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**Social Security Pensionable Age
In OECD Countries: 1949-2035**

by
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The AARP Public Policy Institute, formed in 1985, is part of the Policy and Strategy Group at AARP. One of the missions of the Institute is to foster research and analysis on public policy issues of importance to mid-life and older Americans. This publication represents part of that effort.

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EXECUTIVE SUMMARY

Introduction

A number of countries recently have legislated changes in their social security early retirement age policies. Some of these changes have involved large increases in the early retirement age.

Purpose

This Issue Paper examines the pensionable or early retirement age policy of social security programs in 23 Organization for Economic Cooperation and Development (OECD) countries over the years 1949-2035. It investigates aspects of the social security reform process, such as whether the evolution of social security pensionable ages has occurred gradually over extended periods or through short periods of rapid change separated by long periods of little or no change. Pensionable age policy provides insight into broader issues in social policy, such as whether social policies across countries have converged or diverged over time, and what has been the time pattern in the movement toward gender equality in social programs, with gender equality in this context being equal pensionable ages for men and women.

Methodology

Using data on pensionable (or early retirement) ages in 23 OECD countries, the paper examines the social security reform process that leads to changes in pensionable age. It compares changes for men and women, and compares policies in the G7 countries to those for the 23 OECD countries as a whole. The report examines possible explanations for why and by how much countries have raised their pensionable age.

Principal Findings

Historically, changes in a country's pensionable age (the age of first eligibility for benefits) have been relatively rare, with some countries having made no changes over very long periods. For example, the pensionable age for men has been 65 in Australia's Age Pension since 1909. Since the early 1990s, however, more than a third of OECD countries have enacted legislation raising the pensionable age for men, and about two-thirds have done so for women. Now the majority have legislated pensionable ages of 65 or higher, although these changes have yet to take effect in some countries.

It might be thought that because there are differences in the underlying determinants of pensionable ages, pensionable ages would be distributed over a range of ages, perhaps being normally distributed around a central age. Most countries, however, have followed a pattern of "counting by fives," with pensionable ages at 55, 60 or 65, and in earlier years, 70. Similarly, although it might be thought that reforms would tend to involve marginal changes of one year, it is much more common for countries to have enacted major reforms involving increases of five years. For example, Belgium, Japan, and New Zealand have raised their pensionable ages by five years for both men and women, and Australia and the United Kingdom have done so for women to equalize it with the age for men.

In addition, although it might be thought that social security systems would adjust gradually to changing economic and demographic conditions, it is much more common for fairly rapid adjustments to occur over relatively brief periods, punctuating long periods of no change. Because of the relatively short delay before increases in pensionable age generally take effect, workers in their fifties are often affected by the changes.

The pensionable age is lower in the G7 countries than in the OECD as a whole. In 2002, the mean pensionable age for men in the traditional high-income OECD countries was 62.4, compared to 61.3 for the G7 countries. The mean age for women in 2002 was 61.7 for the OECD as a whole compared to 60.0 for the G7 countries.

Examining current pensionable ages provides a misleading view of pensionable age policy. By 2035, based on legislation as of 2004, the median pensionable age for women in the OECD will have risen by 5 years to 65. By 2035, 15 of the 23 traditional OECD countries will have a pensionable age for men (14 will do so for women) of 65 or higher based on legislation in effect in 2004. Many countries, however, with relatively high pensionable ages for social security have developed alternative exits from work, with the effective retirement age being several years less than the pensionable age.

The pattern of changes in pensionable ages provides insight about the reform processes in different countries. Major changes are more common than minor ones. That pattern may be due to a high degree of friction in the reform process, plus a lack of information and knowledge as to the “right” early retirement age, causing a reliance on a rule of thumb of setting the early retirement age at an age evenly divisible by five.

Studying pensionable age policy provides a method for examining broader issues in social policy, such as whether social policies have converged or diverged over time. Countries have converged in their pensionable age policies as indicated by a reduction in the standard deviation in pensionable ages across countries.

Conclusions

Once a pensionable age for social security is enacted, it tends to remain unchanged for years. That historical pattern makes it especially noteworthy that over the relatively short period 1993-2004 more than a third of the OECD countries increased the pensionable age for men and about two-thirds have done so for women. Based on legislation in effect in 2004, the majority of the high-income OECD countries will have a social security pensionable age of 65 or higher by 2035.

I. INTRODUCTION¹

Reform of Retirement Age Policies for Social Security

Countries around the world are making important changes to their social security programs. Population aging is a major force behind these changes. Population aging is occurring due to the effects of reduced fertility and increased life expectancy. Fertility has already reached low levels in many high-income countries, although the effects of that change on social security systems will not be fully felt until after the baby boom generation retires. In the future, increases in life expectancy in many countries will probably be the primary cause of population aging. Population aging raises the ratio of retirees to workers, which makes it more difficult to finance traditional pay-as-you-go social security programs.

In historical terms, the increases in life expectancy starting in the twentieth century have been unprecedented. Since 1950 in the European Union, life expectancy at age 65 has increased by more than one year per decade. Demographers project this trend to continue: by 2050, demographic projections suggest that Europeans will live at least 4 to 5 years longer than in 2000 (Commission of the European Communities 2002). The pace of this trend varies across countries, with life expectancy at birth in Great Britain increasing by more than 2 years a decade over the 20 years from 1981 to 2001 (Hebert 2004).

¹ The views, opinions, and judgments expressed here are solely the responsibility of the author and do not necessarily represent the position of AARP. I have presented this paper at the 4th International Research Conference on Social Security in Antwerp, Belgium; at the Centre for European Policy Studies (CEPS) Roundtable on Demography and Aging in Brussels, Belgium; at a seminar jointly sponsored by the Institute of Actuaries and the International Longevity Centre in London, England; at the Government Actuary's Department in London, England; at a seminar sponsored by the Society of Government Economists in Washington, DC, and at the annual meetings of the Society of Actuaries in New York. I also have received helpful comments from Joseph Anderson, Laurel Beedon, Axel Boersch-Supan, Yung-Ping Chen, David Deans, Wolfgang Ettl, Jay Ginn, John Gist, John Gossage, Raija Gould, Ralf Jacob, Florence LeGros, Michael Leonesio, Michael Martin, Evelyn Morton, Einar Overbye, David Rajnes, Sara Rix, John Rother, Wolfgang Scholz, Jens Schremmer, Alison Shelton, Roland Sigg, Lisa Southworth, Robert Stephens, Theresa Varner, Fritz von Nordheim, and Peter Whiteford.

A number of high-income countries of the Organization for Economic Cooperation and Development (OECD) changed their social security systems during the 1990s in response to pressures from slow economic growth, high unemployment, and in many countries, rising government deficits. Countries are also considering long-term reforms to ensure the financial viability of their social security programs as population aging raises their benefit costs. Countries are looking for ways to lower the effect of increased longevity on pension costs. In traditional social security programs, benefit costs rise when life expectancy increases; so if no changes are made in the structure of benefits and contributions, financing problems will eventually result.

This Issue Paper examines the early retirement age policy of social security programs in 23 OECD countries over the years 1949-2035. Using data on the early retirement age in social security, the paper examines whether change has occurred gradually over long periods of time or whether change has been discrete and infrequent, occurring rapidly over short periods that punctuate long periods of little or no change. It also examines whether changes in pensionable age have been sufficient to offset increased benefit costs due to increased life expectancy. It compares changes for men to those for women, and changes for the G7 countries to those for the 23 OECD countries as a whole. It considers possible explanations for why some countries have raised their pensionable age and others have not. Studying pensionable age policy may suggest whether social policies across countries have converged or diverged over time, and may provide evidence as to the timing of the movement toward gender equality in social programs.

Some policy arguments support and some oppose raising social security's early retirement age. Doing so may encourage later retirement by some workers, thus offsetting to some extent the rising ratio of retirees to workers by increasing the number of workers and reducing the number of retirees. If an employee works longer in response to an increase in the

social security early retirement age, he or she would contribute more to the social security system. Even if a person did not work the extra years, raising the early retirement age from 60 to 65 would increase by 50 percent the worker's annual retirement benefits due to the reduced number of years over which they were received and the increased number of years in which a rate of return was received on the assets funding the benefits (in a funded system).

