

Labour Force Participation: Cross-sectional and longitudinal perspectives

Deborah Sunter¹

Director, Labour Statistics Division
Statistics Canada

October 2000

**Prepared for the Seminar hosted by The Chief Actuary, CPP, on
Demographic and Economic Perspectives from 2000 – 2050**

The focus of this seminar is on the demographic and economic factors that will impact the Canadian Pension Plan over the coming years. The ratio of contributions to and withdrawals from the pension plan is central to its performance and is influenced by a number of inter-dependent factors such as population growth, age structure of the population and age-specific employment rates and pensionable earnings.

We have a relatively firm grasp on the future shape of our population, since so much of that shape is already determined (Belanger, 2000). To a large extent, this also gives us an idea of the limits of labour force activity in the future, since demographic composition plays a key role in determining overall participation rates. Factors that lead to changes in age-specific participation are more complex, more subject to change, and therefore, must be based on a number of informed assumptions about future trends in economic growth, institutional change and labour market behaviors.

The disruption in the 1990s of long-term trends in labour force participation signals the uncertainty of any projection based on recent behavior. In fact, the deviation from trend was the subject of considerable investigation by many of the country's eminent economists in the later half of the 1990s. The major question being asked was the extent to which the collapse in the long term growth in labour force participation was the result of economic conditions (weak demand) or the result of more permanent structural change.

Of course, labour force participation is just a part of the analysis needed to project future contributions to and withdrawals from public pension funds. The state of the fund depends more directly on the employment rate and the annual and lifetime earnings of workers, at least up to the specified maximum. Therefore, issues of job security, volume of work and earnings distributions are also important. And again, the 1990s were a decade when there appeared to be important changes in these features of the labour market.

¹ The views expressed in this paper are those of the author and not necessarily those of Statistics Canada

This paper begins with a brief look at the 1990s. In particular, the questions to be answered are in what way did the 1990s deviate from previous decades, and are these changes likely to persist? The analysis leans heavily on a recent work by Picot and Heisz (2000), as their paper addresses these very questions in detail. Much of the rest of the paper is devoted to an analysis of changes in labour market behaviour, and participation rates in particular, among specific age/sex groups. There is a great deal of literature to draw from since the significant changes in participation rate trends in 1990s prompted a great deal of investigation on the part of Canadian economists. Participation rates are used here as a rough proxy for earnings potential. Where important, more specific information on earnings behavior is explored.

Finally, some new data that provide a longitudinal perspective are briefly explored. While there is much work to be done, we are finally in a position to begin to use our new longitudinal data sets to more fully understand labour market behaviour over time. This will allow us to test hypotheses that currently rest on synthetic cohort analysis.

The recent labour market

The 1990s was a decade of turbulence and change in the labour market. During the early years of the decade, some expectations were shattered, and a number of new impressions or expectations were formed, correctly or incorrectly. Perhaps the most apocalyptic was that espoused by Jeremy Rifkin (1995) who prophesized that, as a result of globalization and technology, fewer people would be required in the production process, leading, at least to some meaningful extent, to “the end of work”. Others had more moderate views, but anticipated a reduction in overall labour demand and a shift in demand for certain types of workers. They assumed that employers would attempt to stem increased costs through the use of technology as a labour replacement, gain more flexibility through the use of just in time or contingent workers, and favour the hiring of the highly skilled. The result for workers would be rising job instability, polarized opportunities and growing earnings inequality.

With hindsight, it is probably fair to say that our impressions and expectations of change during the 1990s far exceeded reality. But change there has undoubtedly been. For most of the decade, labour demand was weak. Almost all of the net employment growth by 1997 was in the form of self-employment. On the supply side, participation rates plunged, but human capital increased. There were also important institutional changes such as the reform of the employment insurance system. However, in contrast to the assertions of labour market observers like Jeremy Rifkin, Picot and Heisz find little evidence that technology and globalization were the driving forces.

There appears to be general agreement that the single most important factor influencing labour market outcomes over most of the 1990s was relatively weak aggregate demand (Picot and Heisz, 1999; Fortin and Fortin, 1999; Ip et al, 1999). This had a negative effect on job creation and participation rates, particularly for male and female youths and older men. **Chart 1**

The jobless recovery gave way to a significant shift in the types of jobs created. By 1997, almost all net employment growth since 1989 was in the form of self-employment or part-time paid work. While the pace of self-employment growth had been similar in the 1980s, the 1990s were different in two important ways. Unlike the 1980s, not until after 1997 was there any concomitant growth in paid work. Also, most of the growth in self-employment in the 1980s had been among employers, who created jobs for themselves and others. In the 1990s, almost all of the increase was among own account self-employed.

In addition, the fact that a similar increase in self-employment was not happening in the U.S. attracted a great deal of attention. Canada's growth in self-employment was interpreted by many as a further sign of the weakness of the economy. In effect, self-employment was thought to be a substitute for unemployment, although recent analysis shows no evidence that self-employment has grown more strongly in times of recession and weak recovery than during periods of expansion. (Lin, Yates and Picot, 1999). Other factors such as income tax and increasing payroll taxes are thought to play a role. **Chart 2&3**

Certainly more analysis is needed on the factors behind self-employment growth, especially in view of the abrupt leveling off of this phenomenon over the last couple of years. Similarly, part-time as a share of total employment has leveled off over the same period --- underlining the difficulty of forecasting labour market trends. **Chart 4**

There have also been mixed signals about changes in job stability. Contrary to popular belief, there was little or no overall increase in the risk of permanent layoff in the early 1990s compared to the 1980s. As measured by job duration, job stability actually increased. Only the least educated have not experienced increases in job tenure. Part of the rise in job stability, however, has been caused by a decline in quit rates, perhaps a reflection of the extent to which people feel insecure, and a reaction to the depressed hiring rates that prevailed through most of the 1990s (Heisz and Cote, 1998).

The lack of progress on the earnings front for many workers may also have increased the sense of insecurity. There was no overall wage growth, despite the same growth in productivity as in the 1980s. In the 1990s, wage increases for women were offset by declines among men. There were notable declines in the real earnings of recent labour market entrants, particularly young men and recent

male immigrants and this may represent an enduring downward shift in their lifetime earnings (Picot and Heisz, 2000).

Despite the difficult labour market conditions that marked most of the decade, women continued to make gains: although at a slower pace, participation rates and employment rates continued to rise for adult women, and their unemployment rate fell to the same level as that of adult men. Part of the explanation was the continued advancement in women's educational attainment, and a shift into less traditional industries and occupations. On the other hand, the deterioration in conditions for men, especially younger men, is not as easily explained. Supply side shifts may be part of the answer. Kapsalis, Morissette and Picot (1999) note that the educational advantage once held by young male workers relative to young females and adult workers largely disappeared in the 1990s. **Chart 5**

After almost half a century of upward growth, the PR declined in the 1990s

As mentioned above, the participation rate fell sharply among youths, stalled for women, and continued to edge down for older men in the 1990s. As a result, the overall participation rate dropped, after almost half a century of upward growth. This departure from long-term trend was the subject of a great deal of investigation and discussion in the mid and late 1990s, especially since the same phenomenon did not occur in the United States. **Chart 6, 7 and 8**

Not all age-sex groups contributed equally to the decline in the labour force between 1989 and 1997. When the population is divided into five or ten year age groups by sex, some interesting differences emerge. All age groups for males experienced a decline in participation rate with the sole exception of the 65-69 year olds. For females, declines were notable only among teenagers and 20-24 year olds.

These data, however, cannot provide us with a measure of the importance of the age-sex specific trends in the overall decline in the participation rate. Holding the population structure constant at 1989 shares, the contribution of each group can be calculated. Two thirds of the overall decline came from the youth group (36.5% from male youths and 31.1% from female youths). Older males accounted for a further 21.3%, while older females only 3.2%. Among 25 to 54 year olds, however, the story was dramatically different for males and females. Older men accounted for 28.2% of the overall decline, while older women actually experienced modest growth in their labour force participation (Sharpe and Grignon, 1999) **Chart 9**

Why the changes in labour force behaviour in the 1990s and what are the implications for the future?

There seems to be general agreement that weak aggregate demand was a major factor behind the drop in labour force participation. But this was by no means the only factor. Demographic composition was also important, as were a mix of other factors such as increased school attendance, changes in the unemployment insurance program, the impact of pensions, government downsizing, etc.

Youth

Youth accounted for two thirds of the overall decline in the labour force between 1989 and 1997. There appear to be two main factors behind this decline: the greater susceptibility of youth to the negative labour market effects of cyclical downturns, and longer transitions from school to work. It has been estimated that increased school attendance accounted for about 52% of the overall decline in youth participation rates during this period.

By the end of the 1990s, labour market conditions were finally improving for young people, but their participation rates did not recover to anything like the 1989 peak. **Chart 10**

In addition to difficult economic conditions and increased school attendance, change in the age composition of the youth group probably influenced the recent trend in their participation rate. Participation rates increase strongly with age within this group, therefore, composition matters. The population of 15 -16 year olds grew throughout the 1990s. The 17-19 year old group continued the long-term decline that began at the end of the 1970s, until 1992, when their numbers started to increase. In contrast, the number of 20 to 24 year olds, the group with the greatest likelihood to participate in the labour force, continued to decline until 1996. **Chart 11**

Staying in school longer lowers current participation rates, but increases working life expectancy. Despite almost continuous increases in tuition fees through the 1990s, leaving average tuition per student in 2000 double the cost at the beginning of the decade, school attendance rates rose steadily through most of the decade. In 1997 they began to level off, and even edged down by the end of the decade for younger male youths. The recent plateau may signal the end to the long-term upward trend in school attendance, which was primarily driven by greater enrolment in post-secondary institutions, especially among young women. **Chart 12**

What drove the increased school attendance and the recent flattening in this trend? Some argue that lack of job opportunities in the early 1990s kept youths in school longer. But the increased popularity of post-secondary school began

many years before and persisted through expansions as well as recessions. Some of the increase also undoubtedly reflects young people's recognition that investment in education pays off. A further view suggests that the declining size of school age cohorts played an important role (Lemiex, Beaudry and Parent, 1999). That is, as the youth population fell through the 1980s and early 1990s, the school attendance rate rose. With a leveling off of the youth population in the late 1990s, the attendance rate has also tended to level off. **Chart 13** The suggestion here seems to be that school attendance is influenced at least as much by the number of places available for students in the educational system, as it is by the demand for knowledge workers, or the lack of job opportunities for youths. If this is the case, changes to the capacity of the educational system to accommodate increased or decreased enrollment may be important factors in the long-term participation rates of youths. Whatever the causes, there is general agreement that the significant downward shift in youth labour force participation is largely structural and likely to last well into the future (Picot, Heisz, Nakamura, 2000; Archambault and Grignon, 1999).

Women aged 25 to 54

The single most important factor behind the upward trend in total labour force participation rates over the last half of the 20th century is the dramatic increase in adult women's participation rates. In the 1970s and 1980s, each successive cohort of women had spent more time in the labour force. This, coupled with the size of these baby boom cohorts, pushed up cross-sectional participation rates dramatically. **Chart 14**

This spectacular rise, and a more moderate decline among adult men, has brought about a great deal of convergence in participation rates between the sexes. The gap has narrowed from 61 percentage points in 1950 to 32 in 1976 and 14 in 1999. The participation rate profile of women has now taken on roughly the same shape, "high and flat", as that of men. **Chart 15**

The apparent stagnation of female labour force participation in the early 1990s, and resumed but slower growth since, has led to speculation about whether or not women have achieved full integration in the labour market.

A study by Beaudry and Lemieux (1999) suggests that large increases in women's labour force participation are a thing of the past. What characterized the dramatic increase in the 1970s and 1980s was that every cohort entering the labour market had a higher participation rate than the previous one. In more recent years, the rate of successive generations has become more similar, accounting for the leveling-off of the adult women's participation rate in the 1990s.

Limits to closing the gender gap in participation rates?

Women continue to increase their investment in education, and this is likely to increase their labour market attachment and push up participation rates both cross-sectionally and over the life course. **Chart 16**

In 1996, 12% of all working age women had university degree, compared with 14% for men. But this overall rate hides some important changes. Among 20 to 24 year olds, 13% of young women had university degrees, compared with 9% of men in this age group. The proportion of 25-44 year olds with a degree is now the same for men and women. The big difference is among older cohorts, where degrees are much less common among women.

Women are now the majority in full-time university studies (55% in 1997-98) (56% for BA, 51% for MA and 43% for PHD). Women are also the majority in most fields of study except mathematics, sciences and applied sciences.

Of course, women's role as child bearers and, at least to date, their dominant role in the care of children and households are likely to preclude a full closure of the gender participation rate gap. Even so, a recent study by Marshall (1999), using the longitudinal data from the Survey of Labour and Income Dynamics, sheds new light on the strength of women's attachment to the labour market in their child bearing years.

The vast majority of employed women return to the labour force relatively soon after childbirth. Of the 367,000 employed women who gave birth in 1993 or 1994, one in five (21%) were back at work by the end of the first month after childbirth. Within a year, 86% of mothers had returned to work, and by two years, 93% had returned to work. **Chart 17**

The speed of return was influenced by two important factors: class of worker and receipt of maternity benefits. Mothers who did not receive maternity benefits were almost six times more likely to have returned to work by the end of the first month. For mothers who were self-employed, the likelihood of return was almost 8 times higher. This may reflect the lack of benefit coverage for this group and perhaps their greater control over working conditions.

