

# Critical Survey of Pension Provision And Pension Reform

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Critical Survey of Pension Provision And Pension Reform

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ABSTRACT 159 words.

This essay surveys global pension developments and intellectual basis for pension reform in the last 40 years. National retirement income security systems share similar goals: smoothing consumption over a lifetime, providing insurance against long life and poverty; avoiding accidental bequests; and distorting capital and labor markets. Pension systems should be efficient and anticipate business cycles and financial uncertainties. Experts agree transitioning from unfunded to funded systems creates dead-weight losses and legacy debt.

Despite similar goals national pension institutions vary by a nation's political economy—large wealthy social democracies have different systems than less developed nations. Intellectual and political debate concern whether advance-funding pensions leads to more private savings and investment, whether collective institutions are more cost-effective than private alternatives; and how to manage long term public systems when government capacity is weak and influenced by private financial interests. There is no consensus that longer

working lives is a one-size-fits-all solution to pension affordability, labor shortages, and elder well-being.

## **I. Introduction**

Most retirement systems in Western European nations were constructed over 150 years ago starting in newly unified Germany in 1875 with two goals: defining who constitutes members of a new nation and providing for superannuated workers. Pension systems have since evolved significantly. Though nations provide for their aging workers differently, global pension reforms developed several common themes since the mid-1980s. National systems sought to cut benefits and encourage seniors to work; shrink national social insurance plans and expand private individual accounts, and other goals. Several key studies and neoliberal reasoning reinforced and motivated these reforms.

This essay surveys global pension developments and describes the intellectual basis for pension reforms in the last 40 years. Section 2 provides an overview of the typology used to describe pension systems. Section 3 describes how pension systems are funded. Section 4 discusses the model used in describing pension systems as well as the components of what makes a pension system “good.” Section 5 provides an example of how pension systems are compared across countries. Section 6 presents an overview of the current state of pension reforms drawing from global examples. Section 7 describes the key ideas and influences on pension retrenchment. Section 8 discusses the political challenges in pension policies. Section 9 Concludes.

## II. The Typology of Pension Systems

Pension systems are described using pillars or tiers that correspond to different parts of the system based on size, composition and function. The World Bank (Holzmann, Hinz, & Dorfman, 2008) adopts a 5-pillar framework, while the ILO (2018) uses 4 tiers.

The first tier is typically intended to provide a basic minimum support level. The first tier is typically government-funded and composed of either (or both of) a flat grant given to all elderly citizens and a means-tested program.

The second tier is the largest and most important system consisting of worker contributions. It is typically an earnings-related Pay-As-You-Go (PAYGO) social insurance plan. Tier two plans collect payroll taxes (which are often called “contributions” to enlist an insurance metaphor) to pay for benefits that distributes income similar to insurance plans. Beneficiaries are entitled to income based on experiencing certain contingent events related to earnings losses due to old age or disability or dependence on a worker. The PAYGO nature makes tier two systems an explicit pact between generations, specifically between current workers and retired (and disabled) workers, their children and nonworking spouses.

The third tier occupational system is closely related to tier two’s mandated employer-based, earnings-related system. These systems vary widely from a defacto mandate for employers to pay for them because all employers are in sectorial labor and industry agreements – the Dutch, Danish, Finnish systems are examples -- or voluntary plans incited by government with large tax incentives – similar to the US occupational plans. Tier 3 produces old age income security with varying degrees of coverage, efficiency, and adequacy levels.

The fourth tier is a voluntary system of saving and asset building consisting of housing equity and financial and physical assets outside the retirement system.

The World Bank framework describes a fifth tier consisting of indirect non-financial support (such as family care) and other social programs. We propose a more appropriate fifth tier consisting of the indirect subsidies (typically on tax expenditures) nations provide to incentivize retirement savings.

The U.S. case pension system serves as an example for how the tiers operate. When the U.S. introduced its Tier 1 and 2 Social Security system in 1935, private insurance was already an established business. Employers had offered voluntary occupational plans – often negotiated with unions – before the Great Depression. During World War II tax breaks for retirement plans expanded so that since the 1940s occupational plans were optional and Social Security benefits had low replacement rates – the ratio of retirement benefits to preretirement earnings – compared to European systems. The result was about 50 percent of full-time U.S. workers participate in a Tier 3 occupational plan. Social Security – Tier 2 -- is mandatory – so almost 100% of U.S. workers participate. In the U.S., as is the case in most national systems, Tier 3 voluntary retirement savings are heavily financed by government, but the public financial commitment is hidden and indirect. That retirement contributions and/or payouts are tax-exempt – are tax expenditures.

These incentives, along with taxpayer-funded regulations, make up the "hidden welfare state" (Howard, 1993) and achieve results opposite to government goals.

Tax-subsidized retirement systems are accountable to public policy goals for fair distribution but they favor the wealthy and incur high administrative costs. Therefore, mandates

are cheaper than incented savings, so most nations mandate a base of retirement support. Mandates are direct or indirect. Indirect mandates are enforced through organized labor and industry agreements. In the United Kingdom every employer is required to sponsor a pension plan and contribute to it. Almost everywhere, when employers sponsor and administer the plans pensions, as a non-wage form of compensation is conceived to part of a strategic human resource (Lazear, 1995) .

### **III Forms of Pension System Funding**

Pensions are funded in different ways and generally fall into 4 categories. Pay-As-You-Go (PAYGO), Defined Benefit (DB), Defined Contribution (DC), and Notional Defined Contribution (NDC). These funding systems vary in their methods of providing retirement benefits. Experts generally consider hybrid- funding models between advanced funded, pay-as-you- go (PAYGO), earnings-related, means- tested, to be more stable.

