

ORIGINAL ARTICLE

Welfare Composition and the Institutional Wealth of Nations: The Relationship Between Welfare State, Institutional Investors and Market Capitalization

Martino Comelli¹  | Viktor Skyrman² 

¹Institute for Sociology, Slovak Academy of Sciences, Bratislava, Slovakia | ²Department of Business Studies, Uppsala University, Uppsala, Sweden

Correspondence: Martino Comelli (martcomelli@mrtno.com)

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ABSTRACT

The rise of institutional investors is deeply intertwined with the structure of the welfare state. This article contends that welfare programs do not simply resist or accommodate financialization, but actively constitute its institutional foundations. Analyzing OECD countries, we move beyond debates casting social policy and finance as simple substitutes or complements. Instead, we reveal that their relationship hinges on the functional composition of welfare spending. Using panel regressions and structural equation modeling, we show that redistributive programs like public pensions and family benefits crowd out institutional investment by providing direct, non-asset-based security. Conversely, housing and health spending can actively fuel financial expansion by transforming social provisions into investable assets: housing through the creation of collateralizable property, while health spending generates revenue streams to insurance firms. Consequently, a state's social policy priorities directly shape the size and structure of its capital markets, differentiating varieties of financial capitalism by the institutional design of welfare institutions, rather than its spending.

1 | Introduction

Over recent decades, the role of finance has shifted from being ancillary to production to becoming an increasingly autonomous realm of accumulation. This shift has been mainly driven by the rise of institutional investors, such as pension funds, insurance companies, and investment funds. These institutions not only channel household savings, but they also control large pools of capital, influence corporate governance, and shape the allocation of resources across economies (Gibadullina 2024). Often described as “money-manager” (Minsky 1989) or “asset-manager capitalism” (Braun and Christophers 2024), this transformation marks a new phase in the relationship between financial markets and the state.

Financial income to households vary greatly from country to country. For instance, only about 29.9% of UK households and 37.1% of US households receive financial income, usually in small sums. Yet, a higher percentage of households in countries such as the Netherlands, Sweden, France, and Germany report receiving financial income despite being characterized as export-oriented rather than finance-led economies (Luxemburg Income Study, see Figure 1). Although the direct role of finance in households' daily life is still modest, institutional investors have substantial macroeconomic and political influence. Through the capital they control and the decisions they make, these investors exert significant power (Golka et al. 2024), influencing corporate governance, infrastructure investment, labor markets, and public finance. The discrepancy between low household participation

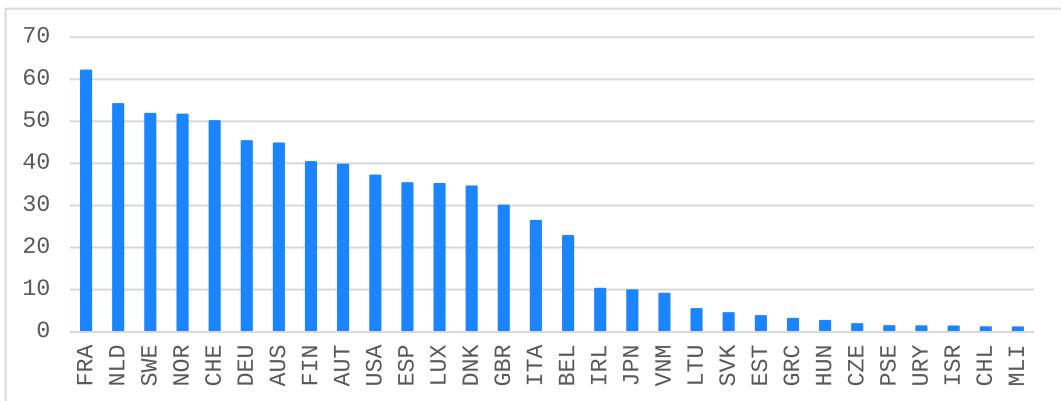


FIGURE 1 | % of households with financial income (more than 100 USD (ppp)/year). Luxembourg Income Study (LIS).

and expansive institutional control necessitates shifting the analytical focus from individual behaviors to broader structural and meso dynamics.

Existing sociological research has paid limited attention to how welfare states structure this link. While the social investment literature has focused extensively on how welfare states develop human capital (Hemerijck et al. 2023), it has largely overlooked how they shape capital markets (Sakamoto 2020). To address this lacuna, this article examines how social policy determines not just the quality of labor but the quantity and composition of investable capital. Comparative political economy has focused on firm behavior and aggregate demand, while financial sociology has analyzed the political dynamics of the rise of financial actors (Krippner 2012). However, few studies have examined how social policy shapes the ecosystem of institutional investment. This article addresses this gap, demonstrating how welfare programs influence financial development. They do so by affecting aggregate demand or household behavior, and as a result, by shaping the scale and composition of institutional investors.

In the field of political sociology, the question of whether public welfare provision and private financial development function as substitutes has been longstanding (Crouch 2009). Rather than treating social policy and finance as a trade-off (e.g., E. P. Davis 2012; Feldstein 1974; Scharfstein 2018), this article examines their institutional connections. It finds that some welfare arrangements limit the role of finance, while others promote it: the key question is not the size of the welfare state but how it is organized. Some social policies, such as public pensions, reduce the need for private savings and shrink the investor base. Others, such as housing subsidies (e.g., mortgage interest deduction), generate monetary flows that institutional investors actively use. Whether welfare programs promote or hinder financial development depends on their institutional design, fiscal weight, and interaction with available investment channels.

This study primarily contributes through a descriptive and correlational analysis that empirically maps the relationships between welfare state structures and financial development across countries, using OECD data on welfare spending, institutional investors and market capitalization, along with welfare generosity. To achieve this, the article employs three approaches.

First, it analyzes the effects of institutional generosity across sickness, unemployment, and pension systems using panel-corrected standard error (PCSE) regressions. Second, it examines the distribution of welfare spending across functional categories using compositional data analysis. Third, structural equation modeling is used to trace the indirect effects of generosity and spending on capital markets through insurance companies, pension funds, and investment funds. Together, these methods demonstrate that the welfare state plays a role in explaining the uneven development of institutional finance. The conclusion is not that welfare and finance are in conflict or in harmony but rather that their structured, selective relationship is central to understanding how contemporary capitalism is governed and how social welfare's productive role extends far beyond what is commonly thought.

1.1 | Literature Review and Theory

The Varieties of Capitalism (VoC) and Growth Models (GM) literature constitute the two most influential comparative capitalism frameworks of the last quarter century. Distinguishing between “liberal” and “coordinated” market economies, VoC examines how institutional differences and supply-side factors shape growth and firm behavior across capitalist economies. Critiquing VoC for being too static and institutionally deterministic, while underemphasizing demand as a driver of growth, the GM literature focuses on macroeconomic policy, financial systems and social blocs impact sources of demand, which in turn sets economies trajectories for growth or proneness to instability. Despite their contributions, both frameworks have faced criticism for inadequately theorizing finance's transformative role in contemporary capitalism. While VoC's corporate finance focus examines banks and markets as sources of financing, and GM incorporates financial systems into demand analysis, critics argue that neither fully grasp financialization's centrality to modern growth patterns. Ban and Helgadóttir stress scholarship's limited engagement with finance, pointing out that even “non-debtist” economies like Germany or Sweden exhibit significant financial expansion influencing domestic outcomes (Ban and Helgadóttir 2022). Wood and Stockhammer (2024) further argue that VoC's emphasis on corporate finance overlooks crucial dynamics such as house prices and mortgage credit. They demonstrate how housing booms and high household debt-

to-GDP ratios in countries like the Netherlands and Denmark blur the lines between export-led and debt-driven growth.

