

Is the development of retirement savings a future-proof solution to population ageing? A fact-based Answer

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Submitted on : 26 / 11 / 2025

Accepted on : 19 / 12 / 2025

Published on : 31 / 12 / 2025

Abstract :

The development of funded pension schemes is often presented as a solution to demographic ageing, as it would enable people to save for the future without costing future generations, ensure that long-term savings are directed towards a growth economy, reinforce the contributory – and therefore deserved – nature of retirement pensions, and guarantee better management of social funds through competition between players in the savings market. After reviewing the various advantages presented by proponents of pension capitalisation, this article seeks to assess the effects of this discourse on the reforms underway in several countries facing ageing populations, particularly in Europe, before conducting a detailed review of the observed consequences of the privatisation of pension schemes in the countries concerned and comparing these consequences with the promises presented in the first part. This comparative study concludes that, with rare exceptions due to exceptional macroeconomic situations, capitalisation is no more a solution to demographic ageing than pay-as-you-go schemes, in the sense that it always involves a present or future levy on the real economy, i.e. on wealth, mainly derived from present or future work. It also reveals the various economic, social and political biases that are likely to add to the difficulties of operating the pension system in the event of massive capitalisation in the management of the fourth social security risk.

Keywords : Demographic ageing, pensions, funded schemes, privatization, reforms, social protection models.

Jel classification code : H55, O17, E65,

1. Introduction

Population ageing is a universal issue resulting from a widespread decline in fertility rates and an improvement in life expectancy. Identified at the beginning of the millennium by the

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United Nations with the launch of the International Plan of Action on Ageing at the Madrid Conference in 2002, the phenomenon affects all continents, including Asia, whose Kuala Lumpur Declaration on Ageing in 2015 reiterated the same concern. The decline in the working-age population relative to the inactive population—an indicator of the ratio between contributors and beneficiaries—forces social security institutions to rethink their approach, whether in terms of contributions, benefits, or eligibility conditions.

The United Nations estimates that the number of people aged 60 and over will rise from the current 960 million, or 13% of the world population, to 2.1 billion in 2050, and then to 3.1 billion in 2100, with Asia accounting for two-thirds of this increase. Europe currently has the highest percentage of people aged 60 or over (25%). But rapid ageing will occur in other parts of the world as well, so that by 2050 all regions—except Africa—will have almost a quarter or more of their population aged over 60. While it took France 115 years to reach a population in which 20% were over 65, China will undergo the same transition in 25 years, Singapore and Thailand in 22 years, and Vietnam in 19 years.

This set of challenges raises the question of alternative forms of financing social protection, particularly regarding pensions. It is in this context that the proposal for partial or total privatization of pension systems—especially through the development of funded schemes (retirement savings)—has been presented as a solution to demographic imbalances that are expected to intensify. During the 1990s, a doctrine heavily promoted by certain international institutions such as the World Bank and the IMF proposed a multi-pillar approach to pensions. These complementary and aggregated “pillars” were meant to reinforce the argument: beyond social assistance—considered the first pillar, financed collectively and designed to provide a minimum level of protection for the “bad risk” (those unable to finance their own social protection)—pensions could be financed through a system of pillars heavily oriented towards funding. The second pillar would consist of collective and mandatory capitalization, while the third pillar would be individual and voluntary, though supported by tax incentives (World Bank, 1994).

According to proponents of a financial-sector-based strategy to address ageing, funded pensions offer numerous advantages—only the most significant of which are retained here:

1. They would address the demographic pressure faced by pay-as-you-go systems, where contributions are immediately transformed into pension payments as the number of contributors decreases while the number of beneficiaries rises.
2. They would ease the burden on public budgets, which are in great need of relief.

3. They would encourage workers to extend their careers by strengthening the contributory nature of pension rights.
4. They would reinforce the economy, its stability, and its long-term growth by channeling long-term savings into investments that are structurally important for future development.
5. Finally, through healthy competition among financial operators, they would promote the emergence of best-practice pension fund management and the transfer of private-sector management techniques to risk coverage (BUISSON-FENET, 2003).

After the 2008 financial crisis, this doctrine receded into the background, to the point that the World Bank even reconsidered its position and, together with the ILO, emphasized the primacy of a common social protection floor over the establishment of retirement savings schemes (Hagemejer and McKinnon, 2013). Yet in recent years these proposals have reappeared on the policy agenda, especially in countries currently facing difficulties in balancing their public finances and addressing rising public debt.

In this context, the present article aims first (I) to revisit the doctrinal promises promoted by advocates of funded pensions as a response to the demographic and economic challenges facing ageing countries; second (II) to examine the convergence of pension systems in many countries—particularly Western ones—towards an increasing role assigned to retirement savings in various forms; and third (III), in line with the work of Peter Diamond and Nicholas Barr (2008, 2009), to develop a critical analysis of this convergence in light of its outcomes, within a teleological perspective that concerns not only pension systems but also, in accordance with the narrative of privatization advocates, the broader functioning of the economy.

2. Brief summary of the doctrine supporting the development of pension funds :

2.1. The supposed advantages of capitalization

Proponents of policies supported by EU retirement indicators present privatization as having triple benefits (Feldstein, 1998; Whitehouse, 2005; Holzman, 2005): by individualizing pension rights, it would encourage those able to do so to work longer, thereby increasing the contributory capacity of an equivalent population in a painless and “equitable” way. Contributions collected over a longer period and not immediately paid out as pensions would also strengthen long-term savings, which in turn would stimulate the productive economy through the investments they enable. Furthermore, unlike pay-as-you-go systems, funded

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pensions would constitute a response to the demographic ageing challenge by addressing the declining ratio between young people (aged 18 to 65) and elderly people (65 and over). It should be noted that this unfavorable evolution of the “demographic dependency” ratio is often presented in a simple demographic and historical perspective, without taking into account workers’ productivity—and therefore their actual contributory capacity—the labor force participation of women, the real activity rate of 25–65-year-olds, or the unemployment rate by age group in each period (Wöss and Türk, 2011).

Various theories, often derived from microeconomics, justify increasing retirement savings in the context of population ageing. For instance, the “life-cycle” hypothesis according to Alfred Sauvy (1986) or Franco Modigliani and Richard Brumberg (1954) assumes a certain stability of consumption over the life span. At the beginning of adulthood, an individual’s income is low, below their consumption needs, which implies dissaving and borrowing. During working life, the individual can repay debts and accumulate savings to finance consumption in old age. European population ageing can therefore explain this increase in savings, which would ultimately also benefit investment. Pay-as-you-go pension schemes can, in this context, act as a constraint on this life-cycle savings logic: this is the “crowding-out” effect theorized by Martin Feldstein (1974), who argued that the existence of a pay-as-you-go pension system would reduce overall savings and thus investment (a theory contradicted by a quick comparison between French, Italian, or Belgian savings rates on the one hand and the U.S. on the other).

In the same logic, Irving Fisher (1906) posited that capital is the present value of an expected income stream. Its proper management requires diversification, according to portfolio theory between “diversifiable” and “systemic” risk (Jacquillat and Solnik, 1990), aiming to multiply the types and locations of investments in order “not to put all one’s eggs in the same basket,” depending on investors’ age (Casey, 2004).

2.2. The promotion of this doctrine by international institutions and financial opinion leaders

Supported by the World Bank’s so-called “three-pillar” model (World Bank, 1994), whose main purpose was to contain the costs of the welfare state and support financial markets (Ebbinghaus, Orenstein, and Whiteside, 2012; Holzmann, 2012), the retirement savings industry—intended to cover all or part of the second and third pillars—fully benefited from the consensual normativity promoted by the Bretton Woods institutions and echoed in Europe through the governance of the European Union. This was particularly the case in Central and Eastern European countries (see Box 1, based on Fultz et al., 2002–2006).

Box 1 : Reforms under Influence in Eastern Europe**

After the collapse of communism, the “Manchester liberal ideology” (Ferge, 1997) spread throughout Eastern European countries. Supranational agencies acted to steer the countries in this direction, and the extent of their success depended on the economic and sociological conditions of the countries involved.

The most influential of these agencies were the International Monetary Fund (IMF) and the World Bank (WB), which were used as powerful instruments to propagate the “Washington Consensus.” In summary, the Washington Consensus describes the liberal spirit of “free enterprise” and “less state, more jobs” that prevailed in the 1990s. It proposed a program that reduced public spending by concentrating benefits on the “truly needy” and promoted the market as an efficient solution for those able to access it. Such a solution was presented as a way to reduce the pressure of pensions on public expenditures and to strengthen the stability of their financing.

A distinction was made between civil and political rights and positive social rights (Marshall, 1950), the latter being more difficult to define and protect. Today, however, we observe growing intervention from other international bodies, such as the European Union or the OECD, which sometimes moderate this evolution. In the pension domain, the Chilean model, which replaced under General Pinochet’s administration the former pay as you go defined benefit scheme by private funded defined contribution schemes, was presented as an example by the WB, which also suggested replacing existing pay-as-you-go schemes with a three-pillar model: the second and third pillars organized as privatized funded schemes, individualized for the third pillar, and based on defined contributions (World Bank, 1994).

