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EqualHouse

Financial, Fiscal and Monetary Forces Shaping Europe's Housing Systems

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Executive Summary

This report of the Horizon Europe project 'From Housing Inequality to Sustainable, Inclusive and Affordable Housing Solutions' (EqualHouse) offers a comparative analysis of how European housing systems have evolved over the past two decades, focusing on the interaction of fiscal, financial and monetary policies. It introduces a revised typology—the Varieties of Residential Capitalism Plus (VoRC+)—that captures the long-run trajectories of mortgage–housing relations across 29 European countries. By analyzing changes in mortgage debt, homeownership and housing outcomes over four periods since 2002, VoRC+ provides a dynamic framework for understanding why housing systems diverge despite shared exposure to global financial markets and EU-wide monetary conditions.

VoRC+ identifies five distinct developmental trajectories grouped into two meta-clusters: more financialized and less financialized housing systems. These trajectories reflect differences in mortgage penetration, credit-cycle volatility, state involvement in mortgage markets, and exposure to global finance. Countries with deeply financialized systems exhibit stronger price pressures, higher leverage, greater tenure inequalities and heightened vulnerability to monetary tightening. Less financialized systems maintain larger shares of outright owners, lower volatility and more moderate price-to-income ratios. These patterns demonstrate that financialization is not a uniform process but a variegated one, shaped by national institutions and long-term path dependencies.

The report shows that monetary policy, although central to housing dynamics, remains insufficiently integrated into housing policy debates. Independent central banks influence housing profoundly through interest-rate transmission and the valuation of housing collateral, yet their mandates exclude affordability and distributional concerns. The recent cycle of monetary tightening has exposed the uneven vulnerabilities embedded in different housing systems, with variable-rate mortgage countries experiencing the sharpest impacts. Because monetary policy acts uniformly across the Eurozone but interacts with structurally diverse housing systems, it contributes to divergence rather than convergence.

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Fiscal policy—often treated as the primary lever in housing debates—is shown to be structurally important but not determinative. Mortgage interest relief, capital gains exemptions, transaction taxes and property tax design collectively shape long-term incentives and wealth accumulation patterns. Yet fiscal tools operate within, and are constrained by, broader financial and monetary environments. Crucially, recurrent property taxes remain under-utilized despite being among the most effective tools for reducing inequality and stabilizing housing markets.

Financial regulation emerges as the most consistently influential policy arena shaping housing trajectories. Borrower-based measures, capital requirements, mortgage funding structures and rules governing securitization all interact to distribute risks between households, lenders and states. The expansion of covered bond markets, institutional investment and market-based real estate finance has embedded housing more deeply into financial circuits, reinforcing the dynamics mapped by VoRC+.

Finally, the report highlights the growing importance of the European Union. While EU integration has historically promoted financial-market development, recent political shifts—including the creation of an EU Commissioner for Housing—signal a potential rebalancing of priorities. Any future EU housing strategy will need to confront the structural entanglement of housing with finance and recognize the multi-level governance pressures that shape national trajectories.

Overall, the report argues that housing systems are co-produced by fiscal, financial and monetary institutions. Understanding their interaction is essential for designing effective, equitable housing policy in an era of deep financialization.

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1 Introduction

Housing connects intimate, local geographies of home, community and indebtedness to national and global circuits of mortgage funding, securitization and crisis (Aalbers 2009; Moos and Skaburskis 2010; Sokol 2017). Although housing is widely recognized as a human right, access has become increasingly constrained: affordability deteriorates even where supply is not structurally scarce, as housing costs outpace incomes across much of Europe (Wetzstein 2017). Finance plays a central role. While credit enables the construction and acquisition of housing, excessive liquidity inflows can inflate prices and worsen access. Since the 2008 Global Financial Crisis (GFC), this process has been described as the financialization of housing (Aalbers 2008; Lees et al. 2008), a shift in which housing becomes ever more entangled with financial markets, investment logics and global capital mobility.

Scholars emphasize the historical variation of European housing systems (Brown, Spencer, and Veronese Passarella 2017; Fernandez and Aalbers 2016), shaped by deeply embedded path dependencies (Blackwell and Kohl 2019). Others highlight post-GFC changes that produce pressures toward convergence (Hick and Stephens 2023). Understanding how these forces interact requires systematic attention to transformation over time, yet broad cross-national analyses remain scarce. Existing scholarship maps EU regulatory frameworks (Betavatzi and Vincze 2024) or market-level changes behind the rise of housing as an asset class (Gabor and Kohl 2022), but has not offered a comprehensive typology capturing how financial and fiscal structures jointly shape national housing trajectories. Comparative research also suffers from a persistent "national bias," understating how Europeanization, monetary integration and global capital flows co-produce domestic outcomes.

This report directly addresses the mandate of Work Package 4, which tasks us with providing a macro-level overview of all housing systems covered by the EqualHouse project. To do so, we develop a robust comparative framework capable of situating national cases within broader European trends. WP4 requires a typology that can organize diverse countries in a way that is

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analytically meaningful and practically usable for the project's subsequent work packages. Simply sorting countries by single indicators is insufficient; the relationship between mortgage finance, homeownership and housing market institutions is systemic and path-dependent. The VoRC+ typology we introduce here is therefore designed not only to capture empirical variation but also to inform the deeper, qualitative analyses that follow in the project.

Our analytical lens is shaped by three developments. First, fiscal policies—taxation of property, imputed rent, capital gains and transactions—remain central to how states shape housing, even if their influence is increasingly conditioned by financial and monetary structures. Second, financial regulation has expanded in scope: mortgage-market rules, securitization frameworks, REIT regulation and macroprudential tools now powerfully influence national housing trajectories. Third, monetary policy—whether set by the ECB or national central banks—has become a de facto housing policy, shaping credit costs, investor behaviour and household vulnerability. The interplay of these domains has intensified in the wake of low interest rates and quantitative easing, followed by the recent tightening cycle.

Although the EU has traditionally lacked formal competence over housing, it nonetheless shapes housing systems profoundly. Competition law, state-aid rules, EMU participation and the Capital Markets Union all have indirect but significant effects. Judicial debates over the permissible scope of public housing further illustrate tensions between national housing needs and EU-level market governance. The result is a landscape of divergent, rather than convergent, housing systems: Europeanization, financialization and globalization do not yield a single model, but recombine with national institutions to produce distinct housing trajectories across the continent.

The report contributes to existing theoretical debates in two ways. First, while scholarship on financialization has expanded—from mortgage-led financialization (Aalbers 2016) to financialization 2.0 (Wijburg, Aalbers and Heeg 2018) to wealth-driven dynamics (Hochstenbach and Aalbers 2024)—we focus specifically on fiscal, financial and monetary policies as the institutional levers through which financialization is produced. Second, while neo-Gramscian and

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political-economy approaches highlight actor coalitions (Moreno Zacarés 2024; Montalbano and Flynn 2025), we combine these insights with a long-run macro-statistical analysis that reconstructs the foundations of contemporary housing-system divergence.

The report is structured in two parts. In the first part, we discuss the methodological approach and construct a typology of European housing systems. In chapter 2, the methodological approach is presented and discussed. Chapter 3 presents the rationale, operationalization and findings of the work on a typology based on the Varieties of Residential Capitalism approach, including a discussion of the five groups established through this method.

The second part of the report presents the analysis of policy across European housing systems. As it contextualizes the findings in the following chapters, an overview of monetary policy is presented in chapter 4, with a focus on change in monetary policy over time. Following this discussion on monetary policy, chapter 5 and 6 present the results of the analysis of fiscal and financial policy across Europe. These chapters summarize the work done on macroeconomic indicators across Europe and their correlations. We present the indicators relevant to this work and discuss their relative influence on housing outcomes. Chapter 7 discusses the findings and concludes.

Overall, we argue that housing systems are co-produced by fiscal, financial and monetary institutions, and that understanding their interaction is essential for designing effective and equitable housing policy in an era of deep financialization.

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2 Methodology

The following chapter summarizes methodological notes on the report. Chapter 3 presents the work on typologizing European housing systems and the operationalization of the approach, and chapters 5 and 6 discuss the various indicators in depth. In addition, the notes assembled here cover the case selection, the sourcing of the data and give additional information on the indicators chosen.

2.1 Case selection

The case selection for WP4 follows the case selection by the EqualHouse project. The work of WP4, and this report, cover 27 + 1 cases, encompassing all EU member states and the United Kingdom. The analysis presented in this report gives a full survey of the EU and includes the UK, as it was an EU member for most of the period covered in this report. Additionally, the UK is described prominently in the housing literature, particularly as it represents one of the few cases of 'liberal market' housing systems in Europe (Schwartz and Seabrooke 2008). The selected cases thus cover a wide range of housing systems, housing regimes and welfare systems. The EU is a unifying factor between the cases, with all of them except the UK being part of the Union. Of the 28 cases considered here, 20 countries are members of the Eurozone and 23 countries are in the OECD.

In contrast to other analyses put forward by the EqualHouse consortium, the aim of this Work Package is to provide analysis for all our cases on a national scale. The feasibility of analysis on the national scale is sometimes questioned in housing studies, with some authors calling for more localised approaches (Hoekstra 2020). The national scale is chosen here for two reasons:. First, to enable comparison across Europe - which a regions- or city-based approach would struggle to deliver - and thus ensure basic data comparability. While national level databases are not free of methodological concerns regarding their equivalency, sub-national data faces much stronger questions of data comparability. The second reason is the importance of the national level for the

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policies analyzed here, as most of the regulations studied here are set by national legislation.

The main task required for the work package is the comparison of national housing systems and their policy. This mission statement already contains a limitation: the analytical focus on housing systems and not on housing regimes. While the two terms are sometimes used interchangeably (Flynn and Montalbano 2024), they operate on different temporal and systematic scales: while housing regime is a wide-encompassing term summarizing ideology, institutions and history of the provision of housing, housing system refers to the contemporary configuration of housing provision – housing regime can be understood as the independent, housing system as the dependent variable (Stephens 2020a). Still, it should be understood that housing systems do not offer singular causal relationships, but resemble "monstrous hybrids" (Christophers 2013) with long-standing institutions, path-dependencies and attempts at changing trajectories existing at the same time.

2.2 Data sources

The wide range of housing systems covered also leads to differences in data availability, especially when looking for data covering multiple decades, which led to the data used in the report mostly being sourced from transnational organizations. While most of the databases used were compiled by state agencies, like Eurostat or the OECD, some were also compiled by interest groups, most often representing the interests of financialized actors. Finally, many of the indicators were related to GDP to account for the vastly differing economic volumes and populations. All data is publicly available, but in some cases has been further computed to relate different indicators. Where additional steps were performed, this is remarked in the text.

The data from Eurostat which were used mostly are indicators derived from EU-SILC, a pan-European survey of income and living situations. The indicators were used in (national) aggregate, which is publicly available. Other partners in the Equal House project have gone more in-depth in the EU-SILC data, especially

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WP3 (see D3.1). For WP4, the national aggregates were sufficient as argued above.

Other macroeconomic indicators were sourced from EU institutions like the Joint Research Council and the ECB, from the UN's World Bank Financial Development Database and finally some indicators were sourced from non-governmental organizations, often interest groups advocating for an extension of financialization of housing like the European Mortgage Foundation (EMF) or the European Public Real Estate Association (EPRA).

The data sources used for this report are used widely in the literature and are compiled with attention to cross-country comparability. While in some cases indicators couldn't be utilized due to questions of data availability or reliability, in most cases the quality of the provided date proved adequate. In the following section, each indicator is presented and shortly discussed.

2.3 Indicator presentation

The following section presents methodological and operational notes on the indicators utilized in the rest of the report. For a discussion of the content of every indicator and its interpretation, see the chapters on fiscal and financial policy (chapters 5 and 6).

Indicator selection started from the existing literature. Starting from Schwartz and Seabrooke's (2008) typology work, which utilizes mortgage levels and the owner occupancy rate, additional indicators were sourced from existing literature. This range covers overview studies at the EU level (Brown, Spencer, and Veronese Passarella 2017; European Commission. Directorate General for Economic and Financial Affairs. 2025; Gabor and Kohl 2022; OECD 2022) as well as studies on the two policy arenas covered by this report. Not all measures were able to be included, most notably an indicator of the relation between disposable income and house prices which was based on the 'houselev' database had to be excluded due to data availability issues (European Commission. Directorate General for Economic and Financial Affairs. 2019).

The indicators were chosen to cover a wide range of characteristics of housing systems, with a particular focus on the relation between finance and housing.

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Indicators that were already summarized were preferred, i.e. the housing taxation database of the JRC was preferred over the more qualitative information provided by the IBFD, from which the housing taxation database is sourced. An additional factor in indicator selection was data availability, both in temporal and geographical range. As the main task for this analysis was the comparison of European housing systems in a full survey of our sample over more than a decade, the availability of data for this range was a central limiting factor in indicator selection.

In the final selection of indicators, eight indicators on fiscal and financial policy were included in the analysis, with two of them being comprised of two sub-indicators, with an additional four indicators on housing outcomes being used. This selection comprises mostly measures on the outcome of taxation (i.e. revenue from taxes or the amount of securities), which are combined with some measures of policy input (i.e. legislation of financial instruments).

The selected variables allow for a wide overview of European housing systems and an understanding of the differences in fiscal and financial policy. While not going in particular depth on the details of implementation of these policies, they give an understanding of the relation between housing and financial systems which are the outcomes of the policy.

2.3.1 Taxation

Recurrent immovable property taxation revenue as % of GDP

This indicator is sourced from the OECD's Global Revenue Statistics Database (OECD 2022). The underlying data is submitted to the OECD by national administrations using templates provided by the OECD (OECD 2018). The OECD provides a wide series, covering 137 economies since 1990.

The indicator covers state revenue from recurrent taxation on immovable property. Two aspects are central to the indicator. For one, it measures recurrent taxation, as opposed to one-time taxation like value added tax (VAT) or capital gains tax, which are taxed at a distinct point in time. This indicator thus covers taxation on holding property (OECD 2022). Secondly, it measures immovable property, which it delineates from mobile assets like shares or other financial

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vehicles. Due to the spatial aspect, the tax is levied on property owners, most often on building and land (except in Denmark, where only land is taxed). These fiscal measures are most often based on the estimated market value of land, except in three cases which use an area-based system (CZ, PL, SK; OECD 2022).

The indicator flattens the differences in the level of government levying the tax, which range from local to national governments. The indicator gives an overall measure of tax revenue, regardless of the administrative level levying the tax. To ensure comparability, the tax revenue is related to GDP to account for different sizes of economies.

Tax revenue statistics enable our analysis, but are limited in disaggregation, with the OECD pointing out that "for some taxes, in particular income taxes, revenues cannot be disaggregated between housing-related taxes (e.g. taxes on housing capital gains, rental income and imputed rents, if taxed) and non-housing related income taxes." (OECD, 2022, p. 75). This leads to data availability limitations, in particular concerning imputed rent taxation and foregone tax revenue due to income tax deductions like mortgage interest tax relief, which are harder to source. While the OECD provides data on foregone tax revenue, this data is only available in snapshots and is based on survey answers by national governments.

Mortgage Interest Tax Relief

The indicator measuring the extent of Mortgage Interest Tax Relief (MITR) is sourced from the EC Housing Taxation Database. The database is assembled by EC FIN, compiled from the International Bureau of Fiscal Documentation (IBFD) and national experts for their User Cost of Housing indicator (Barrios et al. 2019; Grunberger, Mazzon, and Tudo Ramirez 2024; Thiemann, Grünberger, and Palma 2022).

We utilize the maximum applicable rate for mortgage interest tax relief, and where not applicable, the Marginal personal income tax (PIT) rate. As mortgage interest tax relief is provided by deductions from personal taxation or reductions thereof, no set monetary value can be given. For cases that do not have MITR measures in place, the value was set to 0.

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There are differing naming conventions for this fiscal measure, like mortgage interest relief, mortgage interest tax relief, and mortgage interest deduction. We follow Fatica and Prammer (2018) and the EC Housing Taxation Database (Barrios et al. 2019) in naming it as mortgage interest tax relief (MITR).

Additionally, we utilized OECD tax revenue statistics, which offer non-encompassing data on foregone tax revenue due to mortgage interest relief through their indicator PH2.2. While part of the OECD's affordable housing database, the indicator is only available for select years and thus cannot be used in the same way as the encompassing databases used in the rest of the analysis. The indicator is used to support the findings.

Interest Income Tax

The rate of taxation on income generated from interest-carrying capital investment is sourced from the EC Housing Taxation Database. The tax rate on Interest Income is the rate on income generated through interest, so by interest on deposited capital and shares, stocks and other assets. In cases of progressive taxation the top rate is used, leading the indicator to be 'top-heavy'.

The tax on interest income is included as it is positioned at the intersection of fiscal and financial policy with interest income being one of the main sources of income through financial markets (apart from capital gains).

2.3.2 Financial regulation

Mortgage to GDP

A measure of total outstanding residential loans as % of GDP is provided as it is one of the two main indicators of the typology used (see chapter 3). The data is sourced from the EMF Hypostat 2025 (and previous versions). Hypostat is a yearly publication by the European Mortgage Foundation (EMF), a European interest group. The indicator covers all our cases with some missing data for the early 2000s.

As the indicator measures total outstanding loans, it is a cumulative measure, which is less volatile than yearly issuance, and a better fit for our purposes due to long-running effects of mortgages.

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Listed Real Estate Funds

Listed real estate is measured by two indicators, one measuring market capitalization of REITs and one of non-REIT listed real estate. Both measures are computed as % of GDP to ensure comparability. The data is sourced from the EPRA Total Markets Table and the EMF Hypostat.

Due to the data the European Public Real Estate Association (EPRA) provides, the data on listed real estate includes non-residential real estate.

Maximum LTV rate

We measure the maximum allowed loan to value ratio for new loans, based on the value of the underlying asset. The data is sourced from the EC Housing Taxation Database. The indicator does not provide a direct measure of LTV ratios of existing mortgages but of new mortgages. Due to the long duration of mortgages, we opted for a measure of policy change over actual existing mortgages as they would only change gradually.

Variable Interest Mortgage Rate

To cover the presence of mortgages with a variable interest rate, we utilize the amount of Gross Lending with a Variable Interest Rate, where the fixation period is up to 1 year, computed as share of total mortgages. The data is sourced from the EMF Hypostat 2025 (and previous versions).

Securitization

We measure securitization through both covered bonds and residential mortgage backed securities (RMBS). For the latter, we use outstanding Residential Mortgage Backed Securities, as % of GDP to account for differently sized economies. Here, outstanding was chosen over issuance to better characterize the housing system, as issuance might fluctuate more heavily year-by-year. Similarly, we measure outstanding covered bonds as percentage of GDP.

Crucially, the data is ordered by the location of the collateral, not issuance which is preferable for this report as issuance is heavily centred in lower taxed environments and the location of the collateral allows for a more accurate picture of the location.

The data was sourced from the EMF Hypostat 2025, and calculated as share of GDP by the authors. The original data on RMBS as used in the Hypostat stems

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from the Association for Financial Markets in Europe (AFME). Where no RMBS are listed, it is presumed that there is no policy in place to issue RMBS. The data on covered bonds is originally sourced from the European Covered Bond Council.

2.3.3 Housing outcomes

A number of indicators on housing outcomes are utilized. These are sourced from Eurostat and part of the Income and Living Conditions statistics (EU-SILC). Owner Occupancy is presented as the share of the population living in households that own their dwelling and sourced from the Eurostat ilc_lvho02 indicator.

Homeownership stratification is calculated by the authors as the difference in homeownership rates between the population below and above 60% median income. The calculation is done on the Eurostat ilc_lvho02 indicator. It is included to approximate findings from WP3, which pointed to the re-stratification of homeownership as one major pattern of change (see D3.1, chapter 5). While not as detailed as the data used in WP3, the Eurostat indicator is available at the necessary national scale and covers all years analyzed.

The Housing cost overburden rate, measuring the share of population spending more than 40% of their income for housing costs, was taken from the Eurostat ilc_lvho07c indicator. Gross Fixed Capital Formation in dwellings is provided as a percentage of gross domestic product (GDP) and sourced from the Eurostat nama_10_an6 indicator, where it is a sector overview and part of the GDP calculations.

2.4 Statistical analysis

The empirical analysis in chapters 5 and 6 is built on a correlation approach designed to uncover the relationships between variables pointing to fiscal and financial regulation and housing outcomes across two distinct groups of European housing systems and two time periods. The objective is not to identify causal effects but to map the evolution of systemic associations that reflect different trajectories of housing financialization, regulatory architectures and country positions within the VoRC+ typology.

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Correlation analysis provides a transparent and comparable measure of association between variables that operate within complex, institutionally differentiated housing-finance regimes. Unlike regression-based models, which require strong assumptions, control variables and causal structure, correlation analysis allows for a broad, descriptive exploration of how regulatory instruments and system indicators (Mortgage-to-GDP, arrears, cost overburden, stratification) co-move across different institutional contexts. This is particularly suited to the explorative and comparative aim of this report, to detect structural patterns and shifts rather than estimate single-equation causal effects.

Given the variegated nature of national housing systems and the absence of a unified theoretical model that specifies how all relevant variables should interact, a correlation framework offers a systematic way to identify recurring associations, divergences between country groups and transformations over time.

However, the approach has limitations. Correlations cannot distinguish between direct and indirect effects, nor can they account for missing data, limiting the type of data that can be used. They are sensitive to sample size and cross-country variegation, which is why the use of outlier removal is essential.

Crucially, correlations capture average associations and therefore do not reveal context-specific causal pathways (King, Keohane & Verba, 1994). For these reasons, the correlation results must be interpreted in conjunction with the theoretical frameworks drawn from the financialization of housing, critical macro-finance and the macroprudential literature and integrated in a VoRC+ framework. This statistical approach complements the qualitative political economy analysis, found in the academic literature by highlighting which variables are most closely connected to specific housing outcomes.

Despite their limitations, the correlations offer a valuable empirical framework. They reveal systematic patterns through which fiscal and financial regulation interacts with housing-market structures: where regulation reinforces insider advantages, where it stabilizes mortgage-driven growth models and where affordability pressures decouple from credit allocation. By comparing correlations across two groups and two periods, the analysis identifies both divergent trajectories and common pressures shaping European housing systems. This

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provides a foundation for the narrative sections that follow, which interpret these statistical patterns through the lens of mortgage-led financialization and the institutional configurations of the VoRC+ regime clusters

2.4.1 Data structure: two groups, two time periods

The analysis draws on two clusters of countries identified in earlier VoRC+ work: a group of less financialized housing systems and a group of more financialized housing systems. For each group, we compute pairwise correlations for two time periods:

- **2008–2012**, representing the early post-crisis phase when mortgage markets were either stabilizing (financialized countries) or only gradually expanding (less financialized countries).
- **2018–2022**, reflecting a period of renewed credit expansion largely on the back of loose monetary policy, growing affordability pressures and development of macroprudential policies.

For each period and each group, we focus on correlations between key regulatory variables (e.g. maximum LTV, variable-rate share, MITR) and central housing outcomes (e.g. stratification, arrears, cost overburden, GFCF). The result is a matrix of static correlations (correlations for a fixed period), which can be compared to other periods, which provides delta correlations. Static correlations try to uncover the strongest cluster of links to look at the structure. Delta correlation shows changes over time and points to potential transformations. In addition to comparing one group in two different periods and level of change we also compare associations between different groups in the same period and the difference in the transformation from one period to the next. This third comparison provides a gap in the delta, and points to difference in trajectory.

To achieve better results, the analysis excludes one outlier per variable pair. This approach is necessary because small-n comparative datasets (e.g. 10 countries in the less-financialized group; 15 in the financialized group) are particularly sensitive to extreme observations arising from 'abnormal' national conditions. The outlier removal ensures that the correlation patterns reflect structural tendencies as much as possible rather than the particularities of a single country.

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2.5 Summary

This methodological chapter outlines the foundations of the report's comparative analysis of European housing systems. The case selection follows the EqualHouse project and includes all EU member states plus the United Kingdom, enabling a full cross-European comparison at the national scale. Although national-level analysis has limitations, it remains the most feasible level for ensuring data consistency across jurisdictions. The chapter also clarifies the analytical focus on contemporary housing systems rather than long-term housing regimes, acknowledging that systems are shaped by historical path-dependencies and hybrid institutional configurations.

Data for the report is drawn primarily from transnational statistical sources—Eurostat, the OECD, the World Bank, and selected sectoral organizations—to secure cross-country comparability over time. Indicator selection was guided by existing scholarship on housing financialization and EU-level studies, with further constraints imposed by data availability. Ultimately, the analysis relies on a set of fiscal, financial, and housing-outcome indicators that capture the broad relationship between housing markets, financial markets, and policy frameworks across Europe.

The statistical approach centres on correlation analysis rather than causal modelling. Correlations provide a transparent way to map associations between regulatory variables and housing outcomes across diverse national systems and institutional trajectories. While correlations cannot identify causal mechanisms, they help reveal recurring structural patterns, divergences between more and less financialized country clusters, and shifts between two key periods (2008–2012 and 2018–2022). Outlier removal is used to limit distortions in small-n group analyses.

