participation rate between 1990 and 1996 is attributable to the economic cycle[38]. The study also finds that social assistance changes, unemployment insurance changes and increases in the minimum wage relative to the average wage respectively contributed to the decline in the youth participation rate between 1990 and 1996.

[37] Sunter and Bowlby (1998)
[38] Archambault and Grignon (1999)

2. Part of the decline in the youth participation rate during the 1990s and mid 2000s can also be explained by the rise in full-time school attendance. Human Resources and Skills Development Canada (HRSDC) indicates that, since 1989, 44% of the decline in youth labour force participation has been due to increased school enrolment and 38% has been due to declining student participation in the labour market. The remaining 18% is accounted for by declining labour force participation rates for non-students[39].

Figure 4.1.3.: Youth School Enrolments



Source: Using data from Statistics Canada (Table-4.1.3)

As we can see from **Figure-4.1.3,** the rate of school enrolment has an upward sloping trend, strengthening the fact that recession and other market constraints encourage students to get back to school. Clearly, youths understand that labour market success depends mostly on educational attainment[40]. Notice that the school enrolment shows a continuous increase since 2000, which reached at a highest point in 2006, whereas the participation rate of youth declined from 68.3% in 2003 to 66.4% in 2006 (see **Table-4.1.1).** This may not be a coincidence; school enrolment is negatively related

[39] http://www.rhdcc.gc.ca/eng/cs/sp/hrsdc/edd/reports/2000-00411/page06.shtml
[40] Sunter and Bowlby (1998)

to participation rate. Thus, an increase in attendance rates produces a lower overall youth participation rate, other things being equal, since students are much less likely to be working or looking for work.

3. The increase in the minimum wage relative to the average industrial hourly wage in some provinces (for example: Alberta, Ontario[41]) might have negatively affected the labour force participation of the youth, which resulted in their withdrawal from the labour force. In the neoclassical framework, an increase in the minimum wage reduces employment for those workers with wages at or near the minimum level[42]. Archambault and Grignon (1999) found that increases in the minimum wage accounted for 3 to 9 percent of the decrease in the youth participation rate in the 1990s[43]. According to their results the effect of the relative minimum wage is greater among students than among nonstudents. Although the impact of minimum wage increases on labour force participation have been a subject of vigorous debate. According to the findings of Murray and Mackenzie (2007) there is no obvious relationship between employment levels and the minimum wage. While considering the situation for youth, the finding suggests that sometimes the participation rate declines when minimum wages increase and sometimes it does not[44].

4. Card and Riddell (1992, 1996) claim that an increase in the generosity of the Employment Insurance (EI) program has a positive effect on the youth participation rate.

[41] Murray and Mackenzie (2007)
[42] Yuen (2003)
[43] Archambault and Grignon (1999)
[44] Murray and Mackenzie (2007)

The Employment Insurance (renamed from Unemployment Insurance in 1996) refers to government benefit payments during a period of unemployment in order to facilitate longer and more effective periods of job search for the workers[45]. In Canada, the employment insurance system is financed by premiums paid by employers and employees and by federal government contributions. To qualify for employment insurance benefits, applicants must show that they were previously employed for between 420 and 700 hours depending on the local unemployment rate[46]. The number of weeks for which benefits can be claimed varies, depending on the length of previous employment, previous employment insurance claims, and the national and regional unemployment rate.

It is often argued that that the program has attracted some individuals into the labour force in order to become eligible for benefits. According to Ferrall (1994), the positive effect of EI on participation rate is greater among weakly attached workers (i.e., the 15-24 age brackets) than among workers who are strongly attached to the labour market (i.e., the 25-54 age groups). The findings suggest that more generous the EI program, the more likely young people are to enter the labour force.

5. **Figure 4.1.1** illustrates that participation rate of young people has been increasing during the early 2000s, which could possibly be explained by the job creation during this period. According to Statistics Canada, job creation among youth rose 21.1% between 1997 and 2004, which is equivalent of 428,000 new jobs, whereas job creation

[45] http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0008203
[46] http://www.servicecanada.gc.ca/eng/ei/menu/eihome.shtml

among adults aged 25 and over was only 15.8%[47]. The retail trade sector is considered to be the largest employer of youth. Between 1997 and 2004, employment among youth grew by 192,000, with half of this growth (97,000) in retail sector. The next large sector to create new jobs was the accommodation and food services sector, where 61,000 new jobs were added[48].

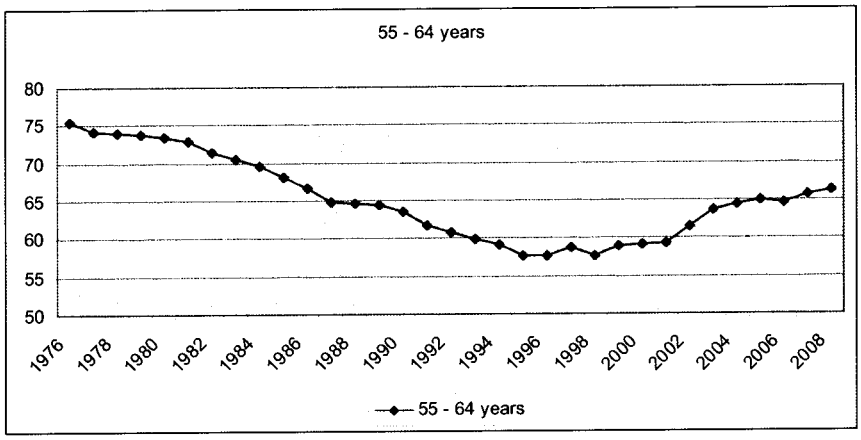
4.1.2. Older workers participation

Over the last 30 years, there have been significant changes in the participation rate of the older labour force of Canada. The older participation rate in Canada has been gradually declining until the mid 90's and then it started to rise. The participation rate of older workers had declined from 75.35% in 1976 to 57.6% in 1998 (Table-4.1.4). However, starting 1998, the participation rate of older workers started to increase and peaked at 66.2% in 2008. **Figure 4.1.4** illustrates the trend in the participation rate for older workers.

[47] http://www.statcan.gc.ca/daily-quotidien/051123/dq051123b-eng.htm

[48] http://www.statcan.gc.ca/daily-quotidien/051123/dq051123b-eng.htm

Figure 4.1.4: Older worker participation rate



Source: Using data from Statistics Canada (Table-4.1.4)

Factors affecting Older Participation

1. The decline in the participation rate during the 1980s could partly be explained by the effects of the 1981-82 recessions. Again, the recession of 1990-91, resulting from the Gulf War, the rise in oil prices and a contraction of the monetary policy, caused the decline in the participation rate of older workers in 1990s[49]. High unemployment rate and the early retirement options provided incentives for older workers to exit the labour market earlier, especially during recessions. Thus the social-security programs have indeed contributed to the decline in the labour-force participation of older persons, reducing the potential productive capacity of the labour force.

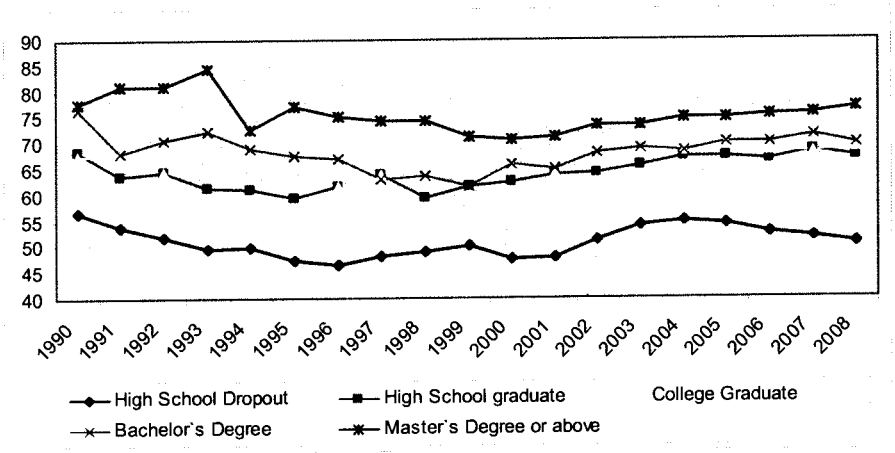
2. **Figure- 4.1.4** illustrates the rising trend in older participation rates during the recent years, which may help dampening the expected labour shortage due to population ageing. Marshall and Ferrao (2007) report that an estimated 2.1 million individuals aged

[49] Fortin (1996)

55 to 64 were either employed or looking for work in 2006[50]. Part of this rising trend of the older workers could be explained by the higher levels of education, since more schooling means greater opportunity for higher-quality job and higher earnings, even past age 60.

