

Implementation Delays in Pension Retrenchment Reforms

By Huixin Bi, Kevin Hunt, and Sarah Zubairy

As the global population ages, public spending on pensions has increased dramatically. According to the Organisation for Economic Co-operation and Development (OECD), spending on public pensions for OECD countries as a whole rose by 2.5 percent of GDP from 1990 to 2017. Pension spending is likely to rise even more rapidly in the future, with the ratio of the elderly population to the working-age population set to double in the next three decades. As a result, policymakers have increasingly focused on pension retrenchment reforms to keep their pension systems solvent.

Pension retrenchment reforms usually involve prolonged phase-in periods or implementation delays. These phase-in periods ease the effects of pension reforms by providing retirees time to adjust their retirement plans. However, phase-in periods also slow the process of scaling back governments' pension spending, possibly raising long-run fiscal risks. Understanding the effects of these phase-in periods may be critical to governments contemplating pension reforms. But quantitative measures on implementation delays are lacking, as it is challenging to systematically collect such data over a long period of time.

In this article, we collect a new data set that tracks implementation delays during pension retrenchment reforms for 12 OECD countries from 1962 to 2017. We find that the average phase-in period associated

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with pension retrenchment reforms is about a decade. However, implementation delays can be significantly longer for age-related pension reforms, which account for a large share of pension retrenchments since 2000. In addition, the distribution of phase-in periods is quite diffuse: implementation delays are often prolonged for far-reaching reforms but short for reforms with limited scope. Finally, we examine implementation delays for reforms in three OECD countries—Japan, Italy, and Belgium—as case studies for future Social Security reforms in the United States, where large-scale changes to the Social Security system have been few and far between.

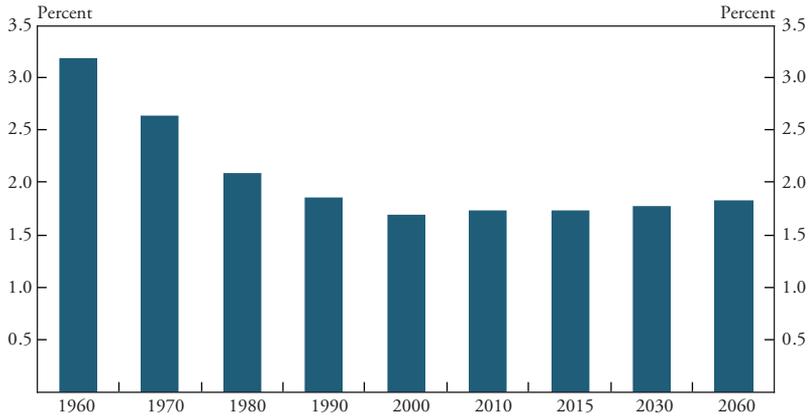
Section I describes past pension reforms in OECD countries. Section II explains how we compile the data set. Section III presents the new data set and shows that pension reforms have significant implementation delays. Section IV reviews historical Social Security reforms in the United States.

I. Demographic Changes and Pension Systems

The populations of many advanced economies are rapidly aging due to declining fertility and increasing longevity. Chart 1 shows that the average fertility rate across OECD countries declined from 3.2 percent in 1960 to 1.7 percent in 2015, which is below the level required to replace the population. This rate is expected to remain largely flat for the next 40 years. Over the same period, overall life expectancy has risen and is projected to increase further by about a year per decade in OECD countries. As a result, the dependency ratio—the ratio of the elderly population (age 65 and older) to the working-age population (age 15–64)—is projected to nearly double in the next 35 years, from 0.28 in 2015 to 0.54 in 2050 (Chart 2).

