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Does your home matter? Analysis of Housing Tenure and Political Participation in Europe

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Abstract

Decades of academic work argue that homeowners participate in politics at a higher rate than then their renting counterparts. Unfortunately, few have investigated what role residents of social housing play in the political process. Using administrative and voter data across 3 European cities, this thesis looks at whether voter turnout among social housing residents differs from other housing types. In addition, using data from the European Quality of Life Survey, I explore the influence housing type has on an individual's propensity to participate in other forms of political activity. The results of both analyses fail to provide a clear understanding of the role of housing tenure in Europe generally. Instead, they point to a heterogenous collection of approaches towards housing policy which each uniquely impact how housing choice influence politics.

1. Introduction

In over a dozen nations across Europe, housing is enshrined in law as a human right, alongside fundamental rights like free speech and fair working conditions.¹ Paramount to this commitment is the continent's century long investment into social housing. Social housing is rental housing that is generally listed below market rate and its construction and management is either directly overseen or greatly subsidized by state and local governments. This type of housing varies by country, with some restricting access to low-income groups or requiring individuals to meet certain criteria for eligibility.² And despite a recent stagnation in new construction projects, social housing remains an integral part of the Europe's housing stock, accounting for over 15% of total housing units in Austria, France, the Netherlands, Norway, and the United Kingdom.³ But despite this considerable housing demographic, little is known about the impact social housing has on an individual's engagement with local politics. Until now, much of the discourse on impact of housing tenure on politics has centered around a dichotomy of homeowners and private market renters. And while housing tenure may seem benign, decades of theory and

¹ "European Social Charter (revised) (ETS No. 163)," Council of Europe, accessed May 8, 2024, <https://www.coe.int/en/web/conventions/full-list?module=treaty-detail&treatyid=163>.

² Social housing: A key part of past and future housing policy, (Paris: OECD, 2020), <https://www.oecd.org/social/social-housing-policy-brief-2020.pdf>.

³ "The State of the Housing in Europe 2023," Housing Europe, last modified June 20, 2023, <https://www.housingeurope.eu/resource-1811/the-state-of-the-housing-in-europe-2023>.

research argue that public policy that promotes homeownership results in more democratically engaged citizens. But how do we know homeowners are more civically engaged when most studies neglect to account for publically owned or financed housing? This paper aims to explore how social housing households participate in the political process using both aggregate voting data and individual survey data.

My analysis is split into two parts. First, using aggregate data from Copenhagen, Helsinki, and London, I investigate whether social housing residency plays a significant role in voter turnout across three local election periods, compared with other forms of housing tenure and common voting control variables. The second part of my analysis centers on individual survey data from the EU's European Quality of Life Survey from 2007, 2011 and 2016. In particular, I look at questions regarding political involvement beyond voting, like meeting with politicians and attending political rallies. Both parts utilize a combination of descriptive statistics and regression analysis.

The structure of this thesis is as follows: I begin with a literature review of the current scholarship on housing tenure and political involvement, and how this work informs my research hypotheses. Next, I describe the methodology and data that I utilize in my analysis and my dependent, independent, and control variables. The results section is divided into multiple parts as described above. In my aggregate data section, results are reported for each city individually. Finally, in the conclusion, I synthesize my results, and suggest future opportunities for more research.

2. Literature Review

The existing literature of housing type and political participation almost exclusively focuses on just two groups: homeowners and renters. The basis for this research rests heavily upon a guiding theoretical framework posited in William A Fischel's 2001 book "The Homevoter's Hypothesis." In the book, Fischel argues that Homevoters (a portmanteau of homeowners and voters) are first and foremost interested in protecting their most valuable asset, their home. Frequently, an individual's (or family's) home is the most important and expensive item that they own. The property holds the majority of their savings and is intrinsically tied to their economic stability. Given this investment, homeowners will be pushed to vote and participate in local politics when

their property is either at risk or stands to benefit from a political action. In this sense, homeownership drives individuals to participate in politics at a higher rate than renters because they have more economically on the line. This framework also means that homeowners fundamentally care about different issues than other groups.⁴ A paper published shortly before Fischel confirms higher rates of participation among homeowners. A 1999 study of German and US homes from DiPasquale and Glaeser found that homeowners were more likely to vote in local elections and to know who their political representatives were. Critically, their study also argues and finds evidence that a homeowner's higher participation rates can be in part explained by their longer average residence in a given area compared to renters.⁵ On average, across 25 European countries, homeowners stay put in one home far longer than renter (23.3 years to 9.4 years).⁶ In comparison, while no exact residency length data is publicly available, Eurostat reports that social housing renters are around 20% less likely to have moved homes within the last five years versus private renters.⁷

More contemporary research also appears to back up Fischel's arguments. A recent study from Jesse Yoder of 3 US cities (Dallas, Texas, Houston, Texas and, Palo Alto, California) finds that homeowners were significantly more politically engaged than their renting counterparts. Adjusting for differences in wealth and age, homeowners were on average 22% more likely to vote in local elections than renters. Most interestingly, homeowners were far more likely to participate and speak at local city council meetings than renters. Additionally, the content of homeowner concerns differed from renters. Homeowners' comments in city council meetings were largely centered on economic topics like property, traffic and development. Whereas, for renters, they tended to focus on more social issues like policing in the community.⁸ In Europe, political participation from homeowners remains high compared to renters. Looking at data from 35 European countries, Huber and Montag report that homeownership is a strong predictor for increased turnout at both local and national elections. Western European homeowners were also

⁴ William A. Fischel, *The Homevoter Hypothesis* (Cambridge, MA: Harvard University Press, 2001)

⁵ Denise DiPasquale and Edward L. Glaeser, "Incentives and Social Capital: Are Homeowners Better Citizens?," *Journal of Urban Economics* 45, no. 2 (1999): doi:10.1006/juec.1998.2098.

⁶ Arthur Acolin, "Owning vs. Renting: the benefits of residential stability?," *Housing Studies* 37, no. 4 (2020): doi:10.1080/02673037.2020.1823332.

⁷ "Share of population having moved to other dwelling within the last five year period by tenure status and degree of urbanisation," European Commission/Eurostat, accessed March 11, 2024, https://ec.europa.eu/eurostat/databrowser/view/ilc_hcmp05/default/table?lang=en.

⁸ Jesse Yoder "Does Property Ownership Lead to Participation in Local Politics? Evidence from Property Records and Meeting Minutes," *American Political Science Review* 114, no. 4 (2020): doi:10.1017/s0003055420000556.

more likely to be a part of voluntary organizations and invest in the surrounding community than renters.⁹ Finally, a more recent 2022 study from Yoder and Hall reaffirms most of the homeowner voting trends described above, this time in the US states of North Carolina and Ohio. However, they also find that homeowner participation in local elections increases the likelihood of future participation in national elections. They contend this may be due to habit formation from voting in local elections, or that participation at the local level alerts political campaigns to specifically go after certain voters in national elections.¹⁰ These are just a few of examples of academic work on the topic, but many others have found similar results including research from Holian¹¹, McCabe¹², and Jiang¹³.

While this research does tell us a lot of about voting trends among renters and homeowners, it fails to tell us about Europe's third housing group: social housing residents. And as of writing, there is far less published work on this topic. Like with homeowner research, what little work on social housing and political participation focuses primarily on the United States. One such article from Claudine Gay looks at voter participation among public housing residents selected to receive housing vouchers and who move to private rentals. Gay's analysis finds that voter turnout actually decreased among these groups, which the author argues is not to do with temporary administrative changes, but rather caused by individuals being separated from their established social communities.¹⁴ Another article, from Chyn and Haggag, however, argues that in the long term, families who move out of public housing ultimately participate in politics more than individuals who stay. Using data of former public housing residents in Chicago, the authors find that children in these families on average are 12% more likely to vote in adulthood when compared to children who grew up in their entirety in public housing.¹⁵ But regardless of the two

⁹ Peter Huber and Josef Montag, "Homeownership, Political Participation, and Social Capital in Post-Communist Countries and Western Europe," *Kyklos* 73, no. 1 (2020) doi:10.1111/kykl.12218.

¹⁰ Andrew B. Hall and Jesse Yoder, "Does Homeownership Influence Political Behavior? Evidence from Administrative Data," *The Journal of Politics* 84, no. 1 (2022): doi:10.1086/714932.

¹¹ Matthew J. Holian, "Homeownership, dissatisfaction and voting," *Journal of Housing Economics* 20, no. 4 (2011): doi:10.1016/j.jhe.2011.08.001.

¹² Brian J. McCabe, "Are Homeowners Better Citizens? Homeownership and Community Participation in the United States," *Social Forces* 91, no. 3 (2013): doi:10.1093/sf/sos185.