1.2 | Financialization and Institutional Investors

Economic sociologists have foregrounded financialization as a central institutional transformation of contemporary capitalism. Though definitions vary, financialization generally refers to the growing dominance of financial actors, markets, practices, and motives over the real economy and social institutions (Krippner 2012). Scholars have documented a corporate landscape “managed by the markets,” where decision-making is heavily oriented toward satisfying institutional shareholders (e.g., Braun and Christophers 2024; R. B. Davis 2009; E. P. Davis 2012). The influence of these financial actors extends into central bank policy, corporate strategy (with an emphasis on shareholder value), and even policymaking, as states become attuned to the reactions of bond and stock markets (cf Figures 1–3).

As Figure 2 illustrates, institutional investors are highly developed not only in liberal market economies but also in Nordic welfare states. Thus, countries with very different political economies have experienced significant growth in pension, insurance, and investment funds.

Figure 3 shows a strong positive correlation between institutional investor size and national market capitalization. Market capitalization represents the total value of publicly traded companies and serves as a key indicator of financial market scale.

1.3 | Welfare States, Pension Systems and Asset Accumulation

Comparative welfare state research provides a crucial third perspective by illuminating how social policy institutions

structure macroeconomic demand and the financial behavior of households, and how welfare systems have at times acted as accelerators and at other times as brakes on the rise of financialization through the channels of institutional investing. Gøsta Esping-Andersen’s (1990) classic typology of liberal, conservative, social democratic welfare regimes showed that countries vary in the generosity and design of social protection, which in turn influences household dependence on markets for income and services. In generous welfare states with extensive social transfers and services, households enjoy a high degree of income security and “decommodification”, which stabilizes consumption and reduces the need for precautionary saving. By contrast, in liberal welfare states like the US or UK, minimal social safety nets and high inequality mean that households must rely on private savings, credit, and labor market earnings to maintain living standards.

Beyond aggregate generosity, welfare states also differ in their spending orientation or “directionality”, that is *who* benefits from social spending and *what types* of needs are prioritized. A key cleavage in this regard is social investment versus pension bias. Social investment strategies emphasize expenditures on families, children, education, and active labor market policies (ALMPs), essentially investing in future productivity and workforce quality. Pension-biased or “elderly-oriented” welfare states devote a large share of social spending to old-age benefits, often in pay-as-you-go public pension systems that transfer resources to retirees. These compositional differences have important implications for economic dynamism and capital market development. Researchers have documented a widespread “pension bias” in OECD countries, where political pressures and institutional inertia led to ever-rising spending on the elderly at the expense of programs for younger generations (Gál et al. 2018; Lynch 2006; Vanhuyse 2013; Vanhuyse et al. 2021). For instance, Lynch noted that countries like Italy or Germany spend vastly more per elderly person than per child, reflecting a political prioritization of pensions over education or family benefits. One comparative study found that on average,

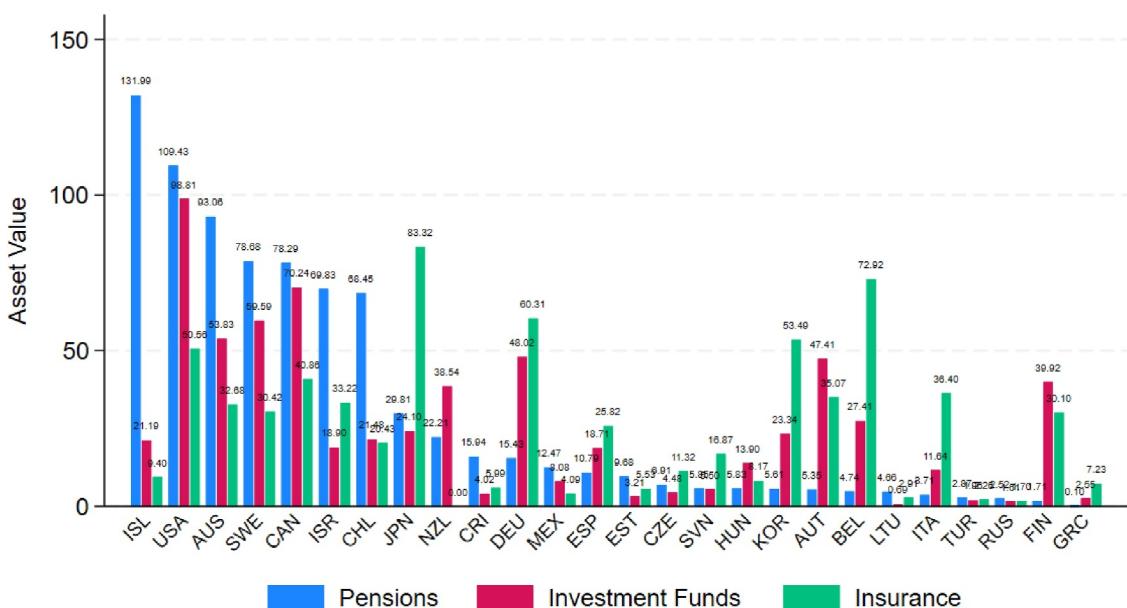


FIGURE 2 | Institutional investor assets by country (average 2010–2015, % of GDP). OECD data.

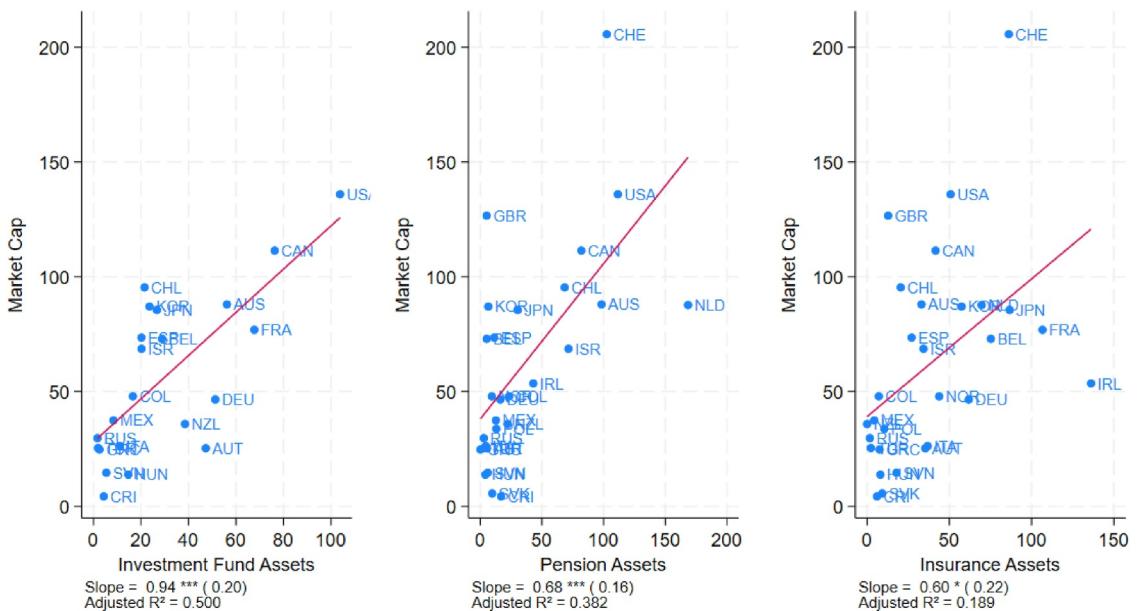


FIGURE 3 | Market Capitalization versus Institutional Assets (% of GDP). OECD Data.

older persons receive more than twice as much in public social transfers as non-elderly adults, highlighting a pronounced pro-elderly tilt in welfare effort. In extreme cases, the disparity is even larger: Austria for example spends approximately four times as much per capita on old age pensions as on child or young adult benefits (Focacci 2022). Such biases can shape macroeconomic outcomes - a heavy pension orientation might reduce a society's "social investment" in human capital, potentially dampening long-run growth and innovation. It can also influence household financial behavior: when retirement income is largely provided by the state, middle-aged adults may feel less need to save privately for old age, which in turn could mean a smaller domestic pool of long-term capital (e.g., fewer pension funds or life insurance assets seeking investment opportunities). Conversely, in countries where public pensions are modest and retirement welfare relies on private savings, households are encouraged to invest in financial instruments (pension funds, personal retirement accounts) during their working years, feeding the development of capital markets. This trade-off lies at the heart of debates on whether generous public pensions "crowd out" private financial development or whether they can coexist or even complement each other.