Overall, for those who did return to work within two years, the average time off was 6.4 months. More than eight in ten (83%) returned to the same employer, and nine in ten returned to same employment status (full-time or part-time).

Virtually all those who took at least six months off received EI benefits, compared to only 40% of those who returned within a month. Recent changes in maternity benefits may delay return to the job further, for those with coverage.

These longitudinal data help explain the dynamics behind the trends in participation rates among mothers. It is well known that there has been a dramatic increase in labour force participation of women with children, even those with very young children. While rates have increased overall, no matter the age of the youngest child, there are still differences. But participation rates have almost converged between those with school age children (6-15) and those with children over 15 or no children at home. **Chart 18**

Relative earnings of women and men

Despite growing attachment to the labour force, women are still much more likely than men to work part-time. A lower volume of work leads to lower annual earnings income for women. In 1998, the earnings ratio of employed women compared with men was .63. Limiting the comparison to full-time, full-year workers removes much of the impact of differences in working hours and the ratio rises to .72. A comparison of hourly wages further controls for volume effects and the ratio rises to .81 (LFS data). Why the persistent wage gap? A recent study by Drolet (1999) concludes women's lower actual work experience plays a significant role, as does job responsibilities, education and major field of study. However, even after controlling for these and other factors, the ratio of female to male earnings was .85, leaving much of the wage gap still unexplained.

Chart 19

Not surprisingly, Drolet found that the gender wage gap was higher for older workers. This may reflect, to some extent, the fact that differences in work experience takes time to accumulate and impact on wage differences. However, it may also suggest that the gap will narrow in future, as highly educated cohorts of women with strong attachment to the labour market replace the current older cohorts.

This is consistent with the findings of Finnie and Wannell (1999). Using longitudinal data from the National Graduate Survey, they find that the wage gap has been narrowing for male and female graduates, and that the higher the education, the lower the gap. In fact, five years after graduation in 1990, there was no wage gap for doctoral graduates.

Older men and women (55+)

Although there is a great deal of variation, it is well known that the median age of retirement among has been falling for several decades. The median age was close to 65 in the late 1970s and early 1980s. Between 1986 and 1993, it declined steadily. The drop between 1986 and 1987 is largely attributed to the lowering in 1987 of the minimum age at which one could draw benefits from the CPP. The continued decline in the early 1990s is thought to reflect, at least to

some extent, the difficult labour market conditions for older workers who lost their jobs, and the use of early retirement as a workforce adjustment mechanism, particularly in the public sector. Over the last 20 years, women have tended to retire earlier than men but have followed the same downward trend in median retirement age. **Chart 20**

In the second half of the 1990s, the continued decline in retirement age attracted attention. It was expected that improved economic conditions and an end to government downsizing would push the age of retirement back to pre-recession levels. This did not occur, however, and the trend did not even level off, let alone show signs of reversing, until almost the end of the decade.

Estimating the age of retirement is not straightforward. Retirement is not a singular concept, nor is it necessarily a permanent state. The measure used here is based on labour force survey data and is at best a useful approximation (Gower, 1997). A more readily available and widely used indicator is the participation rate, although, as we shall see, this can be quite misleading, especially for women.

Just as with retirement age, over the longer term, the participation rates of older men have trended down, with a slight turn-up in the last couple of years. However, for older women, the participation rate has actually been edging up steadily, despite the long-term decline in median retirement age.

There has been much speculation about the future evolution of older male participation rates. To the extent that some of the decline in the 1990s was a cyclical phenomenon, improved conditions were expected to reverse the trend or at least halt the decline. In the U.S. this reversal began in 1993, but in Canada, it took until 1997 to appear. **Chart 21&22**

For older women, there seems little doubt that participation rates will increase with time, as younger cohorts with strong labour force attachment replace the current cohorts who never established such an attachment (Dugan and Robidoux, 1999). Older women in Canada may never match the historically higher participation rates of their American counterparts, however. The relatively high rate in the U.S. likely reflects the fact that health coverage, at least until age 65, tends to be tied to a job. **Chart 23**

Factors that may influence future trends in retirement age

The rate of self-employment, and private pension coverage are among the many factors that may play a role in future trends in retirement age.

There are clear differences in median retirement age by class of worker. The self-employed tend to retire at an older age than paid workers, are over-represented among those still working past the age of 64. **Chart 24**

Having a registered pension plan (RPP) also likely influences retirement age. Overall RPP coverage appears to have been stable from mid 80s to mid 90s, but this is the result of a drop in the rate for men offset by an increase for women (Morissette and Drolet, 1999).

Further decomposition shows a decline in coverage for young men (25-34), stability for young women (25-34), stability for prime age men (35-54) and an increase among prime age women (35-54). **Chart 25**

Most of the decline in young men's coverage is related to a decline in unionization and employment shifts across industries. Most of the growth in older women's coverage is associated with the increased incidence of relatively well paid jobs which have a high likelihood of having pension coverage.

The major questions are to what extent having private pension plan coverage influences retirement age, and whether or not the drop in coverage for younger men will persist as they age into older cohorts. Further analysis is clearly needed.

Activity patterns and working Life Expectancy

Almost all of the foregoing analyses were based on cross-sectional data or synthetic cohort analysis. This is helpful, but we need more information on labour force activity patterns over time to more fully appreciate changes in labour market behavior and the factors that affect that behavior.

The recent development of a number of longitudinal data sets by Statistics Canada will certainly help to fill this void. In particular, the Survey of Labour and Income Dynamics (SLID) holds the key to many of the interactions and cumulative behaviour patterns that we need to understand in order to fully appreciate the impact of changing labour market behavior on the contribution to withdrawal ratio of the CPP. As the panels build through time, more and more questions can be answered about labour market dynamics.

For example, information on activity patterns show that while average monthly participation rates in 1997 were 66% (Labour Force Survey), 80% of the working age population had actually worked at some time during the year (SLID). This suggests that there were more contributors to the CPP than is apparent using only cross-sectional data. Much more sophisticated analysis is needed to estimate changing patterns in volume of work and pensionable earnings.

However, SLID, and its forerunner, the LMAS (Labour Market Activity Survey), have already helped demographers improve the measurement of expected working life.

Life tables are widely used to summarize the mortality pattern of a population and estimate average life expectancy. An extension of this concept is working life tables, which provide a useful tool in the analysis of average expected labour force activity and inactivity, and for summarizing the long-term consequences of current labour force activity patterns (Belanger and Larrivee, 1992).

Prior to the emergence of longitudinal data sets in the 1980s, working life tables were constructed from cross-sectional data and wrongly, but necessarily, assumed that individuals enter the labour force only once and remain active until retirement or death. The new longitudinal data sources allow for transitions into and out of the labour force. This is clearly an improvement, but it must still be recognized that the results are only approximations of what would be obtained by direct, retrospective or longitudinal measurement, and more importantly, that the results reflect current patterns of age-specific labour force transitions. In this sense, they are not forecasts, but simple projections of current behaviour given current age-specific demographics.

Nevertheless, the results are instructive. There is no doubt that the ratio of inactive to active adult life has increased due to increased life expectancy. For example, in 1986 the average Canadian male could expect to spend about 33 more years in the labour force if he were active at age 25, and 16 years out of the labour force. The working life expectancy for a female active in the labour market at age 25 was 26 years, with 30 years out of the labour force (Belanger and Larivee, 1992). **Chart 26**

Ten years later, at roughly the same point in an economic cycle, the expected working life of active 25 year old males had increased slightly, to 34 years, but the number of expected inactive years had increased more, to almost 18. However, among females the story was more markedly changed and, not surprisingly, in the opposite direction. Those active at age 25 could expect to work 29 years, and spend only 28 years out of the labour force.

Summary

Essentially, our population has been aging since the 1920s. The baby-boom has been the distortion, temporarily warding off the impact of a growing ratio of retirees to workers. The baby-boom has also interacted with the economy of the past 50 years, in ways that would be difficult to untangle, and will continue to assert an influence for many years to come.

Higher participation rates among women, and a reversion to later retirement for both men and women would, of course, increase age-specific participation rates, but do much less to impact the ratio of inactive to active as the boomers occupy the seniors scene --- but these facts are well known to actuaries. What we can be less sure about is how much of the observed behaviour in the recent labour

market will translate into persistent trends. For example, the plateauing of women's participation rates in the early 1990s seemed to indicate a limit had been reached, but this now does not appear to be the case. That women's wages should increase through time is understandable, but the deterioration in wages for young men requires more research. The strong growth of self-employment that continued into the expansion years seemed to indicate a major change in the nature of work, but again, this trend is receding somewhat in the last couple of years. School attendance rates have plateaued, breaking a long-term upward trend. On the other hand, our perceptions of a rise in job insecurity do not seem to be founded, although they may be tied to the increased risk for those who do lose their job, since hiring rates were depressed for much of the last decade.

Picot and Heisz asked the question "Why would the 1990s Labour Market have deviated from the 1980s?" (April 2000). They conclude that there are a number of possible causes, that finding answers to the "why" is an on-going process, and that there appear to be a number of major puzzles regarding recent labour market outcomes.

The challenge to economists is to identify changes that are structural from those that are cyclical. Unfortunately, this can often only be done with hindsight. All forecasts are only as good as their assumptions. The changes in the 1990s labour market, some of them temporary and some of them likely enduring, and some not even yet identified, serve to warn us that longer-term trends can end or reverse, that change is the constant.

Finally, there is much work to be done on activity patterns, for it is the accumulation of activity over a year, a number of years, and one's entire working life that affect a person's well-being and labour market decisions, and this is very imperfectly reflected in cross-sectional estimates.

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Deborah Sunter
Director, Labour Statistics Division
Statistics Canada
November 2000



Slower average GDP growth in 1990s

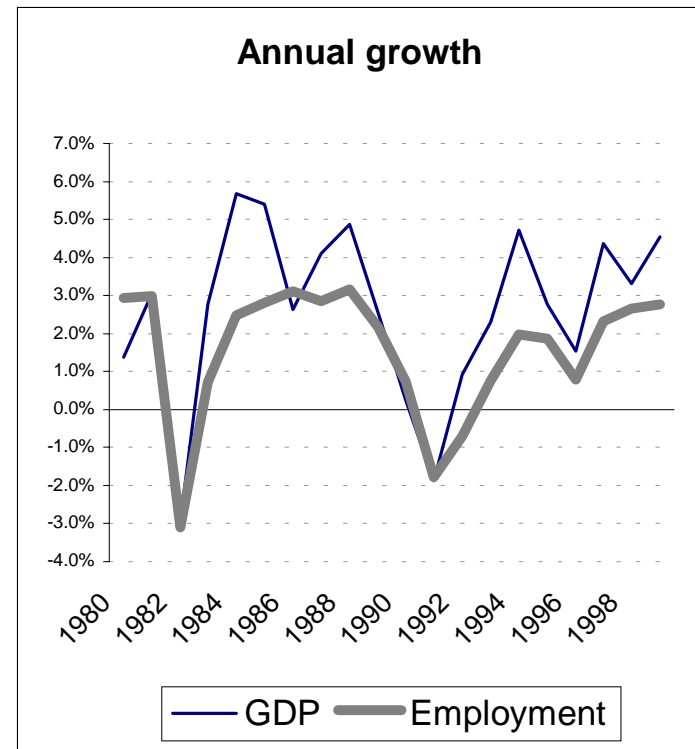
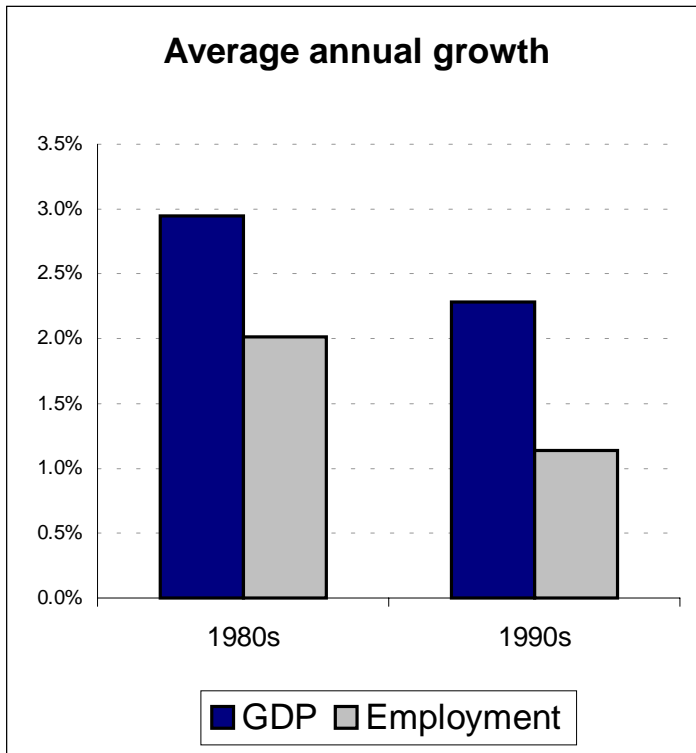