¹³ Boqian Jiang, "Homeownership and voter turnout in U.S. local elections," *Journal of Housing Economics* 41 (2018): doi:10.1016/j.jhe.2018.06.006.

¹⁴ Claudine Gay, "Moving to Opportunity: The Political Effects of a Housing Mobility Experiment," *Urban Affairs Review* 48, no. 2 (2011): doi:10.1177/1078087411426399.

¹⁵ Eric Chyn and Kareem Haggag, "Moved to Vote: The Long-Run Effects of Neighborhoods on Political Participation," *SSRN Electronic Journal*, 2019, doi:10.2139/ssrn.3496490.

papers potentially opposite conclusions, I am wary to be influenced by any research on public housing in the US. Compared to European social housing, US public housing almost exclusively targets low-income individuals, is heavily clustered in poverty-stricken areas, and lacks consistent funding which prevents both the maintenance of existing buildings and production of new ones.¹⁶

Thankfully, some European social housing research on voter turnout does exist. Much of this research comes from the latter half of the 20th century in the UK. In Eagles and Erfle's 1989 study of parliamentary elections, they find evidence that social housing residents increased a municipality's voter turnout across three election periods. It should be noted that homeownership still increases turnout by a greater margin.¹⁷ In contrast, an analysis from Pattie and Johnston of the UK's 1992 general election showed that social housing and private rental fared quite similarly in terms of voter turnout, but still lag behind private homeowners.¹⁸ One of the few contemporary articles on the subject comes from Stéfanie André et al. and looks at voter turnout by European country, classified into 4 distinct housing regimes. Most relevant to this thesis, the unitary rental market regime (which include countries like Austria and the Netherlands) is defined by the presence of a strong social housing market, and broad government support for all housing types. Importantly, in unitary markets, the lines between private rental and social housing can become murky, due to the ability for private landlords to get government subsidies for offering affordable housing. In their analysis of voting participation based on regime, the difference in voter turnout between housing type was observed to be far less in unitary rental market regimes than market-based homeownership regimes (characterized by their strong pro-homeownership ideology).¹⁹

¹⁶ "The Future of Public Housing: Public Housing Fact Sheet," Urban Institute, last modified January 30, 2020, <https://www.urban.org/research/publication/future-public-housing-public-housing-fact-sheet>.

¹⁷ Munroe Eagles and Stephen Erfle, "Community Cohesion and Voter Turnout in English Parliamentary Constituencies," *British Journal of Political Science* 19, no. 1 (1989): doi:10.1017/s0007123400005354.

¹⁸ Charles Pattie and Ron Johnston, "Voter turnout at the british general election of 1992: rational choice, social standing or political efficacy?," *European Journal of Political Research* 33, no. 2 (1998): doi:10.1111/1475-6765.00383.

¹⁹ Stéfanie André, Caroline Dewilde, and Ruud Luijkx, "The tenure gap in electoral participation: instrumental motivation or selection bias? Comparing homeowners and tenants across four housing regimes," *International Journal of Comparative Sociology* 58, no. 3 (2017): doi:10.1177/0020715217712779.

3. Theory and Hypothesis

While the homevoter hypothesis offers a strong foundation for my analysis, I would be remised to not weigh the possibility that homeownership may simply act as a proxy variable for a myriad of socio-economic and demographic characteristics. A 2020 study²⁰ on the determinants of homeownership across a variety of European countries found that a person's gender, education and income all influence one's odds of owning a home. A similar study from 2009²¹ found that age also influenced homeownership, with older individuals having increased odds of homeownership in most countries. Housing tenure's strong interplay with economic and demographic characteristics also means that political participation by housing type may be explained by the resource model. Posited in 1995 by Brady, Verba and, Schlozman, the resource model argues that an individual's interest in politics cannot fully explain whether someone participates or not. Instead, time, money and civic skills, all of which are impacted by one's socio-economic and demographic status, play a role in whether an individual participates.²² This doesn't necessarily mean that the resource model negates the validity of the homevoter hypothesis. Rather, it speaks to the tenuous relationship between housing and socio-economic demographics, and the need to consider the value of housing tenure and a variety of demographic control variables in my analysis.

In approaching my research question, I wanted to utilize both survey and administrative data. For my administrative analysis, I selected 3 metropolitan cities in Europe where social housing units account for at least 15% of the housing market. These cities are Copenhagen, Helsinki, and London. While it was enticing to directly compare the three cities, given their unique characteristics and differences, I have opted to formulate a hypothesis for each city. Copenhagen was chosen for its diverse housing market and low eligibility requirements for social housing, and for largely fitting the characteristics of a unitary rental market. Because of

²⁰ Maria T. Garcia and Rafael Figueira, "Determinants of homeownership in Europe – an empirical analysis based on SHARE," *International Journal of Housing Markets and Analysis* 14, no. 1 (2020): doi:10.1108/ijhma-12-2019-0120.

²¹ Monika Bazyl, "Factors Influencing Tenure Choice in European Countries," *SOEPpapers*, no. 186 (May 2009): <https://ssrn.com/abstract=1405242>.

²² Henry E. Brady, Sidney Verba, and Kay L. Schlozman, "Beyond SES: A Resource Model of Political Participation," *American Political Science Review* 89, no. 2 (1995): doi:10.2307/2082425.

this, I expect the difference in the impact of social housing and private rentals on voting will likely be minimal. And while turnout may be similar between renter types, they will still lag turnout rates for homeowners. Articulated formally:

H1: Social housing residents in Copenhagen participate in municipal elections at similar rates to private renters but fail to vote at the same rate as private homeowners.

Helsinki was picked for its long support for subsidized housing although predominately earmarked for low-income households. Meanwhile, London was selected for its sheer size, and the city's presence in previous academic work on the topic. In comparison to Copenhagen, Helsinki²³ and London are better regarded as market-based homeownership regimes. This regime is characterized by the heavy emphasis on homeownership and strong social stigma against other forms of housing. These regimes also generally limit the eligibility for social housing to low-income groups, whereas homeowners tend to be wealthier and better education. For that reason, I'd argue that the general state of their housing markets will lead to lower turnout among social housing renters than both private renters and homeowners. In other words:

H2: Helsinki social housing residents participate less often in local elections than both private renters and homeowners.

H3: London social housing residents participate in local elections at a lower rate than private renter and homeowners.

The second part of my analysis focuses on individual social survey data collected on housing type and political engagement. I ended up using data from the EU's European Quality of Life Survey to look at the other forms of political engagement beyond turnout. Occurring more frequently, some political activities require more physical and mental investment than voting in local elections. This can influence who participates. Contacting a politician and attending a protest can be more time intensive, something high income individuals have been seen to have less of.²⁴ At the same time, as mentioned above, researchers have historically observed a relationship between higher educational attainment and political participation.²⁵ Given the concentration of both higher incomes and higher education qualifications among homeowners in

²³ Hanna Kettunen and Hannu Ruonavaara, "Discoursing deregulation: the case of the Finnish rental housing market," *International Journal of Housing Policy* 15, no. 2 (2015)

²⁴ Michael Jäckel and Sabine Wollscheid, "Time is Money and Money Needs Time? A Secondary Analysis of Time-Budget Data in Germany," *Journal of Leisure Research* 39, no. 1 (2007): doi:10.1080/00222216.2007.11950099.

²⁵ Aina Gallego, "Unequal Political Participation in Europe," *International Journal of Sociology* 37, no. 4 (2007): <http://www.jstor.org/stable/20628309>.

Europe, I predict that social housing residents will be just as likely as both private renters and homeowners to be politically engaged in local politics. Formally put, my hypothesis is:

H4: Social housing residents will engage in the local political activities at similar frequencies as their private renter and homeowner counterparts.

4. Data and Methods

To test my city hypotheses, I use a combination of aggregate housing, voter and other administrative data from Copenhagen, Helsinki and London. Given the unique characteristics of each city, I have catalogued them separately, including their dependent (voter turnout), independent (housing tenure), and control variables. Table 1 provides general characteristics for each city. For each city, I also catalogue which categorical variables form a baseline for comparison against their other categorical levels.