Pensions have been a focal point in research focusing on how public welfare affects private financial accumulation. Feldstein (1974) argued that pay-as-you-go public pension systems like U.S. Social Security crowd out private saving: workers expecting generous public benefits contribute less to private retirement plans, reducing aggregate saving and the capital stock. Scharfstein (2018) confirms a strong inverse relationship between public pension generosity and private pension wealth across countries. Countries with higher public pension replacement rates have significantly lower private pension assets as a share of GDP. In his words, "cross-country data suggest that public pensions crowd out household savings largely through a reduction in the accumulation of private pension assets" (Scharfstein 2018). When public pensions are retrenched, households save more: pension reforms in the UK and Italy that

cut public benefits led to upticks in private saving and pension plan participation.

Where states encouraged funded private pensions rather than generous public systems, these mechanisms became key conduits of financialization. E. P. Davis (2012) and other economists observed the emergence of "pension fund capitalism" in the 1990s, as Anglo-American capital markets deepened through institutional investor pools managing retirement savings. In the Netherlands, Denmark, the UK, and the United States, private pension assets equal or exceed annual GDP. Dutch and Danish pension funds each hold over 140% of GDP in assets, the US over 130% (E. P. Davis 2012). Countries with generous pay-as-you-go systems, such as Greece, Turkey, and Belgium, have trivially small pension funds (under 5%-10% of GDP) (E. P. Davis 2012). These differences reveal a zero-sum trade-off: channeling retirement security through public or private mechanisms translates directly into different capital market depths. The growth of pension funds creates feedback effects, as large institutional investors become a constituency for capital-friendly regulations (favorable tax treatment, prudent investor rules) and influence corporate governance internationally (as Dutch and Californian pension funds have done).

However, other scholars caution against simplistic trade-off conclusions. Historical analyses show that the relationship between public and private welfare is dynamic and context dependent. Using long-run data since the late 19th century, Horn and Kohl (2024) find that "*public and private pension and health provision did not stand in a clear trade-off relationship for a long time*". In many cases, both public and private welfare expanded together during certain periods, rather than one displacing the other. The clear inverse correlation that exists today (with Anglo-liberal countries having large private pension industries and small public pillars, and Continental European countries the opposite) only emerged after WW2 as welfare states expanded and financial systems evolved. Horn and Kohl showed how public programs historically created awareness of insurance and

raised expectations, increasing overall demand for both public and private coverage. Where public welfare provided only minimum provision (Beveridge-type systems), this left space for private supplementary coverage. Crucially, they find that negative trade-offs only emerge when governments hold strong anti-interventionist, pro-market views. Their nuanced view reminds us that institutional configurations co-evolve. Rather than a strict either-or, the mix of public and private welfare may follow a sequence or “regime logic”: some political economies (like the U.S.) favored market solutions early on, while others (like Sweden) built a large public sector but gradually opened space for private pensions and asset-based schemes in recent decades.

On the other side of the welfare orientation spectrum, scholars of the social investment state argue that prioritizing human capital and younger generations can both enhance growth and mitigate some financialization pressures. Social investment theorists suggest that spending on education, childcare, active labor market policy, and other “new social risks” is crucial for maintaining employment and productivity in knowledge-based economies (Esping-Andersen 2002; Morel et al. 2011). There is also a macroeconomic demand argument: well-designed social investments can increase female labor force participation (through childcare support), improve skill levels (through education/training), and thus boost incomes and consumption in sustainable ways. If successful, this model generates growth not through debt-fueled consumption, but through higher productivity and employment, a virtuous circle sometimes framed as reconciling equity and efficiency. Some have even linked social investment to competitiveness in high-value industries, suggesting it can complement export-led strategies by shifting countries into more innovative, skill-intensive activities (Stiglitz and Greenwald 2015). Importantly, a social investment orientation might reduce households’ need to rely on private credit for coping with life-course expenses (like childcare or retraining), thus dampening the drive toward privatized finance (Annarelli 2022).

Yet, plenty of research demonstrates how generous welfare systems can expose citizens to extensive levels of debt as well as asset inequality. “Egalitarian” countries can combine low levels of income inequality and high levels of wealth inequality, which to a large extent depends on unequal ownership of assets, and in particular housing assets (Bryant et al. 2022). Moreover, it is rather the total value of housing assets (and its unequal ownership), rather than homeownership rates, that spawns this inequality (Pfeffer and Waitkus 2021), leading some researchers to argue that assets have replaced differential income levels a key driver of inequality (Adkins et al. 2022). This ambiguity is also discussed by Schwartz and Seabrooke (2008), showing that countries with generous welfare systems can simultaneously generate inequality through runaway mortgage debt spawned by advanced mortgage finance markets. In this context, Pfeffer and Waitkus (2021:592–593) call for research on how public pension and insurance assets may impact housing and wealth inequality. Potential causal chains through which institutional investor wealth, mortgage lending and house-price inflation may impact one another can be postulated. Amid “home bias”, institutional investors invest disproportionately into their home country’s banking assets and specialized mortgage debt, such as securitized mortgage instrument and covered bonds. This increases the credit supply which in turn fuels mortgage lending

and house prices (cf. Justiniano et al. 2019). Reverse causality here implies that countries with substantial housing assets spawn wealth effects which partly generate pension savings.

Research suggests that the structure and direction of welfare states have implications for financial risk behavior and institutional development. Bird (2001) demonstrates that higher levels of social spending correlate with greater post-transfer income volatility, suggesting that when basic income security is guaranteed through social transfers, individuals gain the capacity to accept more variable income streams and engage in riskier financial behaviors. However, the content of spending matters. The Inter-American Development Bank warned that pension-heavy welfare regimes can crowd out investments in education and health, constraining long-term growth and financial dynamism (Cavallo et al. 2016). Other scholars argue that pension-oriented welfare states, where electorates prioritize retirement income stability, dampen risk-taking and distort public investment away from productivity-enhancing areas (Atella and Carbonari 2017; Vlandas 2023). By contrast, social investment-oriented systems that support the working-age population through childcare, ALMPs, and education are theorized to foster labor market participation, skill acquisition, and ultimately more risk-tolerant financial behavior (Guiso and Paiella 2008).

These perspectives inform the quantitative analyses in this article: we examine whether countries that prioritize spending on retirees exhibit different institutional financial structures and capital market development than those that emphasize social investment. The expectation is not framed as a causal hypothesis but as a structural lens to interpret cross-national patterns.

2 | Operationalization and Methods

This study employs an exploratory approach to examine the relationship between welfare state structures and financial market development across OECD countries from 1995 to 2022, combining three complementary datasets.

Market capitalization serves as the primary dependent variable, measured as the total value of publicly traded companies as percentage of GDP (OECD). This indicator reflects the scale and depth of equity markets and their integration with the broader economy. Institutional investor assets (insurance companies, pension funds, and investment funds as a percentage of GDP, OECD) function as both mediating and dependent variables, representing the main channels through which welfare-related flows are absorbed into financial markets.

Welfare generosity is operationalized using the Comparative Welfare Entitlements Project (CWEPP, Scruggs 2022), which captures institutional design via replacement rates, eligibility conditions, and benefit duration, rather than spending levels. We construct separate indices for pension generosity (P_GEN), unemployment benefit generosity (UE_GEN), and sickness benefit generosity (SK_GEN), along with a composite index (TOT_GEN).

