Working Paper Series
04/2025

Pensions can work without economic growth

Laua Wiman

Pensions can work without economic growth

Laua Wiman
VTT Technical Research Centre of Finland
laua.wiman@vtt.fi

Abstract

This working paper is a tentative, solutions-oriented response to concerns that pensions would not work without economic growth. It aims to concretize post-growth visions, but also validate post-growth thinking to those who consider it too far outside the mainstream. To the contrary, this analysis begins from mainstream policy aims and economic concerns, and as its result proposes institution types that are already widespread. A pension system can be widely acceptable if it promotes three 'provisioning aims': poverty alleviation, income maintenance, and voluntary provisioning. Without economic growth, possible 'adverse economic conditions' of pension systems include low earnings; low, negative, or volatile interest rates; high inflation; and demographic aging. Additionally, even financially sustainable pension funds can have 'adverse social effects' if their interest income is extractive, exploitative, or inequality-amplifying. I argue that three broad institution types could constitute a post-growth pension system: non-contributory (government-financed) minimum/basic pensions, contributory pay-as-you-go pensions, and collective pension funds. Together they promote all three provisioning aims. The provisioning aims make tradeoffs against each other and their institutions have different weaknesses regarding adverse economic conditions and social effects. Still, even without economic growth, most wealthy economies could probably promote at least poverty elimination and income maintenance without paradigmatic reforms. To close, I anticipate four interesting aspects of post-growth pensions governance: benefit protection versus cost control, distribution versus redistribution, challenging of economic individualism, and property rights within funded pension schemes.

Keywords: growth dependence, eco-social policy, sustainable welfare, inequality, financialization, provisioning

1. Introduction

A common reason to dismiss post-growth visions in sustainability debates is the intuition that society 'needs' economic growth. Pensions are a prominent aspect of growth dependence concerns given that pensions make up most of the income of most people above a certain age. Pension is also often symbolically deemed a 'reward' for a long career of labor that is promised by the (informal) social contract and the (formal) rules of pension schemes. Pensions connect to economic growth by being in part redistributive and in part 'funded' or based on investments. Economic growth alleviates distributional conflicts around pensions. Funding, in turn, makes pension savers invested in the growth and stability of financial markets, which could be undermined by economic contraction.[1]

The pension-based argument to discredit post-growth visions is easy, intuitive, and likely convincing, but also one-sided and misleading. It is possible to have different types of good pension systems in a post-growth economy. Admittedly, however, the post-growth research community has rarely articulated what these institutions might be. It has mainly pointed out that pay-as-you-go pensions may be less vulnerable than funded pensions (Voegel et al. 2024; Wiman 2024). Additionally, the broader conversation on eco-social welfare includes proposals like basic income that could possibly carry similar functions to pensions (Büchs 2021). But no systematic post-growth pension vision seems to exist. My aim in this article is to concretize

[1] Especially compulsory funded pensions are a mechanism that makes broad sectors of society, to an extent, share their economic fate and interests with capitalists.

how a post-growth economy could provision pensions by discussing three institutional alternatives (for globally wealthy economies): non-contributory basic/minimum pensions, contributory pay-as-you-go pensions, and collective pension funds. These institutions are justifiable against different adverse economic conditions or social effects to which pension plans are susceptible without economic growth. Taken together, they also cover all the common values regarding what pension provisioning systems should do: poverty alleviation, income maintenance, and voluntary provisioning.

These institutions have their downsides, which I discuss to clarify what the actual tradeoffs and policy controversies would be in a post-growth transition. The important follow-up question, which I do not discuss here, would be how a reform process can work politically. To those ends, however, I believe simply articulating the variety of institutional alternatives can be helpful. All three institution categories and their subtypes that I discuss already exist. It should be possible to find institutional solutions that suit different post-growth scenarios and national political-economic contexts.

This working paper follows *'Are pensions "growth-dependent"?'* (Wiman 2024). In it, I focused on how pensions could come under strain without growth, how they might not, and which uncertainties and conditionalities are involved (see also Janischewski et al. 2024 on the varieties of growth dependence interpretations). Despite important uncertainties about growth dependence, there should be at least tentative answers to: how *can* pensions be provisioned without growth? Here, I do not evaluate growth dependence per se, nor formulate scenarios[2]. Instead, I connect plausible categories of vulnerability of pension provisioning to possible institutional responses. The target audience is the general post-growth research community and its critics rather than specific substance community of pensions research. Still, I hope post-growth perspectives can be deemed useful contributions also by substance experts.

I will first discuss the different provisioning aims of pensions and how they are currently promoted by different institutional mechanisms (Section 2). Then, I categorize plausible adverse economic conditions and social effects of pension systems without economic growth (Section 3). This lets us justify institutional options in terms of how they promote provisioning aims and respond to no-growth vulnerabilities (Section 4). As I summarize the takeaways, I also anticipate some interesting and controversial areas of post-growth pensions governance (Section 5).

