White Rose Research Online

eprints@whiterose.ac.uk
https://eprints.whiterose.ac.uk
Universities of Leeds, Sheffield and York

Deposited via The University of Sheffield.

White Rose Research Online URL for this paper:
https://eprints.whiterose.ac.uk/id/eprint/232995/

Version: Published Version

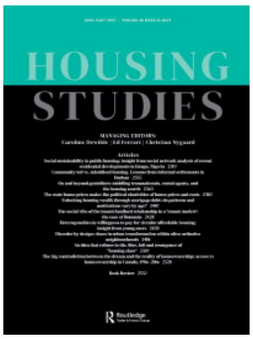
Article:
Marshall, M. (2025) 'Will there be money? Yes, but you'll pay more for it': variegated financialization in social housing. Housing Studies, 41 (7). pp. 1611-1633. ISSN: 0267-3037

https://doi.org/10.1080/02673037.2025.2568507

Reuse
This article is distributed under the terms of the Creative Commons Attribution (CC BY) licence. This licence allows you to distribute, remix, tweak, and build upon the work, even commercially, as long as you credit the authors for the original work. More information and the full terms of the licence here: https://creativecommons.org/licenses/

Takedown
If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

UNIVERSITY OF LEEDS
University of Sheffield
UNIVERSITY of York



Housing Studies

ISSN: 0267-3037 (Print) 1466-1810 (Online) Journal homepage: www.tandfonline.com/journals/chos20

‘Will there be money? Yes, but you’ll pay more for it’: variegated financialization in social housing

Michael Marshall

To cite this article: Michael Marshall (06 Oct 2025): ‘Will there be money? Yes, but you’ll pay more for it’: variegated financialization in social housing, Housing Studies, DOI: 10.1080/02673037.2025.2568507

To link to this article: https://doi.org/10.1080/02673037.2025.2568507

© 2025 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

Published online: 06 Oct 2025.

Submit your article to this journal

Article views: 146

View related articles

View Crossmark data

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=chos20

HOUSING STUDIES
https://doi.org/10.1080/02673037.2025.2568507

Routledge
Taylor & Francis Group

OPEN ACCESS Check for updates

'Will there be money? Yes, but you'll pay more for it': variegated financialization in social housing

Michael Marshall

Geography and Planning, The University of Sheffield, Sheffield, United Kingdom of Great Britain and Northern Ireland

ABSTRACT

Research on the financialization of social housing has focused on its construction as an asset class. Less studied are the transformations occurring where financialization is relatively mature. This paper uses the English housing association (HA) sector to advance a conceptualization of financialization as variegated and subject to political and economic risks. Empirically it provides a mixed method, longitudinal framework to demonstrate that the path dependency of HA business models influences the form and extent of institutional investment. Furthermore, it explores the transformation of social housing as the preconditions for the extension of finance – low interest rates and expenditure, increased commercial revenue – are disrupted. In a more challenging environment, risk is distributed unevenly across the HA sector. HAs experiencing constraints upon their borrowing capacity face acute trade-offs between financial viability and investment in new and existing homes. The paper illustrates how the variegated financialization of housing systems continues to reproduce itself, albeit at greater cost for affected social landlords.

ARTICLE HISTORY
Received 15 June 2023
Accepted 23 September 2025

KEYWORDS
Financialization; social housing; mixed-methods

Introduction

There is a voluminous literature on the financialization of housing, which has in turn spawned research into the financialization of rental housing markets and systems (Wijburg *et al.*, 2018). Within this literature significant attention has been paid to the construction of rental housing into an asset class, often focusing on the role of actors, institutions and macro-economic policy in facilitating the expansion of financial capital (Belotti & Arbaci, 2021; Goulding, 2018; Nethercote, 2023). Less commonly studied are the long-term dynamics in rental housing systems where financialization is relatively mature, and how the system responds when the factors facilitating financialization are disrupted. This empirical gap is compounded by a

CONTACT Michael Marshall michael.marshall@sheffield.ac.uk Geography and Planning, The University of Sheffield, Sheffield, United Kingdom of Great Britain and Northern Ireland

© 2025 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

tendency for studies to rely upon case-study research that lacks the breadth to explore the financial transformation of markets and sectors over time (Marsh, 2018).

In this paper I draw upon conceptual work that frames financialization as variegated, contingent, underpinned by the assetization of housing, and tending towards cyclical periods of boom and bust (Byrne & Norris, 2019; Ward *et al.*, 2019). I use English housing associations (HAs) – non-profit social landlords that have been the primary providers of social housing in England since the late 2000s – as a case study to explore the dynamics of financialization and assetization across a sector that has experienced significant political-economic change. The preconditions that allowed for the extension of finance into the HA sector – low interest rates, a buoyant private sales market, predictable maintenance expenditure – have been unsettled in recent years, which has partially undermined the sector's position as a stable and secure investment (Raco *et al.*, 2024).

In the empirical sections of the paper I advance a mixed-methods empirical framework that combines longitudinal clustering of HA balance sheet data with qualitative document analysis. The study contributes to research on the financialization of housing systems by providing a methodological framework with sufficient breadth and depth to explore financialization as a path-dependent, variegated process, the dynamics of which can most effectively be understood over the long-term as unforeseen risks emerge.

The empirical findings also introduce a taxonomy that clusters HAs according to their relation to finance, with the investment strategies of HAs related to their tenure mix, size, and income generation. As the creditworthiness of the HA sector has been affected by rising interest rates and maintenance expenditure, the responses of HAs continue to diverge and risk is distributed unevenly among social landlords. The findings challenge the notion that financialization is a binary phenomenon restricted to very large, London based HAs which are commonly used as case studies (Clare *et al.*, 2022). Further, the findings complicate recent suggestions that financialization is in 'retrenchment' (Raco *et al.*, 2024). Rather, the case of English social housing illustrates how rental systems embedded within financial cycles, and without recourse to sufficient funding from alternative sources (e.g. state subsidy), can remain reliant upon private finance, albeit at higher cost.

Literature review: financialization of English HAs

A commonly utilized definition of financialization is provided by Aalbers, referring to the increased dominance of financial products, actors, metrics and practices, resulting in the structural transformation of economies, sectors, firms, and households (Aalbers, 2017). Byrne & Norris (2019) note that the flexibility of this definition has supported the usage of financialization within two broad but interrelated strands of research – the theorization of a new phase of capitalist development in which private finance dominates the real-economy, and the transformation of specific sectors and institutions. The financialization of housing has featured prominently within both strands of research, with studies exploring housing's role as a source of collateral enabling the circulation and accumulation of financial capital (Gotham,

2009), and the role of financialization in producing or exacerbating inequalities in access to affordable and secure housing (Whitehead *et al.*, 2023).

Research has also explored the financialization, and subsequent transformation, of rental housing markets and institutions (Wijburg *et al.*, 2018). Much of this literature has thus far focused on financialization's emergence and construction of rental housing into an asset class, including the purchase of rental housing by financial firms in the United States (Fields, 2018), the importance of financial intermediaries in assembling a market for build to rent in Australia (Nethercote, 2023), and the role of the state in creating investment vehicles to fund social housing development in Italy (Belotti & Arbaci, 2021). Less researched are the long-term effects in contexts where financialization is relatively mature and in which the pre-conditions for the extension of private finance have been disrupted. This is despite private finance having been central to the delivery of rental housing, including social housing, for decades in contexts such as the UK (Pawson & Milligan, 2013; Smyth, 2019). To understand how financialization transforms housing systems over the long-term, including within periods of substantial political-economic change, I draw on a conceptualization of financialization as variegated, contingent, supported by assetization, and with the potential for cyclical fluctuations.

Given the expansion of private finance across numerous housing systems and tenures it is common to conceptualize the process as variegated. Variegation conceives of financialization as uneven and co-constituted by the path dependency of existing political-economic institutions, which produces both a variable penetration of finance and contextually embedded, local forms of financialization (Ward *et al.*, 2019). Variegation is often used as a lens to explore financialization across spatial contexts, for instance the contrasting approaches to private rental development across English cities (Goulding *et al.*, 2023). But variegation may also be employed to explore variable forms of financialization across organizations or within sectors, such as non-financial corporations (NFCs) (Klinge *et al.*, 2021).