Welfare spending composition is based on the OECD Social Expenditure Database (SOCX 2025), using functional breakdowns across nine categories: old-age pensions, incapacity

benefits, health, family, unemployment, housing, ALMP, and other programs (as a % of government spending). Household debt (% GDP) is included to account for the role of private credit in financial development, while GDP per capita (logged) controls for overall levels of economic development.

To analyze these relationships, the study proceeds in three steps. First, we estimate Prais-Winsten PCSE models to assess how welfare generosity affects financial development. These models account for heteroskedasticity, serial correlation, and the persistent nature of institutional variables. Interaction terms between generosity indicators and financial structures test whether welfare effects vary depending on the composition of institutional investors.

Second, we turn to welfare spending composition. Because government spending shares are constrained parts of a whole, conventional regression techniques may yield misleading results. We address this using compositional data analysis (CoDA), applying Centered Log-Ratio (CLR) transformation that expresses each category relative to the geometric mean of all components.

Finally, we use structural equation modeling (SEM) to test mediation pathways and trace how welfare policies shape financial outcomes through institutional investors. SEM allows us to distinguish between direct effects (e.g., welfare generosity influencing market capitalization) and indirect effects (e.g., via investment fund or insurance activity). For each welfare dimension, we estimate separate models by institutional channel to identify the most relevant transmission mechanisms.

3 | Welfare Generosity, Institutional Investors and Market Capitalization

The macro-financial impact of welfare generosity depends fundamentally on how financial systems are structured. Welfare institutions may influence financial investment in different

directions, either being expanded and reconfigured to align with the logic of asset-based accumulation, or diminished when public provision crowds out private financial accumulation. To operationalize welfare generosity, we rely on the Comparative Welfare Entitlements Project (CWEPE), which provides standardized indicators of income replacement rates and eligibility rules for pensions, unemployment, and sickness benefits. CWEPE builds on the decommodification tradition of Esping-Andersen by capturing the degree to which social programs reduce individuals' dependence on the market. Rather than measuring expenditure flows, it focuses on program design, including benefit duration, eligibility strictness, and replacement generosity. This allows for a more institutional and cross-program comparison of how welfare states function as social rights regimes. This analysis uses Prais-Winsten PCSE models to examine how the effects of different forms of welfare generosity on market capitalization vary across national contexts, depending on the prevailing composition of institutional finance (Figure 4).

Pension generosity exerts no significant effect in baseline models (Model 1), but becomes positively associated with market capitalization once financial structure is accounted for (Model 3: $\beta = 0.049^{**}$). This effect varies by institutional context. In systems where insurance companies dominate, the relationship is clearly positive ($\beta = 0.085^{***}$), suggesting that insurers monetize the predictable flows of public pensions as long-horizon capital. Conversely, where investment funds dominate, pension generosity reduces market capitalization ($\beta = -0.069^{**}$), reflecting structural incompatibility with short-term, high-liquidity strategies. The interaction with pension funds themselves is non-significant, confirming that institutional form, not asset volume, conditions welfare's market-level impact.

Sickness benefit generosity consistently reduces market capitalization (Model 1: $\beta = -0.054^{***}$; Model 3: $\beta = -0.017^{\dagger}$). Generous sickness protection redistributes without creating investable flows. Yet this too is contingent. Under pension fund dominance, the effect reverses ($\beta = 0.041^*$), as long-term savings

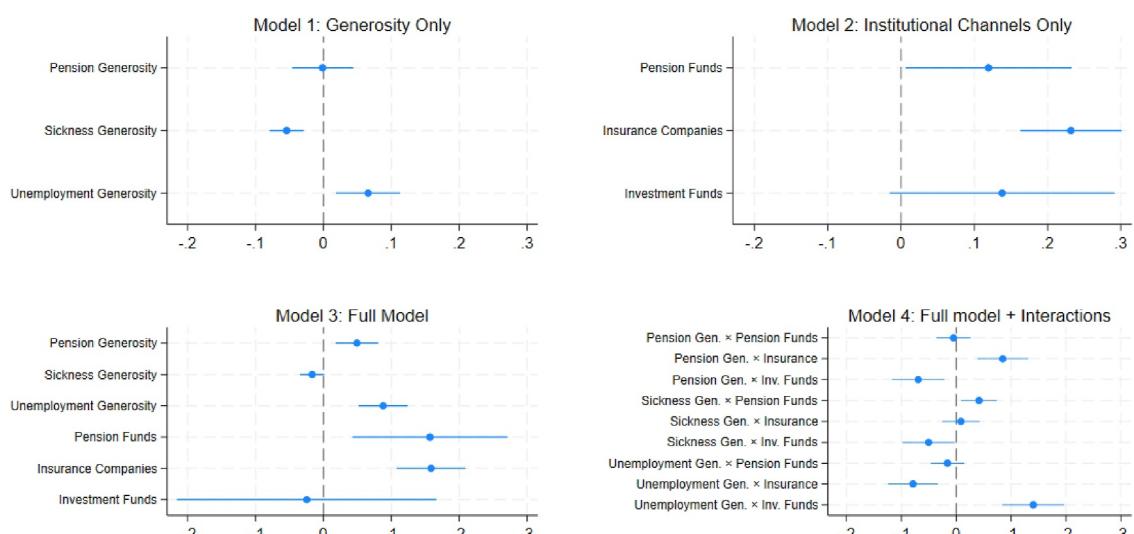


FIGURE 4 | Prais-Winsten PCSE models: Welfare Generosity (CWEPE database) versus Market Cap (% of GDP, OECD). 1995–2022. Controls are present but not shown. For tables, see Appendix 1.

institutions embed sickness protections into disability-linked products. Under investment fund dominance, the negative effect intensifies ($\beta = -0.050^*$).

Unemployment generosity begins as market-enhancing (Model 3: $\beta = 0.088^{***}$) but becomes conditional once institutional channels are specified. Pension-dominated systems show weak negative effects ($\beta = -0.016$, ns); insurance-dominated systems turn significantly negative ($\beta = -0.079^{***}$); but investment fund systems strongly amplify market capitalization ($\beta = 0.140^{***}$). Unemployment protection stabilizes expectations that feed asset circuits through liquid savings and short-term credit, but only where speculative channels dominate.

The controls reveal broader patterns. Household debt consistently supports market capitalization ($\beta = 0.004$ – 0.006^{***}), confirming that private liabilities sustain asset inflation (Wiedemann 2022). GDP exhibits a counterintuitive sign-flip: insignificant in simple models, but strongly negative once financial structure is controlled (Model 4: $\beta = -1.012^{***}$). Market capitalization grows amid stagnation, not expansion. Capital accumulates independently of productive growth (Piketty 2017).

These results show that welfare's effect on finance depends on institutional architecture. Pension generosity feeds markets through insurance, not pension funds. Sickness benefits resist financialization except under specific fund structures. Unemployment protections amplify markets only via speculative vehicles. Social policy does not uniformly oppose or enable finance. It is selectively absorbed, its flows redirected by the institutional channels that dominate capital accumulation.

While the Prais–Winsten PCSE results suggest that the financial impact of welfare generosity is shaped by institutional context, some of the observed patterns, such as sign-flips and sharp interaction effects, particularly for pensions and unemployment benefits, may reflect model artifacts or edge cases. To assess the robustness of these findings, we paired the PCSE results to structural equation modeling (SEM). Instead of relying on interaction terms, SEM allows us to test a mediation framework that explicitly traces how welfare generosity influences financial outcomes through institutional investor channels (Figure 5).