Why were the WB and IMF so influential?

Beyond their advocacy power, supported by British and U.S. administrations in the triumphal context of the end of the Cold War, they could grant international loans and conditioned their disbursement on compliance with certain requirements. As Andràs Köves (1992) reported, “financial aid was explicitly subject to IMF conditionality.” This situation was regretted by Raymond Barre, former French Prime Minister, who was tasked by the Institute of Far West Studies to evaluate and recommend an aid strategy and called for more flexibility in IMF conditionality.

For example, the structural adjustment loans granted to Hungary in 1990 and 1992 came with social conditions linked to the release of funds. This explains why Hungary reformed its pension system so quickly, initially reshaping it according to the three-pillar model.

The influence of the WB and IMF actually depended on several factors:

- **The country’s overall level of external debt:** Hungary and Poland were heavily indebted and thus followed the recommendations of these agencies diligently, as they strongly needed budgetary support and good ratings from international rating agencies to obtain fresh external funds and prevent the spread of disorder.
- **The “implicit debt” of pay-as-you-go pension schemes:** Any privatization of such a system would entail a fiscal cost, which prevented Slovenia (with low external debt) from fully complying; this fiscal cost was, however, initially underestimated.
- **The existence of genuine national social dialogue:** Again in Slovenia, the presence of a formal tripartite assembly (Economic and Social Council) obstructed the reformist drive to implement a WB scenario.
- **The presence of an influential internal transmission agent willing to adopt neoliberal plans:** Usually the Finance Minister; radical reforms did not occur when the Ministry of Social Affairs—often inclined toward Bismarckian or Beveridgean traditions—was the only relevant actor

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responding to the doctrine promoted by, among others, European indicators; this was not the case in Hungary or Poland.

- **Contacts or lack thereof between trade unions and political parties:** In both the Czech Republic and Slovenia, unions were close political allies of social-democrats, capable of providing effective counter-arguments.
- **Contacts or lack thereof with European unions:** Slovenian unions were in close contact with their German counterparts.
- **National trust in the banking system:** This was low in several Central and Eastern European countries.

In conclusion, the IMF and WB had more influence on heavily indebted societies (Hungary, Poland) and less influence on countries with stronger socio-economic development (Bulgaria, Romania), compared to nations with a solid industrial, economic, and social dialogue history (Slovenia, Czech Republic). The influence of these two international agencies was even strengthened by the silence of other actors, such as the ILO, the EU, or the OECD. For example, the ILO's role was negligible in Hungary, which is surprising given that its Central and Eastern Europe team was based in Budapest. The European Union focused on its economic "convergence" policy, i.e., "the convergence of economic balances to prepare for entry into the European Monetary Union," and was content with an invocatory social policy based on recommendations, communications, and various colored books (green, white, etc.; see Pieters, 2003, on the "verbalism" policy), even though in practice it reinforced, through its budgetary and competition governance tools, the discourse promoted by the WB and IMF.

Today, the European Commission promotes indicators such as the "financial gap indicator," which considers public pensions solely as an expenditure item. The benefit ratio (European Commission, 2015) used to assess pension adequacy aggregates social assistance benefits with contributory social security benefits, thereby downplaying the latter. This average is then compared to the average income of all employed individuals, regardless of employment status. Such a methodology tends to lower the reported replacement rates after a full career and minimizes differences between pension systems. For example, France is presented with a benefit ratio of 50%, whereas its general scheme actually provides an average replacement rate of around 70% after a full career. Overall, these calculations support the narrative that private, supplementary pensions are needed to address old-age risks. Yet for most retirees—particularly those in the first seven income deciles—this approach does not significantly increase actual benefits, as modest non-contributory social assistance payments pull down the averages.

Similarly, indicators presented as neutral and scientific appear in many studies promoting the growth of pension funds. Beyond the European Union, the *Pension Index* developed by the Mercer CFA Institute, in partnership with the World Bank, ranks Iceland, the Netherlands, and Denmark—countries heavily reliant on funded schemes—as having the best pension systems. France, by contrast, ranks 21st, far behind countries such as Chile, which ranks 16th despite evident structural weaknesses and recent social unrest linked to low pension payments. Notably, adequacy in this index is calculated for a hypothetical worker

who has never experienced unemployment, sick leave, or maternity leave, whose career has been uninterrupted, whose savings have never suffered from crises, and who retires at around 80 years of age (Mercer CFA Institute, 2021).

Ultimately, regardless of the type of reform—structural, as in Sweden’s transition to a “notional accounts” system (Palme, 2003) or Chile’s individual accounts system (Mesa Lago, 2006), or parametric and incremental, as in Germany (Wörz, 2011) and France (Palier, 2010)—the outcomes converge toward the same logic. All reforms promote the “actuarialization” (Palier, 2010) of pension systems, shifting them away from territorially-grounded intergenerational solidarity. While actuarial calculations can be valuable scientific tools, this trend tends to weaken the political and collective dimensions of pension policy and favors the expansion of retirement savings tied to financial markets beyond the national economy.

3. The development of convergent influence-driven reforms encouraging supplementary retirement savings in many countries

The orientations derived from the doctrine favoring capitalization, reinforced by the use of consensual indicators in dedicated forums, have led many states to implement policies that almost perfectly follow the four steps identified by Bruno Palier (2010) in the typical reform process: 1) diagnosis of the current situation, questioning the instruments chosen in the past; 2) development of solutions in opposition to past practices; 3) adoption of new measures based on an ambiguous consensus; and 4) incremental development, through successive transformations, of a new model gradually approaching the objective, relying on automatic mechanisms that result in a reduction in the size of public pensions and the “de-commodification” ethos underlying them.

As Bruno Palier rightly points out, these reforms follow a logic of “actuarialization” of social insurance, progressively bringing them closer to individual private insurance by shifting from a political vision of territorially and corporately grounded intergenerational solidarity to an accounting-based understanding of income and financial outflows considered under scenarios deemed plausible. In this sense, they follow international accounting standards, such as IFRS, which require states, like companies, to integrate the implicit debt of future pensions into their balance sheets as provisions for future liabilities. This gradual commodification of social protection systems, characterizing a broader trend (Pierson, 2001), has consequences not only for perceptions of these systems but also for the overall functioning of society. At the EU level, for instance, one can clearly observe the efficiency of governance in favor of partial capitalization of pension risk: all reforms guided by compliance

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with EU indicators steer public action toward a common scenario, where the correlation between contextual prerequisites and sustainability elements is almost systematic. The commodification of pension risk thus results in reforms with ultimately similar consequences: social protection for older persons, presented under a supposedly neutral, technical, and regularly “monitored” approach, is oriented toward the development of new “retirement-focused” financial markets, potentially increasing inequality. These measures include (Ageing Report, 2021):

Increasing the effective retirement age, through:

- The closure or drastic reduction of early retirement schemes (France, Netherlands, Sweden, Germany, Poland, Italy, etc.);
- The increase of the legal retirement age: although the effective retirement age rises more slowly due to a higher prevalence of disability at older ages, or the cost of older workers leaving the labor market being initially shifted to unemployment schemes (Netherlands, Germany, France, Italy);
- The increase in the required contribution period (Germany, France, Italy, Sweden, Poland, United Kingdom); according to DG ECFIN (European Commission, 2021), the average minimum contribution years should rise from thirty-four in 2014 to thirty-eight in 2060;
- The introduction of bonus-malus schemes to encourage late retirement in the eighteen EU countries;
- In countries with notional or point-based systems, the abolition of a mandatory retirement age (Sweden, Poland, Italy).

Reducing the level of pensions provided by public schemes, through:

- Extending the reference salary period: in France, it now covers the twenty-five best earning years, while in eighteen EU member states it includes the entire working life, automatically lowering pension amounts by reducing the reference salary on which it is calculated;
- Indexing deferred salaries in pension accounts to less favorable variables (initially to wages, more favorable, then to inflation, less favorable, or only partially, or finally not at all) (France, Germany, Italy);
- Indexing pensions to less favorable variables (initially wage growth, then price growth, less favorable but maintaining purchasing power, then below that, progressively reducing retirees’ purchasing power throughout retirement) (France, Germany, Italy);

- Harmonizing pension schemes to the general private-sector scheme, generally less generous than certain special schemes (France, Italy);
- Developing defined-contribution systems through notional or point-based accounts, shifting risk to the individual, charging management fees, and indexing the notional or real capital to a deliberately reduced variable to cover management costs (United Kingdom, Netherlands, Poland, Italy);
- Introducing “sustainability factors” into pension amounts based on the overall economic situation (Germany, Sweden, Italy);
- Implementing automatic mechanisms to adjust pensions according to life expectancy (Italy, Sweden), as well as various other automatic balancing mechanisms for pension systems (fourteen EU member states have implemented such systems).