2. Provisioning aims of pensions

Pensions are income for those that are not expected to work due to old age or disability. Following the World Bank's 'five pillars' classification of pension types, I summarize three broad provisioning aims of pensions: poverty alleviation, income maintenance, and voluntary personal supplements.[3] Poverty alleviation (or, perhaps better, poverty elimination) fits particularly well with the notion of 'raising social floors' that is typical in de-/post-growth thinking. Income maintenance (measured as a replacement rate) means smoothing the difference between pension benefit and career income. The proportionality of pension to career income is an important dimension of how people judge the fairness of the system. Voluntary provisions also contribute toward income maintenance but are not required by law or collective agreement unlike most pensions. They thus add a level of individualism to systems that feature much compulsion or subsidizing of benefits between groups.[4] The reason to take all provisioning aims into account is that, I assume, any post-growth reforms are more likely to be implemented when they satisfy multiple societal values. It is pragmatic to analyze the

[2] Some scenario analyses can be found in Wiman (2024), Jones et al. (2013), and Monserand (2022, ch.4).
[3] The five pillars classification is often used in social policy context. It references all these three functions, but also includes further specifications regarding the provisioning mechanism and its governance, leading to five categories in total (Holzmann and Hinz 2005, p. 80).
[4] Compulsory pension schemes can also allow voluntary additional contributions, but the point is that individuals have complete opt-in to membership in voluntary provisioning schemes.

extent to which different aims can be satisfied without economic growth, and with which tradeoffs, instead of dismissing some aims out of hand.

Table 1 summarizes how the three provisioning aims are targeted by pension systems in OECD countries (OECD 2023a, p. 134). Poverty alleviation is targeted using non-contributory (government-financed) basic/minimum pensions or minimum guarantees in contributory (member-financed) schemes.[5] No investment funds are involved. When basic/minimum pensions are non-contributory, benefits are adjusted up or down by political decision rather than some formal benefit function like in other types of pensions. All OECD countries have some way of provisioning a minimum benefit[6], although these instruments are not currently used forcefully enough to fully eliminate pensioner poverty (European Commission 2021, pp. 26, 28). In the case of contributory minima, there can conceivably be a limit to how much the scheme can guarantee to its members without risking deficit and breaking its pension promises. In the case of government-financed basic/minimum pensions, I do not see a technical or economic limit to raising minimum entitlements, only the political resistance to prioritizing minimum entitlements over other targets of spending.

Table 1: How the three provisioning aims are typically promoted.

Provisioning aim	Financing source	Investment	Investment risk allocation	Benefit rule
Poverty alleviation	Government budgets or member contributions	No	-	Basic or guaranteed minimum outcome
Income maintenance	Member contributions	Yes or no	Individual, collective membership, or sponsor	Defined-benefit, defined-contribution, or point system
Voluntary provisions	Member contributions	Yes	Individual	Defined-contribution

Income maintenance instruments are financed by member contributions, but otherwise consist of a variety of mechanisms. They may or may not involve an investment fund ('funded' versus 'pay-as-you-go' or 'unfunded'). Funded schemes can divide investment risk in three ways. For one, individuals can simply be accumulating their own accounts. Alternatively, plans can spread investment risk across the membership, meaning that particularly lucky and unlucky outcomes get smoothed between generations. For example, retiring in a crash year where funds momentarily lose 20% of their value (akin to what happened in 2008, Casey 2012) would not mean taking on a 20% last-minute pension cut. It is also possible that a sponsor, like an employer, carries investment risk, meaning they contribute more if the scheme goes to deficit in difficult economic conditions. The benefit rule in income maintenance schemes can be to promise benefits as a function of career earnings ('defined-benefit') or to adjust benefits automatically to keep the scheme in financial balance ('defined-contribution' and 'points' systems).[7] All but two OECD countries (Ireland and New Zealand) have some kind of compulsory system for income maintenance (OECD 2023a, p. 143).

Voluntary provisions are primarily arranged by one method – individual investment accounts in which people take on risks and rewards alone. The size of pension depends on the long-term performance of investments, but also any possible short-term fluctuations right before retirement, and thus savers can be vulnerable to

[5] By basic I mean a set amount that all citizens are entitled to after a certain number of employment years. Minimum refers to paying the difference between a minimum outcome and income that is received from other (recognized) sources.
[6] These include residence-based pensions, targeted minimum pensions, and minimum pensions in contributory schemes (OECD 2023a, p. 136).
[7] Points schemes are usually distinguished from defined-contribution schemes. However, to my understanding, they can be broadly treated as similar in the sense that neither promises a benefit level but have a system for adjusting benefits to a financially sustainable level (IPP 2019; OECD 2005, p. 71).

financial volatility and crashes. Thus, these instruments are defined-contribution.[8] Voluntary schemes cover more than half of the working-age population in 6 OECD countries, and over 5% in most OECD countries (OECD 2023b, p. 15).

