Under one roof: the social relations and relational work of energy retrofit in Multi-owned Properties

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Under one roof: the social relations and relational work of energy retrofit for the occupants of Multi-owned Properties

The vast majority of UK Multi-Owned Properties (MoPs) - i.e. buildings divided into flats with multiple owners - must be retrofitted for net zero. However, little progress has been made, with government policy largely insensitive to neighbourly relations in shaping retrofit decision-making. Taking a novel approach rooted in relational sociology, we mobilize Zelizer's concept of 'relational work', and deploy two of Hargreaves and Middlemiss' three types of social relations (intimacy and institutions) as an analytic framework to explore the complexities of retrofit in historic MoPs in south Glasgow, UK. We find that the increased relational work required in MoPs stymies retrofit, but that more intimate relations between neighbours and the unrecognized relational role of property managers in MoPs offer opportunities to drive the retrofit economy.

Keywords: social relations; relational work; energy efficiency; retrofit; multi-owned properties; economic sociology

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1. Introduction

The residential sector in the EU accounted for 12% of CO_2 emissions in 2020 (EEA, 2022). Furthermore, emissions have remained stubbornly high since 2016 (EEA, 2022). For countries to meet their targets they must undertake a significant programme for energy efficiency in domestic properties over the coming decades.

The UK faces particular challenges in decarbonising its domestic building stock. UK residential buildings accounted for roughly 16% of UK territorial greenhouse gas emissions in 2021, with little progress in reducing emissions since 2014 (CCC, 2022). Within Europe the UK housing stock consists of the highest proportion (at 55%) of older (pre-1960) residential living space versus comparator countries (BPIE, 2011), is amongst the least energy efficient (ibid) and the most dependent upon on-grid gas heating (Aditi Sahni et al., 2017). At present, the UK is not retrofitting its housing stock at a pace necessary to meet its net-zero target, needing to increase its installation of energy efficiency measures tenfold by 2028 to align with the Climate Change Committee's Balanced Pathway to net-zero by 2050 (CCC, 2022). The pressure to deliver residential energy demand reduction and affordable heating is even stronger when energy prices in the UK soar, as they did in 2022 (Stewart & Bolton, 2022).

To date, the problem of improving energy-efficiency of the UK's housing stock has been largely viewed through architectural, economic or psychological lenses (Abrahamse & Shwom, 2018). In general terms, architectural approaches focus on technical solutions, economics on how to drive retrofit through appeals to rational decision-making and psychology on the values and beliefs of the individual that might help or hinder uptake of retrofit measures. Drawing on these disciplines, policy-making has thus far prioritized technological fixes, interventions designed to appeal to the self-interest of individual energy users (e.g. grants, loans and price support) and, drawing on psychology, how retrofit can be

framed to better appeal to individual values and beliefs. These approaches have proved limited in that their focus is not on understanding contextual factors including peculiarities of place and household dynamics. Moreover, retrofit decision-making that is collective, such as decisions made in Multi-owned Properties (MoPs), buildings subdivided into separately owned flats, are not well explained by the existing theories, which do not consider how the social relations between neighbours affect retrofit decision-making. As McCarthy et al. (2018) state 'a model which focuses on the actions of individuals is unlikely to capture the necessary collective aspect of the investment behaviour' in MoPs (p. 89).

The challenge of retrofit in MoPs is a significant one. Across Europe 46% of the population live in flats (European Union, 2022). In the UK flats are less common but still significant. For example, in England and Wales 22% of households live in flats (ONS, 2021) and in Scotland 36% of households (Scotland's Census, 2022). Flats, because they have fewer external walls, tend to be somewhat more energy efficient than other dwelling types (ONS, 2022b). But interventions to maintain or improve flats are problematic because of difficulties of reaching agreement between co-owners (LEAF, 2016). In the UK this is proving a significant impediment to energy efficiency where the uptake of energy efficiency measures in blocks of flats is not keeping pace with those of other properties (Bright & Weatherall, 2017). Going forward, the whole-building retrofit approach required to deliver net zero housing (BEIS, 2017) will demand interventions in parts of buildings which are communally owned or managed, which will, in turn, demand agreement between owners in accordance with applicable property law rules. Without addressing the collective decision-making of MoPs, then, it will be a challenge to deliver upon commitments to decarbonize building stock.

In this paper, we understand retrofit to mean the introduction of new materials, equipment and hardware into existing buildings, with the aim of reducing the energy

consumption of that building (Baeli, 2013). We understand retrofit to be one form of renovation, a broader term that means any building repair or improvement. In our methods section (see Section 3) we explain how we deliberately targeted homeowners who had undertaken renovations both for energy efficiency and, more commonly, other forms of home improvements in order to gain a more complete understanding of the social relations around retrofit. Building on Hargreaves and Middlemiss (2020), this paper adopts ideas from relational sociology (Bourdieu, 1977, 1984; Crossley, 2011; Elias, 1991; Simmel, 1978 [1900]; Zelizer, 1997) to better understand decision-making over retrofit in historic MoPs.

Relational sociology focuses on the social dynamics of, for example, negotiation and information sharing. Significantly for our argument, this includes analysing the micro-level relational processes which shape decision-making (Bandelj, 2012), such as those around energy consumption or deciding whether or not to undertake a domestic retrofit project. While some studies have explored the social relations of retrofit within and beyond owner-occupied buildings (Bolton et al., 2023), as yet the research on retrofit in MoPs is scarce (Weatherall, Mccarthy, & Bright, 2018) and, as far as the authors are aware, no work exists using a relational sociology lens to explore the retrofit challenge in MoPs. We focus on the 'able to pay', those who are able to make a financial contribution to retrofit (see Section 3 for our full definition), allowing us to highlight the relational challenges of retrofit as opposed to financial constraints.

To help address this gap, this paper answers the following questions:

- What are the key social relations of the 'able to pay' dwellers of tenements in our case study area of Glasgow?

- How do the social relations and relational work of renovations in MoPs influence the pace, depth and character of MOP retrofit?

The paper is structured as follows. First, we present a literature review which outlines our relational approach before exploring what extant literature suggests about social relations in MoPs. Second, we present our methods. Third, we present our findings and analyses before, fourth, discussing how identified social relations help and/or hinder retrofit. We conclude by discussing the significance of our findings to theory, practice and policy.

2   Literature review

We begin by introducing our own interpretation of a social relations approach, deploying or adapting concepts from relational sociology, and explain its promise in helping to correct those factors where current policies have failed. Then we consider what extant research reveals about social relations in MoPs. Subsequent sections provide context to our case study in Glasgow, from where we gather primary data, to show some of the particularities of MoPs in Scotland in terms of governance and conservation.

2.1   *The need for a relational approach*

This paper builds upon relational sociology, as a means of addressing issues of retrofit, financing and energy use related to family and context. In what follows we share insights from this body of work through a social relations approach to retrofit.

Scholarly work which embraces a relational perspective in energy demand implies that it is the 'social practices [that] are the unit of change, not the household or the individual, if one wants to change household energy consumption' (Abrahamse & Shwom, 2018, p. 5). A fruitful means of understanding these practices and how they are shaped is by exploring the relevant resources exchanged within and across the patterns of social relationships (ibid; Wasserman & Faust, 1994). Such insights draw heavily on an a relational sociology perspective that holds that economic transactions are best understood as but one form of social interaction (Zelizer, 2000, 2012). This approach focuses on the social dynamics, of, for example, negotiation and information sharing, which underpin decision-making. Significantly

for our purposes, this includes the micro-level process which shape household decision-making (Bandelj, 2012), such as around energy consumption or deciding whether or not to undertake a domestic retrofitting project.

Hargreaves & Middlemiss (2020) have usefully identified three interrelated types of social relations relevant to domestic energy consumption. These are the: 1) relations with family and friends, 2) relations with agencies and communities and 3) relations of identity (see Table 1). These types of social relations influence renovations (and hence retrofit) in multiple (and potentially overlapping) ways.

Table 1 - types of social relations impacting on energy demand (Hargreaves & Middlemiss, 2020)

Social relation	Definition	Examples	Influence on energy use
Relations with family and friends	Relationships of care and intimacy	Parent, child, husband, partner, sister, cousin, aunt, friend, housemate	Learning and shaping practices, sharing energy services, giving advice, lending money
Relations with agencies and communities	Relationships of service provision and activism	Landlords, energy companies, energy advice agencies, tradespeople, community energy groups	Energy consumption advice, energy efficiency support, constraints on choice of tariff or efficiency measure
Relations of identity	Relationships of solidarity and oppression	Age, gender, class, race, disability status, single-parent household, welfare recipient	Access to support due to membership (or not) of a specific category, practices shaped by belonging to that category

A key concept within relational sociology is 'relational work', developed by Viviana A. Zelizer. Relational work refers to the efforts that people make to build and maintain social relations through social practices of boundary making. Zelizer explains that:

> 'For each distinct category of social relations, people erect a boundary, mark the boundary by means of names and practices, establish a set of distinctive understandings that operate within that boundary, designate certain sorts of economic transactions as appropriate for the relation, bar other transactions as inappropriate, and adopt certain media for reckoning and facilitating economic transactions within the relation. I call that process relational work' (Zelizer, 2012, p.146).