Table 1: General Characteristics of Case Study Cities

City	2024 Population	Election data years	Housing/control data years	Geographic level (N)	Average size of geographic unit
Copenhagen	662,000	2013 2017 2021	2013 2017 2021	Voting Area (53)	11,476
Helsinki	674,000	2012 2017 2021	2012 2017 2021	Boroughs (53)	10,019
London	8,799,000	2012 2016 2021	2011 2021	Electoral Wards (625/680)	13,009

4.1.1 Copenhagen

Denmark housing stock is generally divided into four categories: private homes, private rentals, social housing (known as ‘non-profit housing’) and cooperative housing.²⁶ Social housing in Denmark is mostly managed by independently run non-profit housing associations who received government funding, who in turn provide below market cost rentals to residents. In addition, a small portion of social housing is directly owned and operated by the government. Cooperative

²⁶ Manuel Ahedo, Joris Hoekstra, and Aitziber Etxezarreta, "Socially oriented cooperative housing as alternative to housing speculation. Public policies and societal dynamics in Denmark, the Netherlands and Spain," *Review of Social Economy* 81, no. 4 (2021): doi:10.1080/00346764.2021.1917646.

housing, meanwhile, refers to a system in which individuals either buy or rent a share of a cooperative building which in turn gives them exclusive rights to their given homes. These homes require individuals to participate in shared governance of the building. In sum, my sample consists of four housing tenure categories which act as my independent variables: Homeowners, Renters, Cooperative Housing, and Social Housing. Household counts for each category was collected at the voting area level from the City of Copenhagen's Statsbank²⁷. Each value was then divided by the area's overall households to produce a decimal value. Following the logic of the homevoter hypothesis, homeowners, and the cooperative housing levels (who exhibit many of the same characteristics of homeowners²⁸) form a baseline for comparison for housing tenure in my regression analysis.

My dependent variable in Copenhagen is voter turnout at the voting area level for local elections in 2013, 2017, and 2021. This data was collected from the Danish Election Database.²⁹ As turnout is observed in the aggregate, its treated as a discrete variable (rather than a dichotomous variable for individuals). While Copenhagen can be geographically defined in multiple ways, I opted to restrict my analysis to voting areas within the city limits due to data availability.

Finally, the Copenhagen sample includes several common control variables used in voting analysis. These variables are gender (coded as a binary male variable), age (categorical), average income (continuous), and educational attainment (categorical), also collected from Copenhagen's Statsbank. Historically, these four variables have been associated with participation. In particular, older, educated, wealthy men are consistently reported to participate at higher rates than other demographic groups.³⁰ The age variable consists of 3 groups (0-17, 18-24, 45+), and counts are converted into decimal percentages. For comparison, the 45+ age group is used a baseline as previous Danish election research shows this group turns out at consistently

²⁷ "Københavns Kommunes Statistikbank," Københavns Kommunes, accessed May 8, 2024, <https://kk.statistikbank.dk/KKBEF1>.

²⁸ Henrik G. Larsen, "Three phases of Danish cohousing: tenure and the development of an alternative housing form," *Housing Studies* 34, no. 8 (2019): doi:10.1080/02673037.2019.1569599.

²⁹ "Danish Election Database," Den Danske Valgdatabase, accessed May 8, 2024, <https://valgdatabase.dst.dk/?lang=en>.

³⁰ Marc Hooghe and Ellen Quintelier, "Political Participation in Europe," in *Society and Democracy in Europe* (London: Routledge, 2013), 231, <https://doi.org/10.4324/9780203079812>.

higher rates than other ages.³¹ Average income is the yearly average among all individuals in each voting area reported in Danish Crowns (DKK). For easier interpretation, each average income is divided by 1000, shifting the decimal place over 3 times. Finally, education is reported in this sample in 4 groups (primary school or lower, secondary school or lower, vocational degree or lower and, university degree or lower). For this variable, vocational and university degrees acts as the baseline as these groups tend to vote more frequently than the other two education groups.³² Unfortunately, Copenhagen only provides education attainment counts at a higher neighborhood level, not voting areas. To get this data to the appropriate level, I utilized the python library Tobler³³ to perform an areal dasymetric interpolation of education attainment. Areal interpolation is a process that can reaggregate data from one geographic dimension to another with the help of spatial data. Dasymetric interpolation is essentially the same process but with an additional mask area used to help the software correctly account for what spatial areas aren't populated (i.e. Parks, Forests, etc.). In addition to education data, I also utilized Urban Atlas³⁴ and CLC+ Backbone³⁵ raster maps from the Copernicus Land Monitoring Service. The last control variable included in my analysis is the total population for each voting areas. Population has been added to all three-city samples to account for smaller and larger sized districts. Table 2 displays the general summary statistics for each of the variables for the year 2013 (summary statistics for the other two time periods can be found in the appendix).

³¹ Kasper Møller Hansen, "Valgdeltagelsen ved kommunal- og regionalvalget 2021," Center for Valg og Partier (CVAP), January 2022, 15, https://static-curis.ku.dk/portal/files/319409933/KV21_kortl_gning_af_valgdeltagelse.pdf.

³² IBID, 17

³³ "Tobler python library," PySAL, accessed May 8, 2024, <https://pysal.org/tobler/index.html>.

³⁴ "Urban Atlas Building Height 2012 (raster 10 M), Europe," Copernicus Land Monitoring Service, accessed May 8, 2024, <https://doi.org/10.2909/42690e05-cdf4-43fc-8020-33e130f62023>.

³⁵ "CLC+Backbone 2018 (raster 10 M), Europe, 3-yearly," Copernicus Land Monitoring Service, accessed May 8, 2024, <https://doi.org/10.2909/cd534ebf-f553-42f0-9ac1-62c1dc36d32c>.

Table 2: Descriptive Statistics of Copenhagen (2013) (N=53)

	Mean	SD	Min	25%	75%	Max
Turnout	0.61	0.05	0.41	0.58	0.65	0.70
Households	5,627	1,973	2,490	4,254	7,220	10,499
Area Population	10,740	3,485	4,345	8,555	13,025	18,851
% Homeowner	0.20	0.13	0.00	0.10	0.26	0.59
% Cooperative	0.31	0.16	0.00	0.22	0.38	0.71
% Renter	0.25	0.11	0.00	0.17	0.34	0.49
% Social Housing	0.23	0.18	0.00	0.11	0.34	1.00
Male	0.49	0.01	0.46	0.48	0.50	0.54
Age (%)						
18-24	0.54	0.11	0.14	0.47	0.62	0.72
25-44	0.47	0.08	0.34	0.41	0.53	0.66
45+	0.37	0.09	0.21	0.29	0.44	0.54
Estimated Education (%)						
Primary	0.21	0.06	0.11	0.16	0.23	0.43
Secondary	0.17	0.03	0.12	0.15	0.19	0.23
Vocational	0.37	0.05	0.28	0.33	0.41	0.45
University	0.25	0.08	0.11	0.20	0.32	0.38
Average Income (DKK)	290,342	50,129	187,645	256,222	313,086	441,879

4.1.2 Helsinki

Finland's housing market can be roughly divided into three distinct sectors: homeowners, private market rentals, and social housing managed by the Housing Finance and Development Centre of Finland (ARA). ARA oversees and directs all federal money to local municipalities who provide residents with subsidized rentals and part-ownership.³⁶ ARA also plays an important role in Finland's Housing First strategy of alleviating homelessness in the country. Housing First programs work by providing unconditional subsidized housing to unhoused peoples.³⁷ In Helsinki, this program means that ARA homes are first ear marked for Housing First candidates

³⁶ "ARA housing stock," Housing Finance and Development Centre of Finland, accessed May 10, 2024, https://www.ara.fi/en-US/ARA_housing_stock.

³⁷ "Finland," Housing First Europe, last modified February 26, 2024, <https://housingfirsteurope.eu/country/finland/>.

before being available to the wider Helsinki community. Housing data in this sample, categorized as homeowners, renters and social housing, was collected from the Helsinki Region statistical database³⁸ by number of households. Then, like the Copenhagen data, is converted to decimals. It's worth noting my sample of Helsinki initially started with all 60 boroughs officially recognized by the city, however, 7 were either below my threshold of 100 households or lacked reliable data for each election period. And like with Copenhagen's housing variables, homeowners are used as a baseline for comparison.

My dependent variable for Helsinki is voter turnout in municipal elections in 2012, 2017 and 2021, calculated from votes cast and eligible voter lists. This data, also collected from the Helsinki statistical database, is recorded at the electoral district level which features different boundaries from our sample's 53 boroughs. Thankfully, I once again used areal interpolation, Tobler and Copernicus maps to estimate the voter turnout for each borough.

Moving on to my control variables, they are largely similar to Copenhagen's variables. Again, sex is coded as binary male variable. Educational achievement is a categorical variable with options for primary school, secondary school, and university degree. In my analysis, the university degree category is used as a baseline given previous research showing far higher turnout among this group.³⁹ Age is divided into 3 major groups, 18-24, 25-44, and 45+. Here, 45+ is used as baseline for comparison against the younger age groups.⁴⁰ For both categorical variables totals for each category are divided by the total population to produce decimal dummy values. Finally, Income is reported as the average yearly income for each borough (and again divided by 1000 for easier analysis). And as with Copenhagen, borough population is included to measure the impact of smaller boroughs. Listed in Table 3 are more detailed descriptive statistics of each variable for 2012 (other years shown in appendix).