4. Significant increase in the individualization of pension rights... and risk

Despite a budgetary constraint favoring austerity centered on European monetary stability, public support for social protection remains strong. This leads more to compromise policies than to radical reforms (Pierson, 2002). The repetition of a discourse on shared sacrifices for the common good is, moreover, a step in the search for consensus (Clarke and Newman, 2012; White House, 2010). This logic of a balanced distribution of effort is accompanied by an expressed intention to reduce disparities and harmonize pension systems, generally toward the less generous schemes. The discourse on ending privileges granted to certain schemes—typically state or national enterprise schemes—has thus led to various convergent reforms in France, Sweden, and also Romania, for example. The same applies to the “advancement” of implementing the same retirement age for men and women, aligning women’s originally lower retirement age with that of men, without sufficiently considering the specific conditions of women requiring compensation (subordinate work, part-time employment, domestic or family responsibilities...). This pursuit of consensus and shared effort under legal equality has paradoxically led to a greater individualization of risk, notably through the systematic shift from defined-benefit systems to defined-contribution systems, where it is the individual rather than the collective who bears the risk of pension rights depreciation (Casey, 2012), regardless of funding methods. This model had already been adopted in the United States, where defined-benefit plans fell from 62% to 10% between 1979 and 2004, while defined-contribution plans rose from 16% to 63% of existing proposals (Harrington Meyer, 2013).

After the burst of the Internet bubble, individualization also expanded in supplementary pension schemes, with a transfer from defined-benefit pension funds to defined-contribution funds. Most British pension funds, for example, closed their defined-benefit schemes to new

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members, and by 2014 only 14% of defined-benefit funds were still open to new members (BOE, 2014), the rest being shifted to defined-contribution plans where the financial risk fell entirely on the individual. A 2015 Towers Watson study shows that in the seven countries with the most powerful pension fund industries (United States, United Kingdom, Netherlands, Canada, Japan, Switzerland, Australia), the share of defined-contribution pension funds in total assets rose from 38.9% to 46.7% between 2004 and 2014 (Towers Watson, 2015).

Using terminology developed in the 1970s by Albert Hirschman, the multipillar model established by the World Bank seems to operate as a mechanism that subverts “loyalty” to social insurance by reducing its importance in favor of alternative, individual “exit routes,” offered to groups presented as “winners,” with sufficiently high incomes to be considered good risks, following the logic of “I want my money back.”

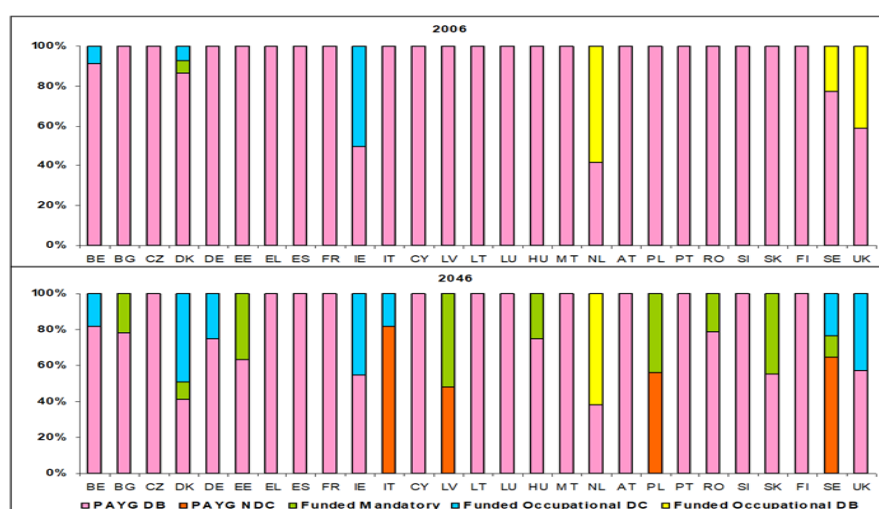
As noted, many EU countries have implemented automatic systems for adjusting pension amounts based on demographic ageing, life expectancy, and/or the economic context. Sweden, Spain, and Germany have gone furthest: Sweden reduced indexation of deferred contributions in the case of medium-term imbalances, Germany did the same while also adjusting contribution levels, and Spain has followed since 2013 with reduced pension indexation in case of financial imbalance. Other countries have introduced a simple link between retirement age and life expectancy (Italy, France, as well as Greece, Slovakia, and Finland) (Brumm, Czaplicki et al., 2025).

Finally, there is a growing trend to argue for the elimination of survivor pensions and derived rights, on the grounds that these indirect rights perpetuate an outdated paternalistic family model. These pensions, which mostly concern women, are said to be incompatible with more egalitarian societies where female labor force participation converges toward that of men, in a broader movement toward social justice that these derived rights would delay, by disincentivizing women’s work (Freudenberg, Zwinger, and Kapuy, 2022). This perspective conveniently ignores, in the name of formal equality, the qualitative and pay differences between professional functions performed by men and women—women being far more often responsible for unpaid family, support, and caregiving tasks—as well as the essential role of survivor pensions in preventing women’s poverty.

4.1. Development of notional accounts or points-based systems (“defined-contribution”) completing and finalizing this individualization

The modeling of notional accounts systems, which remain essentially pay-as-you-go, aims to preserve the memory of contributions made and ensure their full repayment with interest determined by national economic growth, taking into account the insured's life expectancy and retirement age. This approach has the advantage of simulating a financial savings scheme while opening the possibility of partial capitalization of pension funding, the share of which can be gradually increased for a “painless” financialization of pensions, with insured individuals accustomed to viewing their contributions as savings (Feldstein, 1998).

Fig 1. Convergence in the Evolution Toward Defined-Contribution and Funded Pension Schemes in Europe



Source: UE, 2011

Here we can clearly see a convergence between the various reforms carried out, from defined contribution pay-as-you go schemes towards defined contribution schemes, placing the risk on the individual and opening the door wide to funded solutions. These orientations have led to a widespread increase in the average retirement age (European Commission, 2021a) and a noted reduction in the overall level of public pensions despite demographic ageing: -2% of GDP in Croatia, Denmark, Latvia, Italy, France, as well as Greece, and at least -0.5% in Sweden, Poland, Estonia, Spain, and Portugal. The “replacement rate” (the ratio of pension level to pre-retirement earnings) is logically expected to decline (Carone et al., 2016): it decreases by 10% or more in Portugal, Romania, and Sweden.

4.2. Massive Implementation of Pension Funds and Retirement Savings Solutions

To compensate for this decline in public pension replacement rates, the growth of pension savings has been substantial. Between 2001 and 2012, the share of capital managed by pension funds within the OECD rose from 67.3% of GDP to over 72.4% (OECD, 2012). Today,

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it stands at 100% (OECD, 2021). This figure continues to increase, despite the slowdown in real growth linked to the COVID-19 crisis.

In Central and Eastern European countries, the adoption of World Bank guidelines and the implementation of pension funds—which siphoned off part of the contributions from pay-as-you-go pension systems without necessarily funding the remaining “transition costs” or “double payment” problem—pushed these systems into deficits that had to be covered by reducing members’ pension rights (Drahokoupil, 2012), in turn encouraging further growth of pension funds in most cases... or their rejection, as in Hungary. Roughly extrapolating Polakowski’s (2018) work, more than 20% of the GDP of the affected countries over ten years may have been directed toward unnecessary transition and administrative costs, which could have been avoided or allocated to other objectives.

These measures have gradually challenged the existing consensus on pensions (Germany, Italy) and allowed a departure from the “path dependency” created by numerous old defined-benefit pay-as-you-go pension schemes that prevailed in Europe until the 2000s. This shift enabled the emergence of EU-supported retirement savings solutions, for which the Union has competence under the single (financial) market.