Figure-4.1.5 demonstrates that an older worker with a Master's degree or above has much higher participation rates than high school dropouts. For example, in 2008 the participation rate of older workers with a Master's degree or above was 76.7%, while the participation rate of high school dropouts was only 50.8%. Consequently, there is a positive correlation between the higher level of education and the rate of participation by older people. Thus the trend in the participation rate of older workers is expected to go up as the well-educated baby boomers enter their senior years (the oldest boomers turned 60 in 2006[51]).

Figure-4.1.5: Participation rate by educational attainment of older workers



Source: Using data from Statistics Canada (Table-5)

[50]Marshall and Ferrao (2007)
[51]Marshall and Ferrao (2007)

There are a handful of reasons for the older high skilled workers to stay in the work force longer. For example, jobs involving high or specialized education tend to be less physically demanding; thus older people face less physical limitations and may prefer to retire later. Again some professions require a longer period of education and training (such as medicine, law) and individuals involved in these jobs starts their careers in their late 20s or early 30s, so they may especially work after reaching 60 years old.

3. The participation of older immigrants could also be responsible for the rising trend in the older workers participation rate in Canada during the recent years. The country has one of the highest per capita rates of permanent immigration in the world. Most skilled and experienced immigrants arrive at later years of their life. For example, Zietsma (2006) found that nearly half of the established immigrants were in the 55 and older age group compared to just over a quarter of Canadian born in 2006. Therefore, the increasing trend of the participation rate of older workers could also be explained by the contribution of the immigrants in the labour force. Since Canada's immigration has been dominated by the selection of an increased proportion of skilled and experienced immigrants. According to Mérette, Fougère and Zhu (2006), the recent Canadian immigrants tend to be better educated than previous cohorts of immigrants, which helped to rise participation rate by immigrants. Another point to be noted is that some of the popular specialized professions (Medicine, Engineering, etc) require more trained and educated people and immigrants involving those professions start their career at their middle age and they choose to work far beyond age 65 to accumulate the savings required to maintain their lifestyle after retirement.

3. Another possible explanation for the higher participation rate by older workers could be the ban of the Contractual Mandatory Retirement (CMR) in almost all provinces during the recent years. Kesselman (2004) found that the mandatory retirement policies were the reason behind retirement for one out five retirees who left the labour force at 65 years old and over in 2004 and a judicial ban on mandatory retirement, on the other hand, complemented other advances in workplace practices and public policies to induce higher participation rate[52].

Ontario made CMR illegal in 2006, Saskatchewan followed suit in 2007, British Columbia banned it in 2008 and Nova Scotia intends to outlaw the practice sometimes this year[53]. Even if the experience in jurisdictions where CMR has been banned for many years (i.e. Manitoba and Quebec, where CMR has been banned since 1982 and 1983 respectively) has neither witnessed a radical change nor adverse effects[54], we should keep in mind that Canada witnessed two major recessions in the 1980s 1990s, so that a ban on CMR in these provinces could not successfully prop up the participation rate and the average age of retirement.

4.1.3. Comparing the participation rate of Youth and Old

From **Figure-4.1.6,** it is evident that, historically, age group 55 to 64 has a lower participation rate than the age group 15 to 24 in the Canadian labour force. Now we will see how the Canadian public pension policies have affected the participation rate

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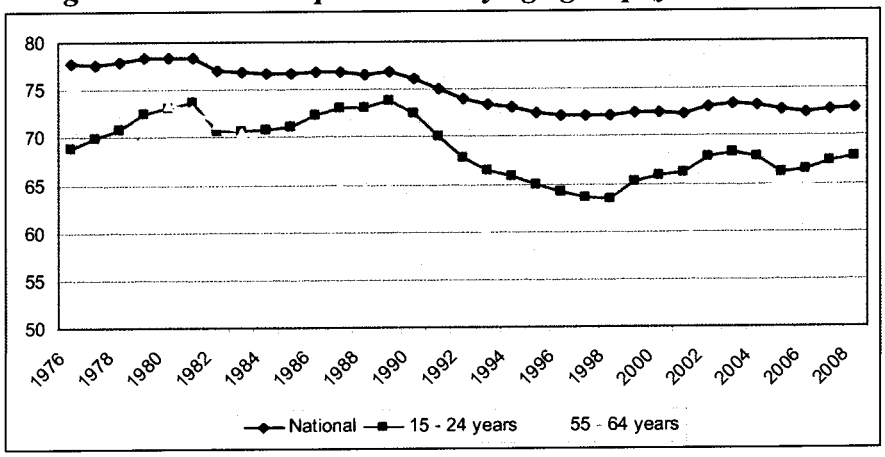
[52] Kesselman (*2004).*
[53] *http://www2.canada.com/edmontonjournal/news/story.html?id=d0a8e28e-cfc1-47f6-a131-6cbb5482a49f*
[54] Gunderson (2004)

of the old and whether the early retirement of old has created room for the youth. If we consider **Figure 4.1.6,** we notice that after the introduction of the early retirement option to the QPP in 1984 and CPP in 1987, the participation rate of older workers decreased from 69.65% in 1984 to 64.5% in 1989, while the participation rate of youth increased from 71.1% in 1984 to 73.8% in 1989. This might indicate that the departure of older workers from the labour force did "make room" for the youth. But after the policy reform of 1990s, which focused more on the reintegration of displaced older workers into the labour market, it neither helped to increase the participation rate of older worker nor the participation rate of youth. Both the participation rate actually started to decline since 1990 and reached 59.35% for old and 66.1% for youth in 2001. However, since 2002, we can see an improvement in the older worker participation, which reached 66.2% in 2008. The average age of retirement also dropped during this period (see Figure-3.2.1). The participation rate for youth, on the other hand increased in 2002 to 67.2%, but it did not show much improvement afterwards and remained at the same rate in 2008. Therefore it does not provide strong evidence of elderly employment crowding out the work of the young.

Figure-4.1.6: Participation rate by age group (youth and old)



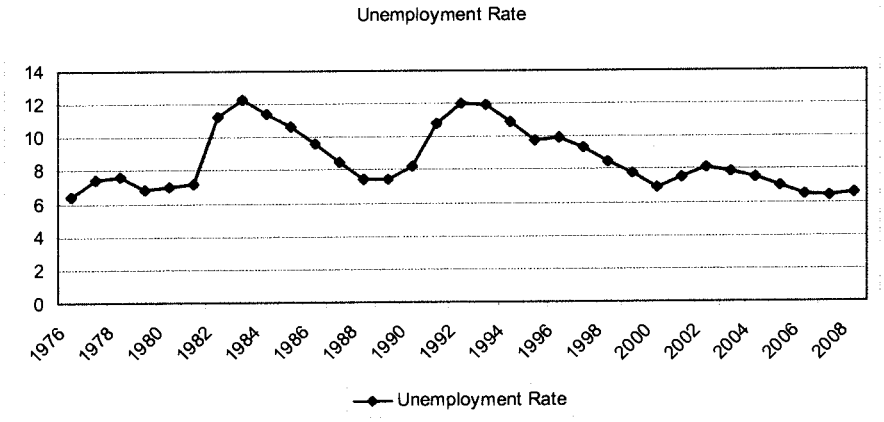
Source: Using data from Statistics Canada (Table-4.1.6)

4.2. Unemployment

The unemployed are those who want and are able to work but have no work at present. For statistical purposes, Statistics Canada defines the unemployed more precisely as those who did not work in the labour market during the survey reference week (but may have done housework, etc), were available for work and had activities looked for work in the past 4 weeks, were on temporary layoff for 26 weeks or less and expected to be recalled by their employer, or were waiting for a new job to begin within 4 weeks.[55]

Since the mid-1980s, the response of Canadian unemployment to upturns and downturns in the business cycle has not been similar (see **Figure-4.2.1**). Now we will look at the recent trends and characteristics of both youth and old unemployment and examine how these trends are related to the public policies of Canada.