It is important to note that relational work involves real effort and the consumption of depleting material and immaterial resources (time, money, patience, etc.). By developing policies and incentives based upon a belief that human interaction can be reduced to financial transactions alone, the effort of the relational work involved in sourcing and negotiating advice, funding, and researching tradespersons is ignored. We suggest that this is important in the present context because it provides a novel means to explore and explain the challenges of retrofit which non-sociological approaches and public policy often miss. This includes: 1) challenges related to trust in retrofit actors and processes; or, 2) the reasons why financial incentives alone often prove insufficient to drive retrofit uptake.

Another key issue is that individuals rely on relational work carried out by others. Significantly for our argument here, a key factor in relational work is the legal system. By engaging in its own form of relational work, at a higher institutional level and applying rules more generally, the legal system helps to establish and clarify cultural norms. Drawing on Zelizer, Block (2012) writes that the legal system provides 'individuals in daily life with the support they need to incorporate those norms into their relational work' (Block, 2013, p. 48). According to the doctrine of the self-regulating free market, regulations are onerous, creating inefficiencies and, as such, deterring fruitful action. However, drawing on the concept of relational work we can offer an alternative perspective: regulations (at least if effectively constituted) facilitate action because they reduce the amount of relational work required for any given interaction. For example, without consumer protection legislation consumers would need to take greater care to establish that a contractor offers basic levels of service provision, as the risks of contracting would be far higher with no recourse to statue in the event of malpractice. To provide a foretaste of the findings to come, we see that this is particularly significant in our case study where regulations provide insufficient support to deliver renovations in MoPs.

2.2   Social relations and MoPs

With the odd exception (Bolton et al., 2023; Hargreaves & Middlemiss, 2020), relational sociology has not been applied to understanding the challenge of how households make decisions on renovations and particularly energy retrofit. Relational approaches are particularly absent in the exploration of energy retrofit in MoPs, where they are arguably most important versus individually owned and occupied buildings. Yet there are many reasons to believe that the social relations in MoPs are different to those within more common owner-occupier households. To understand how social relations in MoPs are different, and what relational sociology has to teach us in this space, we begin with insights from other disciplines, namely built environment studies and law.

2.2.1   MoPs and social relations

Urban planning scholarship suggests a mixed picture of social relations in MoPs. Some research highlights negative aspects (D. McCarthy & Saegert, 1978; Power, 2015; Thomas, Walton, & Lamb, 2011); residents of apartments may show an unwillingness to engage with or outright hostility to neighbours, resulting from small living spaces, offensive smells or noise. Other research casts a more positive light. For example, Skjaeveland and Garling (1997) suggest that where apartment blocks are of a sufficient size, there are more opportunities for forming close personal connections in the building. Baker (2013) reports that most neighbours succeed in 'striking a balance between privacy and contact' (Baker, 2013, p. 275) and that they therefore enjoy largely harmonious relations with neighbours. While the literature does suggest MoPs provide heightened interaction with neighbours, the variation in social relations in MoPs to which this research attests is supportive of critiques of 'physical determinism' (Gans, 1968) theory, which posits that human behaviour has physical causes, in this case in the characteristics of the built environment. While it is possible that the physical urban form does have some influence, it may well be impossible to separate its

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affects from other perhaps more important aspects, e.g. peculiarities of place, demographics, cultural norms or, for our purposes, social relations.

2.2.2   MoPs governance and social relations

The role of building governance is another important factor which makes social relations around retrofit in MoPs different. For example, while the decision-making unit in a detached owner-occupied house is normally the resident household, in MoPs multiple households share responsibility for communally owned or managed parts of the building. Hence co-owners have to negotiate and decide upon retrofit decisions which affect areas of the building. Governance of MoPs has been explored from various perspectives.

One approach is to look at the problem from the perspective of law. McCarthy et al. (2018) highlight two key bodies of law that shape collective decision-making in MoPs: law of property and law of associations. Property law determines who has the power to undertake retrofit work in which parts of a building, e.g. the roofs or foundations. The law of associations sets the rules about collective decision-making and collective responsibility, meeting arrangements and voting thresholds for different types of interventions. McCarthy et al. (2018) write the 'combination of these rules will determine who holds responsibility for the costs of the work, and whether and how finance can be accessed' (p. 86). Using our relational lens, we conceptualize these rules as providing support for relational work; they determine categories of social relations, mark boundaries, shape relational practices, within which social relations in MoPs are formed and negotiated.

Complementing legal scholarship, ethnographic work on MoPs suggests the form of owners' association may have a significant impact on the social relations in a building. For example, Pink's (2004) work highlights how owners' associations in Spain provide a forum for frequent contact between owners. This offers opportunities for more direct social engagement, albeit either fraught with tension and/or animosity or intimate and productive.

Another approach considers decision-making within MoPs. Here some evidence comes from research into energy efficiency decision-making in condominiums in France. For example, Brisepierre (2011) highlights a prominent role for 'champions', owners within the buildings who lead on interventions by persuading other residents to take collective action. Such research indicates that 'collective action in a condominium depends on the skills of the actors and the capacity for building consensus' (McCarthy et al., 2018, p. 91). In other words, collective decision-making is dependent on what we refer to as relational work.

To summarize, MoPs require some kind of governance of collective responsibilities. This means a stronger role for the social relations with neighbours in MoPs than one might expect in other buildings where individual households alone are those primarily responsible for decision-making. The necessity for collective action creates greater intimacy, whether that manifests itself as greater animosity or friendship. It also requires considerable relational work, including effective leadership, to drive projects forward.

2.3   Case study context: MoPs governance in Scotland

In this section we focus on the key context on our case study to make the findings and analysis more easily understood.

In Scotland MoPs are typically referred to as tenements.[1] According to section 26 of the Tenements (Scotland) Act 2004 (UK Government, 2004) a 'tenement' means a 'building or a part of a building which comprises two related flats which, or more than two such flats at least two of which -

a)   are, or are designed to be, in separate ownership; and

b)   are divided from each other horizontally' (2004, n.p.).[2]

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[1] In other places tenements may be called condominiums, apartment blocks, etc.
[2] The term tenement is used inconsistently in Scottish Government publications. In legal terms tenements consist of flats positioned vertically but in the Scottish House Condition Survey flats are disaggregated into tenements and other flats which includes dwelling types (such as four in a block flats), which would also be considered tenements in law.

Governance arrangements apply to all households sharing one roof (rather than the whole building which can cover a whole city block), all of which are typically (but not always) accessed by one stairwell, referred to as a close.[3]

The Tenements (Scotland) Act 2004, together with common law, establish default areas of common ownership and also shared responsibility in tenements. Where the default Tenement Management Scheme applies, which for ease will be taken as the focus of this analysis,[4] management of all areas of collective responsibility (e.g. the roof, foundations, and external wall) are governed by simple majority voting, with the exception of when work is deemed to be an improvement, in which case unanimity amongst owners is required. Notably, section 69 of the Climate Change (Scotland) Act 2009 altered the Tenement Management Scheme found in schedule 1 of the Tenements (Scotland) Act 2004, by specifying that insulation installation is within the scope of maintenance. Other aspects, such as the installation of solar panels, are not so categorised.[5] It is important to note that unlike most continental European jurisdictions, the governance arrangements of MoPs in Scotland carry no obligation amongst owners to form an owners' association to oversee collective interests.[6]

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[3] 'Close' is often used also to describe the unit of governance, e.g. 'we've got a good close for cooperation', or all of the flats off of the stairwell, e.g. 'all of the flats up the close need repaired'. The Tenements (Scotland) Act 2004, section 29, defines 'close' as meaning 'a connected passage, stairs and landings within a tenement building which together constitute a common access to two or more of the flats'. Some tenements will incorporate 'main door' properties at ground level, affording an exclusive access without the need to use the close (although depending on the circumstances of the building they may also have recourse to the close to gain access to a shared garden).

[4] The Tenements (Scotland) Act 2004 applies the default scheme found in schedule 1 of the Act in many circumstances, but not where it has been ousted by some other provision expressly being made for a property (including in the various title deeds for the units of the tenement). Where such provision has been made, the common law rules around common property would apply (with an historic example of that being provided in the case of *Rafique v Amin* 1997 SLT 1385).

[5] For a more detailed explanation of the law relating to MoPs in Scotland see Weatherall et al. (2018)

[6] The Scottish Law Commission – a body established by statute to investigate possible improvements to the law of Scotland – has a current project entitled 'Tenement law: compulsory owners' associations': https://www.scotlawcom.gov.uk/law-reform/law-reform-projects/tenement-law-compulsory-owners-associations/. The Commission's findings are awaited. Separately, it can be noted that there is also an absence of mandatory owners' associations in England and Wales. A scheme that might have provided for a degree of compulsory association was legislated for (in the Commonhold and Leasehold Reform Act 2002), but this failed to gain any traction and only a very small number of new developments have proceeded with a commonhold arrangement.