Chart 1



Self-employment accounted for almost all job growth until 1998

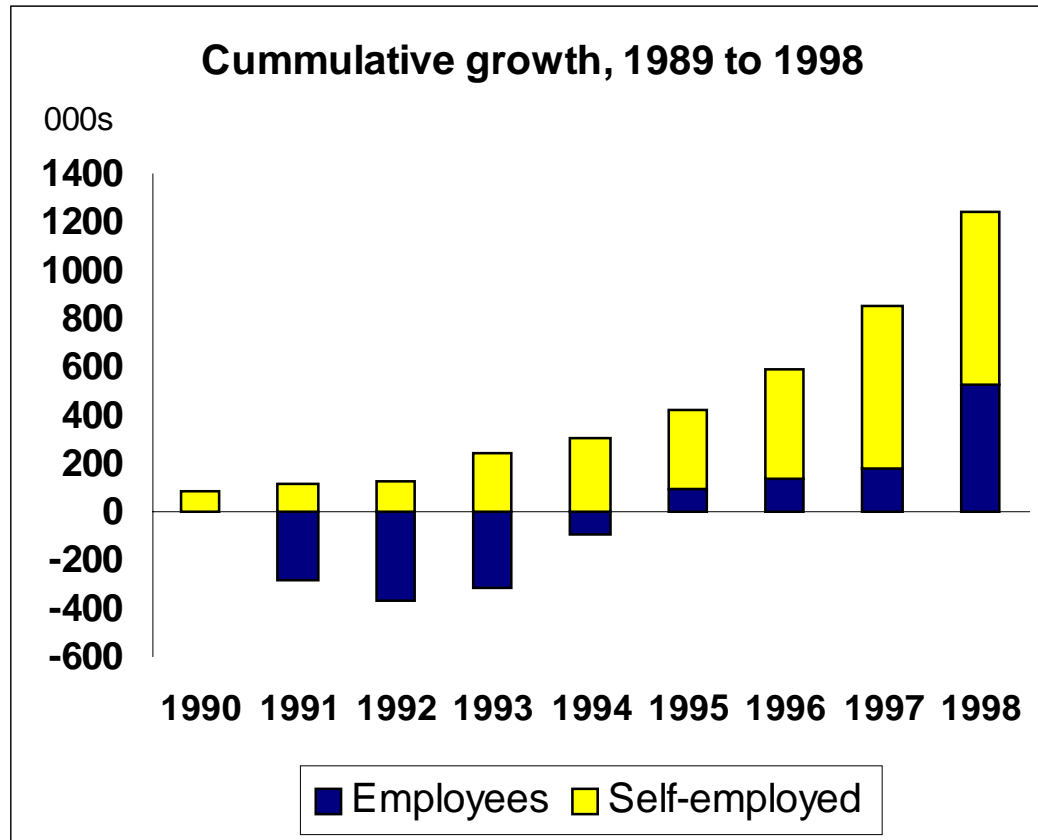


Chart 2



While self-employment and part-time paid work dominated the Canadian 1990s job scene, full-time paid work dominated the US scene

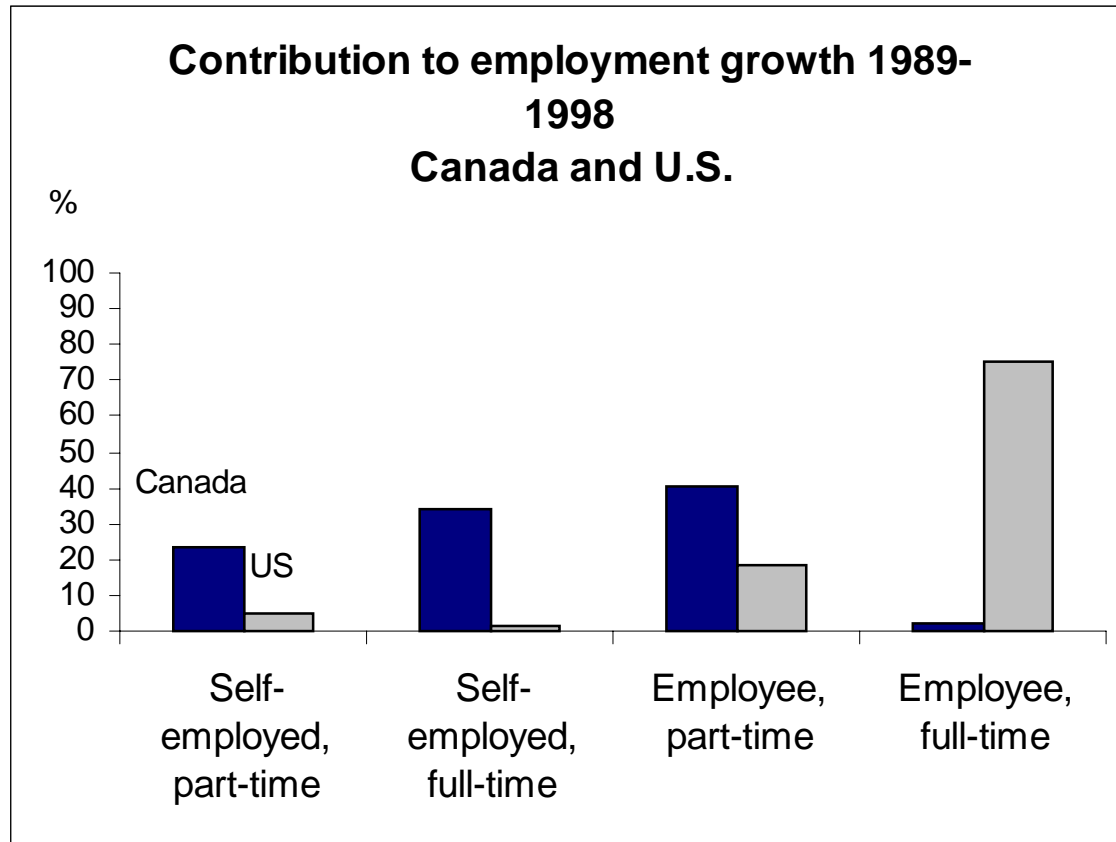


Chart 3



The share of both self-employment and part-time has fallen recently

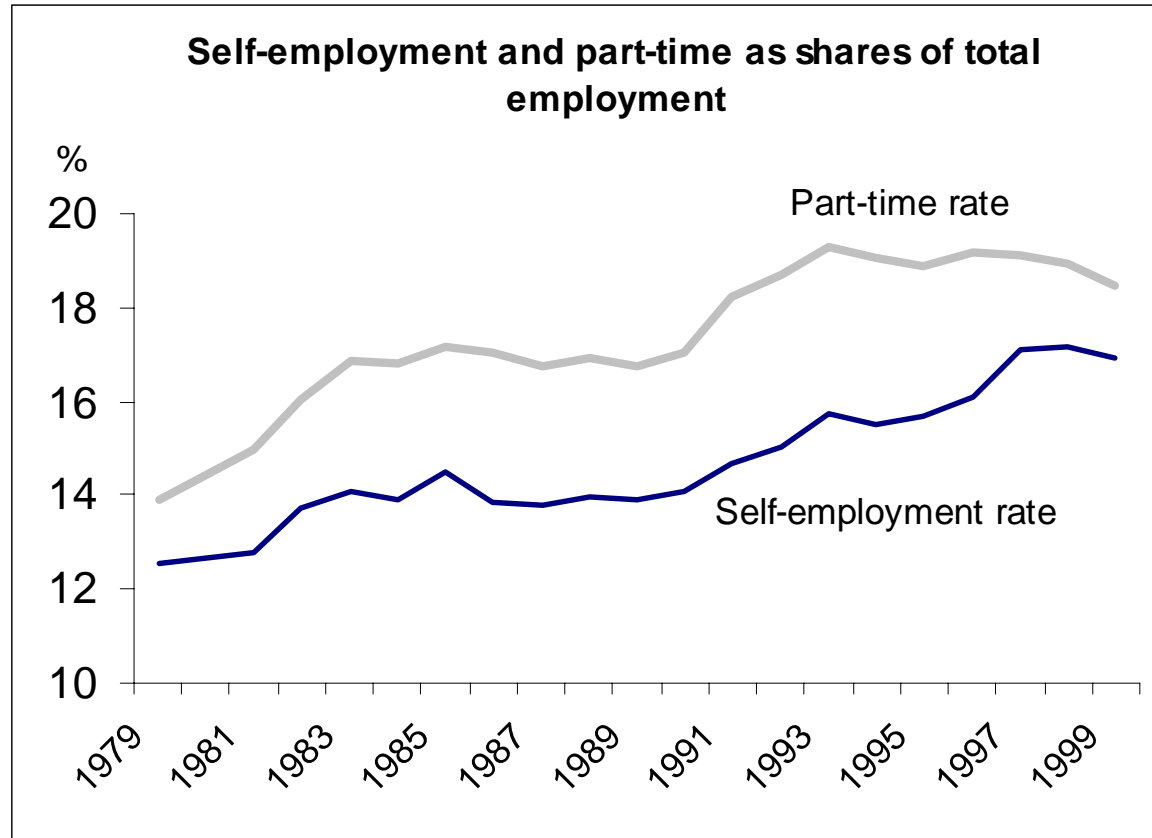


Chart 4



There is now little difference in the educational profile of most working age cohorts