3. Pension problems in the absence of growth

It is difficult to generalize what would happen to pensions 'without economic growth'. It completely depends on how limits to growth are assumed to manifest, which institutions are assumed to be in place, and which values are the basis of assessment (Wiman 2024). This section is not a formal growth dependence assessment (Janischewski et al. 2024). I will simply discuss possible adverse economic conditions that could intuitively follow from the end of national or global economic growth. Additionally, I point out how pension funds can be associated with socially adverse effects even if they managed to be financially sustainable. In other words, I intend this section as a categorization of relevant problems that a post-growth pension system should defend against, not as a projection of where the problems would emerge.

Low career earnings. Most pension plans (contributory plans) associate benefits to career earnings. Benefits may be either a direct function of earnings (defined-benefit plans) or some other multi-variable function that considers one's total contribution history (defined-contribution plans). If the end of growth means that career earnings decline – this could mean stagnating wages, declining wages, extended employment gaps, or lower profits for entrepreneurs – members may earn less pension under these instruments.[9]

High inflation. Inflation reduces the real value of interest to pension funds and, depending on plan rules, could increase contribution costs or real benefits. On the one hand, inflation might not rise in a contracting or stagnating economy through the demand-led inflation effect. On the other hand, limits to growth are often envisioned to emerge from biophysical limits or supply constraints (e.g. energy, materials, ecosystem services…). If the end of growth is caused by, or simply coincides with, supply constraints, cost-driven inflation could rise (Jones et al. 2013).

Demographic aging. Demographic ageing leads to a fewer number of working-age people relative to pensioners. This puts pressure on the costs of those schemes that finance pensions from contributions (or taxes) of a collective membership, in other words all plan types except individual savings funds. Pension plans take current projections of demographic aging into account in their balance calculations. However, these projections could be adjusted toward higher aging following economic contraction and stagnation.[10] Economic hardships could to an extent steer people against having children. Immigration could decline to a non-growing country if its employment opportunities are deemed to worsen. Immigration policy could also turn stricter if economic problems get blamed on immigration. Even though these causes are speculative and uncertain, I include worsening demographic aging as a possibility because it is such an important variable for some pension schemes.

Low, volatile, and negative interest. Declines in (expected, long-term) real interest make pension funds less efficient at their core function, which is to leverage investments to pay for benefits at a lower required contribution rate than what would be possible without funding.[11] One reason to expect lower interest under lower growth that one factor of interest is total firm revenues and expectations thereof (Semmler 2006)

[8] However, the saver may be able to contribute more to counteract the underperformance of investments.
[9] This does not necessarily mean that replacement rates decline, given that career earnings and benefits decline together.
[10] Note that the *worsening* of demographic projections, not the *state* of projections, is the important variable if one is interested in how pensions could come under *more* strain without growth. In Wiman (2024), I excluded demographic aging from growth dependence assessment under the assumption that the end of growth does not affect demographic projections, but that is not to say a link could not emerge.
[11] In defined-benefit funds, market interest rates can also be used as discount rates in fund balance calculation. Therefore, low interest rates can reduce fund balance through a double effect: through the revenue side and through the discounting calculation (Casey 2012).

(another being the income distribution between labor and capital). Assets could even lose value (Tokic 2012), as they occasionally do also in a growth economy. Even if the long-term trend of a post-growth economy was stable interest rates[12], but this trend included steep short-term fluctuations between positive and negative rates, savers with individual savings accounts might take severe losses if they retire soon after a downswing.

Extractive or exploitative interest. The previous points were about adverse macroeconomic conditions of pension plans. These last two instead concern the social effects of funded pensions in a no-growth context. First is the problem that interest income can be (considered deemed as) unjustly extracted. If there are very few industrial growth sectors in a post-growth setting, investors may gravitate toward critical scarce assets like real estate, which is already a major pension asset class. This would raise the prices and rents of such assets (Stratford 2020). Such rent-seeking behavior could financially sustain pension funds and benefit pension savers in difficult economic times, but clearly at the 'social cost' of cynical extraction during no net economic growth. This would be a problem in its own right, as well as a threat to the pension fund's 'social license to operate'.