Raising the social security early retirement age, however, reduces workers' options for leaving the labor force at the previous early retirement age. That policy change is especially disadvantageous for older workers with relatively short life expectancy, who tend to have lower income and less education. It is difficult for some workers who have physically demanding jobs, such as mining and fishing, to continue working at older ages. Additionally, older workers who are laid off often have a difficult time finding a job, perhaps in part because of age discrimination. Thus, raising the early retirement age likely would increase the number of older workers claiming disability and unemployment benefits. The increased cost of those benefits due to the increased number of recipients would offset cost savings for the social security program.

The importance of the early retirement age can be judged in terms of two effects. First, it may affect differently the age at which workers actually retire across different countries. In some countries the early retirement age may affect workers' decisions on when to retire through its symbolic value, indicating a societal norm as to retirement age. Although in some countries the early retirement age in social security and actual retirement ages are closely related, in other countries with relatively high early retirement ages, it appears that the social security early retirement age has little relevance to the age at which workers actually retire because of alternative pathways to retirement. However, a number of countries with high early retirement

ages but with programs providing alternative routes out of the labor force at earlier ages are tightening the eligibility requirements for those programs or eliminating them altogether.

Second, if a higher pensionable age does lead to employees working longer, the result can be an increase in both annual and lifetime social security benefits, because of workers having contributed more into the system.

Structure of the Report

Following a short discussion of terms, the social security pensionable age policy is examined in 23 OECD countries over the period from 1949 to 2035. The discussion then turns to an analysis of pensionable age reforms and examines the data on the magnitude and frequency of reforms to see what can be learned about the reform process in different countries.

This paper does not consider several related issues, including changes in the normal retirement age and changes in benefits receivable at that age, disability and unemployment benefits that older workers commonly take in some countries as forms of early retirement benefits, partial retirement plans, and special early retirement plans for particular occupations. In order to compare government programs with similar features, programs are not considered that require a period of unemployment for eligibility. Disability insurance, unemployment benefits, and early retirement benefits for workers who have had long careers or who work in particular industries or occupations are all pathways out of the labor force before the pensionable age in social security. Each pathway serves a different category of employee who may have difficulty working at older ages.

The Meaning of Pensionable Age

The term “pensionable age” needs some explanation because of the variety of qualifying conditions for social security old-age benefits. Pensionable age is the earliest age at which most workers qualify for social security benefits, having met a minimum standard for time spent in covered work. In some countries, employees must work more years to qualify at the earliest age than they need to work to qualify for benefits at a later age.

Several concepts of retirement age have been used in different contexts (appendix 1). Pensionable age is preferable to the term “early retirement age” for the analysis of this paper because workers often need not completely stop working (i.e., retire) at the pensionable age to qualify to receive benefits. Also, some countries do not have an early retirement age because the earliest age at which social security benefits can be received is 65 or older. For those countries, the earliest age at which workers can receive pensions is considered to be the normal retirement age.

Many countries have complex retirement income systems with multiple government programs providing cash benefits to older persons, often with different qualifying ages and conditions. Thus, some countries have different pensionable ages in different social security programs.

II. OECD PENSIONABLE AGE POLICY, 1949-2035

A recent, less formal survey of social security pensionable ages around the world (Gillion et al. 2000) reached several conclusions. First, most countries’ social security pensionable ages have remained unchanged for many years. Second, at some point during the twentieth century, a number of OECD countries reduced their pensionable ages. Third, more recently, some OECD

countries have reduced the benefits available to workers retiring at the pensionable age. Fourth, many countries have a lower pensionable age for women than for men, but the trend is toward raising the pensionable age for women to that for men. Fifth, in countries having a number of different social security programs, privileged groups tend to establish low pensionable ages for themselves. Sixth, during the 1990s, some countries increased their social security pensionable ages, but with the effective date of the full increase generally occurring in the twenty-first century.

When the OECD was founded in 1961, it had 20 member countries. Of those, only two were outside of Western Europe—Canada and the United States. Since then, Finland and three Asian-Pacific nations have joined—Australia, Japan, and New Zealand. More recently South Korea, Poland, Hungary, the Czech Republic, the Slovak Republic, and Mexico have joined, raising the total to 30 countries (OECD 2004). This paper considers as a group 23 high-income OECD countries--the original 20 less Turkey, plus Finland, Australia, Japan, and New Zealand.

This study relies on data from various issues of *Social Security Programs Throughout the World*, published by the U.S. Social Security Administration based on information countries have provided to the International Social Security Association. The earliest year for which data for all of the countries are available is 1949, although incomplete data are available for 1937. Data for 1937 are not available for all of the countries, in some cases because that year predated their social security programs (Appendix Table 1). The last reform currently in law will completely phase in by 2035, which was therefore selected as the ending year. Tables 1, 2, and 3 and Figure 1 indicate the changes in social security pensionable age for both men and women over the years 1949 to 2035 for the 23 selected OECD countries.

In order to focus on retirement age policy that affects most workers, it was decided to eliminate from most comparisons pensionable ages only available to workers with long careers. In most tables, the pensionable age is the earliest age at which workers with 30 years of work can receive social security benefits, although this excludes pensionable ages only available to workers with long careers. In 2002, in 7 of the 23 countries, the pensionable age was lower for workers with 40 years of work than for those with 30 years of work. In 3 of the countries, the pensionable age was higher for workers with 10 years of work than for those with 30 years of work; in addition, in 3 countries, workers were ineligible for old-age benefits with only 10 years of work (Table 4).

A person entering the labor force at age 21 who was employed continuously would have worked 40 years by age 61. Workers with less than a college education would generally start working before age 21. Long careers of work, however, are not the norm. While lifetime years worked by retirees differ across countries, U.S. statistics suggest that a substantial portion of the working population, especially women, have working careers of fewer than 30 years. In the United States, the mean years of work for workers in the 1926-1935 birth cohort was 33 for men and 18 for women (Table 5).

The Period 1949-1993

During the first part of the period 1949-2035, the mean pensionable age for both men and women declined, reaching a minimum in 1993, after which a period of increasing pensionable ages began. For this reason, 1993 was picked as the dividing year for the analysis, and the analysis was split into two periods.

The analysis uses both the mean and median pensionable ages--both statistics provide useful information. Because of the bunching of pensionable age at certain ages, in particular 55,

60, and 65, the median pensionable age does not change between periods in some cases; for example, the median pensionable age remained at age 60 for women in the G7 countries from 1948 to 2002, while the mean age did change. The median provides useful information, however, because it is not affected by the outliers in the data.

Over the years 1949-1993, 14 of the 23 countries lowered the pensionable age for at least one gender (Tables 1 and 3). Although life expectancy at age 65 rose by roughly 4 years on average during this period, the mean pensionable age fell by 2.5 years for men, from 64.7 to 62.2. Because of the combination of rising life expectancy and falling pensionable age, this period might be called the “Golden Age of Retirement.” The pattern of change is more complex for women and is considered later when gender equity is discussed.

The Period 1993-2035

Over the years 1993-2004, 15 of the 23 countries raised the pensionable age for at least one gender (Table 2). Nine of those 15 had lowered the pensionable age for at least one gender during the period before 1993 and then subsequently raised the pensionable age after 1993. In ten of those 15 countries, the effective date of the increase occurred during the relatively brief 1993-2002 period. From 1993 to 2035, based on legislation as of 2004, the median pensionable age will rise from 62 to 65 for men and from 60 to 65 for women in the 23 OECD countries (Table 6). Thus, there has been a major change in the social security pensionable age over this period, especially for women. These increases in pensionable age compare in magnitude to an expected increase in life expectancy over this period of roughly 4 years.

A pensionable age of 65 is becoming increasingly common. In 1993, 11 of the 23 countries had a pensionable age of 65 or higher for men. By 2035, the number of countries with a

pensionable age of 65 or higher rises to 15, a number, however, that is still fewer than the 19 countries that had a pensionable age of at least 65 in 1949.

Gender Equity

Changing views of gender equity have been a major aspect of the changes in pensionable age for women. While the European Union has recently decided that gender equity means equal treatment of the genders, that view of gender equity has not always prevailed. In 1949, 7 of the 23 OECD countries had lower pensionable ages for women than for men. However, the data for 1937, which are not available for all countries, indicate that at least 4 of the 7 had the same pensionable ages for men and women (Appendix Table 3). Thus, in the first half of the twentieth century, a sizable majority of OECD countries had equal pensionable ages for men and women. With changing views of gender equity, many countries lowered the pensionable ages for women to below the ages for men, only to raise them again later.