PAYGO is a pension system where current workers' contributions fund the current retiree benefits and there are no private stocks and bonds in reserves. Instead, contributions from current workers are used to pay the pensions of current retirees. In a "pay-as-you-go" system, benefits are typically based on formulas related to earnings or contributions during the working years. The system is fairly simple, requires no pre-funding, and administrative costs are low. When the economy falters and the tax base shrinks so that the revenue flowing from workers retirees falls below expectations benefits need to be cut or revenue expanded which causes political strain. Nations that depended only on PAYGO systems generally find extreme

variation in funding requirements based on unexpected economic decline and population ageing.

In a PAYGO plan the individual workers do not bear investment risk, financial market risk, administrative cost risk and longevity risks. In a mandatory government retirement plan, the individual worker does not bear risks like employer mismanagement of a pension fund or non-payment due to decline in overall economic conditions. In a government PAYGO plan individuals do face a political risk that the government won't meet their obligations, as Argentina, Chile, Peru, Poland did when they reneged on their pension payouts (Polakowski & Hagemeyer, 2018; Mesa-Lago, 2020)

In a Defined Benefit (DB) plan, retirees generally receive an annuity the size of which is typically based on salary history and years of service. Employer pension funds fund these benefits on an actuarial basis. The trust fund is protected by trust law and consists of sound private assets – stock, bonds, private assets, and real estate and other established financial assets. DB plans provide a predictable income stream for retirees.

However, they can be threatened at the single-employer level by employer bankruptcy, and at the sectoral level by industrial decline. They require careful and transparent management of assets. Employers need to closely watch the actuarial assumptions for unexpected demographic, employment, and investment return events. PAYGO - Tier 2 - benefit structures are similar to DB plans but the funds from which the benefits are based are not advanced-funded by private assets – instead PAYGO systems are backed by a political promise to pay.

In a DB plan the individual workers do not bear investment risk, financial market risk, administrative cost risk and longevity risks. In a DB plan, the individual worker bears the risk

their employer mismanages the fund or company, or overall economic conditions are such that pensions are not paid out.

In a Defined Contribution (DC) plan employers and employees typically contribute to individual accounts. The assets are usually held as retail liquid products. The eventual retirement benefit depends on the contributions, investment performance, and administrative costs of the accumulated fund. The DC account balance is the sum of contributions and investment returns. DC plans offer individual account ownership and portability.

In DC plans individual retirees face the risk of market fluctuations; there is no risk pooling which exacerbates the risk experienced. An additional and underdiscussed risk element is longevity – the risk of outliving their accumulated fund. The individual workers assume all investment risk, financial market risk, administrative cost risk and, as described above, longevity risks.

Notional Defined Contribution (NDC) is a somewhat new form of pension structure that is not implemented widely. A NDC is a hybrid between PAYGO, DB, and DC plans. It calculates benefits based on a notional account; since it is “notional” no actual contributions are made. However, unlike DC plans, the actual benefits are determined by a formula similar to DB plans. NDC plans provide a degree of portability like an individual account ownership but still use a formula to determine benefits, incorporating elements like salary and years of service. NDC plans aim to combine the advantages of both DB and DC plans and discard the disadvantages. NDC plans have individual account features – like portability and transparency of account balance – but they provide an annuity and consequently a predictability of benefits.



In NDC plans individual retirees do not face the risk of market fluctuations and the longevity risk of outliving their money. In a NDC individual worker bears the risk the promised benefits will not be paid because of a government (or employer) default.

Each type of plan has its own set of advantages and challenges, and the choice between them often depends on factors such as the goals of the pension system, financial considerations, and political societal preferences. Pension design is also heavily affected by the capacity of the finance sector, academic economic authority and ideology to influence policymakers.

#### **IV. Criteria for a Good Pension**

The mathematical representation of a pension system is rather simple and can be expressed in a straightforward formula. Tax revenue equals the tax rate multiplied by the wage rate (heavily influenced by the productivity of the economy and the concentration of corporate power) and then multiplied by the number of people working. Pension expenditures equal the benefit rate (indicating the generosity of the plan) multiplied by the number of people in the elder population plus spending on administrative costs.

$$(1) T_L(Lw) = (bE) + a$$

Where

$T_L$  = Tax Rate on Labour Income

$E$  = Elder Population

$L$  = Employees

$w$  = Wages

b = Benefit Rate

a = Administrative fees

If benefits are also funded by taxes on capital then the equation becomes:

$$(2) T_L(Lw) + T_K(rK) = (bE) + a$$

Where

r = rate of profit

K = Capital

$T_K$  = Tax rate on Capital

Adding the costs of tax expenditures, we have:

$$(3) T_L(Lw) + T_K(rK) = (bE) + a - T_E$$

$T_E$  = Tax expenditures

In a mixed system, the revenue is the rate of return on income minus consumption in the previous time period. Rates of return can come from private assets or government bonds. regardless of what form of funding constitutes the promise to the pension – i.e. whether funded by a trust fund of private sector assets or government bonds - elders who aren't working are funded by the productivity of those who are either from the surplus of the private assets or from

taxpayers. The formula additionally reveals when administrative fees are high there is less revenue to be used as benefits for elders.

Economic analysis establishes the criteria for pension systems to meet social goals beyond simply ensuring that revenue equals costs. Governments regulate, promote, and fund pensions to serve various public purposes. Pension systems are not only tasked with the obligation to smooth consumption over workers' lifetimes but also bear the responsibility of stabilizing capitalist economies. Several elements of pension systems contribute to macroeconomic stability. Pensions function as automatic stabilizers; more people retire during economic downturns. Additionally, pension systems stabilize aggregate demand by providing income maintenance for individuals unable to work due to disability or superannuation.