The interaction between financialization and context suggests that while it may be possible to conceive of financialization as a generalized abstract process, the expansion of specific vehicles and instruments for financial investment into housing systems remains contingent upon conducive political-economic conditions. Belotti & Arbaci's (2021) research on the state-led financialization of social housing in Italy demonstrates that the establishment of real estate investment funds was reliant upon a range of complementary policy instruments, including the provision of state guarantees and stable local governance. Similarly, Christophers (2019) argues the expansion of English local governments into the provision of commercial real estate and private rental housing was underpinned by a period of exceptionally low interest rates.

However, as the expansion of finance is facilitated by certain political-economic factors, changes in said factors can result in cycles of financial boom and bust. Central to financial investment is the calculation of risk – the quantification of the probability of negative outcomes which is subsequently reflected in the pricing of assets and costs of finance (Goulding, 2024). And changes in the perceived risk associated with certain markets and assets can result in a contraction in available finance. Byrne & Norris (2019) argue housing has become embedded in volatile financial market cycles, pointing to the tightening of mortgage lending in the late

2000s and the contraction of homeownership in several economies. Rental housing is often viewed by investors as a relatively stable investment in contrast to mortgaged homeownership (Wijburg *et al.*, 2018). Nonetheless, investments in rental housing are often tied to favourable macro-economic conditions. And the strategies of investors are heterogeneous, with research highlighting private equity firms as more likely to seek short-term gains from the disposal of assets (Whitehead *et al.*, 2023, p. 91–92). It cannot be taken as given, therefore, that rental housing is insulated from the cyclical fluctuations of financial investment.

In the remainder of this paper, I explore the English housing association sector as a case study of variegated and relatively mature financialization that has been subject to significant political-economic upheaval in recent years.

Financialization, assetization and English housing associations

The prevailing business model of the English HA sector has undergone significant change over the past fifteen to twenty years, and their increased reliance upon private finance has resulted in a burgeoning literature on the sector's financialization (Marsh, 2018). Christophers (2015) accuses the financialization literature of ambiguity in how the concept is defined and operationalized. To bring specificity to Aalber's (2017) definition of financialization within the English HA context, I define the financialization of HAs as the increased importance of private finance and institutional investment in funding social housing capital expenditure, and the related orientation of HA governance towards maintaining access to capital (Goulding, 2018).

The early 2010s are often seen as a key historical juncture for HA financialization. A 2010 general election in the UK elected a Coalition government that oversaw an austerity agenda that initiated dramatic cuts to the level of central government capital grant for investment in new and existing social housing. The subsequent subsidy gap was filled largely by private finance supplemented by cross-subsidy from increased provision of homes for private sale and rent (Smyth, 2019, p. 154).

Private investment post-2010 was mostly leveraged against HA balance sheets and between 2006 and 2015 debt per home nearly doubled across the sector (Wainwright & Manville, 2017). Most notable in the early 2010s was the growth in the market for HA issued public bonds and private placements (Pawson & Milligan, 2013; Wainwright & Manville, 2017). The expansion of HA debt was supported by factors including a sustained period of low interest rates and HA expenditure (Goulding, 2018), government guarantees of HA borrowing and the expansion of bond aggregators across the sector (Tang *et al.*, 2017), and the constructive role of intermediaries such as credit rating agencies (CRAs) in embedding financial metrics within HAs (Smyth *et al.*, 2020).

To supplement debt finance, there has been a surge in off-balance sheet institutional investment in social housing in recent years (Wijburg & Waldron, 2020). This has included the nascent growth of for-profit HAs, established as subsidiaries of institutional investors such as pension and insurance funds (Wijburg & Waldron, 2020). But also shared-ownership-reversionary-portfolios (SORPs), and lease-based deals. SORPs involve the HA selling a proportion of their shared ownership homes to an investor but continuing to manage the homes on the investor's behalf, with

the HA recycling the sales receipt into the development of new homes (Streeter, 2022). Whereas lease-based deals involve HAs leasing the homes from a for-profit investor and reletting them to their client group. This has most controversially been used as a form of investment in the supported accommodation sector among relatively small HAs (Goulding, 2024).

The importance of private finance to HA capital expenditure has transformed HA governance and strategy, with significant priority placed upon maintaining borrowing capacity and financial viability (Goulding, 2018). The HA sector has undergone compositional change to attract inward investment, with extremely large landlords owning over 100,000 homes emerging out of merger and acquisition activity intended to boost borrowing capacity (Marsh, 2018). And the Regulator of Social Housing (RSH) has expended significant effort to maintain the sector's reputation as a relatively secure and stable investment. RSH has sought to ensure HAs rigorously stress test their business plans and that HAs generate sufficient revenue to cover their projected maintenance costs (Goulding, 2018; Raco *et al.*, 2024).

Financialization has been supported by a complementary process of assetization. Assetization is defined by Birch (2017, p. 468) as the 'the transformation of something into property that yields an income stream' such that it can become 'capitalized property.' Assetization emphasizes that the circulation of financial capital is often reliant upon the maximization of income from some underlying resource (Birch, 2017). Among English HAs this is reflected in a shift towards a set of practices collectively referred to as 'strategic asset management' (Sharam, 2025). Strategic asset management describes an approach to housing management in which social landlords proactively adopt strategies to maximize their income streams and improve the financial performance of their housing portfolio to access capital (Sharam, 2025).

Two notable asset strategies adopted by HAs are the provision of housing for affordable rent and disposals (i.e. sales) of social housing. In 2012 the *affordable rent* tenure was introduced by government, which allowed HAs to charge up to 80% of market rents, in contrast to traditional *social rents* that tend to average around 50% of market rents (Smyth, 2019). To support HA revenues in the early 2010s HAs were allowed to convert a proportion of their existing social housing to affordable rent, and newly developed homes were directed towards the higher cost tenure (Smyth, 2019). In addition, several HAs incorporated sales of social housing into their business plans to generate revenue, either to other social landlords or on the private market (Morrison, 2017). Indicative of the assetization of the sector, disposals are often targeted on homes that generate insufficient income to cover their long-term costs (Sharam, 2025).

Variegated financialization and sample bias

Thus, the prevailing narrative in the literature is that post-2010 HAs became deeply embedded within capital markets and increasingly commercial. The pre-conditions for HA financialization included: increased income generation from affordable rent, disposals, and market housing; predictable maintenance costs; low-interest rates; and stable governance. Yet as financialization has matured in the HA sector there are areas in which this dominant narrative requires an empirical update.

The preconditions for the HA sector's access to capital have been fundamentally disrupted. Not only did interest rates and inflation increase in the UK in 2022, but there were changes in HA governance in the preceding years that have shifted the priorities of social landlords. Following the Grenfell tower fire in 2017 HAs have needed to invest significantly in building safety remediation (Raco *et al.*, 2024). Grenfell also highlighted issues in terms of the accountability of HAs to residents, which led central government to reform social housing regulation to improve standards of service and maintenance (Raco *et al.*, 2024). Such trends have led some to suggest there has been a 'partial retrenchment' of financialization as HAs have directed capital expenditure towards improving the homes of existing residents (Raco *et al.*, 2024, p. 16). Thus, it is necessary to reconsider the relation between HAs and finance given the relatively benign environment for investment in social housing has ended.

Moreover, despite significant academic interest there remain empirical gaps in terms of understanding the nature and extent of financialization across the HA sector. Rather than seeing the financialization of HAs as variegated, the academic literature tends to rely upon a linear conceptualization of the phenomenon that splits HAs into a binary categorization. A weakness raised in recent literature reviews is that the existing evidence base on HA governance is overly reliant upon case studies of large, London-based HAs (Marsh, 2018). As a result of this sampling bias the literature makes implicit and problematic generalizations across the sector. As an indicative example, Clare *et al.* state that 'alongside the [HA] sector's growth is continued monopolization within it: large and increasingly financialized HAs now dominate at the expense of smaller, more socially-focused ones' (2022, p. 6). This quote makes clear assumptions about which organizations are 'more' financialized, and how reliance upon private finance is related to organizational size and objectives in a linear fashion. However, evidence in other contexts – small NFCs – suggests smaller organizations may still be affected by financialization despite maintaining relatively simple financing mechanisms, for instance by being exposed to financial practices through inter-firm interactions, or being subject to uneven power relations when negotiating loans (Pollard et al., 2018). How financialization varies across the sector and between organizations is ultimately an empirical question revealing a lack of research at a sector-wide scale.