Overall, the methodology provides a coherent framework for comparing European housing systems despite variation in data quality, institutional arrangements, and policy architectures. By combining harmonized cross-national indicators with a correlation-based analytical strategy, the chapter establishes a foundation for identifying how fiscal and financial regulation interact with

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housing outcomes across different types of systems. Although descriptive rather than causal, this approach offers a systematic lens through which to interpret broader patterns of housing financialization and their evolution over time.

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3 Grouping the cases: European housing system trajectories through the Varieties of Residential Capitalism Plus

Work Package 4 is tasked with providing a macro-level overview of all housing systems examined within the EqualHouse project. Developing such an overview requires a coherent comparative frame; without some form of systematic classification, the heterogeneity of national housing regimes becomes analytically unmanageable. A typological approach therefore represents not only a methodological choice but a practical necessity. Comparative housing research has long emphasized that housing outcomes cannot be understood solely through single indicators—such as homeownership rates, mortgage debt, or social housing supply—but must instead be interpreted within broader institutional configurations that shape tenure structures, welfare arrangements, financial systems, and market governance (Kemeny, 2001; Schwartz & Seabrooke, 2009; Stephens, et al., 2015). Typologies help capture these interlocking dimensions and make cross-national comparison tractable by identifying patterns, clusters, and regime logics rather than isolated metrics.

Building on this literature, this report draws on existing housing-system typologies while seeking to refine and adapt them to the specific objectives of EqualHouse. Prior typologies have been criticized for being overly static, for relying on limited indicators, or for insufficiently accounting for financialization and post-crisis transformations (Aalbers, 2016; Doling & Ronald, 2010). Our approach therefore aims to update, extend, and operationalize typological categories in ways that better reflect contemporary dynamics, including the role of financial regulation, institutional investment, and shifting welfare–housing relations. Simply sorting countries along a single indicator would obscure these structural differences and fail to provide a meaningful interpretive frame. A typology, by contrast, enables us to organize national cases into analytically coherent groups, guide subsequent empirical analyses, and explain cross-country variation in housing-market trajectories and inequalities.

Comparative housing studies have long relied on typologies to make sense of cross-national differences in housing regimes. Starting with Kemeny's (1995) influential distinction between 'unitary' and 'dualist' rental markets which

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positions countries according to the relationship between social and private rental sectors. In unitary systems (e.g., Sweden), social housing competes with private rental markets and is accessible across income groups, whereas dualist systems (e.g., the U.S. and U.K.) restrict social housing to the poor, reinforcing social and tenure stratification. Harloe (1995) similarly differentiated between 'mass' and 'residual' models of social housing, aligning with broader welfare state regimes as identified by Esping-Andersen (1990). Scholars have extended this framework by situating housing within the logic of liberal, corporatist, social-democratic and familiaristic welfare regimes (e.g., Doling, 1999; van der Heijden, 2002).

However, this approach has faced sustained critique for its methodological nationalism and for underestimating housing's embeddedness in financial systems (Aalbers, 2016). Schwartz and Seabrooke (2008) address this gap by proposing a 'Varieties of Residential Capitalism' (VoRC) framework, focusing on the one hand on the homeownership/rental tenure split and on national mortgage regimes on the other. More recently, scholars have challenged the static nature of these typologies (Blackwell & Kohl, 2019). Authors such as Ronald and Kadi (2018) argue that financialization has blurred earlier distinctions between rental regimes, particularly in formerly unitary systems where housing has become increasingly commodified. Nevertheless, the framework continues to be influential (Flynn & Montalbano, 2024).

While Schwartz and Seabrooke's (2008) typology of residential capitalism represents a significant advance beyond welfare regime models by emphasizing housing finance and mortgage markets, it has been critiqued for under-theorizing the global circuits of capital and the uneven geographies of financialization. Their analysis, grounded in the pre-2008 era, does not account for the structural shifts triggered by the Global Financial Crisis (GFC), nor the post-crisis reconfiguration of mortgage markets, state interventions, and macroprudential regimes (Aalbers, 2016). These developments have altered the trajectories of housing finance in ways that challenge the stability and distinctiveness of the liberal and corporatist models originally proposed. Moreover, critics argue that VoRC remains overly static, privileging institutional

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arrangements as fixed national types rather than as evolving configurations shaped by conjunctural pressures and path-dependent change (Fernandez & Aalbers, 2016; Blackwell & Kohl, 2019).

Nevertheless, VoRC is the starting point of the typology used in this report. We use VoRC as a basis for a typology of housing systems in the context of the Equal House research project for two reasons. For one, the approach is still widely referenced and was used in existing approaches to compare the financialization of housing by contributors to WP4 (Fernandez and Aalbers 2016; Flynn and Montalbano 2024). Secondly, there have been few attempts of providing an encompassing typology of European housing systems which are focused on the link between housing and finance. As WP4 is tasked with describing the macrolevel influences on housing finance, starting from a typology that maps this field was advantageous. We aim to provide an update to this approach–which we have dubbed Varieties of Residential Capitalism Plus, or VoRC–which will be discussed in the following section. In addition, to inform the latter steps in the analysis, we will also present a dualist grouping of cases based on VoRC groups, as this would allow us to perform a correlation analysis which would be difficult with five groups as we would not have sufficient cell count to do so.

3.1 Methodology of constructing the VoRC+

This report presents an updated and expanded version of the VoRC framework originally proposed by Schwartz and Seabrooke (2008) and further developed by Fernandez and Aalbers (2016), which we refer to as VoRC+. The updated framework pursues two main objectives. First, it brings the empirical foundation of VoRC up to date by incorporating data covering the two decades following the original 1992–2002 period. Second, it responds to several critiques of the VoRC framework by enhancing its methodological design. While not all criticisms could be fully addressed, two major modifications have been implemented.

First, the VoRC+ model introduces temporal depth, transforming the original static model into a dynamic, trajectory-based framework. Specifically, instead of relying on a single 10-year average, the model is based on four 5-year averages:

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2003–2007, 2008–2012, 2013–2017, and 2018–2022. Five-year periods were chosen for two reasons: first, it addresses a criticism of the original VoRC approach in averaging out the values over time, as to minimize the influence of year-over-year variance. Secondly, the selected time periods allow for distinctions along major shifts in the housing finance nexus, namely the periods before and after the GFC, the rise of housing as an asset class and Quantitative Easing. This structure enables us to trace the evolution of housing commodification across countries over time and to identify distinct national trajectories based on changing positions within the mortgage–owner-occupation nexus. Additionally, the shift to a dynamic model required changing the format of the data: where Schwartz and Seabrooke (2008) displayed deviations from the OECD average, we use absolute values. This is done to allow for a static frame of reference, as an average value would itself shift over time. The relative position of one case to another is unaffected by this change.

Second, the updated model continues to focus on mortgage finance and owner-occupation rates as the central indicators of commodification. While rental housing systems, especially the role of social housing, have been widely discussed as markers of decommodification (see Donner, 2000; Kemeny, 1995), we argue that, for the purpose of understanding and differentiating commodification dynamics in Europe, the configuration of rental housing is secondary to the role of homeownership finance, which constitutes at least half the housing stock in all countries under study. Our focus remains on mortgage-based commodification; while decommodification is implicitly included as its negative counterpart, it is not the centre of analysis. Institutional investors and rental housing financialization – sometimes understood as the frontier of "financialisation 2.0" (Wijburg et al., 2018) – are not explicitly addressed in this model. Although increasingly relevant, especially in specific urban contexts, mortgage finance remains the dominant mode of housing financialization across most European countries, particularly at the national level. Homeownership is the prevailing tenure form, and mortgage markets are present – though unevenly developed – in all 28 countries included in this study (EU27 plus the UK). Mapping the variation in this mortgage/homeownership relationship remains the central

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analytical focus of the VoRC+ typology. Nevertheless, some aspects of the financialization of rental housing are covered by the work on financial policy in chapter 6.

The case grouping is based on both positional similarity and trajectory alignment. Starting from country positions within the mortgage–homeownership matrix, we then analyze how these positions have shifted over the 20-year period. Countries were grouped into five types according to similar trajectory patterns, rather than only their most recent position. For example, Sweden, which ends the period near countries like the Netherlands, UK, and Denmark (Group 3: High and continuous mortgage dependency), demonstrates a gradual increase in mortgage market dependence more akin to Group 5 (Moderate and continuous mortgage expansion). Therefore, despite its current position, Sweden is grouped by trajectory. Some countries, such as Portugal, Finland, and Poland, are treated as outliers and excluded from the core typology. These cases exhibit unclear or contradictory trajectories or raise questions about data reliability. Their inclusion would have undermined internal group coherence and therefore they are discussed separately.

The five groups represent ideal types of housing–finance relations and are thus abstracted from the cases. To enrich our interpretation, we consulted additional indicators – based on the 2018–2022 period only as to capture the current configuration – to further contextualize the analysis beyond the two main variables. These include: the share of mortgaged homeowners, indicating the breadth of mortgage market participation; the housing cost overburden rate, to approximate affordability pressures; the rate of mortgage arrears, as a crisis sensitivity indicator; and, finally, the share of variable-rate mortgages, as a proxy for financial exposure and subordination.

Together, these methodological updates aim to retain the comparative clarity of the original VoRC framework while enhancing its ability to analyze long-term, macro-level transformations in European housing systems.

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3.2 Defining the five types

The application of the VoRC+ model enables the construction of a revised typology of European housing systems, offering both a comparative framework and a dynamic lens through which to interpret long-term developments. The trajectory-based design of VoRC+ reveals four major empirical patterns.

First, while some countries experienced marked shifts in their positions within the mortgage-homeownership matrix over the 2003–2022 period, others remained largely stable. Notable examples of significant transformation include Spain, Ireland, and arguably Sweden, all of which saw sharp increases in mortgage penetration. In contrast, countries such as Romania, Bulgaria, Croatia, and Latvia displayed minimal movement, maintaining high rates of owner-occupation with limited mortgage market development.

Second, the expansion or contraction of mortgage markets followed divergent trajectories across countries. While the early period (2003–2007) saw widespread mortgage growth, typically peaking in the lead-up to the Global Financial Crisis of 2007–2009 (GFC), many countries experienced either stagnation or retrenchment thereafter. Exceptions include France and the countries grouped in Group 5, which exhibited a consistent upward trajectory in mortgage credit across all four periods.

Third, the data show that homeownership rates declined in 19 out of 28 cases, challenging the assumption that homeownership is expanding in most countries From the earliest available data point to 2022, owner occupancy rates declined by 9.4 percentage points in Ireland (2003-2022), and by 7.8 in both Austria and Slovenia (2005-2022). Importantly, increases in mortgage lending did not necessarily coincide with rising homeownership; in several cases, mortgage expansion accompanied or even precipitated a decline in owner-occupation, pointing to intensified commodification without tenure security.

Fourth, no evidence of a general convergence among housing systems was found. Instead, national trajectories diverged significantly, suggesting that the financialization of housing in Europe proceeds in variegated rather than uniform

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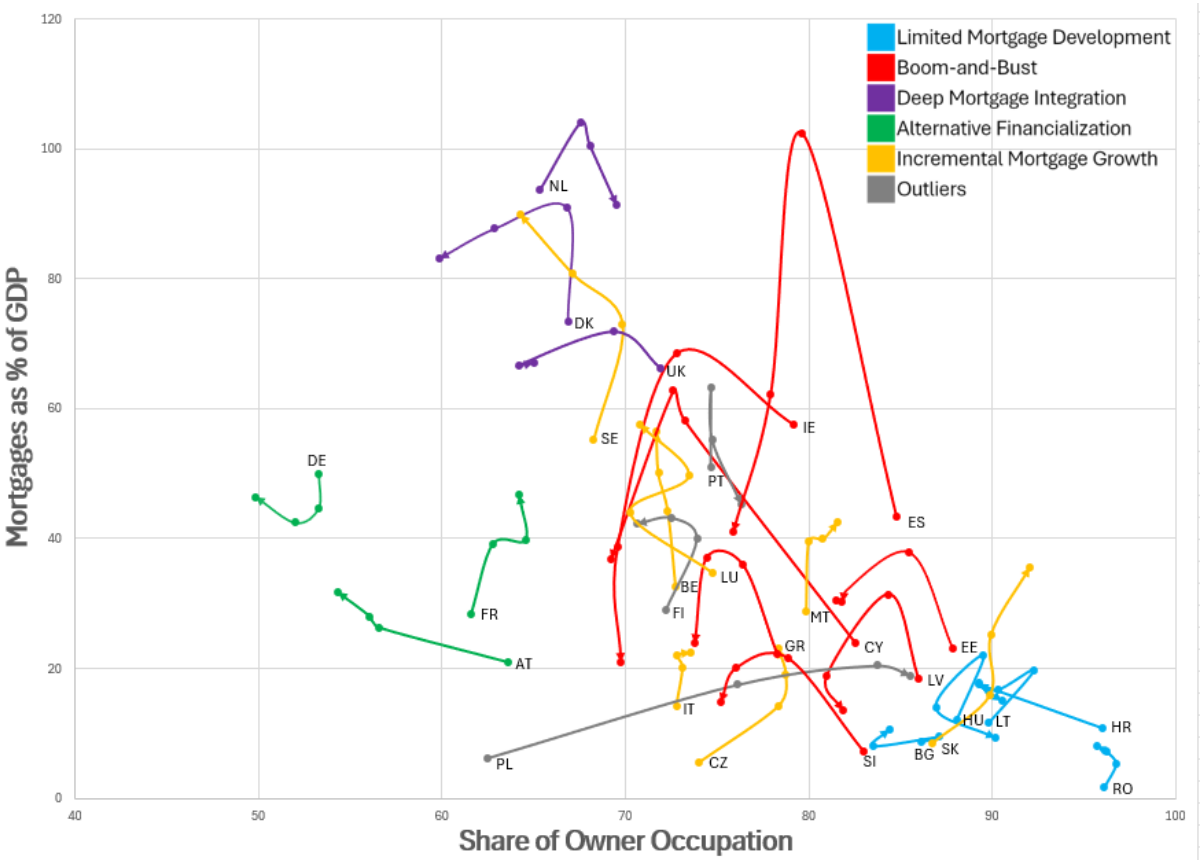
ways, echoing critiques of convergence theories in the political economy of housing.

3.2.1 Type-based case description

Based on these trajectories, five country clusters or VoRC+ types are identified. Four of the five demonstrate some form of substantial mortgage interaction (Groups 2, 3, 4 and 5), while one group (Group 1) continues to exhibit structural distance from deep mortgage market integration.

Figure 3.1: VoRC+ trajectories 2002-2022



Source: EMF Hypostat 2025, Eurostat ilc_lvho02, own calculations

Figure 3.1 shows the trajectories for all covered cases, with colour indicating group. Each trajectory consists of four points, each equaling a five-year average. The average values correspond to the time periods 2003-07, 2008-12, 2013-17 and 2018-2022

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Group 1 shows Limited Mortgage Development. This group is characterized by persistently low levels of mortgage penetration and minimal change over time. Housing markets in these countries are typically dominated by owner-occupation as patrimony, with housing functioning more as a commodity than as a financial asset. Mortgage finance plays only a marginal role with only 9% of homeowners having a mortgage. The state has not adopted policies to actively promote mortgage markets, and financialization proceeds in a subordinate mode. Some cases show an expansion of mortgage credit in the leadup to the GFC (Hungary, Lithuania), but these changes are not persistent, with the countries reversing the trajectory by the 2008-2012 period. This group shows the most static trajectories, staying in a position of high homeownership and low mortgage levels over the twenty-year period covered. Compared to the other Groups, Group 1 has the lowest rates of mortgaged homeownership, while also having the highest outright homeownership rates. Mortgage to GDP ratios are also the lowest among the cases.

Group 2 exhibits a Boom-and-Bust scenario. Countries in this group, such as Spain and Ireland, experienced rapid mortgage expansion in the early 2000s, followed by sharp declines post-GFC. These trajectories reflect a volatile and crisis-prone integration into financial circuits, which reflects a reliance on mortgage markets for economic growth (Norris and Byrne 2015). The boom-and-bust dynamic also appears in less widely studied countries in this group (Estonia, Slovenia, Latvia), pointing to broader regional patterns.

Coinciding with a steep increase in mortgage-to-GDP levels, the cases in this group show a decrease in homeownership rates. As has been discussed in the Spanish case (Guzmán 2023), this points to a growth of the (private) rental sector through the crisis of mortgaged homeownership. Even years after the GFC, this group has the highest rate of arrears in the 2018-2022 period. Additionally, it displays the highest average rate of variable interest rate among the cases with both measures pointing to a continued position of instability.

Group 3 shows Continuous High Mortgage Dependency. Here, mortgage finance has become deeply embedded, with nearly universal penetration and

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centrality in the housing system with an average of 82% of homeowners mortgaged in the 2018-2022 period. Countries like the Netherlands, Denmark and the UK demonstrate sustained high levels of mortgage-to-GDP ratios and a mature integration into financial markets. This high dependency has enabled securitization and complex financial instruments, creating relatively stable systems despite systemic risks, which is supported by the group having the lowest average share of variable interest rate mortgages among all cases.

While this group shows the highest mortgage-to-GDP rates in the sample, the average homeownership rate is the second lowest. Although this group contains one case of rising homeownership rates (the Netherlands), there is evidence to suggest this group has the most stratified homeownership: the average difference in owner occupancy rates between the population above and below 60% median income is the highest of all groups. The relative absence of outright homeownership speaks to the degree of financialization of housing and high housing prices. Countries in this group have the highest rates of housing cost overburden, with the average rate for the group at 12% of the total population in the 2018-2022 period.

In Group 4 the Mortgage Relation is Mediated through the State. This group, comprising the countries France, Austria and Germany, displays an alternative financialization model. Rather than relying on high levels of mortgaged homeownership, housing finance is more indirectly mediated through state institutions and large-scale rental provision. Owner-occupation rates are the lowest of the sample, and mortgage expansion has been modest. Of the, relatively few, homeowners in these countries, roughly half have a mortgage. This reinforces that this group isn't marked by the absence of mortgage markets, but their limited significance compared to other forms of tenure. The linkage between financial markets and housing is structured by institutional buffers and a regulated rental market, resulting in a more state-mediated financialization.

Group 5 is characterized by Incremental Mortgage Growth. Countries in this group exhibit consistent, moderate growth in mortgage finance over the two decades covered. These countries, such as Belgium and Slovakia, may be converging toward Group 3 but have thus far avoided the volatility associated

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with Group 2. While mortgage growth was highest in the period leading up to the GFC, it has been steady since. The gradual increase in mortgage finance has, in many cases, coincided with rising housing prices post-GFC, offering new pathways for capital accumulation. The group shows average values for many of the additional variables considered: the share of mortgaged homeowners, the rate of arrears and the share of variable interest rate mortgages are all near the average for all cases. Notably, the average housing cost overburden rate (in the 2018-2022 period) is the lowest of all groups, with group 2, representing a possible outcome for the trajectory of group 5 cases, has the highest housing cost overburden rates.

Finally, some cases couldn't be reliably integrated into one of the groups and are considered outliers. In one of the three cases, this was due to questions of data accuracy: the owner-occupancy rates in Poland show strong growth, which seems to be linked to differences in both the statistical measurements of homeownership as well as privatization efforts. The other two cases, Finland and Portugal, display trajectories that do not fit in one of the groups. Portugal is characterized by relatively stable homeownership levels, while displaying an expansion of mortgages in the 2008-2012 period with a decline after. Finland shows more prolonged mortgage growth, stretching into the 2013-2017 period, but coinciding with a reduction in homeownership levels. With their trajectories as well as in the additional variables, they most closely resemble group 5 cases, however with a much higher share of variable interest mortgages, and group 2, with less pronounced trajectory changes and steadier homeownership levels.

3.2.2 Establishing two larger clusters

To enable the application of more advanced descriptive statistics, especially the work on correlating the indicators in chapters 5 and 6, the groups as described above were used to construct two larger clusters. These groups were formed to provide larger groups than the VoRC+ groups, in an effort to increase the amount of cases per cluster. As the VoRC+ groups have relatively few cases per group, they are not sufficient for correlating the cases within them. Thus, to

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ensure a sufficient number of cases, the VoRC+ groups were used as a basis for two larger clusters.

The two macro groups were distinguished along their interaction with financial markets and named 'Less Financialized' and 'More Financialized'. This might be taken to mean that we see financialization as either inevitable or linear, which was not intended. Instead, splitting the cases along this axis emphasizes the role that financialization plays in distinguishing housing systems. Financialization is a process that fundamentally alters the role housing plays and in many cases is the main differentiating factor between housing systems in our sample. Again, instead of sorting the cases by a variable (for example, Mortgage-to-GDP levels), we opted for an approach informed by the VoRC concept.

Two macro clusters were formed to distinguish between more and less financialized housing systems in the selected cases. This distinction was informed by the work conducted on the VoRC+ approach and considers groups 3, 4 and 5 to be more financialized (continuous high mortgage dependency, mortgage relation mediated through state and continuous moderate mortgage market expansion). These three groups encompass the cases with a continuous mortgage market and a trajectory that keeps them (more or less) in this relation.

Group 1 (Little or no expansion of the mortgage market) in contrast was used as the basis for the less financialized grouping, as it encompasses cases without a large mortgage market, where this relation doesn't change over time.

Group 2 (Boom-and-bust) presents a more nuanced picture: the group is gathered based on similar trajectories that show a strong increase in mortgages prior to the GFC and a drop-off after. It mostly encompasses country cases with a relatively high share of homeownership and a reduced scope of the mortgage market after the bust. However, this group also includes Spain and Ireland, which both diverge from the pattern in that the scope of their mortgage markets is reduced compared to the high points before/during the GFC, but they still have a sizable mortgage market. The mortgage market expansion was primarily driven by the house price and housebuilding boom in both countries prior to the GFC and the contraction was driven by the post GFC house price and building busts. Especially as the correlation approach used here only considers a single point in

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time, and thus can not consider past trajectory changes, The two cases of Ireland and Spain are thus included in the more financialized macro group for this analysis.

3.2.3 Correlation Patterns of VoRC+

While the VoRC+ typology gains additional analytical meaning when examined through the lens of the correlation analysis presented in the methodology chapter and applied in chapters 5 and 6, the correlations—both static associations for a specific period and their changes over time—offer an additional check on whether the VoRC+ clusters capture structural differences in how housing systems operate. They do so by revealing whether countries that share similar positions and trajectories within the mortgage–homeownership nexus also display similar relationships between fiscal policy, financial regulation, and housing outcomes. In this way, the correlation study functions as a complementary approach that helps flesh out and substantiate the VoRC+ framework.

Three broad findings inform the VoRC+ framework. First, the correlation patterns strongly reinforce the overall distinctions between more and less financialized systems (see tables 3.2 and 3.3). In the more financialized cluster, mortgage-related indicators—Mortgage/GDP, the share of mortgaged homeowners, and private credit levels—form a coherent set of structural relationships. These variables show strong positive correlations with investment in dwellings and, increasingly over time, with housing cost burdens. This confirms the VoRC+ depiction of these systems as deeply mortgage-integrated, with credit availability, price dynamics, and capital formation closely intertwined. The strong and stable structure of these correlations mirrors the trajectories described for Groups 3 and 5.

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Table 3.1: Key characteristics of financialized groups, correlation (R value) and change over time (delta)

Variable Pair (FIN)	2012	2022	Δ	Interpretation
Mortgage/GDP ↔ Mortgaged Homeownership	0.74	0.84	0.10	Deepening integration between mortgage markets and homeownership
Mortgage/GDP ↔ Private Credit/GDP	0.81	0.82	0.01	Mortgage expansion remains part of a broader credit-led growth model
Mortgage/GDP ↔ GFCF (Dwellings)	0.58	0.63	0.05	Investment in real estate tied to credit growth
Mortgage/GDP ↔ Housing Cost Overburden	0.36	0.48	0.12	mortgage-led growth increasingly aligned with affordability pressures
LTV Max Rate ↔ Mortgage/GDP	0.29	0.34	0.05	High LTV ceilings coexist with (rather than constrain) mortgage-led growth

Second, the correlation analysis reveals a different configuration in the less financialized cluster, which includes the countries in Group 1 as well as the post-boom retrenchment cases from Group 2. Here, core financial indicators such as LTV caps, variable-rate mortgage shares, and Mortgage/GDP show consistently weak to non-existent relationships with affordability pressures or arrears. Instead, fiscal variables—interest tax rules, property taxation, and transfer taxes—exhibit the strongest and most persistent associations with housing stress and stratification. This confirms the VoRC+ characterization of these systems as structurally distant from deep mortgage led clusters. The correlation study therefore helps to specify the institutional structure of the "limited mortgage development" trajectory in Group 1 and the crisis-induced reconfiguration of Group 2.

Third, the correlation deltas (changes over time) link directly to the VoRC+ framework as a system in motion, changing over time. Several of the largest shifts—such as the reversal of the relationship between GFCF and affordability, or the shift from negative to strongly positive correlations between Mortgage-to-GDP and cost overburden in financialized systems—demonstrate that the institutional structure of housing–finance relations itself evolves.

These shifts support the VoRC+ emphasis on trajectories rather than static types: countries do not merely occupy different positions in the mortgage–homeownership matrix, but their internal regulatory, fiscal, and credit

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relationships move in ways consistent with the pathways VoRC+ identifies. They are systems in motion that only become visible when we look at a large number of variables at the same time. Taken together, the correlation analysis increases the explanatory power of VoRC+ by showing how housing systems are structured.