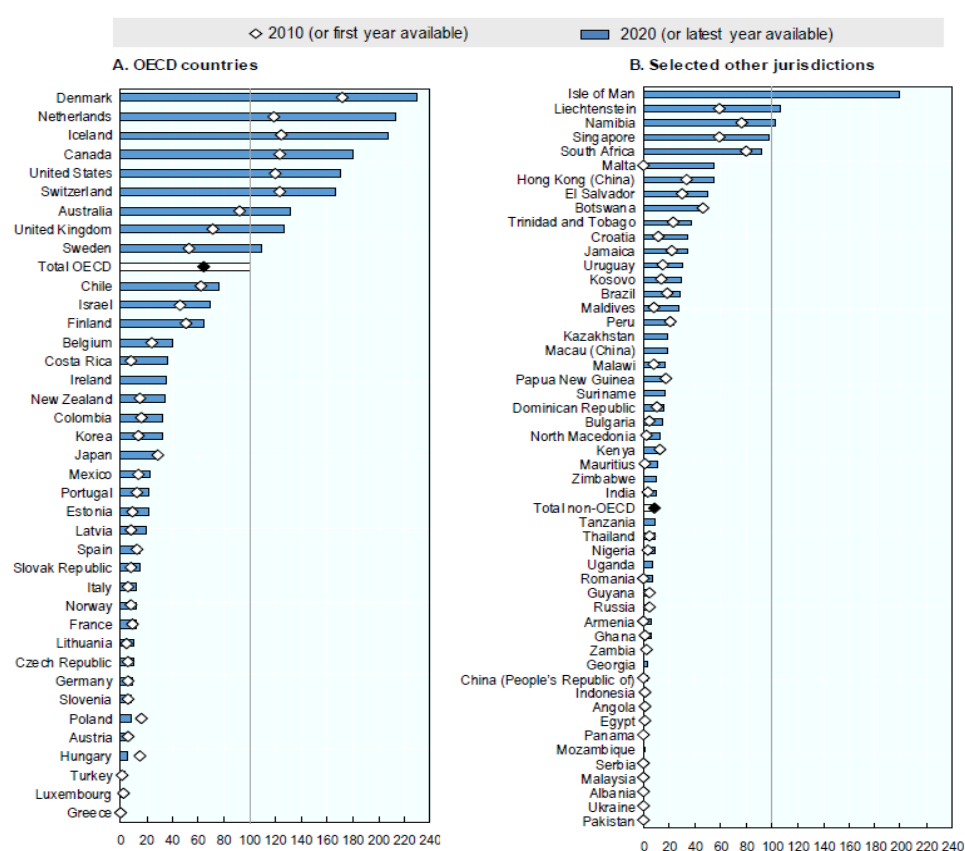
The development of pension funds (older for the United Kingdom and Netherlands, more recent for Sweden, Poland, Germany) or retirement savings schemes (Italy, Hungary, France) has become widespread and even accelerated paradoxically after the 2008 financial crisis, which triggered a sovereign debt crisis after states rescued struggling banks. This unforeseen event facilitated the widespread adoption of previously debated solutions, namely the partial allocation of pension promises to private institutional systems to relieve states of a burden, especially since it was publicly monitored. These measures have led the European Commission’s Directorate-General for Economic and Financial Affairs (DG ECFIN) to note a significant reduction in the financial dependency ratio (the ratio of contributions paid to pensions to be paid) of public pension schemes, partially compensating for the demographic dependency ratio (the ratio of the working population to the retired population) of member states (European Commission, 2021). But does this mean the objective has been achieved?

Five years after the post-2008 crisis—and even though this crisis stemmed from the poorly controlled growth of the financial industry in its promise of monetizing future time—the coverage rate of retirement savings systems had increased by nearly one-third due to “voluntarist” policies implemented by Union governments. These ranged from automatic enrollment of workers in pension fund systems (Hungary, Sweden, Poland) to tax incentives (tax reductions) favoring “voluntary” contributions, partially or fully reducing taxes for the

wealthier (Poland, Germany, United Kingdom, France), redirecting income to their own savings, and thereby increasing pension rights polarization (Ginn, 2013; Casey, 2014). This trend has been particularly pronounced in new member states and peripheral economies of the Union, which adopted scenarios close to World Bank recommendations, entrusting a substantial portion of pension promises to private retirement savings schemes: Bulgaria, Estonia, Croatia, Lithuania, Latvia, Hungary (temporarily), and Poland implemented mandatory private individual retirement savings schemes. In Cyprus and Slovenia, company-based funded schemes were made mandatory. Simultaneously, as usual, old defined-benefit pay-as-you-go systems were replaced by points-based systems (Croatia, Cyprus, Romania, Slovakia) or notional accounts (Poland, Romania, Latvia).

As a result, the size of pension funds has grown dramatically : in the United Kingdom, from 14% of GDP in 1962 to 90% in 2012, reaching 123% today; in the United States, from 13% in 1962 to 70% in 2012, and 160% at present; in the Netherlands, 220%; and in Switzerland, 180%. Naturally, the influence of this industry on policymakers increases with its scale, making it difficult to break free from this “path dependency.”

Fig.2- Size of Retirement Savings Plans Relative to GDP, 2010 and 2020



Source: OECD, 2021b.

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This graph shows the continuous increase in assets held by retirement savings schemes, which far exceed the GDP of many countries, particularly within the OECD. So, we can say that these retirement savings plans can take various forms. Only a portion of them consists of pension funds, whose relative size within retirement savings plans has evolved over time. For instance, while pension funds continued to grow proportionally and in parallel with other retirement savings plans in the United Kingdom and the Netherlands, this was not the case in Hungary and Poland during the more or less drastic recalibrations of these plans, nor in Sweden after the 2008 crisis and the scandals involving the management of supplementary pension funds. However, the regressive nature of these reforms from a redistributive perspective has led to rising social discontent. In several countries, this has frequently resulted in the election of governments opposed to solutions aligned with the consensual orientations promoted by governance through European indicators, as well as the development of “counter-reforms” or re-reforms, such as in Poland, the annulment of reforms in Hungary, or the election of protest movements in Italy.

5. Critical assessment of the increase in funded schemes within the financial structure of pension systems

With the benefit of hindsight, pension reforms can be critically assessed from social, economic, and governance perspectives. On the social front, these reforms have contributed to rising inequalities. The individualization of contributory pension schemes, combined with a focus on wealthier individuals—who are better positioned to take advantage of incentives such as tax breaks for long careers and retirement savings—has weakened the redistributive function of pensions. This intensifies social risks for lower-income groups and can perpetuate, or even amplify, cumulative disadvantages at retirement.

The resulting shift in value distribution has also increased job insecurity, particularly for those engaged in gig or precarious work, who face difficulties in accumulating adequate pension entitlements. Meanwhile, wealthier individuals benefit from easily accessible, and sometimes subsidized, savings opportunities that align with the main objectives of prevailing pension indicators. Efforts to restore budgetary balance by tightening public social protection have disproportionately affected the lower-middle classes and reduced their consumption. Following the subprime crisis, such measures have been described as a “social punishment for the crimes of the wealthy,” imposed broadly on the population except for those responsible. Across EU countries, mandatory pension entitlements were reduced in various ways after the debt crisis triggered by state support for banks: siphoning off reserve funds (Ireland), lowering pension benefits, altering indexation rules, raising the retirement age, and restricting early retirement options.

Some countries implemented cuts across all pension levels (Austria, Germany, Italy, Portugal), whereas others protected lower-income groups by expanding means-tested schemes to offset reductions in contributory pensions (Sweden, Finland, France, and the United Kingdom). In certain cases, pensions were frozen (Finland, Greece, Slovenia), while in others, entitlements were reduced through lower indexation or even cuts to pensions already in payment (Sweden, Norway, the UK). At the same time, measures were introduced to encourage older workers to remain in the labor market longer—a prospect more feasible for professionals than for physically demanding occupations—through tax reductions (Sweden), exemptions from social contributions (Portugal, Germany), higher penalties for early retirement (Greece, Hungary, Italy, Austria, France), or the elimination of early retirement options for specific worker categories (Portugal). These reforms have also tended to exacerbate gender inequalities, disproportionately affecting women.

Income polarization has, in turn, contributed to an increase in poverty among the elderly. Solidarity-based, redistributive, and de-commodified pension systems have historically played a crucial role in mitigating poverty, as evidenced globally, including in the United States. However, the reforms studied in countries such as Germany, Sweden, and the United Kingdom have delivered disappointing results in terms of reducing elderly poverty.

Table 1. Poverty Rates of People Aged 65 and Over in Selected Countries in 2020

United Kingdom	Netherlands	Sweden	Poland	Italy	Hungary	Germany	France
Age 65 and over	23%	11.8%	16%	18.5%	13.4%	14%	20.1%
Age 18–65	18%	13.1%	15%	15.8%	19%	12.4%	16.1%

***Definition of poverty :** less than 60% of the median income.

Source : Eurostat, 2022.

This comparison shows that countries that have implemented reforms are not necessarily those with the highest poverty rates. However, this is also due to their relative wealth. In terms of dynamics, however, there has been an unfavourable trend for pensioners in countries that have implemented reforms favouring retirement savings schemes, which, as in the Netherlands, require high contributions. These reforms lead to greater income polarisation among pensioners. Thus, as seen in Sweden, the combination of tax incentives that allow higher earners to contribute more to state costs and the possibility of later retirement for managerial or intellectual professions (less physically demanding and better paid) leads to an anti-redistributive logic: in Sweden, when a median-income worker reaches the end of their career, their pension corresponds to a gross replacement rate of 50% of their income, whereas a manager earning twice the average income will receive a pension with a

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gross replacement rate of 150% (i.e., a pension roughly six times higher than that of the median worker). This phenomenon of accelerated income polarization in retirement results from a structural bias.