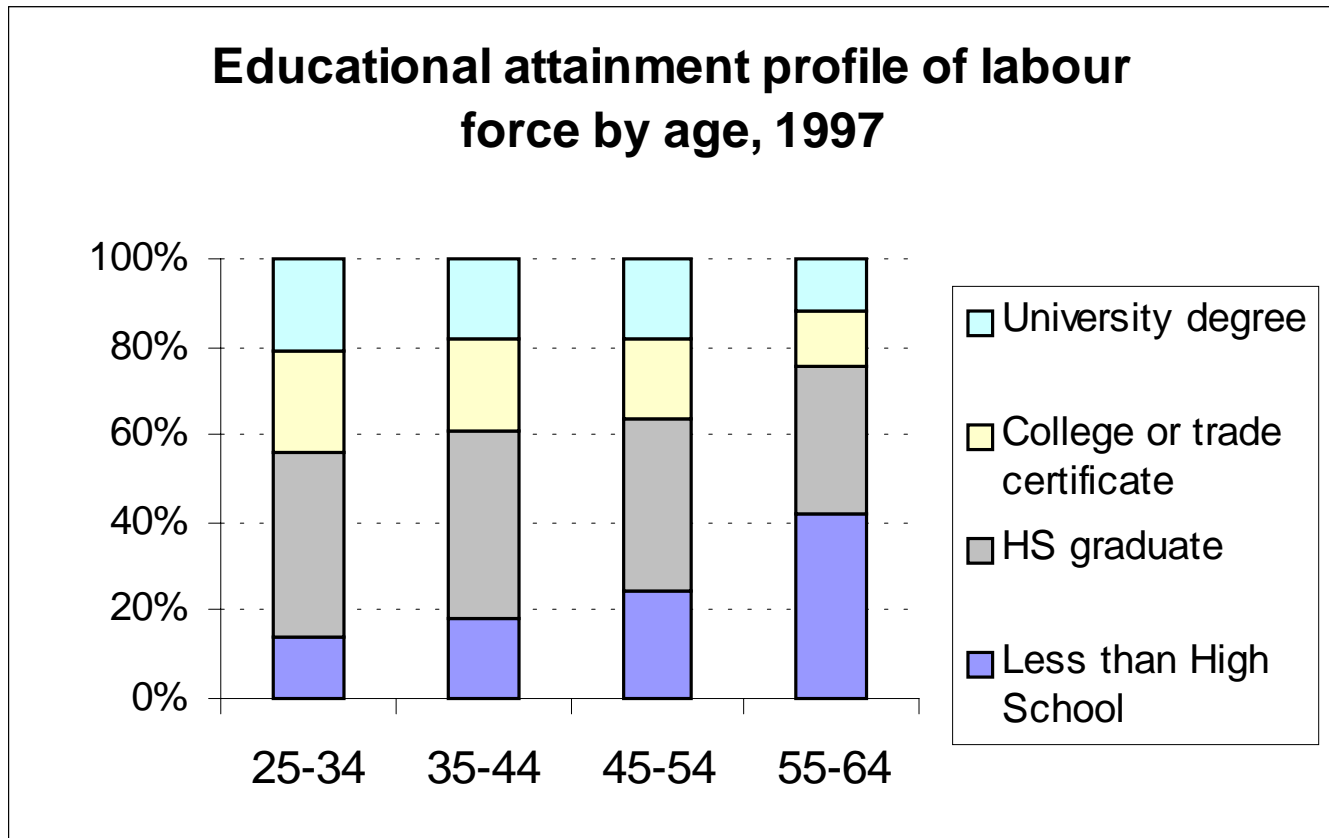


Chart 5



The longer-term up-ward trend in participation rates came to a halt in the 1990s

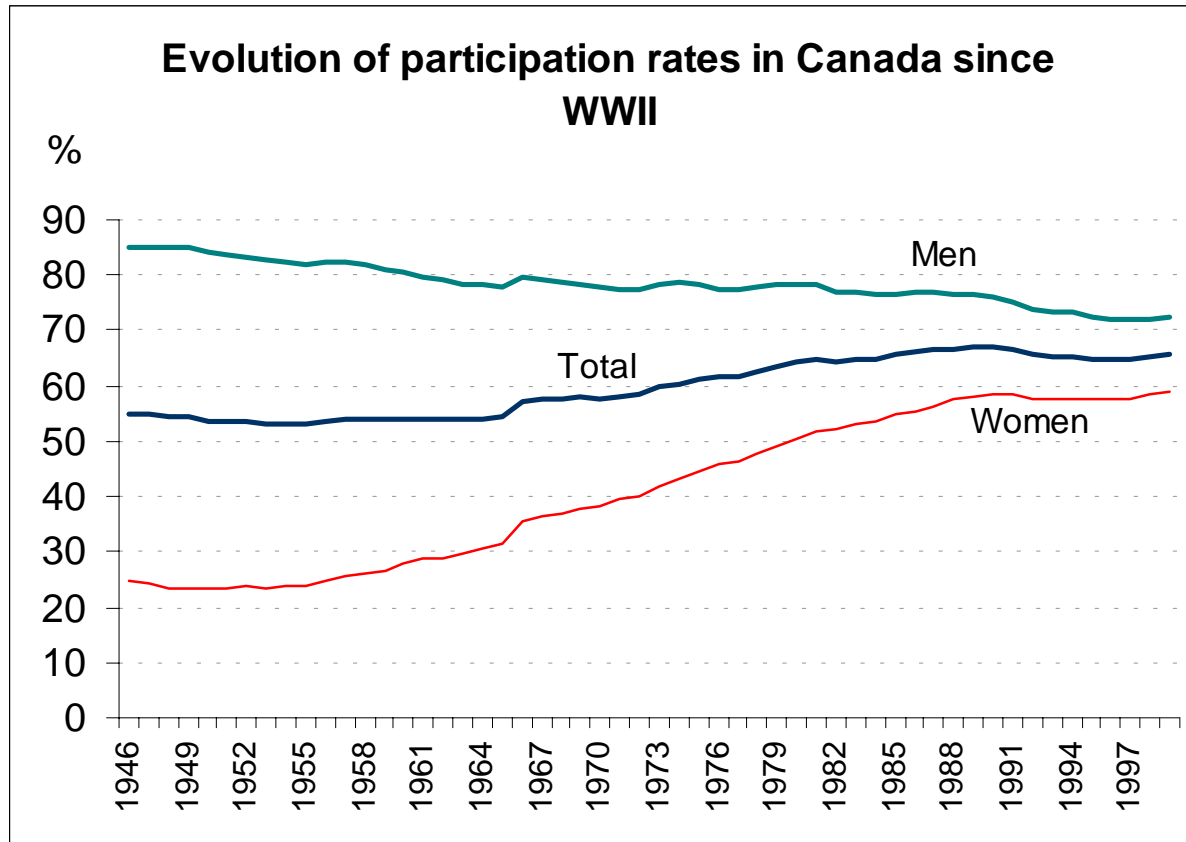


Chart 6



In contrast, participation rates continued to climb in the US

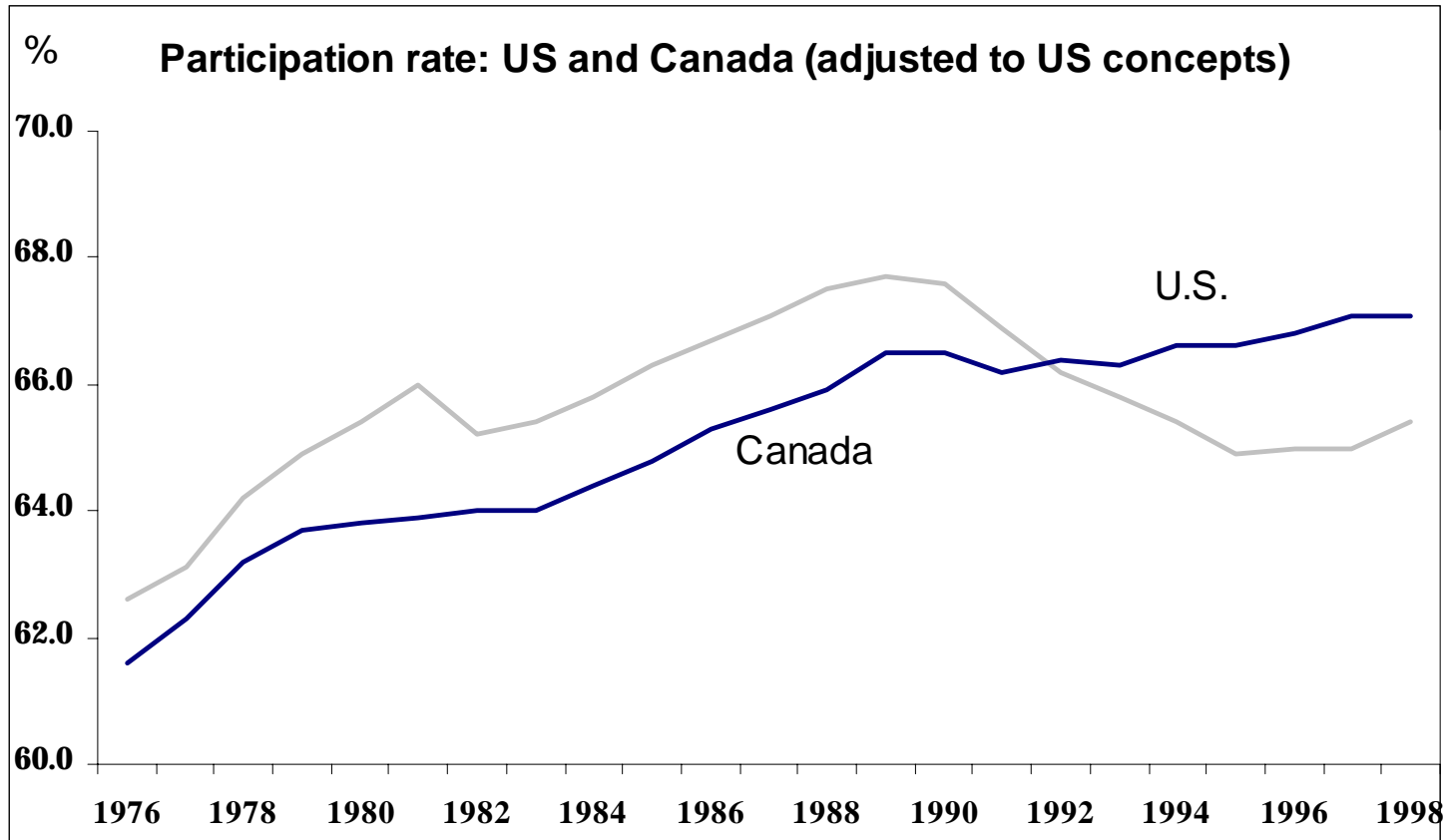


Chart 7

The greatest difference in participation rates occurred among the those aged 55+

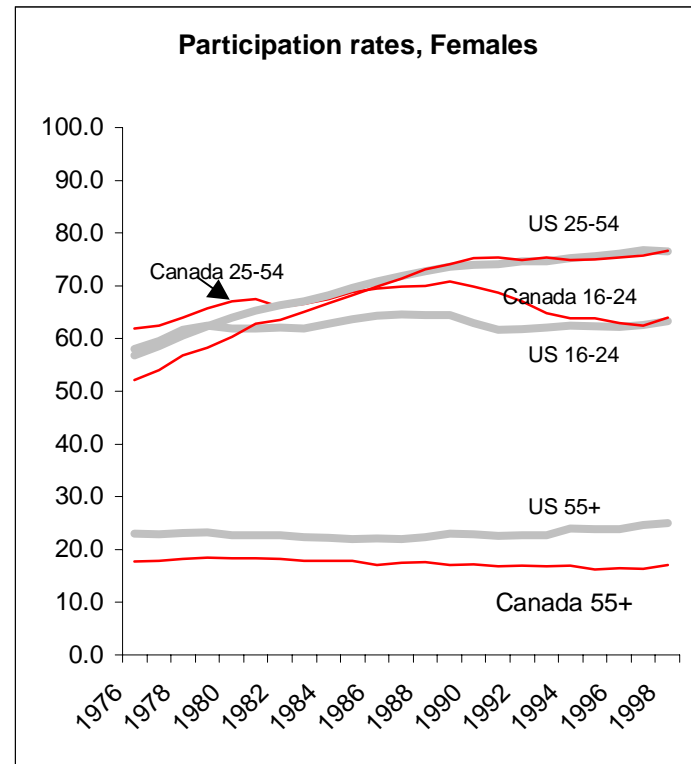
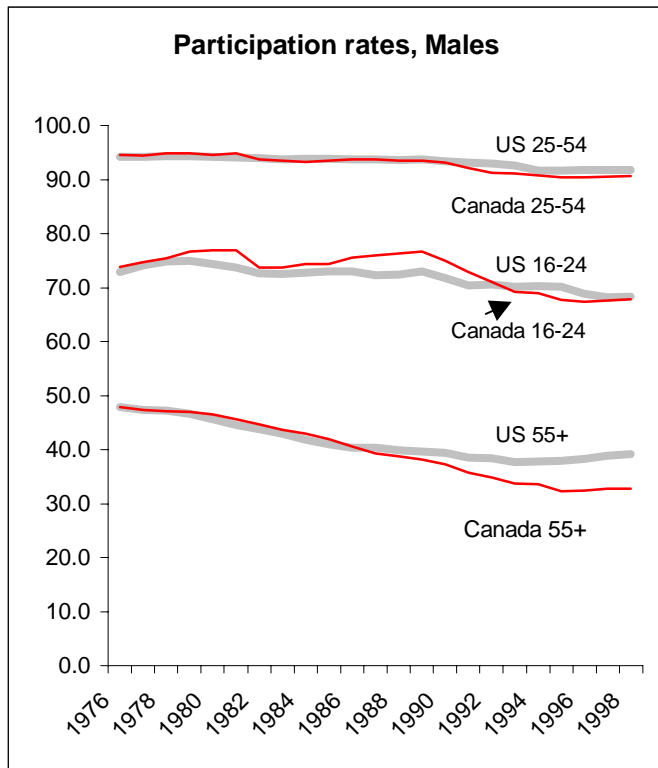


Chart 8



By 1999 almost all male age groups still had not recouped their 1989 participation rates