Weatherall et al. (2018) explain the downsides of this approach: 'the absence of any necessary, formalized corporate structure prevents flat owners jointly accessing loans or grants to pay for energy upgrades' (p. 1650). We can also add that where there are disputes between contractors and owners, because there is no corporate body representing owners, an individual householder can be held responsible for payment of collective works (Under One Roof, 2022).

Another feature of the MoPs landscape in Scotland, especially prominent in the west of the country, are professional property managers, commonly called 'factors'. Property factors are agents contracted by homeowners to provide ongoing management of collectively owned features, such as roofs or closes.[7] Property factors can be private businesses, local authorities or social landlords.[8] Factors have an important relational role: addressing homeowners' requests, keeping people informed, arranging votes, sanctioning non-payers as well as managing traders and arranging works. The exact responsibilities of factors are stipulated by individual contracts with homeowners, but often these will entail inspection and maintenance tasks. The relationship between property factors and their clients is often an uneasy one; as Robertson (2019) states 'Scotland traditionally holds a deep seated cultural prejudice against factors' (p. 43). Addressing public concerns, the Property Factors (Scotland) Act 2011 sought to more tightly regulate the property factoring sector. Factors must now be registered and they are governed by the Factors Code of Conduct (The Scottish Government, 2021), which sets out minimum standards. However, their remit remains narrow, with no attempt as yet being made to increase their responsibility regarding energy

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[7] Owners can also 'self-factor', undertake factoring duties themselves. In this case they do not abide by the same regulations as factors which operate commercially (Under One Roof, 2023).
[8] Social landlords are often referred to as 'housing associations' (and may even incorporate that term within their name). They act as regulated, not-for-profit landlords offering non-market tenancies, in terms of the Housing (Scotland) Act 2001. Often, the properties they let share a building or features with owner-occupied property, and in those circumstances they may act as property factor for the whole building

efficiency; as Beckmann and Roaf (2012) state, the Act 'focuses mainly on issues of financial probity rather than on building maintenance, knowledge and skills' (p. 4).

The limitations of governance arrangements are most visible in pre-1919 tenements in Scotland, which account for approximately 31% (and 184,000 dwellings) of Scottish tenements (Scottish Government, 2020b). Because of their age and governance shortcomings they represent the 'hardest nut to crack for workable retrofit solutions' (Gibb, 2023, p. 262). As of 2019, over two-thirds (71%) of pre-1919 buildings are in a state of 'critical disrepair', meaning disrepair to 'critical elements', those which ensure weather tightness, structural stability and prevent further deterioration, with 32% in need of urgent repair (Scottish Government, 2020b). While figures specifically for pre-1919 tenements do not exist, Robertson, (2019) notes that in tenements the situation is likely considerably worse due to governance arrangements. In terms of our energy research, this is particularly significant because energy efficiency is determined largely by: 1) the age of a building (ONS, 2022a); and 2) the extent of maintenance (RICS, 2019). While a figure for average energy efficiency in pre-1919 tenements is not available, 80% of pre-1919 buildings in Scotland and 40% of tenements are below Energy Performance Certificate (EPC) band C (Scottish Government, 2020b).

Recently, the significance of MoP governance has been recognized by decision-makers. The Scottish Government has set out proposals mandating all buildings to achieve EPC band C or better from 2033 and deploy zero emissions heating systems, e.g. heat pumps and district heating, by 2045 (Scottish Government, 2021a). To achieve this, as noted by the Scottish Parliament's Working Group on Maintenance of Tenement Scheme Property 'improved organisational capabilities' are required to deliver energy efficiency in tenements and, to that end, that Working Group proposed compulsory owners' associations be enacted in law, along with other measures such as a compulsory 'float' to which owners would

contribute to maintenance costs (RICS, 2019, p. 3). However, it is highly unlikely that this will become law before 2025.

3   Methods

This paper explores the social relations of retrofit in the Crosshill area of Glasgow's south side. The area, with a population of 2,127 (SIMD, 2020), has a number of key features which informed our decision to undertake a case study there (see Table 2).

Table 2 - Key Characteristics of the Case Study Area[9]

	Crosshill	Glasgow	Scotland
Mean Gross Household Income (p/w)	£807	£635	£699
Tenements (% of total dwellings)	65	61	28
Households per hectare	24.5	15.8	0.3
Pre-1919 dwellings	89%	28%	20%
Fuel Poverty	35%	25%	25%
Tenure[10]			
Owner-occupied	61%	47%	64%
Social renting	4%	36%	24%
Private rented	32%	16%	11%
Energy Efficiency (mean SAP rating)	59	68	66

First, the area's architecture is dominated by tenements (see Section 1.3); 65% of dwellings are classified as flats in Crosshill compared to the 61% figure for Glasgow (Scotland's Census, 2011). The remainder of the houses are of a variety of types, e.g. 11% detached, 7% semi-detached and 4% terraced. Owing to the dominance of the MoP building type, Crosshill is a densely populated area, with 24.5 households per hectare m(Scotland's Census, 2011).

Second, Crosshill is an area characterized by historic buildings. It is a conservation area, where 89% of the buildings were constructed before 1919, compared to 20% for Scotland as a whole (Scotland's Census, 2011). The study therefore allows us to explore

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[9] All figures in the table from the 2011 Census (latest available data at the time of writing) except Fuel Poverty, from AstroSat, 2021 and average income from 2018 (Scottish Government, 2020a).
[10] The census also includes the category 'other rented' which accounts for the remaining households.

issues around conservation and retrofit and the relations of householders with the agencies concerned.

Third, the area has above average household income, of £807 per week. It also has a middling rank in terms of social deprivation. With the three data zones covering the area identified as within the 4th, 3rd and 7th deciles in the Scottish Index of Multiple Deprivation (SIMD, 2020).

Fourth, despite its above average household income and middling rank in indices of poverty, it represents one of the most fuel poor areas in Glasgow, with 35% living in fuel poverty, 10 percentage points higher than the Scottish or Glasgow figures (each 25%)[11].

Fifth, the area is characterized by a variety of tenure; while 61% of homes are owner occupied - slightly lower than the Scottish average (64%) but well above the average for Glasgow (47%) - there are just under three times the number of private rented properties in Crosshill (32%) compared to Scotland (11%) and double the number for Glasgow (16%). Social renting - where the landlord is a regulated, not-for-profit housing association - is relatively low (4%) in comparison to Glasgow (36%) or Scotland (24%).

We identified Crosshill as an area for research for the following reasons. With large numbers of owner-occupiers and a middling rank in deprivation indices, we were confident we could identify a broad range of 'able to pay' householders for interview. With a high level of private renting and fuel poverty we felt that the study offered opportunities to explore how relations with neighbours around retrofit were shaped (or complicated) by issues of tenure and social class within buildings. With a high number of historic tenements that require

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[11] Figures from Astrosat, (2021) adapted to correspond to the Scottish definition of fuel poverty. Note, the Scottish definition of fuel poverty differs from that of the UK. Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019 provides a 2 part definition: "a household is considered fuel poor if: after housing costs have been deducted, more than 10% (20% for extreme fuel poverty) of their net income is required to pay for their reasonable fuel needs; after further adjustments are made to deduct childcare costs and any benefits received for a disability or care need, their remaining income is insufficient to maintain an acceptable standard of living, defined as being at least 90% of the UK Minimum Income Standard (MIS)" (Scottish Government, 2021b)

substantial energy efficiency improvements (Crosshill has below average SAP ratings[12] at 57.78 compared to both Glasgow (68.24) and Scotland (66.01)), we assumed interviewees may have an interest in and insightful views on retrofit. In addition, our choice of case study area was influenced by the fact that one of the research partners for the project - a sustainability charity - operates in this area and would assist with recruitment of interviewees.

Data was gathered through 11 semi-structured interviews with owner-occupiers which took place between September and December 2021. We used multiple methods of recruitment to ensure we attracted sufficient numbers of interviewees. Interviewees were recruited through social media; we identified community Facebook pages and asked the page moderators to share our research flyer. We also asked our local project partner to share our flyer on its social media feed. We placed posters on doors along the streets of the case study area and, where access was possible to communal closes, put our flyers through doors.