Inequality amplification. Finally, a funded pension system can promote unjust inequalities independent of where interest comes from and whether members achieve their savings targets. Even if pension funds remained stagnant with a sustainable balance of contributions, benefit payments, and modest interest income, they can still be mechanisms for the amplification of inequality. Pension fund memberships are exclusive groups – based on (the ability to make) contributions – that allow leveraging one's income for gain. Within memberships, furthermore, those with higher incomes and absolute contributions leverage the investment mechanism more forcefully if accounts compound individually.[13] In sum, the funding mechanism can amplify economic inequalities between members and non-members and between the income strata of members. This is already the case in a growth economy, but its societal impact is exacerbated without growth.[14]

4. Possible post-growth pension instruments

Considering the three provisioning aims and the possible adverse economic conditions and social effects without economic growth, I suggest that three types of pension institution could be appropriate in a post-growth economy: non-contributory basic/minimum pensions, contributory pay-as-you-go pensions, and collective pension funds. Each is an already existing institution type and together they can cover all three provisioning aims. Together they also offer some response to each adverse no-growth condition and effect, in some cases entirely isolating the adverse conditions or effect from a provisioning aim. However, the provisioning aims are each other's tradeoffs, and the three institution types are all individually vulnerable in different ways.

Non-contributory minimum/basic pensions: eliminating poverty in difficult economic conditions

Minimum and basic pensions can alleviate poverty even if career earnings have been low. They are technically isolated also from other macroeconomic conditions like interest rates, inflation, membership

[12] Interest income is as such not contradictory with a non-growing economy, though compound interest might be (Cahen-Fourot and Lavoie 2016; Hartley and Kallis 2021). But funded pension systems do not need to accumulate exponentially to pay benefits sustainably (Wiman 2024).

[13] Again, I specify that pension account compounding is not perpetual, but eventually ends in consumption of pension benefits, which is why it does not mathematically contradict a non-growing macroeconomy. However, exclusive access to a compounding mechanism is an inequality problem.

[14] To my understanding, this amplification of membership inequalities should be less relevant in defined-benefit funds, because while they accrue benefits by a set percentage of income, they do not compound the accrual rate the way investment accounts compound interest rates. Defined-benefit funds have been argued to generate lower inequality than individual investment accounts (Kuttner et al. 2024; Rhee 2023).

productivity, and demographic aging. This contrasts with contributory pensions, which generally pay benefits as a function of macroeconomic trends. As far as government-financed minimum/basic pension instruments are already in place, they can simply be kept in place into a post-growth society. Benefit rates would need to be raised to fully prevent pensioner poverty, given that pensioner poverty is already a problem across wealthy economies.

Admittedly, pensioner poverty could be eliminated also with other instrument types, such as the minimum guarantees of contributory systems. However, I would expect financially closed contributory systems to face a more stringent financial constraint than governments. It is at least theoretically possible that a scheme becomes liable for too much guaranteed pension with too few contributions.[15] The often-mentioned basic income instruments could also alleviate pensioner poverty without economic growth. But unlike basic income, non-contributory minimum and basic pension are quite common in wealthy economies.

The obvious downside to government-financed entitlements is that government spending is always subject to distributional conflict and political attitudes, unlike contributory pensions that are based on explicit benefit formulae. Macroeconomic strains like demographic aging can erode public willingness to pay for basic/minimum pension even though no benefit rule demands pension cuts. However, raising the safety net does not need to mean that government costs rise automatically. If at the same time employment rates are high, contributory pension yield good benefits, and fewer people need to rely on the non-contributory benefit, the net government cost may not rise. Alternatively, a non-contributory pension could to an extent replace contributory systems, so that people pay less in contributions while, perhaps, paying more in taxes.[16]

This brings us to the second downside, which is that the (indirect) opportunity cost of non-contributory poverty alleviation is contributions toward income maintenance. A pension vision founded heavily on government-financing can be politically resisted particularly by higher earners who have more to win in paying contributions to income maintenance schemes rather than taxes for poverty alleviation schemes. Perhaps, the higher existing income inequalities are, the more politically difficult it is to reform pensions toward non-contributory instruments.

Contributory pay-as-you-go pensions: isolating income maintenance from investment risk

Income maintenance can be isolated from investment risk by linking benefits to career earnings and not having a pension fund in between. Such a contributory pay-as-you-go scheme keeps account of all members' earnings/contributions and pays the resulting entitlements to pensioners from the contributions of current working members. The scheme manager naturally needs to set up the benefit formula in such a way that the contributions of future workers will realistically cover entitlements that are promised today.

As discussed in Section 2, the benefit formula of a contributory pay-as-you-go scheme can just as well take a defined-benefit form (financial balance is achieved in difficult times by raising contribution costs), or a defined-contribution or points form (financial balance is achieved at the expense of benefits). The defined-contribution form has been popular in recent decades because it shields the financial balance of the plan from demographic ageing, though at the expense of benefit levels (Bulhol et al. 2023). In any case, the alternative ways to design pay-as-you-go pensions expands the policymaker's options for possible reforms.

Earnings-related pay-as-you-go pensions are already widely in place. 20 OECD countries have public defined-benefit schemes, while 10 OECD countries have defined-contribution and points systems (OECD

---

[15] However, I do not know how likely this is for existing schemes in the world. Defaulting on guaranteed pensions would probably require that unemployment in the membership is persistently high over a long period, and that the plan operates on low financial buffers.
[16] I am not saying that 'governments fund themselves with taxes' – a reductive claim that often gets challenged in the post-growth community. But it is a reasonable scenario that a rise in government costs would be followed by higher taxes. An association can exist in practice, even if it would not in theory.