Our SEM pools all country-year observations to identify average structural relationships, abstracting from country-specific and temporal dynamics (Figure 6). Both figure and Table 1 reveal a

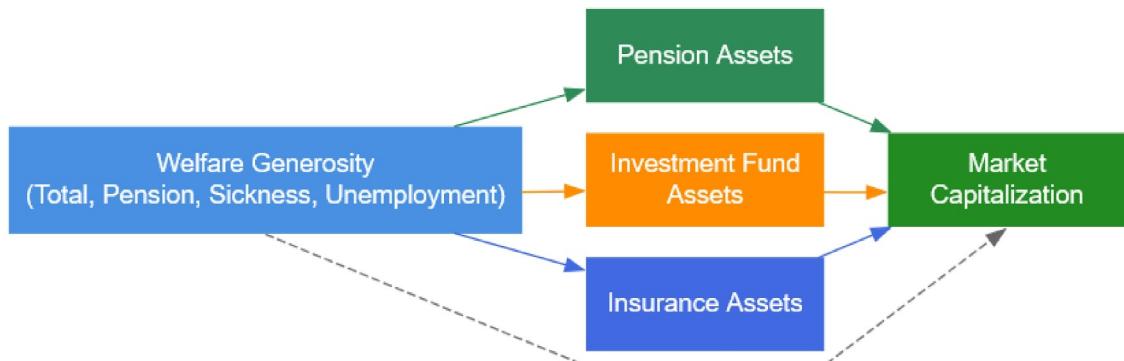


FIGURE 5 | SEM mediation path for welfare generosity applied to 12 models (4 welfare generosity x 3 institutional investors).

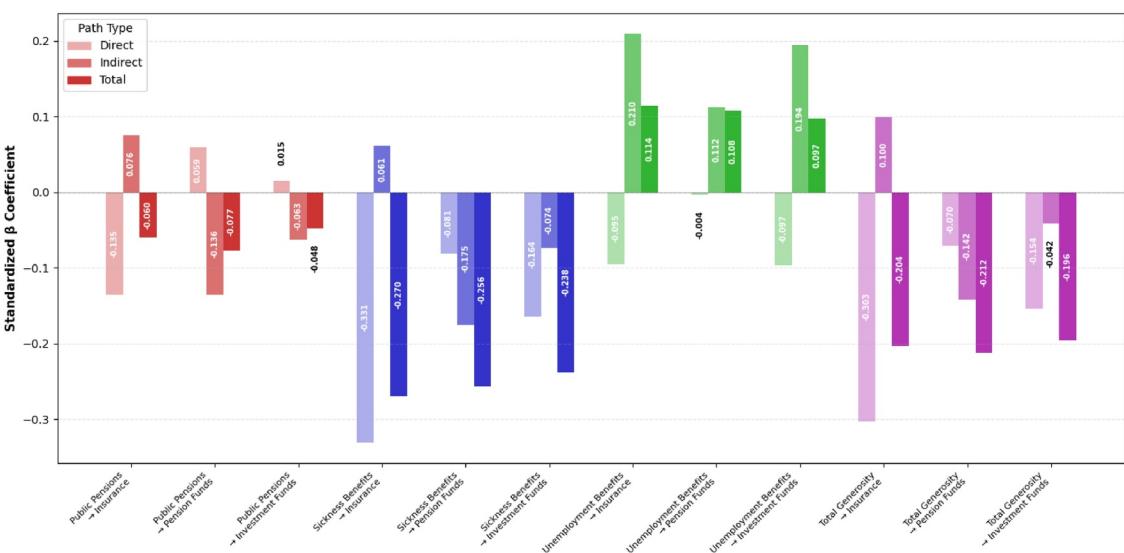


FIGURE 6 | SEM: Mediation analysis; Welfare Generosity (CWEPI) → Institutional Investors (OECD) → Market Cap (OECD).

TABLE 1 | SEM on market capitalization results.

Welfare dimension	Welfare → market cap	Welfare → Inst. Inves.	Welfare → Inst. Inves. → market cap	Interpretation
Public pensions (P_GEN) → Insurance	-0.135***	+0.127**	+0.076**	Net negative effect. Generous public pensions crowd out private pension funds and investment vehicles, though insurance assets capture some diverted flows.
P_GEN → Pensions	+0.059 [†]	-0.198***	-0.136***	
P_GEN → Investment funds	+0.015 ns	-0.089*	-0.063*	
Sickness benefits (SK_GEN) → Insurance	-0.331***	+0.102**	+0.061**	Net negative effect. Sickness insurance provisions direct substitutes for private market-based savings, with pervasive negative effects across institutional investor types.
SK_GEN → Pensions	-0.081*	-0.266***	-0.175***	
SK_GEN → Investment funds	-0.164***	-0.107**	-0.074**	
Unemployment benefits (UE_GEN) → Insurance	-0.095*	+0.362***	+0.210***	Net positive effect. Unemployment protection enhances market-based savings by channeling resources through insurance, pensions, and investment funds, overcoming weak negative direct pathways.
UE_GEN → Pensions	-0.004 ns	+0.165***	+0.112***	
UE_GEN → Investment funds	-0.097*	+0.264***	+0.194***	
Total generosity (TOT_GEN) → Insurance	-0.303***	+0.162***	+0.099***	Net negative effect. Insurance absorbs welfare flows positively while pension-based finance contracts strongly;
TOT_GEN → Pensions	-0.070 [†]	-0.213***	-0.142***	investment fund mediation non-significant.
TOT_GEN → Investment funds	-0.154***	-0.060 ns	-0.042 ns	Overall contractionary impact driven by pension channel and negative direct effects.

Note: Figure 6 shows total effects (direct + indirect); Table 1 decomposes the mediation pathway. Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.10$; ns = not significant.

fundamental heterogeneity: redistributive policies (vertical transfers) crowd out financialization, while risk-pooling protections (horizontal insurance) facilitate it.

Redistributive policies (public pensions, sickness benefits) transfer resources through direct provision, displacing private financial vehicles. Sickness benefits, with the strongest direct negative impact, act as near-perfect substitutes for market-based savings, contracting both pension funds and investment vehicles. Risk-pooling protections like unemployment benefits stabilize household income and expectations without replacing private financial instruments, creating a platform for market engagement. This complementary logic unlocks positive mediation across all three institutional channels.

A critical pattern cuts across this divide: insurance companies function as a universal financial conduit (Endrejat et al. 2025), showing positive indirect effects from all welfare dimensions. They sell complementary and often legally mandated products (life, supplementary health, disability) that layer onto public provisions rather than being displaced by them. By stabilizing household income streams, welfare states enable premium payments that insurance companies convert into long-horizon equity investments. Insurance companies thus monetize welfare flows into investable capital across different welfare configurations.

This mediation structure clarifies the PCSE interaction patterns, where welfare effects flipped signs across institutional regimes. Those regime-specific outcomes reflect the underlying mechanisms the SEM isolates: insurance companies universally absorb

welfare flows regardless of policy type, while pension funds and investment vehicles respond conditionally, contracting under redistributive policies but expanding under risk-pooling protections. Welfare-finance linkages depend on both the type of social protection and the institutional channel through which financialization occurs.

4 | Welfare Spending, Institutional Investors and Market Capitalization (Compositional Analysis)

The previous sections showed that welfare generosity exerts different effects on financial development depending on the surrounding structure of institutional finance. But generosity measures, like replacement rates and eligibility rules, tell us little about how welfare states prioritize competing social objectives across policy domains. Two countries may offer equally generous unemployment benefits or pensions yet allocate vastly different shares of GDP across social functions. One may channel most spending toward pensions, while another invests heavily in housing or active labor market programs. This functional composition of spending shapes the kinds of relationships welfare states develop with capital markets. Some functions are more compatible with financial intermediation than others, either because they create predictable cash flows, subsidize private asset ownership, or crowd in private provision. Others, by contrast, substitute for market activity and displace private financial accumulation. These cross-functional trade-offs determine whether welfare states complement or substitute

private finance. To understand how the welfare state conditions financial development, we therefore need to move beyond program-level generosity to ask how social spending is allocated across functions.