We recruited interviewees who self-identified as having undertaken significant renovations within the last 5 years. This ensured we were as up-to-date as possible and we judged that interviewees would be able to recollect more detail of more recent renovations. Importantly, while some of the interviewees had undertaken energy efficiency work, we targeted interviewees who had carried out a range of work, not necessarily just focused on energy efficiency. We took this approach for several reasons. First, we wanted to understand how social relations influence why people both choose to and choose not to undertake retrofit. Second, we sought to explore the perspectives of homeowners who are not necessarily already environmentally active as the successful rollout of energy efficacy measures depends on the larger proportion of the population who are not committed environmentalists. Third, currently retrofit typically depends on the same traders who provide

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[12] Standard Assessment Procedure (SAP) is methodology, which underpins the Energy Performance Certificate (EPC) (UK Government, 2022).

other renovation services, to the extent that homeowners tend not to distinguish between these two types of work (Kerr, Gouldson, & Barrett, 2018); understanding how relations with these traders helps or hinders retrofit is therefore crucial to producing better delivery models. Fourth, by considering retrofit in the context of other types of renovation it gave us the opportunity to improve understanding of the emotional, symbolic and strongly social context in which home improvements, including retrofit, occur (Wilson, Crane, & Chryssochoidis, 2015).

We also explicitly targeted 'able to pay' households, which we define as households that had recently funded the renovations themselves in whole or in large part. We therefore excluded interviewees whose renovations had been wholly paid for by grants. We interviewed 11 householders dwelling in various types of 19th century tenement: three in 'split villas', where a townhouse has been converted into flats positioned horizontally, and eight in traditional sandstone tenements with three or more floors (see Appendix A). This allowed us to explore if and how social relations differed across tenement types. We focused on owner-occupiers because we wanted to speak to decision-makers but also because of the challenges of contacting landlords.[13]

Prior to the interviews, all interviewees were asked to fill in a short questionnaire to provide details on their household, building type, income, etc. This enabled us to acquire background details on interviewees and to screen interviewees for eligibility.

All interviews were recorded and transcripts produced. Analysis was structured using a modified form of the three types of social relations developed by Hargreaves and Middlemiss (2020). First, we consider only two of these types of social relations, namely 1) relations of intimacy and 2) relations with agencies. Second, for relations of intimacy we focus on the particular relations our literature review revealed as of greatest significance in

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[13] Note, some of the interviewees were also or had been landlords (i.e. HH6; HH9; HH10).

MoPs: relations with neighbours. Third, we also included emergent themes, for example how neighbourly relations are affected by tenure and varying income in a building. Fifth, for relations with agencies (see Table 1), we focus on agencies particular to MoPs' governance, such as owners associations and property managers (factors). Sixth, we also consider the agencies of local government and national government which emerged from our data as significant for the successful delivery of renovation works in the pre-1919 buildings in our case study.

4   Results and analysis

4.1   Relations with neighbours

In this section we address relations of intimacy, specifically interpersonal relations with neighbours. We describe, firstly, how relations with neighbours support renovation before turning to how they inhibit it.

4.1.1   Neighbourly relations as a potential facilitator of renovation work in MoPs

There are positive aspects of social relations within tenements that help to facilitate works. Building type can help forge a bond between neighbours. In part, this is because of the frequency of contact. For example, relations or even friendships are more likely to form with people with whom you are in frequent contact: 'it's about the people who are more … visible' (HH8). In particular, the common areas of tenements, especially stairways, provide a common space where neighbours interact. With heightened neighbourly interactions there are potentially greater resources available to support renovation. This might be some friendly support, such as the neighbours who insisted on cooking, such as for HH8's household when their kitchen was being refurbished. Other support includes neighbours forming alliances to develop renovation plans and coax other neighbours to upgrading communal/shared space (HH3; HH4; HH7). MOPs may also support the sharing of renovation advice. As HH10 explains, he went to 'people in the block' because they 'had experience, not just locally but

within this specific building', which meant that 'they might know something that we don't' about barriers to and opportunities for works.

Sometimes neighbours provide invaluable sources of contacts. Glasgow City Council works in communal areas of a tenement block were aided by an architect friend of a neighbour of HH3. The architect had gone through a similar process with the council in his own block of flats and was prepared to use his experience and knowledge in support of HH3 and HH3's neighbours; he 'ended up being effectively … the overall project manager for [the project] on behalf [of the owners]'. Similarly, HH7 reports that one owner of a neighbouring flat, who she describes as 'a secret … multi-millionaire' (he owns one of the flats in the close, the shop across the street, and many other local properties) and also is 'really good about tradespeople', allowing HH7 to draw on his network of traders. If HH3 or HH7 lived in a building with fewer occupants it is less likely that they would ever have benefited from these important contacts.

4.1.2   Relations with neighbours: how do they inhibit renovation?

On the other hand, there are negative aspects of neighbourly relations in MoPs which inhibit works. Renovations can aggravate tensions between neighbours with the result that more relational work is required to maintain neighbourly harmony. HH4 set her DIY home improvements to times best suited to neighbours, doing the 'quieter stuff' in evenings while louder work was undertaken during the day at the weekends; a strategy she believed meant that she had avoided complaints about noise. But HH4 explains that at one point that their taxi driver neighbour, who 'was working night shifts', was 'on my case all the time' about daytime weekend noise. This led to HH4 opting for a more expensive but less noisy option, at which point the taxi driver 'sodded off on holiday for two weeks when I could have done it' without telling her; 'I was livid' she explained.

Renovations also risk causing friction through damage to other's property. The same householder explained how flooding caused by plumbing work in her flat caused damage downstairs. She had to pay for damage to the downstairs neighbours' properties on several occasions. Compared to a house, she says, 'if something leaks in a flat, it's a whole different bunch of consequences'. With higher risk of damaging others' properties or when others' properties are damaged more potentially difficult relational work (as well as financial compensation) is required to maintain positive relations.

When work takes place in areas of communal responsibility there are yet greater demands for relational work, particularly for negotiating payment for communal works. HH6 explains how he has led on costly work to renovate communal areas (or at least shared maintenance areas) of the tenements, such as the roof. He says he spent a year 'trying to extract' monies from residents. He admits 'I'm not popular I must say'. A whole building approach is particularly problematic because collective action is a particular barrier to renovation (e.g. HH5; HH7; HH8; HH10; HH11). For example, HH8 suggested how for tenements zero carbon heating will require 'a communal solution and that needs to come from top down rather than potentially just a suggestion from one resident'.

Issues of tenure complicate relations with neighbours further. HH10 explains how it has been fruitless to discuss roof insulation with the tenants because the 'people upstairs … who are living in the flats have [no] great interest in getting it done'. Where there are let properties in an MoP, tenants may even obstruct works. HH3 evicted a tenant, one she described as being a friend, because she repeatedly refused to give builders access to the roof.

On the other hand, private landlords are in a position to block work on renovation works. HH7 explained how a landlord of a flat occupied by drug dealers, whose activity was leading to vandalism and other disturbances in the close, only intervened when, at the behest

of HH7, regulatory action was take such that he could no longer receive rent from the tenants as a result of the illegal trade being undertaken from his flat. Similarly, HH3 told of a landlord 'dragging his feet about putting in money' for structural repairs even though the building would have collapsed had the works not been undertaken. HH4 explains how one landlord in her building has been 'threatening us to the last … saying that he's going to take us to court, and this is a conspiracy' over residents' attempts to employ a factor.

Part of the issue here is absentee landlords, where the landlord may be 'not accessible at all … in our five years of being here, we've seen one of them once' adding 'one of them lives in London' and 'I've never seen' the other (I14). As such, the aforementioned neighbourly bonds, stemming from frequent contact and that can support renovation, are undermined by absentee landlords. In general, the balance between tenants and resident owners in the MoP plays a part in making it easier or more difficult to drive communal works; as HH4 explains 'initially, we had people in the close that were just mainly tenants, not owners. We've now got more [resident] owners than tenants in the close', a change which has made it easier to act collectively.

A further complication inhibiting renovation in MoPs is the differential income of the owners. HH3 reports that she and one other neighbour were the keenest to get communal works done 'partly … because … I'm fine financially and I can put some money towards stopping my house from falling into a hole. Whereas [for] some of the other people in the building, it was much more of a daunting prospect getting that sort of money together'.

4.2   Relations with agencies and communities

4.2.1   Property governance agencies: owners groups and associations

A key agency determining renovation outcomes is the governance structure in the MoP. In our case study, governance of communal areas might be: 1) wholly informal, e.g. being managed by informal relations between owners or 2) organized by an owners' association.

Wholly informal governance was in place in all tenements where there were only two dwellings positioned horizontally, such as 'split villas' (HH1; HH2; HH11).[14] In these cases the governance arrangements were indistinguishable from interpersonal relations and were often characterized by strong interpersonal ties and/or friendships. Where there were multiple flats in a building, however, informal governance was more complicated. In cases where governance was informal, areas of communal responsibility could become neglected, as HH8 put it, people are 'just burying their head in the sand'. In some cases, as is intimated in the previous sections, informal governance seems to have completely broken down. In such cases, some residents had disengaged from discussions with neighbours and problems were ignored (HH7). In others, stark divisions had emerged between owner-occupiers and landlords and with various factions pitted against others, including some owners' plans being vetoed by other [landlord] owners (HH4). Tenements with fewer dwellings might also face instances of neighbours blocking works will also occur, but where there are more owners there are more likely to be objections.