2023a, p. 134). If funded pensions are downscaled in a post-growth transition, perhaps more total contributions are directed to existing pay-as-you-go plans, and some new plans are created where they are missing.

Still, increasing the role of pay-as-you-go pensions can be politically resisted because contributions to these schemes are perceived as paying for someone else (Booth et al. 2005, p. 632). Pay-as-you-go plans transfer money from working members directly to pensioners, and their benefits and costs depend in part on the productivity of the whole membership unlike in individual pension accounts. A mandatory and purely pay-as-you-go system might challenge (the feeling of) economic individualism, even though in practice each contribution of course generates benefit claims for the contributor.

Additionally, though it is intuitive to think of pension funding as a risk in a post-growth context, there are also downsides to opting against pension funding. Contributory plans do not generate pension claims for members during unemployment periods, whereas saved assets generate interest passively. The financing of possible minimum guarantee benefits in a pay-as-you-go plan requires sufficient employment and wages among the complete contributing membership. Finally, interest income from a sustainable funding mechanism is 'additional money' to the pension scheme that unfunded schemes do not benefit from. While interest revenue does not of course 'revert' inflation or demographic ageing, facing either of these financial pressures is easier when an additional income stream is open. In this sense, funding is the only pension provisioning mechanisms that (to some extent) counteracts the effects inflation and demographic ageing.

Collective pension funds: protecting savings from momentary crashes

Pension funds could become financially unstable without economic growth, yielding unsatisfactory benefit levels, or even defaulting on possible pension promises. Even if funds continue generating high returns without economic growth, this may rely on normatively objectionable financial extraction or inequality-amplification. Yet, pension funds have the convenient (potential) property of generating additional revenue for the scheme. This revenue allows providing income maintenance at a lower contribution cost than a pay-as-you-go plan. Funding can also uniquely counteract cost-increasing pressures from demographic aging and inflation. Though funding does not isolate provisioning from macroeconomic stress, the additional revenues to the scheme from investments make the financial stresses of worsening inflation, demographic aging, or unemployment more financially tolerable. Additionally, because pension funds already exist, (justified) criticism of financialization only goes so far. Current savers, pensioners, and pension providers all have expectations of fair economic outcomes, and likely also property rights on funds. These prevent simply 'reforming' pension funds into pay-as-you-go schemes, even if a long-term post-growth vision placed less emphasis on funding.

If the end of economic growth comes with low and volatile pension fund interest, dipping occasionally into negative, then collective pension funding seems more attractive than individual funds. Benefits paid from collective pension fund types are more resilient against momentary financial crises because they spread the effects of crashes across generations (Otsuka 2023). A collective plan can be designed as defined-contribution, in which case the scheme responds to financial stress by reducing benefits until financial balance, avoiding the need for mandatory contribution hikes. Alternatively, a collective fund can be defined-benefit, so that the contribution rate adjusts upward under financial stress. In many traditional DB funds, the sponsoring employer is liable for this additional contribution, but the adjustment could also be based on other rules.[17]

[17] For instance, the Finnish partially funded DB system (for private sector employees) is governed by the labour market parties representing workers and employers, so the employer is not automatically liable to cover for a deficit alone. I do not know if there are international cases of DB funds that adjust contribution rates by an automatic formula, but that may be another design option.

One post-growth reform option to control investment risk on existing pension assets would be to combine multiple existing individual accounts into collective funds that cover a balanced multi-generation membership. However, there may be obstacles to such consolidation. First, it would probably require opt-in or initiative from savers, and certainly from providers, given their legal claims on the funds. Second, imagining consolidation between different pension providers raises questions of how risks and rewards from management are divided in the new collective fund, whether the providers merge, or if accounts are bought and sold between providers. Third, a new collective fund would require its own benefit rule, complicating decision-making and negotiation around a voluntary consolidation. Finally, consolidation may face attitudinal opposition. Individual funds are perceived as having control of one's own savings, whereas a collective fund leads to the sharing of risks and rewards. This is, of course, the point, but not necessarily what all pension savers want.

Even if implemented successfully, a general limitation of risk sharing is that it does not prevent lost asset value from being lost. If there is an asset crash that never fully rebounds, all generations take on a pension cut. The risks of financial extraction and inequality amplification also remain. If pension funds are less profitable without economic growth, these risks are 'automatically' mitigated somewhat. It is also possible that the financial markets of a post-growth economy are so unprofitable that pension funds are simply unable to leverage them effectively. If so, then funding mechanism would scale down 'on its own'.

