



Universiteit
Leiden

The Netherlands

Asymmetric autonomy: pension fund investing between members and markets

Golka, P.; Zwan, N.A.J. van der

Citation

Golka, P., & Zwan, N. A. J. van der. (2025). Asymmetric autonomy: pension fund investing between members and markets. *Socio-Economic Review*, 23(4), 1785–1807. doi:10.1093/ser/mwaf042

Version: Publisher's Version

License: [Creative Commons CC BY 4.0 license](https://creativecommons.org/licenses/by/4.0/)

Downloaded from: <https://hdl.handle.net/1887/4286002>

Note: To cite this publication please use the final published version (if applicable).

Article

Asymmetric autonomy: pension fund investing between members and markets

Philipp Golka ^{1,*} and Natascha van der Zwan²

¹Max Planck Institute for the Study of Societies, Cologne, 50676, Germany

²Institute of Public Administration, Leiden University, The Hague, 2511 DP, Netherlands

*Corresponding author. Max Planck Institute for the Study of Societies, Paulstr. 3, Cologne 50676, Germany. E-mail: philipp.golka@mpifg.de

Abstract

Pension funds occupy a special position in the financial system: their long-term investment orientation and social outlook have led to calls for pension investment for purposes beyond the provision of retirement income. Scholars of financialization have questioned the possibilities to mobilize pension assets for other (e.g. social or environmental) goals by pointing to the constraining power of financial intermediaries. This article explores potential constraints on pension fund investments through an empirical case study of pension funds in the Netherlands. We show that pension funds' position between members and financial intermediaries restricts their capacity to act as autonomous investors, albeit in asymmetric ways. Although pension fund boards are required to consider member preferences, knowledge deficits and organizational distance enable them to carve out discretionary space. However, due to regulatory requirements, their autonomy vis-à-vis financial intermediaries is more limited. We illustrate our findings with regards to pension funds' adoption of sustainable investment.

Key words: financialization; financial markets; public pensions; ecology; political economy; economic sociology.

JEL classification: H55, P16, P18

1. Introduction

Pension funds occupy a special position in the financial system. As investment vehicles for employees' future pensions, they combine a long-term investment horizon with a distinct social outlook. For this reason, pension funds have often been subject to calls from policy-makers, civil society organizations, and their own members for the investment of pension savings for additional purposes beyond purely the provision of retirement income. Such calls have, for instance, centered on social needs for job creation or affordable housing

(Jacoby 2021). In recent years, demands for more climate-friendly pension fund investment have also increased, especially since the 2015 Paris Agreement's goal of "making financial flows consistent with a pathway toward low greenhouse gas emissions and climate-resilient development" (Art. 2.1 sub e). It is therefore not surprising that pension funds have been at the forefront of a global movement around divestment from fossil fuels (Egli, Schärer, and Steffen 2022; McDonnell and Gupta 2024).

However, scholars of financialization have problematized the possibilities for politicians, members or other stakeholders to mobilize pension investments for social or environmental goals unrelated to retirement provision. In the context of financialization, pension funds have increasingly outsourced investment tasks to external financial professionals that implement ever-more technical asset allocation strategies (Gelepathis 2019). In recent years, scholars have stressed the importance of financial intermediaries such as asset managers and index providers in channeling financial flows (Braun 2022; Fichtner, Jaspert, and Petry 2024). Arjaliès et al. (2017) have coined the term investment chain to describe the interlinked social relations that investors such as pension funds encounter when investing, and to visualize the distance between investors and their ultimate investments. The investment chain relates investors such as pension funds to various financial intermediaries, each with their own perspectives and interests, who are able to influence the direction of investments. We extend Arjaliès et al. (2017)'s concept of the investment chain by presenting pension funds as actors that not only face *downstream* constraints from financial intermediaries, but also *upstream* demands from members. Additionally, we empirically investigate the extent to which upstream and downstream pressures, respectively, affect pension investment.

To understand how pension funds respond to both upstream and downstream pressures, we follow an exploratory research design based on twenty-seven semistructured interviews with pension fund executives, member representatives, financial consultants, interest groups, and asset managers active in the Dutch occupational pension sector (see Appendix). Our choice for a qualitative research design is informed by our goal of contributing to an in-depth understanding of real-life practices of pension investing. As investment practices are, like all organizational practices, often somewhat decoupled from formal rules (Meyer and Rowan 1977), interviews focusing on actors' lived experience of pension investing are an appropriate and rich source of data. We interviewed actors along the whole pension investment chain as we were interested to understand the nature and strength of upstream and downstream demands facing pension funds, as well as the ways in which pension funds respond to these pressures. We mainly resorted to snowball sampling to address interactions along the chain, adding some cases of purposive sampling for triangulation.

We select the Netherlands as an illustrative case to highlight the opportunities and constraints faced by pension fund boards when setting investment policy. With occupational pension assets under management exceeding 140 per cent of its GDP (OECD 2024), the Dutch pension system is strongly financialized with high degrees of outsourcing, making funds dependent on powerful financial intermediaries. Meanwhile, pension fund governance in the Netherlands attributes an important role to representatives from employers, employees, and retirees when compared to other capital-funded occupational pension systems, while the regulatory environment requires pension funds to consider member interests in their investment policies, including those regarding sustainability. For these reasons, we expect the presence of considerable pressures, both upstream and downstream, on pension investments in the Netherlands.

Central to our analysis is the concept of autonomy. In the Dutch occupational pension system, it is the task of the pension fund's governing board to decide on an investment policy for the fund's assets. We use the term autonomy to describe *the ability of the board to define this investment policy at its own discretion*. It should be emphasized that we use the concept of autonomy in a heuristic sense and not as a normative evaluation of a pension fund's actions. While in some cases (e.g. when faced with self-serving demands, such as members expecting investments in their own firms or asset managers offering a one-size-fits-all investment strategy) board autonomy can be desirable, there are also situations imaginable where autonomy is undesirable. This may be the case, for instance, when the board is unresponsive to broadly shared member preferences or when the board proposes a high-risk investment policy that jeopardizes the safety of members' retirement provisions. Exactly because pension fund autonomy can produce these variable outcomes, it is worthwhile to study under which conditions autonomy is present or absent.

Our findings suggest that pension funds possess what we call *asymmetric autonomy* when dealing with upstream and downstream demands. Although pension fund boards are legally required to consider member preferences, members' knowledge deficits and pension funds' distance from their membership allow board members to carve out their own discretionary space for decision-making on pension investments. However, pension funds' autonomy is asymmetric given that such discretionary space is more difficult to secure vis-à-vis financial intermediaries. Our findings suggest that pension funds' downstream autonomy is constrained as they depend on intermediaries who set benchmarks for specific classes of investments, carry out the ALM (Asset Liability Management) studies informing pension funds' strategic asset allocations, and carry out pension funds' voting and engagement. That said, our findings also indicate that the degree to which financial intermediaries are able to influence investments depends on three interrelated factors: (1) pension fund size; (2) the degree of outsourcing; and (3) the availability of financial expertise. We illustrate these findings with a vignette on pension funds' adoption of sustainable investment.

Our findings hold a number of implications for the political economy of pension investment. First, our findings add to recent scholarship that emphasizes the role of meso-level factors for macro-level outcomes such as financial asset allocation. Our empirical analysis extends our understanding of the investment chain (Arjaliès et al., 2017) by showing how relations between actors within the chain can be asymmetric, that is, more or less empowering or constraining depending on actors' position in the chain. This adds to existing studies focusing on the institutional design of pension systems (e.g. Immergut, Anderson, and Schulze 2007; Ebbinghaus and Wiss 2011) and studies highlighting the position of institutional investors in a financialized capitalism increasingly dominated by asset managers and index providers (Petry, Fichtner, and Heemskerk 2021; Braun 2022). Depending on their organizational capacity, pension funds are in control over key issues of financial governance such as asset allocation and engagement vis-à-vis some actors (e.g. members) but not others (e.g. asset managers). While this is to some extent an issue of scale, our analysis shows that size is not everything as pension fund governance should more adequately be understood as an interaction between asymmetric upstream and downstream factors.