³⁸ "Helsingin seudun avoimet tilastotietokannat," City of Helsinki and Statistics Finland, accessed May 1, 2024, <https://stat.hel.fi/pxweb/fi/Aluesarjat/>.

³⁹ Hanna Wass and Theodora Helimäki, "Ääntä äänestämisesestä," Finnish National Election Study Consortium, last modified March 6, 2023, <https://www.vaalitutkimus.fi/aanta-aanemistesta/>.

⁴⁰ IBID, Wass and Helimäki

Table 3: Descriptive Statistics of Helsinki (2012) (N=53)

	Mean	SD	Min	25%	75%	Max
Turnout	0.62	0.06	0.46	0.57	0.67	0.73
District Population	9519	8,165	134	3,197	13,711	31,094
Households	5871	5060	126	1891	8674	18594
% Homeowner	0.51	0.18	0.00	0.44	0.54	0.97
% Renter	0.29	0.19	0.02	0.15	0.42	0.95
% Social Housing	0.17	0.17	0.00	0.01	0.30	0.53
Male	0.47	0.03	0.40	0.45	0.48	0.55
Age (%)						
18-24	0.15	0.03	0.07	0.13	0.16	0.29
25-44	0.38	0.09	0.22	0.32	0.44	0.64
45+	0.49	0.10	0.25	0.42	0.56	0.70
Education (%)						
Elementary	0.36	0.15	0.15	0.24	0.45	0.78
Secondary	0.44	0.09	0.26	0.36	0.52	0.64
University	0.56	0.09	0.36	0.48	0.64	0.74
Average Income (EUR)	41,020.40	15,794.07	24,401	31,763	45,796	112,037

4.1.3 London

The United Kingdom's housing market is relatively straightforward compared to the previous two examples. The three main categories are owner-occupied, private rentals and social housing (known in the UK as council housing). Social housing historically was owned and operated by local municipalities but is now also provided by local non-profit organizations. Individuals must meet specific income and job requirements to be eligible for social housing.⁴¹ This means that council housing almost exclusively consists of low-income households. Housing tenure data for this analysis is sourced from the 2011 and 2021 UK censuses and was collected from the Office of National Statistics.⁴² For unstated reasons, 2021 UK census records are reported for 2022 electoral ward boundaries, not 2021 boundaries. Again, housing tenure is categorized in three

⁴¹ "About Social Housing," National Housing Federation, accessed May 7, 2024, <https://www.housing.org.uk/about-housing-associations/about-social-housing/>.

⁴² "Census of Population," Nomis - Official Census and Labour Market Statistics, accessed May 1, 2024, <https://www.nomisweb.co.uk/sources/census>.

general groups: homeowners, renters and social housing. Like the previous two city samples, the homeowner category operates as the baseline variable. All data is at the ward level, which are each within one of 32 London boroughs plus the City of London. In the 2011 Census, London was divided into 625 wards. In the 2021 Census, London was divided into 680 wards.

My dependent variable is voter turnout from local London elections in 2012, 2016, and 2021. This data is sourced at the ward level from the official London Elects website.⁴³ Without access to housing and control data for 2016, 2016 results are paired with data from the 2011 UK Census. Turnout is also reported for postal (or mail in) voting but is only tallied at the higher borough level. To account for mail in ballots, I calculated turnout for each borough both with and without mail in ballots. I then found the difference in turnout and added this difference to each borough ward. To do this, I assume geographic uniformity in mail in voting for each borough. Additionally, for the 2016 and 2021 election periods, I used the aforementioned python areal interpolation method to fit election results to the 2011 and 2021 census wards respectively. For the 2016 election, this meant going from 630 wards to 625. For the 2021 election, this meant going from 633 wards to 680.

London's control variables largely resemble the variables from the other two samples. Gender, age, and education all are sourced from the 2011 and 2021 UK censuses. Gender is classified as a binary male variable. Age is broken down into dummy categorical groups of 18-24, 25-44 and, 45+. Educational attainment is also a dummy categorical variable with 4 basic groups: none (no formal education), Compulsory (completion of mandatory secondary education), University (tertiary degree or higher), and other (any other qualifications, including qualifications completed outside of the UK). Similar to the previous two samples, the 45+ age group and university and other education groups, which tend to vote more frequently in UK elections⁴⁴, are used as baselines for their respective categories. Income data was collected from Office of National Statistics "income estimates for small areas, England and Wales" database.⁴⁵ This data, measured in British pounds, is provided at the Middle layer Super Output Area

⁴³ "Election Results," London Elects | Greater London Authority, accessed April 10, 2024, <https://www.londonelects.org.uk/im-voter/election-results>.

⁴⁴ Gideon Skinner and Roger Mortimore, "How Britain voted in the 2017 election," IPSOS, last modified June 20, 2017, <https://www.ipsos.com/en-uk/how-britain-voted-2017-election>.

⁴⁵ "Income Estimates for Small Areas, England and Wales," Office for National Statistics, last modified October 11, 2023, <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/smallareaincomeestimatesformiddlelayersuperoutputareasenglandandwales>.

(MSOA) geographic level, once again requiring I use areal interpolation to get income estimates at the ward level. In my analysis, these income estimates are also divided by 1000. The last independent variable here is ward population which is used to account for the different ward sizes. Table 4 below features descriptive statistics for both 2012 and 2016 election periods.

Table 4: Descriptive Statistics of London (2012 and 2016) (N=625)

	Mean	SD	Min	25%	75%	Max
2012 Turnout	0.39	0.05	0.24	0.35	0.42	0.58
2016 Turnout	0.46	0.06	0.32	0.42	0.50	0.67
Ward Population	13,078	2,439	5,110	11,197	14,862	23,084
Households	5,227	1,031	2,082	4,450	5,954	10,821
% Homeowner	0.51	0.18	0.14	0.35	0.65	0.91
% Social Housing	0.23	0.15	0.01	0.11	0.34	0.68
% Renter	0.24	0.10	0.05	0.17	0.32	0.56
Male	0.49	0.02	0.45	0.48	0.50	0.57
Age (%)						
<i>18-24</i>	0.13	0.04	0.06	0.10	0.14	0.36
<i>25-44</i>	0.45	0.08	0.26	0.40	0.51	0.65
<i>45+</i>	0.42	0.10	0.20	0.35	0.49	0.65
Education (%)						
<i>None</i>	0.18	0.06	0.04	0.14	0.22	0.37
<i>Compulsory</i>	0.23	0.07	0.08	0.17	0.29	0.40
<i>University</i>	0.49	0.13	0.22	0.39	0.58	0.77
<i>Other</i>	0.10	0.04	0.04	0.07	0.12	0.22
Estimated Income (GPB)	46,933.16	9,434.19	29,447	39,884	52,446	78,904

4.1.4 Aggregate Data Methodology

Ideally, I would have liked to directly match individual voting records to individual register data on housing type. But without access to said data, I have opted to compare voter turnout and housing type at the subdistrict level for each city. Thankfully, I am far from the first to take this

analytical approach. Recent electoral studies from Brännlund and Szulkin⁴⁶, Larsen et al.⁴⁷, and Mansley and Demšar⁴⁸ all use similar technical strategies. However, the use of aggregate data does present potential issues. Most notably, working with aggregate data can cause issues of ecological inference. An ecological inference fallacy can occur when researchers make inferences of individual behavior using aggregate data.⁴⁹ One common way to address ecological inference is by simply avoiding inferences of individuals. For my analysis, I plan to look at broad group trends within each sample, but any inferences I make occur at the group level.

To test my hypotheses for each city sample, I utilize a combination of descriptive and regression methods. I also have confirmed that my samples meet the necessary assumption for linear regressions.

4.2.1 Survey Data

The EU and Eurofound European Quality of Life Survey asks respondent questions about numerous topics like subjective wellbeing, health, and social conditions across the continent⁵⁰ Importantly, the survey asks both questions around housing type and political participation. For my thesis, I have collected data from 2007, 2012 and 2016 edition of the survey. While the survey includes data from 36 countries, I limit my sample to responses from within the EU. This is because the 28 EU nations are the only ones present in each edition of the survey.