Materials and methods

The empirical section addresses the research questions:

1. In what ways has the relationship to finance changed in the English HA sector?
2. How does financialization manifest in different contexts across the HA sector?

I adopt a longitudinal mixed-methods approach, allowing me to explore financialization across the HA sector during a period of political-economic tumult. The quantitative strand provides sector-wide evidence as to changes in HA financial

position over time, in contrast to existing evidence that is overly reliant upon small-n case studies. The qualitative strand validates the findings from the quantitative strand and explores the consequences for HA governance, strategy and risk.

Operationalizing financialization

To operationalize financialization, I utilize two measures commonly used in the HA sector: (a) gearing and (b) interest cover.[1] Gearing measures the total stock of debt relative to the worth of a HA's housing assets and is a measure of the dependence upon debt finance. A high number implies greater indebtedness (Regulator of Social Housing, 2022a, p. 7). It is calculated as:

$$Gearing = \frac{\begin{array}{c}Short\ term\ loans + long\ term\ loans - cash\ and\ cash\ equivalents + \\ amounts\ owed\ to\ group\ undertakings + \\ finance\ lease\ obligations\end{array}}{Tangible\ fixed\ assets\ i.e.\ housing\ properties\ at\ cost\ or\ valuation} \quad (1)$$

Interest cover is a measure of liquidity expressed as a ratio of organizational surplus relative to interest payable. It is a measure of the flow of financial payments, capturing the ability of HAs to cover their interest payments. A lower number implies less ability to cover interest payments (Regulator of Social Housing, 2022a, p. 8). It is calculated as:

$$Interest\ cover = \frac{\begin{array}{c}Operating\ surplus - gain\ on\ disposal\ of\ housing\ assets - \\ gain\ on\ disposal\ of\ other\ fixed\ assets - amortised\ government\ grant - \\ grants\ taken\ to\ income + interest\ receivable - capitalised\ major\ repirs + \\ total\ depreciation\ charge\end{array}}{Interest\ capitalised + interest\ payable} \quad (2)$$

Reviews of quantitative studies on the financialization of NFCs highlight that there is no clear consensus on how to operationalize the concept (Klinge *et al.*, 2021). As such, there are strengths and limitations to using gearing and interest cover as measures. In terms of strengths, in tandem they cover both stocks of debt and flows of financial payments, which is a common operationalization adopted in the literature (Klinge *et al.*, 2021). Both are used as loan covenants in the sector and so are meaningful in the HA context. And they are regulatory metrics published annually by the RSH, which provides high-quality longitudinal data. In terms of limitations, as balance sheet measures they necessarily omit forms of off-balance sheet investment such as SORPs and lease-based deals. Furthermore, I use standardized measures of gearing and interest cover defined by RSH to draw comparisons across HAs. But this may obscure contrasting risk exposure between HAs due to differences in their loan covenants at the organizational level, for example some HAs omit major repairs from their calculation of interest cover. This does not mean gearing and interest cover are irrelevant. But it does necessitate a careful

interpretation of findings. And it requires us to clarify the aim of the study, which is to use changes in gearing and interest cover as a lens through which to explore the changing role of finance across the HA sector.

Quantitative strand

The quantitative strand uses a form of longitudinal clustering known as growth-curve k-means (GCKM) (Den Teuling *et al.*, 2023). GCKM involves a two-step process. The first step is to fit a longitudinal model using a multilevel model framework of the form:

$$Y_{ti} = \beta_0 + \beta_1 X_{ti} + \beta_2 X_{ti}^2 + \ldots + \beta_d X_{ti}^d + u_{0i} + u_{1i} X_{ti} + e_{ti} \quad (3)$$

Where: Y_{ti} is an outcome variable for the ith organization at time point t, β_0 is a fixed effect intercept, $\beta_1 X_{ti}$, $\beta_2 X_{ti}^2$ and $\beta_d X_{ti}^d$ are polynomial terms up to degree d for the grand mean slope of financial year, u_{0i} is a random effect for the intercept of the ith organization, $u_{1i} X_{ti}$ is a random effect for the slope of financial year for the ith organization, and e_{ti} is an error term.

I build two longitudinal models, with gearing and interest cover the respective dependent variables. I sequentially introduce polynomial terms of a higher degree in each model, taking a 10-point reduction in the Akaike information criterion (AIC) as indicative of improved model fit. This resulted in a linear fit for gearing, and a second order polynomial for interest cover (Appendix A).

The second step is to take the random effects from the longitudinal model and use them within a k-means clustering solution. K-means is a clustering approach that seeks to find meaningful groupings of observations by minimizing the within-cluster variation. This is typically achieved by minimizing the sum of Euclidean distances between observations in each cluster, divided by the total number of observations in each cluster (James *et al.*, 2021, p. 517–518). To do so, the k-means algorithm iterates through randomly assigning each observation to a cluster, calculating the centroid of the cluster, and subsequently reassigning observations to clusters until the within cluster variation stops decreasing (James *et al.*, 2021, p. 519).

In k-means the researcher must specify *a priori* the number of clusters (k). The NbClust algorithm produces numerous indices designed to validate the number of clusters in k-means and proposes the optimal number of clusters *via* majority rule across said indices (Charrad *et al.*, 2014). I choose the most frequently proposed solution *via* majority rule across 500 iterations of the NbClust algorithm. Moreover, in k-means the output is sensitive to the initial random cluster assignment and the ordering of observations. Therefore, I randomly reorder the cases in each NbClust iteration (Appendix A). This resulted in $k = 4$.

I apply GCKM using the random intercepts and random slopes from both longitudinal models, standardized to their z-scores, to produce a single cluster solution. To aid interpretation I produce pen portraits for each cluster by calculating the within cluster means on a set of covariates outlined in Table 1, which also displays summary statistics. The covariates illustrate how financialization varies across the sector according to operating margin, size, tenure mix, growth ambitions, and reliance upon commercial activity and disposals.

Table 1. Covariates for pen portraits.

Covariate name	Covariate description	Mean	Standard deviation
Affordable rent (AR) %	Affordable rent provision as a percentage of social housing units	117.95	48.23
Average AR	Average affordable rent charged (weighted by the number of homes in each local authority)	1.72	3.85
Commercial surplus	Surplus from commercial activity as a ratio to surplus from social housing activity	0.06	0.65
Disposals %	The number of social housing units sold for non-social housing purposes to non-tenants, as a percentage of total social housing units	0.11	0.23
Disposals surplus	Surplus from disposals as a ratio to surplus from social housing activity	0.18	3.00
Housing for older people (HOP) %	Housing for older persons provision as a percentage of social housing units	9.33	12.83
New supply %	Annual new housing supply as a percentage of social housing units	7.82	6.90
Operating margin	Operating margin on social housing lettings	0.29	0.19
Supported housing %	Supported housing (SH) provision as a percentage of social housing units	6.62	17.05
Total homes	Total number of social housing units	13003.78	16258.70

Note: All data from RSH Global Accounts and Statistical Data Returns among housing associations owning or managing 1,000 homes or more 2016/17–2020/21.

GCKM provides a means to explore the changing role of finance across multiple dimensions, and by partitioning the sector into different groupings it avoids assuming financialization is unidirectional. Furthermore, Den Teuling *et al.* (2023) conducted a review of longitudinal clustering methods in which they recommended GCKM due to its combination of accuracy and computational efficiency.

All data is taken from two publicly available datasets published annually by RSH. The Global Accounts summarizes the balance sheet position of HAs with over one thousand homes.[2] And the Statistical Data Return provides data on the number of HA homes by tenure, location and average rent charged. The analysis utilizes five years of data – 2016/17 to 2020/21 as full data on interest cover is not available prior to this period (Regulator of Social Housing, 2018a) – with $n = 1{,}102$ observations, taken from 269 HAs. As organizations owning below one thousand homes are excluded, the sample does not cover the entire HA sector. However, the landlords included collectively own 96 per cent of the social housing stock in England (Regulator of Social Housing, 2019a), illustrating that the scale of analysis is close to sector wide. Missing observations were removed via listwise deletion.[3] Several organizations were outliers because they operate a lease-based supported housing model, and so have little to no debt on their balance sheet. Although these organizations are removed from the quantitative strand two lease-based supported housing providers were included in the qualitative documentary analysis due to their unique financial position.