By 1958, the number of countries with lower pensionable age for women than men reached 11 (Table 7), the highest total for all the years surveyed. The trend reversed about 1958 and accelerated during the 1990s; by 2035, only one country--Switzerland--will have a lower pensionable age for women than for men.

From 1949-2035, the pattern of change for women can be summarized as follows: many countries started their social security programs with gender equality in pensionable age, later moving to lower the pensionable age for women below that of men, then reversing that trend in the late 1950s, with the same pensionable age for both men and women projected in nearly all countries by 2035. Equality of pensionable ages for men and women was achieved in most

countries having a lower age for women by raising the age for women to that of men. Italy and the United States were two exceptions, where the age for men was lowered.

Overall Summary: 1949-2035

Changes in pensionable age are relatively rare. In 7 countries, there were no changes in pensionable age for men over the entire period, and in an additional 9 countries, there was only one change in pensionable age for men (Table 8). For both men and women, average pensionable age across countries declined to the mid 1990s and then increased. For men, the average pensionable age has not reached the levels of the late 1940s and mid-1950s, but for women the average pensionable age in 2035 will be the highest ever.

III. CROSS-COUNTRY DIFFERENCES

This section examines differences across countries grouped by various characteristics.

The G7 Countries

The Group of 7 (G7) major industrialized countries have differed on average from the other OECD countries in their pensionable age policies (Tables 1, 2 and 9). For the G7 countries, the average decline in pensionable ages for men during the period 1949 to 1993 was greater, and the subsequent increase in pensionable ages less, than for the OECD countries as a whole. The median pensionable age for G7 men in 1949 was 65, which was the same as the median for the OECD as a whole, but fell to age 60 by 1993, which was 2 years lower than the OECD median.

The average increase in pensionable age since 1993 for the G7 countries is less than for all of the traditional OECD countries because the G7 countries have been less likely to increase

their pensionable ages. Only one of the G7 countries (Japan) increased the pensionable age for men, versus 50 percent of the remaining OECD countries (8 countries). In 2002, the pensionable age for men in the G7 countries was lower than the pensionable age for women in the OECD as a whole, with that situation set to continue until at least 2035 (Figure 1).

Flat Benefit Plans

Countries that provide flat rate (i.e., not earnings-related) social security benefits as part of the social security system also have differed from countries with only earnings-related benefits in their retirement income programs (European Commission 2004). Countries with flat benefit programs include Denmark, Ireland, the Netherlands, the United Kingdom, and New Zealand. These countries all had pensionable ages of 65 or higher for men in 2002. Thus, their pensionable age was roughly 3 years higher on average than for the OECD countries as a group. Japan and Canada are exceptions, having pensionable ages of 61 for Japan (up from 60 in 2000) and 60 for Canada for their flat benefit plans in 2004. Japan, however, has legislated an increase to age 65 for its flat benefit plan. A flat rate pension benefit may signal that the country intends to provide through the social security system a comparatively small old-age pension benefit. By 2035, however, the difference between the flat benefit plan countries and the other countries will be erased, with the median for both being age 65 in 2035.

Other Country Groupings

The differences in pensionable age between the G7 countries, the flat benefit plan countries, and the other OECD countries are particularly striking because various other country groupings do not show distinctive patterns. The predominantly English-speaking countries of

the United Kingdom, United States, Ireland, Australia, Canada, and New Zealand have a mixture of relatively high and low pensionable ages. The same is true for the Scandinavian countries of Sweden, Denmark, Norway, Finland, and Iceland.

IV. REFORMS: THE DYNAMICS OF PENSIONABLE AGE POLICY

In democracies, political parties determine social security policy by competing within the political arena. To better understand the dynamics of social security policy, this section examines characteristics of the patterns of change in pensionable age policy.

Convergence in Pensionable Age Policy

Pensionable age policy has implications for broader issues in social policy, such as whether social policies in different countries have converged or diverged over time. Increased similarity in social policies for countries in Europe may have been brought about by the changes in social policy favored by the OECD and the European Union. With both organizations favoring an extension of working life to older ages, it might be assumed that there has been convergence in social security policy. Changes in pensionable age can be examined to assess whether countries are converging or diverging in this area of social policy.

Pensionable age policies have converged across countries as measured statistically by the standard deviation of pensionable ages (Figure 2). For men, pensionable ages converged during the period of declining pensionable ages from 1949 to 1993. Pensionable ages then diverged after 1993, with some countries instituting increases in pensionable age earlier than others. However, by 2035, pensionable ages are projected to converge on age 65. Although a number of countries have not raised their pensionable age to 65, and there is no indication that all countries

will eventually raise it to that level, this pattern suggests a long term tendency toward convergence in social policy.

Consistent with a pattern of convergence, a factor affecting which countries raised the pensionable age appears to be its initial level relative to that for other countries. Since 1993, seven of the nine countries increasing the pensionable age for both men and women had an initial pensionable age of 60 or lower (Table 2). Thus, their initial pensionable age was at least two years lower than the median for OECD countries in 1993. Six of the nine raised the pensionable age to 65 or higher, reaching or exceeding the median pensionable age of 65 expected for 2035 (based on legislation in effect in 2004). Similarly, during the period of decline in pensionable age, from 1949 to 1993, the countries that lowered the pensionable age tended to have a pensionable age above the median, which could be characterized as “catch-up” decreases.

Factors Determining the Pensionable Age

Generally, lower-income countries tend to have lower pensionable ages than higher-income countries, reflecting differences in life expectancy (Gillion et al. 2000). Over this set of 23 high-income countries, however, life expectancy appears to have at best a weak negative relationship to pensionable age in simple correlations, perhaps reflecting other differences across countries in per capita GDP, in the ratio of workers to retirees, and in attitudes toward work and retirement (Table 10). In 2002, the correlation between pensionable age and life expectancy was -0.24, indicating a slight tendency for countries with lower life expectancy to have a higher pensionable age. This finding is consistent with the result that the industrialized G7 countries on average have a lower pensionable age than the OECD countries as a whole. Because leisure is a

normal good, people in higher-income countries would be expected to demand more of it, putting downward pressure on pensionable ages.

The importance of the pensionable age as a parameter in social security policy varies across countries depending on the percentage of retirement benefits provided by the social security pension. In countries with other important sources of retirement income, the social security pensionable age plays a less important role in determining when workers actually retire. For example, in the United Kingdom, workers can contract out of the earnings-related part of the social security pension, reducing the role that the restriction on pensionable age plays. Social security is less costly in some countries than in others, and for this reason some countries may be under less financial pressure to raise the pensionable age (Table 11).

V. AN EXAMINATION OF THE REFORM PROCESS

A closer examination of the statistical pattern both of pensionable ages and of characteristics of pensionable age reforms may provide clues as to the political economy of the reform process. In particular, four aspects of reforms are examined: the size distribution of pensionable age increases or decreases, the frequency of reforms, the lag between the date the reform is legislated and when it takes effect, and the speed at which reform is implemented once implementation begins. These characteristics of reform may provide information as to characteristics of the reform process.

Marginal vs. Major Increases: Counting by Fives

A salient feature of the social security reform process is that, especially for men, many countries have not changed their pensionable age. Among those countries that have changed the pensionable age, reforms could occur in a marginal fashion, raising the pensionable age by a

year, or they could be major reforms with larger increases. Most reforms have been major reforms, raising the pensionable age by more than one year (Table 12). Similarly, most reductions in pensionable age were greater than one year. A reform of just one year is rare.

Without knowing the pattern of pensionable ages, it might be thought that they would be distributed over a range of ages, or they might be distributed normally around one age. Neither of these patterns has occurred.

Countries have difficulty determining the "right" age at which to set the pensionable age, which depends on a complex interaction of what people want and what the social security system can afford, given the willingness of the population to finance it. Perhaps because of the complexity of the problem, policymakers appear to rely on psychological rules. The predominant rule is using multiples of five or rounding to the nearest five, with most OECD countries having set the pensionable age at 55, 60, or 65, and in earlier years, 70.