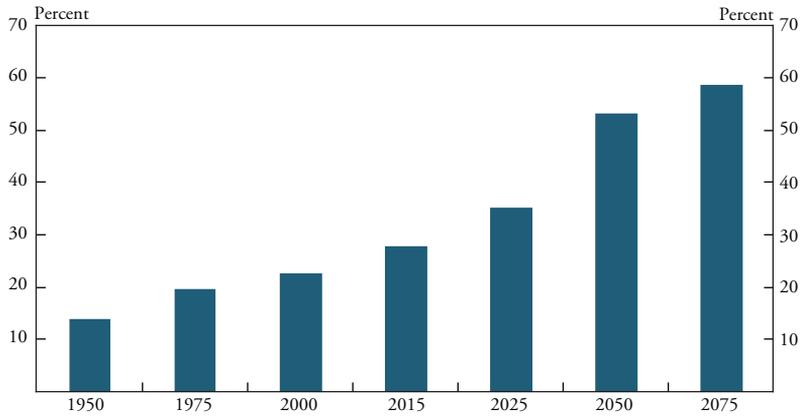
The effects of aging populations on pension systems depend on whether pensions are fully funded or financed on a pay-as-you-go (PAYG) basis. Under a fully funded pension system, workers' contributions are invested, and their accumulated contributions and investment returns pay for their pension benefits. As a result, an aging population has limited effects on a fully funded pension system. Under a PAYG pension system, however, current workers' contributions pay for current retirees' benefits, which redistributes resources across generations. When a country's population is young and growing, PAYG financing

Chart 1
Average Fertility Rate for OECD Countries



Note: Bars for 2030 and 2060 are projections.
Source: OECD (2017).

Chart 2
Average Dependency Ratio for OECD Countries



Note: Bars for 2025, 2050, and 2075 are projections.
Source: OECD (2017).

is attractive, because each generation is larger than the last and thus able to fund previous generations' pensions. However, when a country's population ages, the dependency ratio rises. Unless governments change retirees' benefits or workers' contributions, higher dependency ratios directly translate into higher levels of unfunded liabilities, raising fiscal stress.

Since most countries have PAYG pension systems, aging populations are likely to have significant effects on pension spending. The sharpest effects on government budgets may be felt over the next two to three decades, when baby boomers reach retirement age. As fiscal stress looms, countries with PAYG systems may have to adopt pension retrenchment reforms that attempt to reduce pension spending.

Governments face trade-offs when deciding how rapidly to implement pension retrenchment reforms. The sooner governments enact policy changes, the bigger the budgetary savings will be. However, rapid policy changes may have serious consequences for current retirees who depend on their pensions for income. According to the OECD (2013), earnings-related or resource-tested benefits account on average for nearly 60 percent of retirees' incomes in the OECD countries. Longer phase-in periods may provide these retirees more time to prepare for the reforms and adjust their retirement plans accordingly.

II. Compiling a Data Set of Pension Reforms

Understanding phase-in periods or implementation delays associated with pension retrenchment reforms is crucial for both policymakers and the public. However, quantitative measures on implementation delays are lacking, as systematically collecting this data over a long period of time can be challenging. To fill this information gap, we collect a new data set that tracks implementation delays during pension retrenchment reforms.

We document changes in pension policy for 12 OECD countries—Australia, Belgium, Denmark, Finland, France, Ireland, Italy, Japan, New Zealand, Spain, the United Kingdom, and the United States—from 1962 to 2017. This list includes both countries that have successfully implemented far-reaching pension reforms (such as Belgium) and countries that still face challenges in reducing their pension spending despite repeated effort on pension reforms (such as Italy). In collecting

our data set, we primarily rely on country-specific OECD Economic Surveys published at an annual or bi-annual frequency.¹ These surveys discuss key economic challenges, policy changes that address these challenges, and, more recently, policy recommendations from the OECD to the targeted country.

One complication in identifying policy changes from these surveys is that the format of the surveys has changed over the years. Before 1973, the surveys provided only general discussions on fiscal policy. From 1973 to 2002, the surveys provided chronologies of major economic policy events, including changes in pension policy. Since 2003, the surveys have provided in-depth discussions on economic challenges and policy recommendations. We extract changes in pension policy by focusing on discussions related to subjects such as pensions, retirement, and Social Security. This approach is similar to that of Romer and Romer (2010, 2016) for tax policy changes and Ramey (2011) for defense spending changes. We then identify whether these policy changes increase pension spending (expansionary pension changes), or decrease spending (contractionary pension changes).