Table 3.2: Key characteristics of less financialized groups, correlation (R value) and change over time (delta)

Variable Pair (LESS)	2012	2022	Δ	Interpretation
Mortgage/GDP ↔ Housing Cost Overburden	0,08	-0,57	-0,65	Mortgage markets decoupled with affordability
LTV Max Rate ↔ Housing Cost Overburden	0.09	-0.43	-0.52	LTV ceilings operate as exclusion filters rather than credit-management tools
GFCF (Dwellings) ↔ Housing Cost Overburden	0.73	-0.46	-1.19	Supply shifts from mitigating to reinforcing affordability problems (selective supply)
Property Tax Revenue ↔ Housing Cost Overburden	0.58	0.79	0.21	Fiscal structures increasingly shape distributional outcomes
Owner Occupancy as % of population ↔ Arrear rate	-0,65	-0,8	-0,14	An increasingly large negative correlation between owner-occupation and arrears

3.3 Housing outcomes

The five groups that were identified through VoRC+ enable a comparison between European housing systems. While the approach is designed to map the differences in the link between financial (mortgage) markets and the housing system, it can also be used to order indicators more closely relating housing outcomes. In the following section, we provide a short overview of indicators regarding housing outcomes and their spread across the groups as identified by VoRC+. As this report is focused on comparing fiscal and financial policy across the sample, however, a discussion on housing outcomes in the identified groups can only be touched upon here. For a more in-depth discussion on the differences in housing outcomes in the sample and an overview of housing precariousness, see WP3's D3.1 report.

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Table 3.3: Housing outcome indicators by VoRC+ group, averages

2018-2022		Mortgage as % of GDP	Owner Occupancy as % of population	Homeowner-ship stratification	Mortgage arrears	Housing cost overburden rate	Gross Fixed Capital Formation in dwellings
Group 1	Limited Mortgage Development	11,2	88,5	4,9	1,4	7,8	3,0
Group 2	Boom-and-bust	25,7	75,4	19,1	4,5	8,9	3,8
Group 3	Deep Mortgage Integration	80,1	64,9	32,4	3,2	13,1	5,0
Group 4	Alternative Financialization	41,4	56,1	32,8	3,4	8,1	6,5
Group 5	Incremental Mortgage Growth	46,5	76,0	27,4	2,4	6,7	4,9
Ungrouped cases		35,4	77,5	17,9	2,4	5,1	4,3

As the grouping is based on the mortgage-to-GDP levels and the share of owner occupancy, the indicators differ between the groups and are not discussed in depth here (see above, and for a more detailed discussion on mortgage levels, see chapter 6). For a more detailed discussion on the interaction between the indicators discussed here and the variables on fiscal and financial policy, see chapter 5 and 6.

The stratification of homeownership was included as it was discussed as a widespread phenomenon in the D3.1 report, specifically in chapter 5 of the report . It is operationalized here as the difference in homeownership levels between the population above and below 60% median income which was calculated based on the Eurostat ilc_lvho02 indicator. While not equivalent to the in-depth analysis of the re-stratification of homeownership that is presented in report D3.1[1], this operationalization allows for a rough comparison of homeownership stratification across the cases. The highest average value among the groups is found in group 4 (alternative financialization), encompassing Austria, Germany and France. As these countries also have the lowest overall rates of owner occupancy, a higher

[1] For example, the operationalization discussed here does not include age and does not differentiate between levels of income and/or wealth beyond median income.

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homeownership stratification value is expected. Homeownership in this group is the lowest among the groups with an average 56,07% owner occupancy rate in the 2018-22 period. If homeownership is widespread, we can expect a high share across income groups as there are few alternatives available to homeownership, which might lead to issues of housing adequacy overtaking issues of homeownership access (see also D3.1). In cases with lower homeownership rates the availability of an alternative tenure, renting, suggests homeownership is more closely related to income and/or wealth, as tenants have the opportunity to opt for renting instead of homeownership without having to rely on residualized rental tenure. This can lead to higher values of homeownership stratification among cases with low overall owner occupancy.

Directly following this group, the cases with sustained deep mortgage integration (group 3) show the second-highest value for homeownership stratification. While the owner occupancy is higher in this group, stratification of that status is just as widespread. The lowest value is found in the cases with limited mortgage development (group 1), which also has the highest overall rate of homeownership.

The amount of arrears on mortgage payments, displayed as share of the population, follows a different pattern. While the group with the lowest overall mortgage level is also the group with the lowest arrears (group 1), the rate of arrears does not simply inversely follow mortgage levels. Instead, the arrear rate is highest among the cases which follow a boom-and-bust trajectory (group 2), suggesting that there is an ongoing crisis among mortgaged homeowners in these cases (Alexandri and Janoschka 2018). In the group with the highest rate of mortgaged homeowners (group 3), the rate of arrears is comparable to the cases of alternative financialization (group 4), suggesting strong protections for mortgaged homeowners weakening the link between high mortgage levels and arrears.

In comparing housing overburden rates, measured here as the share of population expending more than 40% of their income on housing costs, one group lies outside the range of the others. Among the cases of deep mortgage integration (group 3), an average of 13,1% of the population suffer from high

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housing costs, with the other groups displaying averages around 8-9%. Where there has been an incremental increase in mortgages, the average rate for housing cost overburden (group 5) is the lowest, with 6,7%.

Finally, the analysis presented in this report includes a measure of gross fixed capital formation in dwellings (GFCF), relative to GDP. This macroeconomic measure is used to approximate the extent of capital investment in dwellings and thus enable a comparison of investment activity in housing. Expectedly, the cases with limited mortgage development (group 1) display the lowest average values among the groups. The highest value of the indicator is found in group 4, in the cases of alternative financialization, followed by the cases of deep mortgage integration (group 3). This suggests a connection between high integration in financial and mortgage markets and expenditure in dwellings - not necessarily suggesting increased construction activity, as increased capital formation might be the result of higher property prices and construction costs.

3.4 Conclusion

This chapter has developed a revised typology of European housing systems—VoRC+—that updates, expands, and retools the original Varieties of Residential Capitalism (VoRC) framework for the contemporary, financialized housing landscape. By reconstructing VoRC as a dynamic, trajectory-based model and by incorporating twenty years of data divided into four analytically significant periods, this chapter provides a comparative framework capable of capturing both the structural diversity and the long-term evolution of national housing–finance relations across Europe. The resulting five VoRC+ groups, and the two subsequent macro-clusters of "more financialized" and "less financialized" housing systems, together offer a robust foundation for the fiscal and financial policy analysis carried out in the remainder of this report.

The typology makes three central contributions to ongoing debates in housing studies and comparative political economy. First, VoRC+ advances typological debates by moving beyond static regime classifications. Earlier typologies—whether centred on rental-market dualism, welfare-state families, or the initial VoRC model—have struggled to account for the speed, unevenness, and

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directionality of post-2000 housing transformations. By foregrounding trajectories rather than snapshots, VoRC+ shows how countries with similar end-points may have arrived there via divergent paths, and how cases that look superficially distinct in 2022 nonetheless share long-run dynamics. The inclusion of countries whose trajectories do not fit conventional clusters also reveals the limits of previous typologies built primarily on institutional features rather than structural change. In this sense, VoRC+ responds to calls for frameworks attentive to temporality, path dependency, and crisis-driven reconfigurations (Fernandez & Aalbers, 2016; Blackwell & Kohl, 2019).

Second, the typology strengthens the integration of housing studies with political economy by placing mortgage finance at the centre of comparative analysis. The VoRC+ framework demonstrates empirically that the mortgage–homeownership nexus remains the dominant mechanism structuring housing outcomes across Europe, even as rental financialization grows in specific contexts. The trajectory patterns uncovered—continuous deep mortgage integration, boom-and-bust cycles, state-mediated financialization, and incremental expansion—illustrate that financialization is far from uniform. Instead, national housing systems have absorbed and mediated global financial pressures in markedly different ways. This supports arguments that financialization is not a convergent process but a variegated one shaped by institutional legacies, crisis responses, and macroprudential regimes (Aalbers, 2017). By differentiating forms of financialization rather than treating them as a binary presence or absence, VoRC+ offers a more nuanced political-economy account of housing system transformation.

Third, VoRC+ provides an analytically useful bridge between macro-structures and housing outcomes. Although the primary purpose of this chapter is to classify housing systems, the typology also illuminates systematically distinct patterns in affordability, arrears, homeownership stratification, and capital formation. These outcome variations map onto the five VoRC+ types in ways that reinforce the typology's interpretive power—for example, the concentration of mortgage arrears in boom-and-bust systems, the high housing-cost overburden in deeply financialized cases, or the low stratification and high outright ownership

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in low-mortgage contexts. These patterns suggest not only that macro-structures shape outcomes, but that the form and degree of financialization generate distinct distributions of risk, inequality, and exposure. This strengthens the case for linking fiscal and financial policy analysis—developed in the later chapters—to the macro trajectories identified in VoRC+.

Taken together, the five VoRC+ groups and the two macro-clusters provide a coherent comparative frame that captures the heterogeneity of European housing systems without reducing them to single indicators or assuming linear developmental paths. By demonstrating both the distinctiveness and internal consistency of these groups—and by showing that the trajectory-based typology aligns with a wide range of outcome indicators—this chapter establishes VoRC+ as a practical and theoretically grounded tool for cross-national housing research.

In doing so, it advances debates in housing studies by offering a typology that is empirically updated, conceptually dynamic, and attentive to financialization as a differentiated and evolving process. At the same time, it contributes to comparative political economy by mapping how national housing systems articulate with financial markets and by highlighting the institutional and temporal variation in this articulation. The VoRC+ framework thus positions the subsequent chapters to analyze how fiscal and financial policies interact with these macro-level configurations—and how such policies may reinforce, transform, or counteract the financialization trajectories that define contemporary European housing systems.

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4 Monetary policy context

4.1 Introduction

Finance plays a central role in housing systems by providing the up-front finance required to purchase or construct housing. The availability, conditions and price of money therefore has a considerable influence both on the cost of construction and on the ability of households to purchase and consume housing.

Monetary policy encompasses the actions of central banks to influence the amount of money there is in the economy and the costs of borrowing. Whilst monetary policy cannot be characterized as being a "housing policy", it clearly has a considerable influence on the housing system.

Moreover, because housing and housing finance play a considerable role in the economy, housing can influence the behavior of central banks. The strength of the connection between monetary policy and housing has grown as financial systems have been liberalized, increasing the liquidity of housing by making it easier for homeowners to remortgage their properties to release equity which can then be spent. Particularly since the financial crisis, central banks have also been alert to the potentially destabilizing influence of housing and housing finance on banking systems.

The relationship between housing and central banks is therefore part of the financialization theme that runs through this report.

The chapter addresses six questions in turn:

- What monetary policy regimes are operated by the European Central Bank (ECB) and non-euro central banks in the EU, as well as in the UK?
- What have the trends in central bank interest rates been?
- To what extent have central banks deployed unconventional monetary policy (Quantitative Easing (QE) and Tightening (QT))?
- How are homeowners' housing costs reflected in inflation indices?
- How has monetary policy and housing interacted through the monetary transmission mechanism and wealth effects?
- How has QE and QT affected housing markets?

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4.2 Monetary policy context

Monetary policy encompasses the actions of central banks to influence the amount of money there is in the economy and the costs of borrowing. The principal tool deployed by central banks is the interest rate they pay on overnight deposits which influence interest rates through the rest of the economy. More recently some central banks have purchased bonds to exert additional influence on interest rates in the economy, a process known as "quantitative easing" (QE); this can be put into reverse – "quantitative tightening" (QT).

Historically, a variety of monetary policy regimes have operated. Before the First World War most countries were part of the Gold Standard where each countries money supply was linked to gold. After the Second World War, the Bretton Woods system of fixed exchange rates operated with the US dollar convertible to gold. This collapsed in the early 1970s under the inflationary pressures arising from the Vietnam War. In Europe moves were made to create a system of semi-fixed exchange rates, the Exchange Rate Mechanism (ERM), was established, with the Deutschmark as the "anchor" currency. Despite various "realignments" it eventually evolved into the European Single Currency (euro) in 1999. A revised version of the ERM, known as ERM II operates for prospective members of the euro.

Over the past 35 years, it has become almost universal for central banks to be granted (quasi) independence (where they did not already have it) and to conduct monetary policy in pursuit of price stability. The maintenance of price stability (in practice low rates of consumer price inflation) is intended to facilitate low expectations of inflation and lower real interest rates, hence higher levels of investment and economic growth. Nonetheless, the regime relies on interest rates being raised in response to inflationary pressures, and it is believed that independent central banks will be more willing to take such unpopular actions than elected politicians.

The pursuit of price stability usually takes the form of an inflation target with monetary policy the principal instrument and decisions made by independent central banks. New Zealand was the first country to adopt inflation targeting in 1989, and it is now practiced by all of the world's principal central banks. This "new

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monetary policy consensus" flows from the wider rise of neoliberalism (Saad-Filho, 2018).

Inflation targeting usually (but not always) accompanied by secondary objectives relating to the real economy (e.g. growth, employment) and the stability of the financial system. Inflation targets may be asymmetric (i.e. they should not exceed the target rate) or symmetric (it is equally undesirable for inflation to fall below the target as to rise above it). Asymmetric targets are intended to be tougher on inflation than asymmetric ones that are seen as favoring a little more growth over inflation. Initially the Eurozone's target was asymmetric, but it became symmetric in 2023, with a current target of 2% inflation.

Table 4.1: Eurozone membership

Founder members (1999) (11)	Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain
Subsequent members (9)	Greece (2001), Slovenia (2007), Cyprus (2008), Malta (2008), Slovakia (2009), Estonia (2011), Latvia (2014), Lithuania (2015), Croatia (2023)
Prospective members (1)	Bulgaria (2026)
Non-members (EU) (6)	Czechia, Denmark (opt-out), Hungary, Poland, Romania, Sweden
Not eligible (1)	UK

Table 4.1 shows that there were 11 founder members of the Eurozone. Since then nine other currencies have joined it, bringing the total to 20. This will become 21 in January 2026 when Bulgaria also joins. None of the six other EU member states are likely to join the Eurozone in the foreseeable future. Membership of the modified version of the Exchange Rate Mechanism (the system of semi-fixed exchange rates that operated before the euro was introduced) is a prerequisite for joining the Eurozone. Among this group of countries, only Denmark is a member of ERMII. It negotiated an opt-out of the single currency when the Maastricht Treaty was negotiated, and has no intention of joining. Whilst the other countries in this group are obliged to join the euro under the Treaty, being a member of ERM II is a prerequisite for euro membership and there appears to be no pressure on them or appetite among

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them to join the euro. The UK (which also negotiated an opt-out) considered joining the Eurozone, but in 2003 concluded that its economy was not sufficiently integrated with the core Eurozone and, of course now is not eligible for membership, having left the EU.

Table 4.2: Monetary policy regimes in the EU and UK

	ERM II	Inflation targeting (year adopted)	Inflation target	Exchange rate target	QE (years adopted)
Eurozone	n.a.	√ (1999)	0,02	X	√ (2015; 2020 -?)
Bulgaria	√	X	n.a.	√ (v. € 1999)	X
Czechia	X	√ (1998)	0,02	X	X
Denmark	√	X	n.a.	√ (v. € 1999)	X
Hungary	X	√ (2001)	0,03	X (ended 2008)	√ (2020-21)
Poland	X	√ (2004)	2.5%	X	√ (2020 -?)
Romania	X	√ (2005)	2.5%	X	X
Sweden	X	√ (1993)	0,02	X	√ (2015; 2020-21)
UK	n.a.	√ (1992)	0,02	X	√ (2008-09; 2016; 2020-21)

Table 4.2 summarizes the monetary policy regimes in the EU-28 plus the UK. Eurozone countries fall within the inflation targeting regime operated by the European Central Bank, with its 2 per cent inflation target. Apart from Bulgaria and Denmark (the two ERMII members) all the other countries now operate inflation targeting regimes. Inflation targets now vary between 2 per cent and 3 per cent.

4.3 Trends in central bank interest rates

Global economic factors have a major influence on monetary policy. The worldwide decline in inflation linked to globalization allowed interest rates generally to decline in the 1990s, setting the scene for the rise in asset price up to the Global Financial Crisis, which led to a "long" decade of ultra-low interest rates

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until the revival in inflation following COVID-19 and the Russian invasion of Ukraine.[2]

Central banks reduced interest rates in response to the Global Financial Crisis in 2007/08. The European Central Bank reduced the fixed interest rate from 4.25 per cent in 2008 to 1 per cent in 2009. It was reduced to zero in 2016, where it remained until June 2022. The inflationary resurgence that occurred after the Russian invasion of Ukraine saw the ECB increase rates to 4.5 per cent in 2023, before the containment of inflation allowed it to be reduced to 2.15 per cent in 2025.

The US Federal Reserve funds rate followed a similar trajectory to the ECB, except that rates were increased from 2015 before being slashed in response to the pandemic. The Bank of England's Base Rate also followed this pattern, but with peaks somewhat higher than the ECB on the eve of the financial crisis and following the pandemic.

Figure 4.1 shows central bank interest rates in the EU from January 2022 to October 2025. Whilst the Swedish and Bulgarian central banks' interest rates follow the ECB's closely, the tendency in the other non-euro countries is for higher interest rates. This is particularly pronounced in the case of Hungary where rates peaked at 13 per cent.

This suggests that whilst central bank interest rates reflect the conditions of the global economy, there can still be considerable divergence when domestic economic conditions require different rates to be applied.

2 An alternative (monetarist) interpretation is offered by Congdon (2023) who argues that the resurgence of inflation in the UK was attributable to the expansion in the money supply associated with Quantitative Easing. He observes that inflation began to rise before the Russian invasion of Ukraine. A similar argument could be advanced in relation to other countries.

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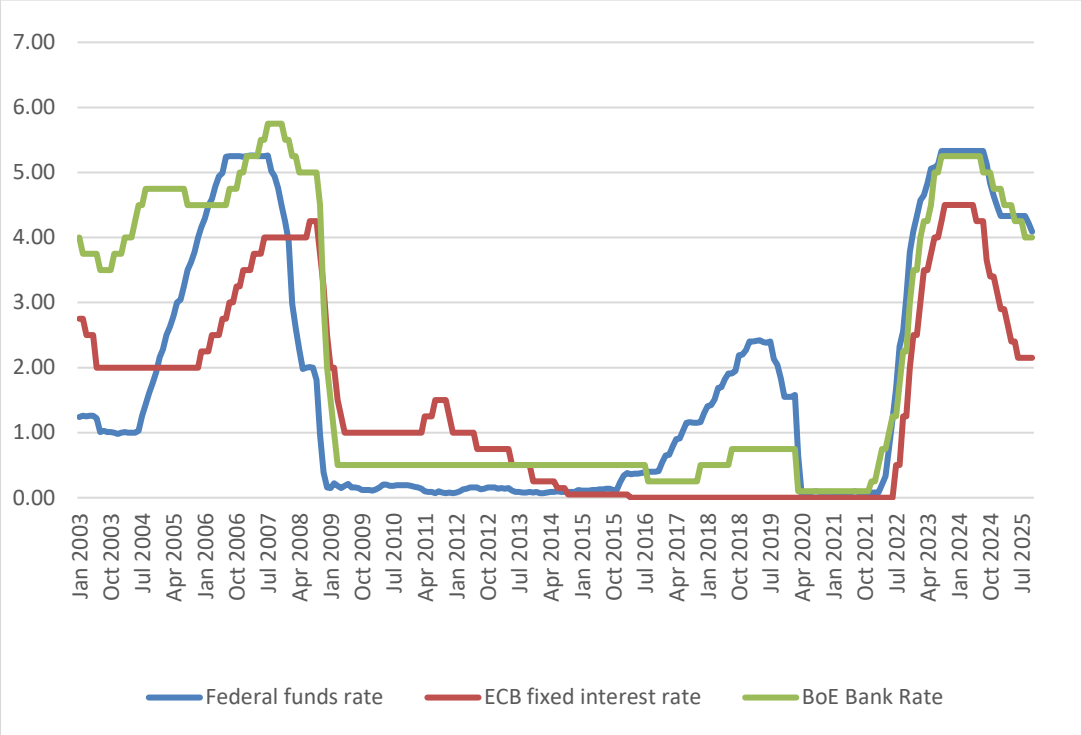
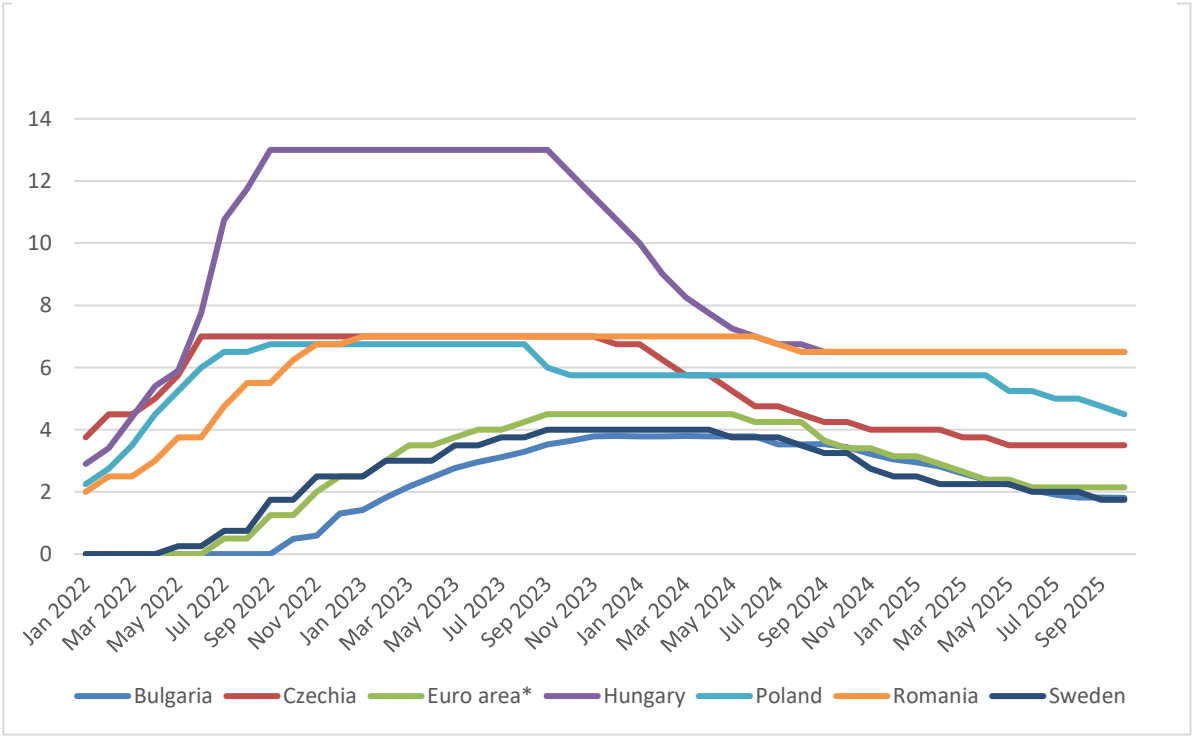
Figure 4.1: ECB, US Federal Reserve and Bank of England interest rates (%), January 2003 to October 2025



Source: Statistica, November 2025 (ID: 1470953)

Figure 4.2: Central bank interest rates in the European Union from January 2022 to October 2025, by country



Source: Statistica, November 2025 (ID 1320828)

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4.4 Unconventional monetary policy

In exceptional circumstances, central banks may find that interest rates no longer act as an effective lever of economic management. This is likely to occur when interest rates have already been cut to very low levels. Whilst the Bank of Japan was the first central bank to adopt what has become known as Quantitative Easing (QE) in 2001, it has become more common since the Global Financial Crisis in 2008.

QE is the practice whereby central banks print money electronically and purchase financial assets such as government bonds, corporate bonds, covered bonds and (in the case of the US Federal Reserve) mortgage backed securities. This places upward pressure on the prices of these assets which in turn forces the yield down. The process is intended to stimulate the economy, and has the (intended) effect of increasing asset prices.

Central banks may reverse QE by selling bonds – a process known as Quantitative Tightening (QT), whose effects can be expected to be the reverse of QE.

QE in practice

The US Federal Reserve and UK Bank of England were among the banks to adopt QE after 2008, although the European Central Bank did not (see Table 2), at least not officially. The minutes of the Bank of England's Monetary Policy Committee reveal that the decision was influenced by the breakdown in the MTM – cutting interest rates was no longer feeding through into reduced mortgage interest rates as banks were prioritizing rebuilding margins (Stephens, 2025; 2025a). The Bank of England greatly expanded its QE programme during the pandemic, focusing almost entirely on gilts (UK government bonds) (Figure 3). The Bank began to reverse QE in 2021 with active sales. It has slowed down this process of QT in 2025 because the government is borrowing on a large scale and QT was forcing up interest rates on gilts. The ECB first officially used QE in 2015-16 (on a relatively modest scale), but, like many other central banks, adopted it on a large scale during the Covid-19 pandemic.