Qualitative strand

The qualitative analysis expands upon the quantitative by validating the clustering and exploring the changing nature of financialization. The GCKM results provided a sampling frame for the documentary analysis. Documents were sampled from at least two organizations in each cluster as well as two lease-based supported housing

providers that were outliers in the GCKM, ensuring each cluster had more than one representative organization ($n = 13$). The minimum number of cases per cluster was set to two due to one cluster in the GCKM producing only two cases. Organizations were sampled to provide a corpus of relevant documents of sufficient size to explore the changing role of finance over time, and the co-evolution of financialization and asset strategy. Each organization was selected due to having at a minimum (a) multiple financial statements publicly available to analyze change over time, and (b) a document published by an external agency (e.g. CRA, RSH) to analyze how their financial performance was perceived by outsiders. Documents included financial statements, credit ratings, information for investors, regulatory judgements, and housing trades press articles. Documents ($n = 79$) were analyzed thematically around changing financial practices and challenges, and the implications for organizational strategy and sectoral governance.

Results

Quantitative results

Table 2 displays the results of the GCKM, including the centroids and number of observations for each cluster. Table 3 displays the within-cluster means on selected covariates, and the within cluster mean as a percentile rank in the raw covariate. I assign each cluster a descriptive name also presented in Table 3. Figures 1–4 display the pen portraits of each cluster. In each figure the left-panel is the predicted within-cluster mean for gearing over time, the mid-panel is the predicted within-cluster mean for interest cover over time, and the right-panel is the percentile rank of the within-cluster mean on selected covariates centred at the median.[4] The clusters provide a heuristic device. As such, there is significant variation within clusters and the descriptions will capture the business model of certain HAs better than others.

The largest cluster is *large multi-tenure providers*, displayed in Figure 1. These providers have mid-level gearing and low interest cover that has fallen over time but started to recover. They own the largest number of homes on average which supports their borrowing capacity. They generate an operating margin that is around average across the sector, and it is supported by having above average provision of affordable rents. But they also provide supported housing and housing for older persons (HOP). They have a slightly above average rate of new supply but produce

Table 2. GCKM results for $K = 4$.

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Name	Large multi-tenure providers	Indebted developers	Mid to small providers with relatively low margins	Supported housing providers carrying low levels of debt
Centroids				
Intercept: Interest cover	−0.169	−0.264	2.370	−0.381
Slope: Interest cover ~ Year	0.029	0.079	−1.272	7.670
Intercept: Gearing	−0.257	1.176	−1.218	−2.084
Slope: Gearing ~ Year	0.332	−0.858	−0.012	−2.263
N	177	63	20	2
Within sum of squares	243.526	142.194	160.681	11.453

Table 3. Cluster names and within cluster covariate means.

Cluster name	Covariate	Within cluster covariate mean	Within cluster mean -percentile rank
Large multi-tenure providers	Affordable rent %	0.080	0.607
	Average AR	121.420	0.601
	Commercial surplus	0.053	0.613
	Disposals %	0.001	0.751
	Disposals surplus	0.210	0.916
	HOP %	0.098	0.670
	New supply %	0.016	0.612
	Operating margin	0.296	0.491
	Supported housing %	0.059	0.812
	Total homes	14795.336	0.744
Indebted developers	Affordable rent %	0.087	0.651
	Average AR	122.190	0.604
	Commercial surplus	0.051	0.606
	Disposals %	0.001	0.734
	Disposals surplus	0.080	0.763
	HOP %	0.086	0.622
	New supply %	0.021	0.706
	Operating margin	0.300	0.505
	Supported housing %	0.039	0.688
	Total homes	11331.294	0.649
Mid to small providers with relatively low margins	Affordable rent %	0.044	0.321
	Average AR	89.920	0.100
	Commercial surplus	0.115	0.805
	Disposals %	0.001	0.665
	Disposals surplus	0.226	0.925
	HOP %	0.085	0.618
	New supply %	0.016	0.580
	Operating margin	0.229	0.205
	Supported housing %	0.170	0.930
	Total homes	4939.100	0.361
Supported housing providers carrying low levels of debt	Affordable rent %	0.000	0.087
	Average AR	0.000	0.087
	Commercial surplus	0.115	0.805
	Disposals %	0.002	0.855
	Disposals surplus	0.152	0.868
	HOP %	0.025	0.259
	New supply %	0.011	0.459
	Operating margin	0.148	0.075
	Supported housing %	0.370	0.956
	Total homes	1960.111	0.149

less new housing proportionate to their size than some of their peers (e.g. *indebted developers*). They make a relatively high surplus on disposals of existing assets. This cluster most closely resembles the prototypical landlord discussed in the literature on English HAs.

Indebted developers are the second largest cluster in terms of number of observations and displayed in Figure 2. *Indebted developers* have relatively high gearing, although it is falling slightly. And low interest cover, which has also fallen but is rebounding. Their business model is typified by ambitious new supply proportionate to their size, which they have geared up to deliver. They dispose of social housing at a similar rate to large multi-tenure providers. Their affordable rent provision is above average and their operating margin is around average.

Mid to small providers with relatively low margins are displayed in Figure 3 and are the third largest cluster in terms of number of landlords. They are classed as 'mid to large' in the context of HAs owning or managing at least 1,000 homes. They

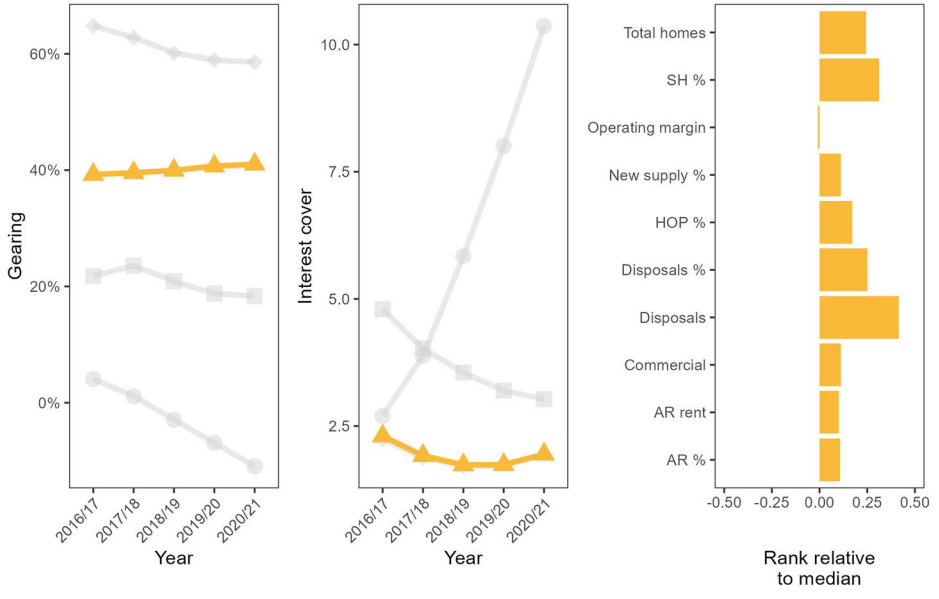


Figure 1. Pen portrait for large multi-tenure providers.