Second, our findings hold important implications for a policy context in which governments are eager to mobilize private capital for social or environmental investments rather than direct public spending (Gabor 2021; Golka, Murau, and Thie 2024). For instance, an estimated \$8.4 trillion in green investments is needed annually until 2030 for climate

change mitigation (and a staggering \$266 trillion by 2050; [Strinati et al., 2024](#)). Pension funds can play an important role here, as OECD pension assets currently amount to \$51 trillion (2022 data; [OECD 2024](#)), and thus exceed the size of the \$30 trillion global sustainable investment market ([GSIA 2023](#)). For pension funds, however, such investments hold both upstream and downstream challenges. Upstream, pension funds may face conflicting preferences of their member base, depending on factors such as age, education, or gender. Pension funds may or may not have formalized means to collect member preferences and may or may not have representatives of sponsors (employers) and beneficiaries (employees and pensioners) as members of the board. Downstream, the challenge is even bigger as the emergence of a myriad of financial products offers pension fund managers new strategic options such as screening based on environment, social and governance (ESG) criteria, engagement, or impact investment ([Fichtner, Jaspert, and Petry 2024](#)). At the same time, downstream pressures weaken pension funds' autonomy to significantly change their asset allocation. Asymmetric autonomy thus incentivizes pension funds to adopt sustainability approaches that satisfy member demands without leading to a meaningful decarbonization of their financial portfolios. The success of sustainable finance as a policy strategy is therefore highly uncertain.

This article proceeds by reviewing existing political economy and economic sociology scholarship on pension governance and pension investing. In Section 3, we offer background information on how pension investing works and which factors, including the investment chain, inform it. Next, we describe the upstream and downstream dimensions of the pension investment chain in the Netherlands, drawing on our empirical study. For each dimension of the chain, we describe the main actors occupying it as well as the factors that shape their influence over pension investments. In Section 5, we apply this model to analyze and explain how pension funds engage with sustainability. The article concludes with a discussion.

2. Pension fund governance along the investment chain

Since the widespread adoption of funded pension provisions, both public and private, pension funds have become important actors in core political economies. Pension funds are not only responsible for the administration of a social benefit essential to the modern welfare state, they are also in charge of investing the assets needed to finance these benefits. As a result, pension funds are important to their beneficiaries, but also carry strong weight on the national level of the political economy. Pension funds are quantitatively significant due to their collective assets. In several countries, pension assets even exceed national GDP, with the Netherlands standing out in comparison to other OECD countries ([OECD 2024](#), see also [Fig. 1](#)). In political economy scholarship, pension funds have also long been understood as qualitatively significant, as providers of so-called “patient capital.” Patient capital refers to the investment of financial assets with the aim of generating long-term value rather than short-term profit maximization ([Deeg and Hardie 2016](#)). Pension funds are said to be particularly well-suited to provide patient capital thanks to their long investment horizons. As providers of patient capital, pension funds have been attributed important roles in the development strategies of national political economies (e.g. [Estevez-Abe 2001](#); [Pontusson 1994](#); [Trampusch 2009](#)).

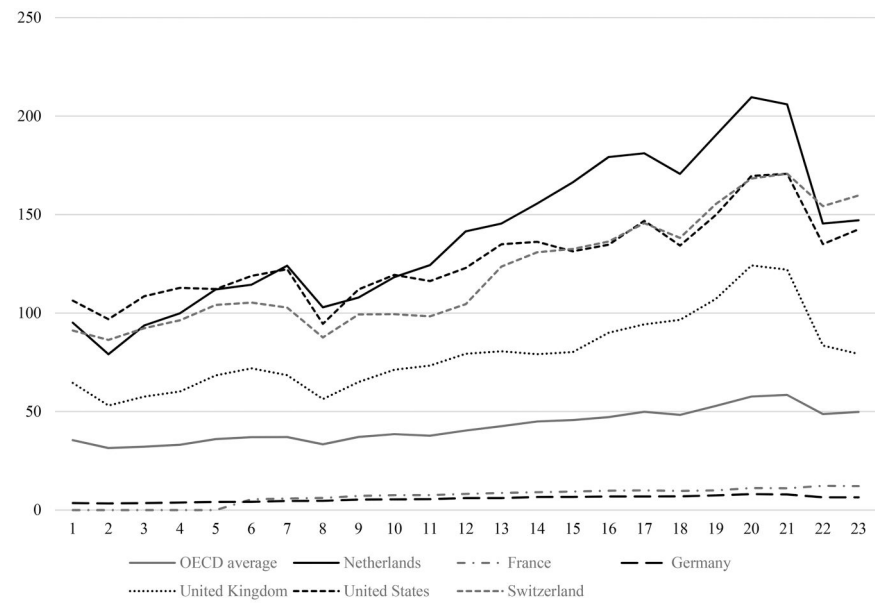


Figure 1. Pension assets as per cent GDP in selected OECD countries, 2001–23.

Source: [OECD \(2024\)](#).

Complicating these matters, however, is the reciprocal relationship between pension funds and processes of financialization. As economies across the globe increasingly rely on incomes generated on financial markets and through returns on financial assets ([Mader, Mertens, and Van der Zwan 2020](#); [Adkins, Cooper, and Konings 2021](#)), pension funds have themselves become financialized. Pension financialization concerns “the growing role of financial markets and financial actors in the provision of old-age pensions” ([Van der Zwan 2020](#): 2). Pension financialization is not a singular phenomenon but an interplay of multiple factors, which may or not occur simultaneously (*ibid.*). Among the most notable are (1) the shift from Defined Benefit (DB) to Defined Contribution (DC) pension schemes that transfer the risks of pension provision toward individuals ([Wiß 2019](#)); (2) the adoption of investment practices informed by Modern Portfolio Theory, by which pension funds have considerably shifted their asset allocation from fixed-income assets to a more diversified portfolio across (often riskier) asset classes ([McCarthy, Sorsa, and van der Zwan 2016](#)); (3) changes to the governance and regulation of funded pensions with a growing role for financial experts and financial models ([Golka and van der Zwan 2022](#)). When these factors co-occur, pension financialization can be self-reinforcing: for instance, when the mark-to-market valuation of pension assets and liabilities increases demands for financial expertise, pension funds may move toward riskier investments, as financial experts advocate a shift from risk avoidance to risk management ([Pernell, Jung, and Dobbin 2017](#); [Golka and van der Zwan 2022](#)).

Amidst increased financial risks and growing technical complexities, many countries have introduced extensive systems of representation and supervision to ensure that beneficiaries’ interests are protected. Particularly in countries such as the Netherlands, where

states provide only a base pension, strong incentives exist for occupational pensions to be negotiated between workers and employers (Ebbinghaus and Gronwald 2011). As a result, many countries feature systems of representative governance that give pension members, unions, and employers a say in the management and investment of pension capital (Sorsa 2016). In addition, extensive supervisory systems are introduced as both plan members and sponsors have an interest in stable and affordable pensions (Anderson 2019; Van der Zwan and Golka 2024). Still, it is noteworthy that these systems of representation and governance are not static, but subject to change. An important development in the context of pension financialization, for instance, is the replacement of worker and employer representatives on pension fund boards by independent financial experts (Golka and van der Zwan 2022).

The rise of pension financialization therefore raises important questions about the potential of pension funds as providers of patient capital. The Netherlands is a case in point: in addition to shifts in asset allocations from fixed income assets to listed equities and alternative investments such as hedge funds or real estate (McCarthy, Sorsa, and van der Zwan 2016), pension funds' average holding periods have also shown a development toward more short-termism (for a historical overview, see Boshuizen and Pijpers 2000; Carlier 2024 for a recent perspective). As pension investment increasingly relies on products offered by asset managers and index providers (Petry, Fichtner, and Heemskerk 2021; Braun 2022), this raises the question whether pension funds, and the actors responsible for their governance, are still in effective control of their financial investments. This puzzle is important for wider debates in political science and political economy: are we witnessing a "pension fund capitalism" (Clark 2000) driven by the nonmarket elements of pension funds, or an "asset manager capitalism" (Braun 2022) where giant international asset managers such as BlackRock are key to determining investments in the economy?

To address this question, we propose to analyze pension fund's autonomy over its investments through an empirical analysis of the investment chain in practice. Our approach is informed by relational sociology, which holds that action is constrained and enabled by the social relations into which actors are embedded (Granovetter 1985). In financial markets, these relations take the form of "chains" that link pension savers to the recipients of pension capital in the economy through various steps of financial intermediation (Arjaliès et al., 2017). Understanding the autonomy of pension funds from the perspective of investment chains requires, first, to identify the social relations in which pension funds are embedded and, second, to understand how funds navigate these social relations and the extent to which they are in control. It is important to note that the actions of pension funds within these chains are in turn mediated by a wider institutional context that creates conforming pressures through moral and legal prescriptions, as well as shared information such as good practices or templates (DiMaggio and Powell 1983). Examples are, for instance, legal rules on pension funds' fiduciary duties or the financial models they employ that, once accepted, create significant conforming pressures on their actions (MacKenzie 2006).