Figure-4.2.1: Unemployment rate of Canada



Source: Using data from Statistics Canada (Table-4.2.1)

[55] http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0008202

4.2.1. Youth Unemployment

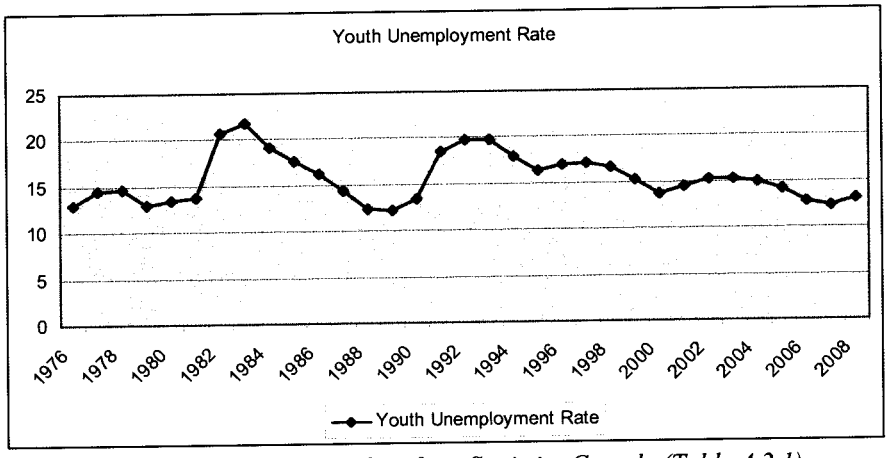
It is believed that Canada's expanding labour market favours new entrants, especially young people. Despite its remarkable ability to create jobs, the Canadian economy has been unable to shelter the young from above average unemployment during quite a long time[56]. Youth unemployment has been high in Canada for several decades. For youth individuals aged 15 to 24, the transition from school to work means entering the labour market with relatively lower skill, lower experience, unfamiliarity with job search and unawareness of the job opportunities that are open to them. A large number of them face the possibility of unemployment during their initial year(s) as new members of the labour force [57].

Figure-4.2.2 illustrates that after the 1980-81 recessions the youth unemployment rate increased to 21.8%, which is the highest rate to date. Then it started to decrease and reached 12.2% in 1989 at the time when youth participation rate was also at record highest (see **Figure-4.1.1**). However, the recession at the beginning of the 1990s had a lasting effect on the youth labour market. With high number of layoffs and weak hiring during that period[58], the unemployment rate of youth reached as high as 17.9% in 1994. Afterward, the situation started to improve and the youth people came slowly back to the workforce as a result of the strengthened economy. As a result, in 2007 the youth unemployment rate was only 12.3%, which is the lowest in the past 30 years. But the recent recession of 2008 has again affected the Canadian labour market severely which

[56] Gross (1998)
[57] Kerr (2000)
[58] Gunderson, Sharpe and Wald (2000)

resulted in higher overall unemployment rate (8.7% in 2009) and a higher youth unemployment rate (14.2%, which is the highest of all age groups in April 2009)[59].

Figure-4.2.1: Youth Unemployment rate



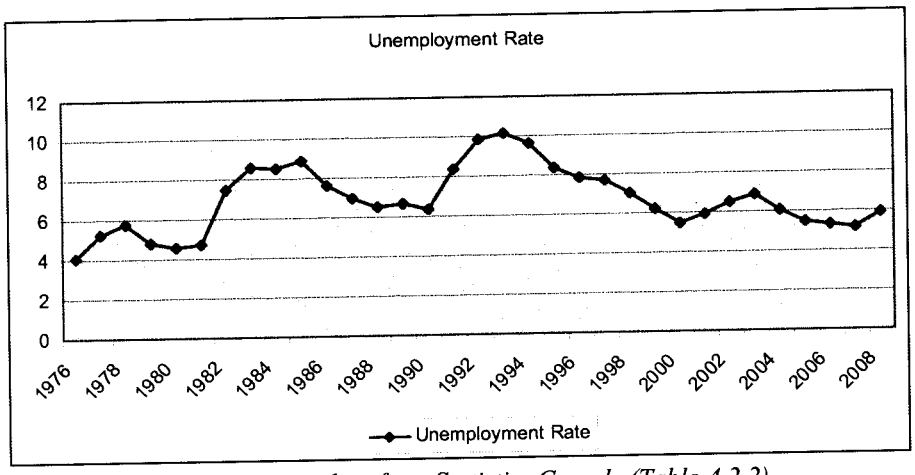
Source: Using data from Statistics Canada (Table-4.2.1)

4.2.2. Old Unemployment

If we look at the unemployment trend of older workers, we will notice that it has fluctuated a lot over the years. After the recession of 1980s the unemployment rate of older workers rose to 8.9% in 1985 (**Figure-4.2.2**). Then it started to decline, but reached a highest rate of 10.15% in 1993 after the 1990s recession. The rate declined again after 1993 and was around 5% during the 2000s. But in the recent recession, the older workers unemployment rate has also increased and reached 6.2% in 2009[60].

[59] http://www.statcan.gc.ca/daily-quotidien/090605/dq090605a-eng.htm
[60] http://www.retirementhomes.com/library/finances-and-work/careers/unemployment-rates-lower-for-older-workers,-trends-still-a-concern-20090406631.html

Figure-4.2.2: Older worker Unemployment rate



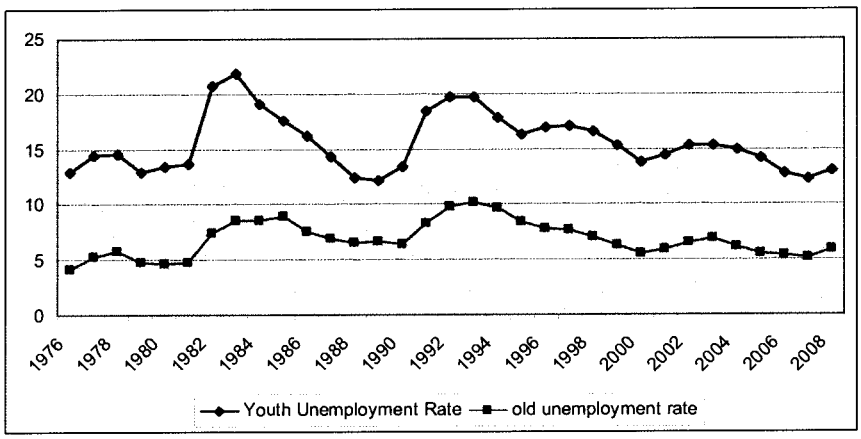
Source: Using data from Statistics Canada (Table-4.2.2)

4.2.3. Comparing Youth and Old Unemployment

The unemployment rates of the two age groups are depicted in **Figure-4.2.3.** The most interesting and relevant feature of the figure is that the youth unemployment rates are typically substantially higher and slightly more vulnerable than that of olds. This high unemployment among those 15-24 years of age indicates that non-demographic factors also play a major role in this problem. In other words, in absolute terms, youth unemployment rates are more volatile in response to variations in economic conditions than do adult rates, increasing more in recessions and recovering more quickly during booms[61]. The following discussion examines a number of factors that explain why young workers experience more volatile of unemployment than their adult counterparts.