We approach this question using data from the OECD SOCX database, which reports detailed, function-level social spending for 29 OECD countries from 1995 to 2019. We analyze eight welfare functions: pensions, incapacity benefits, health, family benefits, active labor market policies (ALMP), unemployment benefits, housing, and a residual “other” category. Because these categories represent shares of total government expenditure, they form a compositional dataset where components are mutually constrained: an increase in one function necessarily implies a relative decrease in the others. To address this compositional structure, we apply the centered log-ratio (CLR) transformation from Compositional Data Analysis (CoDA). The CLR transformation expresses each function as the logarithm of its ratio to the geometric mean of all components, allowing us to estimate associations between welfare priorities and market capitalization while respecting the compositional constraint. Because CLR components sum to zero, one category (“other”) is omitted from the regression as the reference. Observations containing zeros in any category were excluded, resulting in 512 country-year observations across 29 countries.

Figure 7 presents results from PCSE modeling, revealing substantial heterogeneity in how welfare composition shapes financial markets. The patterns indicate a clear divergence between functions that substitute for finance and those that actively enable it.

Family benefits, which support household consumption without generating investable capital flows, show the most robust negative association with market capitalization across all specifications. Pension spending also exhibits a strong negative

association in baseline models, though this relationship attenuates and becomes statistically insignificant once household debt is controlled for. In contrast, housing spending demonstrates a consistent and robust positive relationship. Housing allowances stabilize rent flows and underwrite credit conditions, directly facilitating financial intermediation in property markets (Biljanovska 2023).

The introduction of household debt as a control variable sharply clarifies its role as the primary transmission mechanism linking welfare composition to financial outcomes, revealing two starkly different pathways. For pension spending, the negative effect on market capitalization disappears entirely, indicating complete mediation through the suppression of household debt. This confirms that generous, public pension systems act as a circuit breaker for financialization: by providing a non-asset-based form of retirement security, they de-commodify old age and directly reduce the necessity for households to engage in private, debt-fueled asset accumulation. The welfare state, in this mode, functions as a substitute for finance.

Housing spending and, to a limited extent, health spending, reveal a generative and paradoxical pathway. Their positive effect on market capitalization persists independently of the aggregate debt control, demonstrating that their influence is not merely correlated with debt but is constitutive of the financial ecosystem itself. While housing policy assetizes property, health spending often assetizes human wellbeing itself, creating vast, state-backed revenue streams for private providers and insurers that are securitized and traded in capital markets. Housing allowances and subsidies do not simply add to household debt; they actively ‘assetize’ residential property by stabilizing the rental income streams and future capital gains that underpin its value as a collateralizable, investable asset, in a regime of de-risking as accumulation (Blackwell 2025). This state-backed assetization creates the very conditions that make mortgage

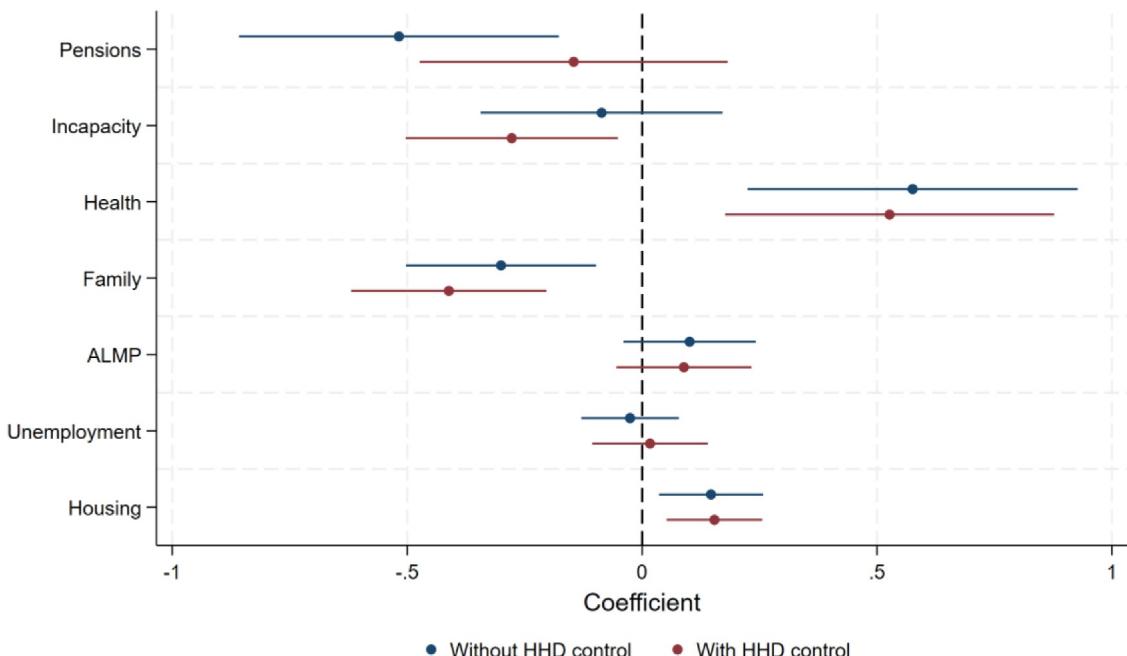


FIGURE 7 | Welfare Composition and Market Capitalization: CLR (OECD SOCX), Model 6 and 7. For tables, see Appendix 2.

lending profitable and low-risk for financial institutions, thereby structuring a financial environment where household debt becomes a logical and amplified outcome. Thus, in this mode, the welfare state does not substitute for finance but acts as an accelerator, embedding households into the dynamics of the asset economy.

For a visual representation of the relationship between welfare composition and financial market characteristics, we performed Ward hierarchical clustering, which identified three distinct regime types (Figure 8).

The cluster analysis reveals three welfare-finance configurations among OECD countries. Cluster 1, liberal market economies alongside countries that pioneered pension capitalization such as Chile and Sweden (Kemmerling and Makszin 2023), exhibits pension fund dominance with developed equity markets and lean public old-age programs. Cluster 2, comprising continental European and East Asian coordinated economies, shows elevated insurance assets and substantial investment funds alongside moderate public provision, particularly in health and unemployment. Cluster 3, a heterogeneous mix of Southern European, post-communist, and developing economies, combines minimal financial asset accumulation with elevated public old-age spending. This points to a fundamental compositional logic: welfare states that pursue pension capitalization or prioritize support for the active population through housing engage households with credit and asset markets fuel financialization. Those that concentrate resources on public pensions, however, displace the need for such private financial engagement.

We turn again to SEM to trace the institutional channels through which welfare functions shape financial outcomes. For each welfare function, we estimate a mediation model in which the

CLR-transformed spending ratio affects market capitalization directly and indirectly through institutional investor channels. As before, these include insurance corporations, pension funds, and investment funds. The results, shown in the figure below (Figure 9), confirm many of the patterns observed in the regression analysis, but also reveal important differences in how specific functions are financially mediated.

Pensions and family benefits operate as comprehensive financial substitutes. Pension spending shows strong negative effects across all institutional investor channels (m1-m3), with particularly pronounced mediation through pension and investment funds. Public pensions provide retirement security without private savings, directly shrinking pension funds and investment portfolios. Family benefits demonstrate similarly uniform negative effects across all three channels (m10-m12), reducing household reliance on insurance products and financial assets for security.

Housing and health expenditures shape financial markets, but through strikingly different mechanisms. Housing spending demonstrates robust positive effects (m19-m21) transmitted predominantly through pension and investment funds while bypassing insurance channels. By stabilizing rental income streams and property values, housing policy creates assets that attract long-term institutional capital.