We differentiate between unequal and conflicted upstream and downstream social relations when unpacking the question of pension funds' investment autonomy. *Upstream*, pension funds need to gain information regarding potentially plural and conflicting preferences of pension fund members and employers. This may include information-gathering through surveys as well as collective forms of interest representation. *Downstream*, pension funds need to translate member preferences into an investment mix. It is important to note that

investment control includes not only the allocation of assets, but also voting on shareholder resolutions as well as engagement through direct interaction with investee firms. The key problem, however, is that, to perform these tasks, pension funds rely on various financial intermediaries such as fiduciary managers, asset managers, data providers, or proxy voting firms. While scholarship has recently shed light on the importance of some of these actors such as asset managers and index providers (Petry, Fichtner, and Heemskerk 2021; Braun 2022), little is known about how and under what conditions these and other actors in the investment chain influence pension fund decision-making.

Our relational conception of pension fund governance adds to political science and political economy scholarship in different ways. Institutional scholars have often pointed to the role of national-level institutions, such as the prevalence of DB or DC pension plans or the role of trade unions in pension governance, to account for the considerable heterogeneity of pension fund asset allocation across the European Union (Immergut, Anderson, and Schulze 2007; Ebbinghaus and Wiss 2011). Recently, scholars have added to the literature by pointing to the dynamic nature of some of these factors, such as changing preferences of unions and employers (Röper 2021; Van der Zwan 2020). However, to our knowledge, the organization of the investment process has not yet been analyzed to account for differences in funded pension outcomes. We add to existing findings by developing a conceptual framework that is not only attentive to pension funds' embeddedness in legislative and collectivist institutions, but also takes into account the nature of financialized capitalism that connects pension fund governance to powerful financial intermediaries.

The importance of our model can be seen by investigating the case of sustainable finance. Sustainable finance is important for scholars of public policy and political economy as it represents a case of market-based public governance (Braun, Gabor and Hübner 2018; Golka, Murau, and Thie 2024). Not least since the recent introduction of the EU Sustainable Finance Disclosure Regulation, governments across Europe are seeking to foster a greening of the financial system. Indeed, the hope to "mobilize" private capital to fund the green transition plays an increasing role in government policy as governments are seeking to "de-risk" private investment (Gabor 2021). As traditional providers of patient capital, pension funds are tasked to play a leading role in the greening of the financial system. However, although pension funds across the globe vocally advertise their green strategies (Van der Zwan and Van der Heide 2024), little is known about the extent to which they collectively invest in green assets, or even have the capacity or willingness to fund the green transition. This "black box" concerning pension funds' contributions to funding the green transition is particularly surprising, as pension members are known to voice sustainability as a key concern (Apostolakis, Kraanen, and Van Dijk 2016; Delsen and Lehr 2019; Bauer, Ruof, and Smeets 2021). Despite public pressure for sustainable investment, we still lack a deep understanding of the mechanisms driving or hindering pension fund investment into the green transition. In what follows, we apply our model of upstream and downstream constraints on pension funds' investment control to the case of sustainable investment. But first, we describe *how* pension investment in the Netherlands typically works.

3. How pension funds invest

Several elements inform the ways in which pension funds invest: not only the composition of the investment chain, but also the nature of the pension contract, the demographic

composition of the membership base, or the interest rate environment. In this section, we discuss a number of these features and their importance for the pension investment process. We present the Netherlands as an illustrative case for our overall argument, because its institutional environment creates both strong upstream and downstream pressures that pension funds need to navigate. First, whereas all pension funds invest for the purpose of funding pension benefits, the nature of these pension benefits can differ significantly. In the Netherlands, occupational pensions are capital-funded, whereas the state pension is financed on a PAYGO basis. Until recently, the majority of occupational pension schemes were DB average salary contracts with a predetermined pension promise of 70 per cent of the average salary enjoyed throughout a beneficiary's career upon retirement. That said, occupational pensions also contain elements of DC contracts, such as indexation conditional upon investment returns. The DC elements of the Dutch pension system are likely to increase in the future as the Netherlands has begun the transition to a collective defined-contribution (CDC) system in July 2023. Nevertheless, the *de jure* DB nature of Dutch occupational pensions has meant that funds were legally required to maintain extensive capital buffers to cover their long-term liabilities, increasing pressure for return generation.

Because Dutch pension funds administer collective pensions, their investment policies are also strongly informed by the demographic composition of the funds' membership (Engelen 2003). After all, both the size of a fund's liabilities and the timing of when pension benefits need to be paid out depends on whether a pension scheme has a younger membership base (who are still accumulating pension entitlements) or an older one (whose pensions need to be paid out soon). Other demographic factors also matter for the financial flows of the fund. A predominantly female workforce, for instance, will likely generate longer term liabilities than a predominantly male workforce, because women on average have higher life expectancies than men. Educational levels of the membership matter for the same reason.

Pension funds operate within a strict regulatory context. In the Netherlands, pension funds have to invest according to the prudent person rule (PPR). The PPR requires pension investors to invest the capital under their management "with the care, skill, prudence and diligence" of a prudent person. As an open norm, it gives pension funds considerable freedom in deciding how to allocate their assets. That said, pension funds' investment policies are constrained by the legal requirement to maintain certain capital buffers. Under Dutch law, pension funds have a so-called "mandatory funding rate" (*vereiste dekkingsgraad*), below which the annual average funding rate is not allowed to drop (although funding rates will likely be no longer applicable in the new CDC system). The mandatory funding rate is determined partially on the fund's investment policies: the riskier the investment portfolio, the higher the mandatory funding rate. When a fund's average funding ratio drops below the mandatory rate, the fund is obligated to submit a financial repair plan to the Dutch Central Bank. In the case of low funding rates, the pension fund is not able to award indexation and, ultimately, can be forced to reduce pension entitlements.

Dutch pension legislation also strongly shapes the valuation of pension funds' assets and liabilities. Specifically, Dutch pension rules and regulations require pension funds to mark-to-market their assets and liabilities. Pension funds are required to invest in line with their future liabilities, with the law explicitly allowing them to use hedging to manage financial risks and requiring them to establish an investment cycle based on investment principles every three years. As a result of these requirements, *ad hoc* investment decisions by pension

fund boards (so-called tactical asset allocation) are discouraged, while strategic asset allocation that links investment principles to triannual ALM studies is increasingly adopted (for more information on ALM, see [Gelepithis 2019](#)). Financial models like ALM play a cornerstone role in financial markets, as they coordinate the actions of financial market participants in line with the model's theoretical assumptions ([MacKenzie 2006](#)).

Finally, pension funds respond to external market conditions outside their immediate investment chain. For pension funds managing DB schemes, the importance of interest rates can hardly be overstated ([Bonizzi and Kaltenbrunner 2019](#)). Pension funds have a short-term and a long-term sensitivity to interest rates. In the short term, interest rate increases lead to a devaluation of pension funds' fixed income holdings. Interest rate increases thus pose—as could be observed in the 2022 UK Gilt crisis—a short-term liquidity risk that pension funds need to hedge against. In the long term, however, interest rate increases are often beneficial for pension funds. As Dutch pension funds are required to discount the value of their future liabilities with market interest rates, interest rate hikes reduce the net-present value of pension liabilities. As a result, pension funds' funding ratio, which measures the market value of assets relative to liabilities, increases.

4. Asymmetric autonomy in the pension investment chain

To understand the extent to which investment chains enable or constrain pension investments, we empirically investigate the social relations that connect pension members to pension investments. In the Netherlands, the pension fund board is the main decision-making body of the fund, setting its investment policy. We argue that the actions of pension fund boards are constrained and enabled by those *upstream* from their position—such as pension members and plan sponsors—as well as those *downstream*—such as asset managers and financial consultants. In both upstream and downstream relations, pension funds' control over investments is restricted by the other actors within the chain and their capacities to affect the board's decision-making autonomy. Below, we draw on our interview study to identify relevant actors in the upstream and downstream spheres of the investment chain and describe how they shape pension investments. We thus expand [Arjaliès et al.'s \(2017: 5\)](#) finding that pension funds are located in-between “savers” and “investment management firms” by mapping a highly complex, yet asymmetric web of relations.

4.1 Upstream factors

The upstream sphere of the pension investment chain is occupied by the members of the pension scheme (active employees and retirees) and sponsoring employers ([Fig. 2](#)). Although pension funds are independent legal entities, their activities are shaped by the actors on whose behalf they make investments. Here, we focus specifically on pension scheme members and less on the sponsoring employers. Our study reveals four key factors that shape pension funds' upstream relations: members' preferences, the level of scheme organization, the pension fund's governance model, as well as its accountability structures. While all of these factors jointly shape pension funds' upstream relations, there is considerable variety across these dimensions. Members' ability to influence pension investments therefore differs across pension funds, even within a single pension system like the Netherlands.