There was one example from our case study of a more formal owners' association. It was formal in the sense that the association holds regular meetings to discuss maintenance and improvement of the communal areas of the building and sourcing monies from owners for renovations, not that it was incorporated. It was formed and is maintained due to a unique set of circumstances. HH7 explains how the discovery of a homeless woman, who had died of an overdose and found in the communal back garden, led to the owners coming together to confront the problem of a drug dealer operating out of one of the flats. HH7 says that 'there was a day when [a neighbour] found a dead body outside and that's what kick-started things … And then everybody agreed to start paying' into a maintenance fund managed by the owners' association.

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[14] A detached or semi-detached townhouse which has been separated into two more flats.

The association was established to address long neglected damage to the building. It is managed by HH7, who has experience of property management and, due to her lifestyle (favouring more spare time over higher income) could devote time to management. It is wholly dependent on her unpaid labour to arrange and source trades. She has even paid for minor works herself and paid upfront for more major works (sums which she borrowed from her mother) before getting repaid by the other owners in the close; she says that owners pay up eventually 'if I did all the work and keep it cheap'. In effect, as well as being an important figure in the owners' association, she is informally doing the work of a property manager on a voluntary (i.e. unpaid) basis.

4.2.2   Property management companies: factors

HH3 says she wanted a factor because 'there is a central responsible organisation'. Factors can initiate work within their maintenance remit with a minimum of relational work for owners. HH10 explains 'the roof got done a few years ago as well but…there was no consultation to that, nobody instigated that within the block. [The factor] came, identified an issue and went up and fixed it' with minimum disruption. But they need not exclude owners who wish to be more proactive; HH6 explains 'I do not accept the factor's recommendation ever', and deliberates with co-owners in sourcing traders.

Factors not only reduce owners' relational work by providing a one-stop-shop for residents to get maintenance works done but they also undertake the important work of relieving neighbours of the potentially fraught interactions involved in gathering funds from fellow owners. Having a 'corporate body' responsible for sourcing monies, instead of individual owners, can help smooth neighbourly relations. As HH6 explains:

> 'I've done it in the past, where you approach neighbours directly, and it's not really the
> way to do things. You know, you bump into your neighbour going into the car and you
> go … I believe you've not paid your £300 share yet. That's why the factor's there'.

However, the negatives of factoring are considerable. A key complaint is overcharging. HH3 explains how neighbours see factoring as an 'an extra expense' which deters poorer owners from seeking factoring services. HH7 says not only do 'you have to pay their fees' but also a mark-up on any of the work that gets done; she says works undertaken through factors will cost 'at least 50% more'. There was also a concern that some factors do not provide value for money. HH3 admits, 'a lot of the factoring organisations in Glasgow have pretty bad reputations and you hear things about [how] you pay these people … and nothing ever happens … Pretty much all of my friends who live here have had issues with their factors'.

Partly because of negative attitudes towards factors, when there is not already a factor in place it can be challenging to organize within the close to appoint one; HH3 was relieved that in their close they were forced into getting a factor as a condition of receiving support from the council for structural works because 'it meant that we didn't have to persuade the people in the building who were … less keen'. However, factors themselves may reject offers to be appointed where it might mean taking on potentially challenging relational work. Legally - and typically contractually - a simple majority of owners can decide on factoring arrangements. However, in practice factors are reluctant to take on a property where there is any disagreement about contracting factor services. As HH4 explains 'no factor would take us [on], with less than a 100% of the owners' agreeing to be factored, meaning that one landlord has been able to repeatedly block attempts to get a factor for 10 years; the factors 'don't want the trouble. If you've got somebody you know you're going to have to take to court, you know you're going to have to chase money in the block'.

Owners' associations may exist at the same time as factors, for example where HH6 held regular meetings with owners despite having a factor. This appears to have been a successful combination, constituting the only example of major works being undertaken on communal areas of the building which was led by residents. However, in this case HH6 took

responsibility for managing the relational work, providing strong leadership which supported active engagement by owners. Where this is absent there may be problems. As the factor takes on the formal duties of both enforcing payment and (typically) managing works, their presence reduces the need for frequent contact between owners (as HH10 indicates above). Put simply, owners' associations will not meet frequently if it is thought that there is nothing for them to do. In which case, effective factoring may paradoxically undermine the imperative for relational work and the strength of social relations between neighbours that are necessary for collective works outwith the remit of factors, such as building improvement or energy retrofit.

4.2.3   Local Government

Local government is an oft mentioned actor in renovation. Glasgow City Council is mentioned for the impact of its conservation role in affecting renovations. HH11 notes regulations on insulation restrict its use on his building. Most commonly householders were deterred from window replacements because of conservation rules (HH1; HH2; HH3; HH4; HH10; HH11). The time taken for permission to be given for interventions is criticized. Some owners are not prepared to wait, as HH10 explains: 'Our neighbours … have had a bit of a fight at times to get that done, to the point that one of the neighbours just did it and, kind of, I'll take the consequences of that afterwards'. Conservation rules applied to old buildings - and their cost implications - were also a problem shared across building types. For example, homeowners explain the costs of the required timber sash-and-case windows have deterred window replacement.

Our interviewees highlight how Glasgow City Council has been crucial in prompting renovation works in areas of communal responsibility in tenements (HH3; HH8). The council have instigated works essential for the maintenance of the long term structural integrity of buildings, such as subsidence, damp proofing, roof repairs, pointing and fixing exterior

supporting walls. In the two cases from our case study, the work is very costly (e.g. HH3's share of the cost of works to prevent subsidence was £25,000) and owners have struggled to realize the projects without outside intervention. The owners were not even aware of the extent of the problems without the detailed assessment of the property provided by the council. As HH3 explains:

> 'Once we found out quite how bad the subsidence was and quite how possibly dangerous the situation was with it, maybe just being about to fall down … I don't know how we would have ever found that out if we hadn't started the process.'

In both cases, the council contacted all of the owners outlining the need for repairs and arranged meetings to discuss. In both cases there were also threats, of compulsory repairs orders being made (HH8) or 'mandatory eviction' (HH3). In both cases the council offered to provide means tested financial support to owners, of up to 50% of the value of the works, if they chose to accept the works proposed under the council's repairs programme. The council also insisted on unanimity amongst owners if the works were to proceed and the appointment of a factor to address ongoing maintenance (none were in place at either location).

The council's interventions appear to have been particularly effective in galvanising owners. Admittedly, the project still involved considerable relational work amongst owners. HH3, as noted above, complained about landowners dragging their feet over making payments. Few owners attended the meetings arranged by the council (HH3; HH8). And despite the seriousness of the situation, owners were sometimes still difficult to engage with. HH8 says it is 'frustrating' that:

> 'People are, for whatever reason, not really that great to communicate with. Like, people are … oh I don't ever look at my emails … don't get messages on WhatsApp … it means everything takes ages'.

Yet the combination of threats and benefits seems to have played a pivotal role in driving

MoP renovations. As HH8 explained, 'now that the council are saying they might go to compulsory repairs, everyone's like, let's quickly do something … 'cause it's probably going to end up costing us a lot more money [if we do it independently of council support]'.

While HH8's building works were not yet finalized at the time of the interview, HH3's have been completed. HH3 explains how now having accepted the offer, owners have little further say in the works; the council and its teams assessed the building, created a 'list of all of the things that needed doing' (HH3), arranged all of the contractors and delivered the project. They also set the timing: 'we were just at the whim of the council … we had no say on who was contracted or indeed about the timeline' (HH3). Moreover, she explained how the maintenance works were poorly coordinated with retrofit interventions. Prior to the structural works on the building HH3 had accessed a government scheme to provide insulation in in the roofspace. When the structural work were completed 'they pulled all of that insulation out'. Nonetheless, HH3 is 'glad' the works were done; considering the difficulty that remained in mobilising owners even after the intervention of the council, it is unlikely that the works would have been undertaken without the intervention.

4.2.4 *Government funding and advice for renovation*

Apart from local government, the state and its agencies provide grant support for renovations. This may be particularly important in conservation areas where there are considerable costs to renovating buildings and government support helps to make projects affordable.

Several interviewees have sought government funds dedicated to renovations (HH4; HH6; HH7). HH6 received payment of 30% of the cost of a new roof because it was for a B Listed Building. Yet there is some scepticism about the funding available to owners. Sometimes getting grants does not make renovations more affordable. HH6 explains:

> 'In order to qualify for the grant we had to use traditional materials because it's a
> property of interest, i.e. listed, so we had to use [specialized materials] which of course

are more expensive, so [it's] a false economy getting the 30% grant because we were going for the top end price' (HH6).

Similarly, to fix the balustrade for HH7, the council offered 50% towards the payment if undertaken by council sourced suppliers. But HH7 found the price, at £17k, too expensive and the waiting times too long. She got the price down to £3k from sourcing traders through her networks in the community; so they forwent the council money because 'it was a lot cheaper doing it how we did it with local contacts'.