[61] Higgins (1997)

Figure-4.2.3: Unemployment rate by age group (youth and old)



Source: Using data from Statistics Canada (Table-4.2.3)

1. Demand-deficient unemployment is usually viewed as an economy-wide problem. A fall in aggregate demand leads to a fall in the demand for labour in general and consequently for young labour as well as adult workers. There are a number of reasons why one might expect youth unemployment to be more sensitive than adult unemployment to changes in aggregate demand. One such reason is that the opportunity cost to firms of firing young people is lower than for older workers[62]. Jimenjo and Palenzuela (2002) finds that overall cost of standard labour contract (employment protection, higher tax wedge, etc) and the average lower job experience are likely to make youths less attractive to firms, especially during recessions. Since adult workers are generally more marketable and attractive to employers at the going wage, they will be the first to be rehired as soon as the economy starts to recover[63].

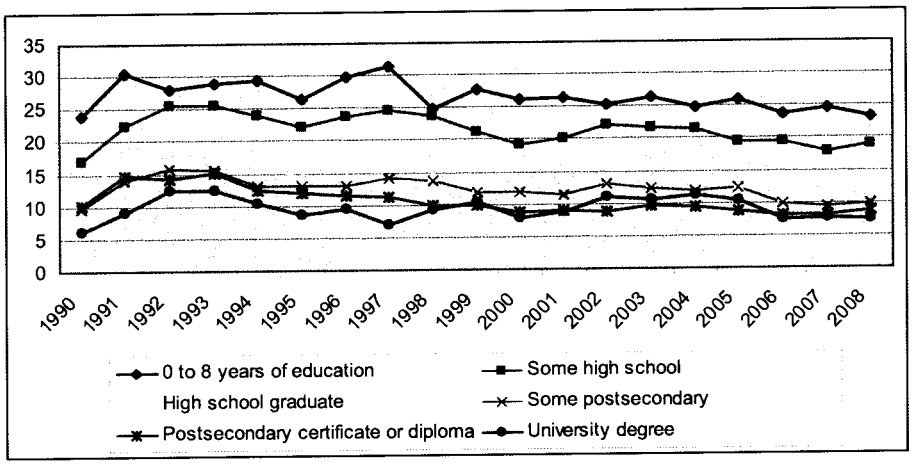
[62] Higgins (1997)
[63] Kerr (2000)

2. Another most common reason for persistently high youth unemployment is that younger people entering the labour force have less skill or related training. Bernard (2003) finds youth unemployment is closely tied to their skill shortage issue. She says "*many youth are finding themselves marginalized from the labour market, either because they do not have the required skills or because the skills they do have are not in areas of high demand.*" Thus, youth who cannot afford higher education, could find themselves excluded from higher skilled and better paying jobs. Bowlby and Jennings (1999) pointed that even when the youth do find jobs, they are more likely to be working part-time compared to adults[64].

To get a better understanding, now we look at unemployment situation by educational attainment. For benchmarks, we have set five different education levels: High school dropout (0 to 8 years of education), some high school (9 to 11 years of education), high school graduates, some postsecondary (didn't complete), postsecondary diploma holders and university graduates. In general, the unemployment rate for youth varied with educational attainment. In 2008, among youth, those who had not completed high school (0 to 8 years of education) had the highest annual unemployment rate, which is 23.3%, while those who had a post-secondary certificate or diploma had the lowest, which is 8.7% (see **Figure-4.2.4**).

[64] Bowlby, and Jennings (1999)

Figure-4.2.4: Unemployment by education for age group 15-24



Source: Using data from Statistics Canada (Table-4.2.4)

3. Another possible explanation for higher youth unemployment can be the gradual increase of minimum wage program implemented by almost all the provinces in Canada. The minimum wage, which is under provincial jurisdiction, is not automatically indexed to the cost of living and adjustments are made according to the economic situation and the political will of the government[65]. Although most studies have established that there is a significant and negative effect of minimum wages on youth employment in Canada, the evidence of the effects of minimum wages on aggregate unemployment is somewhat mixed. The most commonly accepted explanation for negative effect of minimum wages on youth employment is Hammermesh's (2002) observation that Canada is "a desirable laboratory" for testing minimum wage effects because minimum wages are set provincially, which gives more identifying variation[66]. The list of studies yielding significant negative employment effects in Canada includes Swidinsky (1980), Schaafsma and Walsh (1983), Grenier and Seguin (1991), Baker,

[65] Gross (1998)
[66] McDonald and Myatt (2004)

Benjamin and Stanger (1999), Baker (2003), Yuen (2003), Campolieti, Fang, and Gunderson (2004), and Campolieti, Gunderson and Riddell (2004)[67].

Over the years, minimum wages have undoubtedly increased the incomes of young workers, but they have also constrained the level of employment[68]. As more people may enter the labour market in search of jobs because of the increased attractiveness of work, such an increase exceeds the additional available jobs, therefore, the measured unemployment rate tends to rise[69].

4. Some other features of the Employment Insurance (EI) could be responsible for the increase in the youth unemployment. Kerr (2000) mentions that because of the level of assistance, entrance requirements and the program's benefit structure, some features of the Employment Insurance (EI) may lead to an increase in both frictional unemployment and structural unemployment of the youth in Canada[70]. Here frictional unemployment is defined as the unemployment that is always present in the economy, resulting from temporary transitions made by workers and employers or from workers and employers having inconsistent or incomplete information[71]. Structural unemployment on the other hand is defined as the unemployment resulting from changes in the basic composition of the economy. While opening new positions for trained workers[72].

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[67] McDonald and Myatt (2004)
[68] Kerr (2000)
[69] Higgins (1997)
[70] Kerr (2000)
[71] http://www.investopedia.com/terms/f/frictionalunemployment.asp
[72] http://www.investopedia.com/terms/f/frictionalunemployment.asp

It has been argued that frictional unemployment rises because EI benefits induce some people to leave their jobs more frequently and for longer periods and it is often suggested that frictional unemployment is high among the youth [73]. Frictional unemployment is thought to be high among the youth for a number of reasons. Initially, the job search of young people extends over a longer period. Besides young are also generally characterized as having a lower attachment to the labour force as they are less likely to "need" a job to support a family. They appear to have more alternatives to work than many adult workers and consequently withdraw from and re-enter the labour force more often[74].

Again, many argue that structural unemployment has risen because EI reduces the financial incentive for some individuals to move to high demand areas in need of their skills. As a consequence, the duration of their unemployment is extended. This is considered to be most pronounced among unemployed individuals living in areas where benefits have been extended due to a higher unemployment rate in their local labour market[75]. A study by Card and Riddell (1993) suggests that EI has effects on both the demand side and the supply side of the labour market. It is often argued that there is significant involuntary unemployment at the time EI benefits are exhausted, which suggests that reducing benefit entitlements would not affect incentives much. Poloz (1994) has suggested that the implied wage tax/subsidy created by EI can have only very minor effects on labour supply behaviour because empirical estimates of the wage elasticity of labour supply tend to be low.

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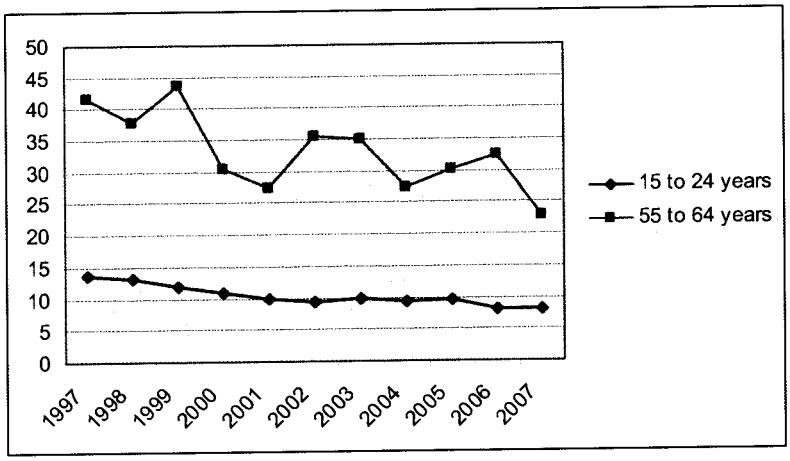
[73] Kerr (2000)
[74] Kerr (2000)
[75] Kerr (2000)

5. It is a well known fact that as the unemployment rate increases in a recession, the incidence of long-term unemployment also increases. It is also evident that the incidence of long-term unemployment declines much more slowly during subsequent recoveries. Studies have shown that the long-term unemployment is much higher for older workers than the young workers and the incidence is particularly low for youth because of their high turnover in the labour market[76].