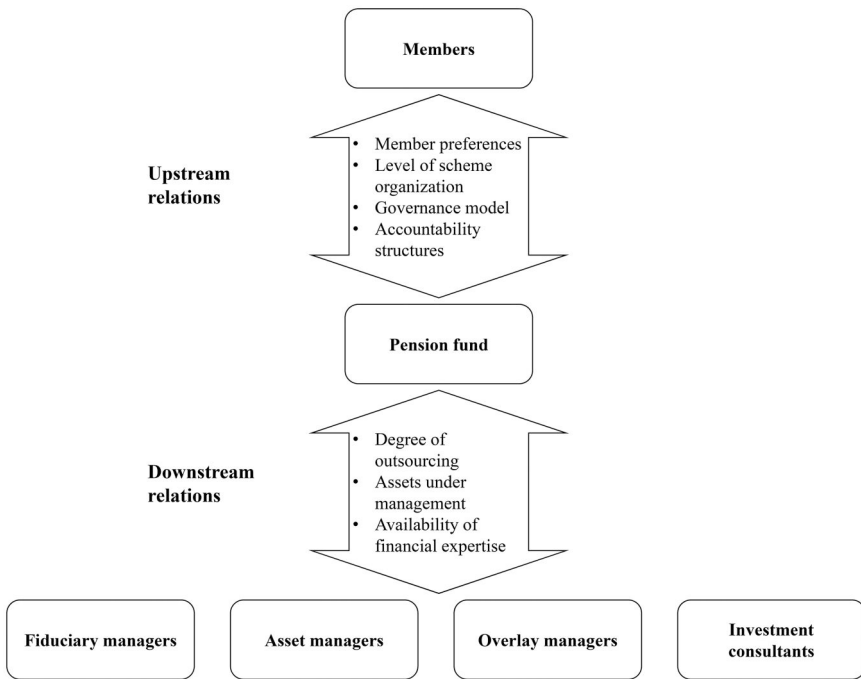


Figure 2. Upstream and downstream factors in the pension investment chain.

In the Netherlands, national legislation requires pension funds to conduct assessments of members’ risk preferences. These formal requirements have led to the growth of a dedicated industry developing procedures to capture participants’ risk preferences through scenario analyses distributed in questionnaires. Although pension fund board members are obliged to follow the risk preferences of their participants, they nevertheless have significant discretion in interpreting the obtained results. In the words of a pension fund board member: “The risk attitude from the board is maybe more important than the outcomes of the risk preference interviews” (Interview 14). This point of view was confirmed through other interviews (Interviews 4, 5, and 13): pension fund boards tend to take up member risk preferences only when they are broadly in line with their own view. Absent such an alignment, board members often assume that significantly differing risk preferences point to misunderstandings or a lack of financial literacy among participants. While, by law, members’ risk preferences should be a leading factor in the board’s investment policy, in practice, they do not constitute an important constraint on the board’s autonomy. Similar forms of interpretive discretion also arise in other areas concerning member preferences, such as sustainable investment (see also Section 5). That said, some pension fund boards have problematized their interpretive discretion, resorting to qualitative instruments such as interviews and focus groups to reduce the ambiguity of collected member preferences.

The degree to which member preferences inform pension investments is also affected by the *level of scheme organization*. In the Netherlands, occupational pension schemes can be organized at the company or industry level or at the level of a professional group (e.g. medical

specialists), translating into differences in the distance between members and the fund itself. In general, the higher the number of employers affiliated with the scheme, the greater the distance between the fund and its members. Single company funds tend to be closer to pension members and rely more strongly on informal means of collecting preferences. While this means that member preferences often directly inform board decision-making as board members are personally networked among pension fund members, it may also create tunnel vision and selection bias if board members assume they “know” member preferences without formally collecting them (Van der Zwan and Golka 2024). Multicompany or industry-wide funds lack the dense internal networks of single companies and therefore often rely on more formal means of preference collection such as surveys.

Multiple respondents have voiced difficulties in obtaining member preferences for industry-wide funds as the distance between the fund and its members translates into lower response rates (Interviews 4, 9, 13, 22, and 26). For example, a consultant working for a service firm specialized in conducting pension member surveys indicated that industry-wide funds rarely have access to member emails (Interview 13). This results in response rates often below 10 per cent, in contrast to rates of 20–25 per cent in company funds. This reduction in overall response rates may exacerbate existing response biases and thus further diminish the voice of especially lower educated, younger people whose voices are, according to said consultant, virtually impossible to collect (ibid.). That being said, distance may also affect voice in counterintuitive ways. Some respondents noted a considerably stronger position of employers in company funds as compared to industry-wide funds (Interview 6). Others have noted that union representatives in industry-wide funds opposed the direct collection of member preferences as they feared a loss of influence (Interviews 6 and 13).

As noted, the pension fund board is the main decision-making body of the fund, setting its investment policy. Pension fund boards have different compositions, depending on the *governance model* of the pension fund (Fig. 3; see Golka and van der Zwan 2022 for a detailed discussion). In the historically traditional model of pension governance, pension board members are representatives of the scheme’s members and sponsors (employees or unions, employers, and pensioners). In the newer, “independent” model of pension governance, nonrepresentative financial experts hold the seats on the board. Other models are hybrids, in that they consist of a one-tier board with financial experts as executive members and employee/employer representatives as nonexecutive members or *vice versa*. While executive board members are involved in the daily management of the fund and hold decision-making power, nonexecutive board members play a supervisory role.

Pension fund governance also shapes the *accountability structures* within the fund. Pension funds are required to have an advisory body staffed by representatives of employees, retirees and sometimes employers, who are charged with monitoring board decision-making. Depending on the governance model, these advisory bodies may differ in terms of their composition and formal powers (Golka and van der Zwan 2022). Under Dutch law, the advisory body has the right to advise the board in key decisions, such as the liquidation or merger of the fund. In the case of boards with independent expert members, the advisory body also has approval rights, for instance regarding the fund’s strategic investment policy. In practice, however, its role is largely retroactive. As described by a board member: “The board makes decisions as a board and we don’t have joint sessions with the [advisory] body, because that would mix decision-making with giving accountability on the decisions that you’ve made” (Interview 1). The discretion of the board includes important investment

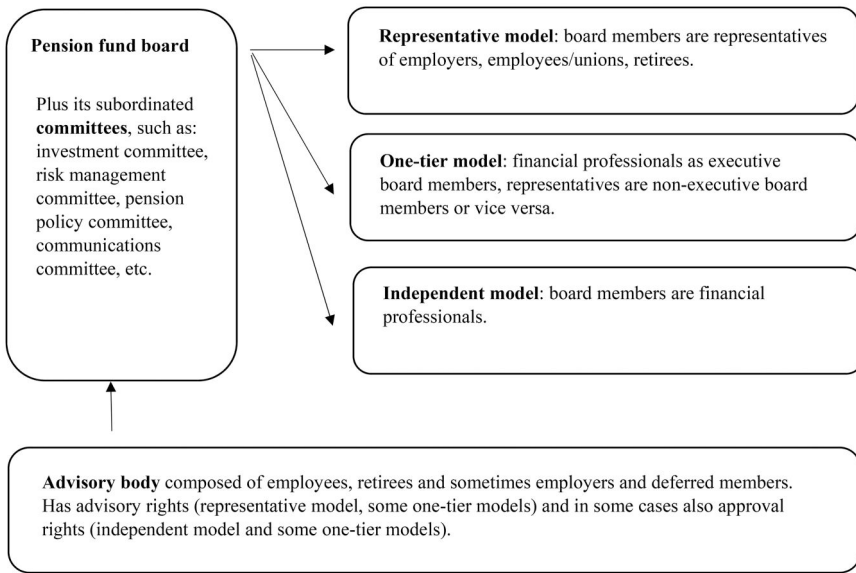


Figure 3. Pension fund board models.

decisions that, according to interviewees, are made without seeking advice from the advisory body. Members of the advisory body voiced concerns regarding the governance process, stating that in preparation to meetings “you get overwhelmed by technical documents. (...) It’s simply too much” (Interview 19). As a result, the advisory body is often not in the position to assess whether complex financial decisions are in the members’ interest.