To assess whether different kinds of pension reforms take longer to implement than others, we also collect information on the policy tools associated with each reform. Although the specific tools vary, they can largely be categorized into one of four types: changes in pension coverage, changes in benefit formulas, changes in pension payment indexation, and changes in pension eligibility age.

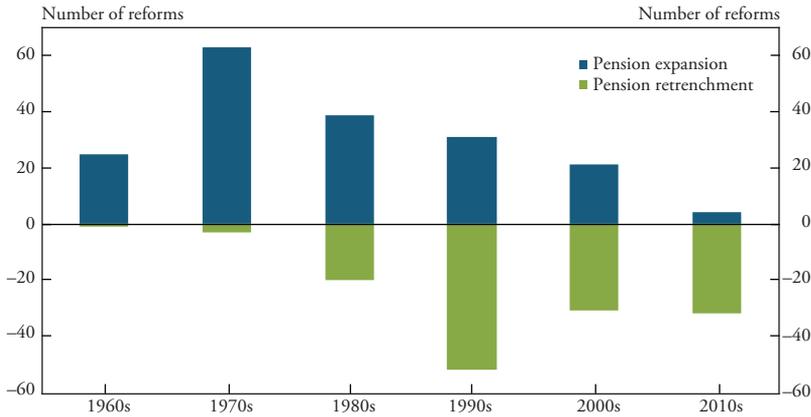
Changes in pension coverage include changes in the number of service years required for retirement or changes in regulations related to means or assets test. For instance, in 2006, Belgium announced a plan to increase the number of service years required to qualify for early retirement from 25 to 30 years by 2008 and from 30 to 35 years by 2012. And in 1975, Australia abolished its means test for retirees age 70 to 74.

Changes in pension benefit formulas include direct changes to pension payments or changes in the number of years that form the calculation basis for pension payments. For example, in 1972, pension benefits in Japan were increased from 2,300 to 3,300 Yen per month.

Changes in pension payment indexation involve moving away from indexing benefits to wages or earnings and toward indexing benefits to prices. For instance, in 1992, the Italian government announced a switch in the indexation of pensions from wages to prices.

Chart 3

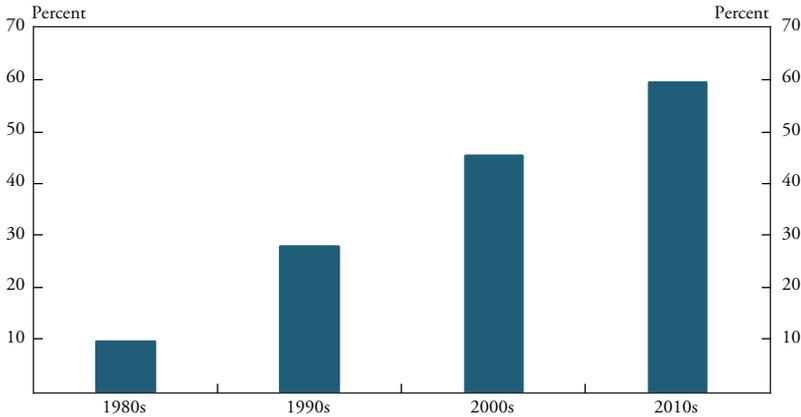
Number of Pension Reforms since the 1960s



Sources: OECD and authors' calculations.

Finally, changes in pension eligibility age affect the age at which most workers can retire. For example, in 2005, Finland decided to phase out the individual early retirement pension for workers age 60 to 64 and raise the minimum retirement age for part-time workers. And in 2015, Denmark decided to limit the average time individuals spend in retirement to 14.5 years, and therefore it would adjust the retirement age in response to changes in life expectancy every five years.