If we take a look at the duration of unemployment of the two age groups in **Figure-4.2.5**, then we notice that the older have a much longer period of unemployment compared to the youth. Although most of older worker work as full time, they are less likely to catch up for another job quickly once dismissed. A significant percentage of employers admit that they do not consider candidates over 55 or 60 years of age[77]. Acquiring new skills and knowledge greatly increases the likelihood of finding and maintaining jobs. But the older workers are often passed over for training since the "return" is thought to be too small and they are considered unable to learn, especially in industries characterized by youthfulness, such as information technology, older workers face even higher barriers[78]. However, many studies suggest that older workers can be trained just as well as youth workers[79].

[76] Wong, Henson and Roy (2000)
[77] The Law Commission of Canada (2004)
[78] The Law Commission of Canada (2004)
[79] The Law Commission of Canada (2004)

Figure-4.2.5: Duration of unemployment of youth and old



5. EFFECTS OF ELDERLY EMPLOYMENT ON YOUTH UNEMPLOYMENT

In this section we investigate the relationship between inducements for the old to exit the labour force and its effect on the employment and unemployment of the youth.

5.1 Statistical Evidence

We first look for a direct effect of the employment of the elderly on youth unemployment. A statistical calculation (**Table-5.1.1**) shows us the correlation of the two variables (old employment and youth unemployment) is -0.374519. So, older worker employments have a negative correlation with youth unemployment. Therefore, we find no evidence of elderly employment crowding out the work of the youth.

This finding is also consistent with the findings of Baker, Gruber and Milligan (2008), where their graphs find little visual evidence that trends in elderly labour force

participation rate have an impact on the labour markets of the younger and their regression analysis does not provide any concrete evidence of crowding out of labor market activity of the young when the elderly increase their labor force participation[80]. According to them, "the validity of the argument that retirement of older workers helps to 'make room' for youth workers, depends critically on two factors: First, the substitutability between younger and older workers in the production process. If older workers are not fully replaceable by younger ones, it will substantially counteract any effect on the unemployment rate of younger workers. Second, retirement of older workers will possibly decrease the production in the economy. As a result, this will decrease the overall demand in the economy and ultimately the demand for younger workers"[81]. Hamermesh (2001) found that there is substantial imperfect substitution between workers at different age. Based on Wasmer (2001), the elasticity of substitution among age groups with different experience and knowledge is around 0.5, which indicates that that substitution between youth and old workers is far from perfect[82].

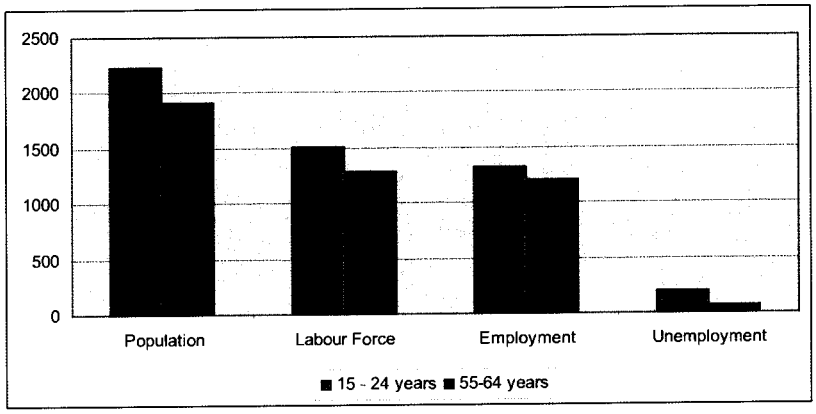
5.2 Graphical Evidence

In Section 2, we have shown early retirement patterns of the old and in Section 3 we have provided a complete description of participation and unemployment rate of both youth and old. Now, comparing those situations of youth and old for the year 2008, we noted that the age group 15 to 24 is leading in all four indicators: population, labour force, employment and unemployment **(Figure 5.2.1)**. Lead in the latter two is interesting;

[80] Baker, Gruber and Milligan (2008)
[81] Baker, Gruber and Milligan (2008)
[82] Mérette (2007)

younger generation is both more employed and more unemployed than the old and the reasons behind this lead have already been discussed earlier.

Figure 5.2.1: Labour Market Comparison between Youth and Old

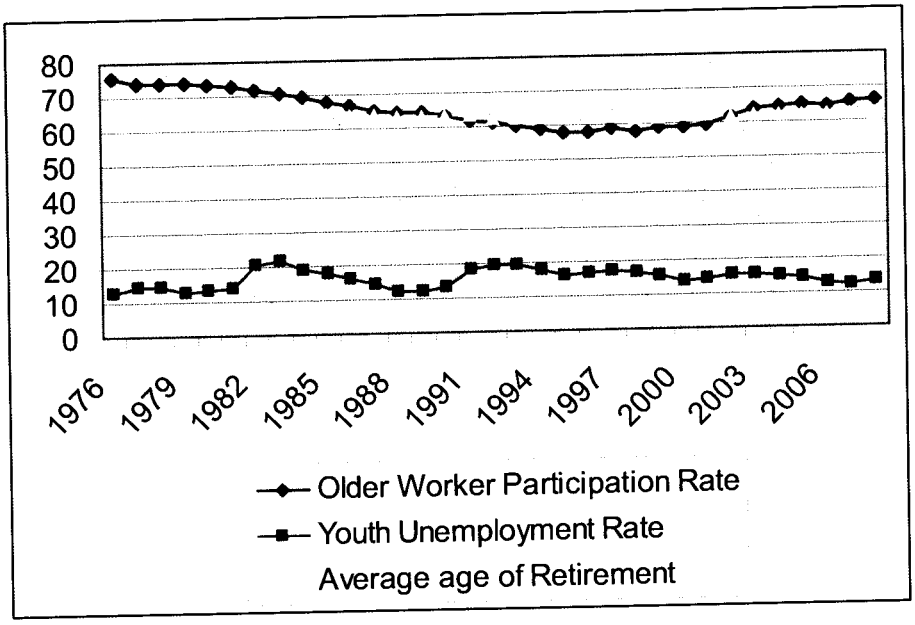


Source: Using data from Statistics Canada (Table-5.2.1)

However, **Figure 5.2.2,** plots the labor force participation (LFP) of the old against unemployment rates for the youth. It also reflects the average age of retirement. The motivation for this figure is to view whether movements in elderly LFP have translated into impacts on the work opportunities of the youth. Now we pay attention to those time periods when a pension reform had taken place (especially in 1987, 1997 and during 2000s), because incentives to retire leads to a decrease in the employment of the elderly. **Figure 3.2.1** illustrates that as an immediate effect of the reforms of 1987 and 1997, the average age of retirement dropped sharply till 1999 and the impression of elderly LFP (**Figure 4.1.4)** indicates that over the first 22 years of the sample (1976 to 1998), it has also been declining sharply. It should be noted that the unemployment rate of youth during that period did not reflect any particular pattern. Instead it increased during the recession periods and decreased when the economy started to recover.

However, over the last ten years of the series, the LFP of the elderly increased from 59.05% in 1999 to 66.2% in 2008 (**Table-5.2.2**), which is almost a 12.108 % increase. On the other hand, over this same time period, the unemployment rates of the youth dropped from 15.3% in 1999 to 13.1% in 2008 (**Table-5.2.2**), which is about a 14 % decline. Thus, a first look at the historical data provides a mixed result about the relationship between the trends in elderly LFP and the youth unemployment rates. If older workers' employment is elbowing youth employment then it should be seen in the patterns of the two curves in **Figure 5.2.2.** Instead for recent years, we could say that increase in LFP of elderly might have facilitated the labour market conditions for the youth to some extent.