A good pension system is both efficient and fair, assisting workers in smoothing their consumption during their working and retirement years. A good system is designed to avoid people leaving accidental bequests to heirs (inheritance that are larger than the retiree intended) because the worker had to capitalize the risk of living too long or requiring resources for long-term care. Therefore, a good pension system is based on an insurance model, inherently redistributing income from short-livers to long-livers. An excellent pension system incorporates a group insurance model to cover long-term care (though long-term care is beyond the scope of this review.) A nation typically desires a pension system to protect elders against poverty, ensuring that high lifelong earners receive a relatively smaller proportion of money per dollar of benefit.

A good pension system maintains consistent payouts across business cycles and invests advanced-funded contributions efficiently to minimize financial and idiosyncratic risk. Since

individuals cannot control their pension age over the business cycle, a good system avoids providing good luck to those retiring in an asset bubble and misfortune to those forced into retirement during a recession. An effective system manages any transition from an unfunded to a funded system by minimizing dead-weight loss and addressing legacy debts.

In sum a good pension system:

- smooths consumption over workers' lifetimes.
- maintains low administrative costs.
- avoids leaving accidental bequests to heirs.
- provides longevity and long-term care insurance.
- protects elders against poverty.
- invests advanced-funded contributions efficiently to minimize financial and idiosyncratic risk.
- contributes to macroeconomic stability.

Barr (1989) concludes that retirement is optimally managed socially. The risks are social and widespread and not appropriate for a private for-profit insurance enterprise. Social insurance is the only efficient way a society manages the social risk of a worker unable to sell labor power because of superannuation. Collective pools are more efficient than individual portfolios.

Mandates are cheaper than incented savings (i.e. tax expenditures (TE) are zero -- so most nations mandate. Mandates are direct or indirect. Indirect mandates are enforced through organized labor and industry agreements. In the United Kingdom every employer is required to sponsor a pension plan and contribute to it. Almost everywhere, employer-based plans are

sponsored and administered by employers and used in their strategic human resource management plans.

## **V. Assessing Effectiveness of Pension Systems**

Cross-country comparisons of pension systems is a challenging process due to difficulty in defining which parameters to focus on. The Mercer CFA Institute Global Pension Index assesses pensions across nations using an index based on adequacy, sustainability and integrity that corresponds to different components of the World Bank's and ILO's pensions frameworks. The index, for instance, gives high marks to Finland and The Netherlands and low marks to the U.S.

The Netherlands' retirement income system comprises a flat-rate public pension that is not means – tested and a quasi-mandatory earnings-related occupational pension schemes linked to industrial agreements. The tax incentives are smaller when there are partial mandates. The Netherlands has high levels of housing debt and do not provide a carer's pension credit for those caring for young children.

Finland's retirement income system also gets high marks and is very different from other comparable plans. It is partially advanced funded and it is mandatory – doesn't need strong tax incentives. The earnings-related pension systems are defined benefit plans, and the contribution rates adjust to employment shocks higher costs. The prospect of increasing contribution rates triggered reforms in the Finnish system (Valkonen, 2020).

The US system gets a C+. The US retirement income system comprises a social security system with a progressive benefit formula based on lifetime earnings, adjusted to a current dollar basis,

together with a means-tested top-up benefit and voluntary private pensions, which may be occupational or personal. The U.S. system has high elder poverty rates – 14.1 % in 2022 (Shrider, 2023) Low contribution rates and coverage in voluntary plans, allows preretirement leakage by further limiting access to funds before retirement, and most pensions are paid as a lump sum. The high fees associated with the price of assets and the inefficiency of the U.S. system drags down its score.

Nations with strong labor unions and traditions of social insurance have kept their replacement rates.

## **VI. The Current State of Pension Reforms**

Pensions and Social Security reform in the last 40 years have followed certain stages of social welfare state development. Those 5 stages are the following: construction, expansion, consolidation, retrenchment, and refinement (Epsing-Anderson 1996, Kohli and Martin 2011, Hacker 2002).

Unfortunately, the current focus of pension reforms is aimed at achieving financial sustainability which is being done by retrenching pensions in various ways. Two key reforms have been inducing benefit cuts by raising the retirement age (i.e., the age at which full benefits can be collected) and by shifting from DB to DC plans.

Increasing the retirement age can lead to a reduction in pension benefits through the application of actuarial reductions when workers claim pensions before reaching the "full" or "normal"

retirement age. As the "full" retirement age is raised, individuals must postpone their retirement to obtain full benefits. This delay particularly impacts those who retire earlier and are more likely to be individuals engaged in physically or mentally demanding occupations as well as more likely to be lower income. In the U.S. the penalties associated with retiring at specific ages – implemented in 1983 -- are complemented by "delayed retirement credits."

Consequently, individuals fortunate enough to extend their working years into older age receive augmented benefits owing to these credits.

In most nations raising the retirement age won't be enough to balance the system. Increasing revenue into the system will be required. Unfortunately, many nations with the least fiscal capacity will find their pension systems more expensive. Nations in economic decline and that have aging populations will find a less productive and smaller prime age labor force and increasing number of beneficiaries. For example, restoring and maintaining pension benefits is more difficult for Japan than for the United states because of the population structure and quite difficult for Puerto Rico, than Arizona because one economy is expanding and the other one is not.