This new data set reveals that pension reforms have come in waves: many countries that expanded their pension systems prior to the 1970s have scaled them back since the 1990s. Chart 3 shows that all 12 OECD countries in our data set expanded their pension systems in the 1970s. From 1970 to 1979, these countries passed 63 acts that expanded pension systems by lowering the retirement age, broadening pension coverage, providing more favorable indexation, or raising benefit payments. The great expansion has since petered out, and countries began pension retrenchments in the 1980s. The pace of these retrenchments peaked in the 1990s: together, the countries in our data set adopted 52 contractionary policy changes from 1990 to 1999, driven largely by European countries forced to meet certain fiscal conditions to join the European Union. More recently, the pace of pension retrenchments has slowed but remains steady amid ongoing demographic challenges.

*Chart 4***Share of Age-Related Pension Retrenchment Reforms since 1980**

Sources: OECD and authors' calculations.

The data set also reveals that age-related pension reforms are playing an increasingly important role in pension retrenchment. Chart 4 shows that in the 1980s, only 10 percent of pension retrenchments involved raising the eligibility age, while the rest involved scaling back benefits or changing indexation methods. Since then, age-related pension reforms have gained momentum. From 2010 to 2017, 60 percent of pension retrenchments involved raising the retirement age.

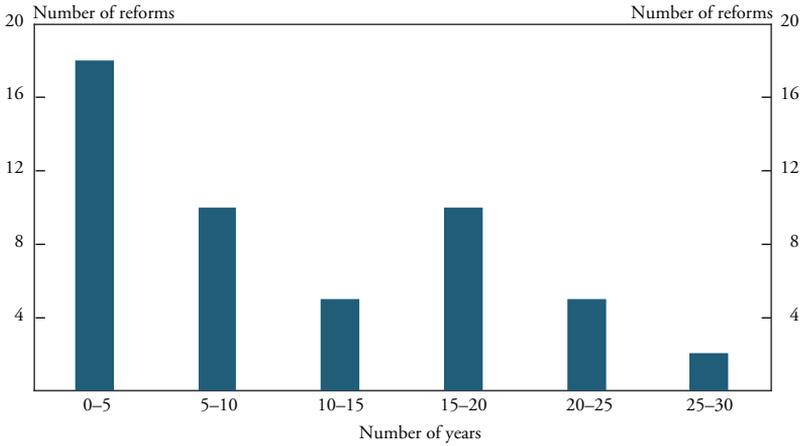
III. Implementation Delays in Pension Retrenchment

Our main focus in constructing the data set is to identify the implementation delays from pension reforms. Specifically, we track implementation details for 50 pension retrenchment reforms in 12 OECD countries over the past 55 years. We identify implementation delays as the time elapsed between when a policy change is initially enacted and when it is fully phased in.

Our data set shows that the average phase-in period for pension retrenchment reforms is about a decade, but the range is wide. Chart 5 shows the distribution of pension reforms by the length of implementation delays. Although 18 reforms took less than five years to phase in, 17 reforms took more than 15 years to phase in.

Chart 5

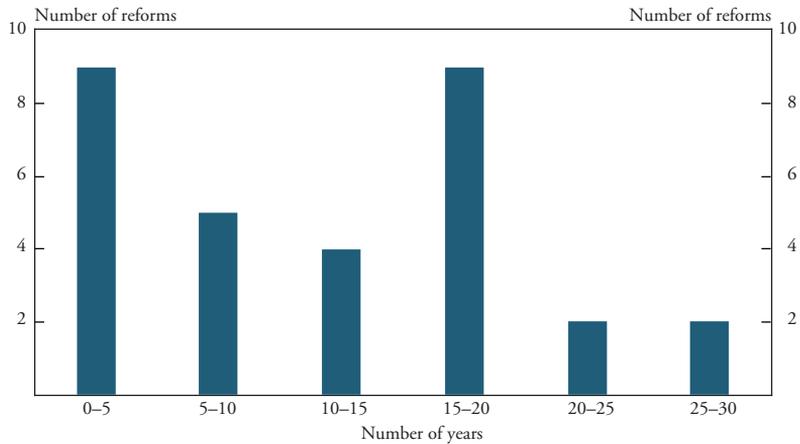
Distribution of Implementation Delays for Pension Retrenchment Reforms, 1962–2017



Sources: OECD and authors' calculations.