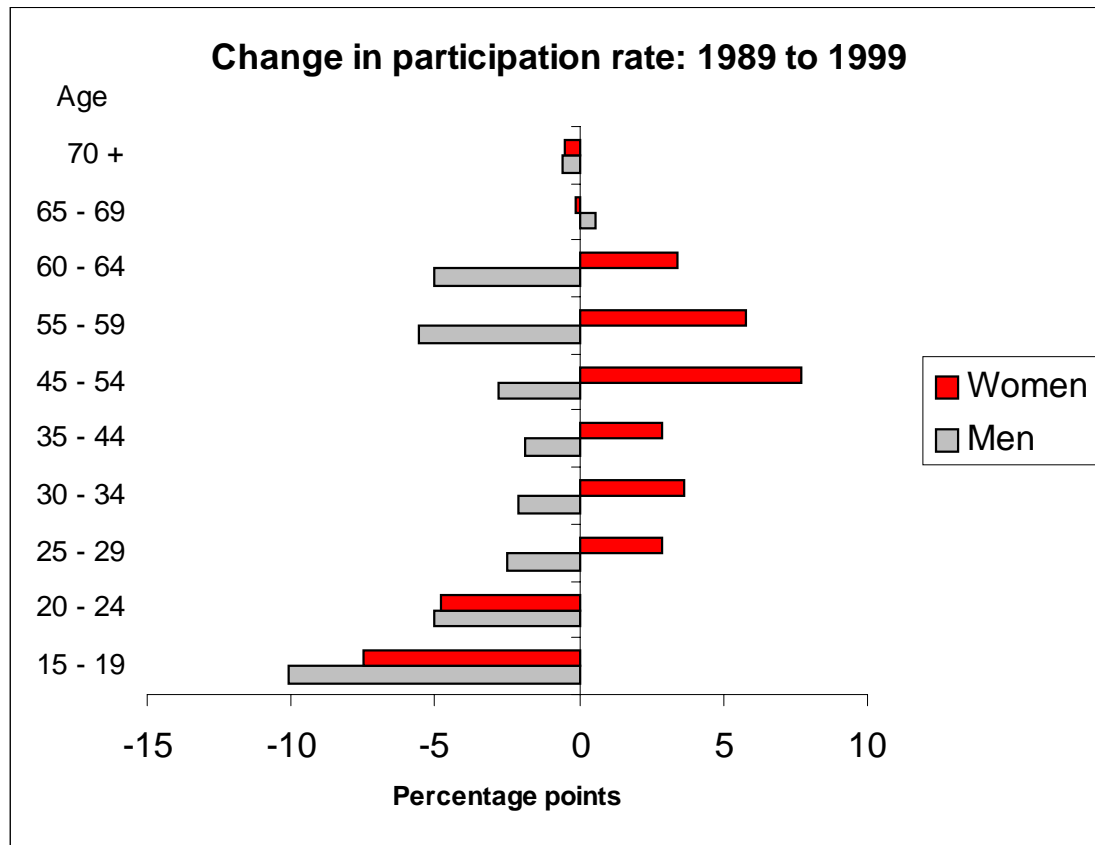


Chart 9



Youth participation rates still well below 1989 peak

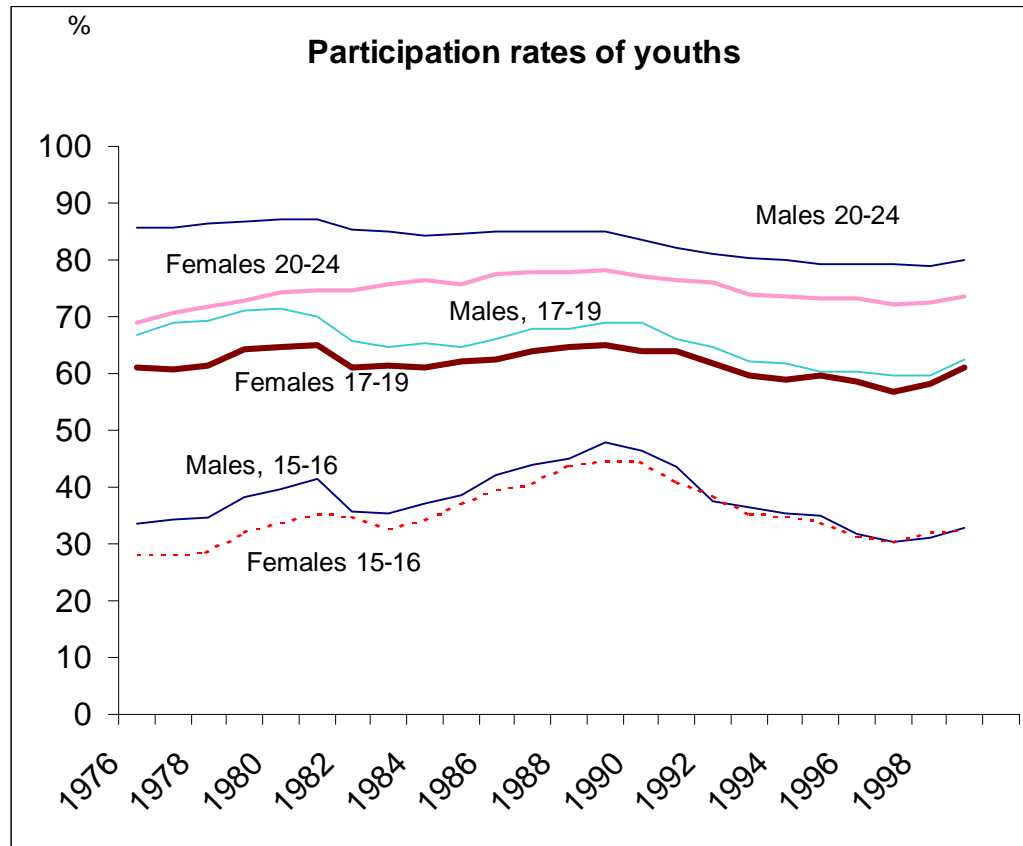


Chart 10



While the teenage population resumed growth in the early 1990s, this did not happen for 20-24 year olds until 1997

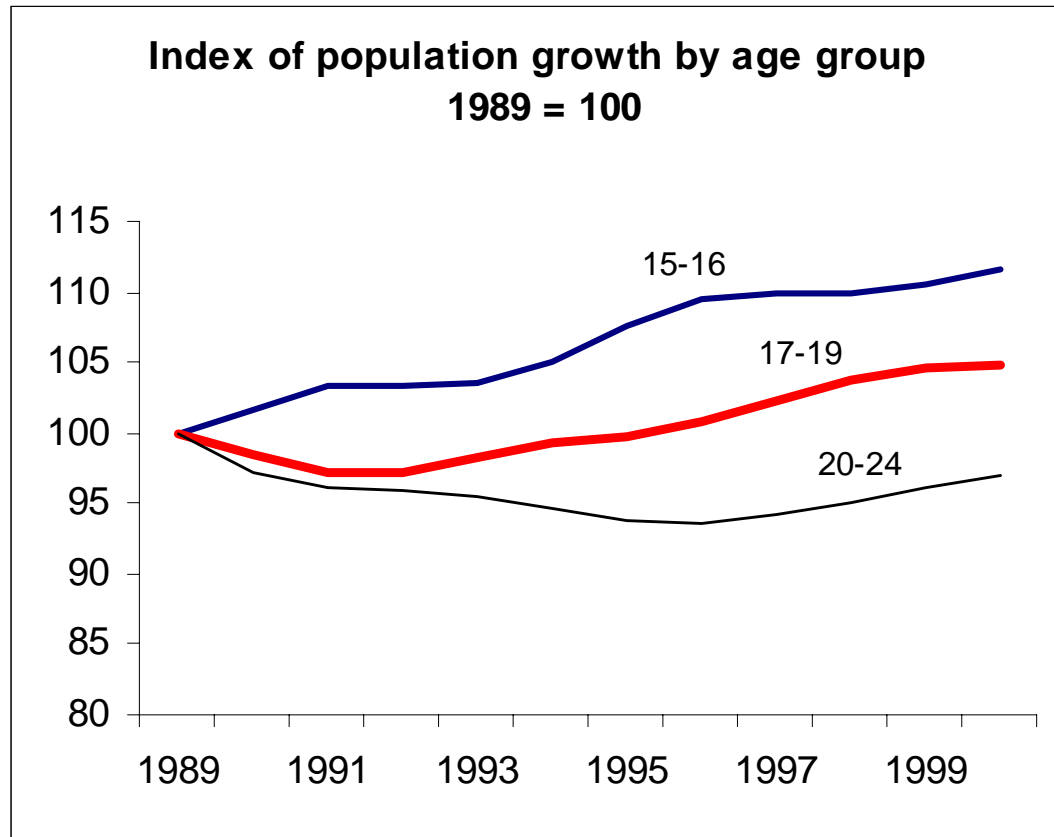


Chart 11



School attendance rates have plateaued recently

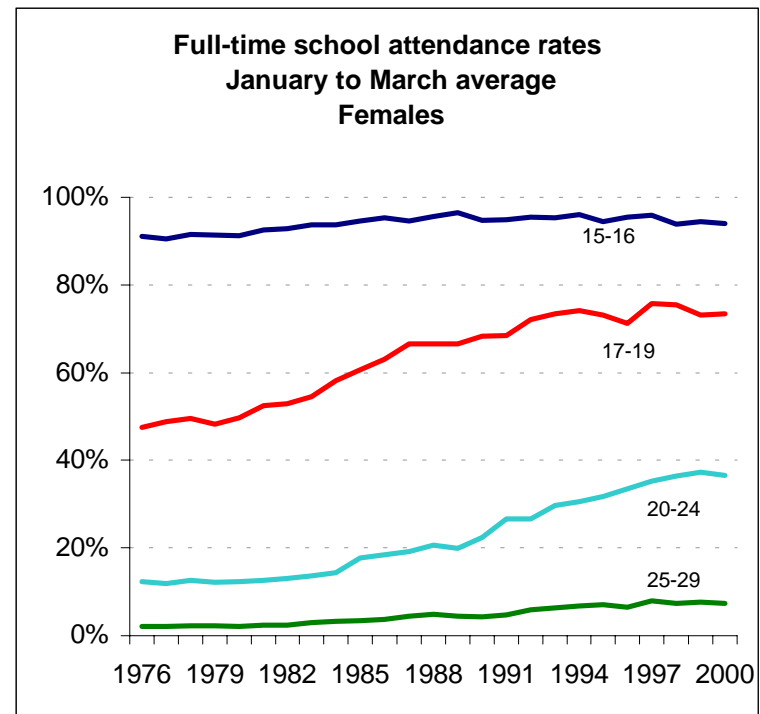
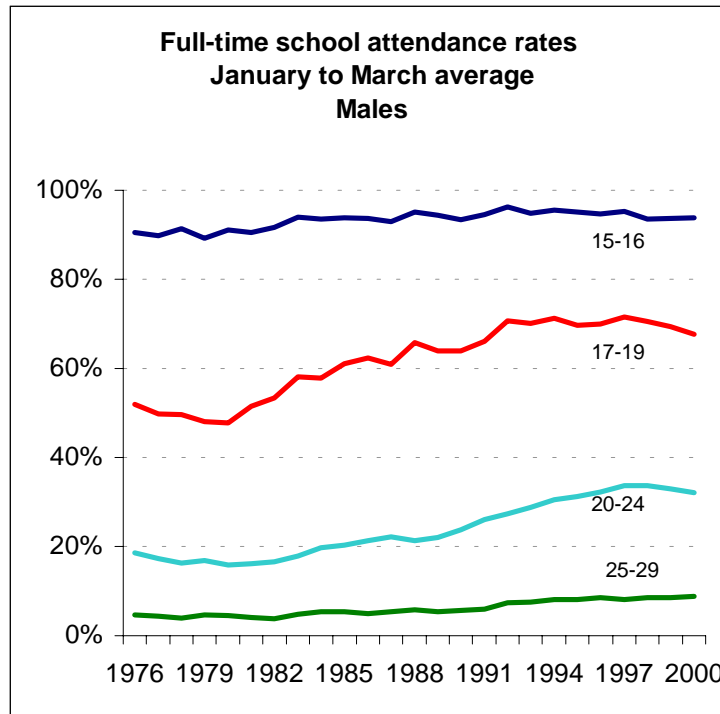


Chart 12



Growth in number of students at University full-time has also slowed

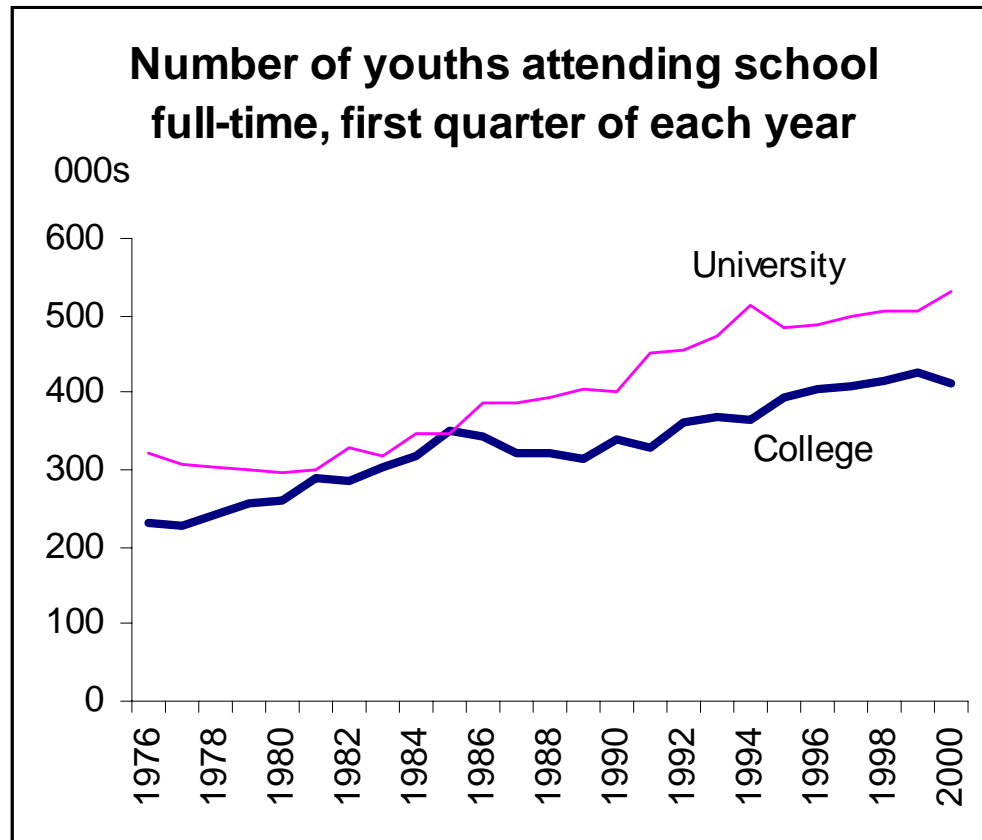


Chart 13



Each successive female cohort has experience higher participation rates

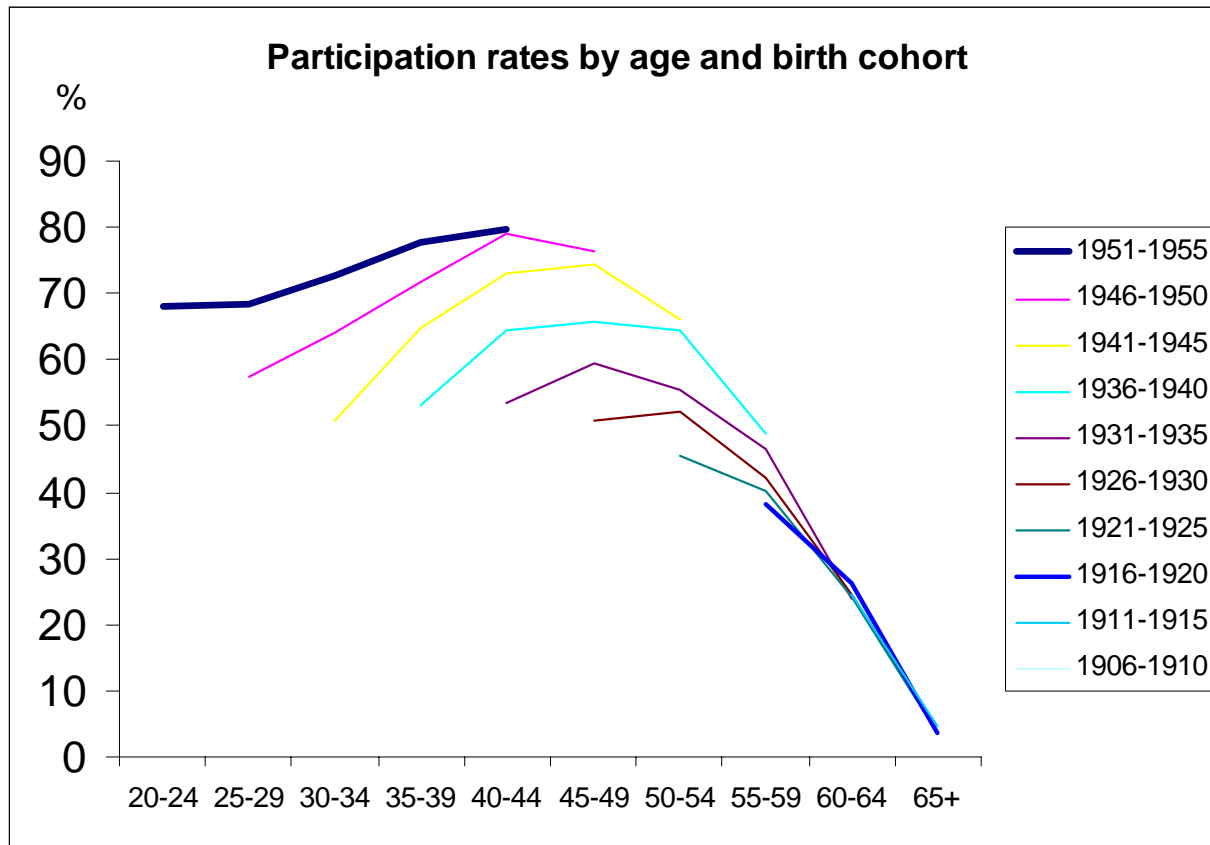


Chart 14



The participation rate by age profile of women has taken on a “high and flat” shape similar to men’s