But if pension funds are both financially sustainable and socially problematic, then post-growth policymakers would need to find ways to intentionally downscale them. Government cannot turn pension funds into pay-as-you-go systems by the flick of a switch, but they can bolster a pay-as-you-go systems in a way that crowds out the funding mechanism. Particularly if there are mandatory pension funds, contributions to these could be reduced gradually while contributions to (and thus benefits from) pay-as-you-go plans would correspondingly rise. Over time, the relative significance of the funding reform would decline. Even if the funded pension system were mostly voluntary and outside of direct policy steering, a sizeable tax-like pay-as-you-go system means less money left over for financialized and individualistic social insurance. Of course, a transition away from the funding mechanism in favor of redistribution would be resisted by higher income individuals.

Given that pensions promote competing values and the exact social-economic pressures of a post-growth transition are uncertain, it is wise to imagine a plurality of possible post-growth pension institutions. Table 2 summarizes the properties of the three broad institutional options that I discussed in this section.

Table 2: Properties of the three pension types

Pension type	Provisioning aim	Design options	Pros	Cons
Non-contributory basic/minimum pensions	Poverty elimination	Basic benefit for all / targeted minimum to those who do not earn enough from other instruments	Technically independent from adverse macroeconomic trends	No income maintenance Political conflict over government budgets
Contributory pay-as-you-go pensions	Income maintenance Can include a minimum pension for poverty elimination	Defined-benefit / defined-contribution Mandatory / voluntary	Independent from investment risk	More costly per benefit level compared to a profitable pension fund Possibly unsatisfactory to higher income individuals who have more to win from a (sustainable) pension fund Maintaining a minimum pension under particularly high unemployment faces a hard budget constraint
Collective pension funds	Income maintenance Voluntary provisions	Defined-benefit / defined-contribution Mandatory / voluntary	Dilutes investment risk across generations	Financially sustainable pension funds may rely on financial extraction and amplify inequality

5. Discussion and conclusion

In an IMF handbook on pension governance, Barr (2002) emphasizes the importance of economic growth: “output is key” and that “the production and consumption of goods and services is essential to any effective pension plan” (p. 3). Growth-critical researchers Strunz and Schindler (2017) add that economic growth eases particularly the distributional conflict from demographic aging. Mainstream and post-growth commentators agree that the size of the economy matters. But I find it equally useful to also underline that provisioning of output is not the same thing as change in total output. No fundamental contradiction between a post-growth economy and pensions exists. Societies can, and generally try to, care for non-working groups “one way or another” (Barr 2002, p. 1), if often imperfectly.

The questions that I addressed here were how to institutionally facilitate pension provisioning without economic growth, which policy values need to be balanced, and which tradeoffs will be encountered. The tentative suggestions can be used for further ideation. But the other aim of this paper was to argue against the common attitude that post-growth visions contradict the generally accepted model of society too much to be taken seriously. Most of this analysis stayed within the typical boundaries of pensions discussion. It was based on mainstream policy values and mainstream concerns of adverse economic conditions. As its result, it yielded mainstream institutional options. The main non-mainstream foundations of this paper were to exclude economic growth as a solution and to question the extractive or inequality amplifying effects of financialization. Additionally, it is perhaps not typical to explore policy alternatives quite this freely, unconstrained by particular legacy institutions or momentary attitudinal trends that would normally dictate ‘policy relevance’. I welcome substance experts to fill in gaps or mistakes in this working paper. But conversely, post-growth analysis can contribute to substance discussions simply by using different assumptions and research scopes than most substance experts and policy organizations.

The provisioning aims I found useful for ideating post-growth pensions were poverty alleviation, income maintenance, and voluntary provisions. The adverse economic conditions that can be associated with the end of national or global economic growth include: low career earnings; high inflation; demographic ageing; and low, volatile and negative interest rates. Additionally, financially sustainable pension funds can promote adverse social or distributional effects without growth: extractive and exploitative interest; and inequality-amplification. I discussed three institutions that can together defend against adverse conditions and mitigate adverse outcomes: non-contributory (government-financed) basic/minimum pensions, contributory pay-as-you-go pensions, and collective pension funds. It is encouraging that, by these standards, poverty alleviation and income maintenance could probably be promoted without the need for completely new institutions in most wealthy economies. However, there are tradeoffs between the provisioning aims, and the aims cannot be perfectly isolated against all adverse economic pressures.

Pay-as-you-go plans can completely isolate (in terms of immediate effect) income-maintenance and poverty alleviation from investment risk and the possible social harms I associated with pension funds. Non-contributory pensions furthermore shield poverty alleviation against employment gaps. Inflation and demographic aging are more problematic economic pressures. They lead to higher costs, lower (real) benefits, or a mix of both.[18] Only individual pension accounts would isolate their income maintenance function from demographic (or membership) aging, but this plan type is particularly vulnerable to financial volatility. A notable advantage of the funding mechanism, whether in a collective or individual fund, is that interest income keeps the cost-effectiveness of the plan higher and counteracts the effects of adverse economic conditions.