Though most western nation constructed their pension systems in the early part of the twentieth century, some of the most important developments are in late – blooming nations China, India, and Russia (see last section). Almost all nations expanded their retirement systems between 1940s and 1980s for economic, political, and sociological reasons. Economically, expanding was not particularly expensive because the bulk of the populations were in their working years. Due to a relatively small older population pensions were cheap and uninteresting. Politically, unions and social democratic governments aimed to share prosperity. Sociologically, Europeans societies felt a debt was owed to the generation devastated in the

prewar and World War II. Much political science research -- but very little in economics has been written on the varieties of pensions (Kohli 2011) until the 1990s.<sup>1</sup>

As previously noted, the United States was the final G-7 country (excluding Japan) to establish a national pension system. Paradoxically, it also became the first to implement significant benefit reductions — a situation of joining last and exiting first. Starting in 1983, the U.S. Congress, during President Reagan's administration, gradually raised the retirement age. Simultaneously, it phased out traditional, employer-based, collectively funded, and professionally managed defined benefit pension (DB) plans in favor of individual 401(k)-type plans, characterized by a defined contribution (DC) structure.

The shift from DB to DC plans did not increase coverage in Tier 3 plans in the U.S... For more than four decades, only half of the U.S. workforce has access to employer-sponsored retirement savings, and the U.S. workforce is headed for severe retirement income inadequacy (Morrissey, Radpour, & Schuster, 2023) [add boston citation] Crucially, this restructuring also shifted the responsibilities of savings, investment, and financial risks from employers to individual workers (Bainbridge, Thomson, and Kanto, 2023).

These changes in the U.S. pension system were driven not primarily by the needs or pressures of the workers but rather by a combination of factors. These factors included the influence of financial institutions seeking to increase demand for their services and a broader context of pressure to curtail government spending, often characterized by austerity measures. Interestingly, rising pension costs and high tax rates were not identified as major motivating factors in the U.S. case. Instead, the restructuring was more closely tied to broader economic and ideological shifts.



## **VII Key Ideas and Influences Guiding Pension Retrenchment**

There are three wrong ideas that have guided pension reform in the last 30 years: 1) privatizing will save the systems; 2) the elderly should work more; 3) pensions are not affordable when populations age.

*Privatization:* The first major trend to retrench pensions was the argument for privatization – i.e. moving from PAYGO to advanced funded and from collectively-managed plans to privately and individually managed ones in order to reduce public spending and to enhance the growth of the economy (through hypothesized assumption that increased private savings promotes more productive investment, an argument analyzed below. Chile and other Latin American nations went all the way in the 1980 and 1990s moving from Paygo government Social Security type plans to privately and individually accounts (Mesa-Lago, 2020).

Several key articles and books helped create an expert consensus that privatizing retirement systems was modern. The 1993 World Bank Study “Averting the Old Age Crisis: Policies to Promote Growth and Reduce Poverty” (World Bank 1993) warned against expensive government plans and pushed for governments to cut public pensions and encourage individuals to save in private markets to yield more capital for investments and less government spending and taxing.

Pensions were retrenched in many direct and hidden ways. Pension cuts are often hidden because they are politically unpopular. State PAYGO pension benefits are reduced slowly when wage histories are indexed to price increases rather than wage increases (most of the time wage increases are greater than inflation) The United Kingdom started price indexing wage histories in 1980 and U.K. senior poverty rates have increased in part because of this formula change (Kolhi 2011).

Any shift to a private system that is voluntary and is also subsidized by tax expenditure will, by structure, be very regressive. Voluntary savings plans are also very expensive as the incentive to save needs to grow with income. mandatory systems are a lot cheaper for the fiscal entity.

As mentioned above, affordability is irrelevant to the form of paying pensions -- fully-funded or PAYGO. In any form workers reduce their current consumption for future consumption and a little bit for survivors and longevity insurance. It doesn't matter whether the savings are invested in private equities and bonds in their own individual a private account or they saved in a government sovereign wealth fund, or they reduce their consumption by paying in premiums into a large pay as you go social insurance program. The affordability of pensions has nothing to do with whether pensions are privatized, advanced funded, or PAYGO. The simple math is that the old need claims on income whether it be from the wealth of the government treasury, the wealth of private companies, or a combination of both. Increasing output will pay for a large, retired population benefits.

There are two problems with the narrative used to advocate privatization: transition costs and the saving/investment fallacy. The transition cost can be quite large when current

contributions once used to fund current retiree pensions are diverted to individual accounts. The government has to find funds to pay for current benefits. Second, fully-funding pensions with private investments, rather than government commitments, will likely not generate saving shocks which lead to increases in the capital stock. That savings – which is what advance funding pensions is -- may not lead to increased output in what Keynes identified as a saving paradox. (Keynes, 1936)

Increasing the capital stock is appealing according to the “loanable funds theory” (Robertson, 1934) that says increased savings supply lowers the cost of loaning and that the cost of loaning is a driving force for investment. But, instead of more savings *boosting* investment, more savings *lowers* investment. Increased savings lowers companies’ expectations for aggregate demand and profit growth. Profit expectations are much more important determinants of capital stock than the marginal cost of investment. How aging societies can pay for pensions does not depend on the private saving rate but how aging societies can increase productivity (Cessarto 2006).

Economic theory and policy are filled with a list of ways to increase output. First, a nation could increase the quality and quantity of the capital stock, but economies don't live on capital alone.

In fact, economies could be stuck in "liquidity traps" in economic downturns when interest rates are so low, even more capital to invest would cause more gloom and less investment. Business decisions are influenced not only by interest rates but also by expectations about the future. If there is uncertainty or pessimism about the economic outlook, increased savings may not necessarily result in increased investment.

Last, privatizing pensions violates another aspect of a good pension system. Privatizing shifts the cost of ensuring against longevity risk to the individual, the party less able to pool risks. By making private individuals capitalize their longevity risks, and not through a collective insurance pool, places a higher cost on private households because of the efficiency losses. If risks were pooled no individual would have to save enough to ensure against the tail risk of living until age 99.