My dependent variable for my study is a composite variable of three survey questions about an individual's political activity over the last year. The questions were whether they had: 1) attended a political party or action group meeting, 2) attended a protest or demonstration, 3) contacted a politician or public official. Individuals either responded yes, no, don't know or refuse. After a preliminary inspection, I recoded the few don't know/refuse responses to NA and

⁴⁶ Anton Brännlund and Jan Szulkin, "How does a growing wealth gap affect voting? – Evidence from Sweden," *Electoral Studies* 85 (2023): doi:10.1016/j.electstud.2023.102647.

⁴⁷ Martin V. Larsen et al., "When Do Citizens Respond Politically to the Local Economy? Evidence from Registry Data on Local Housing Markets," *American Political Science Review* 113, no. 2 (2019): doi:10.1017/s0003055419000029.

⁴⁸ Ewan Mansley and Urška Demšar, "Space matters: Geographic variability of electoral turnout determinants in the 2012 London mayoral election," *Electoral Studies* 40 (2015): doi:10.1016/j.electstud.2015.10.003

⁴⁹ Gary King, *A Solution to the Ecological Inference Problem: Reconstructing Individual Behavior from Aggregate Data* (Princeton: Princeton University Press, 2013)

⁵⁰ "European Quality of Life Surveys (EQLS)," European Foundation for the Improvement of Living and Working Conditions, accessed March 4, 2024, <https://www.eurofound.europa.eu/en/surveys/european-quality-life-surveys-eqls>.

made each questions a binary variable with 0 indicating no and 1 indicating yes. I then created a composite variable titled “Political Activity” with decimal values between 0 and 1.

Table 5: Survey Descriptive Statistics (Categorical)

	Total (1) N (%)	Urban (2) N (%)	Social (3) N (%)	Social + Urban (4) N (%)
Housing Type				
<i>Homeowner</i>	72,574 (76.6%)	32,343 (69.5%)	23,710 (70.2%)	10,461 (61.5%)
<i>Renter</i>	13,161 (13.9%)	8,257 (17.7%)	4,758 (14.1%)	2,999 (17.6%)
<i>Social Housing</i>	8,978 (9.5%)	5,944 (12.8%)	5,315 (15.7%)	3,546 (20.8%)
Age Group				
<i>18-24</i>	7,641 (7.1%)	3,815 (8.2%)	2,096 (6.2%)	1,320 (7.8%)
<i>25-34</i>	13,788 (13.6%)	7,045 (15.1%)	4,643 (13.7%)	2,702 (15.9%)
<i>35-49</i>	25,792 (26.3%)	12,237 (26.3%)	9,140 (27.1%)	4,644 (27.3%)
<i>50-64</i>	26,378 (27.1%)	12,120 (26.0%)	9,166 (27.1%)	4,299 (25.3%)
<i>65+</i>	25,353 (25.8%)	11,327 (24.3%)	8,738(25.9%)	4,041 (23.8%)
Education				
<i>Basic</i>	31,031 (31.3%)	12,145 (26.1%)	8,864 (26.2%)	3,955 (23.3%)
<i>Secondary</i>	44,036 (44.5%)	20,831 (44.8%)	14616 (43.3%)	7,065 (41.5%)
<i>Tertiary</i>	22,873 (23.3%)	13,086 (28.1%)	10,053 (29.8%)	5,844 (34.4%)

The independent variable for this sample is housing tenure. Housing Tenure is cataloged in this survey in 5 major groups: owned (without mortgage), owned (with mortgage), rented (from social, municipal, or non-profit housing), rented (from a private landlord), and other. I refined these options down to 3 categories for my sample: homeowner (with and without mortgage), renter, and social housing. While homeowners account for over 70% of responses, that is largely in line with EU statistics for homeownership⁵¹ (although our sample does appear to slightly suppress private renter representation).

In addition to my dependent and independent variables, I also feature several control variables collected from the survey. These variables are gender, age, education, and income. Gender is coded as a binary variable with 0 being female and 1 being male. Age is a categorical variable broken down into 5 groups: 18-24, 25-34, 35-49, 50-64, and 65+. Education is a categorical variable constructed by Eurofound split into 3 categories: basic education, secondary education,

⁵¹ "Owning or Renting- Housing in Europe," Eurostat, last modified 2022, <https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-1a.html>.

and tertiary education. The variable income is another Eurofound constructed variable. The continuous variable measures an equivalized monthly income for each respondent in Purchasing Power Parity (PPP) Euros. PPP is a method of standardizing intercountry price levels, allowing for better economic comparison between different nations.⁵² Like with my aggregate samples, I divide each income response by 1000 for analysis purposes. One final variable not used in the same fashion as the other controls but still important for modeling is urbanization. Urbanization broadly categorizes each respondent living in one of 4 locations: the open countryside, a village/small town, a medium to large town, and a city or city suburb. Table 5 and 6 list in greater detail the descriptive statistic of my categorical and numeric variables.

Table 6: Survey Descriptive Statistics (Numeric)

	Total (1)		Urban (2)		Social (3)		Social + Urban (4)	
	N	Mean(SD)	N	Mean(SD)	N	Mean(SD)	N	Mean(SD)
Political Activity	93,829	0.08 (0.19)	46,101	0.08 (0.19)	33,496	0.10 (0.21)	16,862	0.10 (0.21)
<i>Attend Protest</i>	94,042	0.07 (0.25)	46,218	0.08 (0.26)	33,576	0.09 (0.29)	16,901	0.10 (0.30)
<i>Contact Politician</i>	94,038	0.08 (0.27)	46,207	0.08 (0.27)	33,582	0.11 (0.31)	16,905	0.10 (0.30)
<i>Attend Political Meeting</i>	94,066	0.08 (0.28)	46,238	0.08 (0.28)	33,599	0.10 (0.31)	16,920	0.11 (0.31)
Male	94,713	0.57 (0.49)	46,544	0.58 (0.49)	33,783	0.56 (0.50)	17,006	0.56 (0.50)
Income (PPP Euros)	71,316	1,237 (1,711)	35,301	1,279 (1,713)	26,249	1,498 (2,018)	13,141	1,536 (1,942)

4.2.2 Survey Data Methodology

Using this data, I run four multivariate ordinary least squares regressions to tease out the relationship between housing type and participation in different political activities. Model 1

⁵² "Information on Data - Purchasing Power Parities," Eurostat, accessed May 9, 2024, <https://ec.europa.eu/eurostat/web/purchasing-power-parities/information-data>.

includes a basic linear model including all my dependent, independent and control variables. This model has a sample size of around 70,000 responses. Model 2 filters all my cases using the urbanization variable to only include responses from urban areas. I do this to try and better concentrate my analysis to areas where social housing is more common. Across the globe, social housing is largely concentrated in urban areas, and homeownership rates remain the highest in rural communities.⁵³ While the 4 geographic options aren't clearly defined in the study, I define urban as both the 'medium to large town' category, and 'city or city suburb'. This shrinks my sample size to around 35,000 responses. Model 3 isolates the ten countries where social housing is most common. For this, I take advantage of Housing Europe's 'The State of Housing in Europe' reports as my guide.⁵⁴ Each year, these reports measure the relative levels of social housing in major European countries. This allows me to select cases from the following countries: Austria, Czech Republic, Denmark, Finland, France, Ireland, the Netherlands, Sweden, the United Kingdom and Norway. Adding this filter gives Model 3 a sample of nearly 26,000 responses. Model 4 is a combination of both Model 2 and 3. This means that responses featured in the model exclusively come from urban areas within the top ten social housing countries in Europe. The final model features a sample of just over 13,000 responses.

Although survey data doesn't face the same issues with ecological inference as aggregate data, it does require that researchers address the issue of response bias. Response bias refers to situations where respondents either exaggerate or lie during the survey process. This occurs frequently in political and post elections survey, with what individuals say and who generally participates.⁵⁵ Thankfully, I believe the Eurofound quality of life survey is less likely to be prone to these issues. First, the survey is not marketed as political but as a living conditions and social survey. This framing likely prevents responses to only include individuals who are more invested or engaged in politics. Second, while it could be desirable for individuals to lie about their political activity, gauging from the responses in our sample, the overwhelming majority were perfectly willing to be honest about their actions.

⁵³ Rolf Pendall et al., *The Future of Rural Housing*, (Urban Institute, 2016), <https://www.urban.org/research/publication/future-rural-housing>.

⁵⁴ Housing Europe, "The State of the Housing in Europe 2023"

⁵⁵ Pascal Sciarini and Andreas C. Goldberg, "Turnout Bias in Postelection Surveys: Political Involvement, Survey Participation, and Vote Overreporting," *Journal of Survey Statistics and Methodology* 4, no. 1 (2016): doi:10.1093/jssam/smv039.

The final component of this survey analysis relates to weighting. Eurofound includes 5 different weighting variables researchers can use in their analysis. For this thesis, I have opted to utilize the ‘WCalib_crossnational_EU28 weight’ variable. This weight allows for both inter-country comparison of responses and more general inferences about the entire EU population.