Most of the typical policy choices in pension governance probably continue being relevant in a post-growth context. In brief, these include for instance the choice between mandatory and voluntary membership; pay-as-you-go and funding models; and defined-benefit and defined-contribution rules. Pension plans can also be

[18] Depending on whether benefits are indexed to inflation, and how. If both benefits and wages followed inflation, then the rising contribution cost problem may be diminished.

designed with (different levels of) minimum benefits and targeted replacement rates.[19] Additionally, four aspects of pension design seem particularly relevant to no-growth scenarios and the three institution options I discussed.

First, worsening macroeconomic conditions (that are not completely isolated from provisioning) generally lead to two possible responses. Either *lower benefit levels are accepted to keep the plan in financial balance* or *higher contributions (or public spending in non-contributory schemes) are accepted to maintain targeted benefit levels*. In existing contributory plans the choice between the two is already baked into the defined-benefit and defined-contribution rules. But if one considers non-contributory pensions in difficult economic times, or any type of pension reform, some choice needs to be made about how the 'crisis responses' get balanced.

Second, the typical dichotomy of pay-as-you-go versus funded financing remains relevant for post-growth pension design. However, I find it useful to understand the two as *money from the redistribution of incomes* versus *money from the capital-share of income distribution* – or in short, money from redistribution versus (original) distribution. After all, pension fund returns broadly originate from profits paid to capital owners (instead of wages), plus speculation (which responds to expectations of the capital share).[20] This distribution-redistribution framing allows connecting post-growth pensions to broader post-growth conversations about inequality, the role of interest, rent-seeking, and alternative ownership models. For instance, in this paper, I included extractive, exploitative, and inequality-amplifying interest as relevant adverse pension outcomes. It is useful to think of all pensions as taking money from somewhere and putting it somewhere else particularly because the total size of the pie is not growing. All pensions are ultimately non-work income 'from someone else'.

Third, some types of pension reforms that seem attractive from a post-growth perspective go against economic individualism. Collective pension funds can make benefits contingent on the career earnings of all members. Higher payments toward pay-as-you-go pensions means less focus on the funding mechanism that possibly benefits higher income individuals more. In spirit, contributions to (particularly individual) pension funds can feel like 'personal savings', even though contributions to pay-as-you-go systems also generate financial claims for each contribution.

Finally, pension reforms are complicated by legal rights that savers and providers may have over existing pension assets. For example, a funded system can probably not simply 'be changed into' a pay-as-you-go system. The kind of consolidation of individual accounts which I ideated here may also be problematic. However, policymakers can steer mandatory contributions to pay-as-you-go plans, which can indirectly downscale funded schemes if they are deemed particularly vulnerable or socially problematic.

A post-growth pension system will most likely consist of a mixture of legacy institutions and new institutions. Which reforms are economically and socially necessary, and which are politically feasible, should be further analyzed. Whatever the case, the three broad alternatives I gave here leave much leeway for balancing policy aims from country-specific starting points. One way or another, pensions can work without economic growth.

---

[19] Barr (2002) summarizes the key questions of public pension governance as follows: the size of the basic/minimum pension; the amount of redistribution in basic/minimum pensions; will there be mandatory income maintenance; if there is income maintenance, should its mechanism be pay-as-you-go or funded basis, and defined-benefit or defined-contribution; should mandatory income maintenance be managed publicly or privately; can you opt out; and does the state financially assist benefit indexing.

[20] I discuss this summary in more detail in the appendix of Wiman (2024). Financial bubbles do not contradict this generalization because bubbles eventually pop.

References

Barr, N. (2002) The Pension Puzzle: Prerequisites and Policy Chocies in Pension Design. International Monetary Fund (Economic Issues). https://doi.org/10.5089/9781589061118.051.

Booth, P., Chadburn R., Haberman, S., James D., Khorasanee, Z., et al. (2005) Modern Actuarial Theory and Practice (2nd ed.). New York: Chapman and Hall/CRC.

Boulhol, H., Lis, M. and Queisser, M. (2023) 'Trends in Pension Reforms in OECD Countries 1', in Bloom, D. E., Sousa-Poza, A., and Sunde, U., The Routledge Handbook of the Economics of Ageing. 1st edn. London: Routledge, pp. 262–284. Available at: https://doi.org/10.4324/9781003150398-16.

Büchs, M. (2021) "Sustainable Welfare: How Do Universal Basic Income and Universal Basic Services Compare?" Ecological Economics 189: 107152. https://doi.org/10.1016/j.ecolecon.2021.107152

Cahen-Fourot, L. and Lavoie, M. (2016) 'Ecological monetary economics: A post-Keynesian critique', Ecological Economics, 126, pp. 163–168. https://doi.org/10.1016/j.ecolecon.2016.03.007.