In short, pension governance holds importance for the fund’s investment policy (see Fig. 3). In the case of representational boards, the fund’s stakeholders have avenues to influence the investment policies via their representatives on the board. This is not the case for independent or one-tiered boards, where stakeholders can only exert influence through their representatives on the advisory council and among the nonexecutive board members—neither of which have formal decision-making power over investment policy. Here, boards face more discretionary space regarding investment decision-making. That said, board members may also face other organizational limits on this discretionary space. Across all governance models, for instance, board members may be aided in their tasks by external financial experts. These experts do not hold formal board seats but may be members of an investment committee that advises the board on investment matters, including the outsourcing of investment tasks to external asset managers.

4.2 Downstream relations

The extent to which pension funds are in control over all aspects of their investment portfolio—their downstream autonomy—is defined by their ability to navigate a complex ecology of financial intermediaries and consultants (Arjaliès *et al.*, 2017). Our study has revealed four actors (fiduciary managers, asset managers, overlay managers, and investment consultants) and three dimensions (outsourcing, size, and expertise) that are key to pension funds’ autonomy (see Fig. 4).

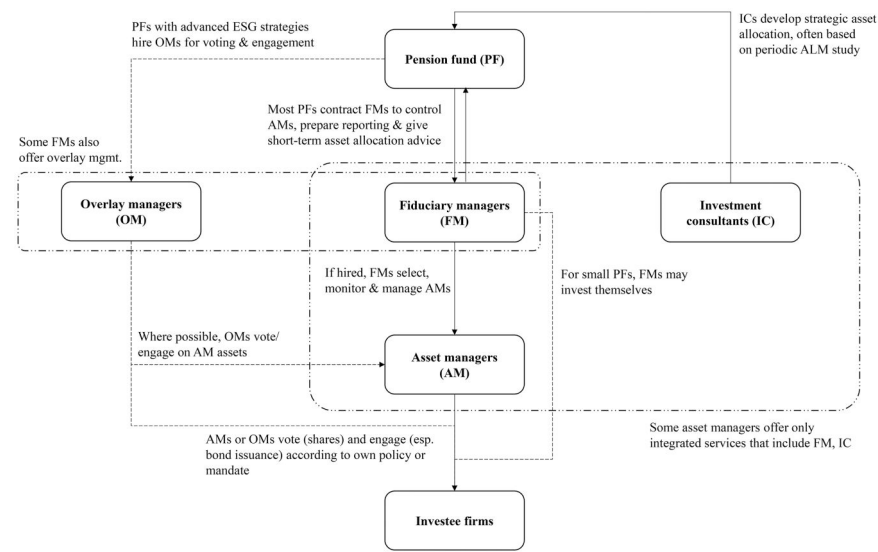


Figure 4. Downstream relations for asset allocation, voting, and engagement of pension funds.

Fiduciary managers play an important role in the downstream domain of pension fund investments. Fiduciary management comprises all functions of pension fund investment management from strategic asset allocation (i.e. breaking down the portfolio into various asset classes and their respective allocation), the selection and monitoring of asset managers or (partial) in-house asset management, reporting, and preparation of investment committee meetings. Pension funds vary significantly in the services they contract from fiduciary managers, from none for very small funds to virtually all for those contracting one-stop-shop firms such as APG. Fiduciary managers' role in pension investment makes them an important, but thus far overlooked, linkage between pension funds and asset managers. As pension funds usually follow fiduciaries' recommendations for asset allocation, fiduciary managers play an important mediating role in asset managers' power over pension fund investment. On the one hand, fiduciaries are an important conduit of the power of asset managers and index providers as they usually advise pension funds to follow the benchmarks (i.e. the portfolio that makes up a particular asset class, such as emerging market debt) defined by them. Fiduciary managers usually advise against active investment decisions or tailored benchmarks as these come with higher management fees. On the other hand, fiduciaries compare asset managers' fees and service quality, thereby strengthening competition between them.

Overlay managers and *investment consultants* play a subordinate role to fiduciary and asset managers but are nevertheless important. Pension funds often contract overlay managers to implement their voting and engagement strategies. Although pension funds may have their own voting and engagement strategies, overlay managers play an important role as they define annual focus themes for voting and engagement. As noted by an executive of an overlay management firm, they see themselves in the "driving seat" regarding the thousands of voting decisions on shareholder resolutions per year and fund (Interview 23). Overlay managers also gain influence vis-à-vis pension funds by pooling assets of multiple funds for shareholder engagement.

While representing a larger pot of money may increase the effectiveness of shareholder engagement, it also gives overlay managers considerable influence in defining the issues, targets, and processes of engagement, reducing the authority of individual pension funds.

The main role of investment consultants is to advise pension funds regarding their strategic asset allocation. Investment consultants thus play an important role for the performance of complex financial models (MacKenzie 2006). According to our interviews, the majority of pension funds rely on investment consultants to conduct ALM studies, usually every three years. The development of investment strategies via ALM involves the risk preferences obtained by the fund as well as financial modeling based on scenarios with the goal to break down pension fund investments into different asset classes. As ALM studies are highly technical yet only devised every three years, pension funds have an economic incentive to outsource their development. The pension fund board thus only has a limited “countervailing power” (Galbraith 1954) vis-à-vis investment consultants regarding the definition of investment strategies (see also Section 5).

Three factors shape pension funds’ autonomy vis-à-vis these four downstream actors. The first aspect is the extent to which pension funds *in- or outsource organizational functions*. While almost all pension funds outsource at least some of their corporate functions—in 2023, 94 per cent had outsourced a substantial portion of asset management (>30 per cent) and 86 per cent had outsourced an administrative function (DNB 2024)—there is considerable variety in the extent to which outsourcing corresponds to a transfer of decision-making power. Somewhat counterintuitively, the extent to which decision-making power is transferred does not uniformly correspond to the number of outsourced functions, but is also determined by factors such as size and expertise (discussed below), the type of functions and the availability of checks and balances. The outsourcing of operational functions such as account- or payment management has little influence on pension funds’ autonomy. For strategic functions, it depends on the extent to which the outsourced functions enable effective oversight and decision-making control by the pension fund board. For example, hiring fiduciary managers might increase pension fund control over investments, because it can enable competition between and monitoring of asset managers. However, this is less the case when pension funds outsource to all-in-one firms that include both fiduciary and asset management.

Second, pension fund size in terms of assets under management is an important precondition for pension fund control vis-à-vis asset managers. Interviewees note that pension funds need a critical size of around €4–5 billion in total assets in order to get their own tailored accounts with asset managers (Interviews 10, 11, and 23). These accounts are necessary if pension funds want to exclude certain assets (e.g. as part of an ESG strategy). Smaller funds can often choose only from standard products offered by asset managers. These accounts are also a necessary condition for pension funds to vote on shareholder resolutions, because they make the pension fund—rather than the asset manager—the legal owner and thus holder of the voting rights of the respective shares. A larger asset base also increases pension funds’ bargaining power in negotiations over asset management contracts and pension funds’ voice in shareholder voting and engagement. Interviewees also mentioned that, in smaller funds, the investment committee enjoys considerably higher degrees of freedom, sometimes acting first and asking for board approval only retroactively (Interviews 3 and 14). Given that investment committees often include external members from fiduciary or asset management firms, their increased autonomy in smaller funds can somewhat isolate downstream investment decisions from upstream demands. However,

pension fund control should not be seen as a linear function of its asset base. Size can also be problematic when pension fund investment decisions turn into national news events. For example, as ABP's recent fossil fuel divestment decision made national headlines, the communicated intent to sell fossil fuel shares created a price risk. Larger medium-sized pension funds may thus have the highest degree of investment control.

The *availability of financial expertise* within the pension fund is the third factor affecting pension funds' downstream autonomy. Decades of pension financialization have translated pension investment into an increasingly technical practice aimed at implementing financial models of growing complexity and thus demanding financial expertise. With growing financialization, the Dutch Central Bank has increased the requirements on financial expertise for pension fund board members in the hope to create a "countervailing power" to large asset managers. The professionalization of pension fund governance has furthermore led pension funds to hire in-house financial experts to consult the board. As described by an asset manager, the rise of in-house expertise has been one of the biggest changes in Dutch pension fund governance as fiduciary managers and asset managers are now increasingly communicating to said experts rather than to the board directly, as they used to in the past (Interview 23).

Regarding downstream autonomy, the rise of in-house financial expertise is a double-edged sword. On the one hand, it enables pension funds to engage in more complex investment strategies, such as liability-driven investing that promise an optimal match between pension liabilities and asset allocation. In-house expertise is furthermore required for an effective sustainability governance as understanding and managing channels for sustainability impact is a highly technical exercise that requires significant expertise (see below). On the other hand, seeking to use financial markets in their favor further strengthens and internalizes the financialization of pension funds. As financial expertise becomes increasingly important for investment decisions, concerns voiced by members or stakeholder representatives need to be translated into the language of financial markets or run the risk of being crowded out. This is particularly important as the pension fund board, which is accountable for ensuring the representation of stakeholder interests, only rarely deviates from the proposals made by the investment committee, as described by our interviewees. While the board often features member or sponsor representatives, this is less the case for the investment committee staffed by internal and external financial experts.