Table 2. Replacement rate in Sweden depending on individual earnings

Men Women (where different)	Individual earnings, multiple of average					
	0.5	0.75	1	1.5	2	3
Gross relative pension level (% average gross earnings)	31.2	46.7	62.3	108.5	152.8	241.4
Net relative pension level (% net average earnings)	41.8	59.3	76.7	126.5	159.6	221.4
Gross replacement rate (% individual gross earnings)	62.3	62.3	62.3	72.4	76.4	80.5
Net replacement rate (% individual net earnings)	66.5	65.3	65.3	80.2	82.9	84.4
Gross pension wealth (multiple of individual gross earnings)	10.8	10.8	10.8	12.6	13.4	14.1
Net pension wealth (multiple of individual net earnings)	11.8	11.6	11.6	14.2	14.7	14.9
	12.8	12.6	12.6	15.4	16.0	16.2

Assumptions: Real rate of return 2.5%, real earnings growth 1.25%, inflation 2%, and real discount rate 1.5%. All systems are modelled and indexed according to what is legislated. Transitional rules apply where relevant. DC conversion rate equals 90%. Labour market entry occurs at age 22 in 2022. Tax system latest available: 2022.

Source : OECD Pensions at a Glance, 2023, Sweden

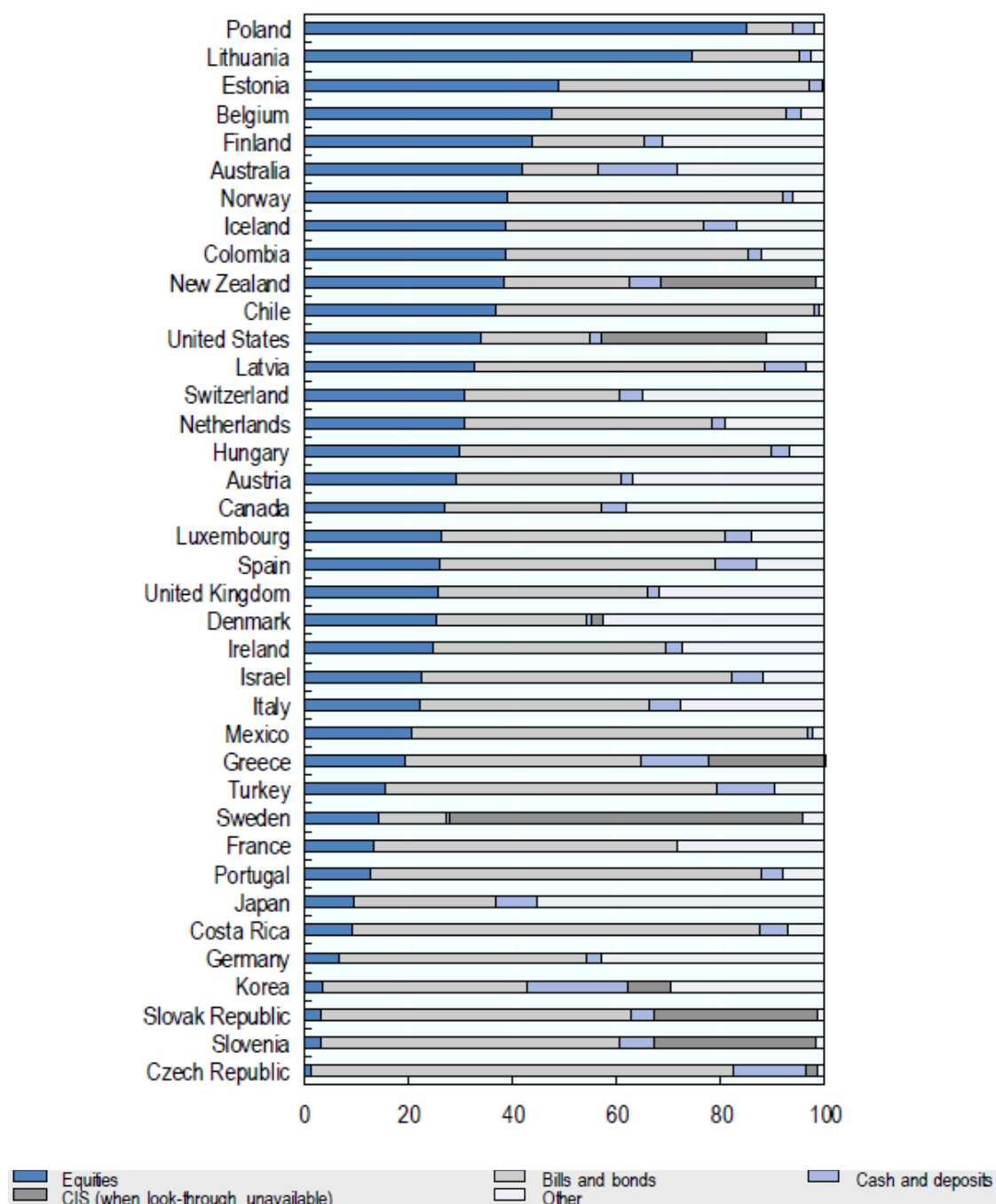
5.1. Economic perspective : lack of conclusive evidence

From an economic standpoint, the impact of pension capitalization remains highly debated. While funded schemes are often promoted as a solution to the financial pressures associated with aging populations, evidence suggests that their effectiveness is limited. In particular, capitalization faces significant challenges related to demographic sustainability, cost efficiency, and broader economic growth. The following part explores these issues in detail, examining why funded pension schemes alone may not provide the anticipated benefits.

5.1.1. Capitalization does not, by itself, provide a solution to demographic challenges.

The following figure illustrates how pension funds allocate their investments :

Fig.3 Distribution of retirement savings plan assets across selected asset classes and investment vehicles, 2020 or latest available year



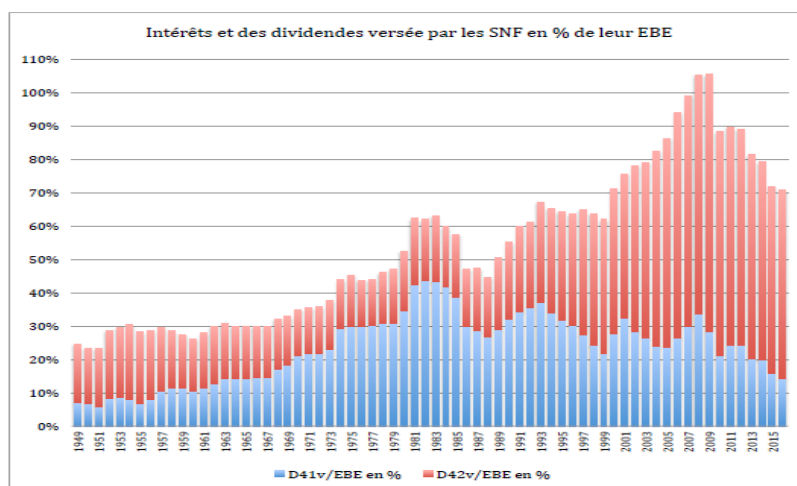
Source : OECD, 2021b.

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When examining the investment allocation of pension funds (see above), it becomes clear that a large share of retirement savings is actually placed in government bonds (depicted in gray). This investment strategy essentially channels the funds collected by pension schemes into financing the state budget, creating a reliance on tax revenues and overall economic activity—functioning in a way that resembles a pay-as-you-go system, but involving multiple states and higher transaction costs than the direct intergenerational transfers of traditional pay-as-you-go pensions. Consequently, the “invested” funds impose threefold costs on the state: first, the fiscal outlays supporting contributions; second, debt servicing; and third, fees from the financial intermediation process.

In practice, wealth continues to be extracted from the labor of current workers to finance pensions—whether through contributions within a territorial system, as in pay-as-you-go schemes, or through financial charges on assets managed by pension funds. This principle also applies to mutual funds, SICAVs, hedge funds, and similar vehicles, though with additional distortions that will be discussed later. Overall, corporate financial charges tend to rise in line with the shifting distribution of gross operating surplus (EBE) toward capital, as illustrated in the case of France below.

Fig 4. Interest from dividends paid by non-financial corporations as a percentage of their gross operating surplus (EBE)



Source : INSEE, 2017, cited in Blanc, 2018.

From a demographic standpoint, there is essentially no fundamental difference between pay-as-you-go and funded pension systems: in both cases, retirement benefits are financed from real economic activity. The younger generation invariably supports the older generation; what varies is only the method of intermediation—administrative management in the former,

market-based investment in the latter—and the associated externalities, such as consumption smoothing versus potential investment in the real economy.

5.1.2. Capitalization increases administrative and management costs in pension schemes

A clear example is the partial privatization of the British pension system, where it was found that fees charged by financial institutions managing retirement savings—intended to complement existing pensions and promote equity—actually reduced long-term benefits by around 40% due to the cumulative effect of annual charges (Murthi, Orszag, and Orszag, 2001).