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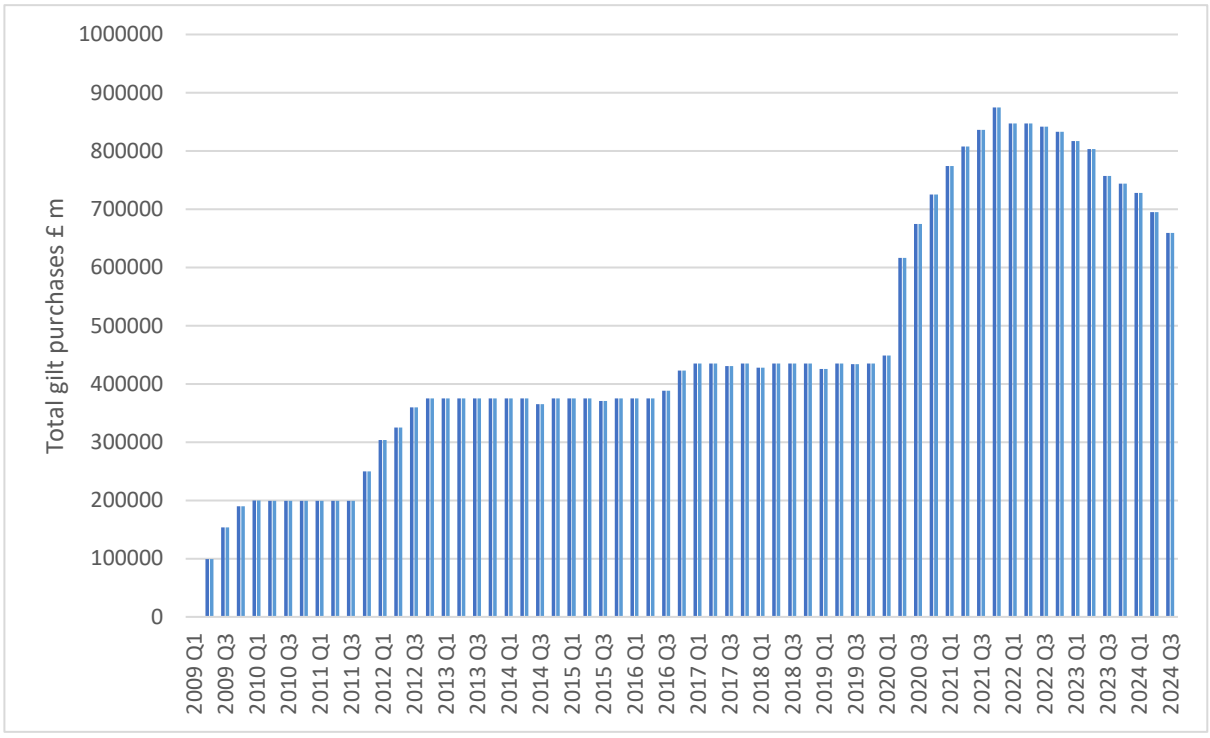
Figure 4.3: UK's QE programmes 2009-2024



Note: Gilts only – excludes £20bn of corporate bond purchases.

Source ONS and Bank of England, compiled by Stephens (2025)

Since 2022, the ECB has begun QT. Sweden made provision for QE in 2012, but did not activate it until 2015. During the pandemic (2020-21) its QE programme included government securities, municipal bonds, covered bonds and commercial paper. It was on a scale (SEK 900bn) similar to other small open economies, but considerably smaller than the major central banks (Andersson, et al 2022).

In the emerging markets of Central and Eastern Europe, quantitative easing serves to improve liquidity and maintain market functioning during periods of capital outflow toward safe-haven currencies. However, this measure was not widely used before the pandemic, with the exception of Hungary. The Hungarian central bank began an unconventional monetary easing program in 2016, introducing FX swaps and restricting access to long-term deposits in order to keep the base rate at the targeted level.

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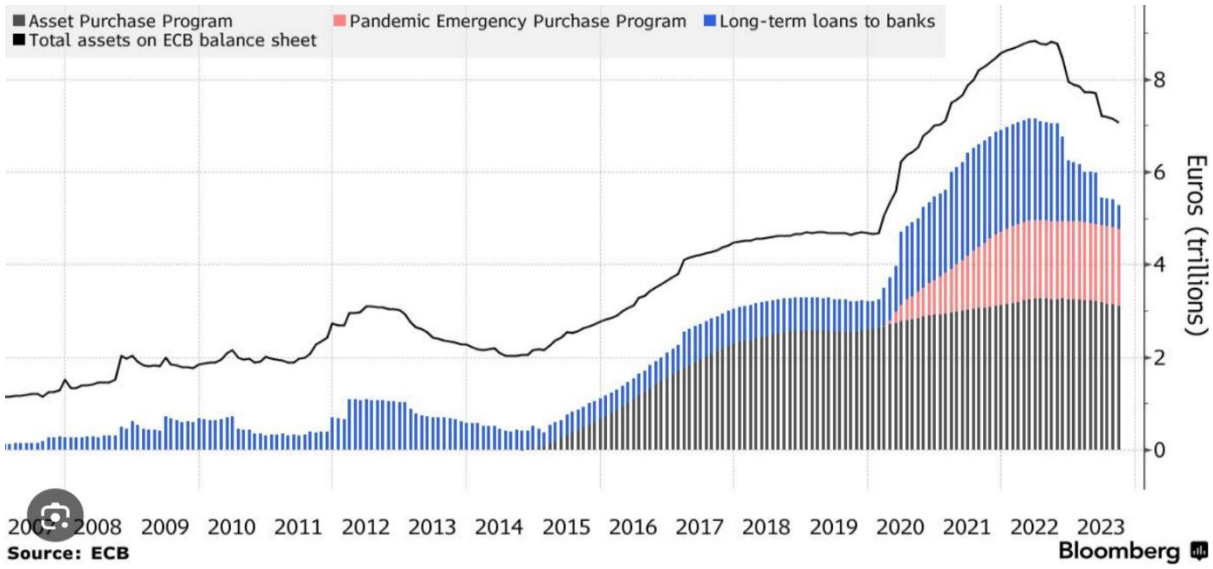
Figure 4.4: ECB APP Cumulative Net Purchases 2015-20



Between 2020 and 2021, the central banks of Poland, Hungary, and Romania launched bond purchase programmes to "consolidate structural liquidity in the banking system" and "strengthen the monetary policy transmission mechanism." The scale of these programmes varied from 6.3% of GDP in Poland to only 0.5% in Romania. The programmes were not extended beyond the initial period of the COVID-related economic slowdown.

Zaleska (2022) suggested that without Poland's QE programme, "the government would not have been able to offer aid, in particular to enterprises, in the form of anti-crisis shields" and argues that the National Bank of Poland's inflation targeting mandate "receded into the background and supporting the economy turned into the primary aim." Hungary adopted QE during the pandemic (2020-21) on a scale of HUF 3.4tr ($10.6bn) (Reuters, 1/12/21). Bulgaria, Czechia, and Denmark did not use QE. Denmark suggested that it was incompatible with exchange rate targeting.

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4.5 The measurement of housing costs in inflation indices

Inflation targets are based on measures of consumer price inflation (CPI), which are based on changes in the price of "baskets" of goods and services. A CPI is intended to reflect the changes to the cost of living for an "average" household. Whilst different CPIs are conceptually similar, what is included in these "baskets", and how they are weighted, varies between currency areas and over time.

At the outset, it is important to note that house prices (as opposed to the cost of housing services) are asset prices, not consumer prices. Central bank mandates require them to target consumer price inflation, not asset price inflation. House prices per se therefore do not feature in house price indices, although, as we shall see, it is not quite so clear cut in practice.

Although rents are captured relatively easily in CPIs, it is much more difficult for them to reflect the costs associated with home-ownership. This is because owner-occupied housing is an investment good (asset) as well as a consumption good, and, once purchased, it is consumed over a much longer period than any other item in a CPI basket. The reality of owner-occupiers' housing costs is that they vary considerably between households, even between households that occupy otherwise identical properties.

Because of these difficulties some CPIs exclude home-owners' costs altogether. These include those used by the ECB[3] and the Bank of England. Nonetheless, the ECB is expected to introduce a measure of owner-occupiers' housing costs. They are actually included in the UK's official inflation index, but are stripped out of the index used by its central bank (Stephens, 2023). There are three main ways in which owner-occupiers' housing costs are measured in inflation indices, but a fourth is possible.

[3] ECB: The HICP – a harmonised measure of inflation in the euro area https://www.ecb.europa.eu/stats/macroeconomic_and_sectoral/hicp/more/html/index.en.html

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Table 4.3: Methods of measuring housing costs in inflation indices

Country/ Region	Treatment of owner-occupiers' housing costs
Sweden, Canada	Use cost
USA, Japan, Norway, UK (*)	Rental Equivalence
Australia, New Zealand	Net acquisition
Euro area (**), UK (*)	Excluded

(*) UK uses rental equivalence in its "lead" inflation index, but excludes owner-occupiers' costs from the index used for inflation targeting

(**) The net acquisition approach has been recommended for adoption

Source: Rikksbank; Stephens (2023)

User cost: This approach aims to capture the cost of consuming housing without the investment element. Sweden employs a version of this approach. The Swedish index (CPIF) costs of an interest expenditure index, which is made up of two elements: an interest rate index and a capital stock index[4]. The capital stock index, using a 30-year average for single family home prices and a 10-year index for tenant-owned apartments. Since the interest rate index is held constant, this is essentially a smoothed house price index. (However, there is no technical reason why a similar approach should not be taken to mortgage interest rates.)

Rental equivalence: This approach seeks to measure the value of housing services to households. It does this by imputing the market rental value of an equivalent rental property to an owner-occupied property. A practical barrier to the adoption of this approach in some countries arises where there is no market rental sector (for example due to rent controls) or an insufficiently large market rental sector. It has the obvious deficiency if part of a cost-of-living index of not actually reflect owner-occupiers' housing costs.

Net acquisition: This approach seeks to capture the cost of housing, but excludes the cost of land. A practical drawback arises from the difficulty of separating the property price from land price. (In the Australian index, what is essentially a construction cost index is used.) As the Swedish Rikksbank observes,

[4] This is based on a Rikksbank report: https://www.riksbank.se/globalassets/media/rapporter/ppr/fordjupningar/engelska/2021/different-methods-of-measuring-housing-costs-in-the-consumer-price-index-article-in-monetary-policy-report-september-2021.pdf

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"current house prices do not reflect the cost of living in an average house- hold, which is inconsistent with the theory for the cost of living index and is thus inappropriate for this type of index."

Direct costs: A common feature of the approaches described above, at least the way in which they are implemented, is that they exclude mortgae interest payments, which is the principal direct cost that homeowners experience. Whilst not a "consumer price" they are clearly an important element in the cost of living of many households and it may appear to be inequitable to exclude them. The UK's official inflation index from 1947 to 2013, known as the Retail Price Index (RPI), does include owner-occupiers' actual mortgage interest payments. However, it was stripped out of the RPI when the Bank of England was given responsibility for monetary policy in 1998 (and a CPI is now used).

The principal reason for choosing owner-occupier indices that exclude mortgage interest rates is to avoid the "circularity" problem that arises (or at least becomes acute) from placing inflation targeting wholly in the hands of central banks: when inflation rises, central banks increase interest rates. These will flow through into mortgage interest rates, which, if included in the inflation index, will cause it to rise.

4.6 The effect of owner-occupiers' housing costs on monetary policy decisions

Given the treatment of owner-occupiers' housing costs in the inflation indices used for inflation targeting by central banks, central banks are unlikely to be concerned about higher or lower mortgage interest payments from a housing or social policy perspective. This is because the impact of interest rate decisions on housing affordability and their distributional consequences are not included in central bank remits.

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Monetary transmission mechanism

Nonetheless, central banks are interested in the way in which their interest rate decisions impact one mortgaged homeowners because they affect the levels of demand in the economy, which affect the consumer price index. So, in assessing the impact of an interest rate change, central banks models will seek to predict first, the impact of central bank interest decisions on mortgage interest rates, second the impact of changes in mortgage interest rates on households' disposable incomes, third the impact of changes in disposable income on actual levels of household consumption (the "propensity to consume"), the impact of household consumption on the overall level of demand in the economy ("aggregate demand") and finally, the impact of changes in aggregate demand on consumer price inflation.

This chain – from changes in interest rates set by central banks to changes in inflation via the mortgage market – is known as the monetary transmission mechanism (MTM). We would expect the strength of the MTM to be greatest where: levels of mortgaged homeownership are highest, levels of mortgage debt are greatest, where mortgage finance is part of the general finance system, and where mortgage interest rates are most variable (e.g. adjusted monthly). Conversely, we would expect the MTM to be weakest where there are low levels of mortgaged ownership, low levels of mortgage debt, where mortgage finance is supplied through "closed" circuits[5], and mortgage interest rates are fixed for long periods (e.g. 20-30 years).

Koeinger et al's (2022) study of Switzerland, Germany and Italy confirmed the findings of many other studies that there is much variation in the MTM "due to tenure, incidence and structure of mortgage debt, and whether rents are linked to mortgage interest." (qtd. Stephens, 2024, p. 2087). They also found that the link between central bank decisions and mortgage rates was especially strong for households with new mortgages. Cloyne et al (2020, qtd. Stephens 2023) using

[5] A closed circuit exists where funds raised for mortgage lending and mortgage repayments are separated from the rest of the financial system. This can be achieved through regulation which protects or privileges one type of intermediary over others. This type of arrangement has become less common due to financial deregulation.

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data from the US and UK contrasted the "hand to mouth behaviour" (p. 127) of mortgaged households whose consumption levels were very sensitive to interest rate changes to outright owners whose consumption barely changed.

Wealth effects

Monetary policy decisions also impact on house prices. A direct concern about house prices, along with other asset prices, falls outside central banks remits. Nonetheless, interest rates do affect house prices. The world-wide shift towards lower inflation saw a parallel reduction in interest rates in the 1990s which set the scene for the upwards movement in house prices. Within Europe, the introduction of the euro led to falls in interest rates among its southern European members (because they had had higher inflation and higher interest rates than the core euro members, such as Germany) and arguably fuelled the property market booms in the run up to the financial crisis. For example:

> It is by now widely acknowledged that the smoothing of countries' international credit risk profiles after they'd signed the Maastricht Treaty in 1992 was the ultimate source of divergent experiences for core and periphery states. States in the Eurozone periphery gained in international credibility and, therefore, borrowing capacity. Interest rates were set for larger countries with low inflation propensity. This facilitated a flood of cheap credit to the periphery that led to the build-up of unsustainable booms. (Dellepiane-Avellaneda, et al, 2022)

The day-to-day interest rate decisions of central banks are likely to be less dramatic than such worldwide or transitional events. Nonetheless they still impact on house prices – lower interest rates enable house purchasers to borrow more which will to an extent place upward pressure on house prices. The extent to which this happens depends on mortgage and housing market structures, and on household appetite for debt. Higher house prices may be outside the remits of central banks, but they can impact on consumer price inflation, through the "wealth effect". When household wealth increases, there is a tendency for households to spend more, so increasing aggregate demand in the economy. This may arise through the use of equity release or withdrawal instruments (e.g. by remortgaging a house) which became widely available when financial markets were deregulated–or re-regulated–or by making households more comfortable about increasing expenditure from current income because they take comfort

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from their higher level of housing wealth. Of course, this process may reverse when interest rates rise and house prices fall.

Like the MTM, wealth effects are likely to vary within currency areas, according to the interest rate sensitivity of house prices, the availability of equity withdrawal and release products and household behaviour.

Central banks may also be concerned about house prices where the maintenance of financial stability is within their remits. If they believe that house price rises are forming a "bubble" that will burst causing widespread default and foreclosures then this could threaten the stability of the financial system. In these circumstances, the wealth effect could "induce the central bank to react indirectly to emerging asset-price bubbles and thereby mitigate adverse longer-run consequences of financial imbalances" (Goodhart & Hoffman, 2008, p. 202).

This precautionary deployment of interest rates to guard against bubbles is known as "leaning against the wind" is controversial among economists. Posen (2006) was opposed to it as it meant running economies below capacity with lower rates of growth and employment. André et al (2022) agreed that this approach "can have a significant cost to the economy," but argued it could be justified where the economy was at near capacity. Many economists suggest that other levers could be deployed to guard against unsustainable house price bubbles, including prudential policies such as limiting LTVs. Finocchiaro and Von Heideken's (2013, quoted in Stephens 2024) study of the US, UK and Japan suggested that whilst central banks do not treat house prices as "target variables", they do treat them as "indicator variables." In other words, "to deny that house prices are an explicit target for monetary policy does not exclude [preclude?], *a priori*, a direct role for asset prices in the monetary policy reaction function" (p. 1677).

Housing impacts of QE

A feature of QE during the pandemic was that central banks tended to purchase government bonds which helped governments to finance compensatory programmes to households and businesses during lockdowns, as well as recovery packages. To some, this appeared to be akin to "printing money"

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even drawing parallels with the Weimar Republic's hyper-inflation (Finance Fusion Hub, 2024).

There are strong theoretical reasons for expecting QE to lead to higher house prices, and this is supported by various studies. Hülsweg and Rottmann (2021, p. 5) found that the ECB's QE programme "contributed to a surge in house prices." A Riksbank's study found that its QE programme "could have contributed to an excessive rise in housing prices during the pandemic" (Andersson, et al 2022). A Bank of England (Bunn, et al, 2018) study into its "accommodative" monetary policy (i.e. interest rate cuts plus QE during 2008-14) identified a complex picture. QE in this period did not stop house prices falling, but preventing them from falling further. Perhaps surprisingly, housing had a moderating effect on wealth inequality effects partly because housing wealth is less unevenly distributed than other forms of wealth such as financial assets and forms a higher proportion of the wealth of households further down the spectrum. Nonetheless, in cash terms, households in the top 10 per cent gained far more than those in the bottom 10 per cent.

The findings of these studies are far from definitive, but, as Evgenidis & Fasianos (2021) observed central banks should have an "awareness... about the redistributive effects of their monetary policy discussions" – affecting income groups, tenures and generations. However, these issues, whilst of vital importance to public policy, fall outside central banks' mandates.

The geography of QE, however, is not limited to the jurisdiction where central banks purchase assets. The purchase of assets produced an intended process of portfolio rebalancing. This refers to the change in the risk appetite of financial institutions resulting in a change in the composition of the assets in the balance sheet of investors (Fernandez et al 2018). Because QE reduces yields on high-quality assets, investors face lower returns in domestic markets and therefore seek alternatives that offer higher yields. The German central bank (Deutsche Bundesbank 2017, pp 1) estimated that the overall savings in interest payments for Eurozone governments (except Greece) as a result of the decline in interest rates amounted to €1 trillion from 2008 to 2017.

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These lower yields pushed asset managers and other financial institutions into riskier assets, such as corporate bonds, equities, and alternative asset classes such as real estate. This push from safe domestic assets to riskier assets also produced unintended outward capital flows seeking higher returns (Apostolou and Beirne 2017). These outward capital flows spread the geography of QE to a global phenomena, impacting the global south as well as CEE countries outside the eurozone, lowering interest rates and overall liquidity conditions, expanding credit provision.

4.7 Conclusion

Monetary policy is important for housing markets and housing markets are important for housing policy, but monetary policy is at best peripheral to housing policy debates[6].

This is at least partly attributable to the separation of monetary policy from normal democratic politics – throughout the Eurozone, the rest of the UK and the UK, as well as in all other advanced economies, monetary policy has been contracted out to operationally independent central banks with remits focused on targeting consumer price inflation.

In operating monetary policy central banks are aware of the importance of housing, in particular the way in which central bank interest rate decisions are transmitted via household mortgages into aggregate demand; and the way in which central bank interest rates affect household wealth via house prices, and the effect that household wealth has on aggregate demand, and hence inflation. They *may* also be concerned about unsustainable house price booms in case they cause financial instability, although this is more disputed territory.

Whilst aware of the impacts of monetary policy on housing markets and on house prices and the cost of house purchase, central banks are not interested in housing from a *housing policy* perspective, because matters of access and

[6] Some of the arguments in the conclusion have been advanced in Stephens, 2023, 2024 and 2025.

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affordability are beyond their remits. Nor are they interested in the distributional consequences of the housing effects of monetary policy, which have been heightened by the deployment of unconventional monetary policy, for the same reason.

Moreover, the treatment of housing costs in the inflation indices that central banks target creates its own problems. Homeowners' housing costs are routinely excluded from inflation indices that are targeted – either altogether (as is currently the case with the ECB and Bank of England), or they are included in ways that do not reflect the "lived experience" of mortgaged owners (e.g. imputed rent). This is to avoid the "circularity" problem of raising interest rates to reduce inflation, but finding that rising interest rates contributes to higher cost-of-living costs for mortgaged homeowners. However, this undermines a key purpose of targeting inflation.

Inflation indices perform a number of functions, one of which is to act as a cost-of-living index. In welfare economics, derived from utilitarianism, it is normal to treat each individual's welfare (or utility) equally. The exclusion of mortgaged homeowners' principal housing costs from such indices breaches this principle. During the inflationary resurgence, home-owners' interest costs have been increased as a key mechanism for reducing inflation. It is therefore arguable that it is unethical to place such disproportionate amount of "pain" on a minority of households to meet a policy objective.

Monetary policy and inflation targeting are therefore matters of concern from a housing policy and social justice perspective. The question as to whether it is satisfactory to treat monetary policy purely as a technical issue, beyond the scope of everyday democratic politics.

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5 Making housing systems: fiscal policy

Fiscal policy is a central, yet under-examined, dimension of housing system formation. While critical housing studies and the financialization literature have highlighted the expansion of mortgage markets, securitization chains and the rise of institutional investors (Aalbers 2008; 2016), the tax treatment of housing and the land on which it sits has received comparatively little systematic attention—particularly in comparative analyses of European housing systems. Where taxation is mentioned, it is often framed either as an area of unused potential for reform (Ryan-Collins 2021) or discussed in isolation from the institutional and financial characteristics that define housing regimes.

Task 4.1 of this Work Package directly addresses this gap. It examines how the fiscal treatment of housing—understood as both the taxation of property and the alleviation of that taxation through deductions and exemptions—helps construct distinct housing system trajectories, and how these fiscal configurations contribute to diverging patterns of investment flows, commodification and housing inequalities. The central premise is that fiscal regimes do not merely reflect existing housing markets but have the ability to actively shape them. Fiscal instruments influence the cost of entering and sustaining different tenures, steer household and investor behaviour, and interact with mortgage markets in ways that can either reinforce or mitigate housing financialization.

Housing taxation has a dual role. First, it raises revenue for the state through taxes on property wealth and transactions. Second—and more critically—fiscal instruments are used to subsidize behaviours deemed socially or economically desirable, most commonly owner-occupation. This has generated extensive debate about the "hidden homeownership welfare state" (Kholodilin et al. 2023), in which tax deductions and exemptions redistribute resources towards households able to buy and leverage property. Such fiscal support is closely tied to the ideological, political and economic valorization of homeownership (Ronald 2008). Reflecting this, there have been calls for tenure-neutral taxation (Fatica & Prammer 2018), arguing that rental housing and owner-occupation should be taxed on a comparable basis to avoid systematically privileging the latter.

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Tenure neutrality implies the consistent treatment of housing (a) with other assets and (b) between different housing tenures. Where tenure neutrality is contravened, it is often intended to attain a particular social outcome, such as the promotion of homeownership. However, policy makers need to be alert to unintended consequences of favouring particular tenures through taxation, as the tax concession is liable to be at least partially capitalized into higher house prices. This may mean that whilst the formal incidence of the tax concession lies with one party (e.g. the purchaser) the effective beneficiary is another party (e.g. the seller). It is obvious from this example that housing taxation has important distributional consequences.

A complexity arises from the hybrid nature of housing as both a consumption good and an investment good (asset). If it is treated as a consumption good, then the tenure neutral position is that owners should not receive Mortgage Interest Tax Relief (MITR), but they should not pay tax on the imputed rent. However, if it is treated as an investment good, MITR should be available, but tax should be paid on imputed rental income. However, MITR is sometimes made available without taxation of imputed rental income. Mortgage Interest Tax Relief (MITR), which allows households to deduct mortgage interest payments from taxable income, reduces the cost of borrowing, encourages higher leverage, and is at least partially capitalized into house prices, thereby benefitting existing owners more than new entrants. There is also a historical component to this. It is not only the current state of MITR we need to take into account but also its past, to understand how it may have shaped leverage, reflected in current prices. Its interaction with mortgage markets directly links fiscal policy to the processes of financialization examined elsewhere in this report.

A growing set of empirical studies and policy reports has approached housing taxation in recent years. The User Cost of Housing (UCOH) indicator developed by the Joint Research Centre provides one of the most comprehensive comparative assessments to date (Barrios et al. 2019; Thiemann, Grünberger & Palma 2022; Grunberger, Mazzon & Tudo Ramirez 2024). UCOH aggregates a broad range of fiscal and financial variables—mortgage interest tax relief, transfer taxes, imputed rent, recurrent property taxation, capital gains taxation and interest taxation—

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into a synthetic estimate of the net fiscal burden (or benefit) associated with holding owner-occupied housing.