This pattern was originally established in Germany, where the first social security program in the world set the pensionable age at 70 in 1889 and later reduced it to 65 in 1916. Early on, Australia followed the same pattern--in 1909 establishing its pensionable age at 65 for both men and women and then lowering it to age 60 for women in 1910. These early countries may have set the pattern, with a process of diffusion of social policy ideas causing later countries to follow that pattern.

While counting by fives describes the pattern where many countries pick pensionable ages divisible by five, a few countries follow a secondary pattern of setting a pensionable age at the fives plus two—that is, at 57, 62, and 67 (figure 3). Except for transitional pensionable ages, over the period 1949 to 2035, based on legislation as of 2004, only Sweden has set a pensionable age for men that differed from the pattern of counting by fives or by fives plus two.

Even though the choice of pensionable ages divisible by five has been the dominant pattern in determining pensionable age over the entire period, the prevalence of this approach has declined (figure 4). In 1949, 21 of the 23 OECD countries fit that pattern for men, while the number of countries was down to 17 in 2002 and 2035. A possible hypothesis explaining this decline in counting by fives is that some countries originally established their pensionable age using a counting by fives approach but subsequently adjusted the pensionable age after having had experience with the program.

Patterns of Evolution

Although pensionable age reforms tend to be in increments of 5 years, the phasing in of these reforms could occur slowly over long periods of time through a series of small changes, corresponding to a presumed smooth pattern of changes in life expectancy. Alternatively, it could evolve quickly over short periods of time, punctuating long periods of no change.

For most countries, changes in pensionable age policy have occurred quickly over short periods of time. Typically an increase takes place at the rate of 0.5 years rise in the pensionable age per year elapsed since the beginning of the increase, with a 5-year increase in pensionable age occurring over a ten-year period.

Differences in Patterns Between Decreases and Increases in Pensionable Ages

The patterns of decreases and increases in pensionable ages differ in several ways. Decreases have tended to take place immediately, with little delay in implementation following enactment, while increases have tended to be phased in over a period of time, often with at least a short delay. However, the typical decrease in pensionable age is the same as for the typical increase—5 years (Table 12). It might be thought that there would be little inertia involved in

changes that increased the generosity of social security, which would imply that changes would occur in small increments. The fact that reductions in retirement age occur in large increments suggests a high degree of inertia within the public policy process. Although resistance to benefit enhancements, such as an earlier pensionable age, would not be expected, decreases in pensionable age occur in similar increments to increases in pensionable ages.

Policy Horizon—The Advance Timing of the Increase

For at least two reasons, countries deciding to raise the pensionable age may seek to do so with a lag. First, a lag allows workers time to adjust their labor supply and savings plans to changes in the pensionable age. Second, by reducing the percentage of the electorate directly affected by the change, a lag may decrease political resistance to a policy that reduces social security generosity. The argument in favor of a lag may be weakened, however, if the initial pensionable age is relatively low.

Few countries have enacted increases in pensionable age for both men and women where there has been a lag of 15 years or more between the passage of the legislation and the first increase in pensionable age (Table 13). Generally, increases in pensionable age affecting both men and women have occurred with little advance notice. The relatively short delay before an increase in the pensionable age generally takes effect results in workers in their fifties being affected by the change.

The lack of a substantial lag in the effective date of an increase in pensionable age following the enactment of legislation raising it may reflect the political difficulty many countries have in raising the pensionable age. Democracies tend to put off difficult decisions.

The length of time between legislated enactment of an increase in the pensionable age and its effective date appears to be related in many cases to the initial level of the pensionable age. Countries with a pensionable age below the median for the OECD in 1993 were more likely to raise the pensionable age and to do so with a delay of five years or less. Most of the countries increasing the pensionable ages for both men and women since 1993 had a pensionable age in that year of 60 or lower, thus being at least 2 years lower than the median for men in the OECD countries that year. In 2002, for example, as part of a comprehensive reform, Finland legislated changes to take effect in 2005. For workers born before 1945, the pensionable age is 60 and for those born in 1945 and later, it is 62. Thus, workers age 57 (born in 1945) were given notice of 3 years that they would not be able to retire at the previous pensionable age of 60, but would instead have to wait until age 62.

The Political Process

In none of the OECD countries is the adjustment of pensionable age to changes in life expectancy an automatic process, corresponding to the automatic indexation of social security benefits for changes in prices. In all of the countries, the adjustment of pensionable age is done on an ad hoc basis through the political process. Sweden and Finland, however, have established automatic processes by which increasing life expectancy automatically reduces benefit levels, with the Swedish process taking effect in 2000 and the Finnish one in 2010.

In all of the countries, the pensionable age for men is increasing slower than life expectancy, causing an increase in the retirement period. The ratio of the retirement period to the period of working life is also increasing, which raises the savings rate or social security contribution rate needed to finance retirement with a given replacement rate. If people worked

on average 30 years and were retired 10 years, to maintain this ratio of work to retirement, for every 4 year increase in life expectancy, the pensionable age would need to increase 3 years.

It can readily be shown from the pay-as-you-go budget constraint that if the ratio of retirees to workers remains constant, social security solvency can be maintained indefinitely. If changes in life expectancy were the only demographic changes occurring, solvency could be maintained by increasing the pensionable age so as to maintain a constant ratio of years of retirement to years of work.

As of 2004, only 3 out of the 23 countries have set the pensionable age in 2035 to be higher than it was in 1949, while life expectancy at age 65 in 2035 is projected to be roughly 8 years higher than in 1949. Thus, the increases in pensionable age are not sufficient to offset the added social security benefit payments due to longer life expectancy. This implies that other changes in social security, such as lower benefits or higher taxes, will be needed to compensate for the effects on social security financing of increased life expectancy.

VI. Models of Determinants of the Pensionable Age

This section further investigates possible explanations for cross-country differences in pensionable age. It first uses an accounting framework based on the social security pay-as-you-go budget constraint. In pay-as-you-go social security systems, each year the inflows from social security contributions approximately equal the outflows due to benefit payments. A simple model where the total contributions and total benefit payments are exactly equal provides some insights on the pensionable age in different countries. It then extends this approach using a demand-supply framework.

An Accounting Framework

In an accounting framework, the total benefit payments in a year equal the average benefit payment times the number of beneficiaries. The total contributions paid in a year equal the social security tax rate times the average wage times the number of contributors. In a pay-as-you-go social security system, the total benefit payments equal the total contributions

$$bN_3 = twN_2 \quad (1)$$

where b is the average benefit received per year by the N_3 older persons, t is the social security payroll tax rate, and w is the average wage received by the N_2 working age people. This formula is useful for providing insights about social security financing, but is a simplification of the actual ways that countries finance social security. For example, countries often maintain a trust fund that is larger than needed to assure the approximate equality of revenues and benefits for a calendar year. Some countries have variable social security tax rates, with the rate depending on the level of income of the worker.

Raising the pensionable age affects the pay-as-you-go budget constraint because it would reduce the number of beneficiaries and possibly raise the number of contributors. To highlight the difference in effects between changes in demographics and changes in social security plan parameters, the total number of beneficiaries can be rewritten as equaling the population P above a certain age, say age 60, times the percentage p of that population that is eligible to receive benefits

$$N_3 = Pp \quad (2)$$

The higher is the pensionable age, the lower is the percentage p of the older population (above a fixed age) that is eligible to receive benefits.

Denoting the youth population as N_1 , the youth dependency ratio (R_1) and the social security system dependency ratio (R_3) are defined as:

$$R_1 = N_1/N_2 \quad (3)$$

$$R_3 = N_3/N_2 \quad (4)$$

The budget constraint can be rewritten to express the level of the social security payroll tax rate t in terms of the social security system dependency ratio and the social security replacement rate, which can be expressed as the ratio r of average benefits to average wages ($r=b/w$).

$$t = rR_3 \quad (5)$$

Thus, countries with older population age structures and more generous social security systems must adjust their social security systems by having a relatively high payroll tax rate or a relatively high pensionable age. Social security financed on a pay-as-you-go basis faces a shortfall when benefit payments exceed total contributions. The government has three parameters it can control in that situation. It can raise the payroll tax rate t , cut benefits b , or raise the pensionable age, thus lowering the number of beneficiaries.