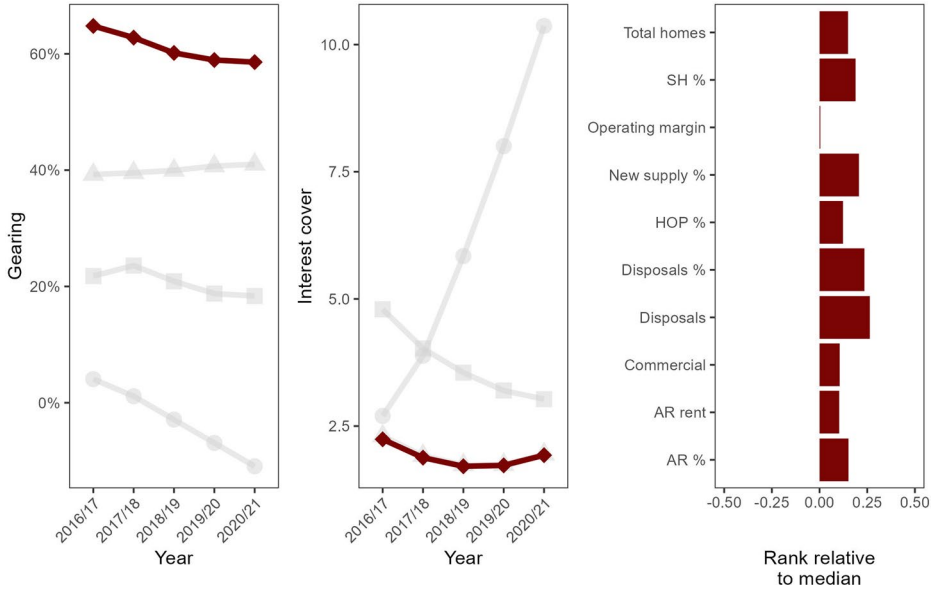


Figure 2. Pen portrait for indebted developers.

provide on average less than 5,000 homes, far short of the very large organizations typically produced through merger and acquisition activity. On average they have less affordable rent provision, and more HOP and supported housing provision, which produces an operating margin below average for the sector due to the higher overheads associated with these tenures (Regulator of Social Housing, 2018b, p. 22). They have relatively low gearing, and mid-level (but falling) interest cover. Even

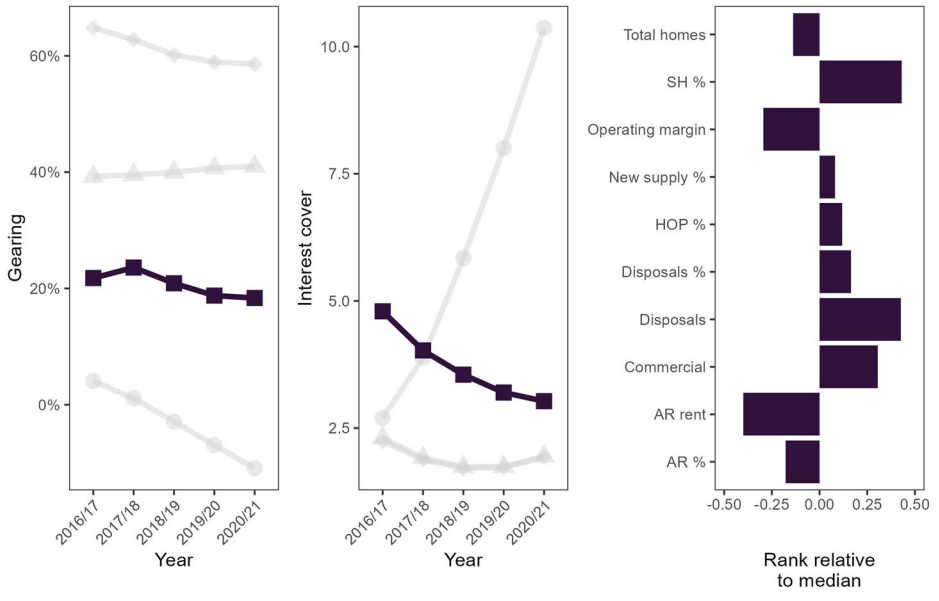


Figure 3. Pen portrait for mid to small providers with relatively low margins.

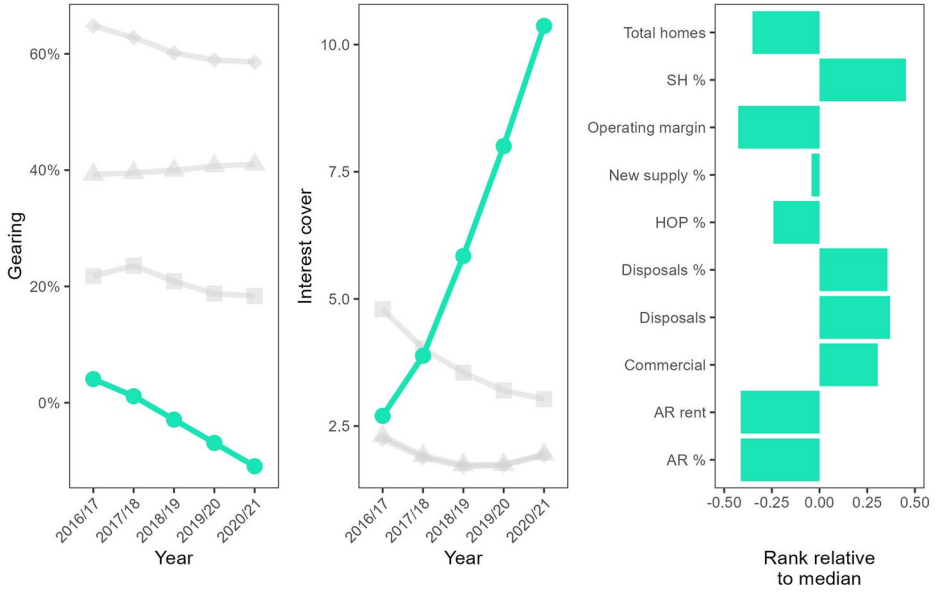


Figure 4. Pen portrait for supported housing providers carrying low levels of debt.

though they dispose of social housing at a lower rate than other clusters, the capital from disposals and commercial activity forms a larger proportion of their organizational surplus.

Supported housing providers carrying low levels of debt are displayed in Figure 4, and amount to a very small cluster in terms of number of organizations. They provide mostly supported housing, and relatively low amounts of new supply and

affordable rent. They are also the smallest landlords on average in terms of number of homes. This cluster is characterized by very low (and falling) gearing, and high (and rapidly rising) interest cover.

The GCKM findings confirm that HAs have different trajectories in relation to their indebtedness and interest cover over time. Moreover, by relating these groupings to key organizational characteristics – tenure mix, size, growth ambitions, reliance upon disposals and commercial surplus – the findings suggest that financialization interacts with the path dependency of inherited business models. Although for most organizations interest cover declined during this period, the quantitative findings also highlight variation between HAs in income generation and capacity to leverage their housing assets which produces a variegated financialization. Nonetheless, the qualitative strand aims to validate this inference and the clusters.

Qualitative results

Variegation across the sector

Table 4 outlines the sampled HAs by cluster and details the contrasting financing mechanisms utilized by HAs within each cluster, identified within their financial documents. Table 4 suggests that many of the financing arrangements commonly discussed in the literature – public bonds, private placements – have little penetration beyond *large multi-tenure providers* and *indebted developers*. Admittedly these clusters account for the majority of the HAs in the sample, but Table 4 does highlight a small proportion of HAs still reliant upon bank or building society loans.

The qualitative analysis provides corroborating evidence that the business model of *mid to small providers with relatively low margins* constrains their borrowing capacity. RSH's regulatory judgement of Brunelcare stated that their 'relatively low margins [and] increased asset management spend and energy costs' placed significant pressure on their interest cover (Regulator of Social Housing, 2023). Similarly, both

Table 4. Housing associations in qualitative sample by cluster and funding strategy.

Cluster	Housing association	Bank or building society loans	Public bonds	Private placement	Bond aggregator	SORP	Lease-back deal
Large multi-tenure providers	Hyde	✓	✓	✓	✓	✓	
	L&Q	✓	✓		✓		
Indebted developers	bpha	✓	✓	✓	✓		
	Swan	✓	✓				
Mid to small providers with relatively low margins	Brunelcare	✓					
	Industrial Dwellings Society	✓					
	Selwood	✓			✓		
Supported housing providers carrying low levels of debt	Framework	✓					
	WATMOS	✓					
Leased-based supported providers	Inclusion						✓
	Prospect Housing Limited						✓

the Industrial Dwellings Society (IDS) and Selwood experienced pressure on their loan covenant compliance due to rising interest costs, which in turn constrained their ability to increase property maintenance expenditure (Industrial Dwellings Society (IDS), 2021, p. 4; Selwood, 2023). In Selwood's case the financial pressure required them to renegotiate their interest cover covenant to remove the subtraction of major repairs costs from earnings (Selwood, 2023, p. 24). Therefore, the qualitative evidence suggests that it would be erroneous to see HAs reliant upon bank and building society loans as unaffected by financialization. Even when financing arrangements are relatively straightforward, the combination of rising interest rates with constrained income can placed social landlords at risk of breaching their loan covenants.