Chart 6

Distribution of Implementation Delays for Age-Related Pension Retrenchment Reforms, 1962–2017



Sources: OECD and authors' calculations.

The range of phase-in periods is even wider for age-related pension reforms. Chart 6 shows that age-related reforms have a bimodal distribution: close to one-third of the 31 reforms were implemented over 15 to 20 years, while another third were implemented within five years.

This distribution may be associated with the scope of the reforms. In our data set, far-reaching age-related pension reforms often had significantly longer phase-in periods; however, age-related pension retrenchments that were implemented within five years generally had a much more limited scope.

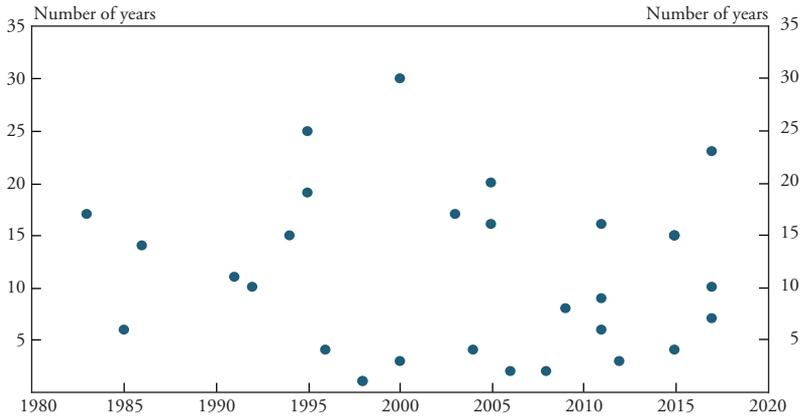
Most of the age-related pension retrenchments with short implementation delays had one of three characteristics: the reforms were simultaneously accompanied by measures that expanded pension systems (Spain in 1996, Denmark in 1998, Italy in 2004, France in 2008), the reforms were part of a plan on which countries had reached political agreement well in advance (Belgium in 2006), or the reforms were of limited scope and occurred in a sequence (Belgium in 2012 and 2015).² For instance, in 1998, Denmark passed a bill that tightened the criteria for drawing early retirement pensions and set a phase-in period of one year. The same bill, however, also lowered the normal retirement age from 67 to 65, effectively offsetting the retrenchment reform. In addition, in 2006, Belgium raised the early-retirement age from 58 to 60 years. Although the reform was implemented quickly—by 2008—Belgium had reached an agreement on this policy change in 2001.

Finally, we find that the trend for implementation delays varies by policy tool. For age-related reforms, the trend has been stable. Chart 7 shows the length of implementation delays for age-related reforms, where each dot represents the delay associated with one reform. The delays have a lower bound of a couple of years and an upper bound of 30 years. On average, reforms that raise the retirement age are phased in over close to 12 years, and this trend has been stable since 1980. In contrast, Chart 8 shows that the implementation delays for coverage-related reforms have been trending up from five years in 1986 to 21 years in 2014. Finally, Chart 9 shows that the implementation delays for reforms that involve changing indexation and pension payments are generally about five years, and this trend has been stable over time.³

These prolonged implementation delays associated with pension reforms are particularly concerning considering that they come after

Chart 7

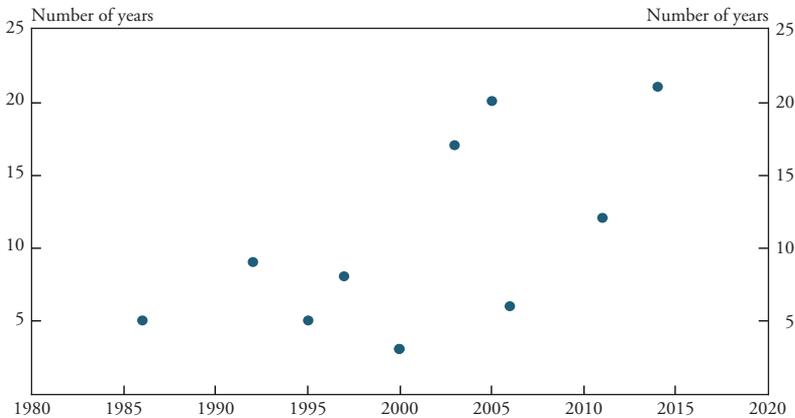
Implementation Delays for Age-Related Pension Retrenchment Reforms, 1962–2017