Within this framework, one simplified approach is to take as given the generosity of the social security system and the population age structure, which can then be interpreted as the key parameters that jointly determine the pensionable age and the payroll tax rate. Several countries provide examples of this analysis. The United States, for example, has a relatively young population age structure and relatively low generosity of Social Security benefits. These two factors allow it to have a relatively low payroll tax rate and a relatively low pensionable age. A similar pattern holds for Canada. Countries with older population age structures and more generous social security systems, such as Germany, have high payroll tax rates and relatively

high pensionable ages. Ireland has a relatively low replacement rate and a relatively youthful population. It has chosen to have a relatively low payroll tax rate, requiring it to have a high pensionable age.

While this framework provides some insights in explaining tax rates and pensionable ages jointly, explaining the patterns of choice between levels of tax rates and levels of pensionable age is a more difficult task. Historically, it appears, however, that many countries have opted for raising the payroll tax rate until it has reached a point where the population resists further increases. For many countries, the next phase has been cutbacks in average benefits, in some countries combined with raising the pensionable age.

A Demand-Supply Model for Analyzing the Optimal Level of the Pensionable Age in Social Security

The level of the pensionable age is determined in democracies through the political process. At least to some extent it reflects the demands of the population for retirement at different ages and the budgetary constraints limiting the ability of the country to finance retirement. Policy relating to the pensionable age in social security is affected by labor supply issues concerning the desire of older persons to work. In the labor market, it is also affected by labor demand of employers for older workers. These factors interact with the cost of providing social security benefits, which is tied to the age structure of the population covered by social security.

Demand. The life cycle model of consumption, savings, and labor supply provides a formal way to think about the demand side of the worker's choice of retirement age. Workers choose a retirement age depending in part on how much they are able to save for retirement. If

they save a high fraction of their earnings while working, they can retire at an earlier age and finance a longer retirement. The savings considerations of workers in the life cycle model and the effect of their wealth on the demand for leisure determine the demand for a given retirement age.

The worker's demand D for retirement at a particular age depends on the demand for years of retirement leisure. Demand for years of retirement leisure is determined by factors identified in the life cycle model -- the worker's lifetime wealth W and life expectancy L

$$D = D(W, L) \quad (6)$$

Lifetime wealth W has a positive effect on the demand for years of retirement because of its positive effect on the demand for leisure. People with higher lifetime wealth tend to consume greater lifetime leisure. They do this in part by spending more years in retirement.

Life expectancy L has a negative effect, meaning a demand for a later retirement age, due to the greater periods over which retirement needs to be financed for a given retirement age when life expectancy increases. An increase in life expectancy, holding retirement age constant, translates into more years of retirement and a greater savings rate needed over the working years to finance retirement.

Supply. The old-age dependency ratio—the ratio of beneficiaries to covered workers-- affects the cost of benefits provided through social security. An increase in the old-age dependency ratio increases the cost of providing benefits to the old-age population.

The shadow price for annual social security benefits b , which is derived here, determines the “price” of making intergenerational transfers. That “price” represents the amount of money a worker must give up on average to raise the income level of an older person by a dollar. The intuition of intergenerational transfer shadow prices can be seen from a simple example. When

there are four people of working age for every older person, it costs each working age person \$0.25 to provide an added dollar of benefits to each person in the older age population. When the system dependency ratio increases and there are only two people of working age for every older person, it costs each working age person \$0.50 to provide an added dollar of benefits to the older age population. Thus, the “price” of providing a dollar of benefits has increased.

The shadow price of intergenerational transfers can be derived from the pay-as-you-go budget constraint (eq. 1). The shadow price p_b of the annual old-age benefit is the marginal increase in cost to (or transfer payment made by) each worker for raising the average old-age benefit by \$1. The quantity unit corresponding to the shadow price is one dollar of social security old-age benefits per beneficiary. Taking the derivative of social security tax payments T ($=tw$) with respect to the benefit level b , the shadow price of providing increased benefits to the older population equals the old-age dependency ratio (Turner 1984).

$$p_b = \frac{\partial T}{\partial b} = N_3/N_2 = R_3 \quad (7)$$

and similarly, the price of making transfers to the young generation, which is a competing expenditure of resources, can be shown to be the youth dependency ratio R_1 . The shadow price p_b reflects the rate at which a typical worker must expend funds in order to raise by one dollar the amount of transfers received by an old-age person. It is the rate at which transfers per worker are translated into transfers per beneficiary.

The rate of wage growth g also affects the willingness of workers to provide (supply) social security benefits to retirees. The more rapid is wage growth, the higher are wages of current workers relative to those of retirees, and the more willing will workers be to transfer

resources to retirees, who have relatively lower income. Thus, the willingness S of workers to supply social security benefits to retirees depends on the shadow price of benefits and the rate of wage growth

$$S = S(p_b, g) \quad (8)$$

This demand-supply analysis indicates four variables that affect the level of the pensionable age as determined through the political process. Their likely effect on the pensionable age given the economic and demographic trends in OECD countries is indicated in parentheses. First, the longer is life expectancy, the higher the pensionable age (+). Second, the higher is lifetime wealth, the lower the pensionable age (-). Third, the higher is the social security system dependency ratio, the higher the pensionable age (+). Fourth, the faster is the rate of wage growth, the lower the pensionable age (+). This factor has a positive effect on pensionable age due to the slowing of wage growth rates.

Three of the four main variables identified have a positive effect on pensionable age, leading through the political process to a higher pensionable age, given economic and demographic trends with respect to those variables. The presumption thus is that the trend in these economic and demographic variables affecting the pensionable age would lead to an increase in the pensionable age, which is what is been found on average across the OECD countries examined in this paper.

While the economic and demographic factors may account for the underlying trends, the earlier sections of this paper also provide empirical evidence as to possible explanations for the process of change and the timing of change in countries' pensionable ages. Examples from national competitors seem to matter. Comparing across countries, it found a tendency for countries to converge in their pensionable ages, so it appears that the experience of other

countries within the OECD may have some influence on the pensionable age of a given country. In that vein, it found that the G7 countries tend to have lower pensionable ages than the other countries in the OECD. Also, countries with flat benefit plans tend to have higher pensionable ages than countries with earnings-related plans. Changing views as to the treatment of men and women in social policy have led to a move towards equality of pensionable ages for men and women, which in nearly all cases has occurred through increasing the pensionable age of women.

A simple explanation of differences in pensionable ages would be that those differences are linked to differences in life expectancy, with countries having high life expectancies having high pensionable ages. Comparing across a broader range of countries (Gillion et al. 2000), high-income countries with higher life expectancies have higher pensionable ages than low-income countries, but that pattern was not seen within this group of high-income countries. For example, Sweden, which has relatively high life expectancy, has a pensionable age of 61, while Ireland, which has relatively low life expectancy among the OECD countries, has a pensionable age of 65. The simple correlation of life expectancy and pensionable age among the OECD countries is negative. Thus, there is no simple relationship between life expectancy and pensionable age, at a point in time. However, changes in pensionable age tend to occur infrequently, and over long periods of time, the pensionable age has risen across the OECD countries during a period of rising life expectancy.

VII. CONCLUSIONS

A striking feature of retirement age policy historically is that the social security pensionable age tends to remain unchanged for many years. The years 1949 to 1993 were characterized by stability or decline in social security pensionable age for OECD countries. That

pattern makes it especially noteworthy that over the relatively short period 1993-2004, about one-third of the OECD countries have increased the pensionable age for men and two-thirds have done so for women, often as part of a comprehensive social security reform.

Pensionable age policies in different countries have converged over time, at least comparing those legislated to take effect by 2035 to those in effect in 2002. During the early period up to 1993 when pensionable ages for some countries were declining, the declines took place predominantly among countries with pensionable ages above the median. During the period since 1993 when pensionable ages for some countries have increased, the increases have tended to take place among countries with pensionable ages below the median. There has also been a convergence of the pensionable ages for men and women, with generally the age for women being increased to that for men.

Examining only the pensionable age in effect currently can provide a misleading view of pensionable age policy. The median pensionable age in 2002 for women in the 23 OECD countries in this study was 60. By 2035, however, based on legislation in effect in 2004, the median will be 65. By 2035, 15 of the 23 countries of the traditional high-income OECD will have a social security pensionable age of 65 or higher for men and 14 countries will have pensionable ages of 65 or higher for women. That number of countries is still lower, however, than the 19 that had a pensionable age for men of 65 or higher in 1949. While the median pensionable age is set to increase by 3 years for men between 1993 and 2035, it will increase by 5 years for women in that period.