Health spending similarly shows positive impacts (m7-m9), but through a distinct pathway. Despite modest overall effects, health expenditures generate powerful positive impacts that operate exclusively through institutional channels, particularly pension and investment funds, with negligible direct effects. This reveals how the assetization of human wellbeing translates into finance: state-backed health spending creates revenue streams for private providers that populate institutional

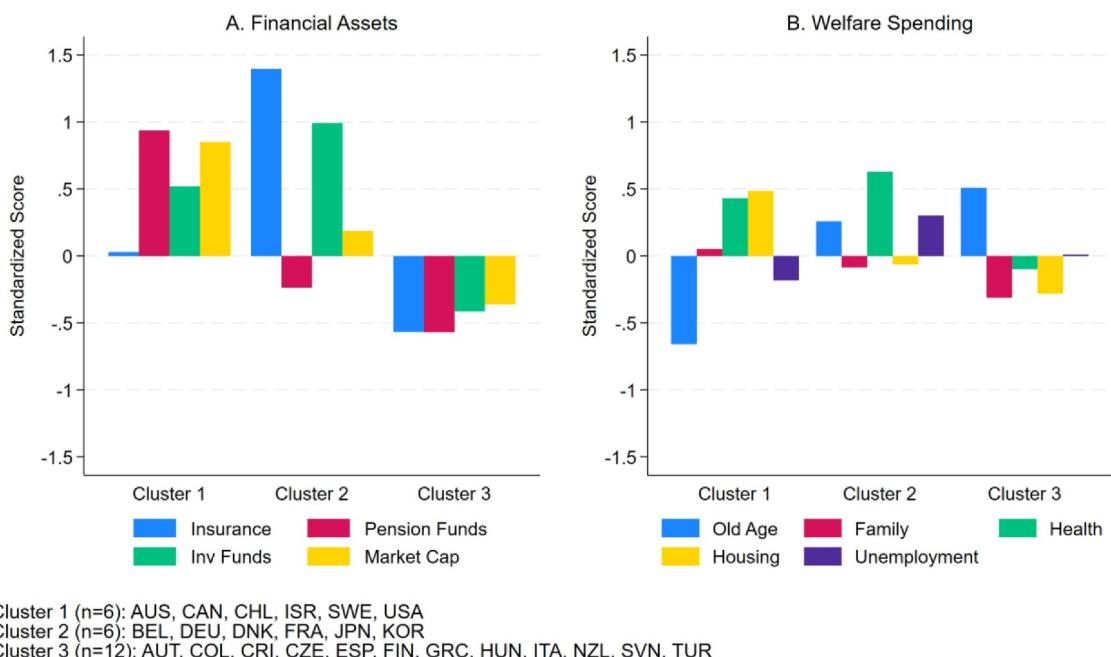


FIGURE 8 | Ward hierarchical clustering on country means (1990–2023) of institutional investor assets, market capitalization, and welfare spending composition. Standardized values. All welfare spending categories are included in the clustering; only a selection is visualized for clarity.

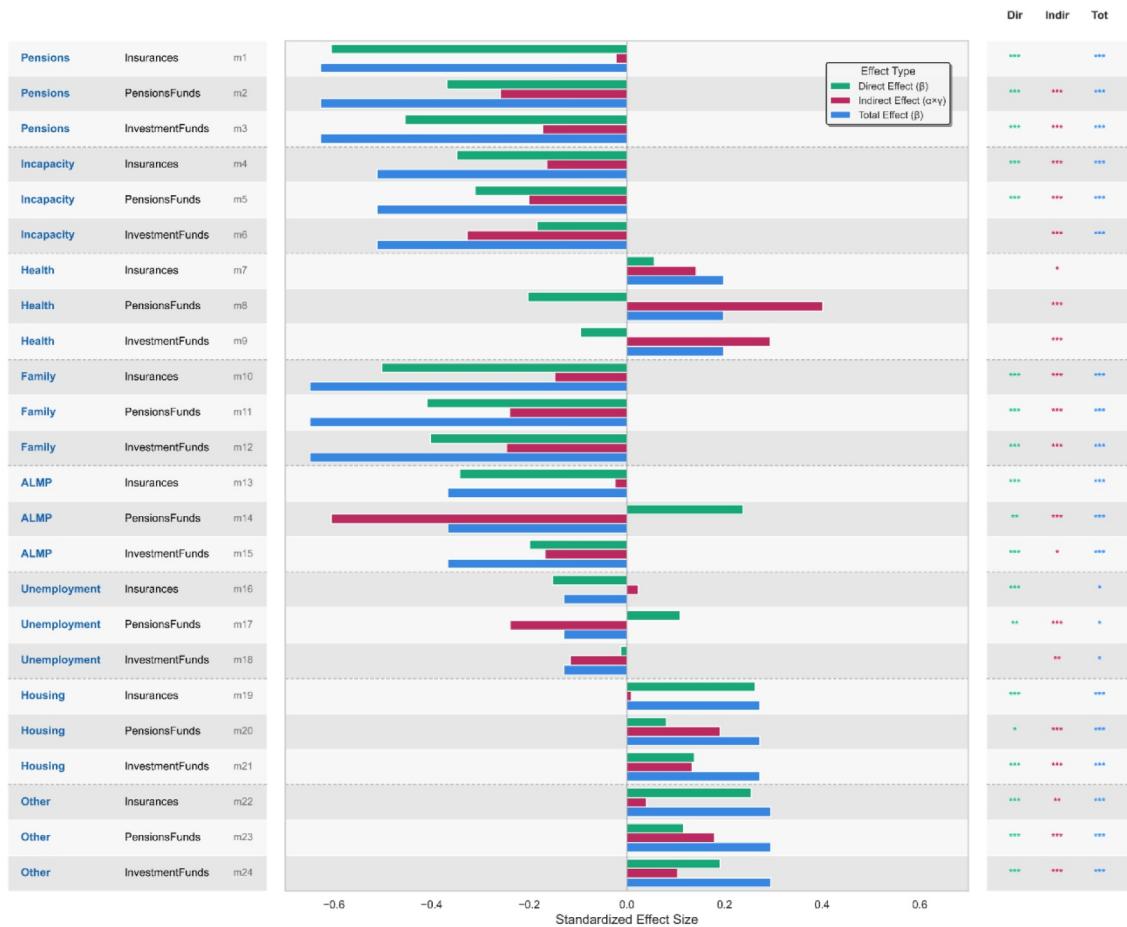


FIGURE 9 | SEM: Welfare Spending CLR (OECD SOCX) \rightarrow Institutional Investors (OECD) \rightarrow Market Cap (OECD). (24 independent models, $N = 299$, Bootstrap = 1000).

portfolios. The welfare state structures finance not by indebting households but by creating investable cash flows for institutional investors. Overall, SEM results clarify how welfare state expenditures shape financial markets by explicitly delineating institutional channels. Pay-as-you-go public pension systems and family benefits replace private finance entirely. Housing spending (e.g., mortgage interest deduction) fuels investable property assets. Mandatory private health insurance schemes generate institutional revenue streams. Ultimately, each welfare function engages different financial intermediaries, confirming that welfare states actively construct financial ecosystems rather than merely correlating with them.

5 | Discussion and Conclusions

This article reveals a paradox at the heart of modern welfare states. Contrary to the perception that markets are embedded in welfare societies through social policy, we find that generous, active welfare states often function as crucial incubators of financialization, though this role is contingent on the pre-existing depth of institutions for financial accumulation. The shift from pay-as-you-go to capitalized pension systems is a primary driver, as it forcibly creates a pool of domestic institutional capital that directly fuels market expansion (van der Zwan 2020).