Similarly, in Hungary, Poland, and other new EU member states, pension fund management fees can be substantial. These charges occur at multiple points in the participant's engagement with the fund, including entry, management, exit, and transfer fees. They serve to cover the operational costs of profit-driven funds, including high banking-sector salaries and extensive marketing and communication expenses. Many of these funds are subsidiaries of Western financial firms, which extract significant returns to cover their own obligations and operational costs—not only through dividends but also via payments for intellectual property, advisory services, branding, and support to the parent company. This arrangement is facilitated by the free movement of capital under European regulations and often leveraged for tax avoidance, enabled by tax competition among member states (OECD, 2021). Comparable practices have been observed in several Latin American countries (Mesa-Lago, 2009). Consequently, the traditional notion that “today's profits become tomorrow's investments and the day-after-tomorrow's jobs” is increasingly undermined, as a growing share of profits is redirected to the financial sector itself, which captured up to 42% of profits just before the 2008 crisis, compared to 25% in the early 1980s (IILS, 2009).

5.1.3. Capitalization does not boost growth

The moderation of labor income in favor of profits has failed to stimulate investment growth. In advanced economies, the share of gross fixed capital formation in national income has generally declined (IMF, 2010a), and just before the subprime crisis, the financial sector captured around 40% of corporate profits (Stiglitz, 2014).

Financialization has also reshaped the distribution of value added. Whereas Okun's law (Okun, 1963) posits that three points of economic growth typically reduce unemployment by one point, this link between wealth creation and job growth has weakened since the 1990s (Cazes and Verick, 2011). Similarly, ILO data for 115 countries (ILO, 2010) show that in advanced economies, real incomes grew by only 5% during the first decade of the 2000s, while per-worker productivity doubled, rising 10.3%. Despite steady economic growth and productivity gains of 1–2.1% annually between 2002 and 2007, average real wages barely increased, rising less than 1% per year.

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This divergence between growth and unemployment, and between income and productivity, is largely due to a growing share of profits being absorbed by financial obligations such as dividends and debt repayments. Consequently, the portion of profits reinvested in gross fixed capital formation has declined, while real incomes for workers in traditional sectors have fallen. In European industry, the share of profits allocated to wages decreased between 2000 and 2010 in 26 out of 29 countries with available data.

Income inequality has risen significantly, with persistent gender disparities. According to the ILO Global Income Report (ILO, 2018), the gap between the top and bottom income deciles widened in over two-thirds of countries between 2000 and 2018. The proportion of low-paid workers also increased in more than two-thirds of monitored countries, including most EU member states (Ederer and Rehm, 2020).

This trend, combined with the phenomenon of “retirement polarization”—as seen in Sweden’s notional accounts system and other defined-contribution schemes incentivizing additional private savings—exacerbates pension inequality and increases relative poverty among retirees.

The expansion of financial markets through pension fund growth was initially intended to promote long-term investment in the real economy, improve resource allocation, boost productivity, and support overall growth (Davis, 1995; World Bank, 1994). However, financialization has largely failed to deliver these outcomes. Instead, European economies have experienced stagnation for decades, with crises and shocks occurring more frequently (Sawyer, 2013, 2014; Vercelli, 2013).

The negative impact of income polarization on the average marginal propensity to consume—and therefore on the Keynesian multiplier—has become increasingly apparent. Scholars now highlight the adverse social and political consequences of financial sector growth (Stockhammer, 2012). Pension polarization imposes broader societal costs, including insufficient consumption, over-saving, and inefficient transmission of capital and knowledge (Stiglitz, 2014). From a post-Keynesian perspective, this polarization also fuels recurrent financial crises, as competition among financial actors for short-term profits increases systemic risks that are borne by others (Stockhammer, 2011). These economic consequences are particularly severe in regions like the eurozone, where growth is demand-driven and reliant on domestic consumption for medium-term stability (Stockhammer, Onaran, and Ederer, 2009).

Moreover, for most large EU member states—except Germany—the temporary competitive advantage gained by shifting income toward capital at the expense of labor does not offset the negative effects on domestic demand and growth stability (Onaran and Galanis, 2012). Economic imbalances resulting from unequal and inefficient income distribution remain unresolved (Rajan, 2010). Neo-Keynesian economists therefore argue that a distribution of income favoring financial capital is detrimental to stable, sustainable growth.

Box 2: Positive externalities for growth of redistributive income policies

It is universally acknowledged that, in the standard economic model, aggregate demand y is equal to the sum of consumption c , investment i , and net exports nx . Incomes w affect these three components as follows:

$$y = f(w) = g(c(w), i(w), nx(w))$$

Aggregate demand is linked to income if an increase in income, *ceteris paribus*, leads to an increase in aggregate demand :

$$\Delta y / \Delta w = \Delta c / \Delta w + \Delta i / \Delta w + \Delta nx / \Delta w > 0 \quad \Delta y / \Delta w = \Delta c / \Delta w + \Delta i / \Delta w + \Delta nx / \Delta w > 0$$

It is generally considered that an increase in income leads to higher consumption and lower investment and exports ($w \uparrow \rightarrow c \uparrow, i \downarrow, nx \downarrow$), so private aggregate demand, which is the sum of consumption, investment, and exports, would react ambiguously to an increase in income (Blecker, 1989). However, more recent empirical studies tend to show, on the contrary, that investment is also positively correlated with rising incomes in the majority of economic zones worldwide (Onaran and Stockhammer, 2005; Naastepad and Storm, 2006–2007; Hein and Vogel, 2008; Onaran, Stockhammer and Ederer, 2009; Hein, 2011). There are two ways to explain the link between income distribution and employment: first, if demand is correlated with income, then investment can be correlated with the demand associated with income according to the standard investment function model ($w \uparrow \rightarrow c \uparrow > i \downarrow$ at constant aggregate demand y , but as $y \uparrow \rightarrow i \uparrow$ in the final effect). Second, if productivity is correlated with income, and investment is correlated with increases in productivity, then investment can follow consequently ($w \uparrow \rightarrow \text{productivity} \uparrow \rightarrow i \uparrow$).

Therefore, growth driven by income can be considered a more stable, sustainable, and equitable system than consumption-based models relying on credit (where consumption is supported by deferred payments, themselves valued as assets in increasingly rapid and liquid secondary markets, as in the U.S. housing market before the subprime crisis) or the rarer, non-generalizable growth models relying on exports (mercantilist models such as in China, Germany, Japan, and South Korea), which cannot obviously be generalized. This is particularly the case for countries large enough for their domestic market to ensure most of their growth. Before the subprime crisis, it was sometimes suggested, notably by the IMF and the European Commission (IMF, 2007b; European Commission, 2007), that income polarization could be due to technological innovations. Subsequent studies, however, showed that these early studies suffered from econometric issues and that, once corrected, technological innovations had no statistical effect. In fact, it was the rise in financial charges and its consequences for wage moderation and growing inequality in income distribution favoring capital (notably pension fund capital) that were key elements of the 2008 crisis (Fitoussi and Stiglitz, 2009; Rajan, 2010).

The importance of income distribution, and its correction through redistribution, is critical, as demonstrated by post-crisis post-Keynesian studies and derived models (Kumhof and Rancière, 2010; Horn et al., 2009) and the subsequent recommendations in favor of greater redistribution (Charpe et al., 2011; La Marca, 2010; Spinola, 2021).

Source : Belser and Lee, 2011.

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The importance of redistribution for the stability and dynamism of the economy is even greater in large economies, where the relative share of the domestic economy (local services, food, energy) is higher: 78% of GDP in France (OECD, 2017b).

5.2. Institutional and governance perspective : too big to upset?

Beyond social and economic effects, pension capitalization also raises institutional and governance concerns. As funds grow, they gain significant influence over policy and create substantial private liabilities, often without adequate regulation. The following examines how these factors affect financial actors' power and pension system stability.

5.2.1. By virtue of their size, capitalization gradually grants financial actors a decisive influence over the governance of aging

As observed, the financial crisis in Europe demonstrated both the fragility of systems reliant on market functioning and, paradoxically, accelerated the shift of pension promises toward private retirement savings. This may seem counterintuitive without considering the “path dependency” in which familiar indicators and ways of thinking have kept policymakers. National demographic smoothing funds were often diverted to refinance failing private institutions, or even purchase them at a bargain while they were insolvent due to the systemic risk they would have posed (“Too Big to Fail”), leaving a striking lack of real sanctions for the operators responsible for what can only be called a disaster.

Financialization, as defined by Gerald Epstein (2001), is also a powerful source of inertia: it reflects the growing importance of financial markets, financial motives, institutions, and their executives in governance structures, both nationally and internationally (Peet, 2011). It has become common for financial executives to move into regulatory positions or government executive roles in member states. This phenomenon of “regulatory capture” through the “revolving door”—from regulator to operator—with examples such as a former President of the European Commission joining Goldman Sachs after their term, or a President of the ECB coming from the same bank, is well documented (Stigler, 1971).