The pattern of changes in pensionable ages provides insight about the reform process in different countries. Although it might be thought that reforms would tend to be in increments of one year, reforms of 5 years are far more common. For example, Japan and New Zealand have

both raised their pensionable ages by five years. This pattern may be due to a high degree of friction in the reform process, plus lack of information and knowledge as to the “right” pensionable age, therefore a reliance on a rule of thumb of counting by fives. The predominant rule for pensionable ages is counting by fives, with most OECD countries having set the pensionable age at 55, 60, or 65, and in earlier years, 70.

Increases in pensionable age have generally occurred fairly rapidly over a short period, punctuating long periods of no change, rather than occurring gradually over a longer period. Decreases in pensionable age have generally occurred with little delay or phase in. The typical number of years for both increments and decrements in pensionable age has been five years. The relatively short delay before increments in pensionable age generally take effect means that workers in their fifties are affected by the change.

It might be thought that the decrements in pensionable age would be smaller and occur more frequently than the increments due to there being less political resistance to decrements. That pattern is not the case, suggesting that considerable inertia is inherent within the political process leading to changes in pensionable age.

Economic models suggest that several factors may be key in determining the level of the pensionable age over the long run. These factors are life expectancy of older workers, the social security system dependency rate, the rate of growth of wages, and the level of lifetime wealth. Because life expectancy, the social security system dependency rate, and the level of lifetime wealth have increased in most OECD countries, it is expected that over the long run, the pensionable age will also increase, as has been documented in this paper.

Increases in pensionable age in the OECD have not been sufficient to offset increased benefits caused by higher life expectancy. Other changes in social security programs will be necessary to assure financial solvency.

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Appendix 1. Concepts of Retirement Age

Policy analysts have attributed at least five different meanings to the concept of “retirement age.” In order to clarify the different meanings of retirement age and to specify the focus of this paper, it is important to distinguish how the concepts differ with respect to stopping work and receiving old-age benefits. The term “retirement age” can mean any of the following:

- the age at which workers substantially stop working;
- the age at which workers can receive “full” social security benefits, technically referred to as the normal retirement age;
- the early retirement age in the social security program, a relatively early age at which social security old-age benefits can be received (not all countries have an early retirement age, however; some have set the earliest age at 65);
- the earliest age at which all workers, including workers with few years of covered work, can receive social security old-age benefits (in some countries that age is 65, in others it is younger than age 60);
- the earliest age at which workers can receive benefits based on having achieved that age and having met a minimum standard for covered work, which may exclude all but long-tenure workers.

The last definition is used in this paper. In some countries, the early retirement age, the earliest retirement age for all workers, and the earliest retirement age for long-service workers are all the same. In other countries, however, the qualifications for early retirement benefits are more stringent than for normal retirement benefits. The term “pensionable age” is used here to distinguish it from the other definitions of retirement age. It is preferable here to the term, “earliest retirement age,” because workers generally need not stop working completely at the

pensionable age to receive benefits. The pensionable age often is referred to in social security literature as the early retirement age, or as the early entitlement age. The pensionable age is not directly linked to the age at which workers actually retire; thus, the concept is more important for social security financing than as an indicator of the labor force activity of older workers.

Appendix Table 1. Pensionable age in 1937

Country	1937	
	Men	Women
Australia	65	60
Austria	65	65
Belgium	60	55
Canada	70	70
Denmark	NA	NA
Finland	NA	NA
France	55	55
Germany	65	65
Greece	55	55
Iceland	NA	NA
Ireland	NA	NA
Italy	60	60
Japan	NA	NA
Luxembourg	65	65
Netherlands	65	65
New Zealand	NA	NA
Norway	NA	NA
Portugal	NA	NA
Spain	65	65
Sweden	67	67
Switzerland	65	65
United Kingdom	65	65
United States	NA	NA

NA not available or not applicable because predates social security program

Source: Social Security Programs Throughout the World: 1937, Borowski (2004).

Table 1. Social security pensionable age in the traditional OECD, selected years, selected years, 1949-1993

Country	1949		1958		1971		1983		1989		1993	
	M	W	M	W	M	W	M	W	M	W	M	W
Australia	65	60	65	60	65	60	65	60	65	60	65	60
Austria	65	60	65	60	65	60	65	60	65	60	65	60
Belgium	65	60	60	55	60	55	60	55	60	60	60	60
Canada*	70	70	70	70	65	65	65	65	60	60	60	60
Denmark	65	60	65	60	67	62	67	67	67	67	67	67
Finland	65	65	65	65	65	65	65	65	60	60	60	60
France*	60	60	60	60	60	60	60	60	60	60	60	60
Germany*	65	65	65	65	65	65	65	60	65	60	65	60
Greece	65	60	60	55	60	55	60	55	60	55	60	55
Iceland	67	67	67	67	67	67	67	67	67	67	65	65
Ireland	70	70	70	70	70	70	65	65	65	65	65	65
Italy*	60	55	60	55	60	55	60	55	60	55	60	55
Japan*	55	55	60	55	60	55	60	55	60	56	60	58
Luxembourg	65	65	65	65	65	65	65	65	65	65	57	57
Netherlands	65	65	65	65	65	65	65	65	65	65	65	65
New Zealand	60	60	60	60	60	60	60	60	60	60	62	62
Norway	70	70	70	60	70	70	67	67	67	67	67	67
Portugal	65	65	65	65	65	65	65	62	65	62	55	55
Spain	65	65	65	65	65	65	65	65	65	65	60	60
Sweden	67	67	67	60	63	63	60	60	60	60	60	60
Switzerland	65	65	65	63	65	62	65	62	65	60	65	62
United Kingdom*	65	60	65	60	65	60	65	60	65	60	65	60
United States*	65	65	65	62	62	62	62	62	62	62	62	62
Median	65	65	65	60	65	62	65	62	65	60	62	60
Mean	64.7	63.0	64.5	61.8	64.1	62.2	63.6	61.6	63.2	61.3	62.2	60.7
Standard deviation	3.3	4.3	3.1	4.4	3.0	4.3	2.6	3.9	2.7	3.5	3.2	3.3
G7 Median	65	60	65	60	62	60	62	60	60	60	60	60
G7 Mean	62.9	61.4	63.6	61.0	62.4	60.3	62.4	59.6	61.7	59.0	61.7	59.6
G7 Standard deviation	4.5	5.2	3.5	5.0	2.3	2.8	2.3	3.3	2.2	2.3	2.2	2.0

* G7 countries.

Note: M = men, W=women. These ages refer to the earliest age at which a worker with 30 years of covered work could receive social security benefits. The pensionable age refers to the age at the end of the year. The program for Australia is the Age Pension. Some countries have lower pensionable ages for workers with longer tenure. For some countries the required years to qualify for receiving a pension at these ages is less than 20 years. Sources: U.S. Social Security Administration, Social Security Programs Throughout the World, selected years.

Table 2. Social security pensionable age in the traditional OECD, selected years, 1993-2035

Country	1993		1999		2002		2035	
	Men	Women	Men	Women	Men	Women	Men	Women
Australia	65	60	65	61.5	65	62.5	65	65
Austria	65	60	65	60	65	60	65	65
Belgium	60	60	60	60	60	60	65	65
Canada*	60	60	60	60	60	60	60	60
Denmark	67	67	67	67	67	67	65	65
Finland	60	60	60	60	60	60	62	62
France*	60	60	60	60	60	60	60	60
Germany*	65	60	65	60	65	61	65	65
Greece	60	55	60	60	60	60	65	65
Iceland	65	65	65	65	67	67	67	67
Ireland	65	65	65	65	65	65	65	65
Italy*	60	55	57	57	57	57	60	60
Japan*	60	58	60	60	60	60	65	65
Luxembourg	57	57	57	57	60	60	60	60
Netherlands	65	65	65	65	65	65	65	65
New Zealand	62	62	64	64	65	65	65	65
Norway	67	67	67	67	67	67	67	67
Portugal	55	55	55	55	55	55	55	55
Spain	60	60	60	60	60	60	65	65
Sweden	60	60	61	61	61	61	61	61
Switzerland	65	62	65	62	65	63	65	64
United Kingdom*	65	60	65	60	65	60	65	65
United States*	62	62	62	62	62	62	62	62
Median	62	60	62	60	62	61	65	65
Mean	62.2	60.7	62.2	61.2	62.4	61.7	63.4	63.3
Standard deviation	3.2	3.3	3.3	3.0	3.3	3.1	2.8	3.0
G7 Median	60	60	60	60	60	60	62	62
G7 Mean	61.7	59.6	61.3	59.9	61.3	60.0	62.0	62.0
G7 Standard deviation	2.2	2.0	2.7	1.4	2.7	1.4	2.9	2.9

* G7 countries.