5. Aggregate City Results

5.1 Copenhagen

Overall, Copenhagen observes relatively high turnout rates for each election, with an average turnout among all voting areas of 61.1%. Turnout, however, can range between 33% on the low end to 72% on the high end. Majority social housing voting areas averaged turnout around 60%, whereas homeowner majority voting areas saw average turnout around 68%. Renter voting areas averaged around 56%.

Table 7 displays the results from an ordinary least squares linear regression where voter turnout is the dependent variable. Looking first at model fit, R Squared values for each period are very high, suggesting our sample variables can explain over 80% of turnout variance. Moving to the independent variables, the intercept stands out the most. The intercept here represents Copenhagen districts with greater proportions of homeowners or cooperative tenants, high levels of university educated, older and female individuals, and the average income and population is zero. While its estimate isn’t particularly meaningful, the intercept’s significance at a p value < .005 for each election period suggests that these districts produce higher turnout rates than districts with younger, less educated, male renting (private and public) populations. Both housing tenure variable estimates are negative for each election in our model, but only % social housing registers significance. This suggests that districts with greater numbers of social housing tenants witness lower voter turnout compared to areas with high levels of cooperative housing or homeowners. Meanwhile, renter dominated districts aren’t easily distinguished from homeowner/cooperative housing districts by turnout rates.

Additionally, some but not all of the control variables registered significant estimates. Most clearly, our regressions suggest that districts with greater proportions of male residents consistently vote at lower rates than more female resident centric neighborhoods across every time period. In contrast, the average age of a district alone doesn’t appear to greatly influence voter turnout, with only the 18-24 age group registering a statistically significant estimate with a

p value < .05 in 2017. The education variable does present more evidence of influencing turnout, with statistically significant negative estimates for primary and secondary education in 2013, and significance for primary education in 2021. This gives some credence that highly educated districts vote more in local elections than areas dominated by individuals with fewer credentials. Finally, borough population appears to play small, positive role on voter turnout.

Table 7: Linear Regression of Voter Turnout in Local Copenhagen Elections

	2013	2017	2021
(Intercept)	1.500 (0.177)***	1.671 (0.186)***	1.881 (0.232)***
Population	0.000 (0.000)	0.000 (0.000)***	0.000 (0.000)***
% Social Housing	-0.123 (0.040)***	-0.209 (0.048)***	-0.270 (0.058)***
% Renters	-0.086 (0.056)	-0.026 (0.073)	-0.073 (0.078)
Male	-1.027 (0.324)***	-1.481 (0.313)***	-1.745 (0.434)***
Age (%)			
18-24	-0.053 (0.068)	-0.689 (0.286)*	-0.277 (0.289)
25-44	-0.043 (0.092)	-0.016 (0.088)	-0.138 (0.108)
Estimated Education (%)			
Primary	-0.620 (0.191)***	-0.313 (0.235)	-0.605 (0.280)*
Secondary	-0.484 (0.282)^	-0.107 (0.430)	-0.207 (0.280)
Income (DKK) + 1000	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Observations	53	53	53
R2	0.801	0.853	0.852
RMSE	0.02	0.02	0.03

Note: ^ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.005

Put together, given the lack of significance for our renting variable, we must reject our H1 hypothesis. Still, the results do indicate social housing has a negative impact on voting turnout compared to homeownership and cooperative housing in local Copenhagen elections. Even more, private rentals appear to be largely indistinguishable from our baseline housing categories when it comes to turnout. Finally, the little evidence that our control variables (beyond gender and possibly education) noticeably influence turnout bolsters the results of our housing

predictors and pushes back on the notion that housing tenure is a mere proxy for other socio-economic characteristics.

5.2 Helsinki

Helsinki is also home to an enthusiastic voting electorate. Across the 2012, 2017 and 2021 municipal elections, Helsinki's municipal elections averaged a turnout of nearly 65%. However, the range of borough turnout varied between 45% and 80%. In social housing majority borough, turnout averaged around 64%, lower than both homeowners (67.2%) and renters (67.4%). But looking at individual boroughs, homeowner majority regions account for 7 of the 10 highest voter turnouts when all three election periods are combined.

Table 8 : Linear Regression of Voter Turnout in Local Helsinki Elections

	2012	2017	2021
(Intercept)	1.054 (0.085)***	1.010 (0.080)***	1.187 (0.113)***
Population	0.000 (0.000)^	0.000 (0.000)*	0.000 (0.000)
% Social Housing	0.100 (0.045)*	0.080 (0.044)^	0.033 (0.072)
% Renters	0.052 (0.030)^	-0.042 (0.033)	0.001 (0.050)
Male	0.201 (0.173)	0.213 (0.181)	-0.222 (0.253)
Age (%)			
18-24	-0.283 (0.125)*	-0.555 (0.151)***	-0.298 (0.288)
25-44	-0.346 (0.116)***	-0.266 (0.084)***	-0.297 (0.288)*
Education (%)			
Elementary	-0.258 (0.098)**	-0.502 (0.112)***	-0.481 (0.178)**
Secondary	-0.494 (0.142)***	-0.204 (0.159)	-0.293 (0.228)
Income (EUR) + 1000	-0.002 (0.000)***	-0.001 (0.000)***	-0.001 (0.000)^
Observations	53	53	53
R2	0.852	0.890	0.796
RMSE	0.02	0.02	0.04
Note : ^ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.005			

Table 8 presents the results of the OLS linear regression of voter turnout for each Helsinki election period. First, R squared values between .796 and .890 signifies that the variables included in the model account for the overwhelming majority of turnout variance. Once again, the intercept represents boroughs with greater proportions of homeowners, highly educated and older female individuals, with an income and population of zero. Here, the intercept's estimate is significant but not useful beyond telling us that high proportions of homeowners, highly educated individuals, women and older populations likely increase a borough's voter turnout. Shifting to the main predictors, the housing tenure variables describe a slightly different story. In fact, with positive significant estimates for social housing in 2012 and 2017, our results hint that principally social housing boroughs turn out at the ballot box at higher rates than homeowner boroughs. And while less convincing, mainly private renter neighborhoods also report greater turnout rates than homeowner areas, at least for 2012.

Moving to the control variables, both the estimates for education and age indicate that younger and less educated areas vote less frequently than their areas dominated by their baseline counterparts. More interestingly, the divided income variable presents negative estimates for each election period with significance at a p value $<.005$. This implies that as the average income of a given borough increases, turnout in that area goes down. The last significant control variable of borough population points to higher turnout rates for boroughs as their population increases.

In total, the results from the regressions in Table 10 give little evidence to support the H2 hypothesis. Instead, they present a city where social housing tenure produces boroughs with greatest voter participation in local elections, followed by private renters and finally homeowners. At first pass, given Helsinki exhibiting many of the characteristics of a market-based homeownership regime, these results are somewhat surprising. It's possible that housing tenure isn't as influential on one's decision making than it was in Copenhagen. But this idea isn't necessarily backed by significant estimates for the education, age, and income control variables across multiple election periods. Alternatively, seeing that social housing and private renting traditionally don't house more educated, older and wealthier individuals in Finland, the contrasting results between housing and demographic variables point to a housing system where tenure choice may be more independent of one's socio-economic status than it is globally. And housing type and political activity are largely independent of one another.

5.3 London

London's local election turnout hovered around 40% in the 2012, 2016 and 2021 elections. But like what has been seen in Copenhagen and Helsinki, turnout can vary quite dramatically, from 19% on the low end to 62% on the upper end. And of the ten highest turnouts recorded, all were recorded in homeowner majority wards. That dominance speaks to the average turnout by majority ward. Majority homeowner wards averaged nearly 45%, social housing wards hovered around 40%, and renter wards averaged just 36% (non-majoritarian wards averaged around 40% turnout).

Table 9 presents the OLS linear regression for explaining turnout in recent local London elections. While lower than both Copenhagen and Helsinki, the R squared values for London still suggests a relatively strong capture of voter turnout variance. In these regressions, the intercept represents wards with a large proportion of homeowners, older female individuals with a university degree, and an average income and population of zero. For the third time, this intercept is mostly nonsensical but its significance at p value $< .005$ for all 3 elections points to positive influence of homeownership, higher education, age and the female gender on ward turnout. Of all cities, London provides the strongest evidence of housing tenure's influence on voter turnout. Across each election, both % social housing and % renters record p values $< .005$. Their negative estimates also suggest that greater proportions of these groups in a given ward compared to homeowners results in lower voter turnout. Interestingly, private renters consistently have a greater negative impact on ward turnout than social housing.