Figure 5.2.2: Older Worker Participation Rate Vs Youth Unemployment Rate



Source: Using data from Statistics Canada (Table-5.2.2)

Based on the above discussions, we can conclude that the options for Early Retirement have a larger impact on the participation of old, but the changes in old employment have a mixed impact on the working behaviour of the youth. The discussion in Section 3 showed how the other factors of the Canadian economy has affected the youth unemployment rather than the employment of older workers. Kalwij, Kapteyn and Vos (2009) show, using data from 22 OECD countries, that the youth and old labour forces are not perfect substitutes. There may even be slightly complements. The authors further argue that it is important to remove those early retirement incentives and allow the older workers to work past 65, or even rise the retirement age, as it does not affect youth employment[83].

6. CONCLUSION

It is a well known fact that population ageing is one of the major concerns in Canada today. The retirement of the larger share of baby-boomers generates upward pressures on the labour market and fosters labour shortages in Canada leading to a higher wages. Thus, today many policy makers and researchers are searching for new ways to retain older workers, since they are being considered as a potential source of labour for the Canadian labour force. Looking at the large change in the age composition, it has also become important to see the impact of labour market trends in one age segment on other age segments, because there is a popular belief that employment of older

[83] Kalwij, Kapteyn and Vos (2009)

individuals crowds out employment of youth individuals[84]. The basic idea of this belief is that since jobs are a scarce resource available in a fixed number, retiring an older worker would "free" the same job for a younger, most likely unemployed. In this paper, we examined whether public pension policies in Canada induce a withdrawal of the elderly from the labour force and create jobs for the youth.

First, we provided a historical overview of past public pension reforms in Canada. Following this overview, we explored whether social security induced a withdrawal of the old from the labour force. Second, we provided a description of Canada's employment and unemployment situation for both youth and old and the factors affecting those employment and unemployment rates. Third, we investigated the direct relationship between unemployment of the youth and employment of the old and tried to find out whether the early withdrawal of old has created jobs for the youth.

The key messages are summarized as follows:

1. Our historical overview suggests that the popular debate about the public pension policies in Canada has varied largely over time. During the first post-war reforms, the welfare of the elderly was the main concern. However, as the unemployment rate increased during the recession of 1980 and 1981, the impact of elderly work on youth workers had become a very important issue. Reforms in the 1990s which aimed in restoring long run financial stability to public pensions were evaluated in part by considering their impact on labour markets. Finally, the worker shortage of the 2000s has

[84] *Baker, Gruber and Milligan (2008)*

removed the concerns about the impact of elderly work on the youth. The focus has been shifted to keep the older worker in the labour force as long as they want.

2. Our analysis reflects how the public pension policies of Canada has affected the retirement decision of the old and as a result the average age of retirement decreased from 65.3 in 1976 to 61.8 in 2008 (**Table-3.2.1).** Thus, the public pension system in Canada provides increasingly strong disincentives to work after age 60[85]. According to Milligan((2005), Canada's public pension system discourages older workers from remaining productive members of the labour force and needs reform. He further argues that by encouraging older Canadians to retire sooner than they might wish, the public pension system also exacerbates poverty levels among low-income elderly.

3. Our analysis of employment and unemployment situation of youth and old suggests that the participation rate of both youth and old has increased during the recent years. But the unemployment rate for both the age groups has been decreasing during the recent years and reached a lower rate in 2007. However, in 2008, the rates started to increase for both youth and old.

4. When we relate the labour force participation of old to the unemployment rate of youth, we find little visual evidence that the increasing trends in elderly labour force participation wither away the employment opportunity for the youth. Further, it reflects that the youth and old are not perfect substitutes and early withdrawal of the older workers from the labour force does not result in a higher labour force participation of

[85] Milligan, Baker and Gruber (2001)

youth. Besides, we have seen that youth unemployment rate is largely influenced by many other factors like, less skill or related training among the youth, gradual increase of minimum wage program, some specific features of the Employment Insurance etc., which indicates that there is no clear positive link between the rise of labour force participation of elderly and youth unemployment.

4. Finally, there is a negative correlation between the youth unemployment and old employment in Canada.

These findings indicate no serious trade-off between the old and the youth in the labour force. Rather, early retirement of older workers might decrease the production in the economy, which as a result, might decrease the overall demand for goods and services in the economy and ultimately the demand for younger workers[86]. Therefore, looking at the future labour market conditions, where we might be facing stronger labour shortages in many industries resulting from population ageing, it has become important to revise the public pension policies in order to reduce incentives to retire early. We have already seen an improvement in the participation rate of the older workers in the recent years **(Table-4.1.4)**, which makes us believe that today's older Canadian probably prefer to stay in the labour force as long as the job market is in favour of retaining them. Therefore, if policies are revised in order to reduce incentives to retire before or at the age 60, that may open up opportunities for workers to allow a greater share of older individuals in the Canadian labour force. Furthermore, incentives should be provided to employers to retain and attract older workers and to invest in accommodating older

[86] Baker, Gruber and Milligan (2008)

workers in workplace. Here, the federal government has a scope to play a very important role in addressing the challenges of the ageing population in a comprehensive, collaborative and inclusive manner.

TABLES

Table-1.1: Participation rate by age group, male and female

	Male				Female		
Date	55 to 59 years	60 to 64 years	65 years and over		55 to 59 years	60 to 64 years	65 years and over
1976	84.2	66.5	15.4		38.2	24.4	10
1977	83.5	64.7	14.2		37.5	24.2	9.6
1978	83	65.1	13.7		37.4	23.6	9.4
1979	82.4	65.3	13.8		38.7	25.9	9.5
1980	82.9	63.9	13.2		38.8	25	9.3
1981	82.1	63.7	12.7		38.9	25	9.4
1982	80.9	62	12.7		40.3	24.5	9.6
1983	81.1	59.9	12.1		39.5	25.3	8.7
1984	80.1	59.2	11.8		39.5	25	9.3
1985	80.4	55.7	11.8		42.3	24.1	9.9
1986	78.2	55.2	11.1		41.7	23.5	8.3
1987	78.1	51.4	11.2		43.4	24.5	8.1
1988	77.7	51.4	10.7		44.2	24.3	8.6
1989	77.6	51.4	10.5		45	22.5	9.3
1990	76.1	50.9	10.8		45.4	24.2	8.7
1991	75.9	47.6	11.1		46.2	24.1	8.5
1992	73.9	47.8	10.6		47.8	23.3	8.9
1993	72.9	46.7	9.7		47.1	24.3	9.1
1994	71.9	46.3	10.7		48.6	24.8	8.9
1995	72.1	43.4	9.9		48.3	23.4	8.9
1996	71.6	**43.6**	9.8		48.3	**23.1**	8.8
1997	71.7	45.7	9.8		48.1	24.2	9.6
1998	70.6	**44.6**	10.2		50.2	**25.2**	9.3
1999	71.9	46.2	9.8		50.6	25.8	8.9
2000	72.5	45.8	9.5		53.1	27	8.9
2001	72.2	46.5	9.4		53.3	27.4	9.5
2002	73.1	49.9	10.3		54.5	30.3	10.6
2003	75.4	51.9	11.5		60	32.2	12.2
2004	75.6	53.2	11.8		59.9	34.3	12.9
2005	76.2	53.9	12.1		60.4	35	14.3
2006	76.1	53.3	12.1		62.3	37.1	14.9
2007	77.6	**54**	13		63.9	**40.3**	15.9

Source: Statistics Canada

Table- 3.2.1: Average age of retirement

	Average retirement age
1976	65.3
1977	65.6
1978	65.6
1979	65
1980	65.1
1981	65.1
1982	65
1983	64.7
1984	64.9
1985	64.6
1986	64.1
1987	63.8
1988	63.5
1989	63.5
1990	63.1
1991	63.1
1992	62.5
1993	62.4
1994	62.2
1995	62.2
1996	62.3
1997	62.1
1998	61.6
1999	61.7
2000	62.3
2001	62.3
2002	61.7
2003	62.5
2004	62.5
2005	62
2006	62.1
2007	62.1
2008	61.8