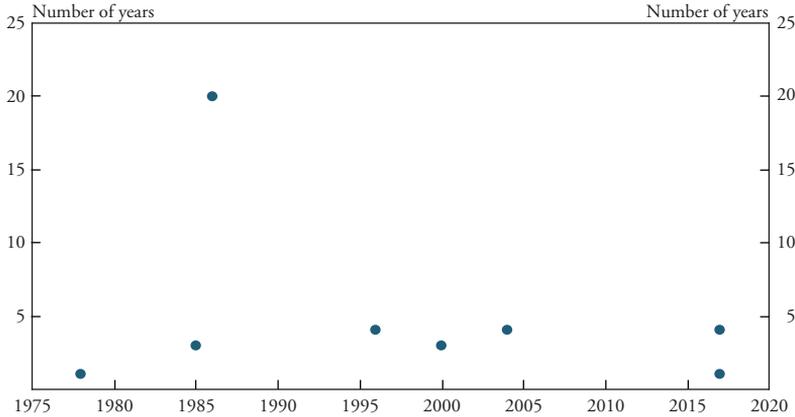
Sources: OECD and authors' calculations.

Chart 8

Implementation Delays for Coverage-Related Pension Retrenchment Reforms, 1962–2017



Sources: OECD and authors' calculations.

*Chart 9***Implementation Delays for Other Pension Retrenchment Reforms, 1962–2017**

Sources: OECD and authors' calculations.

governments have already debated and passed legislative changes.⁴ Far-reaching reforms on pension systems are often subject to prolonged policy debates, as they involve substantial redistributions of wealth and liabilities among different segments of populations.⁵ The overall delays, combining both legislative and implementation delays, can be significantly longer than those shown here.

Although delays may help retirees better weather the effects of reforms, they also significantly slow the pace of scaling back government spending on pensions. To assess the overall effects of implementation delays, we examine case studies on three countries: Japan, Italy, and Belgium. After expanding their pension systems in prior decades, all three countries have since adopted retrenchment pension reforms with significant phase-in periods to address their rising pension expenditures.

These case studies may provide insight to countries facing similar challenges. Japan and Italy, for example, have the largest share of elderly populations and have been aging more rapidly than other advanced economies. Countries facing aging populations in the coming decades may be able to draw lessons from the pension retrenchments in Japan and Italy. In addition, countries that expanded early retirement programs to combat economic recessions may be able to look to Belgium for insights as they work to scale back those programs.

Japan

Japan's public pension was designed to be a funded system, as the government initially built up huge surpluses to finance future liabilities. The original funding principle, however, gradually eroded during the 1970s: an increase in retirement benefits, as well as an increase in the population entitled to those benefits, led government spending on public pensions to rise ninefold from 1973 to 1980, reaching 4.3 percent of national income by 1980.

To address the long-run viability of Japan's pension system, the Japanese government adopted a series of pension reforms, many of which had prolonged phase-in periods. In 1986, the government adopted a major overhaul of pension provisions, reducing benefit levels and raising the benefit eligibility age for women from 55 to 60 years. To ease the effects on beneficiaries, the reform provided a 20-year phase-in period for benefit reductions and a 15-year phase-in period for changes to the eligibility age. In 1994, the government decided to progressively raise the age of retirement from 60 to 65 by 2013 for men and by 2018 for women. And in 2004, the government introduced a system of "macroeconomic indexation," which adjusts pension benefits based on changes in the number of contributors and average life expectancy. However, this system has not yet been implemented. Instead of a date-based phase-in period, the government instituted a threshold-based period: the reforms will take effect only when the consumer price index rises to 1.7 percent above its 2005 level, a condition that has not yet been met.