Interestingly, not one of the householders was familiar with Home Energy Scotland, the agency tasked with delivering retrofit across Scotland through information and guidance but also administering energy efficiency assessments and grants and interest free loans (HES, 2023).

5   Discussion

In this paper, we sought to answer the questions of what the key social relations of the 'able to pay' dwellers of tenements in our case study area of Glasgow and how these help and hinder retrofit. We have laid out the key social relations, with 1) neighbours, 2) owners associations, 3) property managers and 4) government. In this final section we highlight four key findings, explaining how these types of social relations help and hinder renovation works, emphasising the implications for retrofit. We then outline areas for future research before finishing with a discussion of the implications of our work for policy and practice.

5.1 Key findings

5.1.1   Retrofit in MoPs involves more relational work

First, achieving retrofit in MoPs involves more relational work than in other building types, where there are fewer householders living under the same roof (e.g. detached homes). Because of the proximity of neighbours, when owners renovate their flats considerable relational work has to be undertaken to navigate neighbourly relations. Greater efforts are

required still in cases where neighbours must negotiate with each other over the management and payment of works in communal areas of buildings, to the extent that residents leading the process risk estrangement from neighbours.

The necessary leadership within a building is undertaken by those who have the time and resources to undertake it. Where these are absent, resident-driven retrofit is highly unlikely. Where a property factor is appointed, it is acknowledged that this has the advantage of offering a one-stop-shop, effectively allowing homeowners to outsource the relational work of building maintenance. But where managers are tasked with maintenance only, owner-led action remains essential to deliver improvements, including retrofit. Notably, the relational work in MoPs is made more difficult yet where landlords are unavailable, disinterested and/or resistant. This issue constitutes an additional barrier to retrofit on top of the 'split incentives' for landlords noted elsewhere (Bird & Hernández, 2012): we find that landlords not resident in the building can disrupt patterns of neighbourly social relations in MoPs, potentially reducing or eliminating opportunities for the required interaction amongst decision-makers.

We also find how the spectrum of wealth within a typical MoP can further complicate relational work; where some residents are able to afford renovations, whilst others are not. Those seeking to drive retrofit will have to confront issues of fairness and justice when dealing with their neighbours, potentially involving difficult conversations and provoking potential resentment from those feeling unsympathetically or unfairly treated.

5.1.2   A balance between professional management and grassroots action is beneficial

Property managers (factors) alone do not present an ideal solution to retrofit in MoPs. Our case study is in agreement with Robertson (2019), finding that relations with property managers in Scotland are marred by mistrust. As such, our findings chime with others which show how issues of trust in commercial operators, such as traders, inhibit retrofit (e.g.

Hargreaves & Middlemiss, 2020; Novikova et al., 2011).

We also find how the presence of a property manager may reduce the necessity for frequent contact between neighbours, potentially undermining the interpersonal contact and alliance-building, which can be so supportive of collective action. This finding resonates with community development literature that suggests how professional-led interventions can undermine community activism (McKnight & Block, 2010). The presence of a property manager can pacify residents, leading to a cycle of decline and repair rather than proactive improvement of the building. Further, the presence of property managers potentially neglects resources, e.g. support networks which emerge amongst neighbours, within a building for driving retrofit. In our case study, the heightened intimacy of tenement-dwelling facilitates alliance-building amongst owner-occupiers, while simultaneously easing access to the social contacts of neighbours. Thus, creating a balance between professional management and grassroots action, where the professional managers operate under the direction of those to whom they provide services (McKnight & Kretzmann, 1996), is desirable.

5.1.3   *The absence of regulatory support inhibits retrofit*

Our research provides insights into the relationship between social relations and law proposed by Block (2013). In our case study, by deploying a relational lens we can understand that the lack of formalized rules for tenements in Scotland is a problem because it requires too much relational work of owners. Without clear governance rules, householders in MoPs are on their own; they must start largely from scratch to establish the rules of the relations with fellow building dwellers, on an ongoing basis as circumstances change, which will often be in reaction to challenging circumstances such as major emergency repairs. Our work thus supports the argument of Block (2013) that the law provides support for relational work, in our case by illustrating how its inadequacy leaves owners bereft of adequate support.

5.1.4   The state and state agencies must improve their retrofit performance

The UK state, and its agencies, are underperforming in their retrofit role. Knowledge of sufficient financial support for retrofit in tenements has not penetrated the relational webs we found in our case study. In its role as initiator, facilitator and delivery partner for essential maintenance works in tenements, the local authority is recognized as having been crucial for project delivery, including overcoming issues associated with absentee landlords and those on low-incomes. It therefore presents one potentially successful model for the delivery of retrofit in MoPs. The success of this model can be accounted for by the fact that the council is uniquely placed - as a resourced, legitimate and trusteed agency - to use the threat of compulsory works and the incentive of financial support to deliver agreement amongst homeowners. Moreover, we find that residents recognize their limitations in driving some major interventions in communal areas of tenements (e.g. to install district heating), considering such interventions as unrealistic to be delivered bottom up, either by individuals or groups of residents. Major interventions will require actors - such as state agencies - to deliver larger scale action, such as through Area Based Schemes or district heating programmes.

5.2   Future research

A key contribution of this work is to apply the social relations lens (Hargreaves & Middlemiss, 2020; Zelizer, 2012) to the question of retrofit in MoPs, as a setting for numerous and often complex relationships. Future research might usefully concentrate on developing greater understanding of how relational factors can galvanized residents to get work done in MoPs. For example, it might investigate incidences in which residents have undertaken major works successfully without these being instigated by local government, or other outside actors, and exploring common factors that led to that success. Case studies of buildings in which successful whole building retrofit instigated by residents might be

particularly insightful.

While our findings support Block (2013) on the benefit of law in supporting relational work, more work is required to better conceptualize the relationship between social relations and procedural (or legal) rules. For example, social relational analysis may have some promise in helping us to better understand what makes a law designed to encourage retrofit effective or not. It can help us investigate how social relations shape understanding, acceptance or rejection of the legal or procedural rules involved. It might also be used to explore how governance arrangements to ensure successful retrofit in MoPs, e.g. through a study that draws on international comparisons, create the best balance between relations of intimacy (between neighbours) and relations with agencies (with property managers).

6   Conclusion and policy implications

Without dramatically reducing carbon emissions from the UK's domestic properties, it will not be possible to deliver on net-zero housing targets. Furthermore, without accelerating retrofit of MoPs it will not be possible to deliver net-zero in domestic properties for the 46% of Europe's population who live in flats today.

Our case study can perhaps be seen as a cautionary tale of how not to deliver energy retrofit in MoPs. Domestic energy efficiency policy in the UK is failing. It is primarily focused on individual incentives to encourage economically rational decision-making, while neglecting the influence of the social relations between households and their wider social network on energy efficiency decision-making.

In this paper, drawing on Zelizer's concept of 'relational work' and deploying two of Hargreaves and Middlemiss' three types of social relations (i.e. intimacy and institutions) as an analytical framework, our case study of owners in historic MoPs in Glasgow has provided a number of key insights. We find that the increased relational work required to manage the relations between co-owners (e.g. to avoid conflict over disruption or negotiate payment for

collective works) provides a potential barrier to retrofit. Yet, on the other hand, MoPs are a potential treasure trove of relational resources for retrofit; residents stand ready to support one another, spread knowledge and demonstrate leadership. How, then, do we overcome the relational obstacles to retrofit and tap into the relational resources to deliver it more effectively?

Our research highlights two key interrelated aspects. First, governance. Our findings, agree with Block (2013) that law is a support for relational work and, hence, necessary to drive economic activity. The absence of mandatory owners' associations equipped with formal rules of governance and collective responsibility leaves owners without sufficient guidance on how to relate to neighbours or property managers over building maintenance. Nor does it provide sufficient protection for owners who provide leadership for energy efficiency improvements. Property managers are therefore condemned to serve owners who are often not organized enough to provide clear direction on how buildings should be maintained or improved.

Second concerns the underappreciated relational role of property managers or 'factors'. Property managers are a potentially powerful ally for owners, easing communications with co-owners and managing the challenging relational work of appointing and overseeing contractors to deliver renovations in communal areas of buildings. However, distrust of property managers often makes owners reluctant to access property managers' services or have confidence in their proposals. And where property managers provide effective maintenance services, this can serve to undermine the relational work supportive of building the relational resources amongst neighbours required to drive retrofit from below. Laws which regulate property managers do not endow them with sufficient accountability or transparency to ensure that they are trusted operators. And without this trust in their services

their ability to provide the required support and guidance for owners to retrofit their buildings for net zero is curtailed.