Source: Statistics Canada

Table-4.1.1: Youth Participation Rate

	Youth Participation Rate
1976	68.9
1977	69.9
1978	70.8
1979	72.4
1980	73.1
1981	73.6
1982	70.7
1983	70.6
1984	70.8
1985	71.1
1986	72.3
1987	73
1988	73.1
1989	73.8
1990	72.4
1991	70.1
1992	67.8
1993	66.5
1994	65.9
1995	64.9
1996	64.1
1997	63.6
1998	**63.4**
1999	65.3
2000	**65.9**
2001	66.1
2002	67.8
2003	68.3
2004	67.8
2005	66.1
2006	66.4
2007	67.4
2008	67.8

Source: Statistics Canada

Table-4.1.2: Student and Non-student Participation Rate

	Student Participation Rate	Non-student Participation Rate
1976	32.5	91.9
1977	31.8	91.2
1978	29.9	90.4
1979	33	91.3
1980	35.3	91.7
1981	37.9	91.8
1982	36	89.9
1983	35.7	89.3
1984	36.7	89
1985	37.5	89.6
1986	39.7	90.7
1987	42.2	90.6
1988	43.8	91.8
1989	46.4	91
1990	48	91.5
1991	46.5	88.6
1992	43.6	89
1993	40.4	88.8
1994	40.9	87.4
1995	39.7	89.2
1996	39.4	89.1
1997	38.8	89.6
1998	38	88.5
1999	38.9	89.6
2000	39.9	90.5
2001	42.2	88.8
2002	43	91.2
2003	44.1	89.6
2004	43.7	90.2
2005	41.2	88.8
2006	42.5	89.9
2007	43.6	89.5
2008	43.6	89.1
2009	42.8	87.5

Source: Statistics Canada

Table-4.1.3: Youth School Enrolments

Year	Full time and Part time School Enrolments
1992/1993	608613
1993/1994	603234
1994/1995	594690
1995/1996	588321
1996/1997	584337
1997/1998	583005
1998/1999	581904
1999/2000	587370
2000/2001	599670
2001/2002	619524
2002/2003	644097
2003/2004	681393
2004/2005	696396
2005/2006	705753

Source: Statistics Canada

Table-4.1.4: Older worker participation rate

	55 - 64 years
1976	75.35
1977	74.1
1978	74.05
1979	73.85
1980	73.4
1981	72.9
1982	71.45
1983	70.5
1984	69.65
1985	68.05
1986	66.7
1987	64.75
1988	64.55
1989	64.5
1990	63.5
1991	61.75
1992	60.85
1993	59.8
1994	59.1
1995	57.75
1996	57.6
1997	58.7
1998	57.6
1999	59.05
2000	59.15
2001	59.35
2002	61.5
2003	63.65
2004	64.4
2005	65.05
2006	64.7
2007	65.8

Source: Statistics Canada

Table-4.1.5: Participation rate by educational attainment of older workers

	High School Dropout	High School graduate	College Graduate	Bachelor's Degree	Master's Degree or above
1990	56.7	68.3	67.4	76.4	77.7
1991	53.9	63.6	67.4	68.1	81
1992	51.9	64.3	64.3	70.5	80.9
1993	49.6	61.3	65.1	72.3	84.3
1994	49.8	61	64.1	68.8	72.7
1995	47.4	59.5	63.9	67.5	77
1996	46.5	61.5	61.6	66.9	75
1997	48.1	63.8	63.8	62.9	74.4
1998	48.9	59.4	63	63.7	74.2
1999	50.2	61.7	64.5	61.6	71.3
2000	47.6	62.4	65.7	65.8	70.7
2001	47.8	64	64.2	65	71.1
2002	51.1	64.2	66	68.1	73.4
2003	54.1	65.5	68.5	68.8	73.5
2004	55	67.3	68.4	68.3	74.8
2005	54.2	67.3	69.9	70	74.7
2006	52.7	66.8	68.3	70.1	75.4
2007	51.7	68.3	68	71.4	75.8
2008	50.8	67.2	69	69.7	76.7

Source: Statistics Canada

Table-4.1.6: Participation rate by age group (youth and old)

	National	15 - 24 years	55 - 64 years
1976	77.7	68.9	75.35
1977	77.6	69.9	74.1
1978	77.9	70.8	74.05
1979	78.4	72.4	73.85
1980	78.3	73.1	73.4
1981	**78.4**	**73.6**	**72.9**
1982	**77**	**70.7**	**71.45**
1983	76.9	70.6	70.5
1984	**76.7**	**70.8**	**69.65**
1985	76.7	71.1	68.05
1986	76.8	72.3	66.7
1987	**76.8**	**73**	**64.75**
1988	76.6	73.1	64.55
1989	76.8	73.8	64.5
1990	76.1	72.4	63.5
1991	75	70.1	61.75
1992	73.9	67.8	60.85
1993	73.3	66.5	59.8
1994	73.1	65.9	59.1
1995	72.5	64.9	57.75
1996	72.2	64.1	57.6
1997	72.2	63.6	58.7
1998	72.1	63.4	57.6
1999	72.4	65.3	59.05
2000	72.4	65.9	59.15
2001	72.3	66.1	59.35
2002	73	67.8	61.5
2003	73.4	68.3	63.65
2004	73.2	67.8	64.4
2005	72.8	66.1	65.05
2006	72.5	66.4	64.7
2007	72.7	67.4	65.8
2008	72.9	67.8	66.2

Source: Statistics Canada

Table-4.2.1: Unemployment rate of Canada

	Unemployment Rate
1976	6.4
1977	7.4
1978	7.6
1979	6.8
1980	7
1981	7.2
1982	11.2
1983	12.3
1984	11.4
1985	10.6
1986	9.6
1987	8.5
1988	7.4
1989	7.4
1990	8.2
1991	10.8
1992	12
1993	11.9
1994	10.9
1995	9.8
1996	9.9
1997	9.3
1998	8.5
1999	7.8
2000	6.9
2001	7.5
2002	8.1
2003	7.9
2004	7.5
2005	7
2006	6.5
2007	6.4
2008	6.6

Source: Statistics Canada

Table-4.2.2: Youth Unemployment rate

	Youth Unemployment Rate
1976	13
1977	14.5
1978	14.6
1979	12.9
1980	13.4
1981	13.7
1982	20.7
1983	21.8
1984	19.1
1985	17.6
1986	16.2
1987	14.3
1988	12.4
1989	12.2
1990	13.5
1991	18.5
1992	19.7
1993	19.7
1994	17.9
1995	16.3
1996	16.9
1997	17.1
1998	16.6
1999	15.3
2000	13.8
2001	14.5
2002	15.3
2003	15.3
2004	14.9
2005	14.2
2006	12.8
2007	12.3
2008	13.1

Source: Statistics Canada

Table-4.2.2: Older worker Unemployment rate

	Older worker unemployment Rate
1976	4.1
1977	5.25
1978	5.75
1979	4.8
1980	4.6
1981	4.75
1982	7.45
1983	8.6
1984	8.55
1985	8.9
1986	7.6
1987	6.95
1988	6.55
1989	6.65
1990	6.35
1991	8.35
1992	9.85
1993	10.15
1994	9.65
1995	8.4
1996	7.85
1997	7.7
1998	7.05
1999	6.25
2000	5.5
2001	5.95
2002	6.55
2003	6.9
2004	6.1
2005	5.5
2006	5.35
2007	5.15
2008	5.95

Source: Statistics Canada

Table-4.2.3: Unemployment rate by age group

	Youth Unemployment Rate	old unemployment rate
1976	13	4.1
1977	14.5	5.25
1978	14.6	5.75
1979	12.9	4.8
1980	13.4	4.6
1981	13.7	4.75
1982	20.7	7.45
1983	21.8	8.6
1984	19.1	8.55
1985	17.6	8.9
1986	16.2	7.6
1987	14.3	6.95
1988	12.4	6.55
1989	12.2	6.65
1990	13.5	6.35
1991	18.5	8.35
1992	19.7	9.85
1993	19.7	10.15
1994	17.9	9.65
1995	16.3	8.4
1996	16.9	7.85
1997	17.1	7.7
1998	16.6	7.05
1999	15.3	6.25
2000	13.8	5.5
2001	14.5	5.95
2002	15.3	6.55
2003	15.3	6.9
2004	14.9	6.1
2005	14.2	5.5
2006	12.8	5.35
2007	12.3	5.15
2008	13.1	5.95