These prolonged implementation delays appear to have slowed progress on controlling government spending on public pensions. Japan's pension spending increased from 6.4 percent of national income in 1992 to 12.1 percent in 2002. Pension spending is expected to reach 25 percent of GDP in 2050, as the rapidly aging population is imposing substantial stress on Japan's PAYG public pension system.

Italy

The Italian PAYG pension system was expanded in the 1960s and 1970s through a series of changes geared toward guaranteeing a standard of living correlated with that of active workers. In 1994, pension

spending reached 14 percent of GDP, one of the highest ratios among the EU countries.

The high pension spending and debt in Italy, along with fiscal criteria to join the European Union, prompted the government to undertake pension reforms since the 1990s. Many of Italy's retrenchment reforms have had long implementation delays. The pension reform of 1992, for example, raised the retirement age to 65 for men and 60 for women and linked the pension levels of younger workers to lifetime contributions. Both policies came with a phase-in period of 10 years. The Maroni-Tremonti law reform of 2004 increased the minimum retirement age for men with 35 years of contributions from 57 to 61 by 2010 and from 61 to 62 by 2014. And the Save Italy Law of 2012 extended the contribution-based system to all workers, raised the retirement age for women in the private sector from 60 to 62, and indexed pension requirements to changes in life expectancy that would be phased in by 2016.

Implementation delays are not the only threat to Italy's pension solvency. Due to political compromises, major pension retrenchments have also included measures that exempted some workers from reforms or expanded the pension system at the same time. For example, the 1995 Dini Reform was aimed at replacing a defined-benefit system with a defined-contribution system. However, the new system didn't apply to workers with more than 18 years of contributions. In addition, in 1997, the Prodi Agreement made the requirements for early retirement more stringent but also increased the social and minimum pensions, making benefits more generous for some pensioners.

Due to both long phase-in periods and policy compromises, the repeated attempts to reform the Italian pension system have yielded only modest success. As the population ages, Italy's pension spending is projected to stay around 15 percent of GDP over the next 10 years.

Belgium

Belgium created three early retirement programs from 1975 to 1978 and expanded these programs in the early 1980s to combat economic recessions and high unemployment.⁶ Enrollment in the early retirement programs peaked at 3.5 percent of the labor force in the late 1980s, leading to significant increases in the government's pension spending.

Since the late 1990s, the Belgian government has been shrinking early retirement programs gradually through a sequence of reforms, all of which have had long phase-in periods.

In 1996, the parliament decided to gradually increase the minimum working period for early retirement from 24 to 35 years by 2005 and to raise the age limit for early retirement from 55 to 58. In 2006, the government adopted a reform plan to raise the early retirement age from 58 to 60 by 2008 and increase the minimum working period from 25 to 30 years of service by 2012. In 2012, the minimum age for early retirement was raised again from 60 to 62 and the required working period from 35 to 42 years. And in 2015, the minimum age for early retirement was set to progressively increase from 62 to 63, while the required working period was set to increase from 40 to 42 years by 2019.

The long phase-in periods, as well as the gradual pace of those reforms, have led early retirement programs to decline slowly. The Belgian government spent 0.6 percent of its GDP on early retirement programs in 2014, compared with 1.4 percent of GDP in 1985.

IV. Social Security Reform in the United States

Compared with other OECD countries, large-scale changes to the Social Security system have been few and far between in the United States. Prior to 1975, Social Security benefits were not indexed to inflation, and legislation was frequently passed on an ad-hoc basis to raise pension benefit levels. Since July 1975, Social Security benefits have been automatically adjusted for inflation. As Romer and Romer (2016) have pointed out, Social Security benefits have varied only moderately since 1975.