The financial literacy scholarship responded to the concerned individuals on their own would not save enough to smooth consumption. A large number of papers and studies claimed that with clever nudges and more financial literacy people could learn to save enough on their own for their retirement security (Lusardi and Mitchell, 2011; Thaler and Susstein (Thaler & Sunstein, 2008). There is mounting evidence that any interventions on financial literacy is only marginally effective for people who are already saving (Goda, et. al., 2022). For those who are not saving, their low incomes, poorly designed savings programs, and well-designed debt systems are important determinants of whether people save enough for retirement.

The challenge for pension systems to sustain economic growth led some economists to argue for pension systems that expand the supply of older labor.

*Expanding the Labor Force By Raising the Retirement Age:* The second misplaced argument for retrenching pensions is based on the idea workers should work longer.

In 2012 Barr wrote in a standalone sentence that reforming pensions by extending working lives was a good idea. Barr (2012 p. 179 ) “better retirement is not only a powerful policy, but also a good one.” Nicholas Barr is one of the most influential economists dealing with pension reform but there are flaws to his opinion that raising retirement ages is good.

But if older workers are, on average and on the margin, less productive older workers delaying retirement could lower output. An alternative, and more efficient and humane strategy, would be to increase output and productivity by accepting workers from other nations with younger populations.

Raising the so-called “full” or “normal” retirement age changes the benefit formula so that pension benefits are lower at every age of collection. Another pension benefit cut happened when E.U. nations had to treat men and women equally. They raised women’s retirement ages to equal men so that while men’s full retirement age didn’t change; women’s pensions were cut by 10 to 30% depending upon the speed of the so-called equity (Soumeli, 1999).

Another way to cut pensions (hoping this also increases the elder labor force) is to increase the number of years needed to file for pensions, perhaps by indexing retirement ages to average increases in longevity as has been done in Denmark and the Netherlands. However, Alvarez et. al. (2021) argues that indexing hurts those on the bottom half, especially low economic status men whose longevity has not increased. Eliminating or restricting early retirement options has garnered much less attention – but doing so makes pensions and retirement systems less progressive.

Extending work lives is an appealing pension reform because it promises only positive outcomes—extending work lives cuts pension costs, alleviates labor shortages, and aims to make older people better off with the benefits of structure, socialization, and stimulation from paid jobs. Working longer is appealing because it is viewed as a free policy lunch—with all gains and no losses. This appeal has led to the *Working Longer Consensus* (Ghilarducci 2021)

being likened to the *Washington Consensus*, which refers to free-market economic policies supported by prominent American financial and government institutions, such as the International Monetary Fund, the World Bank, and the U.S. Treasury.

Policies backed by the *Working Longer Consensus* have slowed-down and some cases shrunk healthy retirement time, which is a decline in labor standards because in many cases healthy life expectancy has not increased as fast as retirement age has increased.

Therefore, policies aimed at encouraging people to work longer ignore two key inequalities: the inequality in healthy lifespans by class, race, and gender, and the inequality of workability by race, class, and gender. It also overlooks the inescapable math that adding workers with declining productivity to the labor supply reduces the rate of increase in productivity and puts downward pressure on output growth.

Closely related to arguments for increasing the supply of older workers is the idea pensions are not affordable (which is covered in the third section below). Gruber and Wise's 1999 book *Social Security and Retirement Around the World* argued public policy encouraged retirement ages that were far too young creating far too much retirement in the world. The design of global pension systems and tax policies were to blame for the excess retirement. They constructed country-specific, cross – section variables to relate the labor force participation of men aged 55–64 to the implicit tax rate on earnings generated by public policies. The research was ambitious and difficult; it considered tax rates and the idiosyncratic rules of each nation's Social Security, pension, and disability rules to compute the marginal benefit of working one more year. They found if a nation's income tax rates are high, the age at which one can start receiving an annuity payment is young; and disability rules and benefits are generous it makes

less financial sense to work another year compared to the opposite. Assuming people act to maximize their rate of returns they interpreted national variations in retirement age were explained by how tax, pension, and disability policies incented one more year of work. Too little incentive caused “unused labor capacity.” Gruber and Wise concluded pension system created defacto taxes for working longer and those with “built – in” lower penalties for retiring later -- United States, Sweden, and Canada -- have higher labor force participation. Nations with high implicit taxes on work ---- Belgium, Italy, France, and the Netherlands --- have lower elder labor force participation among elders.

As European nations raise the retirement age to cut pensions, David Lain (2019) painstakingly documents the accompanying increase in labor force participation. Enhancing the intellectual arguments to impose pension benefit cuts by raising the retirement age was the 2010 Willis and Rowhedder study concluding American older people were cognitively superior to Europeans because they work longer. This electric finding spurred many studies on work, retirement, and death to unpack the link between shorter retirement time and mental health.

The research challenged two key propositions: 1) that longevity is the same as workability and that work at older ages is healthy because technologies extend workability and paid work creates salubrious socialization, structure, and stimulation; and 2) longevity and workability was increasing for everyone. The Willis and Rohwedder (2010) lit a fire under researchers, as did the well-circulated, replication (Jung, Lee, Meijer 2022) that American seniors challenging their better cognition is caused by their working longer than Europeans.

*Longevity and workability.* The concept of workability refers to the demand side for an older worker. If worker's productivity -- due to physical and mental strength and/or skill obsolescence -- falls, then workability falls even if average longevity increases (Cutler, Meara, and Richards-Shubik 2011; Majer, Nusselder, Mackenbach, and Kunst 2011). And, sadly, workability and longevity are positively correlated (Alvarez, et. al 2021). The more highly educated are likely to have marketable skills in old age and can tolerate staying in the work force longer because they received the lion's share of a healthy lifespan. Those with lower socioeconomic status suffer both a relative decline in workability and healthy longevity. The inequality of health trajectories was made worse by the COVID pandemic (Binns and Low 2021).