Note: See notes to Table 1. The figures for 2035 refer to the legislated age as of 2004.

Sources: Various issues of U.S. Social Security Administration, Social Security Programs Throughout the World.

Table 3. Summary of changes in pensionable age, 1949-2035

Policy	1949-1993		1993-2035	
	Men	Women	Men	Women
Raised	3	3	9	15
Lowered	12	13	1	1
No change	8	7	13	7

Source: Tables 1 and 2.

Table 4. Social security pensionable age in the traditional OECD, by length of work career, 2002

Country	2002 10 years' work		2002 30 years' work		2002 40 years' work	
	Men	Women	Men	Women	Men	Women
Australia	65	63	65	63	65	63
Austria	65	60	65	60	61.5	56.5
Belgium	65	62	60	60	60	60
Canada*	60	60	60	60	60	60
Denmark	67	67	67	67	67	67
Finland	60	60	60	60	58	58
France*	60	60	60	60	60	60
Germany*	65	65	65	61	63	61
Greece	NA	NA	60	60	No age limit	No age limit
Iceland	67	67	67	67	57	57
Ireland	65	65	65	65	65	65
Italy*	57	57	57	57	No age limit	No age limit
Japan*	NA	NA	60	60	60	60
Luxembourg	65	65	60	60	57	57
Netherlands	65	65	65	65	65	65
New Zealand	65	65	65	65	65	65
Norway	67	67	67	67	67	67
Portugal	NA	NA	55	55	55	55
Spain	60	60	60	60	60	60
Sweden	61	61	61	61	61	61
Switzerland	65	63	65	63	65	63
United Kingdom*	65	60	65	60	65	60
United States*	62	62	62	62	62	62
Median	65	62.5	65	61	63	61

* G7 countries.

NA = Not available.

See notes to Table 1.

Table 5. Labor force experience at retirement, mean years, US, birth cohorts 1926-65

Labor force experience at retirement	Birth Cohorts			
	1926-35	1936-45 (projected)	1946-55 (projected)	1956-65 (projected)
Total	26	29	32	32
Married men	33	34	35	34
Married women	18	23	29	30
Single men	31	33	34	34
Single women	21	25	30	31

Source: Butrica, Iams and Smith (2003)

Table 6. Comparison of pensionable ages in different years, 1949, 1993, 2035

Measures of Pensionable Age	1949	1993	2035
Countries with pensionable age of 65 or higher, men	19	11	16
Countries with pensionable age of 65 or higher, women	13	5	15
Median pensionable age, men	65	62	65
Median pensionable age, women	65	60	65
G7 countries with pensionable age of 65 or higher, men	4	2	3
G7 countries with pensionable age of 65 or higher, women	3	0	3
G7 median pensionable age, men	65	60	62
G7 median pensionable age, women	60	60	62
Standard deviation of pensionable age, men	3.3	3.2	2.8
Standard deviation of pensionable age, women	4.3	3.3	3.0
Countries with lower pensionable age for women than for men	6	8	1

Sources: Tables 1 and 2

Table 7. Number of countries with lower pensionable age for women than men, selected years, 1937-2035

Year	Number
1937	1*
1949	7
1958	12
1971	10
1983	9
1989	9
1993	8
1999	5
2002	5
2035	1

*data available for 13 countries
Source: SSPTW, selected years.

Table 8. Patterns of change in pensionable age, 1949-2035

Change Type	Men	Women
Countries with no change	Australia	
	Austria	
	France	France
	Germany	
	Netherlands	Netherlands
	Switzerland	
	United Kingdom	
Countries with one change		
Lowered pensionable age	Canada	Canada
	Ireland	Ireland
	Norway	Norway
	Portugal	Portugal
	United States	United States
Raised pensionable age		Australia
		Austria
	Belgium	Belgium
	Greece	Greece
		Italy
	Japan	Japan
	New Zealand	New Zealand
		United Kingdom
Countries with two changes		
Lowered then raised	Finland	Finland
	Iceland	Iceland
	Italy	Italy
	Luxembourg	Luxembourg
	Spain	Spain
	Sweden	Sweden
		Switzerland
Raised then lowered	Denmark	Denmark

Source: Tables 1 and 2

Table 9. Comparison of pensionable ages in the G7 countries and in the remaining OECD countries, 1949, 1993, 2035

Groups of countries	1949	1993	2035
OECD, men	64.5	62.6	63.5
OECD, women	61.6	61.0	63.5
G7, men	63.6	61.7	62.0
G7, women	60.3	59.6	62.0
Non-G7 OECD, men	64.9	62.4	63.9
Non-G7 OECD, women	62.2	61.3	63.8
non-G7 v. G7 difference, men	1.3	0.7	1.9
non-G7 v. G7 difference, women	1.9	1.7	1.8

Source: Tables 1 and 2.

Note: the figures for 2035 refer to the legislated age as of 2004.

Table 10. Life expectancy and expected years in retirement at pensionable age in OECD countries, 2000

Country	Pensionable Age in 2002	Life Expectancy at birth (both genders)	Expected years in retirement if retiring at pensionable age (based on life expectancy at birth)
Australia	65*	79.8	14.8
Austria	65*	77.7	12.7
Belgium	60	77.8	17.8
Canada	60	79.4	19.4
Denmark	67	76.4	9.4
Finland	60	77.4	17.4
France	60	78.8	18.8
Germany	65	77.4	12.4
Greece	60	78.4	18.4
Iceland	67	79.4	12.4
Ireland	65	76.8	11.8
Italy	57	79.0	22.0
Japan	60	80.7	20.7
Luxembourg	60	77.1	17.1
Netherlands	65	78.3	13.3
New Zealand	65	78.3	13.3
Norway	67	78.7	11.7
Portugal	65	75.8	20.8
Spain	60	78.8	18.8
Sweden	61	79.6	18.6
Switzerland	65*	79.6	14.6
United Kingdom	65*	77.7	12.7
United States	62	77.1	15.1
Median	65	78.3	14.8
Mean	63.6	78.3	15.8
Standard deviation	2.6	1.2	3.4
Correlation coefficient for pensionable in 2002 and life expectancy in 2000	-.24		
Correlation coefficient for pensionable in 2035 and life expectancy in 2000	-.06		
Maximum	67	75.8	9.4
Minimum	57	80.7	22.0
Range	10	9.9	12.6

*Men only. n/a = not available.

Sources: US SSA (1999); life expectancy – US Census Bureau (2003), see. <http://geography.about.com/library/weekly/aa042000b.htm>

Table 11. Demographic and economic indicators in selected OECD countries

Country	Pensionable Age, 2002	Social Security Income as Percent of Average Earnings	Population 65+ as Percent of Total, 2000	GDP Per Capita in Purchasing Power Parity, US = 100, 2001	Average Retirement Age, Males, 1995	Effective Labor Market Exit Age, Males, 2001	Employment Rate, Males Age 55-64, 2001
Australia	65*	43	12.3	74.7	61.8	n/a	60.0
Austria	65*	n/a	15.5	77.1	58.6	60.9	40.0
Denmark	67	62	15.0	80.2	62.7	63.7	65.5
Greece	60	102	17.6	49.5	62.3	61.9	55.0
Iceland	67	n/a	11.7	n/a	69.5	n/a	n/a
Ireland	65	46	11.3	70.4	63.4	64.9	64.7
Japan	60	53	17.2	78.9	66.5	n/a	83.4
Netherlands	65	70	13.7	76.5	58.8	61.9	51.1
New Zealand	65	n/a	11.7	55.2	62.0	n/a	74.6
Norway	67	52	15.4	88.2	63.8	n/a	73.6
Portugal	55	82	15.6	49.7	63.6	64.0	61.6
Switzerland	65*	58	16.0	90.1	64.6	n/a	82.4
United Kingdom	65*	35	15.8	69.6	62.7	Na	64.4
United States	62	45	12.3	100.0	63.6	na	68.1

n/a = not available

*Men only

Sources: Social Security income as a percent of average earnings – Whitehouse (2002), Kinsella and Gist (1995); GDP in purchasing power parity – The Economist (2001), average retirement age – measured as the average age of transition to inactivity, Blöndal and Scarpetta (1998); effective labor market exit age and employment rate, Commission of the European Communities (2002); employment rate, Commission of the European Communities (2002) and OECD (2002).