5. Controlling the chain? How asymmetric autonomy affects sustainable investment

Given members' growing social and environmental concerns and the long-term nature of pension liabilities, pension funds have long been understood as drivers of responsibility and sustainability in financial markets (Clark and Hebb 2005; Langley 2008). These accounts, however, have recently been challenged by political economists emphasizing the influence of financial intermediaries as key actors who define standards and practices of sustainable finance. In the case of investments that integrate ESG (environmental, social, and governance) considerations, for instance, index providers develop the sustainability benchmarks that structure the flows of institutional capital (Fichtner, Jaspart, and Petry 2024). In other words: much like pension investments more generally, sustainable investing by pension funds is shaped by their relative exposure to or autonomy from upstream and downstream pressures.

In the upstream domain of the pension investment chain, pension funds have to mediate the conflicting interests of various stakeholder groups regarding sustainability. Existing

studies have shown that pension scheme members are often supportive of sustainable investments, even at the expense of financial returns (Apostolakis, Kraanen and Van Dijk 2016; Bauer, Ruof, and Smeets 2021). In a large-N survey among Dutch citizens, for instance, Delsen and Lehr (2019) find women to be more in favor of sustainable investment than men, while sustainable investment preferences are moreover correlated with age and educational level. Our interviewees report similar observations regarding member preferences for sustainability. Interviewees noted, for instance, that men, older members and those with less formal education are less concerned with sustainable investment than other demographics (Interviews 5 and 22). Sustainability preferences may also differ across industries, with members from fossil fuel or chemical industries being less supportive of sustainable investment than those from, for example, public services (Interviews 5, 7, and 8).

Sustainability preferences are also linked to upstream stakeholder relations. Labor unions have a long history of leveraging pension capital for progressive goals that include ESG aspects such as working conditions (Jacoby 2021). In the Netherlands, large unions run training programs for union representatives on pension fund boards that are aimed specifically at sustainable investment. Employer representatives, by contrast, tend to be more critical of changes to pension fund investment, such as sustainable investing (Interviews 12, 18, and 20). As employers shoulder two thirds of pension contributions, they are also more skeptical of divestment initiatives which may increase risk exposure and thus potentially result in higher contributions (Interview 7). Likewise, pensioner representatives also tend to be more skeptical regarding sustainable investment due to their lower risk appetite and weaker sustainability preferences (Interview 5). These differences between groups are also translated into the accountability body, where employer representatives tend to be more supportive of board decisions and thus challenge boards less on sustainability issues (Interview 19).

Heterogeneous upstream preferences create room for board discretion—what we call upstream autonomy. When obtaining sustainability preferences, board members have two important sources of influence. First, the framing of questions regarding sustainability has important repercussions on the obtained preferences. Members may be less inclined to opt for sustainability, if they are asked about their willingness to accept financial losses for the sake of sustainability instead of being asked about the importance they ascribe to the issue (Interview 7). Second, board members can interpret these results while facing only relatively weak accountability. Multiple interviewees held that member preferences only affect board decision-making as long as they are broadly in line with board preferences (Interviews 3, 4, 5, and 14). Highly deviating preferences are often interpreted by pension fund boards as members misunderstanding a question. To be sure, some pension fund boards take actions to avoid such misunderstandings. As one interviewee noted, the decision of their pension fund to start an engagement program resulted from qualitative interviews with members conducted to gain an in-depth understanding of their preferences and avoid misunderstandings common in surveys (Interview 5). The choice for a particular method to obtain members' sustainability preferences, however, lies in the discretion of the board.

Whereas pension funds have considerable upstream autonomy, their—downstream—capacity to introduce sustainability into their investments is constrained. Here, it is important to understand that sustainable investment is an umbrella term that encompasses three main strategies that differ in how they affect pension funds' asset allocation and by which actors they are implemented. The first strategy, voting on shareholder meetings and direct engagement with portfolio firms, does not require changes to funds' asset allocation and is usually

implemented through specialized providers. The second strategy, ESG investing, draws on various practices (such as screening or best-in-class) to introduce environmental, social and governance (ESG) criteria into the construction of investment portfolios. Asset managers offer a large variety of such ESG funds (e.g. BlackRock's "ESG screened" iShares ETFs) that range from funds that are virtually identical to non-ESG funds to funds based on rigorous exclusion or climate policies (Fichtner, Jaspert, and Petry 2024). The large variety of ESG funds allows pension funds to find ESG funds that suit their requirements—especially with regards to portfolio diversification. A third strategy is to provide finance to green projects (such as renewable energy), either directly or via specialized intermediaries such as private equity funds. In contrast to ESG investing, however, targeted green investments are not diversified.

Pension funds' downstream authority differs for each sustainability strategy. Pension funds' downstream authority to implement voting and engagement is primarily a question of size and expertise to ensure control over contracted intermediaries. Size represents a necessary condition because pension funds—rather than asset managers—need to be the legal owners of shares if they want to be in full control over voting (Interview 11). Pension funds also require expertise to develop, implement and monitor voting and engagement policies (Interview 16). However, pension funds rarely have the capacity to implement these policies themselves as voting alone would, due to pension funds' diversified portfolios, require thousands of decisions on shareholder resolutions per year. This means that pension funds depend on overlay managers to implement their voting and engagement policies. With regards to pension funds' downstream authority, overlay managers are a double-edged sword. While their services enable pension funds with limited administrative capacity to exercise their voting rights, overlay managers also have considerable authority themselves by setting annual focus topics for engagement and developing voting recommendations. In practice, the exercise of pension funds' authority regarding voting and engagement is a matter of resources, as deviations from overlay managers' proposals is subject to fees (Interview 23).

Pension funds' downstream authority to implement ESG investing is somewhat more constrained but—due to its limited impact on diversification—largely manageable. As described by a pension fund investment officer in charge of sustainability, the triannual ALM study is the most important constraint to sustainable pension investment, because ESG goals have to fit into the strategic asset allocation derived from the study (Interview 8). If pension funds' ESG strategy leads to a deviation from their defined asset allocation—for example, because strong divestment pressure emerged in between triannual ALM studies—they may need to hire financial consultants to assess the consequences in terms of ALM (Interviews 1 and 17). Some ESG strategies, such as idiosyncratic exclusion policies, may also require tailored financial products that deviate from the standard benchmarks offered by asset managers. Here, too, size is a necessary condition as pension funds need to have their own accounts with asset managers for the definition and management of nonstandard benchmarks—which also incur higher management fees (Interview 11). For pension funds of sufficient size, downstream authority to implement idiosyncratic ESG strategies is therefore rather unconstrained—but as management fees rise with the deviation from market standards, so does the justificatory burden on pension fund boards.

Arguably the most important issue constraining pension fund downstream authority is the degree to which sustainability strategies affect their portfolio diversification. If, for example, pension funds were to rapidly decarbonize their portfolio by shifting a considerable part of their assets from diversified ESG funds into direct green investments such as

renewable energy, they would have to price in corresponding risk increases. As explained by an asset management executive:

So if, for example, [the pension fund's] wish is, say, we would like to have 50% [of our fund's assets to be invested into] renewables, then we need to go back to the drawing board and say, okay, this is, that might be feasible from a market perspective. But be careful, your risk-return profile would be adjusted in such a way that your general premium, the coverage premium, would rise from 22 to 25%. (Interview 17)

The link between pension fund asset allocation and pension premiums results from financial theory: portfolio theory holds that constraining the diversification of investment portfolios also constrains the diversification of risks and thus leads to an overall increase of investment risk. As pension funds are legally required to invest according to the PPR, investment risks need to be adequately funded. Ideally, risk increases are funded through higher expected returns. Funding investment risks of large-scale direct green investments through expected returns is unlikely not because they are unprofitable *per se*, but because they are not sufficiently *more* profitable than investments into more diversified assets to offset potential risk increases (Christophers 2024).