Average retirement time <sup>2</sup> in the OECD stopped increasing while the longevity gap by socioeconomic class has increased; therefore, healthy retirement time has become more unequally distributed within nations and among them.

In 2000, women in the OECD could be expected to retire for about 23 years and men for about 18. In 2020, the retirement time for women grew by .8 years to 23.8 years. Men did better, they gained 1.5 years, or 19.5 years. Korean and Japanese men work the longest 50 and 48.8 years respectively. Men in the United States are not far behind, at 45.9 years. Italian and German men fewer years in their lifetime, and French men had one of the lowest lifetime work spans at 39 years (OECD, 2021).

Research from American scholars promoted longer work lives. Anne Alstott (2016) encourages an average retirement age of 76. In *Working Longer*, Alicia Munnell and coauthors argue more work years will increase retirement affordability.<sup>3</sup> A "science-based" age of retirement would be convenient to determine how many years people should work before they



receive decent pensions. Even if exceptions were made for blue collar workers such as coal miners, soldiers, and others in physically taxing jobs, there is no such thing as the scientific answer to what is the correct number of years to work and to retire. Retirement time is political and social, not scientific.

Maximum benefit age for Social Security in the U.S. is age 70. In France it is 67. Any more work will not increase their Social Security benefit. I compared the age at which national pension systems stop increasing benefits to calculate for each nation an implicit normative or target length of a work life. The U.S. policy signals a work-life norm of 48 years for college graduates starting work at age 22 and 52 years for people who started work at 18. The “policy-target work life” in the United States is the highest among the OECD nations.<sup>4</sup> Norway, Poland, Italy, and Israel have target work lives between 44 and 45 years, while Turkey, Korea, France, and Greece, have target working lives under 40 years.

The policy-induced norms match the actual working lifespans across nations. American men work an average of 45.9 years, compared with 43.4 in the OECD countries. Women in the U.S. work an average of 44.5 years, while the OECD average work life is 41.7 years.<sup>5</sup> The United States ranks 9<sup>th</sup> out of the 38 OECD <sup>6</sup> nations in average working life for men and second behind Japan in the large G-7 nations in working time for men. The United States ranks 4<sup>th</sup> out of 34 nations and second behind Japan in the G-7 in working time for women. When nations choose the age at which workers get full retirement benefits, they are making a choice about who effectively gets full benefits. The policy is also a value statement about how long a nation’s citizens should work and in what conditions its elders will live. Note full retirement ages are typically much higher than people’s actual retirement ages. That means the average

worker doesn't get their maximum pension benefit. On average, men get the maximum benefit in only 13 of 30 rich nations and women collect get the maximum benefit in only 10 of 30.

*Affordability:* The third intellectual idea promoting pension reform was that paying for pensions was just too great of a financial burden and unfair to other segments of the population needing other needs met. The idea is that as populations age the perceived costs to taxpayers rise too much and there is not enough revenue for tax cuts, the military, and other programs. In 1980, though there is a great deal of variation, in the OECD the average pension cost was 5.5% of OECD GDP. The OECD predicts by 2060 the share of GDP going to pensions may almost double. (Prost, 2015)

Mainstream political science raised the alarm of a gerontocracy – or what Hacker and Pierson call the “grey power thesis” (Hacker and Pierson 2022) -- after Julia Lynch (2006) labelled nations as pro-old or pro-young by comparing expenditures on the old and young in the OECD allowing others to infer a political dynamic where government budgets are divided by generations. But fiscal policy doesn't work that way. Ghilarducci reports (2020) for 30 years in 175 countries, there is a strong correlation between the share of GDP spent on the young and the old. Williamson and Pampel (1989) labelled this dynamic “Social Democratic,” progressive movements for spending on vulnerable populations support strong levels of social spending. In some nations, the U.S. for example, the poverty rates among the elderly are higher than for children (Ghilarducci, 2023) And in some nations medical costs are counted as pro-old spending which is explained by the medical industry – power thesis than “the grey power thesis.” Also, in many nations old age pensions serve as an important source of income for children who live with elders.

A stable pension scheme can increase output, paying for itself. The pathway from pensions to output is productivity. In a well-designed pension system workers save in their most productive years and retire when productivity is falling. In this way the pension system is productivist— meaning it aids economic growth and productivity – rather than purely redistributive. Pensions have, in Kohli’s words “held a peculiar place” in the welfare state. Once seen as a gift to the poor, pensions in the liberal and neoclassical-based “Economics of Personnel” (Lazear 1980) movement at the University of Chicago put pensions squarely in the productivity camp, showing that they help workers and firms time their retirement to optimize productivity.

In sum, technically a nation can decide either and or to reduce pensions; boost prime-age productivity and employment; or raise taxes and savings rates. The economics are clear about the tradeoffs. Politics makes tradeoffs.

Now that we have shown that changes in demography, a smaller younger population and an older population does not make pensions inherently unaffordable or in need of cutbacks and benefits and that funding pensions with private capital necessarily increases output growth.

## **VIII Political Challenges in Pension Policies**

Newly elected President Macron of France in 2022 was silent about his expressed goals to raise retirement ages during his campaign. As soon as he was elected, he used executive power to Raise the age from 62 to 64. Twenty -one days of fierce protest unsuccessfully changed the policy. The United States was more masterful. It cut benefits gradually, with no

protest, by raising the full retirement age from 65 to 67 in 1983 only for people in their twenties and younger.

Romp and Beetsma (2022) show that in over 23 OECD countries between 1970 and 2017 proposals to cut pensions coincided with economic downturns and is consistent with an austerity agenda rather than a consideration of a nation's demographic trends. Nations facing high dependency ratios were no more likely to propose pension cuts.