Empirically, UCOH values show pronounced cross-country variation. In the 2019 JRC dataset (Barrios et al. 2019: Annex B), reproduced in OECD Housing Taxation in OECD Countries (2022, p. 110–113) , UCOH estimates typically range between 1% and 3% of the dwelling value per year in countries such as Germany (1.2–1.6%), Austria (1.4–1.8%), Finland (1.8–2.2%), and France (2.0–2.8%). In contrast, several countries exhibit near-zero or negative user costs, meaning the fiscal system provides an effective net subsidy to owner-occupied housing. Negative or close-to-zero UCOH values are documented for Belgium, the Netherlands, Luxembourg and Portugal (Barrios et al. 2019; Grunberger et al. 2024), reflecting the combination of generous mortgage interest deductibility and low recurrent property taxation. For instance, maximum MITR rates reached 40–50% in Belgium and the Netherlands during much of 2008–2012 (Thiemann et al. 2022, pp. 18–19), while recurrent property tax revenues remained extremely low in Luxembourg (~0.05% of GDP) and relatively low in Portugal (~0.3% of GDP) (OECD 2022, p. 115–118) .

Southern and peripheral economies also display favourable fiscal treatment of owner-occupation. Countries such as Italy, Spain and Greece register UCOH values near 0–1% (Thiemann et al. 2022, p. 20), reflecting weak property taxation, limited taxation of imputed rents and, in some cases, preferential treatment of capital gains on primary residences. Ireland recorded negative UCOH values in the early 2010s (Barrios et al. 2019), driven by temporary post-crisis mortgage tax credits and low annual property charges.

Across all three generations of the UCOH indicator, a consistent pattern emerges: housing is fiscally privileged relative to other assets, primarily due to the near-universal non-taxation of imputed rent and the widespread presence of mortgage interest tax relief. Fatica and Prammer (2018) provide further empirical confirmation. Using a counterfactual "tax-neutral benchmark," they demonstrate that every euro area country in their sample provides a net subsidy to owner-occupied housing capital, with the value of these subsidies amounting to 1–3% of GDP annually in several cases (Fatica & Prammer 2018, p. 314–316) . These findings

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align with long-term evidence from Kholodilin et al. (2023), who document the expansion of fiscal homeowner subsidies since the 1990s (pp. 92–99) .

These findings are also consistent with our own dataset: in 2018–2022, nine countries still applied MITR at substantial rates (e.g. Netherlands 0.50, Luxembourg 0.42, Belgium 0.40[7]), while imputed rent taxation remains effectively absent across all systems. Meanwhile, recurrent property tax revenues in our sample remain modest—averaging 0.7–0.9% of GDP in more financialized systems and much lower in less financialized clusters—underscoring how European fiscal systems continue to reduce the effective cost of leveraged homeownership, embed pro-homeownership biases, and reinforce mortgage-driven financialization.

Gabor and Kohl's (2022) study on the assetization of housing in Europe lists four tax exemptions constituting homeownership support: 'the non-taxation of imputed rent, the reduced taxation of capital gains for owner-occupied housing, exemption of new construction from VAT and the deduction of mortgage interest payments from income taxes.' (Gabor and Kohl 2022).

Finally, Kholodilin et al. (2023) examine the interplay of MITR, imputed rent taxation, capital gains taxation and VAT on new construction, arguing that the cumulative effect of disparate fiscal measures constitutes a coherent but largely invisible welfare architecture, one that systematically privileges owner-occupation and contributes to long-run wealth inequality.

Yet, despite this theoretical significance, imputed rent taxation has limited empirical relevance in the European context: only one country in our sample (the Netherlands) currently applies a form of imputed rent taxation, and only a small number had implemented such measures historically. For this reason, imputed rent cannot be meaningfully deployed in our comparative correlation analysis, but its absence remains central to the discussion of fiscal distortions and tenure neutrality.

[7] Please note that one of the regions of Belgium–i.e. the Brussels Capital Region–abolished MITR on January 1, 2017. This region is the smallest of Belgium's three regions, but also the one with the highest housing prices, and where MITR therefore arguably had a larger effect.

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Rather than aggregating fiscal instruments into a single synthetic indicator as present in the literature, we analyze how specific fiscal variables align with different housing outcomes and housing system trajectories across Europe. By examining recurrent property taxes, transfer taxes, and MITR separately, and by situating them within the VoRC+ typology, we are able to capture how distinct fiscal architectures underpin the variegated residential capitalisms that have emerged across Europe over the past two decades.

5.1 Variable presentation

The following section presents four fiscal measures present in our sample, of which three are used in the further analysis. To establish a baseline for more advanced analysis in the following section, the four measures discussed here are Recurrent taxation on immovable property, mortgage interest tax relief, imputed rent taxation and interest income taxation. We present their range in the sample and describe their spreads throughout both the groups as established through VoRC+ and the clusters of more and less financialized countries (see chapter 3). The data presented here is supplemented with an analysis of their intercorrelations in the following section 5.2.

5.1.1 List of selected variables

Revenue from Recurrent taxes on immovable property

One major way in which housing is taxed is through recurrent taxes. This category summarizes a number of taxes which differ from country to country but which share the characteristic of being taxes that are not levied on singular events (like the sale, acquisition or revaluation) but are levied throughout the lifetime of the property. They are also distinguished from mobile property, like shares or bonds, by being immovable.

The measure that is presented here is taken from the OECD tax revenue statistics and related to GDP to account for different sizes of economies. As part of the OECDs revenue statistics, the data is submitted by national administrations using templates provided by the OECD (OECD 2018). As this indicator compares

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tax revenue, it enables a comparison between the cases by summarizing different taxes in a revenue count (for more in-depth discussion, see chapter 2).

The average value of yearly tax revenue from this measure for the 2018-2022 time period is 0,80% of GDP, with a median of 0,68%. Overall, only a marginal increase in comparison to the 2008-12 period can be found, going from 0,74% to 0,80%. There was however an increase in the 2013-2017 period, with the average rising to 0,88% of GDP in revenue and then decreasing over the following five-year period.

The indicator differs between VoRC+ groups, the highest value being found in the cases with deep mortgage integration (group 3, average 1,71) and the lowest values for countries with limited mortgage development and those displaying incremental mortgage growth (Group 1 and 5, value of 0,55 in both cases).

Comparing more and less financialized economies, the more financialized group displays higher overall values with some more financialized cases presenting very low values. Luxembourg and Malta have very little to no revenue from immovable property taxation, while some more financialized countries have medium to low revenues from this tax, possibly indicating a conscious lowering of property taxation to encourage homeownership (AT, CZ, DE, IE, SK have values <0,5). The highest revenues of immovable property taxations are also found in the more financialized group. The United Kingdom reports the highest revenue, with an average 2,95% of GDP in 2018-22, followed by France's 2,27% and Denmark's 1,29%.

The less financialized countries report lower revenues from recurrent property taxation, with an average 0,61% of GDP in the 2018-22 period compared to the more financialized cluster's 0,89% in the same period. Only one case, Greece, reports a revenue of over 1% of GDP (1,79%) in this period. Greece is also the case with the strongest change over time, starting with very limited revenue from recurrent taxation on immovable properties (0,28% in the 2003-2007 period), then rising to a high point from 2003 to 2017 of 1,9% of GDP, with a slight decrease towards the 2018-2022 period.

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Mortgage Interest Tax Relief (MITR)

One of the most discussed fiscal measures aimed at housing is mortgage interest tax relief (MITR), the deduction of mortgage interest payments from income taxation. As noted above, it is a subsidy when it is not balanced by the taxation of imputed rental income.

MITR is likely to be regressive distributionally in its purist form. If owners are permitted to deduct interest on their entire mortgage, then on average higher income owners will benefit more than lower income ones because they will have larger mortgages associated with more expensive houses. This may be compounded if MITR is available at the owners marginal tax rate: since higher income people pay tax at a higher marginal rate, tax deductions are worth more to them than to lower income households paying tax at a lower marginal rate. These regressive aspects to MITR can be limited by placing caps on the size of mortgage on which interest may be deducted, and by limiting deductions to a standard rate of tax.

It should be noted that whilst MITR remains important, it is less important now than it was in the 1970s and 1980s when nominal interest rates were very much higher and volatile than they have been since.

There are differing naming conventions for this measure, from mortgage interest relief to mortgage interest tax relief and mortgage interest deduction - we follow Fatica and Prammer (2018) and the EC Housing Taxation Database (Barrios et al. 2019) in naming it as mortgage interest tax relief (MITR).

In estimations of foregone tax revenue from tax relief for homeownership, MITR is often the strongest factor (OECD 2022, 2025). Estimates put the Netherlands at the top of countries offering tax relief for homeowners, with the OECD estimating costs for tax relief measures for owner occupancy reaching 1,2% of GDP in 2021 - all of which they attribute to mortgage interest tax relief (OECD 2025).

Vangeel et al. (2022) examine the influence of mortgage interest deduction on house prices in European housing systems, although they differentiate dual

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income tax (DIT)[8] systems (in Finland, Norway and the Netherlands) (Vangeel, Defau, and De Moor 2022). They find 'a significant increasing effect on house prices in the selected countries over the period 1990–2015' (Vangeel et al. 2022), arguing that mortgage interest tax relief is capitalized into house prices. While the extent of capitalization in prices is debated in the literature, the fact of capitalization is seldom debated, especially under the conditions of an 'inelastic' housing supply, i.e. in a housing crisis (European Commission. Directorate General for Economic and Financial Affairs. 2022; Figari et al. 2017). This means that to the extent that MITR is capitalized into higher house prices, it does little to widen access to homeownership, making the existing owners of properties as the principal beneficiaries.

The deductibility of mortgage interest payments should in theory be balanced by the taxation of imputed rent of homeowners (Figari et al. 2017). However, the taxation of imputed rental income is uncommon throughout Europe, meaning that MITR is a subsidy.

Recent debates on the EU level have called for removing MITR measures in EU member states (European Commission. Directorate General for Economic and Financial Affairs. 2022). In simulating the effects of an abolition of mortgage interest deduction through Euromod, the authors find increased revenue in the cases with the most encompassing MITR measures (the Netherlands, Belgium and Sweden), with differing distributional impacts based on the design of the deduction (ibid.). Overall, abolishing MITR would reduce income inequality, with higher income households profiting most from mortgage interest relief (ibid.). This is, however, dependent on the design of the measures and, as Vangeel et al. (2022) argue, the tax system in place (European Commission. Directorate General for Economic and Financial Affairs. 2022; Vangeel et al. 2022).

[8] In a dual income tax (DIT) system, capital income is taxed at a proportional rate while labour income is taxed progressively, allowing for two distinct tax bases (Vangeel et al. 2022, Footnote 1). This leads to overall lower and linear tax rates for capital income.

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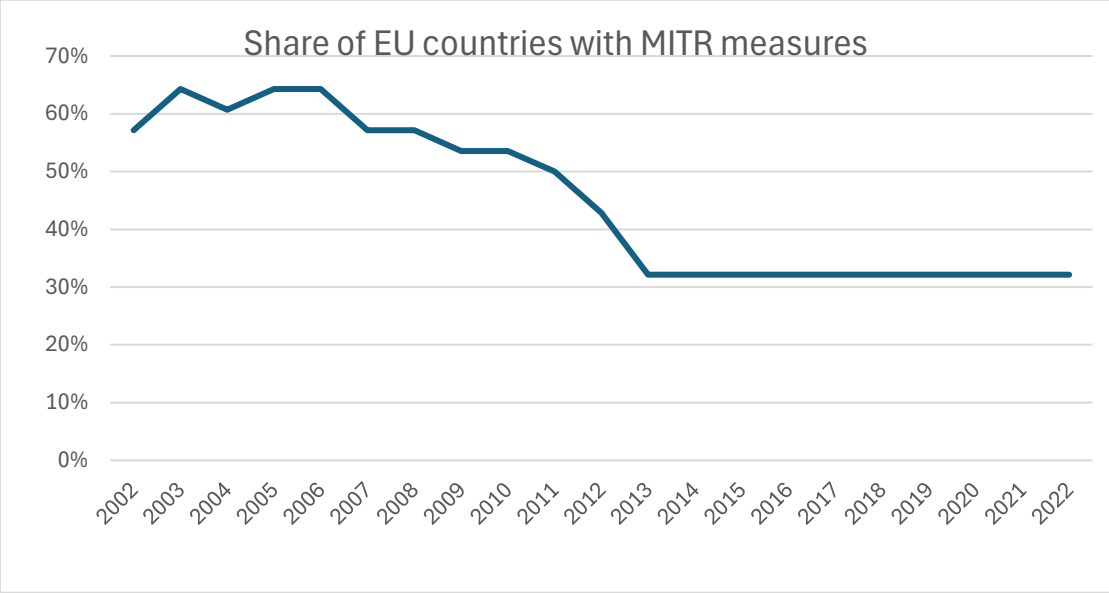
Figure 5.1: Share of sampled countries with MITR measures



Source: EC Housing Taxation Database

In the sample of 28 countries discussed in this report, there is a downward trend of MITR adoption with fewer MITR measures being in place over the observed period. In the latest period (2018-22) discussed here, 9 out of 28 cases have MITR measures in place. This is a decrease from the early 2000s, with 16 out of 28 cases allowing for mortgage interest deductions in the 2008-12 period and 18 in the 2003-12 period. This reduction in MITR measures coincides with the reduction in interest rates in the Eurozone and many cases outside of it (see chapter 4), with MITR measures more widely available when interest rates in the mortgage market were higher.

Grouping the cases by the VoRC+ approach, two groups do not currently employ mortgage relief measures: unsurprisingly, the group of cases with limited mortgage development (group 1) does not allow for deductions of mortgage interest payments. However, the countries in the alternative financialization group (group 4) also do not have MITR measures, with France having had the measure from 2007 to 2011.

Two groups have the highest indicator for MITR measures as measured by the maximum possible mortgage interest deduction: deep mortgage integration

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(group 3) and incremental mortgage growth (group 5). This mirrors the literature, which describes MITR as the central policy subsidizing mortgage growth - so to find it in the groups with the highest overall mortgage levels and the group with consistent mortgage growth fits this analysis.

Between the more and less financialized clusters we find a sustained split. Only one country in the less financialized group has a MITR measure in the 2018-22 period: Estonia. While some cases in this cluster had mortgage deductions from interest tax, the maximum rates are continuously lower than in the more financialized cluster.

The more financialized cluster has more MITR measures in place, with higher maximum rates. The highest possible rates (a theoretical value, as the actual amount of the deduction is dependent on many aspects of income taxation) are found in the Netherlands, Luxembourg and Belgium.

Imputed Rent Taxation

Imputed rent or imputed rental income is the rental value of an owners' property. It can be characterized as the sum that an owner would have had to pay had they rented the house, or as the value (income) they gain by consuming the housing services derived from occupying the property. In principle, if MITR is available, then imputed rental income should be taxed (Barrios et al. 2019; Figari et al. 2017; Klemm, Hebous, and Waerzeggers 2021). In some cases, its absence is considered the biggest factor in fiscal support of homeownership (Fatica and Prammer 2018).

We have opted to not include Imputed Rent Taxation in this analysis, mainly due to the very low adoption rates in Europe. In our sample of all 27 EU member states and the UK, only the Netherlands has a fiscal policy in place that can be characterized as Imputed Rent Taxation (Eigenwoningforfait). In practice, the taxation of imputed rent in the Netherlands is heavily limited by a deduction of up to 90%, unless already covered by mortgage interest tax relief (Klemm, Hebous, and Waerzeggers 2021).

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Task 4.4, the last task of WP4, is concerned with policy recommendations and will be an opportunity to discuss the perspective on Imputed Rent Taxation further.

Interest Income Tax

The final fiscal measure included in this analysis is the tax rate on income generated through interest; more precisely, income generated by holding interest-carrying capital. This includes interest on bank deposits and interest through financial investments like shares. The taxation of interest income is included in some calculations of housing costs, as housing as an asset is an alternative to interest-carrying forms of capital (Barrios et al. 2019).

The measure is included as a secondary measure and part of contextual variables for the analysis as it is not a fiscal measure influencing housing directly. Its inclusion is meant to measure the role of interest-carrying capital in the respective economies (Fatica and Prammer 2018).

Overall, there is a slight increase in the sample of the average rate of taxation for interest income from 0,19 (2008-12) to 0,22 (2018-2022). The highest rate in the sample is found in the UK with a tax rate of 0,45 on interest income in the 2018-2022 period. The lowest rate was given in the Netherlands (0,02 in the same period), followed by Bulgaria with a rate of 0,06. The Netherlands, however, was the only case in the more financialized group with very low taxation of interest income. The highest rates were all found in the more financialized cluster.

The differences by VoRC+ groupings are less pronounced due to the Netherlands and the UK, the cases with the highest and the lowest taxation, being in the same group (group 3). While most groups display similar values, group 1 (limited mortgage development) has lower rates of interest income taxation with an average rate of 0,13. The highest rate, 0,30, can be found in group 3 (deep mortgage integration), followed by group 4 (alternative financialization) with an average of 0,27. This supports an understanding of interest income taxation as a measure of the role of interest income in the wider economy.

Between the more and less financialized clusters, the differences become more apparent, with the less financialized cases having an average rate of 0,17

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and the more financialized group's average of 0,25 of interest income taxation rate. Comparing the two clusters over time, the biggest change is an increase in the less financialized countries between the 2008-12 and 2018-22 periods from 0,11 to 0,17, while the more financialized cluster's average interest income taxation remains on a high level throughout.

Other property taxes

Other property taxes are important to the housing system, but are not included as variables here. Owner-occupied properties are generally not subjected to Capital Gains Tax (CGT) in contrast to other assets. This is undoubtedly a major tax concession in favour of holding assets as owner-occupied housing, and is likely to encourage investment in housing as opposed to other assets, including productive assets.

There are reasons why governments tend not to tax homeowners' capital gains: CGT would discourage mobility and would appear unfair to owners who do not realize their gains because they simply purchase another property. For this reason roll-over relief may be applied even when the final sale is taxed.

In Europe, that is in the sample discussed in this report, six countries applied CGT to owner occupied housing in 2022: the Czech Republic, Hungary, Lithuania, Slovenia, Spain and Sweden (OECD 2022, pg. 135). In most of these cases, capital gains were exempted from taxation after a period of time (two to five years), with Spain offering additional rollover relief. In the other twenty-two cases in our sample, no CGT was applied to owner-occupied housing (ibid.). In contrast, properties that were rented out were applicable for CGT in almost all European cases, with only Greece, the Netherlands and Slovakia exempting rented properties from CGT as well (ibid., pg.138).

Transaction taxes such as 'stamp duty' are frequently applied to housing. Economists tend to dislike them as they inhibit mobility which may reduce labour market flexibility. However, they can raise significant revenue.

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5.2 Correlation data

In this section we analyze three core fiscal indicators for 27 EU Member States and the UK across two time periods. These indicators (recurrent property taxes, transfer taxes, and MITR) were selected for their conceptual relevance, data availability and empirical role in housing system formation. This section presents correlations between the three fiscal variables and five housing outcomes (mortgage-to-GDP, homeownership stratification, arrears, housing cost overburden, gross fixed capital formation in dwellings (GFCF), for both less financialized and more financialized housing systems. We interrogate relations by looking at three different types of correlations between these variables. The first is a 'static' correlation (correlations of averages of a single period) and the second is the delta of correlations, which compares two static sets of correlations.

- static correlations (2008–2012): baseline, at the time of GFC and euro crisis
- static correlations (2018–2022): current state.
- deltas (Δ): directional change, revealing emerging or consolidating dynamics.

Although we have defined five groups in the VoRC+ approach (Chapter 3) and have, so far, described and analyzed the variables for these five groups, in this section we will present a correlation analysis based on two rather than five groups. The reason for this is simple: we need adequate cell count to be able to perform the correlation analysis.

5.2.1 Recurrent taxes on immovable property

Recurrent taxes on the value of immovable property offer an entry point into how fiscal regimes are embedded within, and shaped by, Europe's divergent housing system trajectories. The correlation analysis across two periods—2008–2012 and 2018–2022—shows that the meaning and effects of property taxation differ profoundly across less and more financialized housing systems, and that these relationships have shifted substantially over time. Understanding these patterns requires not only examining the fiscal instrument itself but also situating

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it within the broader institutional, political, and macroeconomic environment in which it operates. This is what we will do in this section.

Less financialized countries

In the less financialized countries, recurrent property taxes initially display relationships that align with long-standing theoretical expectations. During the 2008–2012 period, higher recurrent property tax revenue correlates with lower mortgage penetration (r = –0.40) and less homeownership stratification (r = –0.66). These correlations suggest that, in this earlier period, property taxes retained some of the stabilizing and equalising features recognized in comparative fiscal literature, particularly in contexts where housing market turnover was low and mortgage finance played a limited role. These findings echo OECD (2022) and IMF (2018) assessments that recurrent taxes—when applied on a reasonably updated and value-based assessment—can temper speculative pressures and reduce wealth concentration.

Yet by the 2018–2022 period, these associations undergo dramatic transformation. Property taxes are no longer negatively correlated with mortgage-to-GDP ratios (the correlation weakens to r = –0.11), nor do they maintain as strong an association with more equal tenure structures (stratification r value rises from –0.66 to –0.46). Instead, the most striking shift is their new and very strong alignment with housing affordability pressures: recurrent property taxes correlate sharply with housing cost overburden (r rises from 0.56 in 2012 to 0.81 in 2022, Δ = +0.25) and arrears on housing payments (r increases from 0.05 to 0.66, Δ = +0.61). These deltas are among the largest in the entire fiscal dataset.

This evolution does not imply that property taxes themselves have become more regressive or destabilizing. Rather, the interpretation must be grounded in the changing socioeconomic and institutional landscape of less financialized systems. In many of these countries—particularly across Central and Eastern Europe (CEE), but also parts of Southern Europe—housing affordability is mediated primarily by energy costs, inflation, and income stagnation, not mortgage burdens (Dubois & Nivakovski 2023). Literature on the post-communist

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housing trajectory (Hegedüs 2013; Lux & Sunega 2014; Murie et al., 2005; Stephens et al. 2015) shows that these systems are characterized by extremely high homeownership rates (often above 90%, as a result of mass privatization of the substantial state owned housing stock constructed during the communist period), overwhelmingly mortgage-free dwelling stock, and thin markets for new construction. Under these conditions, recurrent property taxes do not interact with financial leverage or speculative dynamics; instead, they fall on households with limited resources facing high utility costs and deteriorating housing quality. Thus, in the 2018–2022 period, property taxes correlate with arrears and overburden not because they independently cause financial stress but because they intersect with structural vulnerabilities that define these housing systems.

The data therefore reveal a robust pattern: in less financialized contexts, recurrent property taxes increasingly mirror consumption-related housing stress rather than leverage-related financialization. The strong positive r values in 2022 reflect this link, while the deltas reveal the speed and intensity of the shift.

Table 5.1: Correlations of selected housing outcomes with recurrent taxes on immovable property

Outcome	LESS 2008–2012	LESS 2018–2022	FIN 2008–2012	FIN 2018–2022
Mortgage as % of GDP	-0,4	-0,11	0,3	0,29
Homeownership stratification	-0,66	-0,46	0,15	0,17
Arrear rate	0,05	0,66	0,27	0,48
Housing cost overburden rate	0,56	0,81	0,32	0,51
GFCF	-0,37	-0,7	0,07	0,1

Financialized countries

In the more financialized systems, recurrent property taxes play an entirely different role. Already in 2008–2012, property tax revenue has a weak positive correlation with mortgage-to-GDP ratios (r = 0.30) and housing cost overburden (r = 0.32). By 2018–2022, these weak correlations intensify significantly compared to 2008-2012: the correlation with mortgage levels nearly doubles (r = 0.59, Δ = +0.29), and the link with cost overburden becomes stronger as well (r = 0.51, Δ = +0.19). This pattern suggests that rather than acting as a stabilizer, recurrent

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property taxation increasingly reflects the inflationary dynamics of high-leverage housing markets.

The literature helps explain why recurrent property taxes fail to counteract leverage in these systems. In England and Scotland, Council Tax remains based on 1991 valuations, which compounds the regressive nature of the tax arising from its system of placing properties in different property bands, with lower value bands incurring higher effective tax rates compared to higher value bands (Hilber & Lyytikäinen 2017). Updating the tax would dramatically raise liabilities on properties whose value had increased more than others since 1991, making reform politically unattractive – although not impossible since the Welsh Government did conduct a revaluation in 2005 and is committed to another one (Stephens, 2024). In the Netherlands, property revaluations (WOZ) occur regularly, but municipal tax rates face statutory caps, and owner-occupied housing is treated favourably in wealth taxation. The political sensitivity surrounding WOZ increases counteracts robust fiscal use of property values (Boelhouwer 2019). In Denmark, a politically imposed "tax freeze" prevented revaluations for years, with repeated reform delays due to anticipated backlash among homeowners. In each case, the tax base is either outdated, politically constrained, or structurally unable to exert downward pressure on asset inflation. These constraints have counteracted much of the theoretical power of property taxes, with increases in value not reflected in property tax revenue (OECD, 2022, p. 77). The widespread political obstruction, have some scholars label this particular fiscal measure as the "tax everyone loves to hate" (Rosengard 2013, Quoted in: Slack & Bird 2014, pp. 3)

These institutional and political constraints explain why recurrent property taxes correlate positively with financialization indicators: they rise with property values but do not slow the underlying dynamics driving those values. The tax becomes, in effect, a fiscal mirror of financialization, not a corrective tool. This aligns with comparative fiscal research arguing that recurrent property taxes have redistributive and stabilizing potential only when politically feasible reforms allow for regular valuation updates, progressive rate structures, and integration with broader wealth taxation frameworks (OECD 2022; IMF 2018; Slack & Bird 2015).