Pension funds seeking to rapidly decarbonize their portfolios will thus need to fund the corresponding risk increases themselves. To fund these risk increases, the pension fund board may hike premiums. However, this is unlikely due to members' heterogeneous sustainability preferences and the availability of alternative options such as ESG that allow incorporating sustainability preferences without increasing investment risk. Another option to fund risk increases would be to use excess funding that emerges when the value of pension assets exceeds the discounted net-present-value of future pension liabilities. Future pension liabilities are discounted by interest rates. This means that the value of pension liabilities decreases as interest rates increase. As can be seen in Fig. 5, interest rate changes strongly affect pension funds' funding ratio. Pension funds' funding ratio—the ratio between their assets and discounted liabilities—remained relatively stable between 2010 and 2020 when declining interest rates offset a near doubling of pension assets. However, during the 2022–3 high-interest period, the average funding ratio of Dutch pension funds increased to 119 from an average of 102 during the 2020–1 low-interest period—despite a concurrent loss of €150 billion pension assets. Somewhat counterintuitively, interest rate increases thus expand pension funds' space for green asset allocation. However, this also shows that pension funds' authority to decarbonize their asset allocation is constrained by downstream financial market pressures.

6. Discussion and conclusion

Drawing on insights from relational sociology (Arjaliès *et al.*, 2017), we have argued that pension fund autonomy depends on what we called their upstream—vis-à-vis members and employers—and downstream—vis-à-vis the investment chain—relations. We have investigated the case of the Netherlands, which we understood as an illustrative case for the question of pension fund autonomy: not only do Dutch pension funds rely strongly on services provided by financial intermediaries, but national regulation dictates that they consider member preferences in their investment policies. Our findings show that, despite considerable upstream and downstream pressures, Dutch pension funds possess what we call “asymmetric autonomy.” Our empirical study revealed that pension fund boards have

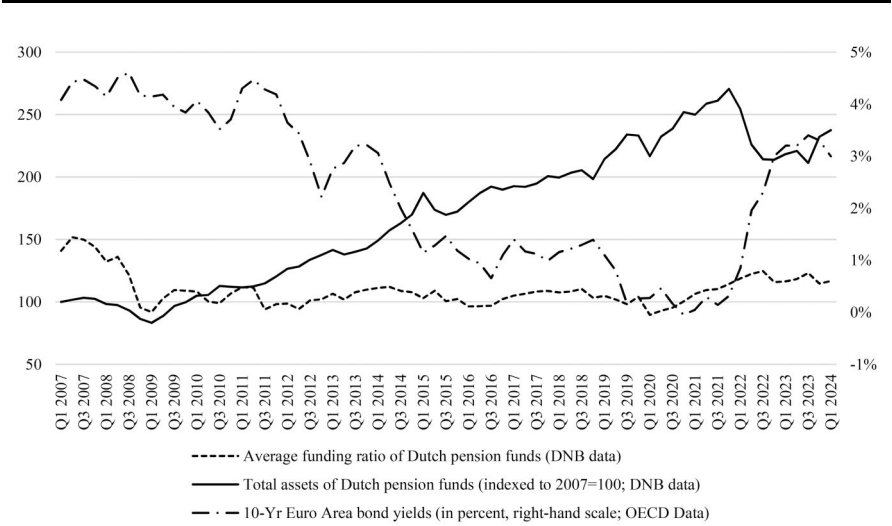


Figure 5. Pension assets, market interest rate, and funding ratio of Dutch pension funds since 2007.

considerable discretion to collect and interpret member preferences according to their own perceptions and interests. Their autonomy is much more constrained vis-à-vis downstream financial markets. One important reason for this is the rather lean organization of most Dutch pension funds that gives external financial intermediaries considerable authority resulting from the lack of a “countervailing power” (Galbraith 1954) and their prominent representation in many pension fund investment committees. That said, our findings also indicate that pension funds show considerable variety regarding their upstream and downstream relations as well as their organizational capacity. Comparative research, both within and between countries, is therefore needed to understand pension fund autonomy in more detail. Further research is also needed to investigate the role of financial fundamentals for pension fund autonomy in more detail. While our study has shown that high interest rates increase pension funds’ downstream autonomy, more research is needed on other important factors such as the demographics of the member base.

Our findings have several important implications. Our finding of asymmetric autonomy suggests that, at least in the Netherlands, we see a mixture of pension fund and asset manager capitalism. Our finding of asymmetric autonomy is almost ironic given the considerable efforts by pension funds and regulators to safeguard member voice. We argue that, paradoxically, pension funds’ asymmetric autonomy emerged not, as one might expect, because government deregulation and regulatory weakening “disembedded” financial markets (Kus 2024). Rather, asymmetric autonomy is a direct consequence of the institutionalization of modern portfolio theory through the prudent person principle as well as prudential regulation regarding funding requirements. The central tenets of contemporary pension investment are further embedded within chains of intermediaries, that each perform and put into practice the different elements of these financial ideas, such as risk modeling, asset-liabilities management or proxy voting and engagement. Due to the structural and infrastructural pressures emanating from the investment chain, pension fund boards face much more constraints “downstream” than they do “upstream” from the fund.

Pension funds seeking to improve their social and environmental sustainability therefore do so in a context of asymmetric autonomy. While upstream demands may be contradictory or lack technical detail to distinguish between the three sustainability approaches described above, pension funds' downstream capacity is constrained to the extent that sustainability initiatives reflect changes in asset allocation. Although, in principle, pension funds may, in times of high interest rates, shift considerable parts of their portfolio toward green assets such as renewable energy, this is highly unlikely in practice. It would require using excess funds to cover risk increases rather than, for example, distributing them back to members in the form of pension increases or premium decreases. Even if pension funds were willing to invest excess funds resulting from interest rate hikes into green assets, they would need to do so during a stage in the business cycle marked by weakening demand for investment capital (as companies face higher costs of debt). At the same time, member demands for sustainability may also be satisfied through the implementation of weaker sustainability strategies, such as voting/engagement or ESG investing. Due to their asymmetric autonomy, pension funds are thus much more likely to pursue a more superficial sustainability approach such as ESG rather than a decarbonization of their investment portfolios. Given widespread hopes to mobilize pension funds' "patient capital" to finance the decarbonization of the economy, our findings cast doubt regarding the feasibility of a green transition centered on institutional capital.

Funding

The research presented in this article was supported by NORFACE grant #462.19.397 for the Democratic Governance in Occupational Pension Schemes (DEEPEN) project.

Acknowledgments

We thank fellow DEEPEN team members Karen Anderson, Hayley James, Tobias Wiss, Thomas Mayer, Juan Fernández, and Sara Gonzales for their support and feedback throughout the project.

Conflict of interest statement. None declared.

References

- Adkins, L., Cooper, M., and Konings, M. (2021) 'Class in the 21st Century: Asset Inflation and the New Logic of Inequality', *Environment and Planning A: Economy and Space*, 53: 548–72.
- Anderson, K. M. (2019) 'Financialisation Meets Collectivisation: Occupational Pensions in Denmark, The Netherlands and Sweden', *Journal of European Public Policy*, 26: 617–36.
- Apostolakis, G., Kraanen, F., and van Dijk, G. (2016) 'Examining Pension Beneficiaries' Willingness to Pay for a Socially Responsible and Impact Investment Portfolio: A Case Study in the Dutch Healthcare Sector', *Journal of Behavioral and Experimental Finance*, 11: 27–43.
- Arjaliès, D. L. et al. (2017) *Chains of Finance: How Investment Management Is Shaped*. Oxford: Oxford University Press.
- Bauer, R., Ruof, T., and Smeets, P. (2021) 'Get Real! Individuals Prefer More Sustainable Investments', *The Review of Financial Studies*, 34: 3976–4043.
- Bonizzi, B., and Kaltenbrunner, A. (2019) 'Liability-Driven Investment and Pension Fund Exposure to Emerging Markets: A Minskyan Analysis', *Environment and Planning A: Economy and Space*, 51: 420–39.