The critical size of this industry aligns numerous interests, with cohesion between public and private actors making reform difficult. Consequently, despite the efficiency of redistributive, demarketized, pay-as-you-go defined-benefit systems as automatic stabilizers during crises, each reform ultimately resulted in public support for the culpable financial operators, increasing public deficits that Eurozone or associated states—deprived of independent monetary policy—were forced to address through austerity measures of questionable

effectiveness, except for those favoring social security privatization (IMF, 2010b). By 2009, Ireland, whose national pension smoothing fund had been siphoned off to rescue bankrupt banks, and Greece, soon under supervision, had oriented economic policies accordingly, combining reductions in social program coverage, tax cuts for the wealthy, and partial privatization policies whose procyclical effects are now undisputed (ILO, 2010; Torres, 2010). This cycle illustrates how socializing losses subsequently reinforces privatization of the “commons” (Giraud, 2014).

For instance, Greece’s strict austerity policy produced disastrous results socially, health-wise, and financially: Greek debt, initially held by private operators and now largely transferred to European taxpayers, rose from 129% of GDP in January 2009 to 189% in 2019 (IMF, 2020), while public social protection, particularly pensions, was drastically reduced.

5.2.2. Capitalization, however, increases private institutional debt without a clear regulatory response

Investment depends not only on the availability of funds but also on the promise of return. If firms do not invest, the flow of pension fund savings into capital markets risks inflating asset prices (Toporowski, 2000). European capital markets have grown 20% over the past decade, with inflation largely affecting real estate, while the EU promotes a Capital Markets Union, supported by the IMF (Bhatia, Mitra, & Weber, 2019). Long-term retirement savings, exposed to competitive markets with structurally short-term oriented operators, create significant information and agency problems, disadvantaging the “principal” (UK, Sweden). Every financial crisis reinforces the temptation to redirect public funds for ostensibly “urgent” purposes. After 2008, national reserve and smoothing funds were repeatedly used to support the financial industry: creating “bad banks,” acquiring corrupt assets at low prices, or nationalizing failing banks (Ireland, Finland for national investment orientation; see Casey, 2012).

Pension funds’ need to achieve high returns while holding low-yield but safe government bonds encourages the use of innovative financial products, formally structured as Special Purpose Investment Vehicles (SPIVs), leveraging debt to maximize short-term returns on non-government bond investments. This use of leverage increases overall real-economy indebtedness (Bonizzi & Churchill, 2017). Pension funds, targeting double-digit returns, employ multi-layered leveraged structures disguised as “structured” assets, maximizing short-term investment returns at the cost of medium-term economic stability (Artus, 2000; Krugman, 2013). Such mechanisms create artificial wealth effects through inflated asset prices and money circulation, while the real economy grows more slowly (Artus, 2025).

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Box 3: Simplified Illustration of Using Debt Leverage

A pension fund seeks double-digit investment returns, between 10 and 15% per year. Very few companies can guarantee an EBITDA sufficient to pay dividends at this level. Therefore, the pension fund resorts to a mutual fund, SICAV, hedge fund, or investment company operating in off-market transactions, such as venture capital. Let's call it FX.

FX purchases an off-market company that is performing well, has solid cash reserves, and a loyal, well-compensated workforce (including leisure and social protection benefits). To buy this company for €10 million, FX uses €1 million from the pension fund and borrows €9 million (at a low interest rate) from a bank, leveraging guarantees provided by the pension fund. Once the company is acquired, FX transfers the debt to its new subsidiary, effectively "buying itself."

FX then implements measures to increase the company's EBITDA, notably by reducing employee benefits (ending cultural activities, lowering social protection, replacing loyal permanent staff with temporary workers, etc.) or cutting investments. The company becomes more profitable, even while repaying the acquisition loan. Based on this improved profitability, FX can sell the company five years later, for example for €15 million, to another investment fund working for another pension fund, and the cycle can repeat until the formerly thriving company is increasingly burdened by its growing financial obligations. Meanwhile, FX pockets €15 million on an initial €1 million investment: easily enough to pay the client pension fund and earn a substantial profit.

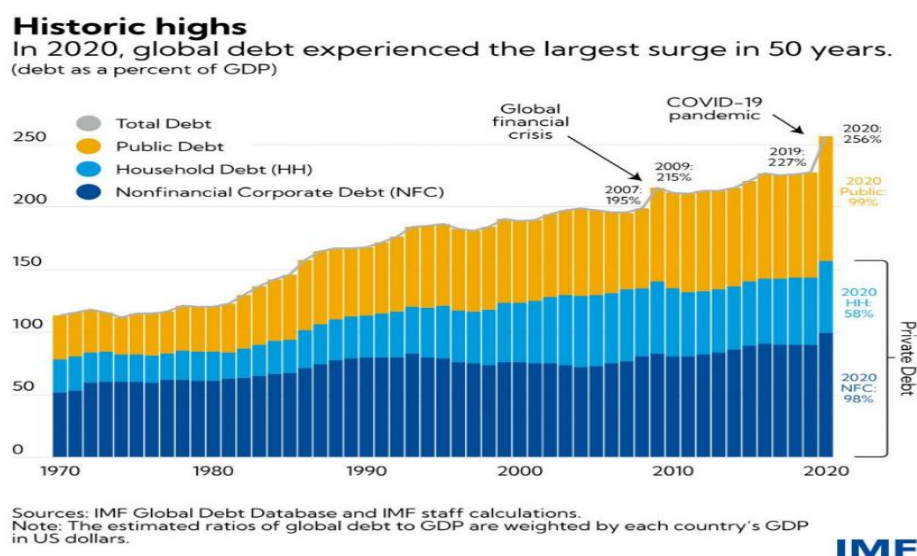
This example is simplified, yet similar cases have been extensively documented in the specialized press (Orange, 2013; Mauduit, 2011).

The dramatic rise in private institutional debt stems from a combination of financial strategies that, while profitable in the short term, carry significant systemic risks. The widespread use of leverage amplifies potential returns but also intensifies exposure to market volatility. Portfolio managers' focus on high-yield assets prioritizes immediate gains over long-term sustainability, while the securitization of debts into complex structured products embeds substantial liabilities within opaque financial instruments. Collectively, these practices have profoundly increased private debt, creating a parallel layer of financial obligations alongside public debt.

Although public debt is often criticized, it has historically expanded mainly during crises, such as the 2008–2010 subprime bailout and the 2020–2022 COVID-19 interventions (Buttiglione et al., 2014). In contrast, private debt has been growing structurally faster than public debt since the 1990s, revealing a long-term shift in how financial risk is distributed. For pension systems, this trend is particularly concerning: funds intended to secure retirement are increasingly entangled in market-driven liabilities, exposing future retirees to financial instability and weakening the traditional link between contributions and guaranteed benefits. Moreover, the structural growth of private debt undermines economic stability more broadly, as rising financial obligations absorb resources that might otherwise support productive

investment, wage growth, or public social protection. In this sense, the evolution of private institutional debt not only magnifies the vulnerability of pension systems but also reflects a deeper transformation in the relationship between finance, labor, and economic governance.

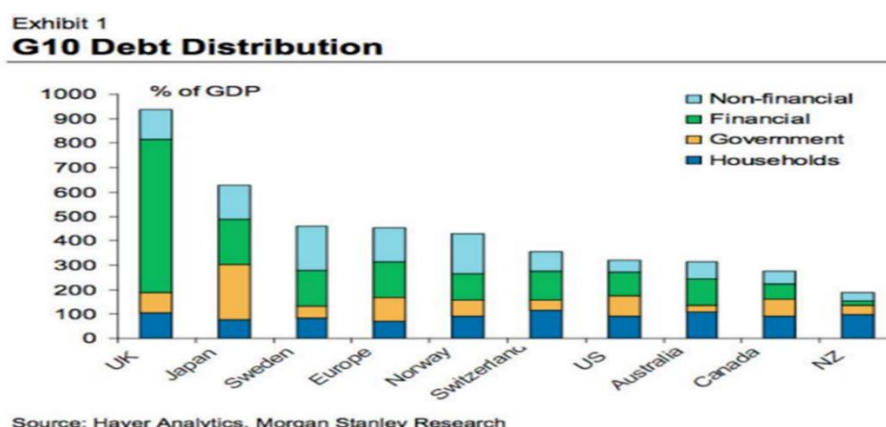
Fig.5 Global debt distribution over fifty years (As a percentage of GDP)



Source : Gaspar, Medas, and Perelli, 2021.

It is difficult to obtain figures on the distribution of debt levels by type of debt and by country. However, a study by Haver Analytics and research from Morgan Stanley in the early 2010s provided some insights.