Nor can a linear relationship be drawn between organizational size and the extent of financialization. The *supported housing providers carrying low levels of debt* cluster provides on average a similar amount of social housing as the *lease-based supported providers*, both at the lower range of the quantitative sample. But where the former has actively sought to avoid excessive financial risk, the latter have done the opposite. Framework HA and WATMOS have adopted a risk averse approach to raising debt finance, but the trade-off for this cluster is the imposition of a ceiling on their ability to grow. Framework HA state in their annual accounts:

> Gearing is low compared to many HAs. This is because the primary constraint on our housing development is the availability of capital grants and ongoing revenue funding, both of which affect our operating margins, rather than loan finance. It would be possible to borrow more and thus develop more quickly, but the risks in doing so are higher than the Board can accept given the margins on our support contracts. (Framework Housing Associaiton, 2022, p. 19)

By contrast, RSH have criticized *lease-based supported providers* for the internalization of excessive risk through their lease terms. RSH raised concerns that the lease-based providers, Inclusion and Prospect, were 'contractually committed to meet the index linked lease premium payments over the long term' despite facing substantial income risk due to the frequent turnover of their tenant base (Regulator of Social Housing, 2019b, 2019c). RSH accused Prospect of having a lack of understanding and oversight of the complex network of lessees, contractors and investors they were embedded within (Regulator of Social Housing, 2020). And following a series of disputes with RSH, Prospect was dissolved in 2020.

Responding to political-economic change

In addition to validating the variegated nature of HA financialization, the qualitative analysis also explored the contrasting responses of HAs to declining interest cover resulting from rising interest rates and expenditure and declining income. In this section the response of the three largest clusters are discussed. The findings suggest that risk continues to be distributed unevenly with the divergent responses of HAs conditioned by the path dependency of their business models.

Large multi-tenure providers have responded to declining interest cover by reducing the scale of their development programmes – L&Q reneged from their commitment to build 10,000 homes a year (L&Q, 2021) – and seeking new forms of off-balance sheet investment – Hyde engaged in a SORP with the institutional investor M&G

to continue funding their development programme while increasing their capital expenditure on building safety (Hyde, 2022). The unsettling of the debt-led model of HA financialization has thus had a catalytic effect on new forms of institutional investment.

In this more challenging economic environment, *indebted developers* at the ceiling of their borrowing capacity are potentially financially vulnerable. The financial statements of Swan explained that their gearing levels were relatively high as they sought to 'maximize the provision of new homes' (Swan, 2021). But in 2021, a slowdown in the housing market affected Swan's commercial revenue causing them to breach their loan covenants and post an operating deficit of £14.7million (Regulator of Social Housing, 2021). Swan has since been acquired by a larger HA as part of a rescue takeover. By contrast, bpha has responded to financial difficulties by reducing the size of their development programme and rationalizing their portfolio of derivatives to reduce future interest rate costs (bpha, 2021, p. 104).

In this context the primary challenge for *mid to small providers with relatively low margins* appears to be an acute trade-off between financial viability and investing in existing properties. Each of the three HAs in this cluster received a regulatory downgrade from RSH as increased maintenance expenditure has put pressure on their loan covenants (Regulator of Social Housing Current regulatory, 2022). Part of Selwood's response was to double their revenue derived from social housing disposals between 2019 and 2023, which included revenue from open market sales of homes 'not considered to be suitable for social housing' (Selwood, 2019, p. 8, 2020, p. 9, 2023, p. 8). Although this was not a strategy adopted by every HA within this cluster, it does provide evidence that the principles of strategic asset management extend beyond the *large-multi tenure providers* more commonly discussed in the literature.

Discussion

The findings from this study have several implications for how financialization is understood both broadly and within the English social housing context. The paper has conceptualized financialization as a variegated, contingent and temporal phenomenon, the full effects of which can only be meaningfully understood over the long-term as private finance and housing systems respond to emergent risks. The paper has made an empirical contribution by advancing a longitudinal, mixed-methods framework that affords empirical breadth – expanding the sample frame across much of the HA sector – and the necessary depth to understand the maturation of financialization and integration of social housing into financial cycles. This framework was applied to the case of English social housing where HA borrowing capacity is influenced by organizational income generation, size, tenure mix and development capacity.

The findings further suggest that conceptualizations of social housing financialization need to be attuned to the variation between housing providers in terms of their capacity to absorb institutional investment. Failure to do so could result in conflating financialization with simplistic measures such as the amount of debt on a landlord's balance sheet (Clare *et al.*, 2022). The taxonomy of HAs produced in

this paper does support the notion that the largest HAs in the sector, typified by the *large-multi tenure providers*, have been able to absorb debt due to their size and provision of relatively high amounts of affordable rent. And a similar story has occurred among *indebted developers*. But the lower levels of debt, and reliance upon bank and building society loans, among *mid to small providers with relatively low margins* is largely a function of the constraints of their borrowing capacity as opposed to implying they are autonomous from the broader financialization of the sector. Moreover, while there is a very small group of *supported housing providers carrying low levels of debt*, the *lease-based supported housing* model reminds us that the risks associated with the financialization of social landlords are not a linear function of their level of debt or organizational size.

The English HA sector provides an illustrative case in terms of how financialization continues to transform social landlords after the preconditions for the extension of private finance are undermined. Firstly, increased maintenance expenditure, private sales uncertainty and rising interest rates have initiated an increase in the cost of borrowing. This suggests that even social housing systems with a relatively strong framework of financial governance and regulation are not immune the vicissitudes of financial cycles (Byrne & Norris, 2019). Secondly, the path dependency of existing business models implies there will continue to be variation between HAs in terms of the financial challenges they face. Among English HAs a general policy trilemma exists between financial prudency, expanding new supply, and investment in existing homes. But while *large multi-tenure providers* have responded mainly by reigning in their growth ambitions, overleveraged *indebted developers* such as Swan have been rescued financially by an acquisition partner. Furthermore, *mid to small providers with relatively low margins* have less capacity to increase maintenance expenditure without breaching the terms of their borrowing, and may seek to renegotiate loans or rely upon disposals for revenue. Thirdly, it is perhaps a misconception to describe contractions of debt finance as a 'retrenchment' of financialization (Raco *et al.*, 2024). The cyclicality and contingency of debt finance in the HA sector has catalysed nascent forms of institutional investment such as SORPs. And in the continued absence of sufficient state subsidy for HA capital expenditure, much of the sector remains reliant upon private investment. In the words of one lender: 'Will there be money for you to buy? Yes, but you'll pay more for it' (Twomey, 2022).

Finally, the findings have several policy implications given the political and economic headwinds faced by English social landlords. Regulatory oversight from RSH will be necessary to ensure tenants are not affected by increased merger and acquisition activity, and to ensure HAs understand the risks inherent to off-balance sheet investments as interest in these deals increases (Levelling Up, Housing and Communities Committee, 2024). Furthermore, the HA sector has lobbied government repeatedly for a long-term inflation indexed rent settlement to ensure their income streams are sufficient to support both their lending requirements and forecast capital expenditure (Levelling Up, Housing and Communities Committee, 2024). However, the findings cast doubt on the ability of social landlords, investors and government to predict with confidence the financial health of the sector over the long-term. Rather they suggest that alternative means of funding social housing investment are required beyond reliance upon rental income and cross-subsidy, including increased state investment.[5]

Notes

1. I use a specific measure of interest cover known as *earnings before interest, tax, depreciation, amortization, major repairs included interest cover percentage (EBITDA MRI %)*. But for brevity I refer to it as interest cover.
2. RSH adopts a risk-based approach to regulation whereby HAs owning or managing 1,000 homes or more are regulated proactively and HAs owning less than 1,000 homes are regulated reactively. The empirical analysis focuses only on HAs owning 1,000 homes or more due to data availability.
3. There were ten missing observations for gearing, and eight for interest cover. To identify outliers, I visualize the density of the dependent variable and identify observations ±2.24 standard deviations from the mean. I also produce scatter plots of fitted values by studentized residuals (Aguinis *et al.*, 2013). Consequently, I removed ten outliers from the gearing model (and therefore eighteen observations total, including missing observations), and nineteen outliers from the interest cover model (twenty-seven observations total). See Appendix A.
4. To elaborate, a value of 0.00 means the within group mean is equal to the median value of the raw covariate. A value of 0.01 equals the 51st percentile. A value of −0.01 equals the 49th percentile, and so on. This allows for comparisons (a) between the given cluster and other clusters and (b) between the given cluster and the average. The latter comparison is more difficult when presenting uncentred percentile ranks.
5. This paper was authored prior to the announcement in June 2025, by a recently elected Labour UK government, that state investment in affordable housing in England would increase to £39bn over ten years, and that social landlords would receive a ten-year index linked rent settlement.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the Economic and Social Research Council under grant number ES/P000746/1.