- Boshuizen, G. R., and Pijpers, J. R. (2000) *Toezicht op Het Beleggingsbeleid Van Pensioenfondsen: De Rol Van de Pensioen- en Verzekeringskamer*. Apeldoorn: Pensioen- en Verzekeringskamer.
- Braun, B. (2022) 'Exit, Control, and Politics: Structural Power and Corporate Governance under Asset Manager Capitalism', *Politics & Society*, 50: 630–54.
- Braun, B., Gabor, D., and Hübner, M. (2018) 'Governing through Financial Markets: Towards a Critical Political Economy of Capital Markets Union', *Competition & Change*, 22: 101–16.
- Carlier, K. (2024) 'Pensioenfondsen Houden Meer Kortlopende Activa AAN', ESB, <https://esb.nu/pensioenfondsen-houden-meer-kortlopende-activa-aan/>
- Christophers, B. (2024) *The Price Is Wrong: Why Capitalism Won't Save the Planet*. London: Verso Books.
- Clark, G. L. (2000) *Pension Fund Capitalism*. Oxford: Oxford University Press.
- Clark, G. L., and Hebb, T. (2005) 'Why Should They Care? The Role of Institutional Investors in the Market for Corporate Global Responsibility', *Environment and Planning A: Economy and Space*, 37: 2015–31.
- Deeg, R., and Hardie, I. (2016) 'What Is Patient Capital and Who Supplies It?', *Socio-Economic Review*, 14: 627–45.
- Delsen, L., and Lehr, A. (2019) 'Value Matters or Values Matter? An Analysis of Heterogeneity in Preferences for Sustainable Investments', *Journal of Sustainable Finance & Investment*, 9: 240–61.
- DiMaggio, P. J., and Powell, W. W. (1983) 'The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields', *American Sociological Review*, 48: 147–60.
- DNB. (2024) 'Organisatie & Pension Fund Governance Pensioenfondsen', Totale Pensioenfondsen, DNB Statistiek, www.dnb.nl, accessed 19 Nov. 2024.
- Ebbinghaus, B., and Gronwald, M. (2011) 'The Changing Public-Private Pension Mix in Europe: From Path Dependence to Path Departure', *The Varieties of Pension Governance: Pension Privatization in Europe*, pp. 23–53. Oxford: Oxford University Press.
- Ebbinghaus, B., and Wiß, T. (2011) 'Taming Pension Fund Capitalism in Europe: Collective and State Regulation in Times of Crisis', *Transfer: European Review of Labour and Research*, 17: 15–28.
- Egli, F., Schärer, D., and Steffen, B. (2022) 'Determinants of Fossil Fuel Divestment in European Pension Funds', *Ecological Economics*, 191: 107237.
- Engelen, E. (2003) 'The Logic of Funding European Pension Restructuring and the Dangers of Financialisation', *Environment and Planning A: Economy and Space*, 35: 1357–72.
- Estevez-Abe, M. (2001) 'The Forgotten Link. The Financial Regulation of Japanese Pension Funds in Comparative Perspective'. In: Ebbinghaus, B., and Manow, P. (eds) *Comparing Welfare Capitalism: Social Policy and Political Economy in Europe, Japan and the USA*, pp. 190–214. Abingdon: Routledge.
- Fichtner, J., Jaspert, R., and Petry, J. (2024) 'Mind the ESG Capital Allocation Gap: The Role of Index Providers, Standard-Setting, and "Green" Indices for the Creation of Sustainability Impact', *Regulation & Governance*, 18: 479–98.
- Gabor, D. (2021) 'The Wall Street Consensus', *Development and Change*, 52: 429–59.
- Galbraith, J. K. (1954) 'Countervailing Power', *The American Economic Review*, 44: 1–6.
- Gelepathis, M. (2019) 'Re-Assessing the Role of Financial Professionals in Pension Fund Investment Strategies', *Journal of European Public Policy*, 26: 540–59.
- Golka, P., Murau, S., and Thie, J. E. (2024) 'Towards a Public Sustainable Finance Paradigm for the Green Transition', *Finance and Society*, 10: 38–50.
- Golka, P., and van der Zwan, N. (2022) 'Experts versus Representatives? Financialised Valuation and Institutional Change in Financial Governance', *New Political Economy*, 27: 1017–30.
- Granovetter, M. (1985) 'Economic Action and Social Structure: The Problem of Embeddedness', *American Journal of Sociology*, 91: 481–510.

- GSIA. (2023) 'Global Sustainable Investment Review 2022', Global Sustainable Investment Alliance, <https://www.gsi-alliance.org/wp-content/uploads/2023/12/GSIA-Report-2022.pdf>, accessed 21 Jan. 2025.
- Immergut, E. M., Anderson, K. M., and Schulze, I., eds. (2007) *The Handbook of West European Pension Politics*. Oxford: Oxford University Press.
- Jacoby, S. M. (2021) *Labor in the Age of Finance: Pensions, Politics, and Corporations from Deindustrialization to Dodd-Frank*. Princeton, NJ: Princeton University Press.
- Kus, B. (2024) *Disembedded: Regulation, Crisis, and Democracy in the Age of Finance*. Oxford: Oxford University Press.
- Langley, P. (2008) *The Everyday Life of Global Finance: Saving and Borrowing in Anglo-America*. Oxford: OUP.
- MacKenzie, D. (2006) 'Is Economics Performative? Option Theory and the Construction of Derivatives Markets', *Journal of the History of Economic Thought*, 28: 29–55.
- Mader, P., Mertens, D., and Van Der Zwan, N. (2020) 'Financialization: An Introduction'. In: Mader, P., Mertens, D., and Van Der Zwan, N. (eds) *The Routledge International Handbook of Financialization*, pp. 1–16. Abingdon: Routledge.
- McCarthy, M. A., Sorsa, V. P., and van der Zwan, N. (2016) 'Investment Preferences and Patient Capital: Financing, Governance, and Regulation in Pension Fund Capitalism', *Socio-Economic Review*, 14: 751–69.
- McDonnell, C., and Gupta, J. (2024) 'Beyond Divest vs. Engage: A Review of the Role of Institutional Investors in an Inclusive Fossil Fuel Phase-Out', *Climate Policy*, 24: 314–31.
- Meyer, J. W., and Rowan, B. (1977) 'Institutionalized Organizations: Formal Structure as Myth and Ceremony', *American Journal of Sociology*, 83: 340–63.
- OECD. (2024) 'Global Pensions Statistics', <https://www.oecd.org/daf/fin/private-pensions/global-pensionstatistics.htm>, accessed 21 Jan. 2025.
- Pernell, K., Jung, J., and Dobbin, F. (2017) 'The Hazards of Expert Control: Chief Risk Officers and Risky Derivatives', *American Sociological Review*, 82: 511–41.
- Petry, J., Fichtner, J., and Heemskerk, E. (2021) 'Steering Capital: The Growing Private Authority of Index Providers in the Age of Passive Asset Management', *Review of International Political Economy*, 28: 152–76.
- Pontusson, J. (1994) *The Limits of Social Democracy: Investment Politics in Sweden*. Ithaca, NY: Cornell University Press.
- Röper, N. (2021) 'Capitalists against Financialization: The Battle over German Pension Funds', *Competition & Change*, 25: 428–52.
- Sorsa, V. P. (2016) 'Public–Private Partnerships in European Old-Age Pension Provision: An Accountability Perspective', *Social Policy & Administration*, 50: 846–74.
- Strinati, C. et al. (2024) 'Top-Down Climate Finance Needs', Climate Policy Initiative, <https://www.climatepolicyinitiative.org/publication/top-down-climate-finance-needs/>, accessed 21 Jan. 2025.
- Trampusch, C. (2009) 'Collective Agreements on Pensions as a Source of Solidarity', *Journal of Comparative Social Welfare*, 25: 99–107.
- Van der Zwan, N. (2020) 'Patterns of Pension Financialization in Four European Welfare States', *Revista Internacional de Sociología*, 78: 175.
- Van der Zwan, N., and Golka, P. (2024) 'Regulation from the Inside? Internal Supervision in Dutch Pension Funds', *Competition & Change*, 28: 93–122.
- Van der Zwan, N., and Van der Heide, A. (2024) 'Investors as Members in Transnational Sustainable Finance Initiatives: Collectors, Mediators and Performers', *Competition & Change*, 1–24.
- Wiß, T. (2019) 'Reinforcement of Pension Financialisation as a Response to Financial Crises in Germany, The Netherlands and the United Kingdom', *Journal of European Public Policy*, 26: 501–20.

Appendix: List of interviewees (anonymized)

Interviewee	Professional role
1	Board member, company pension fund
2	Board member, professional pension fund
3	Board member, industry-wide pension fund
4	Member pension fund investment committee, multiemployer pension fund; member supervisory council, industry-wide pension fund
5	Member supervisory council, company pension fund
6	Staff member, pension department, union federation
7	Board member, pension fund
8	Board member, company pension fund
9	Board member, industry-wide pension fund
10	Board member, company pension fund
11	Investment manager, professional pension fund
12	Staff member, pension department, union federation
13	Owner, consultancy
14	Board member, company pension fund
15	Account manager, asset management firm
16	Investment strategist, asset management firm
17	Mandate manager, asset management firm
18	Member accountability board, industry-wide pension fund
19	Member accountability board, industry-wide pension fund
20	Member accountability board, industry-wide pension fund
21	Executive, risk management firm
22	Researcher, marketing research organization
23	Account manager, asset management firm
24	Board member, industry-wide pension fund
25	Member pensioner council, industry-wide pension fund
26	Staff member, pension department, employer association
27	Pension director, multinational firm