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5.2.2 Transfer taxes

Transfer taxes provide another lens through which to observe the interaction between fiscal structures and housing system trajectories. Unlike recurrent property taxes, which are taxed annually on asset ownership, transfer taxes are imposed on the exchange of residential property and thereby interact directly with market dynamics such as turnover rates, speculative trading, mobility patterns and the scale of new investment. The correlation patterns in our data reveal that transfer taxation differs sharply between less and more financialized systems. These differences have also grown larger between the 2008–2012 and 2018–2022 period.

Table 5.2: Correlations of selected housing outcomes with Transfer Taxes

Outcome	LESS 2008–2012	LESS 2018–2022	FIN 2008–2012	FIN 2018–2022
Mortgage as % of GDP	0,42	0,4	0,1	-0,05
Homeownership stratification	0,16	0,52	0,61	0,27
Arrear rate	0,58	0,49	0,04	-0,05
Housing cost overburden rate	0,25	-0,03	-0,12	0
GFCF	0,61	0,47	0,49	0,42

Less financialized countries

In the less financialized systems, the earlier period (2008–2012) shows a distinct set of correlations: transfer taxes exhibit a moderate positive relation with mortgage-to-GDP ratios (r = 0.42), a strong association with arrears (r = 0.58), and an equally strong link with gross fixed capital formation in dwellings (GFCF) (r = 0.61). By the later period (2018–2022), the correlation pattern changes significantly. Transfer taxes remain associated with mortgage levels (r = 0.40), but new dynamics emerge. The correlation with homeownership stratification increases sharply, from r = 0.16 to r = 0.52 (Δ = +0.36). This indicates that transfer taxes in less financialized systems have become structurally intertwined with deepening inequalities in access to homeownership as we already noted with the recurrent property taxes.

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Research by the OECD (2022) shows that transaction taxes may reduce household mobility and increase insider–outsider divides. In the context of CEE housing systems, where young households are already disproportionately disadvantaged by stagnant wages and shortages of affordable new-build housing, transfer taxes could reinforce generational and class-based inequalities in access to property (Dubois & Nivakovski 2023).

Second, the relationship between transfer taxes and arrears remains strong in 2018–2022 (r = 0.49), suggesting that in less financialized systems, taxes on transactions tend to coincide with broader patterns of financial vulnerability. This is not because the taxes themselves create arrears, but because the households transacting properties are often those already facing economic pressures in particular after the rise in energy costs in the wake of the Russian invasion of Ukraine. These findings align with observations made in the European Housing Survey and Eurofound (Dubois & Nivakovski 2023), which show that housing transactions in CEE and Southern Europe increasingly involve households attempting to adjust to rising cost burdens or utility debts.

In this sense, transfer taxes become correlated with financial precarity, not because they cause it, but because they are part of households engaged in financially constrained moving. Again like recurrent property taxes, in the context of less financialized countries, this fiscal becomes another strain for affordability instead of operating as a break on debt fueled transactions we find in financialized housing systems.

Financialized housing systems

In contrast to these dynamics, transfer taxes in financialized systems show a different structure altogether. In 2008–2012, transfer taxes were strongly associated with homeownership stratification (r = 0.61) and with moderate relations to GFCF (r = 0.49). Yet the association with mortgage levels is weak (r = 0.10), and correlations with arrears and cost burdens hover near zero. By the 2018–2022 period, these associations shift slightly. While transfer taxes continue to moderately correlate with GFCF (r = 0.42), their association with stratification

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weakens (r = 0.27), and correlations with mortgage levels, arrears and affordability become negligible.

In highly financialized systems, therefore, transfer taxes function primarily as fiscal revenue instruments rather than tools that shape or temper housing system dynamics. This finding corroborates fiscal research arguing that transfer taxes do not moderate debt led price increases and serve primarily to collect revenue from booming housing markets without influencing their underlying trajectory (OECD 2022; IMF 2018).

The data thus support a general conclusion: transfer taxes reflect rather than transform Europe's divergent housing regimes. They tend to amplify existing patterns—reinforcing inequality and precarity in less financialized systems, and coexisting with speculative, investor-led dynamics in more financialized ones—rather than serve as effective tools for decommodification or market moderation.

5.2.3 Mortgage Interest Tax Relief

Mortgage Interest Tax Relief (MITR) represents the most emblematic fiscal instrument shaping Europe's mortgage-led housing systems. More than any other fiscal tool in this chapter, MITR directly lowers the cost of borrowing, increases households' debt-carrying capacity, and capitalizes into higher property prices (IMF 2018). The key beneficiary of this subsidy is the borrower and the seller of the property. Unlike recurrent property taxation or transfer taxes—whose effects are mediated by turnover rates, valuation practices, and political constraints—MITR engages directly with the core dynamic of mortgage-led financialization: the expansion of credit and the rising dependence of households on leveraged pathways into homeownership.

Table 5.3: Correlation of selected housing outcomes with MITR

Outcome	LESS 2008–2012	LESS 2018–2022	FIN 2008–2012	FIN 2018–2022
Mortgage as % of GDP	-0,01	0,46	0,38	0,61
Homeownership stratification	-0,42	0,14	0,63	0,58
Arrear rate	-0,11	-0,15	0	-0,56
Housing cost overburden rate	0,15	-0,16	0,06	0,23
GFCF	-0,1	0,29	0,16	0

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less financialized countries

In the less financialized systems, MITR appears largely irrelevant during the 2008–2012 period. The correlation with mortgage-to-GDP ratios is statistically insignificant (r = –0.01), and the association with homeownership stratification is modestly negative (r = –0.42). This reflects the institutional framework of less financialized systems: in most post-communist and some Southern European countries, mortgages were not the dominant mode of access to homeownership in this period, and MITR either did not exist, was newly introduced, or was too small in scale to alter household behaviour. A key characteristic of the less financialized countries was a housing system marked by extremely high rates of mortgage-free homeownership. In such systems, a tax deduction for mortgage interest could not play a significant role because the underlying mortgage market was too small.

However, by the 2018–2022 period, this situation has changed. MITR begins to correlate positively with mortgage levels (r = 0.46, Δ = +0.47), indicating that it potentially has become part of an expanding mortgage-based access to housing in systems traditionally characterized by very low leverage. The correlation with homeownership stratification also shifts from modestly negative to an absence of correlation in less financialized systems (r = –0.42 → r = 0.14, Δ = +0.56). While weaker than the relationship observed in more financialized systems, this shift suggests that MITR begins to stratify access to homeownership by income and creditworthiness.

As studies on mortgage subsidies have shown, tax relief on interest overwhelmingly benefits higher-income households with stable employment and stronger access to credit, thereby reinforcing tenure inequalities rather than mitigating them (Kholodilin et al 2023: Fatica and Prammer 2018). In CEE systems—where young households face barriers due to stagnant wages and rising dwelling prices—the emergence of an interrelation between MITR and stratification reflects a familiar pattern (IMF 2018): subsidies designed to support homeownership through MITR primarily help insider groups, while doing little to lower entry barriers for liquidity-poor or precarious households.

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Financialized housing systems

The patterns in the more financialized systems demonstrate the structural force of MITR. During the 2008–2012 period, MITR already correlates strongly with homeownership stratification (r = 0.62) and largely insignificantly with mortgage-to-GDP ratios (r = 0.15). These associations largely reflect the role of MITR in countries such as the Netherlands, Denmark, and parts of the Nordic region, where mortgage interest deductibility was historically generous and deeply entrenched in the mode of housing financialization. A substantial body of research has documented how mortgage subsidies in these countries contribute to price inflation, and increasing household leverage (Sahin 2016; European Commission 2017). Vangeel et al. (2022) present panel evidence across 14 European countries from 1990–2015 showing a price-increasing effect of mortgage relief.

By 2018–2022, the role of MITR in financialized systems becomes even more pronounced. The correlation with mortgage-to-GDP rises sharply (r = 0.58, Δ = +0.43), indicating that MITR remains a powerful driver of mortgage penetration even in already deeply financialized systems. Its correlation with homeownership stratification remains high (r = 0.57), confirming findings from econometric and housing studies showing that mortgage subsidies overwhelmingly benefit upper-middle income households and contribute to wealth inequality in the housing system (Hilber & Turner 2014; Rouwendal 2007; IMF 2018; OECD 2022).

Perhaps the most striking correlation in financialized systems is the strong negative relationship between MITR and arrears on housing payments in 2022 (r = –0.56). This suggests that MITR functions not only as a price-raising instrument but also as a stabilizer for leveraged, higher-income households. In mortgage-led housing systems, where housing wealth constitutes a major component of middle-class portfolios, governments have strong political incentives to protect highly leveraged homeowners from financial distress. MITR effectively lowers repayment burdens for households most capable of accessing mortgage credit, thereby reducing their likelihood of falling into arrears. This mechanism reinforces housing inequality: while insider households enjoy fiscal protection,

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outsider households—especially renters or excluded first-time buyers—face rising prices and increasing precarity.

5.3 Embedding property tax a broader institutional framework

This analysis, however, remains incomplete without recognizing how taxes interact with other socio-economic forces, which can reinforce or counteract particular fiscal measures. The analysis here considers the respective fiscal measures as one variable in isolation, but the broader housing system context includes powerful countervailing (and reinforcing) mechanisms, including fiscal, financial and monetary policy.

5.3.1 limited reach of taxes in wider context

In many financialized systems, mortgage interest tax relief is by far the most influential policy in shaping housing outcomes. Our dataset shows that MITR correlates strongly with mortgage-to-GDP in the financialized cluster (r = 0.58) and with homeownership stratification (r = 0.57) in the 2018-2022 period. MITR is also widely provided in the more financialized cluster, as the majority of cases with MITR in place are in this cluster. Property taxes cannot counteract these price-raising forces and the theoretical counter policy, imputed rent taxation, is seldom found in our sample. Similarly, the long period of ultra-low interest rates generated by monetary policies from the ECB and other central banks from the global North, drove large increases in mortgage borrowing capacity across Europe, accelerating financialization and house price inflation. Against such macro-financial forces pulling in one direction, recurrent property taxes—especially if politically constrained—, and transfer taxes cannot meaningfully restrain leverage.

Ultimately, our analysis shows that recurrent property taxes and transfer taxes do not operate as powerful steering mechanisms. Their effects depend on political feasibility, institutional design and the broader fiscal and macroeconomic environment. Rather than challenging the logic of financialization, in most European countries these fiscal tools have become part of it.

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Taken together, the literature and empirical results show that MITR is the single most powerful fiscal driver in Europe's housing systems. In less financialized contexts, it initiates mortgage-led transitions; in more financialized contexts, it deepens leverage, reinforces insider advantages, and intensifies affordability pressures for outsiders. The correlations are strong and they align closely with the extensive literature documenting MITR's role in price inflation, wealth concentration, and the stratification of homeownership. Unlike transfer taxes or recurrent property taxes, which adjust slowly and respond indirectly to market conditions, MITR operates at the core of the credit–house price nexus that underpins financialization.

However, MITR needs to be understood within the context of changing monetary policies throughout most of the analyzed period. The lowering of interest rates had a twofold effect on the effectiveness of the MITR. On the one hand, lower interest rates produced by monetary policies had a significantly larger effect on lowering the cost of borrowing. On the other hand it limited the effect of MITR as a fiscal policy - as the deductibility of mortgage interest from income taxation had a lesser impact under lower interest rates.

While many countries abolished the tax deduction for mortgage interest payments during the period of low interest rates, it is still present in 9 out of 28 cases in our sample. This points to MITR entrenching as a structural fiscal policy, turning MITR into a stronger political force than a fiscal stimulus. In cases of widespread mortgaged homeownership the subsidy of mortgage interest has been established and would be politically disadvantageous if abolished. While recognized as a policy with negative effects on inequality and housing markets (see section 5.1.2), it thus remains in place in a third of our cases.

5.3.2 Fiscal policy responses

The effectiveness of fiscal policy under the conditions of financialization is hard to gauge effectively. Compared to the other policy avenues discussed in this report, fiscal policies appear to have limited impact on housing system change. The increasing, although mostly still moderate, link between financial markets

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and housing systems strengthens the influence of monetary policy which pushes increases in leverage and inflates house prices. The historically accumulated increase in real house prices and their growing distance to wages is also reflected in rising to highly stabilized mortgage to GDP levels, as the increased price levels are financed through credit. Against this background, fiscal policy measures have to be understood as potential tools for intervention.

There are two avenues of fiscal policy intervention which are theoretically effective but difficult to realize, due to both technical aspects as well as political feasibility. The first of these measures is capital gains taxation, which would treat housing as a regular asset class and bring it closer to being taxed like other asset classes are. The advantage of this approach is that it taxes realized gains and is proportional to the gains made, thus differentiating between 'winners' and 'losers' of the housing market much better than generalized taxes. Implementation of either increased capital gains taxation or a substantial increase of existing tax rates would, however, likely face strong opposition due to the wide spread of homeownership. Additionally, as capital gains are taxed at a single point in time, they can lead to a lock-in of homeowners, reducing mobility in housing markets.

The other possible avenue of potentially effective fiscal measures is the taxation of imputed rent. As discussed above, while it is considered the measure to balance the fiscal support of mortgage levels through mortgage interest tax relief, it is very sparse in actual implementation. Opposition to imputed rent policy is attributed to 'a range of conceptual, administrative and political considerations' (OECD 2022) as the proposition of imposing a conceptually challenging tax which taxes a theoretical rental value for owner occupants might generate discontent. As homeownership has been politically and fiscally supported for decades, increasing the tax burden specifically on homeowners could be politically detrimental. Additionally, in most of the cases discussed in this report, homeowners make up a larger share of the population than renters. In light of the unlikely widespread adoption of imputed rent taxation, the abolition of mortgage interest tax relief (MITR) measures can be considered the 'second-best option' (European Commission. Directorate General for Economic and

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Financial Affairs. 2022). Ending a de-facto subsidy to mortgaged homeownership would, however, not counter the effects on the housing systems it had thus far. From this perspective and of the limitations of taxation on distinct events as discussed for capital gains taxation, discussions point towards property taxation which, if well designed, could offer similar benefits to imputed rent taxation (Johannesson Lindén and Gayer 2012). Although it notably also taxes rental housing, as it does not distinguish tenure, raising the tax burden on renters as well, both imputed rent taxation and property taxes are directly levied on owners and thus highly visible taxes, which makes them more unpopular.

Finally, all of the measures discussed here, from capital gains to imputed rent and recurrent property taxes rely on accurate valuations, which may prove more difficult to achieve than anticipated. Currently there is a disconnect between cadastral property values and market prices, as evident by the lack of connection between house prices and property tax revenues (OECD 2022). Even if accurate and fair market price valuations could be feasibly achieved by the administration, directly taxing market value would open homeowners to market volatility risks, as a sustained increase in house prices (as seen in the last decade) would increase the tax burden and disproportionately affect poorer households. This leads to the need for a theoretical new property taxation to be progressive (and combined with provisions for asset-rich low-income households), which has the added benefit of being, in effect, a wealth tax (Johannesson Lindén and Gayer 2012).

5.4 Conclusion

Taxation remains one of the least examined dimensions of housing systems in critical housing studies, and even more rarely is it addressed through explicitly comparative frameworks. When housing taxation is discussed, it is often framed either as an underused policy lever with substantial untapped potential (Ryan-Collins, 2021) or as a set of isolated fiscal tools detached from the broader institutional characteristics that define national housing regimes. This chapter addressed this gap by asking how fiscal policy helps construct the differences between housing systems—and conversely, how distinct housing systems generate different fiscal parameters and political possibilities.

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Across Europe, housing taxation performs a double function. First, it raises revenue through taxes on housing wealth, transactions and capital gains. Second, and more critically for housing system dynamics, it subsidizes behaviours deemed socially or economically desirable—most prominently, mortgaged homeownership. This has generated longstanding debates about "hidden homeownership welfare" embedded in fiscal measures (Kholodilin et al., 2023) and reflects deeper ideological assumptions about the social and economic virtues attributed to homeownership (Ronald, 2008). Fiscal support for owner-occupation has prompted calls for tenure-neutral taxation (Fatica & Prammer, 2018), arguing for equal treatment of renting and owning. Measures such as mortgage interest tax relief (MITR) directly subsidize leveraged borrowing by allowing homeowners to deduct interest payments from taxable income. By lowering the effective cost of mortgage debt, MITR not only encourages household leverage but also supports the expansion of mortgage markets more broadly—thereby reinforcing the dynamics of housing financialization highlighted throughout this report.

Recurrent property taxes, frequently cited as growth-friendly and potentially progressive—"among the taxes least harmful to growth" and capable of reducing wealth inequalities when well designed (European Commission, 2022, p. 4)—are also considered efficient because "the fixed geographic location of immovable property makes the taxes difficult to evade" (European Commission, 2022, p. 5). Yet their redistributive or stabilizing effects remain highly uneven across countries. As the OECD (2022) observes, in many housing markets "increases in housing values have not been reflected in property tax revenues" (p. 77), limiting these taxes' ability to counteract price inflation or wealth concentration. This disconnect reflects the central challenge underpinning all housing-related fiscal instruments—from capital gains taxes to imputed rent, transfer taxes and recurrent property taxation: they rely on timely, accurate and politically viable valuation systems. In practice, valuations are often outdated, inconsistent or politically contested, making effective taxation far more difficult than standard economic models assume. The political economy of valuation therefore emerges as a fundamental axis along which national housing systems diverge.

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Our findings reinforce that fiscal measures cannot be understood in isolation from the institutional structures of housing systems. The widespread fiscal privileging of leveraged homeownership—through MITR, exemptions on imputed rent, favourable capital gains treatment or transaction tax reductions—helps produce the very patterns of tenure, price dynamics and credit intensity that comparative housing research typically treats as exogenous characteristics of regimes (Fernandez & Aalbers, 2016; Schwartz & Seabrooke, 2008). The correlations identified here between mortgage-related tax expenditures, mortgage-to-GDP ratios and house-price pressures reflect a broader fiscal–financial nexus in which taxation and financialization are mutually reinforcing. At the same time, differences in valuation systems, administrative capacities and political coalitions produce distinct fiscal parameters across housing systems, shaping the feasibility and effects of reforms.

Taken together, these insights demonstrate that fiscal architectures are not merely corrective or redistributive tools; they are constitutive components of national housing systems, structuring incentives, shaping market behaviour and embedding ideological preferences into long-term institutional trajectories. As a result, debates about housing affordability, inequality and financial stability require a fuller integration of fiscal analysis into comparative housing research (Stephens, 2020b). A more explicit engagement with taxation allows us to understand not only how housing systems differ, but also how they are continuously produced and reproduced through fiscal policy.

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6 Mobilizing housing: Financial policy

6.1 Introduction

Compared to fiscal policy, the regulation of housing finance has attracted far greater attention in housing studies and political economy. A substantial body of work has shown that financial (de-)regulation lies at the heart of both the spectacular rise of mortgage-led growth in the early 2000s and the ensuing global financial crisis (GFC) of 2007–2009 (Aalbers, 2008; Schwartz & Seabrooke; Tooze, 2018). The collapse of securitized mortgage markets—first in the United States and subsequently across the interconnected balance sheets of European banks—revealed the extent to which national mortgage regimes had become embedded within an increasingly integrated global financial architecture. This architecture, as research in political economy and macro-finance emphasizes, transformed housing into a central asset class in contemporary capitalism: a key site of credit creation, liquidity generation, and macroeconomic management (Aalbers & Christophers, 2014; Cochrane, 2017; Fernandez & Aalbers, 2016).

Building on this scholarship, this chapter examines how national financial regulation—across its borrower-facing, lender-facing, and market-structuring dimensions—co-produces domestic housing market outcomes and shapes patterns of housing inequality. Borrower-based tools such as loan-to-value (LTV) and debt-to-income (DTI) limits, the prevalence of variable- versus fixed-rate mortgage contracts, and rules governing mortgage amortization directly affect the distribution of risk across households. Lender-based regulations, including capital requirements, supervisory approaches, and the calibration of risk weights for real estate exposures, shape banks' incentives to expand or retrench mortgage credit. At the same time, broader market infrastructures—securitization chains, covered bond frameworks, and the regulatory regimes governing real estate investment trusts (REITs) and institutional landlords—determine how housing assets become integrated into global financial circuits (Fernandez & Aalbers, 2016; Gotham, 2006; Fields, 2018).

Taken together, these regulatory elements constitute the financial architecture of housing systems. They influence the degree of household leverage, the

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volatility of housing markets, and the channels through which housing functions as both a welfare resource and a financial asset. By analyzing these mechanisms comparatively, the chapter highlights how differences in national regulatory regimes produce distinct trajectories of financialization and contribute to the variegated landscape of housing inequalities across Europe.

6.1.1 Situating housing finance policies in the literature

In the political economy of housing, the expansion of mortgage credit has been widely analyzed as a principal engine of financialization. Research by Jordà, Schularick and Taylor (2014) shows that, since the mid-20th century, advanced economies have undergone a "Great Mortgaging": bank balance sheets have shifted from business lending to mortgage lending, with mortgages becoming the dominant form of private-sector credit. This transformation increased macroeconomic volatility, deepened pro-cyclical credit–price dynamics, and amplified crisis risks.

financialization is conceptualized in the housing and political economy literature (Aalbers 2016; Rolnik 2013; Hudson 2012) as a process in which housing becomes increasingly embedded in financial circuits through the expansion of mortgage lending, the liberalization of banking practice, and the growing reliance on market-based forms of credit creation such as securitization. Building on this work, Ryan-Collins (2019) argues that mortgage credit expansion is not simply a matter of household choice but reflects policy-enabled financial deepening, where governments and central banks facilitate the growth of housing finance through favourable regulation, deregulatory reforms, and macroeconomic management techniques that rely on asset-price appreciation.

From this perspective, financial regulation is not merely a set of risk management tools for banks and financial institutions. It also is a structural determinant of housing systems, shaping the interaction between household credit demand, bank business models, and capital-market infrastructures.

In much of the housing-focused literature, finance is traditionally understood as a supporting structure that enables the provision of housing: mortgages

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function primarily as instruments to facilitate homeownership. Under conditions of financialization, however, scholars argue that this relationship has been fundamentally inverted (Aalbers 2008; Gotham, 2009; Wyly et al. 2009). In the housing financialization literature, rather than finance serving housing, housing is increasingly mobilized to serve financial markets. Through this shift, housing becomes a vehicle for asset accumulation and financial sector expansion—not merely a material dwelling but a financial asset embedded in circuits of capital.

Central to this transformation is the process through which real estate is converted into tradable and leverage-able financial instruments. What matters is less the physical property itself than its capacity to function as collateral, to anchor the issuance of mortgage-backed securities, and to generate predictable streams of rent or interest for investors (Aalbers et al., 2023; Christophers 2023; Fields, 2018). In this sense, housing becomes an object of potential yield extraction, enabling actors across the financial system—from banks to institutional landlords, private equity firms, and REITs —to treat homes primarily as assets within global investment portfolios.

This inversion can be fully understood only when placed within the broader macro-financial transformation analyzed by Daniela Gabor's (2023) Critical Macro-Finance (CMF) framework. Gabor argues that contemporary financial systems are organized around market-based finance, collateral hierarchies, and the growing reliance on liquidity creation through tradable assets. In this architecture, assets—rather than loans—are the fundamental building blocks of credit creation and systemic stability. In this inverted view the usevalue of housing is its store-of-value function, which makes it a valuable collateral in financial transactions. Seen from a CMF framework, the role of states is to accommodate the production of high quality collateral to maintain stability and favorable conditions to emit public debt, which translates into particular forms of regulating housing finance that maintains the market value of housing assets to ensure financial stability.

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6.1.2 Four dimensions of housing finance policy

Within this broader macro-financial landscape, financial regulation relevant to housing systems can be understood as operating along three interconnected dimensions: a) the regulation of households as borrowers; b) the regulation of lenders and their balance sheets; and, c) the governance of the market-based infrastructures through which mortgage credit is funded and housing assets circulate. Each of these regulatory arenas shapes, in distinct yet overlapping ways, how housing becomes embedded within financial markets and how risks and benefits are distributed across households, banks, and investors.

In addition to focusing on regulation for borrowers, lenders and the market, there is a need to include a set of actors that has become increasingly important in the last ten to fifteen years, which are institutional landlords, including different types of real estate investment funds and developers (Fields, 2018; Wijburg 2019, Holm et al 2023, Li et al 2025). Although they operate in a parallel financial circuit, not enmeshed with the mortgage based collateral production, their mode of operating cannot be divorced from financial market and monetary conditions and they directly operate on the housing market, influencing overall conditions.