Table 12. Major or minor reforms lowering or raising the pensionable age

Country	Minor Reforms (1 year)	Major Reforms (>1 year)
Reforms lowering the pensionable age		
Belgium		5 years
Canada		5 years
Finland		5 years
Germany		5 years
Greece		5 years
Iceland		2 years
Ireland		5 years
Luxembourg		8 years
Norway		3 years
Portugal		10 years
United States		3 years
Reforms raising the pensionable age		
Australia		5 years
Belgium		5 years
Denmark		2 years
Finland		2 years
Germany		2 years
Greece		5 years
Japan		5 years
New Zealand		5 years
Sweden	1 year	

Source: Tables 1 and 2

Table 13. Delay, transition period, and annual increment in raising the social security pensionable age, selected OECD countries

Country	Total change (number of years)	Legislated	Delay before first increase takes effect (year first increase takes effect)	Oldest aged worker affected	Length of transition period from year of first increase to year completed (year completed)	Average increase in pensionable age per year over transition period
Increases- in pensionable age for both men and women						
Australia	For mandatory superannuation guarantee benefits, from 55 to 60 (5 years)	1999	16 years (2015)	39	10 years (2025)	0.5 years
Austria	From 60 to 61.5 for men, 55 to 56.5 for women for workers with 35 years of work (1.5 years)	2000	0 years (2000)	60	3 years (2002)	0.5 years
Finland	From 60 to 62 (2 years)	2002	5 years (2007)	55	0 years (2007)	2 years
Japan	From 60 to 65 (5 years)	2000	13 years men, 18 years women (2013 men, 2018 women)	47	12 years (2025 men, 2030 women)	0.4 years
New Zealand	From 60 to 65 (5 years)	1991	1 year (1992)	59	9 years (2001)	0.5 years
Sweden	From 60 to 61 (1 year)	1998	1 year (1999)	59	0 years (2000)	1 year
Increases in pensionable age for women only						
Switzerland	From 62 to 64 for women (2 years)	1997	4 years (2001)		5 years (2005)	0.4 years
United Kingdom	From 60 to 65 for women (5 years)	1995	15 years (2010)		10 years (2020)	0.5 years

Source: Author's compilation. See text for fuller explanation.

Figure 1. Mean Pensionable Age in OECD Countries, 1949-2035

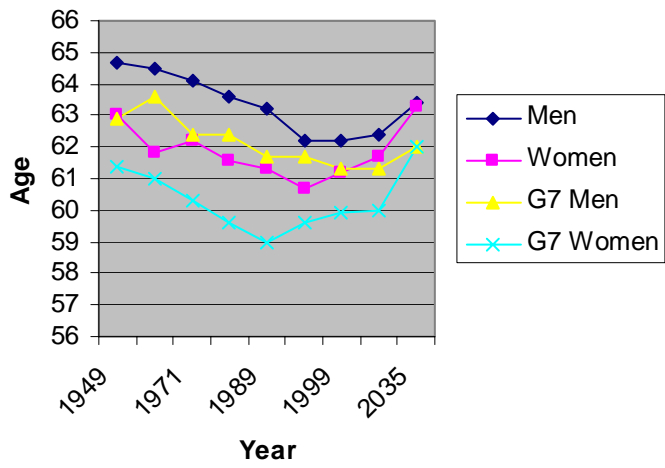


Figure 2. The Standard Deviation of Pensionable Ages in OECD Countries, 1949-2035

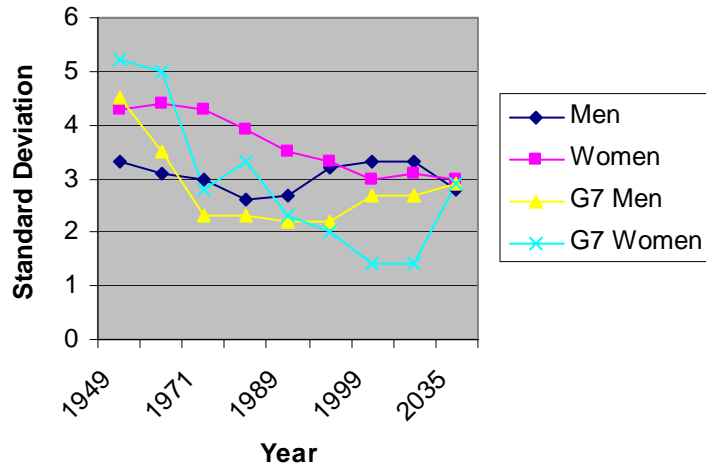


Figure 3. Pensionable Age in OECD Countries: 1949, 1993, 2035

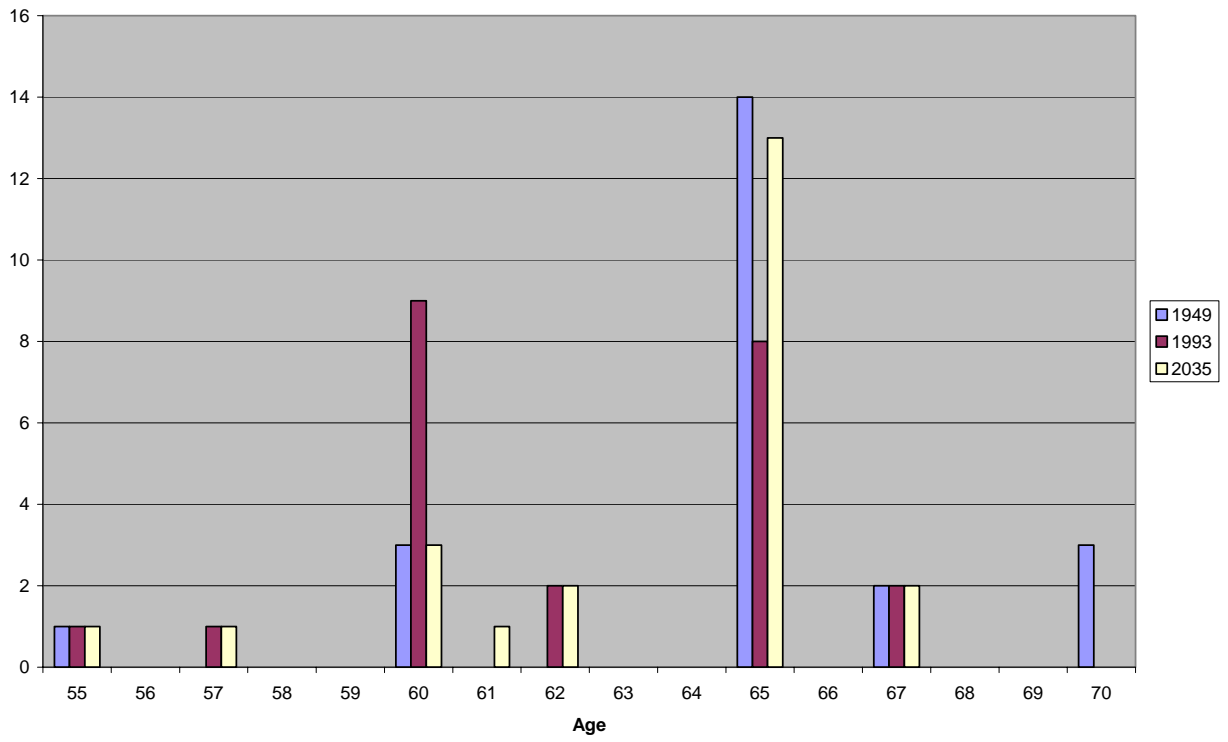


Chart 4. Counting by Fives to Determine Pensionable Age, 23 OECD Countries