The table also reports significance for most of the control variables. In the 2016 and 2021 elections, wards with large proportions of men are shown to turnout at higher levels than women majority wards. The age group variables largely followed expectations, with wards with more 18-44 years old voting at lower clip than older wards for most elections. The education groupings also followed expectations with both the none and compulsory education categories recording negative estimate significance at a p value of $< .005$, suggesting higher education areas experience greater turnout. One thing worth noting is the estimates for compulsory education were far more negative than the no education category. While I can't say for certain, this likely occurred due to the compulsory education category being almost entirely made of individuals who were either born or raised in the UK and thus far more adjusted to the British political

system. In contrast, the none category includes native born individuals with no education qualifications and individuals without qualifications who immigrated to the country. This could indicate that individuals have varying degrees of association with the political process and skewing the sample, with native or long-time brits being more invested in participating in elections, whereas non-natives either being unable to vote or being raised in a culture where elections are considered unimportant. The final two significant control variables are ward population, which hints at increased ward size results in higher turnout, and divided income, suggesting that as incomes increase in wards, turnout goes down.

Table 9: Linear Regression of Voter Turnout in Local London Elections

	2012	2016	2021
(Intercept)	0.826 (0.075)***	0.790 (0.084)***	0.577 (0.070)***
Population	0.000 (0.000)*	0.000 (0.000)***	0.000 (0.000)
% Social Housing	-0.064 (0.022)***	-0.192 (0.025)***	-0.160 (0.021)***
% Renters	-0.370 (0.040)***	-0.537 (0.045)***	-0.299 (0.032)***
Male	-0.017 (0.122)	0.322 (0.137)*	0.357 (0.145)*
Age (%)			
18-24	-0.321 (0.056)***	-0.221 (0.063)***	-0.254 (0.061)***
25-44	-0.140 (0.040)***	0.033 (0.045)	-0.137 (0.034)***
Education (%)			
None	-0.342 (0.060)***	-0.399 (0.068)***	0.024 (0.067)
Compulsory	-0.614 (0.065)***	-0.741 (0.073)***	-0.762 (0.094)***
Estimated Income (GBP) + 1000	-0.001 (0.000)^	-0.002 (0.000)***	0.000 (0.000)
Observations	625	625	680
R2	0.558	0.544	0.542
RMSE	0.04	0.04	0.04

Note : ^ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.005

All told, the results from the analysis of London turnout fail to support H3. It does, however, confirm that homeowner wards vote at higher rates than social housing and renter wards, and that private renters, not social housing areas produce the lowest ward turnouts. One potential explanation is the infancy of the private rental market in the UK. Private rentals are a

fast-growing sector of the UK housing market and only reached similar levels to social housing stock this millennium.⁵⁶ This means the private rental market has been far more in flux than social housing, and in coming election periods could better stabilize in its occupancy makeup. This analysis may point to this stability, as the difference in tenure category estimate has shrunk considerably between the 2016 and 2021 elections. But beyond these two categories, these results may imply that housing tenure in London is far more interconnected with socio-economic indicators than other European cities. While these results do present a definite discrepancy of turnout participation between renters and homeowners wards in London, they may also be the strongest evidence of the housing tenure simply acting as a proxy variable.

6. Survey Data Results

Compared to the aggregate city data, analysis of the quality-of-life survey sample has the potential provide insight on the determinants of individual political behavior. As is clear in Table 6, participating in different forms of the political process is not a popular activity. Fewer than 10% of respondents in the general model sample have contacted a politician, attended a protest or political meetings in the last year. Still, what groups are more inclined than others?

Table 10 provides the results from an ordinary least squares regression of the composite political activity variable. First, it's worth looking at the fit of 4 models. AIC (Akaike Information Criterion) and BIC (Bayesian Information Criterion) both help evaluate and compare differing models for goodness of fit. In general, lower values suggest a better fit compared to other options. In our analysis, model 4, the social housing country and urban area filtered sample is regarded as the best fit model. However, that doesn't mean that the added complexity of the other models (which both measures penalize) means their results are invaluable.

Moving on to predictor variables and housing tenure, we only witness statistically significant estimates for private renters in models 3 and 4. Here, renters are considered slightly less likely to participate in political activities than the baseline homeowner category. This could

⁵⁶ "Chapter 1: Profile of Households and Dwellings," GOV.UK, last modified December 14, 2023, <https://www.gov.uk/government/statistics/chapters-for-english-housing-survey-2022-to-2023-headline-report/chapter-1-profile-of-households-and-dwellings>.

suggest that in our sample, the action of the homeowners and social housing residents are largely one and the same, and either tenure doesn't not have a clear impact.

Table 10: OLS of Political Activity from the EU-SILC Survey Data

	Total (1)	Urban (2)	Social (3)	Social + Urban (4)
(Intercept)	0.140*** (0.005)	0.137*** (0.006)	0.160*** (0.008)	0.158*** (0.009)
Housing Type				
<i>Renter</i>	-0.002 (0.003)	0.005 (0.005)	-0.014* (0.006)	-0.014^ (0.008)
<i>Social Housing</i>	0.000 (0.003)	0.003 (0.005)	-0.005 (0.005)	-0.003 (0.007)
Male	-0.022*** (0.002)	-0.019*** (0.004)	-0.017*** (0.004)	-0.012* (0.006)
Age Group				
18-24	0.018*** (0.005)	0.023*** (0.007)	0.010 (0.009)	0.020^ (0.012)
25-34	0.008* (0.004)	0.005 (0.006)	0.002 (0.007)	0.002 (0.009)
35-49	0.022*** (0.003)	0.017*** (0.005)	0.011^ (0.006)	0.012 (0.008)
50-64	0.037*** (0.003)	0.039*** (0.005)	0.039*** (0.006)	0.047*** (0.008)
Education				
<i>Primary</i>	-0.099*** (0.004)	-0.101*** (0.005)	-0.108*** (0.006)	-0.117*** (0.007)
<i>Secondary</i>	-0.071*** (0.004)	-0.064*** (0.005)	-0.061*** (0.006)	-0.058*** (0.008)
Income + 1000	0.004*** (0.001)	0.003*** (0.001)	0.002* (0.001)	0.002 (0.001)
Observations	70,184	34,693	25,929	12,980
AIC	-763,212	-297,908	-111,950	-52,799
BIC	4,409,160	2,031,408	1,151,060	543,907

Note: ^ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.005

While housing tenure shows only a small impact on an individual's likelihood for political activity, the same can't be said for the table's control variables. First, our results present strong evidence for women being more likely to be politically active than men. This difference could be a difference in political preferences between genders, but it's worth noting that the percent of working women in the EU varies by country, and women schedules may be more amendable to participation than men.⁵⁷ The age variable also presents strong differences between age groups, with 18-24- and 50-64-year-olds appearing more likely to be politically involved versus individuals 25-34 and 65+. This makes logical sense given the physical and time investments these activities ask of their participants. Retired individuals may struggle to physically participate, whereas young professionals may lack the requisite free time. Education groupings also follow expectations, with university educated individuals being more likely to be involved than less educated people. Finally, our divided income variable is statistically significant for models 1-3, pointing to increased likelihood of participation for wealthier individuals despite previous research suggesting these groups having less free time. One explanation for this difference could be that wealthier people consider participation more important than low-income people, and purposely make time to be politically involved.

All told, the results from Table 13 are unable to provide substantial evidence to support the H4 hypothesis. Although renters are less likely to participate in political activities as homeowners, the models were unable to provide evidence of the same relationship for social housing residents. Rather, they largely reinforce the influence that socio-economic and demographic characteristics have on one's willingness to get involved. This could mean that housing tenure when pooled across a variety of countries with varying housing policies and regimes, acts nothing more than as stand-in for other, more complex variables.

7. Conclusion

For years, researchers have suggested that homeowners tend to be better political citizens, when compared to renters. But few have looked at the difference between private market renters and public social housing renters. The fundamental goal of this thesis was to elucidate the relationship between social housing tenancy and participation in the local politics. From that

⁵⁷ "Women's Employment in the EU," European Commission, last modified March 6, 2020, <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/EDN-20200306-1>.

goal, I formed 4 hypotheses suggesting the positionality and political involvement of social housing residents in Europe.