6.2 Analysis of key variables

This chapter uses a set of indicators to analyze how financial regulation shapes housing outcomes across European countries. The selection of indicators reflects core issues in the literature on housing financialization and macroprudential policy and covers the role of borrower constraints, the scale of mortgage-led financial intermediation, and the links between financial regulation and household risk. Three indicators—loan-to-value ratios, the prevalence of variable-rate mortgages and Mortgage/GDP —are used in the correlation analysis because they offer consistent coverage across countries and over the full period examined.

Two other indicators, (A) the market capitalization of listed real estate companies and (B) securitization or covered bonds as percentage of GDP, are included for context but excluded from the correlation analysis due to

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incomplete data. Although securitization activity, covered bonds, and REIT expansion are central to the evolution of market-based housing finance, comparable time-series data for all countries are not available. These mechanisms are therefore discussed qualitatively, supported by secondary literature, rather than included in the quantitative analysis.

Correlation analysis provides a structured way to identify patterns of co-movement between regulatory instruments and housing outcomes. Its strength lies in revealing whether certain relationships—such as between LTV limits and arrears, or mortgage depth and cost overburden—are lasting features of specific housing-finance regimes. However, correlations have clear limitations: they do not establish causality, they lack institutional context, and they are sensitive to data quality. For these reasons, the empirical results are interpreted alongside existing literature, drawing on studies of macroprudential tools and the financialization of housing markets.

The aim of the indicator set is to examine how regulatory tools and financial structures relate to housing outcomes within a VoRC+ framework. By comparing associations across two periods and two country groups, we can identify whether borrower-based rules, mortgage depth, and investment patterns align with different varieties of residential capitalism—and whether these relationships are stabilizing, weakening, or shifting over time.

6.2.1 List of selected variables

Mortgage to GDP ratio

Mortgages are central for both housing finance as well as the connection between housing and financial markets. The measure of outstanding residential loans (mortgages) related to GDP is a common, if crude, measure of financialization, and also a base measure for the VoRC+ approach (see chapter 3). The indicator describes the connection between housing and financial markets through mortgages, with high mortgage levels linking a housing system to closer financial market fluctuations. While less discussed in recent literature, they were

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centred in academic debates in the buildup to the GFC (Aalbers 2016; Schwartz and Seabrooke 2009).

Table 6.1: Average Mortgage to GDP ratios by group

Mortgage/GDP	2008-12	2018-22	Difference
Average	42,1	37	-5,1
Median	38,4	33,4	-5
Group 1	17,12	11,2	-5,92
Group 2	50,79	25,7	-25,09
Group 3	88,94	80,14	-8,8
Group 4	36,65	41,42	4,77
Group 5	35,82	46,47	10,65
Ungrouped	40,18	35,36	-4,82
Less Financialized	25,9	17,84	-8,06
More Financialized	53,2	50,11	-3,09

Source: EMF Hypostat 2025, own calculations.

Overall mortgage levels have declined since the GFC, with a reduction in the average and median rate between 2008-12 and 2018-22 period, decreasing from an average rate of 42.1% Mortgage to GDP to 37.0%. Mortgage to GDP ratio had risen sharply from 2003-07 levels (average: 29.9%) and fell in the period following the GFC.

The cases in our sample, however, differ strongly in the level of mortgage debt. In the 2018-22 period, mortgage levels range from 7,9% in Romania to 90,8% of GDP in the Netherlands. This wide spread is one of the reasons for utilizing the VoRC+ approach, as it allows for a distinction between cases of very high and very low mortgage levels. The groups based on the VoRC+ approach (see chapter 3) show the variegation in mortgage levels. Where group 1 (Limited mortgage development) has a low ratio of mortgage to GDP of just 11,2% in the 2018-22 period, group 3's (Deep mortgage integration) average is 80,1% of GDP. The strongest change over time can be found in group 2 (Boom-and-bust), where mortgage levels are much lower compared to the 2008-12 period. The average mortgage to GDP level has nearly halved over the decade between periods from 50,8% to 25,7%. While the Spanish case, where mortgages rose to the highest level within the EU in 2008, has a strong influence on the average value

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presented here, a similar trajectory of increase and decrease can be found in all cases in this group.

Two groups show an increase in mortgage levels compared to the 2008-12 period: group 4 (Alternative financialization) and group 5 (Incremental mortgage growth). The latter of the two has the largest increase in mortgage levels over the observed time, with the average of group 5 in 2018-22 (46,5%) rising to the second highest level of all groups. As the VoRC+ groups are based on the mortgage-to-GDP indicator, the close link between the groups and observed mortgage-to-GDP ratios is unsurprising. It does, however, show the reason for utilizing these groups, as the overall average rates and even the two macro clusters do not fully capture the variegation in mortgage levels accurately.

Contrasting the two clusters of more and less financialized housing systems, the average mortgage levels differ strongly, with the more financialized cluster's average being more than double that of the less financialized cluster.

While the average mortgage rate in the more financialized cases increased less than the overall average by 3,1 percentage points, the change in the less financialized cluster was more pronounced with a decrease of 8,1 percentage points. While the mortgage levels in the more financialized cluster remained high, it decreased in the less financialized cluster.

Maximum LTV rate

The maximum rate of loan-to-value as permitted by financial regulation or by other prudential requirements such as affordability tests and interest stress test is a central policy shaping the level of mortgage debt. It describes the upper limit of applicable loan-to-value (LTV) ratios of new mortgages. Higher LTV ratios allow for higher mortgages, increasing the link to financial markets, also increasing risk exposure. It is included here as it is a base policy shaping the relation of financial and housing markets. The measure is also widespread, with all cases in the sample having LTV regulation in place.

Differences in this indicator are much less pronounced than in other indicators considered in this report. There is some range in the indicator between the lowest rate of 0,75, found in Bulgaria, Greece and the United Kingdom, and the highest

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rate of 1,00, which is found in the Netherlands and Luxembourg. There is a small overall increase between 2008-12 and 2018-22 period from 0,83 to 0,85. Additionally, the median of LTV ratios increased from 0,81 to 0,85, indicating a narrowing of the range of LTV ratios.

Table 6.2: Average Loan-to-Value ratios by group

LTV ratio	2008-12	2018-22	Difference
Average	0,83	0,85	0,01
Median	0,81	0,85	0,04
Group 1	0,80	0,82	0,02
Group 2	0,83	0,83	0,00
Group 3	0,92	0,90	-0,02
Group 4	0,79	0,82	0,03
Group 5	0,83	0,88	0,06
Ungrouped	0,89	0,87	-0,02
Less Financialized	0,81	0,81	0,01
More Financialized	0,84	0,87	0,03

Source: EC Housing Taxation Database, own calculations

The VoRC+ group with the highest average LTV ratio is group 3 with an average ratio of 0,90 in the 2018-22 period. This is the group with cases of deep mortgage integration and it also contains one of the cases with the highest LTV ratio, the Netherlands.

Two groups share the lowest average LTV ratio of 0,82: group 1 (Limited mortgage development) and group 4 (Alternative financialization).

The difference between the clusters of more and less financialized cases has increased over time, with the less financialized cases displaying an average LTV ratio of 0,81 in both the 2008-12 and 2018-22 periods and the more financialized cases increasing their average LTV ratio from 0,84 to 0,87 in the same period. This is likely due to the increase in average LTV ratios in group 5 (incremental mortgage growth), where the average ratio increase was strongest.

While there are few drastic changes in LTV ratios across Europe since the GFC, LTV ratios are now much higher than in the later twentieth century. As such, the Netherlands' average loan-to-value ratio in the 2008-12 period was 1,17 and has since been reduced to 1,00. The overall increase is less attributable to outliers than

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to a modest increase in many cases. There is a plethora of different contexts which means that comparing countries along the same time period has its limitations. More financialized countries in North- and Western Europe de- and reregulated their mortgage markets in the 1980s and early 1990s, followed by big expansions of mortgage debt then, as pent-up demand was realized. Southern European mortgage debt grew rapidly with the effect of the euro on lowering interest rates (see Chapter 4). The Central and Eastern European countries only adopted risk-based financial systems after 1989, and many exhibited low demand for mortgages as homeownership in many of these countries had been realized at heavily discounted sales prices following the fall of socialism.

Variable Interest Mortgage rate

The rate of mortgages with variable interest is included as a measure for the assumed risk of mortgage markets. The assumption is that financial actors capitalize risk through variable interest rates. A high share of variable interest mortgages increases the risk exposure of mortgaged households, as changes in monetary policy are directly translated into increased interest payments (Dubois and Nivakoski 2023).

Table 6.3: Average share of variable interest rate mortgages by group

Variable Interest ratio	2008-12	2018-22	Difference
Average	65,9	45,4	-20,6
Median	74,4	36,3	-38,2
Group 1	79,1	56,8	-22,4
Group 2	80,8	61,9	-19,0
Group 3	33,2	15,6	-17,6
Group 4	32,7	17,3	-15,5
Group 5	57,5	27,8	-29,7
Ungrouped	98,6	85,7	-12,9
Less Financialized	78,7	66,4	-12,3
More Financialized	52,0	23,2	-28,8

Source: EMF Hypostat 2025, own calculations.

There was a strong decline between the 2008-12 and 2018-22 periods, going from 65,9% of mortgages having a variable interest rate to 45,4%. The data,

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however, has a wide range of values in the 2018-22 sample, with rates varying from 0,6 in France to 97,8 in Bulgaria. The lowest rate is found in group 3 (Deep mortgage integration), with 15,6% of mortgages having no fixed interest rate, followed by group 4 (Alternative financialization) with a share of 17,3. Compared to other indicators discussed here, this is the indicator with the highest spread.

This speaks to the expectation of a stable investment environment in these countries. Highest rates are found where instability is anticipated, which is shown in high rates of variable interest mortgages in groups 1 (Limited mortgage development) and 2 (Boom-and-bust). Even in these groups, however, we see a strong decline in rates since the GFC indicating a shift in overall reliance on variate interest rates which may be linked to overall lower interest rates in this period, leading to fewer incentives for variable interest rates (see chapter 4).

The strongest decline in variable interest rate mortgages was observed in group 4 (Sustained mortgage growth), which supports the view that these countries have steadily come to rely more on mortgages and thus expanded their mortgage markets, which is reflected in the share of variable interest mortgages increasing.

Distinguishing more and less financialized countries, there is a stark contrast in the indicator. While in less financialized countries the rate remains high at 66,4%, more financialized countries only have an average 23,2% variable interest mortgages

Securitization: Residential Mortgage-Backed Securities and Covered Bonds

Mortgage finance in Europe has long rested on two major funding architectures: covered bonds and depositories, both of which represent distinct approaches to transforming illiquid mortgage loans into tradable financial instruments. Covered bonds—used most prominently in Denmark through the realkredit system and in Germany via Pfandbriefe—pool mortgages into a regulated cover pool that remains on the issuer's balance sheet. Investors hold a dual claim: first on this collateral pool and second on the issuing institution itself. This double protection, combined with stringent rules on collateral quality, LTV

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ratios, and interest-rate matching, made covered-bond systems conservative and strongly oriented toward fixed-rate mortgages (FRMs).

By contrast, depository-based systems such as the UK historically funded mortgages primarily through mutual savings banks' deposits, incentivizing variable-rate mortgage (VRM) lending to balance variable rates on short-term savings. It was a breach of this balance that famously contributed to the US savings-and-loan crisis in the late 1980s.

Financial deregulation from the 1980s onward has blurred these once-clear distinctions: banks in deposit-funded systems gained access to wholesale markets, while covered-bond jurisdictions increasingly supplemented bond-based mortgage lending with deposit financing. The result is a more hybridized European mortgage-funding landscape in which long-term fixed-rate lending has become more feasible even in countries traditionally reliant on VRMs. Within this evolving context, covered bonds remain a predominantly European approach, whereas residential mortgage-backed securities (RMBS) play a more globally widespread role (Gabor & Kohl, 2022).

Securitization, however, represents a qualitatively different technique from covered bonds. Whereas covered bonds retain the mortgage assets on the issuer's balance sheet, securitization removes them entirely, transferring ownership to a legally separate special purpose vehicle (SPV). Through this process, large numbers of heterogeneous, often opaque mortgage contracts are pooled and transformed into standardized, tradable securities whose risk characteristics depend on aggregated cash flows rather than the qualities of individual loans. This logic is historically rooted: as Rouwenhorst (2005) notes, eighteenth-century Dutch tontines similarly bundled annuity streams into marketable shares, reducing informational barriers and creating liquid, transferable claims.

Modern securitization operates on a vastly greater scale and is embedded in an institutional ecosystem of rating agencies, servicers, and investment-bank structurers, allowing investors to rely heavily on delegated risk assessments. This infrastructure facilitated the extension of securitization from prime, "conforming" mortgages into non-conforming segments such as subprime and Alt-A loans,

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then into unrelated consumer credit (credit cards, auto loans, student debt), and eventually into multi-layered derivative products such as collateralized debt obligations (CDOs). Together, RMBS and covered bonds represent the two dominant securitization channels in European housing finance—one removing mortgages from balance sheets, the other retaining them—each shaping distinct national trajectories within Europe's increasingly financialized housing systems.

The geographical diffusion of securitization followed the architecture of Anglo-American finance. After emerging in the United States in the late 1960s–70s through the 'public-label' conduits of Fannie Mae and Freddie Mac—and expanding in the 1980s through deregulated 'private-label' investment-bank securitization—the technique moved first to the United Kingdom. Close institutional ties between Wall Street and the City, combined with the UK's liberal financial regime, made London the natural entry point. Yet, as Wainwright (2009) notes, securitization "did not travel well": its adoption required extensive legal, fiscal, and accounting adjustments before firms like Salomon Brothers could structure and sell MBSs in the UK from 1986 onward. Only once this infrastructure was in place did securitization expand into continental Europe (Aalbers and Engelen, 2015), where it interacted unevenly with existing covered-bond traditions. The outcome was not a replacement of covered bonds, but a layered and hybrid European mortgage-funding landscape shaped by the coexistence—and sometimes competition—of bond-based, deposit-based, and securitized funding channels.

Since the mid-2010s, the European Commission has increasingly framed mortgage securitization as a central pillar of the Capital Markets Union (CMU) agenda—effectively treating it as a means of 'rescaling' what Fernandez and Aalbers (2017) call the housing-centred model of financialization. The rationale is that securitization can overcome longstanding institutional constraints rooted in national housing and banking systems: by pooling mortgages into marketable securities, banks free up capital, while investors gain access to standardized, tradable instruments. The CMU therefore challenges and bypasses national mortgage-funding architectures (covered-bond regimes, deposit-based lending, or conservative mortgage-bond systems) that previously insulated many

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European countries (especially longstanding mortgage-bond economies such as Germany, France, and Italy) from the debt-led housing boom that affected countries like Spain, Ireland, the UK, and the Netherlands.

The broader consequences of expanding mortgage securitization under the CMU are ambiguous but potentially profound (Fernandez and Aalbers, 2017). By deepening the integration of European housing finance with global capital markets, CMU reforms may accelerate house price inflation in supply-constrained markets, further decoupling prices from local incomes and exacerbating affordability pressures. Increased reliance on market-based funding can also amplify inequalities: households with stable incomes and higher creditworthiness benefit from cheaper credit, while more vulnerable groups face exclusion or are channelled into riskier products, echoing patterns observed in the US subprime market. From a systemic-risk perspective, the shift from nationally contained mortgage-funding systems toward securitized, cross-border instruments increases the exposure of European housing markets to global financial cycles, potentially weakening macroprudential oversight and complicating coordinated crisis management. While the CMU promises efficiency and liquidity, it also risks entrenching a more volatile and financialized model of residential capitalism—one in which housing systems become increasingly sensitive to investor sentiment and the dynamics of international capital flows.

Securitization was used as a distinguishing factor in Schwartz and Seabrooke's conceptualization of 'liberal' and 'repressed' mortgage systems:

> "While legal systems matter here with respect to foreclosure and collateral, the single most important characteristic was the possibility for banks to shift risk, onto third parties by selling mortgages into the general market for securities. We will call mortgage systems 'liberal' if this kind of securitization is legal and widespread and 'repressed ' if securitization is not possible or minimal." (Schwartz and Seabrooke, 2008, p. 249).

It is important to note that the indicator describes outstanding securitizations by the location of the collateral. This addresses two aspects of securitizations: For one, issuance of RMBS is "typically concentrated in tax havens" (Gabor and Kohl, 2022, p. 39). By using the location of the collateral, we more closely describe the geographical distribution of housing that is securitized. Secondly, we measure

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outstanding securitization as the cumulative measure better suits the task of describing differences between housing systems.

Table 6.4: Average rate of outstanding securitization measures to GDP

Securitization	RMBS / GDP			Covered Bonds / GDP		
	2008-12	2018-22	Difference	2008-12	2018-22	Difference
Average	6,51	2,02	-4,49	12,40	11,71	-0,69
Median	0,00	0,00	0,00	5,30	5,45	0,15
Group 1	0	0	0	1,28	0,58	-0,70
Group 2	9,31	2,22	-7,10	13,05	4,53	-8,52
Group 3	21,92	7,63	-14,30	49,54	49,50	-0,04
Group 4	1,03	1,36	0,33	6,63	10,26	3,63
Group 5	3,61	1,21	-2,40	8,43	11,18	2,74
Ungrouped	7,67	1,88	-5,79	7,39	11,97	4,58
Less Financialized	0,36	0,03	-0,33	2,29	1,22	-1,08
More Financialized	10,38	3,38	-7,01	20,14	18,66	-1,48

Source: EMF Hypostat 2025, own calculations.

Only some countries allow for RMBS, as evident by the median of 0 for RMBS in both 2008-12 and 2018-22. In the 2018-22 period, 17 of 28 cases did not have RMBS[9]. Covered bonds were more widespread with only 9 cases not having covered bonds.

There was a pronounced decline in RMBS levels from 6,51% of GDP to 2,02% of GDP from the 2008-12 period to the 2018-22 period. Covered bonds on the other hand show a much more stable adoption, with the average rate only declining by -0,69 pp between the two described periods, with an average of 11,71% of GDP in 2018-22.

Within the indicator on covered bonds, there is a strong outlier with the Danish case (in group 3) having a much larger covered bond market than any other country with the value of covered bonds reaching 128% of GDP in the 2018-22

[9] RMBS not present in: BG, HR,CY, CZ, DK, EE, FI, HU,LV, LT, LU, MT, PL, RO, SK, SI, SE
RMBS present in: AT, BE, FR, DE, GR, NL, PT, ES, UK

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period. The second highest level of covered bonds to GDP is found in Sweden with a rate of 46,4 in the same period. This strong link to mortgage finance is linked to the neoliberalization of nordic coordinated market economies, which in Denmark has led to very high levels of covered bonds (Anderson and Kurzer 2020).

There is a strong division between VoRC+ groups, with group 1 (Limited mortgage development) having no RMBS in either period and only one country, Hungary, having covered bonds in the 2018-22 period. As this group is characterized by a very low share of mortgages, the absence of mortgage securitization is a likely finding. Group 3 (Deep mortgage integration) presents an equally expected finding, as it has the highest rates of mortgage securitization in both RMBS and covered bonds. While the latter is heavily influenced by the Danish outlier—and bonds-based—case and without it would have a rate of 10,2 in 2018-22, the co-indication of RMBS and covered bonds speaks to a high level of mortgage securitization in that group. Group 4 (Alternative financialization) was the only group in which the level of RMBS grew between the two periods discussed here, with the rate rising from 1,03 to 1,36% of GDP in the 2018-22 period. This was combined with an elevated level of covered bonds, increasing to an average of 10,26% of GDP. This indicates a sustained increase in mortgage securitization.

In distinguishing between more and less financialized cases, there is a clear division in mortgage securitization levels. While the cluster of more financialized countries has an average rate of RMBS of 3,38% of GDP and 18,66% of GDP for covered bonds in the 2018-22 time frame, the less financialized cluster has barely any, with outstanding covered bonds reaching only 1,22% of GDP. The pattern described here shows the sustained relevance of mortgage securitization for distinguishing mortgage regimes, even though the levels have reduced since the 2008-12 period of the GFC. Especially covered bonds, which are regarded as more stable than RMBS, are continuing to be relied upon.

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Listed Real Estate Funds

While mortgages continue to be the central avenue for linking housing to financial markets, especially in contexts where owner occupancy is the dominant tenure, listed real estate companies play an increasing role in some markets. These actors enter the housing market directly, owning and renting out housing to tenants. In distinguishing this type of financialization, where it is rental housing that is financialized through large listed real estate companies, it is discussed as a 'financialisation 2.0' (Wijburg et al. 2018).

Table 6.5: REIT implementation by country

REIT Regimes	Year of implementation	Name	REIT market cap as % of GDP
Austria	-		
Belgium	2014	BE-REIT	4,64
Bulgaria	2021	SPIC	0,91
Croatia	-		
Cyprus	-		
Czechia	-		
Denmark	-		
Estonia	-		
Finland	2010	Finnish REIT	
France	2003	SIIC	2,14
Germany	2007	G-REIT	0,14
Greece	1999 / 2025	REIC	1,38
Hungary	2011	REIT	0,04
Ireland	2013	REIT	0,44
Italy	2007	SIIQ	0,05
Latvia	-		
Lithuania	2008	REIT	
Luxembourg	2007 / 2016	SIF / RAIF	
Malta	-		
Netherlands	1969	FBI	1,97
Poland	-		
Portugal	2019	SIGI	0,01
Romania	-		
Slovakia	-		
Slovenia	-		
Spain	2009	SOCIMI	2,13
Sweden	-		
UK	2007	UK-REIT	3,34

Source: EPRA Global REIT survey 2025, EMF Hypostat, own calculations

REIT market capitalization provided as averages for 2019-2024

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Drawing on the distinction outlined by Wijburg et al., the financialization of rental housing can be understood as unfolding in two analytically distinct waves. financialization 1.0 describes an earlier phase in which rental stock was increasingly targeted by speculative, often short-term actors—private equity, opportunistic investors and hedge funds—who bought up distressed or under-valued properties with a view to rapid value extraction through resale, conversion, and aggressive rent-taking (Wijburg, Aalbers, & Heeg, 2018; Fields & Uffer, 2016). Financialization 2.0, by contrast, marks a shift toward the incorporation of rental housing into the mainstream portfolios of long-term institutional investors—pension funds, REITs and other listed real-estate firms—whose strategies foreground stable rental income, professionalized management, and balance-sheet integration even as their market presence is mediated through liquid equity markets and corporate governance logics (García-Lamarca, 2021; Wijburg et al., 2018). Crucially, Wijburg and colleagues emphasize continuity as well as change: 2.0 does not simply replace 1.0 but reconfigures investor practices and instruments so that rental housing is simultaneously a long-term income asset and a tradable financial vehicle, expanding the depth and durability of rental housing's entanglement with global capital (Wijburg et al., 2018).

To approximate the extent of listed real estate, a measure of market capitalization of both REIT and Non-REIT listed real estate in relation to GDP was assembled. This was not able to be included in the correlation-based analysis, as data for listed real estate was only available from 2019 onwards. Additionally, the data presented here, which was gathered from the EPRA's Total Markets Table, includes non-residential real estate and is thus not a clear measure of the financialization of rental housing provision. It is discussed here to contextualize the other indicators as it shows the extent of real estate being a direct financial asset, without the proxy of mortgages or their securitization.

Listed real estate can be differentiated between REITs and Non-REIT listed real estate. REITs (Real Estate Investment Trusts) are a vehicle for publicly listed investment in real estate, which in most cases is encouraged by fiscal measures like the exemption from corporate income or capital gains taxation (EPRA 2025). There is no uniform legislation on REITs in the EU, with member states

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implementing their own rules on REITs or equivalent corporate structures. In many cases, the structure that is equivalent to a REIT has a different naming convention. 15 of the 28 countries discussed in this report had a legal structure for REITs in 2025, although only 12 cases showed measurable REIT presence by market capitalization. Some cases, like Finland, had legislation in place for REITs but no active companies in that structure that were listed on the stock exchange. Others, like Germany, allowed for REITs but had a much higher share of Non-REIT listed real estate, likely indicating stronger legal limitations on REITs deterring adoption of the corporate structure - in the case of Germany, the ban on REITs holding immovable property that is primarily used for residential purposes (EPRA, 2025, p. 61). To get a fuller picture of listed real estate in the sample, Non-REIT listed real estate capitalization was included in the analysis.

While the extent of market capitalization of listed real estate varied between cases in the sample, only four cases showed no listed real estate at all: Croatia, Latvia, Luxembourg and Slovakia. In some cases, this may be more of an indication of non-public real estate investment companies dominating than of an absence of financialized actors in housing.

Table 6.6: Average share of listed real estate market capitalization by group

Listed Real Estate to GDP	REIT market cap / GDP	Non-REIT listed RE market cap / GDP
	2019-24	2019-24
Average	0,6	1,5
Median	0	0,4
Group 1	0,19	0,66
Group 2	0,56	0,52
Group 3	1,77	0,43
Group 4	0,76	1,82
Group 5	0,67	3,38*
Ungrouped	0	1,27
Less Financialized	0,2	0,7
More Financialized	1	2,1

Source: EPRA Total Markets Table 2025, own calculations

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The size of listed real estate varies strongly between countries, with a considerable difference between average and median values indicating a wide spread. On average, Non-REIT listed real estate had a higher market capitalization and a wider adoption. This is an expected finding, as REITs require specific legislation for adoption.