However, the United States passed two notable pension reforms that changed pension eligibility ages. The Social Security Amendments of 1961 allowed men to retire with a reduction in benefits at age 62 instead of 65, opening the door for early retirements. Almost 20 years later, the Social Security Amendments of 1983 gradually raised the full benefit retirement age from 65 to 67 by 2000.

The Social Security Amendments of 1983 were passed against the backdrop of a deteriorating Social Security trust fund. The program had been in an annual deficit since 1975, and the U.S. government redeemed the trust fund's assets to make up the shortfalls. To improve the

financial standing of the Social Security program, Congress passed legislation in 1977 involving phased-in benefit reductions and tax increases. At the time, the reforms were projected to keep the program solvent until 2027. However, the projections proved to be overly optimistic, as the deteriorating economic conditions of the 1970s continued into the early 1980s, and Social Security continued to run annual deficits.

In 1981, President Reagan appointed a bipartisan commission—the National Commission on Social Security Reform, also known as the “Greenspan Commission”—to address the program’s financing issues. The commission submitted a report with 16 proposals for policy changes, which became the basis for the Social Security Amendments of 1983. In addition to delaying the cost of living adjustment and implementing several tax increases, this reform raised the full retirement age from 65 to 67, which came with a long phase-in period of 17 years. The law also explicitly exempted people near retirement.

This 17-year implementation delay, together with the prolonged phase-in periods of pension reforms in other OECD countries, highlights the need for policymakers and the public to consider these delays when planning for the future. Age-related spending, including Social Security and Medicare, accounted for 41 percent of federal spending in fiscal year 2017 and is projected to consume 47 percent of the federal government budget by 2028 (Congressional Budget Office 2018). The federal government debt held by the public is projected to reach 150 percent of GDP by 2048. The prolonged phase-in periods associated with pension reforms underscore that 2048 is not such a distant future.

V. Conclusion

As the global population ages, public spending on pensions has increased and is expected to continue to increase in the coming decades unless governments adopt pension retrenchment reforms. However, simply passing a reform does not guarantee fiscal relief. Most pension retrenchment reforms take several years to implement, and the implementation delays for some types of reforms can last a decade or longer. In this article, we document changes in pension policy for 12 OECD countries and find that on average, pension reforms are phased in over about 10 years. The phase-in period can be significantly longer for age-related pension reforms, which account for the lion’s share of pension

retrenchments since 2000. Even though phase-in periods help to ease the effects of reforms on retirees, they significantly slow down the progress of pension retrenchments, raising unfunded liabilities and long-run fiscal risks for governments. Understanding and planning for these prolonged implementation delays is crucial for both policymakers and the public when discussing and debating pension reforms.

Endnotes

¹For Australia, New Zealand, and the United States, we also rely on country-specific legislative sources.

²The 2000 pension reform in Finland that raised the early retirement age from 58 to 60 by 2003 was an exception in its short implementation delay. After the government reached an agreement in 1999, the policy change was enacted in 2000 and implemented in 2003.

³The only exception is Japan. In 1986, the Japanese government decided to scale back benefits in the public pension system; however, this change was not fully phased in until 2006. This change was accompanied by other age-related pension retrenchment measures.

⁴Data on implementation lags associated with other fiscal policy changes, such as discretionary spending and tax policy changes, are lacking in the existing literature. Therefore, we can not compare the implementation delays associated with pension reforms with the delays associated with other fiscal policy changes.

⁵Yang (2007) documents legislative delays—the time elapsed between when a fiscal policy proposal was first announced and when it was enacted—for major federal tax changes in the United States from 1948 to 2006. Among the 26 tax acts documented, an average of seven months elapsed between the first signaling of the policy change and the final enactment of the tax bill.

⁶In 1975, the Conventional Early Retirement Pension was introduced, allowing laid-off workers over age 60 to receive an allowance in addition to unemployment benefits. In 1976, the Statutory Early Retirement Pension was enacted and applied to male workers age 60 and female workers age 55 if they were replaced by persons under age 30. Finally, the Special Early Retirement Pension was introduced in 1978 to enable elderly persons out of work for more than a year to take early retirement.

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