Source: Statistics Canada

Table-4.2.4: Unemployment of 15-24 by educational attainment

	0 to 8 years of education	Some high school	High school graduate	Some postsecondary	Postsecondary certificate or diploma	University degree
1990	23.9	17	12.3	9.6	10.1	6.2
1991	30.4	22.4	17.5	14.1	14.6	9
1992	28.1	25.6	17.5	15.9	14.3	12.4
1993	28.9	25.6	17.4	15.5	15.2	12.4
1994	29.3	23.9	16.7	13	12.4	10.5
1995	26.4	22.2	14.2	13	11.9	8.5
1996	29.7	23.8	14.3	13.1	11.5	9.5
1997	31.3	24.7	13.5	14.3	11.3	7
1998	24.9	23.7	14.5	13.8	9.9	9.3
1999	27.8	21.2	12.8	11.9	10	10.3
2000	26.1	19.1	11.6	11.9	8.9	7.8
2001	26.5	20.1	13	11.5	9.1	8.8
2002	25.3	22.1	12.9	13.1	8.9	11.1
2003	26.5	21.7	13.4	12.5	9.6	10.7
2004	24.8	21.5	13.3	12	9.5	11.4
2005	26	19.4	12.7	12.5	8.7	10.5
2006	23.7	19.4	10.8	10	8.1	7.5
2007	24.7	17.9	10.8	9.4	8.1	7.6
2008	23.3	19	12.4	10	8.7	7.5

Source: Statistics Canada

Table-5.1.1 Correlation between old employment and youth unemployment

Enter (or paste) two different data series delimited by hard returns.

Spearman Rank Order Correlation - Ungrouped Data	
Statistic	Value
Correlation (not corrected)	-0.373830
Correlation (corrected)	-0.374519
t-Test (n>10)	-2.248913
Degrees of Freedom	31
Critical 2-sided T-value (5%)	2.042000
Critical 1-sided T-value (5%)	1.697000
D-square value (calculated)	8221.000000
D-square value (expected)	5984.000000
Standard Deviation	1057.831745
z-Test	2.114703
Probability	0.034000
Observations	33

Student Distribution Probability (mathematical equation plotter)	
T-Test	-2.2489134
D.F.	31
Tails (1 or 2)	2
Student Probability	

Normal Distribution Probability (mathematical equation plotter)	
Parameter	8221
H0	5984
S.E.	1057.8317
Tails (1 or 2)	2

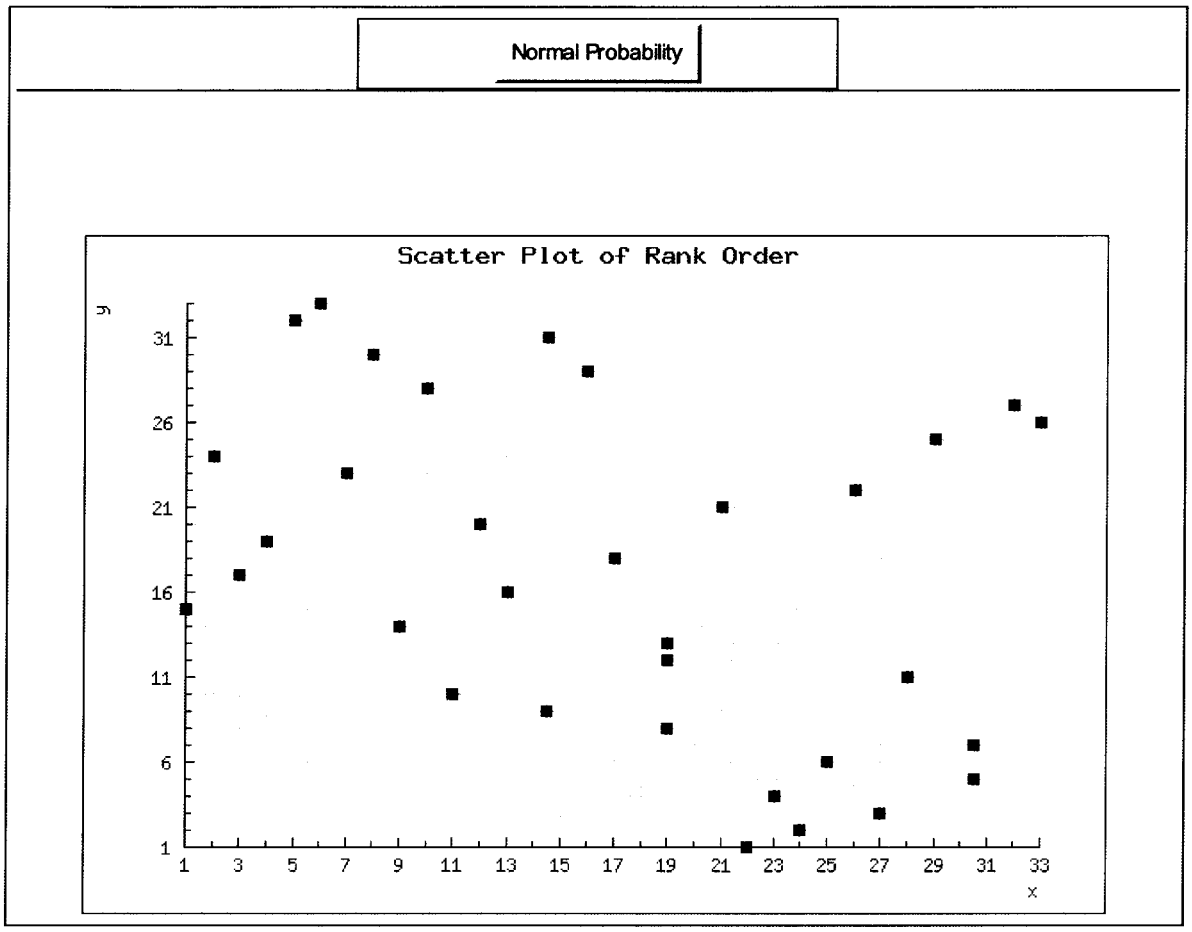


Table-5.2.1: Labour market comparison between youth and old

	Population	Labour Force	Employment	Unemployment
15 - 24 years	2232.4	1513.5	1315.1	198.4
55-64 years	1907.5	1282.3	1208.2	74.1

Source: Statistics Canada

Table-5.2.2: Older worker Participation Rate vs. Youth Unemployment Rate

	Older Worker Participation Rate	Youth Unemployment Rate	Average age of Retirement
1976	75.35	13	65.3
1977	74.1	14.5	65.6

1978	74.05	14.6	65.6
1979	73.85	12.9	65
1980	73.4	13.4	65.1
1981	72.9	13.7	65.1
1982	71.45	20.7	65
1983	70.5	21.8	64.7
1984	69.65	19.1	64.9
1985	68.05	17.6	64.6
1986	66.7	16.2	64.1
1987	64.75	14.3	63.8
1988	64.55	12.4	63.5
1989	64.5	12.2	63.5
1990	63.5	13.5	63.1
1991	61.75	18.5	63.1
1992	60.85	19.7	62.5
1993	59.8	19.7	62.4
1994	59.1	17.9	62.2
1995	57.75	16.3	62.2
1996	57.6	16.9	62.3
1997	58.7	17.1	62.1
1998	57.6	16.6	61.6
1999	59.05	15.3	61.7
2000	59.15	13.8	62.3
2001	59.35	14.5	62.3
2002	61.5	15.3	61.7
2003	63.65	15.3	62.5
2004	64.4	14.9	62.5
2005	65.05	14.2	62
2006	64.7	12.8	62.1
2007	65.8	12.3	62.1
2008	66.2	13.1	61.8

Source: Statistics Canada

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