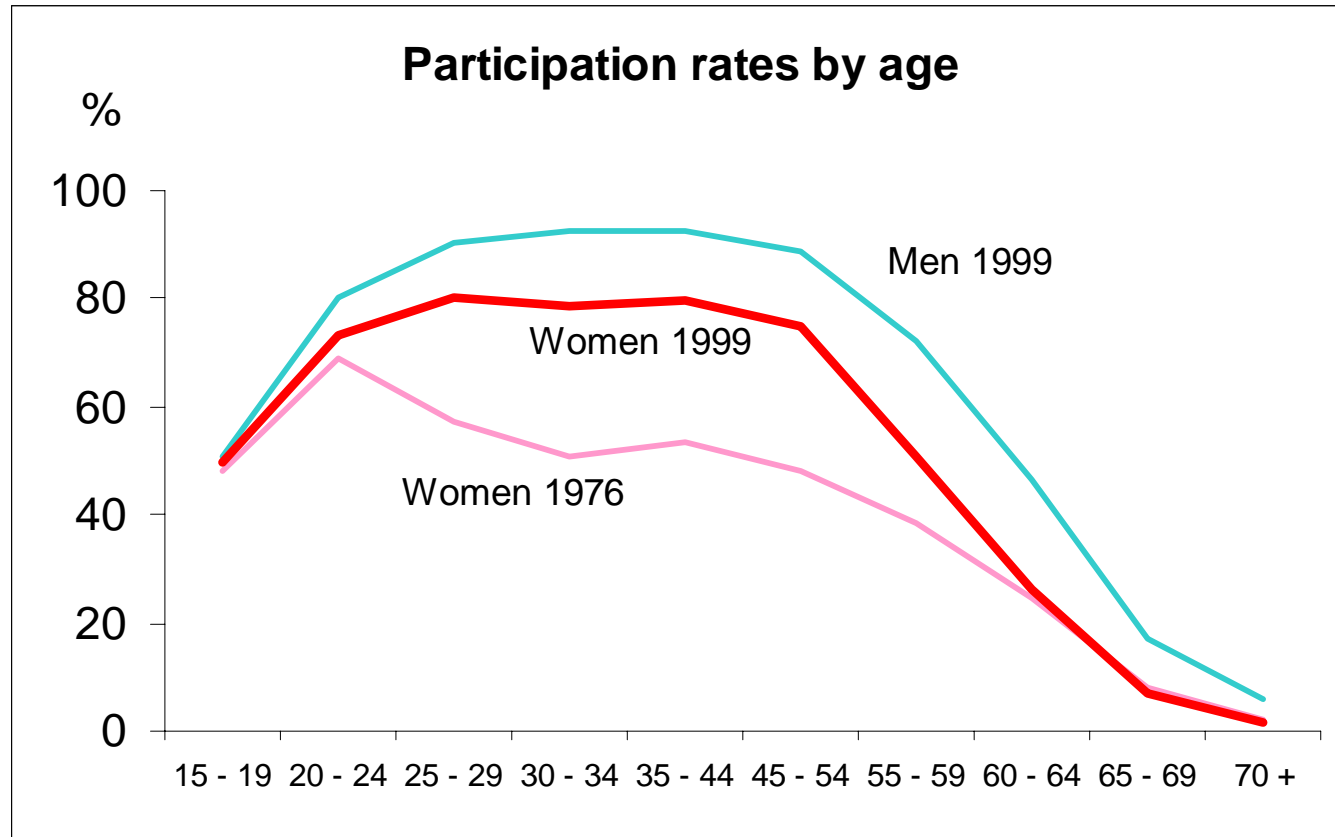


Chart 15



The gender gap in participation rates decreases with education

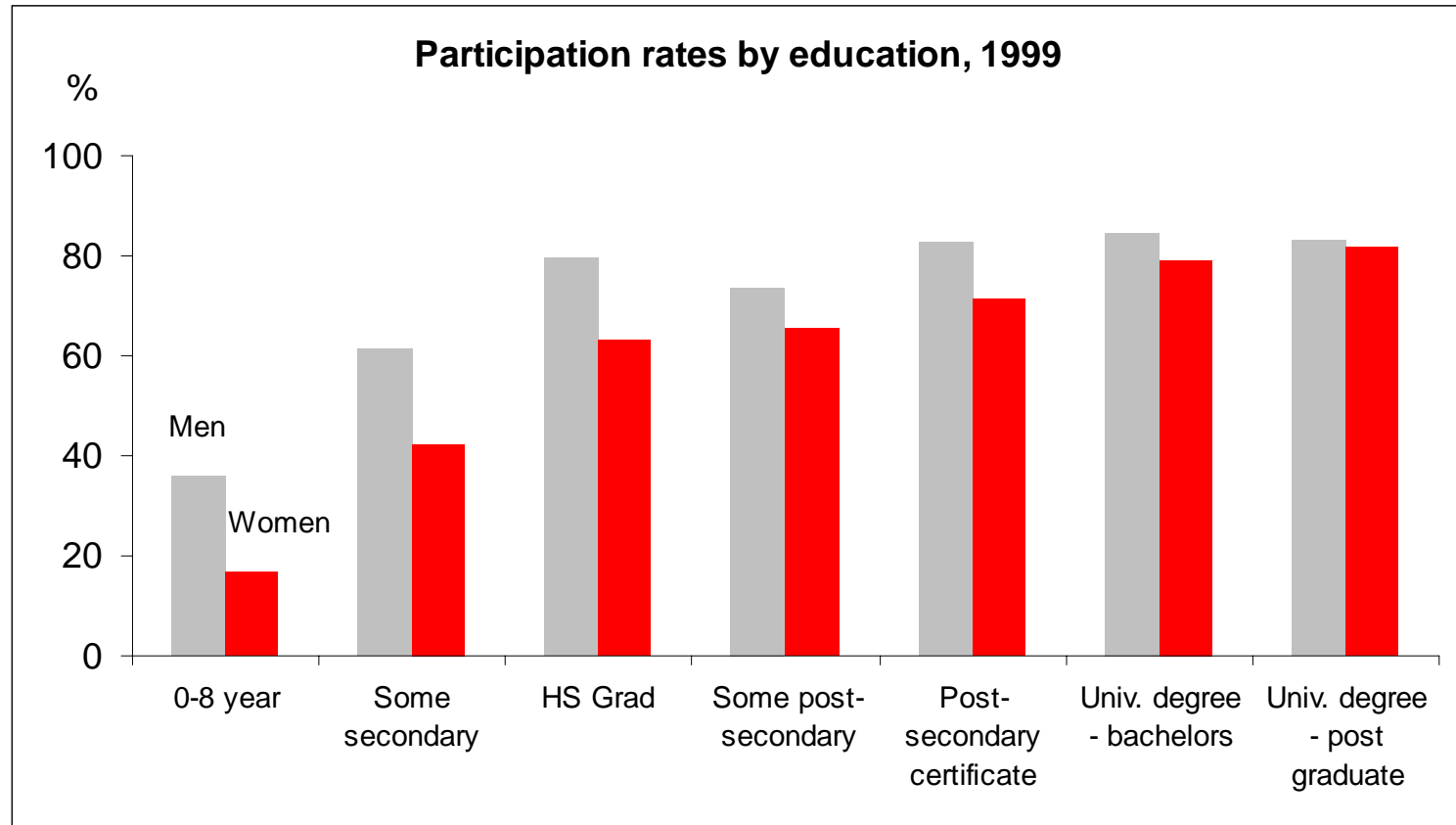


Chart 16



Most employed women back at work one year after childbirth

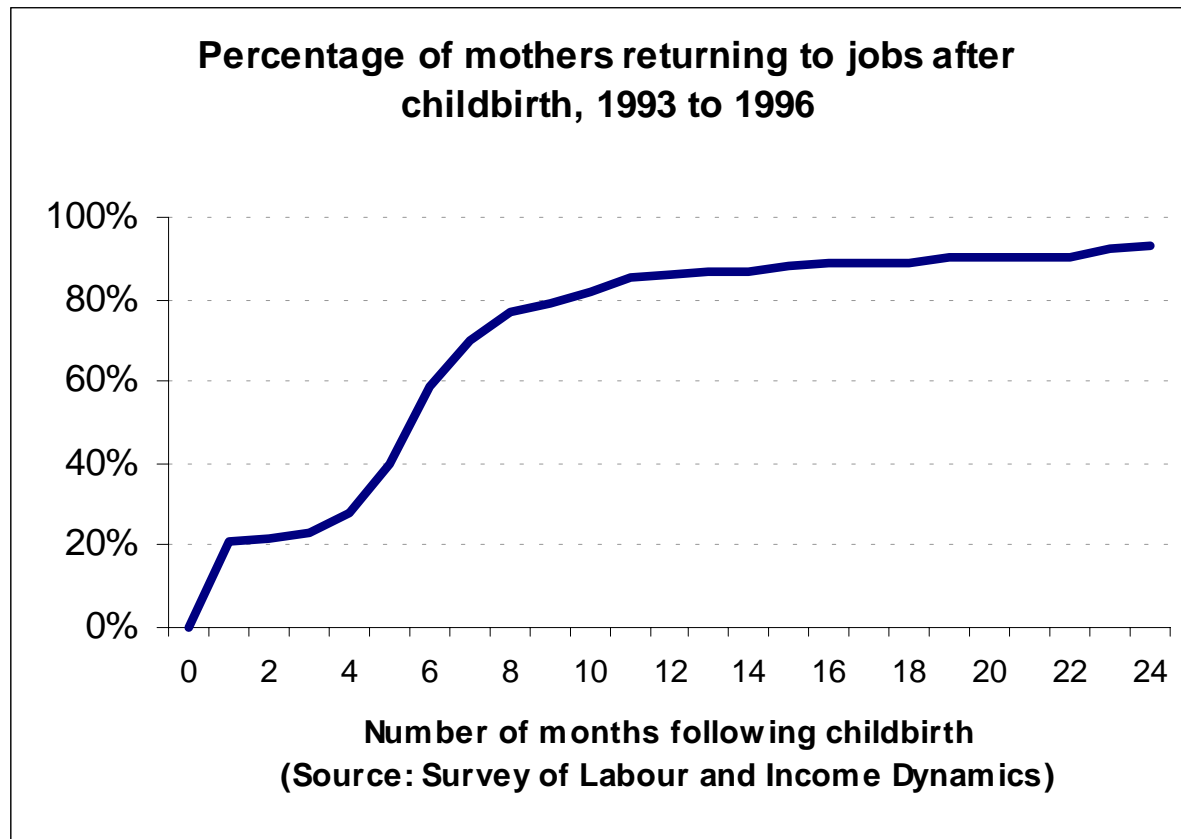


Chart 17



There has been a convergence in the participation rates of women with school age children and those with older or no children