Hence, in our case study we detail where the social relations required for the growth of an important sector for a transitioning economy are dysfunctional; by shedding light on the relationship between law, governance and social relations, we show how decarbonisation of our building stock is being stymied by an absence of regulatory support for relational work. The implications of our findings are that regulation that supports relational work within MoPs, e.g. creating carefully designed mandatory owners' associations, supported by transparent and accountable property management services, will provide better support for retrofit in MoPs and, as a result, the retrofit industry more broadly. In Scotland, amendments to governance provisions for MoPs that could be legislated for from 2025 (see Section 2.2) should be enacted as a matter of urgency; progress towards energy efficiency in MoPs will be a challenge without compulsory owners' associations established as a legal requirement for MoPs. We should note that in this regard the implications apply to the rest of the UK too, which shares with Scotland a lack of properly established owners' associations.

Our research, however, suggests that compulsory owners' associations will not be enough to deliver retrofit in MoPs. Property managers (factors) could be made responsible for not just the maintenance of buildings but also for achieving acceptable standards of energy efficiency and, with sufficient support, develop knowledge and expertise in delivering this for owners associations. In relational terms, legislating to make factors responsible for energy efficiency in buildings presents a tremendous opportunity in MoPs. Instead of government agencies having to address the 36% of households who live in flatted accommodation they could save considerable resources by targeting their interventions at the 357 property factors

operating in Scotland.[15] However, as our research shows, trust in property managers is not a given and their presence potentially undermines owner engagement. An approach, then, that is over reliant on factors, risks provoking resistance to retrofit in MoPs.

For factors to take a greater role in retrofit will require reform to ensure trust and encourage owner participation. One approach to establish trust could be for property managers to be established as community cooperatives, in which all householders served by the manager become members, allowing all owners served by a factor to attend AGMs and scrutinize company expenditure. To encourage owner participation, much might be learned from the experience of property governance arrangements in other countries. For example, in Spain governance regulations seek to create a balance between owner engagement and professional administration, with trust established through strict regulation and regular, professionally managed in-person meetings between owners and the property manager (see e.g. SpainExpat, 2022).

While reform of property management and governance would provide an improvement on current arrangements, there remain challenges regarding varying tenure and income inequality in MoPs which act as an impediment to building improvements. The existing exclusive rights afforded to absentee landlords in building governance are problematic where a long-term tenant may have a greater interest in the building and the community which surrounds it than the landlord. Measures such as allowing long-term tenants (e.g. who have rented a property for 2 years or more) to exercise votes in building governance where landlords are non-contactable or insisting upon agreement between owner and tenant if the vote of the owner is to be counted would: 1) allow those most badly effected by neglect of energy efficiency to have a voice; 2) encourage landlords to be more attentive

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[15] As of 15/22023, personal correspondence for the Property Factors Register of Scotland no the 16th of February 2023.

to tenants energy needs; and 3) ease the governance of buildings by making it more likely that decision-makers will be accessible.

Turning to income inequality, an approach that makes differential support available for owners of different means, such as already undertaken in Glasgow through their essential repairs programmes and Area Based Schemes for energy efficiency, has proved effective for maintenance schemes and would seem appropriate for retrofit schemes too.[16]

However, financial support must also form part of any retrofit drive in historic MoPs, and not just be limited to the unable to pay. Conservation rules imposed upon owners, coupled with difficult-to-treat properties, mean owners of historic buildings find retrofit prohibitively expensive. Further, the lack of sufficient governance arrangements, which have resulted in tenement neglect, is a political failure; the historic neglect of tenements is primarily a consequence of political choices at government level and not of owners of MoPs. Thus, there is a strong argument that owners alone should not be expected to bear the full costs of transition. Key measures that would make the most impact on energy efficiency include greater financial support for specialized double (or triple) glazing required in conservation areas and outer and inner wall insulation. As the costs and scale of such works exceed the capacities of any one owners association, there is also a strong case in densely populated areas for 'top down' interventions by local government, which build and deliver district heating systems for tenements. Works initiated by Glasgow City Council in our case proved very effective at creating community engagement and bringing owners together to ensure the successful delivery of projects. A local authority's capacity for delivery of retrofit needs to be enhanced and its existing works programme for essential repair needs to be integrated into its retrofit programmes.

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[16] We should note that Area Based Schemes of energy efficiency already operate on this basis.

Acknowledgements

References

Abrahamse, W., & Shwom, R. (2018). Domestic energy consumption and climate change mitigation. *Wiley Interdisciplinary Reviews: Climate Change*, *9*(4), 1–16. https://doi.org/10.1002/wcc.525

Aditi Sahni, Kazaglis, A., Hanna, R., Gross, R., Kemp, L., Kingsmill, N., & McCormac, E. (2017). *International Comparisons of Heating, Cooling and Heat Decarbonisation Policies*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/699674/050218_International_Comparisons_Study_MainReport_CLEAN.pdf

Astrosat. (2021). Astrosat Ltd. Retrieved June 1, 2023, from Astrosat Ltd. Database website: https://astrosat.net/

Baeli, M. (2013). *Residential Retrofit: 20 Case Studies*. London: RIBA Publishing.

Baker, T. (2013). Home-making in higher density cities: Residential experiences in Newcastle, Australia. *Urban Policy and Research*, *31*(3), 265–279. https://doi.org/10.1080/08111146.2013.799064

Bandelj, N. (2012). Relational Work and Economic Sociology. *Politics & Society*, *40*(2), 175–201. https://doi.org/10.1177/0032329212441597

Beckmann, K., & Roaf, S. (2012). *Workshop Report: Climate Resilience for the Scottish Built Environment* (pp. 5–10). pp. 5–10. Retrieved from http://www.scotland.gov.uk/Publications/2009/12/08130803/1

BEIS. (2017). *Call for Evidence: Building a Market for Energy Efficiency*. London: BEIS.

Bird, S., & Hernández, D. (2012). Policy options for the split incentive: Increasing energy efficiency for low-income renters. *Energy Policy*, *48*, 506–514. https://doi.org/10.1016/j.enpol.2012.05.053

Block, F. (2012). Relational Work in Market Economies. *Politics & Society*, *40*(2), 135–144. https://doi.org/10.1177/0032329212441576

Block, F. (2013). Relational Work and the Law: Recapturing the Legal Realist Critique of Market Fundamentalism. *Journal of Law and Society*, *40*(1), 27–48. https://doi.org/10.1111/j.1467-6478.2013.00611.x

Bolton, E., Bookbinder, R., Middlemiss, L., Hall, S., Davis, M., & Owen, A. (2023). The relational dimensions of renovation: Implications for retrofit policy. *Energy Research and Social Science*, *96*, 102916. https://doi.org/10.1016/j.erss.2022.102916

Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste*. London and New York: : Routledge and Kegan Paul.

BPIE. (2011). Europe's buildings under the microscope: A country-by-country review of the energy performance of buildings. *Buildings Performance Institute Europe (BPIE)*. Retrieved from http://bpie.eu/wp-content/uploads/2015/10/HR_EU_B_under_microscope_study.pdf%0Ahttp://www.bpie.eu/uploads/lib/document/attachment/20/HR_EU_B_under_microscope_study.pdf

Bright, S., & Weatherall, D. (2017). Framing and Mapping the Governance Barriers to Energy Upgrades in Flats. *Journal of Environmental Law*, *29*(2), 203–229. https://doi.org/10.1093/jel/eqx017

Brisepierre, G. (2011). Les conditions sociales et organisationnelles du changement des pratiques de consommation d'énergie dans l'habitat collectif. *Thèse de Sociologie Sous La Direction de*

Dominique Desjeux. soutenue le 19 septembre.

CCC. (2022). Progress in reducing emissions: 2022 Report to Parliament. In *UK Climate Change Committee*. Retrieved from www.theccc.org.uk/publications%0Ahttps://www.theccc.org.uk/wp-content/uploads/2021/06/Progress-in-reducing-emissions-2021-Report-to-Parliament.pdf

Crossley, N. (2011). *Towards a Relational Sociology*. London and New York: Routledge.

EEA. (2022). Annual European Union greenhouse gas inventory 1990–2020 and inventory report 2022; Submission to the UNFCCC Secretariat. *European Environment Agency*. Retrieved from https://unfccc.int/documents/461919

Elias, N. (1991). *The Society of Individuals*. London: Basil Blackwell.

European Union. (2022). House or flat – owning or renting. Retrieved March 15, 2023, from European Union website website: https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-1a.html?lang=en

Gans, H. (1968). *People and Plans: Essays on Urban Problems and Solutions*. New York: Basic Books.