Notes on contributor

Michael Marshall is a Research Associate in Geography and Planning, University of Sheffield. He completed his PhD in Urban Studies and Planning at University of Sheffield. His research interests are housing inequalities, social housing governance, and decarbonising the built environment.

ORCID

Michael Marshall http://orcid.org/0009-0004-1784-9411

References

Aalbers, M. (2017) Corporate financialization, in: D. Richardson, N. Castree & M. Goodchild (Eds) *International Encyclopedia of Geography: People, the Earth, Environment and Technology*, pp. 1–11 (Oxford: Wiley-Blackwell).

Aguinis, H., Gottfredson, R. K. & Joo, H. (2013) Best-practice recommendations for defining, identifying, and handling outliers, *Organizational Research Methods*, 16(2), pp. 270–301.
Belotti, E. & Arbaci, S. (2021) From right to good, and to asset: The state-led financialisation of the social rented housing in Italy, *Environment and Planning C: Politics and Space*, 39(2), pp. 414–433.
Birch, K. (2017) Rethinking value in the bio-economy: Finance, assetization, and the management of value, *Science, Technology & Human Values*, 42(3), pp. 460–490.
bpha (2021) bpha Group report and financial statements: Year ended March 2021, *bpha*. Available at https://investors.bpha.org.uk/wp-content/uploads/2021/07/21996_bpha_ReportFinancialStatement_2021_ONSCREEN.pdf (accessed 7 March 2023).
Byrne, M. & Norris, M. (2019) Housing market financialization, neoliberalism and everyday retrenchment of social housing, *Environment and Planning A: Economy and Space*, 54(1), pp. 182–198.
Charrad, M., Ghazzali, N., Boiteau, V. & Niknafs, A. (2014) NbClust: An R package for determining the relevant number of clusters in a data set, *Journal of Statistical Software*, 61(6), pp. 1–36.
Christophers, B. (2015) The limits to financialization, *Dialogues in Human Geography*, 5(2), pp. 183–200.
Christophers, B. (2019) Putting financialization in its financial context: Transformations in local government-led urban development in post-financial crisis England, *Transactions of the Institute of British Geographers*, 44(3), pp. 571–586.
Clare, N., de Noronha, N., French, S. & Goulding, R. (2022) Actually existing racial capitalism: Financialization and bordering in UK housing associations, *Geography Compass*, 16(11), p. e12665.
Den Teuling, N. G. P., Pauws, S. C. & van den Heuvel, E. R. (2023) A comparison of methods for clustering longitudinal data with slowly changing trends, *Communications in Statistics - Simulation and Computation*, 52(3), pp. 621–648.
Fields, D. (2018) Constructing a new asset class: Property-led financial accumulation after the crisis, *Economic Geography*, 94(2), pp. 118–140.
Framework Housing Associaiton (2022) Framework Housing Association: Strategic and board report financial statements. *Framework Housing Association*. Available at https://framework2019.wpenginepowered.com/wp-content/uploads/2022/11/Framework-HA-21-22-signed-Accounts-BS.pdf (accessed 8 March 2023)
Gotham, K. F. (2009) Creating liquidity out of spatial fixity: the secondary circuit of capital and the subprime mortgage crisis, *International Journal of Urban and Regional Research*, 33(2), pp. 355–371.
Goulding, R. (2018) Transforming social housing into an asset class: the financialization of English housing associations under neoliberalism and austerity urbanism. Doctoral dissertation, University of Sheffield, 2018. Available at https://etheses.whiterose.ac.uk/21474/.
Goulding, R. (2024) Transforming social housing into an asset class: REITs and the financialization of supported housing in England, *International Journal of Urban and Regional Research*, 48(2), pp. 341–360.
Goulding, R., Leaver, A. & Silver, J. (2023) From homes to assets: Transcalar territorial networks and the financialization of build to rent in greater Manchester, *Environment and Planning A: Economy and Space*, 55(4), pp. 828–849.
Hyde (2022) Annual report and financial statements 31 March 2022, *Hyde*. Available at https://www.hyde-housing.co.uk/media/7175/hyde-financial-report-2021-22.pdf (accessed 7 March 2023).
Industrial Dwellings Society (IDS) (2021) The Industrial Dwellings Society (1885) Limited annual report and financial statements for the year ended 31 March 2021, IDS. Available at https://mutuals.fca.org.uk/Search/Society/26157 (accessed 18 December 2024).
James, G., Witten, D., Hastie, T. & Tibshirani, R. (2021) An introduction to statistical learning with applications in R: Second Edition. Available at https://hastie.su.domains/ISLR2/ISLRv2_website.pdf (accessed 13 June 2023).

Klinge, T. J., Fernandez, R. & Aalbers, M. B. (2021) Whither corporate financialization? A literature review, *Geography Compass*, 15(9), pp. e12588.
Levelling Up, Housing and Communities Committee (2024) The finances and sustainability of the social housing sector, *House of Commons*. Available at https://committees.parliament.uk/publications/44610/documents/221611/default/ (accessed 18 December 2024).
L&Q (2021) Financial statements 2021. *L&Q*. Available at https://www.lqgroup.org.uk/investors/financial-performance (accessed 8 March 2023).
Marsh, A. (2018) Social housing governance: An overview of the issues and the evidence, UK collaborative centre for housing evidence. Available at https://housingevidence.ac.uk/wp-content/uploads/2024/03/R0218_SHPWG_03_Governance_Alex_Marsh.pdf (accessed 2 October 2025).
Morrison, N. (2017) Selling the family silver? Institutional entrepreneurship and asset disposal in the English housing association sector, *Urban Studies*, 54(12), pp. 2856–2873.
Nethercote, M. (2023) The techno-politics of rental housing financialization: Real estate service companies and technocratic expertise in Australia's build to rent market, *Economic Geography*, 99(2), pp. 191–219.
Pawson, H. & Milligan, V. (2013) New dawn or chimera? Can institutional financing transform rental housing? *International Journal of Housing Policy*, 13(4), pp. 335–357.
Pollard, J., Richter, P., Down, S. & Ram, M. (2018) Financialisation and small firms: A qualitative analysis of bioscience and film and media firms, *International Small Business Journal: Researching Entrepreneurship*, 36(3), pp. 247–264.
Raco, M., Trigo, S. F. & Webb, A. (2024) The rise of polycentric regulation and its impacts on the governance of housing associations in England, *Housing Studies*, 39(8), pp. 2095–2116.
Regulator of Social Housing (2018a) Value for money metrics – technical regression report September 2018, *Regulator of Social Housing*. Available at VfM_metrics___Technical_regression_report_-_Sept_2018.pdf (publishing.service.gov.uk) (accessed 13 June 2023).
Regulator of Social Housing (2018b) Value for money metrics – summary report, *Regulator of Social Housing*. Available at VfM_metrics___Summary_report_-_Sept_2018.pdf (publishing.service.gov.uk) (accessed 13 June 2023).
Regulator of Social Housing (2019a) Statistical data return shows majority of social housing stock owned by large providers, *Regulator of Social Housing*. Available at Statistical Data Return shows majority of social housing stock owned by large providers – GOV.UK (www.gov.uk) (accessed 13 June 2023).
Regulator of Social Housing (2019b) Lease-based providers of specialised supported housing: Addendum to the sector risk profile 2018, *Regulator of Social Housing*. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/792650/Lease-based_providers_of_specialised_supported_housing_-_April_2019.pdf (accessed 13 June 2023).
Regulator of Social Housing (2019c) Current regulatory judgement: Inclusion Housing Community Interest Company (15 February 2019), *Regulator of Social Housing*. Available at https://www.gov.uk/government/publications/regulatory-judgement-inclusion-housing-community-interest-company/current-regulatory-judgement-inclusion-housing-community-interest-company-15-february-2019 (accessed 7 March 2023).
Regulator of Social Housing (2020) Withdrawn regulatory judgement: Prospect Housing Limited (15 May 2020), *Regulator of Social Housing*. Available at https://www.gov.uk/government/publications/regulatory-judgement-prospect-housing-limited/current-regulatory-judgement-prospect-housing-limited-15-may-2020 (accessed 14 June 2023).
Regulator of Social Housing (2021) Current regulatory judgement: Swan Housing Association Limited (10 December 2021), *Regulator of Social Housing*. Available at https://www.gov.uk/government/publications/regulatory-judgement-swan-housing-association-limited–3/current-regulatory-judgement-swan-housing-association-limited-10-december-2021 (accessed 8 March 2023).
Regulator of Social Housing (2022a) Value for money metrics: Technical note guidance May 2022, Regulator of Social Housing. Available at: https://assets.publishing.service.