Beyond pensions, specific welfare spending functions to create and stabilize the underlying income streams that form the basis of new asset classes. These states do not de-commodify so much as they re-commodify social life through asset relations. This aligns with the emergence of what Adkins et al. (2020) term the “asset economy”, where life chances are increasingly determined by asset ownership rather than labor income. Our findings demonstrate that the welfare state is a central structure of this new reality. A generous orientation toward housing, for instance, does not circumvent the market but actively constructs and underwrites the asset class that is central to contemporary inequality (Pfeffer and Waitkus 2021). Similarly, as Schwartz and Seabrooke (2008) noted, generous welfare states can be coupled with deep mortgage markets, enrolling citizens as investor-subjects. Thus, the key divide is not between a protective welfare state and predatory finance, but between different modes of state-facilitated asset integration, some of which lock households into the dynamics of asset inflation, and others (represented, for example, by generous public pensions) that provide a non-asset-based form of security.

Our analysis confirms this fundamental heterogeneity. Through PCSE regressions, compositional analysis, and structural equation modeling across OECD countries (1995–2022), we identify two distinct welfare-finance configurations.

The first configuration regards redistributive welfare functions: particularly generous public pension spending, family spending and sickness benefits generosity operate as circuit breakers for financialization. By providing security through direct provision rather than asset ownership, they eliminate the structural necessity for households to engage with institutional investors. Public pension spending crowds out all three channels of institutional investment (insurance companies, pension funds, and investment funds), confirming that de-commodified retirement security fundamentally contracts capital markets.

The second welfare-finance configuration identified in this article regards assetizing welfare functions (Lavinas 2018). Housing and health spending shape financial markets through different mechanisms. Housing policy creates what Blackwell (2025) calls “de-risking as accumulation”: state-backed rental income streams and mortgage guarantees transform residential property into low-risk, high-return assets that institutional investors absorb. Similarly, spending in healthcare systems that rely on mandatory private health insurance schemes - common in continental Europe - creates guaranteed revenue streams which transform healthcare provision into investable assets for institutional portfolios.

These findings show that the structural makeup of welfare institutions, rather than their mere size, differentially impact and co-evolve with domestic financial systems. Welfare states are not just redistributive tools but also selective architects of their institutional possibilities. Some direct public resources into investment institutions, while others reduce the role of finance altogether. Rather than constituting a barrier to financialization, or being dismantled by it, welfare institutions have a profound impact on how financial systems are shaped.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Appendix 1: Prais–Winsten PCSE Models: Welfare Generosity (CWEPS Database) Versus Market Cap

PCSE models on market capitalization of listed domestic companies (% GDP)						
	Model 1	Model 2	Model 3	Model 4	Model 5	
Pension generosity	–0.001 (0.023)		0.049 (0.016)	** (0.037)	–0.013	
Sickness generosity	–0.054 (0.013)	***	–0.017 (0.009)	† (0.044)	0.014	
Unemployment generosity	0.066 (0.024)	**	0.088 (0.018)	*** (0.066)	0.045	
Debt of households (NDI)	0.004 (0.001)	*** (0.001)	0.004 (0.001)	** (0.001)	0.005 (0.001)	*** (0.001)
						(Continues)

(Continued)

PCSE models on market capitalization of listed domestic companies (% GDP)

	Model 1	Model 2	Model 3	Model 4	Model 5
Log GDP (PPP)	-0.063 (0.319)	-0.490 (0.259)	† -0.607 (0.277)	* -1.012 (0.208)	*** 0.089 (0.289)
EU Membership	-0.347 *** (0.095)	-0.381 ** (0.137)	-0.516 ** (0.193)	-0.648 *** (0.171)	-0.319 * (0.127)
Financial openness (Chinn-Ito)	0.037 (0.093)	0.094 (0.075)	-0.038 (0.096)	0.018 (0.095)	0.179 * (0.073)
ln_tfa_Pensions		0.119 * (0.058)	0.157 ** (0.058)	-0.059 (0.160)	
ln_tfa_Insurance		0.232 *** (0.035)	0.159 *** (0.026)	-0.223 * (0.102)	
ln_tfa_InvestmentFunds		0.138 † (0.078)	-0.025 (0.097)	0.145 (0.180)	
Standard Pension generosity # ln_tfa_Pensions				-0.005 (0.016)	
Pension generosity # ln_tfa_Insurance				0.085 *** (0.023)	
Pension generosity # ln_tfa_InvestmentFunds				-0.069 ** (0.024)	
Sickness generosity # ln_tfa_Pensions				0.041 * (0.017)	
Sickness generosity # ln_tfa_Insurance				0.008 (0.017)	
Sickness generosity # ln_tfa_InvestmentFunds				-0.050 * (0.024)	
Unemployment generosity # ln_tfa_Pensions				-0.016 (0.016)	
Unemployment generosity # ln_tfa_Insurance				-0.079 *** (0.023)	
Unemployment generosity # ln_tfa_InvestmentFunds				0.140 *** (0.029)	
Intercept	4.223 (3.212)	7.217 ** (2.471)	8.215 ** (2.739)	12.613 *** (2.002)	2.172 (2.789)
Number of observations	434	288	213	213	605
R-squared	0.44	0.74	0.74	0.75	0.44

Note: Standard errors in parentheses. Significance levels: † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Model 1 includes 22 OECD countries: Australia, Austria, Belgium, Canada, Switzerland, Germany, Denmark, Spain, Finland, France, the United Kingdom, Greece, Ireland, Italy, Japan, Korea, the Netherlands, Norway, New Zealand, Portugal, Sweden, and the United States. Models 2–5 include 14 countries: Australia, Austria, Belgium, Canada, Germany, Spain, Finland, Greece, Italy, Japan, Korea, New Zealand, Sweden, and the United States.

*** $p < 0.001$.** $p < 0.01$.* $p < 0.05$.† $p < 0.1$.

Appendix 2: Welfare Composition (CLR) and Market Capitalization
Welfare composition predicting market capitalization

	Model 6 (PCSE)	Model 7 (PCSE + HHD)	Model 8 (Driscoll-Kraay)	Model 9 (Driscoll-Kraay + HHD)
Pensions (CLR)	-0.518 (0.174)	-0.146 (0.167)	-0.072 (0.137)	0.212 (0.144)
Incapacity (CLR)	-0.086 (0.131)	-0.277 (0.115)	* 0.071 (0.101)	-0.107 (0.075)
Health (CLR)	0.576 (0.179)	0.527 (0.179)	** 0.268 (0.167)	0.149 (0.140)
Family (CLR)	-0.300 (0.103)	-0.411 (0.106)	*** -0.484 (0.056)	-0.422 (0.068)
ALMP (CLR)	0.101 (0.072)	0.089 (0.073)	0.368 (0.088)	0.173 (0.083)
Unemployment (CLR)	-0.026 (0.053)	0.017 (0.063)	0.014 (0.036)	0.047 (0.044)
Housing (CLR)	0.147 (0.056)	0.154 (0.052)	** 0.243 (0.047)	0.253 (0.036)
Log GDP (PPP)	0.489 (0.237)	0.328 (0.253)	0.576 (0.139)	0.123 (0.130)
EU Membership	-0.056 (0.106)	0.064 (0.101)	-0.590 (0.063)	*** -0.478 (0.055)
Financial openness (Chinn-Ito)	0.194 (0.074)	0.113 (0.073)	0.278 (0.047)	0.246 (0.056)
Debt of households (NDI)		0.007 (0.002)	***	0.005 (0.001)
Number of observations	512	512	512	512
R-squared	0.94	0.95	0.56	0.60

Note: Standard errors in parentheses. Year fixed effects controlled but not shown. PCSE: correlation(psar1) = Panel AR(1) with cross-sectional dependence. Driscoll-Kraay: lag(1) = Newey-West lag truncation. Model (1) (2): PCSE; Model (3) (4): Driscoll-Kraay. Odd columns: total effect; Even columns: direct effect with Household debt control. All models include 29 countries: Australia, Austria, Belgium, Canada, Chile, Colombia, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

*** $p < 0.001$.

** $p < 0.01$.

* $p < 0.05$.