Casey, B.H. (2012) 'The implications of the economic crisis for pensions and pension policy in Europe', Global Social Policy, 12(3), pp. 246–265. https://doi.org/10.1177/1468018112455633.

European Commission (2021) Pension Adequacy Report: Current and Future Income Adequacy in Old Age in the EU: Volume 1. Brussels: European Commission. https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8397&preview=cHJldkVtcGxQb3J0YWwhMjAxMjAyMTVwcmV2aWV3 (12.12.2024).

Hartley, T. and Kallis, G. (2021) 'Interest-bearing loans and unpayable debts in slow-growing economies: Insights from ten historical cases', Ecological Economics, 188, p. 107132. https://doi.org/10.1016/j.ecolecon.2021.107132.

Holzmann, R., and Hinz, R. (2005) Old-Age Income Support in the 21st Century: An International Perspective on Pension Systems and Reform. Washington, D.C.: The World Bank. https://doi.org/10.1596/0-8213-6040-X

IPP (2019) 'How Should A Points Pension System Be Managed?' (IPP Policy Briefs, 43). https://www.ipp.eu/en/publication/june-2019-how-should-a-points-pension-system-be-managed/ (27.11.2024)

Janischewski, A. et al. (2024) 'It depends: Varieties of defining growth dependence'. https://www.econstor.eu/handle/10419/306267 (27.11.2024)

Jones A., Allen, I., Silver, N., Cameron, C., Howart, C., and Celdott, B. (2013) Resource Constraints: Sharing a Finite World Implications of Limits to Growth for the Actuarial Profession. The Institute and Faculty of Actuaries. https://doi.org/10.13140/RG.2.1.2212.2008

Kuttner, R., Ghilarducci, T. and Brainard, K. (2024) The Hidden Cost of Pension Reforms: Rising Income Inequality, Lagging Economic Growth. National Conference on Public Employee Retirement Systems.

Monserand, A. (2022) *The macroeconomics of degrowth: conditions, choices, and implications*. Doctoral disseration, Université Sorbonne Paris Nord. https://theses.hal.science/tel-03921258

OECD (2005) Pensions at a glance 2005: public policies across OECD countries (2005). Paris: OECD. https://doi.org/10.1787/19991363.

OECD (2023a) Pensions at a Glance 2023: OECD and G20 Indicators. OECD. https://doi.org/10.1787/678055dd-en.

OECD (2023b) Pension Markets in Focus 2022. OECD. https://doi.org/10.1787/b8fd9171-en

Otsuka, M. (2023) 'The Case for Collective Defined Contribution', in M. Otsuka (ed.) How to Pool Risks Across Generations: The Case for Collective Pensions. Oxford University Press, p. 0. https://doi.org/10.1093/oso/9780198885962.003.0002.

Rhee, N. (2023) Closing the Gap: The Role of Public Pensions in Reducing Retirement Inequality. National Institute on Retirement Security. Available at: https://www.nirsonline.org/reports/closingthegap/ (15.11.2024).

Semmler, W. (2006) *Asset Prices, Booms and Recessions*. 2nd ed. Berlin: Springer.

Stratford, B. (2020) 'The Threat of Rent Extraction in a Resource-constrained Future', Ecological Economics, 169, p. 106524. Available at: https://doi.org/10.1016/j.ecolecon.2019.106524.

Strunz, S. and Schindler, H. (2017) 'Identifying barriers towards a post-growth economy'. UFZ Discussion Papers, 6/2017. https://www.econstor.eu/handle/10419/172208 (27.11.2024)

Tokic, D. (2012) "The Economic and Financial Dimensions of Degrowth." *Ecological Economics* 84, pp. 49–56. https://doi.org/10.1016/j.ecolecon.2012.09.011

Vogel, J., Guerin, J., O'Neill, D.W., Steinberger, J.K. (2024) "Safeguarding Livelihoods Against Reductions in Economic Output." Ecological Economics 215: 107977. https://doi.org/10.1016/j.ecolecon.2023.107977

Wiman, L (2024) Are pensions "growth-dependent"?, Sustainability: Science, Practice and Policy, 20:1, 2372874, https://doi.org/10.1080/15487733.2024.2372874

Post-Growth Economics Network
Working Paper 04/2025
February 2025
by Laua Wiman

The **Post-Growth Economics Network** links together researchers and practitioners accepting the existence of ecological limits to economic growth. Members work on issues such as, amongst others, ecological macroeconomics, environmental policy, economics of degrowth, energy economics and policy, climate change, fiscal policy for the socio-ecological transition, green monetary policy and green finance.

The **Post-Growth Economics Network Working Paper Series** is indexed by RePEc and Google Scholar. Papers can be downloaded free of charge from the following websites: https://www.postgrowtheconomics.org/working-papers/

Enquiries: wpseries.pen@protonmail.com

The opinions expressed in this working paper do not necessarily reflect the position of Post-Growth Economics Network as a whole.