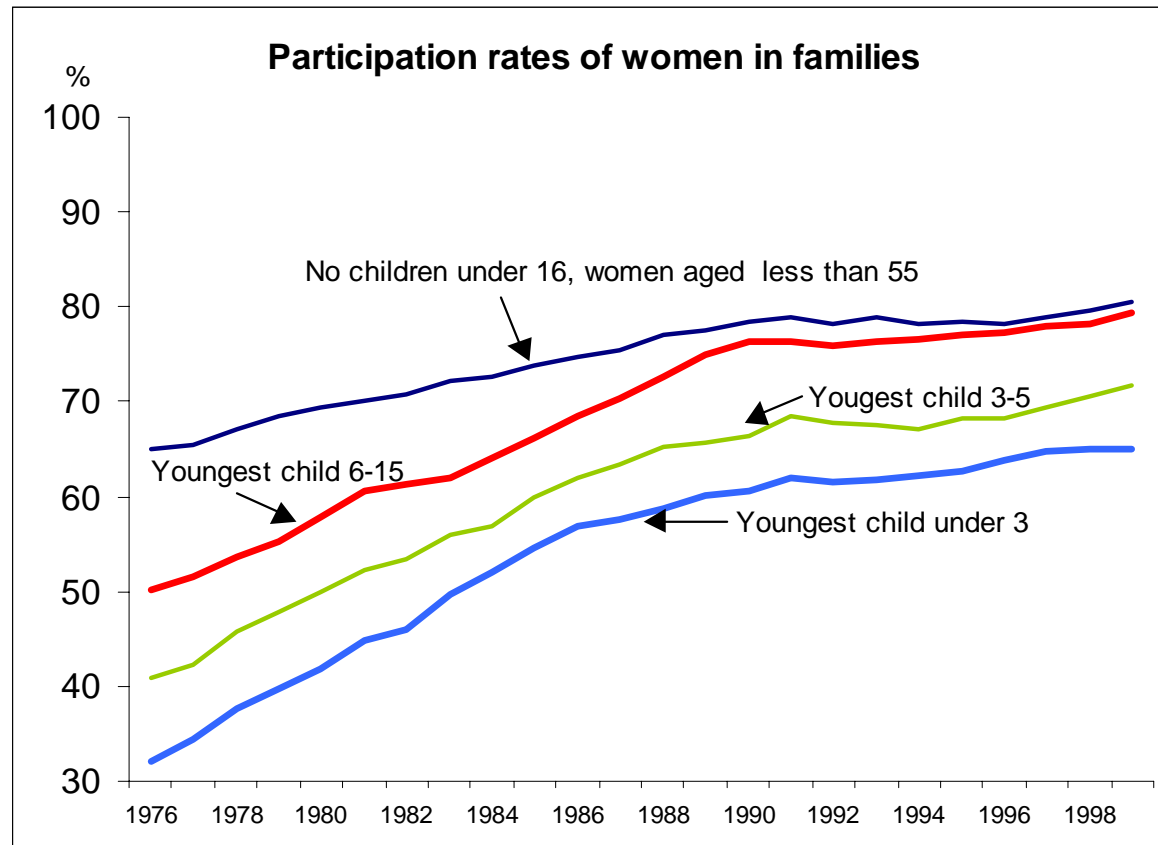


Chart 18



In 1997, the ratio of women's to men's full-time full-year earnings was .72

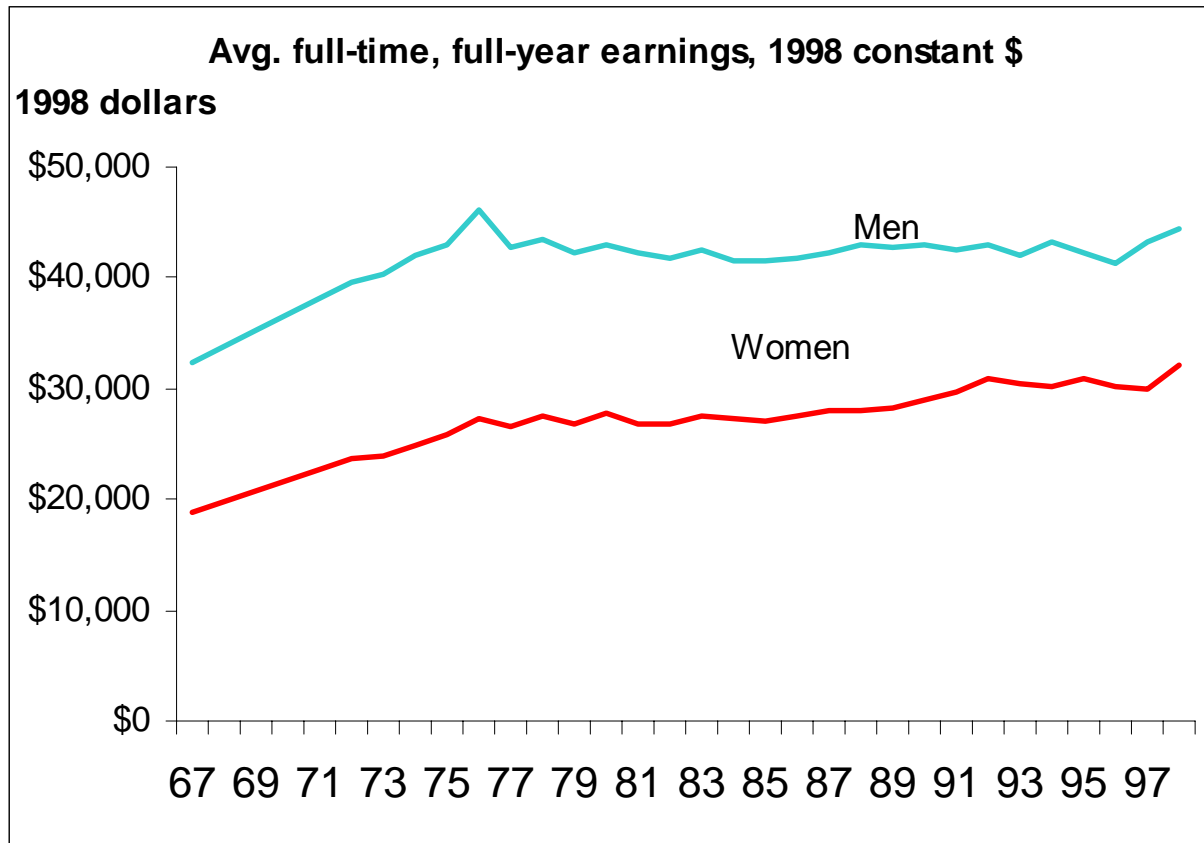


Chart 19



The drop in median retirement age may be slowing or even levelling off

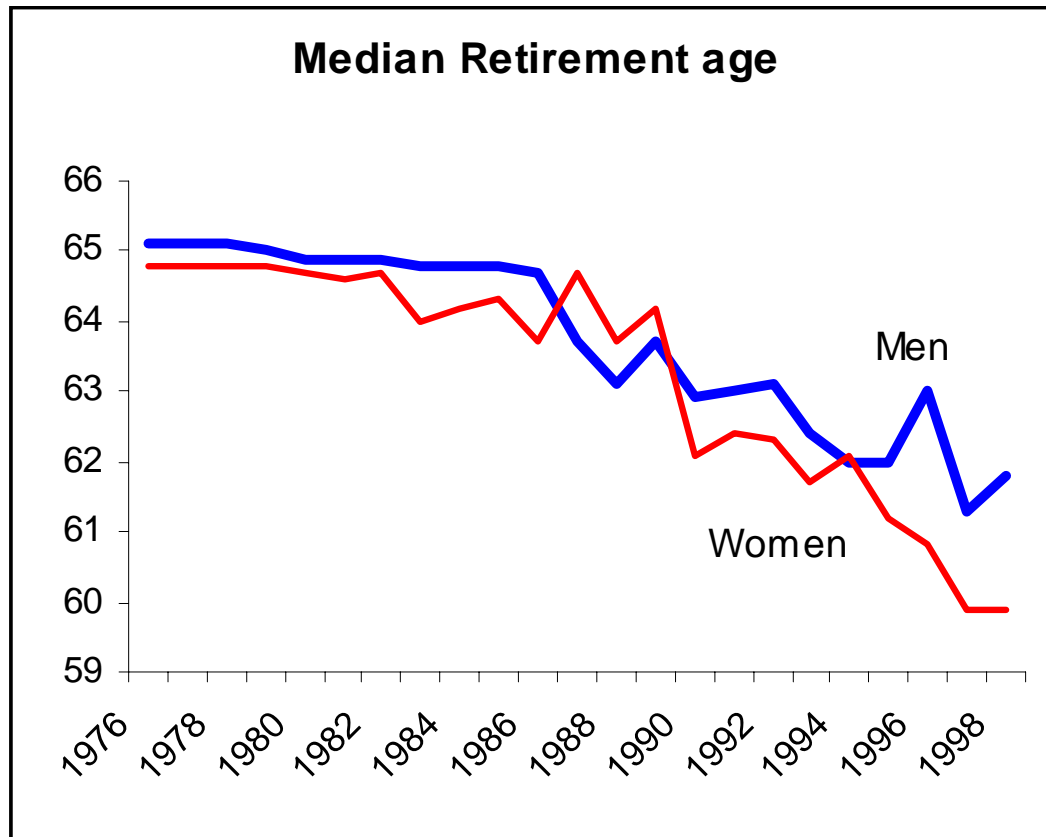


Chart 20



Women aged 55 to 59 are now more likely to be in the labour force than men aged 60-64

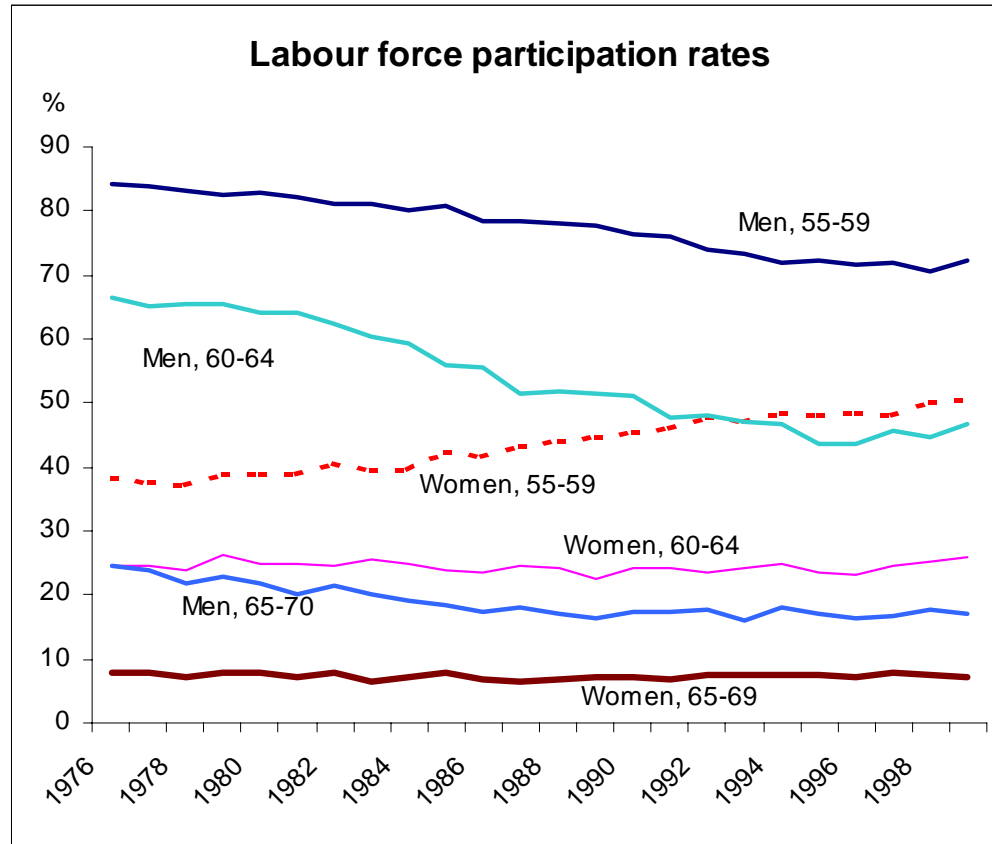


Chart 21



The upturn in participation rate of older men in the US is, as yet, barely echoed in Canada

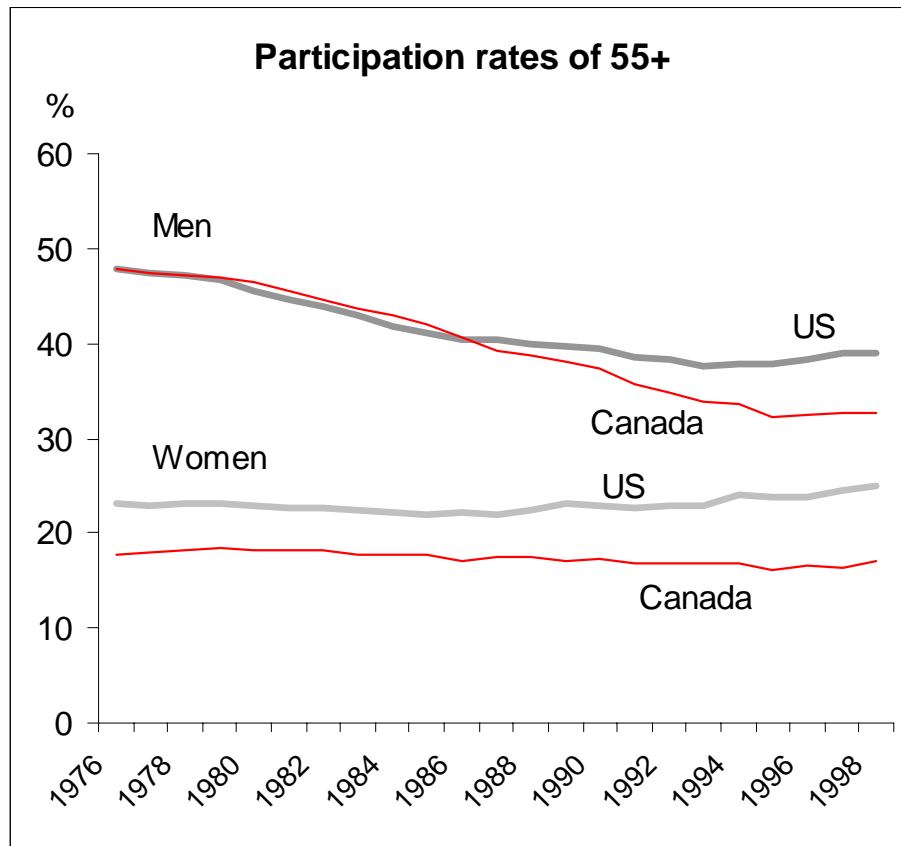


Chart 22



As boomer women age beyond 50, the gender gap in participation rates is likely to decrease further