Gibb, K. (2023). Policy Choices for Glasgow Traditional Tenements Retrofitting for Sustainable and Affordable Carbon Reduction. *People, Place and Policy Online*, *16*(3), 255–270. https://doi.org/10.3351/ppp.2022.5988964366

Hargreaves, T., & Middlemiss, L. (2020). The importance of social relations in shaping energy demand. *Nature Energy*, *5*(3), 195–201. https://doi.org/https://doi.org/10.1038/s41560-020-0553-5

HES. (2023). Home Energy Scotland. Retrieved March 27, 2023, from Home Energy Scotland website website: https://www.homeenergyscotland.org/

Kerr, N., Gouldson, A., & Barrett, J. (2018). Holistic narratives of the renovation experience: Using Q-methodology to improve understanding of domestic energy retrofits in the United Kingdom. *Energy Research and Social Science*, *42*(March), 90–99. https://doi.org/10.1016/j.erss.2018.02.018

LEAF. (2016). *Improving the energy efficiency of Apartment Blocks*. https://doi.org/10.1016/j.nucet.2016.03.006

McCarthy, D., & Saegert, S. (1978). Residential density, social overload, and social withdrawal. *Human Ecology*, *6*(3), 253–272. https://doi.org/10.1007/BF00889026

McCarthy, F., Bright, S., & Fawcett, T. (2018). Building Governance and Energy Efficiency: Mapping the Interdisciplinary Challenge. In C. Foulds & R. Robison (Eds.), *Advancing Energy Policy: Lessons on the Integration of Social Sciences and Humanities* (pp. 83–96). https://doi.org/10.1007/978-3-319-99097-2

McKnight, J., & Kretzmann, J. (1996). *Mapping Community Capacity*. The Asset-Based Community Development Institute, Institute for Policy Research, Northwestern University: USA.

McKnight, John, & Block, Peter. (2010). *The Abundant Community: Awakening the Power of Families and Communities*. San Francisco: Berrett-Koehler.

ONS. (2021). Housing, England and Wales. Retrieved March 15, 2023, from Office for National Statistics website website: https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housingenglandandwales/census2021

ONS. (2022a). Age of the property is the biggest single factor in energy efficiency of homes. Retrieved March 21, 2023, from ONS website website:

https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/ageofthepropertyisthe
biggestsinglefactorinenergyefficiencyofhomes/2021-11-01

ONS. (2022b). Energy efficiency of housing in England and Wales. Retrieved March 15, 2023, from
Office for National Statistics website website:
https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/energyefficiencyofhou
singinenglandandwales/2022#energy-efficiency-of-dwellings-in-england-and-wales

Pink, S. (2004). *Home Truths: Gender, Domestic Objects and Everyday Life*. London: Taylor &
Francis.

Power, E. R. (2015). Placing community self-governance: Building materialities, nuisance noise and
neighbouring in self-governing communities. *Urban Studies Journal Limited*, *52*(2), 245–260.
https://doi.org/10.1177/0042098014525242

RICS. (2019). *Working Group on Maintenance of Tenement Scheme Property: Final
Recommendations Report*. RICS.

Robertson, D. (2019). *Why Flats Fall Down: Navigating Shared Responsibilities for Their Repair and
Maintenance*. BEFS; MPAS; SFHA.

Scotland's Census. (2011). *Scotland's Census*. Retrieved from
https://www.scotlandscensus.gov.uk/search-the-census#/

Scottish Government. (2020a). Banded income statistics: 2018. Retrieved June 1, 2023, from Scottish
Government website website: http://www.gov.scot/publications/banded-income-statistics-2018/

Scottish Government. (2020b). *Scottish House Condition Survey: 2019 Key Findings*. Retrieved from
nationalarchives.gov.uk/doc/open- government-licence/version/3

Scottish Government. (2021a). *Heat in buildings strategy: achieving net zero emissions in Scotland's
buildings.*

Scottish Government. (2021b). Home energy and fuel poverty: fuel poverty. Retrieved June 1, 2023,
from Scottish Goernment webpage website: http://www.gov.scot/policies/home-energy-and-
fuel-poverty/fuel-poverty/

SIMD. (2020). SIMD 2020. Retrieved February 20, 2020, from Scottish Index of Multiple
Deprivation website website: https://simd.scot/#/simd2020/BTTTFTT/9/-4.0000/55.9000/

Simmel, G. (1978). *The Philosophy of Money* ([first pub). London and New York: Routledge and
Kegan Paul.

Skjaeveland, O., & Garling, T. (1997). Effects of interactional space on neighbouring. *Journal of
Environmental Psychology*, *17*(3), 181–198. https://doi.org/10.1006/jevp.1997.0054

SpainExpat. (2022). The Comunidad de Propietarios for Property Owners – Spain Expat. Retrieved
August 26, 2022, from SpainExpat [website] website:
https://www.spainexpat.com/information/spanish-property-communidad#administrator

Stewart, I., & Bolton, P. (2022). Domestic Energy Prices. *House of Commons Library*, (November),
4–4. Retrieved from https://commonslibrary.parliament.uk/research-briefings/cbp-9491/

The Scottish Government. (2021). Property Factors (Scotland) Act 2011: Code of Conduct for
Property Factors. Retrieved August 26, 2022, from Scottish Government [website] website:
https://www.gov.scot/publications/property-factors-scotland-act-2011-code-conduct-property-
factors-2/

Thomas, J. A., Walton, D., & Lamb, S. (2011). The Influence of Simulated Home and Neighbourhood
Densification on Perceived Liveability. *Social Indicators Research*, *104*(2), 253–269.
https://doi.org/10.1007/s11205-010-9742-0

UK Government. *Tenements (Scotland) Act 2004*. , (2004).

UK Government. (2022). Standard Assessment Procedure. Retrieved June 14, 2023, from UK Government website website: https://www.gov.uk/guidance/standard-assessment-procedure

Under One Roof. (2022). Owners Associations. Retrieved August 24, 2022, from Under One Roof [website] website: https://underoneroof.scot/articles/1105/Architects/Owners_Associations

Under One Roof. (2023). Self-factoring. Retrieved June 14, 2023, from Under One Roof website website: https://underoneroof.scot/articles/1347

Wasserman, S., & Faust, K. (1994). *Social Network Analysis: Methods and Applications*. Cambridge: Cambridge University Press.

Weatherall, D., Mccarthy, F., & Bright, S. (2018). Property law as a barrier to energy upgrades in multi-owned properties: insights from a study of England and Scotland. *Energy Efficiency*, *11*, 1641–1655. https://doi.org/10.1007/s12053-017-9540-5

Wilson, C., Crane, L., & Chryssochoidis, G. (2015). Why do homeowners renovate energy efficiently? Contrasting perspectives and implications for policy. *Energy Research and Social Science*, *7*, 12–22. https://doi.org/10.1016/j.erss.2015.03.002

Zelizer, V. (2000). Fine tuning the Zelizer view. *Economy and Society*, *29*(3), 383–389. https://doi.org/10.1080/03085140050084570

Zelizer, V.A. (1997). *The Social Meaning of Money: Pin Money, Paychecks, Poor Relief, and Other Currencies*. Princeton University Press.

Zelizer, V.A. (2012). How I Became a Relational Economic Sociologist and What Does That Mean? *Politics & Society*, *40*(2), 145–174. https://doi.org/10.1177/0032329212441591

Appendix A -List of Householder Interviewees

Interviewee	Gender	Street	House type	Age	Household (a=adult; c=child)	Education	Employment status	Job	Income	Intervention
HH1	F	QMA	Tenement Flat (split villa)	70+	1a	Degree or equivalent	Retired	n/a	£25 000 to £35 000	Bathroom refit
HH2	F	QMA	Tenement Flat (split villa)	50-59	2a, 1c	Degree or equivalent	Working Full Time	Journalist	> £55 000	New boiler
HH3	F	QMA	Tenement flat	40-49	1a	Degree or equivalent	Working Part Time	Humanitarian education specialist, working part time and also consulting part time	£ 35 000 to £45 000	Structural repairs to building, kitchen refit
HH4	F	Albert Road	Tenement flat	50-59	2a	Degree or equivalent	Working Full Time	Postgraduate Admin Officer in Further Education sector	£15 000 to £25 000	New heating system, considerable redecoration.
HH5	F	Albert Road	Tenement flat	60-69	1a	Degree or equivalent	Self Employed	Film Director / producer	£15 000 to £25 00	Bathroom refit
HH6	M	Queen's Drive	Tenement Flat	50-59	2a	No qualification	Part Time	Hairdresser	> £55 000	New roof, new windows, other.
HH7	F	Albert Road	Tenement flat	50-59	1a	GCSE grades A*-C or equivalent (O levels)	Unpaid Family worker (carer or parent) Unemployed Voluntary worker	Clothes maker; property manager / holiday manager; living off mother; rent	< under £10 000 (asset rich - half owns two houses - cash poor)	Stairwell repairs

HH8	F	Albert Road	Tenement (main door) flat	30-39	2a 1c	Degree or equivalent	Working Full Time	Film / TV Producer	£35 000 to £45 000	New kitchen
HH9	M	Albert Road	Tenement Flat	30-39	1a	Degree or equivalent	Currently unemployed	Marine Engineer	£45 000 to £55 000	New lightbulbs, and digital thermostat
HH10	M	Albert Road	Tenement Flat	30-39	2a	Degree or equivalent	Full Time	PhD student; Research Assistant; Tutor	> 55 000	New Boiler
HH11	M	Albert Road	Tenement Flat (split villa)	40-49	2a 2c	Degree or equivalent	Full Time	Housing Officer	£25 000 to £35 000	Roof space extension