Katherine Newman's (2019) investigation in the United States documents the political and sociological consequences of pension cuts in Detroit, among Teamsters, and the poorest county in the nation. Newman, a sociologist, notes the shame<sup>7</sup> created by younger people's lower expectations that can retire. Newman concludes the break from universal retirement security is "eating away at the social fabric of the United States." Political pressure that started in 2016 to bail out defunded pensions a small group of unionized workers in the trucking, mining and other industries resulted in a bailout in 2020 with Democrats control of Congress and the Presidency. In the United States, economic insecurity in old age was for a long time seen as a social task and a natural obligation; there have been virtually no protests in the U.S. against the loss of defined benefit plans and the erosion of Social Security (Madland 2007) .

Every nation faces the same math same problem – caring for the elderly and superannuated – but every nation's political response to the math problem depends on political decisions about universal access, degrees of prefunding, ability to create process transparency, and concern about cost efficiencies.

Here are some national examples. In the United States the full retirement age for Social Security, when workers are eligible for 100% of the benefits they've earned, is transitioning to

67 by 2027. The increase was implemented slowly in 1983 and there was virtually no opposition because the generation affected were under the age of 24.<sup>8</sup> Eligibility for non-employer, government health care insurance called Medicare currently starts at age 65 so that anyone who has a choice to stay on the job— most people who retire in the U.S. said they did so before they planned -- don't leave until they are eligible for Medicare. There is another more serious source of retrenchment that is not quite in the public realm. If revenues equivalent to the payroll tax rate increasing from 12.4% to something over about 15% in 2023 (the actual payroll rate tax rate needed to make the system solvent increases every year) aren't raised, then the benefits are automatically cut by about 20% in 2035.

Medicare also faces funding shortfalls. A Republican proposal (Republican Study Commission 2023) has suggested cutting benefits by increasing full retirement age to 70. Based on their proposal, people born in 1978 or later would have a full retirement age of 70 which would be the highest in the OECD. They hope to blunt opposition by not having the proposed changes apply to current Social Security beneficiaries or people ages 55.

In India, pensions, or advanced savings for old age, along with living wages is practically non-existent in the informal sector. In 2020, the OECD predicts that normal pension age for earnings-related pension benefits from the Indian Employees' Pension Scheme is 58 years with a minimum of ten years of contributions.<sup>9</sup> About 12% of the workforce (or approximately 58 million people) are covered under various pension systems and they likely in the formal sector, such as employed by the government, government enterprises, and private sector enterprises. These employers are mandated to cover their employees in the Employees Provident Fund Organization. (Employers with 20 or more employees are covered by EPFO).

The remaining 88% of the workforce are mainly occupied in the informal or unorganized sector (self-employed, daily wage workers, farmers etc.) and some are small firms in the formal sector so are not mandatorily covered by the EPFO. The Public Provident Fund and Postal Saving Schemes are intended to be the alternative long-term savings instruments for those not in the large plans, but only a relatively small part of the uncovered sector saves voluntarily.

It is not surprising since an Indian pension system is practically nonexistent for most of the workforce that the Melbourne Mercer Pension Global Index ranks India's pension system 40 us of 44. Since India is the world's most populous nation, we can say that smoothing income for one's old age or disability is still very much the territory for rich nations. For comparison, the United States ranks 20 with a grade of C plus; the Indian system is a grade of D. There's some grade inflation in the index because no nation receives an F; even though the Indian system hardly covers any workers. The U.S. gets a boost in its score, though the U.S. benefits are deemed inadequate; they are well funded. Whereas, the French have very generous benefits the consultancy does not think that the French taxpayers will continue to pay for them. France is also marked C+. (Iceland, Netherlands, and Demark have the only As, according to the report "a first-class robust retirement income system that delivers good benefits, is sustainable and has a high level of integrity," Melbourne Mercer Global Pension Index, 2022).

In some ways China is more interesting since it has elements of an advanced capitalist state. And China, is always interesting because it contains a full 18% of humanity.

The Chinese reforms and movement towards individual accounts has been more decentralized and gradual. Initially, like in India, only urban workers and government

employees were enrolled in contributory social insurance type plans or PAYGO plans funded by the government. In the late 1990s, social insurance plans were developed for urban dwellers -- not just urban workers -- rural residents and workers. There is a separate advanced funded, individual contributory plan for government sector employees.

In deep contrast to India, China has reached almost universal pension insurance coverage, though the benefits are often low and vary across regions. Though the Chinese and Russian systems were somewhat similar in the 1990s, by 2020, China has different funds and rules for different geographical areas and groups.

The Mercer Melbourne index does not deal with China; India and China pension political economy is a wide-open field for research.

Russia has just one pension fund, covers less than half of the workforce had not reached universal coverage, and low benefits. In the early 2000s I interviewed Chinese government economists and lectured at two universities and wrote a report for the United Nations about the U.S. pension system for the Chinese government as they were exploring the possibility of instituting a federated Social Security system. They obviously rejected the idea for a decentralized system. Most of the economists I met were trained in English universities and the notion of an instituting a Keynesian social welfare state to serve in part as an automatic stabilizer was non-controversial, though most of these economists also had studied Marx in the Russian language.

Russia's reform path looked like the United States, in that it was moving towards a privatized, individual based system (Salnikov, 2022). In 2012, the Russian authoritarian government decided to replace their old defined benefits system, consistent with World Bank

advice. The system would tie pensions to workers' contributions (which was determined by their years of service and pay) and adjusted for the solvency of the entire system. In 2018, social unrest over low pensions encouraged the Russian government to implement reforms to raise pensions by 2021 and create the familiar individual funded accounts (Semenova, 2020). Since the invasion of Ukraine, the pension reform seems to be stalled or called off and with a declining prime- age population and

In China and Russia, elders are not expected to work past 60 for men and 50 or 55 for women. According to Remington (2019) pension spending in Russia represents about 7.5 percent of Russia's GDP and over 3 percent of China's.