gov.uk/government/uploads/system/uploads/attachment_data/file/1066373/20220404_Value-for-Money-metrics-Technical-note-guidance_FINAL.pdf (Accessed 8 March 2023).
Regulator of Social Housing Current regulatory (2022b) Current regulatory judgement: The Industrial Dwellings Society (1885) Limited (31 August 2022), *Regulator of Social Housing*. Available at judgement: The Industrial Dwellings Society (1885) Limited (31 August 2022) - GOV.UK (www.gov.uk) (accessed 13 June 2023).
Regulator of Social Housing (2023) Previous regulatory judgement: Brunelcare (29 March 2023). Available at https://www.gov.uk/government/publications/regulatory-judgement-brunelcare–2/current-regulatory-judgement-brunelcare-29-march-2023 (accessed 17 December 2024).
Selwood (2019) Selwood housing group: Report and financial statements 2018/19, *Selwood*. Available at https://find-and-update.company-information.service.gov.uk/company/04168336/filing-history?page=3 (accessed 18 December 2024).
Selwood (2020) Selwood housing group: Report and financial statements 2019/20, Selwood. Available at https://find-and-update.company-information.service.gov.uk/company/04168336/filing-history?page=2 (accessed 18 December 2024).
Selwood (2023) Selwood housing group: Report and financial statements 2022/23, Selwood. https://find-and-update.company-information.service.gov.uk/company/04168336/filing-history?page=1 (accessed 18 December 2024).
Sharam, A. (2025) Introducing social housing asset management as a comprehensive system, *Housing Studies*, 40(2), pp. 418–443.
Smyth, S. (2019) Embedding financialization: A policy review of the English affordable homes programme, *Housing Studies*, 34(1), pp. 142–161.
Smyth, S., Cole, I. & Fields, D. (2020) From gatekeepers to gateway constructors: Credit rating agencies and the financialization of housing associations, *Critical Perspectives on Accounting*, 71, pp. 102093.
Streeter, A. (2022) New money, new ideas: Part 2 – Shared ownership portfolio transactions – the registered provider's answer to development funding? *Trowers*. Available at https://www.trowers.com/insights/2022/may/new-money-new-ideas-part-2 (accessed 18 December 2024).
Swan (2021) Swan Housing Association – annual report and financial statements 2020 – 2021, *Swan Housing Association*. Available at https://issuu.com/swanhousing/docs/ara_2020_21_final (accessed 7 March 2023).
Tang, C. P. Y., Oxley, M. & Mekic, D. (2017) Meeting commercial and social goals: Institutional investment in the housing association sector, *Housing Studies*, 32(4), pp. 411–427.
Twomey, J. (2022) Sector warned of 'greater weakening' of credit, as 20% of S&P's HA portfolio at 'negative', *Social Housing*. Available at https://www.socialhousing.co.uk/news/sector-warned-of-greater-weakening-of-credit-as-20-of-sps-ha-portfolio-at-negative-74733 (accessed 18 December 2024).
Wainwright, T. & Manville, G. (2017) Financialization and the third sector: Innovation in social housing bond markets, *Environment and Planning A: Economy and Space*, 49(4), pp. 819–838.
Ward, C., van Loon, J. & Wijburg, G. (2019) Neoliberal Europeanization, variegated financialization: Common but divergent economic trajectories in The Netherlands, United Kingdom and Germany, *Tijdschrift voor Economische en Sociale Geografie*, 110(2), pp. 123–137.
Whitehead, C., Scanlon, K., Voigtländer, M., Karlsson, J., Blanc, F. & Rotolo, M. (2023) Financialization in 13 cities: An international comparative report, *LSE London*. Available at https://www.lse.ac.uk/geography-and-environment/research/lse-london/documents/Reports/Rapport-Financialization-Samlet-05.06.pdf (accessed 20 December 2023)
Wijburg, G., Aalbers, M. B. & Heeg, S. (2018) The financialisation of rental housing 2.0: Releasing housing into the privatised mainstream of capital accumulation, *Antipode*, 50(4), pp. 1098–1119.
Wijburg, G. & Waldron, R. (2020) Financialized privatization, affordable housing and institutional investment: The case of England, *Critical Housing Analysis*, 7(1), pp. 114–129.

Appendix A

A1: Longitudinal regression results

Table A1. Longitudinal regression results.

Dependent variable	Gearing	Interest cover
Fixed effects: estimate		
Financial year	−0.001 (0.002)	
Financial year: polynomial 1		−4.507 (1.572)
Financial year: polynomial 2		5.392 (0.996)
Intercept	0.440 (0.012)	2.113 (0.074)
Random effect: variance		
Intercept	0.039	1.339
Financial year	4.00E-04	0.150
Random effects: correlation		
Intercept: Financial year	−0.24	−0.46
N	1084	1075
Groups	265	263
Intraclass correlation coefficient	0.98	0.59
AIC	−2917.85	3627.36

A2: Observations removed

Table A2. Observations removed via listwise deletion, with explanation.

Organization	Observations removed from gearing model	Observations removed from interest cover model	Explanation
Sustain housing	2017, 2018, 2019, 2020, 2021	2017, 2018, 2019, 2020, 2021	Missing data. Lease based provider with no debt or interest payments.
Local space	2021	2021	Missing data.
Prospect	2018, 2019	2018, 2019	Missing data. Lease based provider with no debt or interest payments. Deregistered in 2020.
Plexus UK	2018, 2019		Missing data.
Inclusion	2017, 2018, 2019, 2020, 2021	2017, 2018, 2019, 2020, 2021	Outlier. Lease based provider with no debt or interest payments.
Omega Housing Ltd	2017, 2018, 2019	2017, 2018, 2019	Outlier. Subsidiary of Mears. Holding disproportionate amounts of cash in 2017 and 2018 such that gearing was negative. And owed disproportionate amounts to group undertakings in 2019 such that debt considerably outweighed assets. Missing affordable rent data for 2018.
The Abbeyfield Society		2017, 2018, 2019, 2020, 2021	Outlier. Dramatic changes in interest cover that are related to dramatic changes in the percentage housing for older people provided between years. Heavily reliant upon sales of assets rather than core social housing for earnings, hence poor interest cover and fluctuating tenure mix.
EPIC		2017, 2018, 2019, 2020, 2021	Outlier. Very high interest cover in 2017 that has deteriorated rapidly since, resulted from massively increasing interest payments.
St Mungos Community HA		2018	Outlier. Had a disproportionately high interest cover in 2018, which was an outlier relative to the rest of their returns. Had a very high level of earnings relative to their interest payments.
Total observations removed	**18**	**27**	

A3: NbClust results

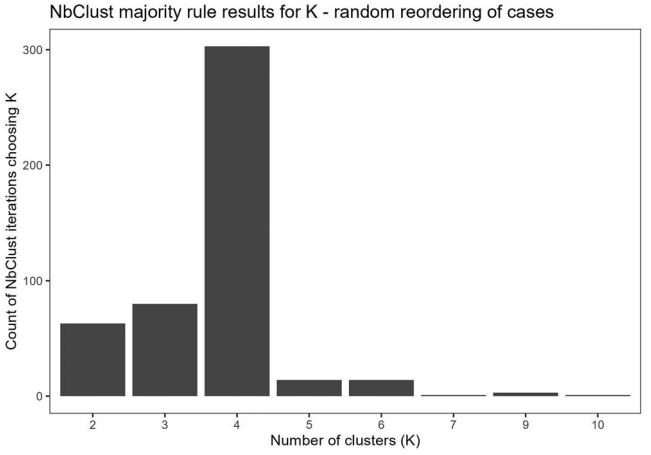


Figure A3. NbClust majority rule selection for 500 iterations with random reordering of observations.