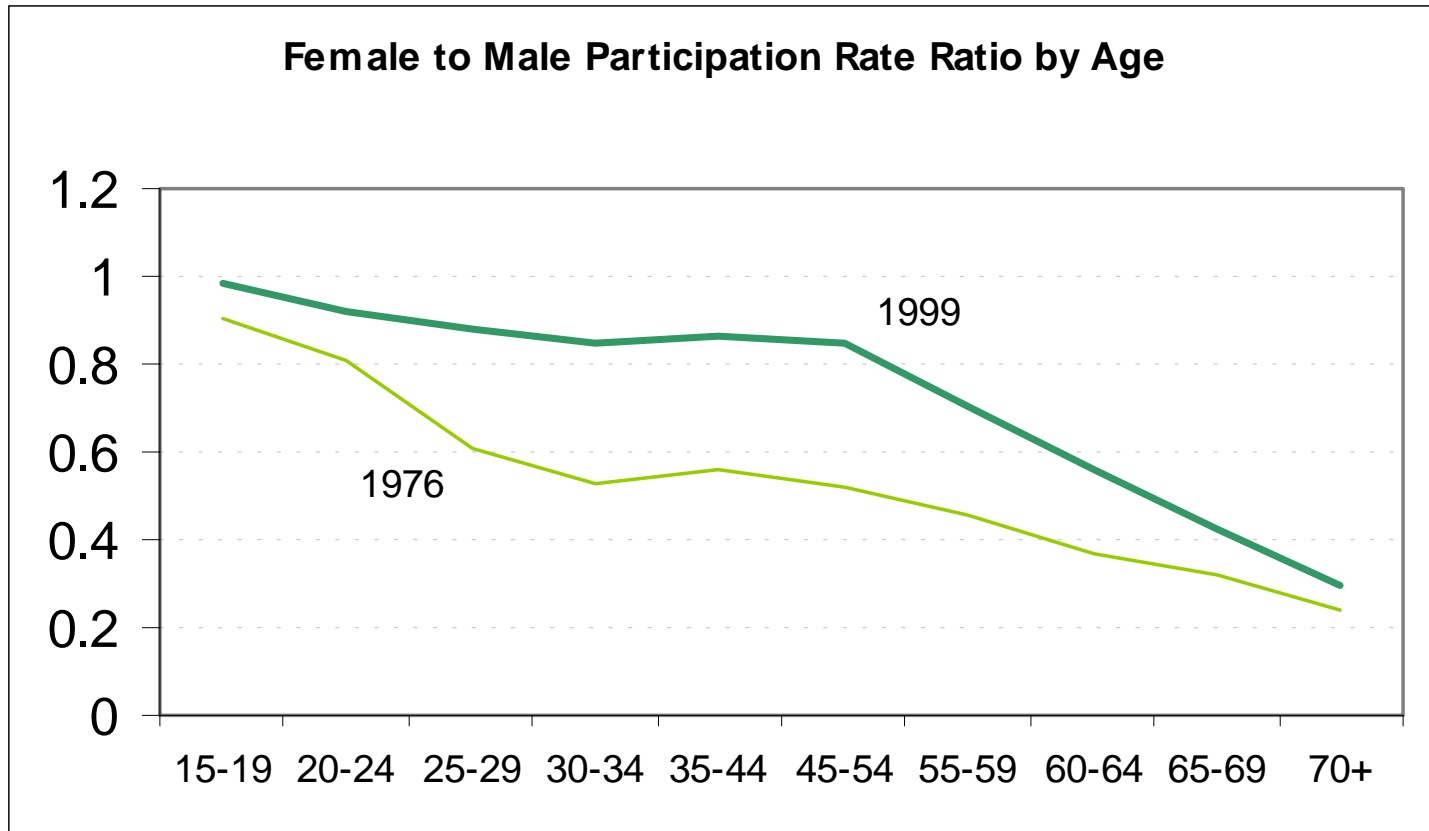


Chart 23



Retirement age differs markedly by class of worker

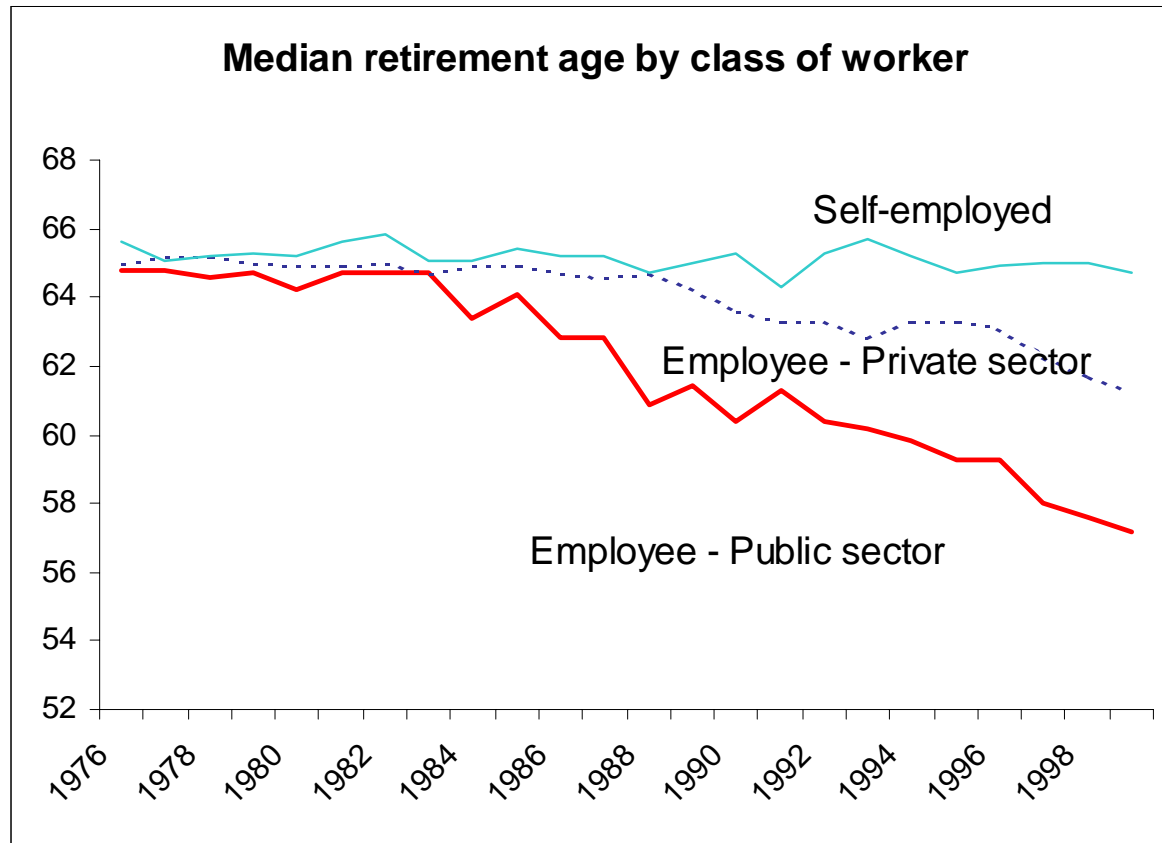


Chart 24



Young men and women may not have same pension coverage as their older counterparts

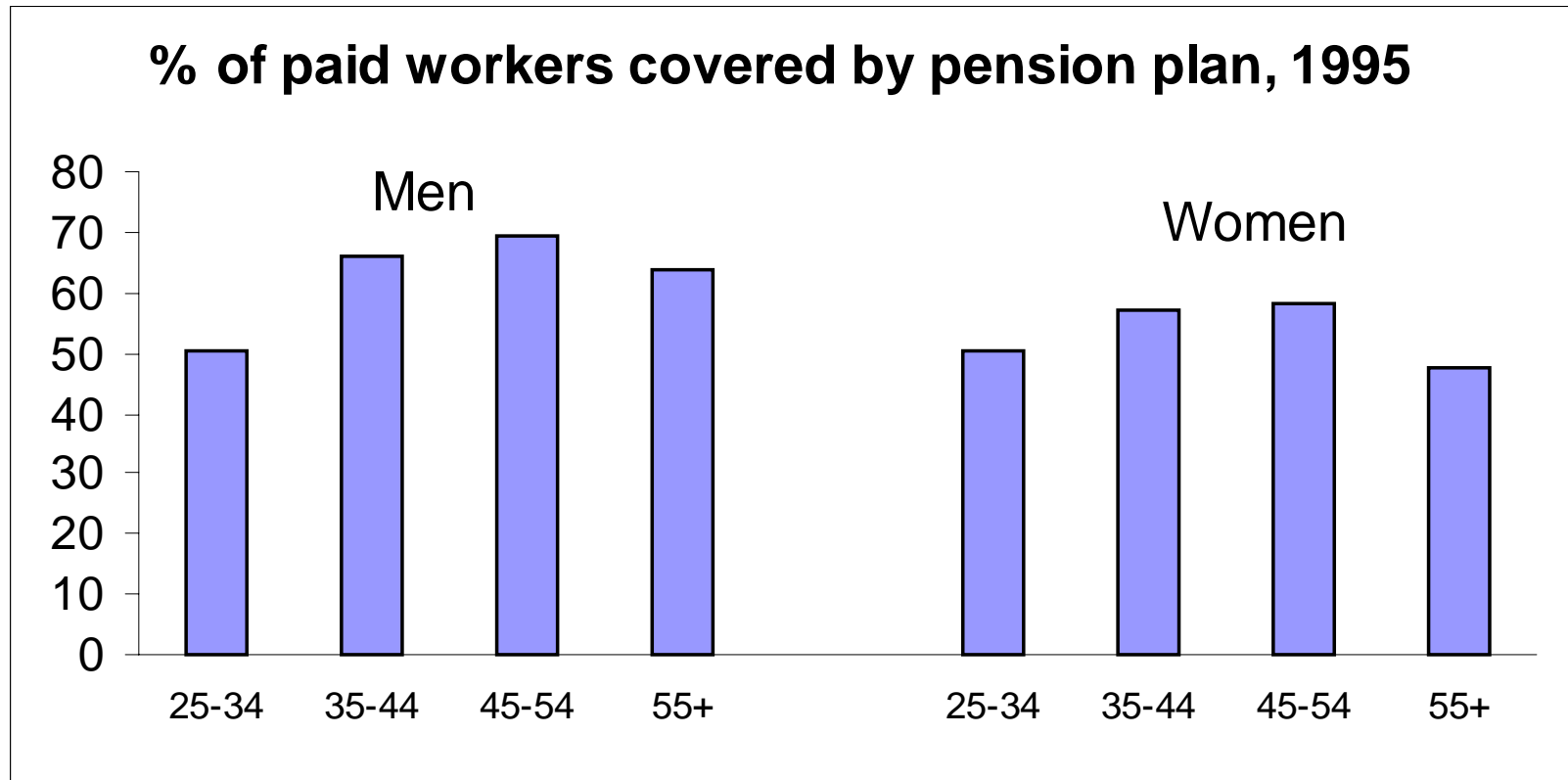


Chart 25



Working life tables assume current activity patterns and life expectancy

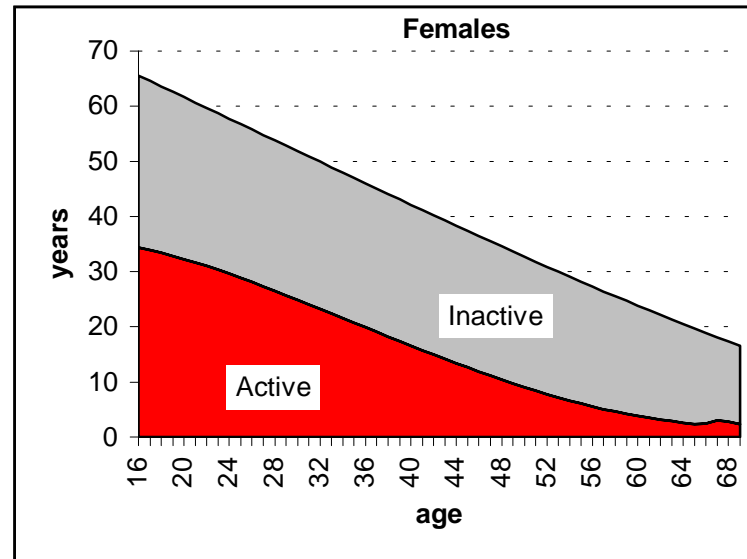
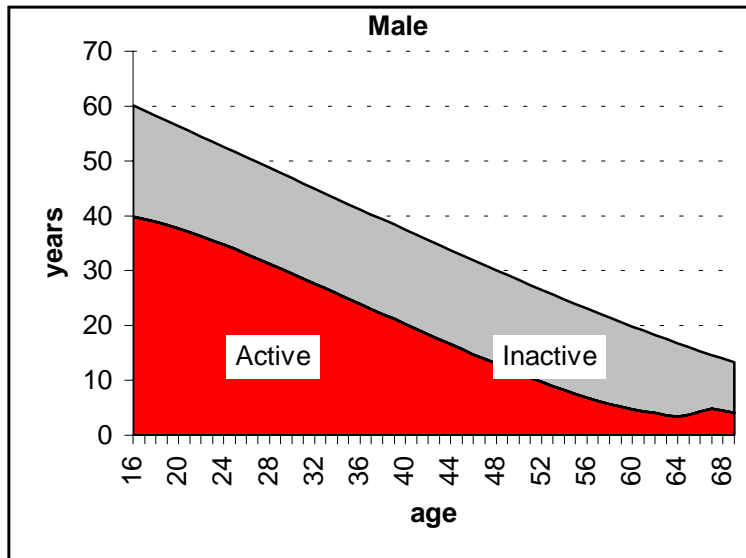


Chart 26