Comparing the two nations is a good exercise to accentuate the point that the economics of pension reform are simple, and the politics are hard. The economics is that a relatively young nation with growing labor productivity and full employment policies for prime age adults will have a relatively easier time creating adequate and sustainable social insurance systems – partially advanced funded to smooth out demographic shifts – like China, than it is for a shrinking economy like Russia.

## **IX Conclusion**

Part of the myth that pensions are too expensive is rooted in the idea that society won't pay the price. But a society's tolerance and eagerness to pay for the increase in life expectancy with healthier and longer retirements with more spending is a political economy question, not a technical one. Technically spending on healthy retirement time is dependent on savings of the



generation in retirement and their claim on income of current workers. Pensions are cheaper when workers pay, and productivity is increasing.

Ironically, seniors and older workers may be experiencing the unintended consequences of what some might consider “progress” in aging. National policies to promote working longer are bolstered by decades of well-intentioned “active aging” or “forever young” movements that suggest aging doesn’t have real negative consequences. What appeared to enhance the dignity of older people by prohibiting mandatory retirement ages has become a justification to cut benefits.

In the United States the trend towards commercial, individualized, and voluntary accounts and away from an expanding Social Security system and defined benefit occupational systems have led to more retirement wealth inequality (Sabelhaus, and Henriques Volz 2019). The developments in all nations have led to more senior employment, some of it positive for highly educated well paid older workers who enjoy their jobs in which experience confers rewards and status. But for many other elders extended work lives create more proletarianization of elder labor.

Poverty rates among seniors enjoyed sustained decreases from the period after the 1970s but have remained stubbornly stable since the 1990s. People from lower socio-economic groups are at a greater disadvantage in the era of pension retrenchment and austerity because they spend fewer years in retirement, paying higher pension costs per year of expected benefits. This disadvantageous setting is magnified when average retirement ages are linked to average increases in life expectancy.

The ability of aging societies to pay for pensions depends on increasing output rather than the private saving rate and increased elder labor supply. The overall economic output of a society determines resources available to fund pension systems. If the economy is growing and the prime age labor force is fully employed and becoming more productive, there is generally more wealth generated, providing a larger pool of resources to support pension obligations. Depending on the private individual, saving will not be sufficient, especially in aging societies where a larger proportion of the population is retired and dependent on pensions. If economic output and productivity do not increase, solely depending on private saving rates could strain the pension system.

Governments can use pension funds to stimulate economic growth and productivity, like Singapore does to stimulate home building (Koh, 2016)

In summary, the ability of aging societies to pay for pensions depends on the broader economic context. Increasing economic output and productivity, coupled with well-designed policies, help support pension systems as the population age.

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#### Endnotes

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<sup>1</sup> Much political science research -- but very little in economics has been written on the varieties of pensions (Kohli 2011) until the 1990s.

<sup>2</sup> The OECD (2011) reports that the difference between a nation's average age of retirement and average life expectancy after the age 65 -- a good approximation of retirement time (Ghilarducci, Papadopoulos, and Webb 2019).

<sup>3</sup> Working longer for practical reasons is anchored in several what we call spread-sheet studies which are mechanistic models based on ideal behavior. One such study is by Alicia Munnell, Natalia Orlova, and Tony Webb in (2013) which was very optimistic about the benefits of working longer. Tony Webb, now my coauthor, and I found that the 2013 spreadsheet model used assumptions about human behavior and most people don't gain more financial security by working longer. The old models concluded people would be better off retiring at age 70 because they could save more and delay claiming Social Security. But most people claim benefits while they are working (Ghilarducci, Papadopoulos, and Webb.)

<sup>4</sup> The OECD calculates actual years work by taking the age half of the older labor force (over 50) leave the labor force minus 22 years.

<sup>5</sup> Ideally the average number of years worked is computed with actual data and stratified by socio-economic status. Those with fewer years of formal education usually start work at early ages and retire at early ages. However, the OECD may be missing some years. The OECD computes the average effective age of retirement as the average age of exit from the labor force during a 5 year period (Keese, N.D.).

<sup>6</sup> There are 37 OECD nations but OECD reports data for only 30.

<sup>7</sup> Such relief came during the early years of the Biden administration as part of pandemic relief “you alone are in charge of your retirement destiny,” the new theory goes, if you wind up in poverty in old age you only have your own inability to plan, save, invest to blame.” The victim is shamed and shame reduces political activity.

<sup>8</sup> The U.S. increases benefits by about 7% per year between age 62 and 70 and given *average* longevity increases most people would benefit, in terms of increasing their lifetime benefit payments if they waited till age 70 (Atlig, Kotlikoff, and Ye 2022). However, this presumably neutral deal, retire later and get a reward, is more likely relevant for higher-income more educated people with secure jobs. Most people collect reduced Social Security benefits by age 65. Only 10% of all recipients can wait until age 70; this provision has become regressive and not a widespread effective incentive to work longer. It is more an investment option for well-resourced households.

<sup>9</sup> Pensions At a Glance 2020, India <https://www.oecd-ilibrary.org/sites/65ba064c-en/index.html?itemId=/content/component/65ba064c-en> and the Global Pension Report <https://affairscLOUD.com/mercer-cfs-global-pension-index-2022-india-ranks-41st-iceland-tops/#:~:text=According%20to%20the%202022%20Mercer%20CFA%20Institute%20Global,o f%2039%20countries%20with%20a%20value%20of%2045.7..> Global Pension Index 2021: India’s pension system needs impetus to ensure adequate retirement income.