Fig.6 Debt distribution by type within the G10



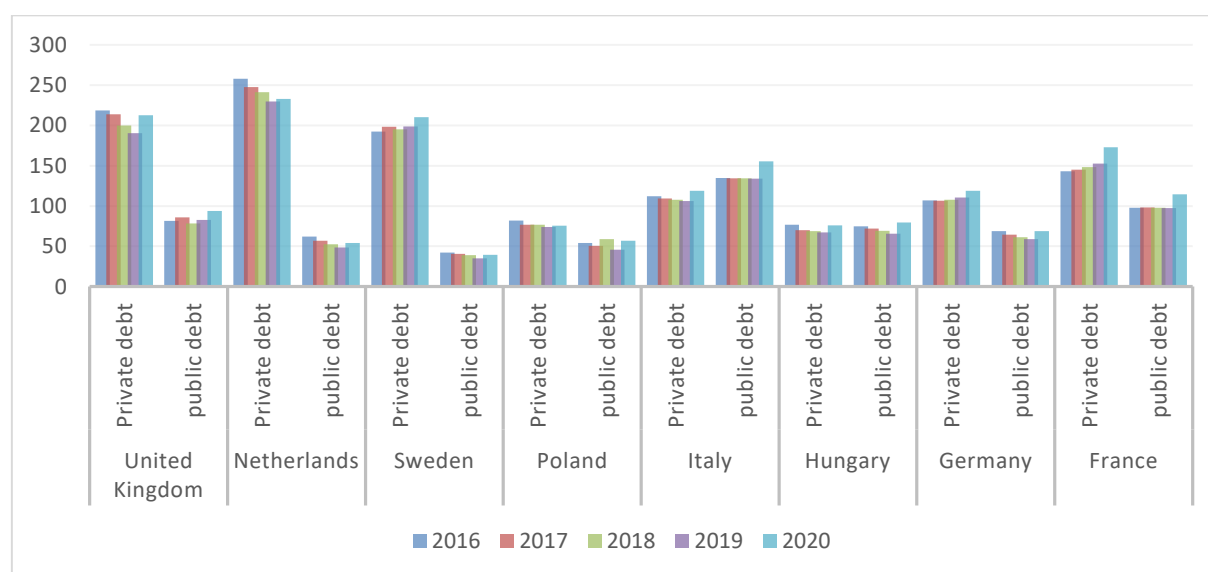
Source : Haver Analytics (2005)

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It was observed that the United Kingdom, the European leader in the pension fund industry as well as in venture capital operations that systematically use leverage, was in fact much more indebted than other European countries, with levels far exceeding the traditional public debt figures.

When the data on public and private debt of countries are combined using the tracking conducted by Eurostat, the following chart is obtained.

Fig 7. Private debt (excluding financial corporations') and public debt by selected countries, 2016-2020



Source: OECD, Global debt Report, 2025

It is evident that countries favoring the transfer of pension obligations to the private sector—such as the United Kingdom, the Netherlands, and Sweden—tend to exhibit relatively low public debt balanced by a substantial level of private debt. By 2022, the combined total of public and private institutional debt reached unprecedented levels (Boone et al., 2022). The financial innovation driven by pension funds' need to balance security with high returns has produced a concerning outcome: a growing share of structured products in their “yield” portfolios, which treat debt as an investable asset. This dilemma intensified after the burst of the internet bubble in the early 2000s, prompting pension funds to adopt liability-driven investment strategies. Following the collapse in equity markets, funds relied on two main levers: high-return, risky products, and safe instruments such as Treasury bills and low-yield bonds. Regulatory prudential rules reinforced this trend, contributing to the rise of shadow banking, as high-return investments increasingly flowed into hedge funds and private equity intermediaries that heavily employed leverage. This dynamic also expanded the pool of funds available for lending to governments, effectively “redistributing” pension funds' savings

through state borrowing—a mechanism benefiting primarily financial intermediaries rather than retirees (Bonizzi and Churchill, 2017).

The growth of the security segment heightened demand for safe assets, particularly government bonds, which in turn encouraged greater public borrowing. In some cases, this even pushed interest rates into negative territory, as seen in Germany, Finland, and France, allowing these countries to finance debt at extremely low or negative costs (Tinel, 2016; Bonizzi and Churchill, 2017; Lemaire, 2021).

The development of the second pillar of pension funds faces similar prudential constraints to protect capital markets. Consequently, funds diversify by investing in alternative assets—hedge funds and private equity—outside the scope of banking regulations (Bonizzi and Churchill, 2017). The expectation that retirement savings, particularly high-yield allocations, would support real-economy projects such as infrastructure or housing has largely not materialized. For example, in the UK, private equity and hedge fund holdings in pension fund portfolios rose from negligible levels before 2008 to nearly 5% and over 7%, respectively, by 2020 (Pension Protection Fund, 2020).

These links between pension funds and shadow banking create two externalities: instability in government bond markets and potential long-term risks for the real economy. Despite the 2008 financial crisis, they have facilitated the growth of new financial innovations and structured products, which the IMF continues to flag as sources of concern (IMF, 2021).

Finally, these trends may amplify procyclicality in investments (Amzallag, Kapp, and Kok, 2014). Rising asset values, driven by excess savings, reduce the effectiveness of prudential regulations and enable pension funds to take on greater risks under the illusion of asset solidity. In a market downturn, falling asset prices could trigger rapid de-risking, exacerbating downward economic spirals and intensifying the frequency and magnitude of economic cycles.

6. Conclusion: Funding, a remedy for ageing? Why not... However, in small doses

The transition to funded pensions comes with substantial costs. Beyond its implications for income distribution and social equity, it can directly increase public spending through tax incentives aimed at encouraging contributions to private pension schemes. It also raises the issue of “double payment,” considered unsustainable by many Central European countries such as Poland and Hungary, where public pay-as-you-go pensions continue to be paid while

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contributions are diverted to private funds intended to pay out later. Additionally, those who have not contributed enough to secure a pension above minimum social assistance levels are pushed toward public support. Funded schemes also fail to protect against inflation: for example, pre-war schemes provided no pensions in 1945 due to currency devaluations.

The mass financialization driven by pension savings, presented as the sole solution to pension financing, does not address demographic aging and further intensifies market bubbles and shortens financial cycles, due to information asymmetries and the conflicting short-term interests between high-fee financial intermediaries and contributors, without channeling funds toward real-economy investments. When dominant, funded pensions demonstrate the following patterns :

1. Demographic issues are not solved; capitalization simply reallocates value added from active workers to retirees, based on returns on capital rather than territorial solidarity.
2. Budgetary relief is limited, as costs may rise due to transitional double payments, tax expenditures, risk separation, and higher public debt.
3. Labor incentives favor the wealthiest, since only those able to extend working lives benefit, whereas physically demanding jobs shift the burden to disability schemes.
4. Economic stability is not enhanced, as savings primarily flow into safe government debt or high-yield innovative products relying on private institutional debt, benefiting major financial centers like London, New York, and Singapore.
5. Competition among financial operators has not reduced costs, often increasing them.

Socially, the accumulation of wealth in funded schemes reinforces poverty among older adults and contributes to income polarization, potentially destabilizing democracies (Stiglitz et al., 2025).

Retirement ultimately revolves around sharing value between active and inactive populations. With a growing inactive population, the “pension triangle” (or “pension abacus”) becomes essential: extending working life, reducing benefits, or increasing contributions. Financing pensions amid demographic aging requires both benefit rationing and increased revenues, either by expanding the contributor base, extending contribution periods, reducing the number of dependents, adopting pro-natalist policies, increasing immigration, raising labor participation, or improving productivity to increase added value per worker.

Increasing system costs under the guise of demographic change, polarizing benefits toward the wealthy, or adding financial and inflationary risks does not improve outcomes for beneficiaries. Social security's purpose is to protect against the risks of old age, not to reinforce wealth inequalities. Decisions on pension reform must be made democratically. Even if the debate is challenging, it is necessary: "Democracy is the worst form of government, except for all the others," as it allows for the expression of all potential solutions. Automatic corrective measures risk violating three ISSA governance values: transparency, accountability, and participation. Consequently, capitalization can only serve as a marginal or complementary solution for the wealthiest populations, provided it is not subsidized through costly tax reductions. It may also be justified in specific geopolitical contexts, such as when small, wealthy nations invest savings in countries with large active populations and substantial real economies. Outside these cases, funded pensions are no more adequate than pay-as-you-go schemes, offering less redistribution and greater systemic risk. Their continued promotion, according to the author, reflects an "analytical path dependency" driven by the influence of powerful financial actors whose size and interests make resistance difficult (Blake, 2005). In the current situation, the dynamics favoring the massive development of retirement savings solutions raise the following question: by entrusting a growing role to a market that is neither pure nor perfect, in an allegedly depoliticized management of aging ultimately favorable "by chance" to the wealthiest, have we not arrived at a form of governance dominated by a few professional actors exploiting information asymmetries, rather than "a wise and frugal government, which would prevent men from harming one another, otherwise leave them free to pursue their own industry and improvement, and not take from the mouth of labor the bread it has earned" (Thomas Jefferson)?

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