To test these statements, I used both aggregate and survey data to inspect how homeowners, renters and social housing residents were involved in local political systems. The results of these analyses were quite diverse. For my aggregate analysis, I opted to not directly compare the three cities due to their unique and differing approaches to housing policy. I glad to have made this decision as my results largely confirmed the diversity of these housing systems. In Copenhagen, the presence of social housing in neighborhoods had a negative impact on voter turnout for those areas. At the same time, private renting failed to produce a statistically significant positive or negative effect on neighborhood turnout compared to homeownership. Alongside largely weak evidence for the influence of our control variables, this points towards a city where social housing has a distinct negative role on turnout in neighborhoods. In Helsinki, social housing may have played an opposite role, this time increasing borough turnout rates compared to homeownership. Conversely, control variables which traditionally align with increased rates of homeownership, also were impactful on borough turnout. This arises the possibility that housing tenure is less instructive in predicting voter turnout in the Finnish capital compared to other European cities. In London, increased concentrations of private renters and social housing in wards decreased voter turnout compared to homeownership. Curiously, private renting had a greater negative presence on turnout than social housing, against the expectations of my hypothesis. But the presence of the many significant control variables also suggests that prospect that housing tenure in the capital city function more as proxy for socio-economic indicators.

The other portion of my analysis used data from the EU Quality of Life Survey to look at the impact on housing tenure on non-voting political activities. Between the 4 different models used, only models 3 and 4 reported significant estimates for private renters, suggesting individuals in this groups were less likely to be politically active than homeowners. Comparatively, social housing estimates failed to be significant in any model, possibly hinting at a relative similarity between homeowners and social housing residents' interest in political participation in the survey sample.

Despite lacking evidence to confidently endorse any of the 4 hypotheses, I believe this thesis provides two interesting takeaways worth exploring more. First, the differing aggregate

results of each city study directly points to the heterogenous nature of European housing policy. Ultimately, there is no one size fits all approach to synthesizing the impact of housing tenure of political participation across Europe. Instead, some regions may experience the greatest boost in electoral participation from homeownership, while other may be apt to increase their social housing stock. While I don't think it's impossible to perform cross country comparative research on housing tenure and its impact on politics, the unique intricacies of national policy will make such work difficult. Second, more tailored research is needed to understand whether housing tenure is an independent variable in political studies or acts more as an aggregate surrogate for socio-economic and demographic characteristics. As was documented in the sections above, the interplay between these two components can often be murky to solidify at best. I look forward to more academics broaching this topic in the future.

7. Appendix

7.1 Works Cited

The works cited above can also be found at the following link: [Works Cited](#)

7.2 Regression Assumption checks

Assumption checks are met for all regressions performed in this thesis. VIF results for each regression are either below 10 or just over 10 suggesting low levels of multicollinearity. The plot function in R confirms that in each of the three cities, we can assume linear relationships, normality, homoscedasticity and that there are no extreme outliers in our samples.

7.3 Additional Tables

Table: Descriptive Statistics of Copenhagen (2017) (N=53)

	Mean	SD	Min	25%	75%	Max
Turnout	0.62	0.07	0.40	0.57	0.67	0.72
Households	5,805	1,953	2,560	4,366	7,328	10,565
Area Population	11,544	3,534	4,599	9,268	13,638	19,912
% Homeowner	0.21	0.13	0.00	0.11	0.29	0.60
% Cooperative	0.31	0.16	0.00	0.22	0.39	0.72
% Renter	0.25	0.11	0.00	0.16	0.34	0.52
% Social Housing	0.23	0.19	0.00	0.10	0.35	1.00
Male	0.49	0.01	0.47	0.48	0.50	0.54
Age (%)						
18-24	0.15	0.03	0.08	0.13	0.17	0.15
25-44	0.48	0.07	0.37	0.42	0.54	0.48
45+	0.37	0.08	0.22	0.32	0.43	0.52
Estimated Education (%)						
Primary	0.18	0.06	0.10	0.14	0.19	0.40
Secondary	0.17	0.02	0.12	0.15	0.18	0.21
Vocational	0.36	0.05	0.27	0.32	0.39	0.44
University	0.30	0.08	0.14	0.24	0.37	0.43
Average Income (DKK)	320,039	60,059	193,256	277,532	343,838	496,056

Table: Descriptive Statistics of Copenhagen (2021) (N=53)

	Mean	SD	Min	25%	75%	Max
Turnout	0.60	0.08	0.33	0.55	0.66	0.73
Households	6,236	2,086	2,571	4,601	7,606	10,750
Area Population	12,144	4,076	4,417	9,217	14,206	23,301
% Homeowner	0.22	0.12	0.00	0.13	0.30	0.59
% Cooperative	0.29	0.15	0.00	0.20	0.38	0.72
% Renter	0.26	0.12	0.01	0.18	0.34	0.61
% Social Housing	0.22	0.18	0.00	0.10	0.34	0.99
Male	0.49	0.01	0.47	0.48	0.50	0.53
Age (%)						
18-24	0.15	0.03	0.08	0.12	0.16	0.22
25-44	0.46	0.07	0.36	0.41	0.51	0.60
45+	0.39	0.08	0.22	0.33	0.46	0.52
Estimated Education (%)						
Primary	0.16	0.05	0.09	0.13	0.17	0.36
Secondary	0.17	0.02	0.12	0.15	0.18	0.20
Vocational	0.33	0.04	0.26	0.30	0.37	0.40
University	0.32	0.07	0.14	0.28	0.39	0.45
Average Income (DKK)	379,741	75,785	238,489	328,943	408,994	590,416

Figure: Descriptive Statistics of Helsinki (2017) (N=53)

	Mean	SD	Min	25%	75%	Max
Turnout	0.67	0.07	0.48	0.63	0.73	0.77
District Population	10,118	8,554	277	3,298	13,995	32,515
Households	6,021	5,301	131	1,647	8,843	19,533
% Homeowner	0.50	0.18	0.00	0.41	0.55	0.96
% Renter	0.32	0.19	0.03	0.17	0.42	0.99
% Social Housing	0.16	0.16	0.00	0.00	0.28	0.53
Male	0.47	0.02	0.41	0.45	0.48	0.56
Age (%)						
18-24	0.11	0.03	0.06	0.09	0.12	0.19
25-44	0.40	0.09	0.20	0.34	0.46	0.60
45+	0.49	0.10	0.23	0.40	0.56	0.69
Education (%)						
Elementary	0.29	0.13	0.08	0.20	0.38	0.68
Secondary	0.41	0.09	0.24	0.32	0.46	0.63
University	0.59	0.09	0.37	0.54	0.68	0.76
Average Income (EUR)	46,449.10	22,928.94	24,752	33,488	52,354	14,5360

Figure: Descriptive Statistics of Helsinki (2021) (N=53)

	Mean	SD	Min	25%	75%	Max
Turnout	0.66	0.08	0.45	0.61	0.72	0.80
District Population	10,419	8,749	243	3,343	15,300	33,338
Households	6,511	5,524	137	2,022	9,286	20,278
% Homeowner	0.51	0.18	0.00	0.44	0.57	0.96
% Renter	0.33	0.19	0.02	0.21	0.44	0.95
% Social Housing	0.15	0.15	0.00	0.00	0.27	0.54
Male	0.47	0.03	0.41	0.46	0.48	0.57
Age (%)						
18-24	0.10	0.03	0.05	0.08	0.12	0.20
25-44	0.40	0.09	0.17	0.35	0.46	0.57
45+	0.50	0.10	0.27	0.43	0.56	0.72
Education (%)						
Elementary	0.26	0.11	0.10	0.18	0.30	0.61
Secondary	0.38	0.08	0.23	0.32	0.43	0.62
University	0.62	0.08	0.38	0.57	0.68	0.77
Average Income (EUR)	52,081.79	29,350.96	26,602	36,310	58,091	20,3169

Figure: Descriptive Statistics of London (2021) (N=680)

	Mean	SD	Min	25%	75%	Max
Turnout	0.43	0.06	0.27	0.39	0.47	0.62
Ward Population	12,941	3,402	3,965	10,488.50	15,580	21,977
Households	5,035	1,334	1,420	4,087.75	5,947.25	9,509
% Homeowner	0.47	0.17	0.13	0.33	0.60	0.88
% Social Housing	0.23	0.15	0.01	0.11	0.34	0.68
% Renter	0.30	0.10	0.07	0.22	0.36	0.62
Male	0.23	0.14	0.02	0.11	0.33	0.67
Age (%)						
18-24	0.11	0.04	0.05	0.09	0.12	0.40
25-44	0.43	0.08	0.24	0.38	0.48	0.72
45+	0.46	0.09	0.12	0.40	0.52	0.68
Education (%)						
None	0.16	0.05	0.05	0.12	0.20	0.31
Compulsory	0.17	0.05	0.07	0.13	0.21	0.29
University	0.60	0.11	0.35	0.51	0.69	0.85
Other	0.06	0.02	0.02	0.05	0.07	0.12
Estimated Income (GBP)	59,010.07	9,868.59	39,531	52,089.50	64,202.75	101,800