The relation of listed real estate market capitalization and GDP varies considerably between the groups established through VoRC+ as well. The highest capitalizations for REITS are found in group 3 (deep mortgage integration), with an average market capitalization of 1,77% of GDP and the lowest capitalization is found in group 1 (Limited mortgage development). Combining the capitalization of both REITs and Non-REITS, this perspective changes however. Sweden is an outlier in the sample with the capitalization of Non-REIT listed real estate reaching an average 16,5% of GDP. This leads to group 5 (Incremental mortgage growth) having the highest average in Non-REIT capitalization, although the value drops from 3,38% of GDP to 1,19% of GDP when Sweden is excluded.

Group 4 (Alternative financialization) has an average Non-REIT market capitalization of 1,82% of GDP which, when combined with REIT capitalization at 0,76% of GDP, leads to the highest overall market capitalization among the groups (when Sweden is excluded). Germany has the second highest Non-REIT capitalization rate after Sweden with an average of 3,1% of GDP.

When dividing the sample into the two macro clusters of more and less financialized cases, the difference in market capitalization of listed real estate is more apparent. While the average overall capitalization rate in the less financialized cluster is 0,9% of GDP, the average for the more financialized cases reaches 3,0% of GDP.

6.3 Correlation data

Although we have defined five groups in the VoRC+ approach (Chapter 3) and have, so far, described and analyzed the variables for these five groups, in this section, as in section 5.2, we will present a correlation analysis based on two rather than five groups. The reason for this is simple: we need adequate cell count to be able to perform the correlation analysis.

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6.3.1 Operationalization and reasoning

In this section we analyze three core financial indicators for 27 EU Member States and the UK across two time periods, like we did in the previous chapter. These indicators (Mortgage-to-GDP, Loan-to-value rates and Variable interest rate mortgages) were selected for their conceptual relevance, data availability and empirical role in housing system formation. This section presents correlations between the three fiscal variables and five housing outcomes (mortgage-to-GDP, homeownership stratification, arrears, housing cost overburden, gross fixed capital formation in dwellings (GFCF), for both less financialized and more financialized housing systems. We interrogate relations by looking at three different types of correlations between these variables. The first is a 'static' correlation (correlations of averages of a single period) and the second is the delta of correlations, which compares two static sets of correlations.

- static correlations (2008–2012): baseline, at the time of GFC and euro crisis
- static correlations (2018–2022): current state.
- deltas (Δ): directional change, revealing emerging or consolidating dynamics.

6.3.2 Mortgage to GDP ratio

Mortgage debt as a share of GDP is a key indicator of how deeply mortgage finance is embedded within national housing regimes. It captures not only the volume of household borrowing but the underlying institutional configuration that sustains debt-led homeownership: regulatory constraints, lending standards, macroeconomic conditions and the broader integration of housing into financial cycles. As the BIS Committee on the Global Financial System notes (BIS 2010), real-estate credit is one of the most important sources of systemic financial risk, precisely because mortgage lending links household balance sheets, bank leverage and macroeconomic cycles into a single expansionary circuit. Mortgage/GDP therefore acts as one of the clearest indicators of the extent to which a country has transitioned towards a mortgage-led form of financialization.

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Less financialized countries

In less financialized housing systems, the static correlations for 2008–2012 show that Mortgage/GDP is only weakly related to borrower-based regulatory instruments. The relationship with maximum LTV ratios is near zero (r = –0.06), and variable-rate structures similarly show little explanatory power. These patterns are consistent with Eurofound's analysis that many Central and Eastern European and Southern European Member States maintained high levels of outright ownership, limited mortgage penetration and constrained access to credit in the early 2010s (Eurofound 2023, pp. 10–18). Under such conditions, mortgage finance acts less as a mechanism of housing access, and the mortgage share of GDP remains structurally low and only loosely connected to financial regulation. This is a recurrent element in evaluating the different types of financial regulation.

By 2018–2022, however, the configuration begins to shift. Mortgage markets expand unevenly across several less financialized countries, but affordability pressures intensify sharply. While the correlation between LTV limits and Mortgage/GDP remains absent (r = –0.08), other parts of the system show deeper strains. For less financialized countries, the correlation between Mortgage-to-GDP and housing cost overburden shifts from moderately negative (r = –0.27 in 2008–2012) to essentially zero (r = 0.00 in 2018–2022), while the association with arrears remains strongly positive (r = 0.59 and r = 0.50, respectively).

These dynamics resonate with the broader macroprudential literature. An ECB study from 2015 documents that pre-crisis European real-estate markets exhibited highly divergent house-price and credit cycles, with several countries experiencing strong price growth disconnected from fundamentals, while others had long periods of stagnation (ECB 2015) . The study concludes that borrower-based tools, including LTV and DTI caps, tend to be most effective in "leaning against" large and rapid mortgage expansion in jurisdictions where debt-led cycles are already in motion, but have less outspoken effects in systems where mortgage access is structurally limited. This duality aligns closely with the correlation patterns in the less financialized group: Mortgage to GDP remains

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weakly related to regulatory instruments because credit is rationed by income constraints, affordability pressures and bank lending standards rather than by macroprudential settings.

Table 6.7: Correlations with Mortgage-to-GDP ratio

Outcome variable	LESS 2012	LESS 2022	FIN 2012	FIN 2022
Homeownership stratification	0,81	0,75	0,3	0,56
Arrear rate	0,59	0,5	0,06	-0,22
Housing cost overburden rate	-0,27	0	-0,57	0,58
Gross Fixed Capital Formation in dwellings	-0,62	0,14	0,55	0,72

Financialized countries

In the more financialized systems, the static correlations display a different trajectory. During 2008–2012, Mortgage-to-GDP is moderately related to maximum LTV ratios (r = 0.29), showing that high LTV ceilings were part of the mortgage-led growth models rather than acting as constraints on leverage. The relationship with arrears is essentially absent (r = 0.06), while the link with housing cost overburden is moderately negative (r = –0.57).

These dynamics develop further in the 2018–2022 period. The positive association between LTV ceilings and Mortgage-to-GDP strengthens (r = 0.34), indicating that borrower-based regulation continues to operate within, rather than against, mortgage-driven expansion. At the same time, the relationship between Mortgage-to-GDP and homeownership stratification becomes considerably stronger (r = 0.56, up from 0.30), underlining how debt-led homeownership continues to reproduce insider–outsider divides as mortgage markets deepen.

Support for this dynamic also emerges from a report from the Dutch central bank (Caloia et al 2025), which studies the Dutch mortgage market. The paper shows that variation in LTV and LTI limits directly affects household borrowing capacity, which in turn influences house prices through a "credit-driven household demand" mechanism (Caloia et al 2025) . When lending standards are relaxed, borrowing capacity increases, leading to higher house prices; when

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tightened, debt growth slows. Importantly, the paper demonstrates that these effects are uneven across borrowers: first-time buyers and liquidity-constrained households are far more sensitive to changes in credit availability than higher-income borrowers. Mortgage-to-GDP in financialized systems therefore reflects not the general ability of households to borrow, but the capacity of well-positioned, higher-income households to leverage generous credit availability, which in effect reinforce price dynamics and deepen insider–outsider divides.

6.3.3 Loan-to-Value (LTV) maximum rates

LTV ceilings are one of the most direct tools to regulate the access of borrowers to housing finance. By determining the maximum proportion of a dwelling's value that can be financed through debt, LTV caps shape levels of leverage and the degree to which housing can be mobilized as collateral within broader financial circuits. In the mainstream macroprudential literature, these instruments are typically presented as essential tools aimed at dampening credit cycles and limiting systemic risk (BIS 2023; ESRB 2019).

Less financialized countries

The static correlation patterns for the 2008–2012 period show that, in less financialized housing systems, maximum LTV ratios are not connected to mortgage expansion. The correlation with both mortgage-to-GDP and homeownership stratification is around zero, the lowest possible score. The relationship with mortgage arrears is absent (r = –0.01), and the association with housing cost overburden is only weakly negative (r = –0.07). Taken together, these patterns reflect the broader institutional setting of credit-constrained systems: low leverage results not from LTV rules but probably from other factors such as limited access to credit and income-based borrowing constraints.

By the 2018–2022 period, the configuration begins to shift. The relationship between LTV limits and mortgage-to-GDP remains absent (r = –0.08), but the associations with housing cost overburden (r = –0.61) and arrears (r = –0.51) become strongly negative. These dynamics seem to suggest that in the context

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of less financialized housing systems, LTV ceilings increasingly filter access to credit: as house prices rise faster than incomes, only financially stable, higher-income households can meet down-payment and creditworthiness requirements. (IMF 2011; Kelly 2018). Also, As house prices rise, LTV ceases to be a constraint because LTI constraints kick in before max LTV is reached. The negative correlations therefore could be the result of this selection effect. In this context LTV ceilings would operate less as tools for restraining overall leverage and more as mechanisms of exclusion, reinforcing insider–outsider divides.

The correlations with homeownership stratification (r = 0.05) and investment in dwellings (r = 0.13) remain close to zero, indicating that LTV rules are not major determinants of tenure inequalities or construction dynamics in these systems.

Table 6.8: Correlations with LTV maximum rates

Outcome variable	LESS 2012	LESS 2022	FIN 2012	FIN 2022
Mortgage as % of GDP	-0,06	-0,08	0,29	0,34
Homeownership stratification	-0,13	0,05	0,3	0,56
Arrear rate	-0,01	-0,51	0,06	-0,22
Housing cost overburden rate	-0,07	-0,61	-0,57	-0,2
Gross Fixed Capital Formation in dwellings	-0,34	0,13	-0,13	0,17

Financialized countries

In financialized housing systems, the correlation patterns point in a similar direction. During the 2008–2012 period, higher maximum LTV ratios are moderately related to deeper mortgage markets (r = 0.29) and are also positively associated with homeownership stratification (r = 0.31). These relationships indicate that, rather than constraining borrowing, LTV ceilings formed part of the architecture enabling high-leverage mortgage expansion.

In the 2018–2022 period, these relationships will become stronger. The positive correlation between LTV caps and mortgage depth rises slightly (r = 0.34), and the association with homeownership stratification becomes more pronounced (r = 0.56). At the same time, the relationship with arrears shifts into negative territory (r = –0.22), probably signalling that more expansive LTV regimes coexist with

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lower arrears among the households that are actually able to access credit markets. This shows similar dynamics as observed with the group of less financialized countries: LTV limits do not restrict leverage, but stabilize leveraged homeownership for insider households by systematically filtering out those unable to meet deposit requirements or credit standards (Kelly et al. 2020).

6.3.4 Variable interest rate mortgages

Variable interest rate mortgages distribute financial risks between borrowers and lenders in fundamentally different ways than fixed-rate products. Under variable-rate arrangements, changes in monetary policy and financial-market conditions are transmitted almost immediately into household budgets through adjustments in monthly mortgage payments. This means that borrowers—not lenders—bear the bulk of interest-rate risk and become directly exposed to macro-financial volatility. Such exposure has historically been part of the rationale for keeping monetary policy focused on inflation control, often delegated to independent central banks presumed to act as credible guardians against destabilizing interest-rate swings.

By contrast, fixed-rate mortgages insulate households from short-term fluctuations in interest rates, offering predictability over the life of the loan. However, this stability shifts the interest-rate risk back onto lenders, who must manage the mismatch between long-term fixed mortgage assets and their own typically short-term funding structures. In depository-based systems, this mismatch is ultimately absorbed by banks and, indirectly, by savers; in market-funded systems it is transferred onto capital markets through instruments such as covered bonds or interest-rate derivatives. As a result, the choice between variable- and fixed-rate mortgage regimes shapes not only borrower vulnerability and financial stability, but also the institutional and regulatory frameworks required to manage interest-rate risk across the housing finance system.

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Less financialized countries

The static correlations for the 2008–2012 period suggest that the share of variable-rate mortgages played a limited role in shaping affordability and repayment outcomes. The relationship with housing cost overburden is moderately negative (r = –0.43), while the association with mortgage arrears is weakly positive (r = 0.25). These patterns reflect the institutional environments of many post-socialist and Southern European systems, where variable-rate lending was historically prevalent, but where mortgage levels remained low and the majority of households were outright owners. Therefore the effect of this particular form of borrower based financial regulation was negligible. In such environments, the interest-rate structure of new mortgages has little macro-level influence on household vulnerabilities.

By the 2018–2022 period, the correlations shift in ways that highlight the changing constraints of late financialization. The earlier negative association between variable interest rates and housing cost overburden disappears, giving way to a near-zero relationship (r = 0.07). The link with arrears weakens substantially, falling from a modest positive value in 2012 (r = 0.25) to nearly no association at all in 2022 (r = 0.07). These developments point to the growing role of structural affordability pressures—we have discussed in the previous chapter — over the characteristics of mortgage contracts.

Table 6.9: Correlation with variable interest rate mortgages

Outcome variable	LESS 2012	LESS 2022	FIN 2012	FIN 2022
Mortgage as % of GDP	-0,14	-0,2	-0,18	0,58
Homeownership stratification	0,26	-0,07	-0,57	-0,2
Arrear rate	0,25	0,36	0,06	-0,07
Housing cost overburden rate	-0,43	-0,04	-0,57	-0,2
Gross Fixed Capital Formation in dwellings	0,2	0,07	-0,09	0,33

Financialized countries

In more financialized housing systems, variable-rate mortgages play a limited role in explaining affordability pressures or repayment risks. During 2008–2012, the association with arrears is weakly negative (r = –0.22), and the relationship

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with housing cost overburden is similarly modest (r = –0.15). The 2018–2022 period consolidates this pattern. The negative correlation with arrears becomes somewhat stronger (r = –0.31), while the relationship with housing cost overburden remains mildly negative (r = –0.19). Within this group of financialized, mortgage-led economies it seems that interest-rate structures do not relate to affordability issues. Other factors and systemic features seem to be much stronger and significant.

6.4 Conclusion

This chapter examines how financial regulation—in its borrower-facing, lender-facing, and market-structuring dimensions—actively shapes housing systems, patterns of access, and inequalities across Europe. Building on post-GFC scholarship in housing studies, the chapter argues that financial policy is not merely a technical domain of risk management but a constitutive force in the political economy of housing. Mortgage-led growth, financial deregulation, and the rise of market-based credit instruments transformed housing from a welfare good into a globally tradable asset class. Some national housing regimes have become deeply embedded in an integrated financial architecture in which credit creation, collateral values, and liquidity management are increasingly intertwined.

The chapter situates these dynamics in the broader literature on financialization. It highlights the "Great Mortgaging" described by Jordà, Schularick and Taylor (2014), whereby mortgage credit became the dominant form of private lending in advanced economies, heightening macroeconomic volatility. Housing scholarship traditionally framed finance as a support to homeownership, but under financialization this relationship has inverted: housing now serves the needs of finance. Mortgage-backed securities, covered bonds, and institutional investment vehicles transform dwellings into collateral for liquidity production, enabling investors across the system to extract yield. This macro-financial perspective is anchored in Gabor's (2023) Critical Macro-Finance framework, which emphasizes the primacy of collateral hierarchies and the role of states in producing "high-quality" assets. In this architecture, maintaining the

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value of housing assets becomes a matter of systemic stability, shaping regulatory choices.

The chapter identifies four key dimensions of financial policy relevant to housing: (1) borrower-focused rules (e.g., LTV/DTI limits, interest-rate structures, amortization rules); (2) lender regulation (capital requirements, risk weights, supervisory frameworks); (3) market-based infrastructures (securitization chains, covered bond regimes, REIT and institutional investor frameworks); and (4) the growing role of institutional landlords operating outside mortgage-based circuits but still shaped by financial market conditions. These domains together constitute the "financial architecture" of housing systems.

The empirical section analyses five indicators across European countries: mortgage-to-GDP ratios; maximum LTV rates; prevalence of variable-rate mortgages; securitization volumes (RMBS and covered bonds); and listed real-estate market capitalization. Using the VoRC+ classification, the chapter shows sharp variation in the depth and form of financialization. Mortgage-to-GDP ratios, securitization levels, and institutional real-estate investment differ markedly across the five types of housing-finance regimes. More financialized countries exhibit deeper mortgage markets, greater reliance on covered bonds, wider use of fixed-rate mortgages, and higher levels of listed real-estate capitalization; less financialized systems are characterized by limited mortgage penetration, high variable-rate exposure, and minimal securitization.

Correlation analyses reveal that borrower-based tools behave differently depending on the underlying regime. In less financialized systems, LTV caps and mortgage regulation show weak relationships with credit growth, reflecting structural credit constraints rather than policy-led demand management. In more financialized systems, however, higher LTV ceilings tend to co-exist with deep mortgage markets. This suggests that these LTV ceilings operate less as a cap of credit growth and more as a selection mechanism that filters out lower-scoring borrowers, thereby improving the average credit quality of those who enter homeownership. More research is needed to understand whether this may reinforce debt-led house-price dynamics and widen insider–outsider inequalities in access to ownership.

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7 Discussion and Conclusion

This report has examined the macro-level evolution of European housing systems through an integrated analysis of fiscal and financial regulation in the context of post crisis unconventional monetary policies. It set out to explore how different national housing systems have developed over the last two decades, why their trajectories diverge or converge, and how the interplay of monetary, fiscal and financial policies shapes housing outcomes. To do so, the report developed a revised typology—the Varieties of Residential Capitalism Plus (VoRC+)—capturing the long-run evolution of mortgage–housing relations in 28 European countries. It then used cross-national macro-indicators and correlation-based analysis to identify how fiscal and financial policies interact with these trajectories and contribute to the wider, variegated financialization of housing.

The comparative framework was grounded in a systematic methodology that combines transnational statistical sources with a transparent correlation-based strategy. Although limited to national-level data, this approach provides the broadest possible basis for comparison across institutional contexts. The analysis centres on housing systems rather than long-run regimes, acknowledging that systems are dynamic, hybrid and shaped by historical path-dependencies. The data infrastructure—Eurostat, OECD, the World Bank and specialized sectoral datasets—allowed for harmonized measurement of fiscal indicators, financial regulatory variables and housing outcomes. Because causal inference is hindered by the complexity and interdependence of national contexts, correlations were used to map structural associations and to interpret divergence between clusters of more and less financialized housing systems. While necessarily descriptive, this provides a coherent macro-comparative foundation for analyzing how European housing systems have evolved under conditions of financialization.

A major conceptual contribution of the report lies in the development of VoRC+. The original Varieties of Residential Capitalism (Schwartz & Seabrooke, 2008) captured important structural differences, but its static nature limited its usefulness in analyzing the rapid transformations of the past two decades. The revised VoRC+ typology addresses this limitation by focusing explicitly on trajectories rather than snapshots. By reconstructing the relationship between

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mortgage debt and homeownership over four periods (2002–2007; 2008–2012; 2013–2017; 2018–2022), VoRC+ identifies five distinct developmental paths. These groups capture not only the depth of mortgage integration but also the speed and direction of change, the presence of boom-and-bust cycles, and the degree to which states mediate the expansion of housing finance. The typology's two meta-clusters—more financialized and less financialized housing systems—further clarify the structural differences in how national systems articulate with capital markets.

VoRC+ advances debates in comparative housing studies in three principal ways. First, it moves beyond static regime typologies by adopting a temporal, developmental perspective. Scholars have called for typologies better attuned to temporality, crisis and path dependency (e.g. Fernandez & Aalbers, 2016; Blackwell & Kohl, 2019). The concept of trajectory addresses this by showing how similar end-points can arise from different sequences of institutional change, and how housing systems with superficially similar features may nonetheless embody different forms of financialization. This helps explain why European housing systems have not converged despite common exposure to global finance.

Second, the typology integrates political economy and housing studies by placing mortgage finance at the centre of comparative analysis. Despite the rising importance of rental financialization, mortgage credit remains the dominant mechanism through which financial markets shape housing. VoRC+ demonstrates empirically that the 'Great Mortgaging' (Jordà et al., 2016) is still the key driver of long-term divergence in European housing systems. National trajectories reveal stark differences in the extent of mortgage penetration, the volatility of credit cycles, the role of the state in promoting or restraining mortgage growth, and the degree of integration into global market-based credit systems. These differences confirm that financialization is not homogeneous but profoundly variegated (Aalbers, 2017), and that key institutions—such as mortgage interest tax relief, loan-to-value ceilings, variable or fixed-rate mortgage structures and valuation systems—mediate how global pressures are absorbed domestically.

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Third, the typology links macro-structures to housing outcomes in systematic ways. Differences in affordability pressures, arrears rates, housing-cost overburden, tenure inequalities and the share of outright ownership map onto VoRC+ groups in consistent patterns. Deeply financialized systems display high price pressures, larger insider–outsider divides, and greater exposure to interest-rate risk (in variable-rate contexts) or liquidity risks (in fixed-rate contexts). Boom-and-bust systems show elevated arrears and volatility, whereas low-mortgage systems maintain higher outright ownership and lower price-to-income ratios. These associations validate the typology and reinforce the idea that housing financialization is not simply a macro-financial phenomenon but one that shapes social distributional outcomes.

Understanding these macro-level trajectories, however, requires embedding them within the broader institutional architectures of monetary, fiscal and financial regulation. One striking finding of the report is the relative invisibility of monetary policy in housing-policy debates, despite its immense influence. Across Europe, monetary policy is outsourced to independent central banks whose mandates exclude housing affordability and distributional concerns. This creates a peculiar paradox: central banks recognize the importance of housing to monetary transmission—particularly through interest-rate pass-through to household mortgages and through wealth effects generated by house prices—but these effects fall outside their policy remit. The separation of monetary governance from democratic politics becomes more problematic as housing systems become increasingly financialized. Central banks' focus on inflation control, especially when homeowners' housing costs are excluded or only partially represented in inflation indices, raises normative questions. The exclusion of mortgage interest from targeted inflation indices is intended to avoid circularity, yet it also means that the primary burden of disinflation falls disproportionately on mortgaged households. The inflationary resurgence has intensified this asymmetry, prompting questions about the fairness and political legitimacy of prevailing monetary frameworks.

The monetary context also conditions the efficacy of fiscal and financial policies. Periods of low interest rates boost institutional demand for housing

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assets and compress yields across asset classes, accelerating financialization. The era of quantitative easing increased liquidity in financial markets, reinforcing demand for mortgage-backed and real-estate-backed assets. Conversely, the recent turn toward monetary tightening has redistributed risks across housing systems, with highly financialized and highly leveraged countries experiencing more pronounced adjustments. The fact that monetary policy operates uniformly across Eurozone countries, but interacts with housing systems that differ profoundly in structure, helps explain why VoRC+ trajectories diverge rather than converge.

The report's analysis of fiscal policies confirms that taxation remains one of the least studied yet most consequential dimensions of housing systems. Housing taxation is often treated as an underused lever (Ryan-Collins, 2021) or discussed in isolation from the institutional configurations within which it functions. The findings presented here argue strongly against such separation. Fiscal policy helps construct the very differences that comparative housing research seeks to explain. Systems favouring homeownership—particularly mortgaged homeownership—often do so through embedded fiscal privileges: mortgage interest relief, exemption of imputed rents, favourable capital gains treatment, reduced transaction taxes or inheritance advantages. These instruments create long-term incentives for households, shape expectations of wealth accumulation, and embed ideological commitments to homeownership as a marker of economic citizenship (Ronald, 2008). They also contribute to what Kholodilin et al. (2023) call "hidden homeownership welfare."

Fiscal efforts to promote tenure neutrality (Fatica & Prammer, 2018) confront not only political opposition but also the structural entrenchment of these privileges within housing systems. The correlation analysis presented here shows clear associations between mortgage-related tax expenditures, mortgage-to-GDP ratios and house-price dynamics. In this sense, fiscal policy does not merely modify housing outcomes; it co-produces the mortgage-led trajectories identified by VoRC+. The implications extend beyond housing affordability: fiscal incentives shape the distribution of risk between households, lenders and states, and ultimately influence macroeconomic stability.

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Recurrent property taxes are frequently promoted as among the most efficient and progressive tax instruments available (European Commission, 2022), benefiting from the immobility of their tax base and their potential for reducing wealth inequality. Yet as the OECD (2022) notes, the failure of property tax revenues to track rising housing values in many countries undermines their effectiveness. The political economy of valuation—frequency, accuracy, administrative capacity and political resistance—becomes a decisive factor explaining cross-national differences in fiscal outcomes. In some housing systems, outdated valuations lock in regressive structures; in others, politically contested valuation reforms perpetuate revenue stagnation. These findings underline that fiscal systems are not merely policy choices but deeply embedded institutional features that both shape and reflect broader housing system configurations.

Financial regulation emerges in the report as the most consistently influential policy arena for shaping housing system trajectories, though still subordinate to the overarching monetary environment. Financial policy operates through borrower-based tools (loan-to-value and debt-to-income limits, amortization requirements, rules governing fixed versus variable rate mortgages), lender regulation (capital buffers, risk weights, supervisory frameworks), and market-structuring instruments (covered bond regimes, securitization frameworks, REIT legislation). It also encompasses the regulatory environment surrounding institutional landlords and market-based real estate investment vehicles.

The analysis confirms that borrower-based measures behave differently across housing system types. In highly financialized systems, high LTV ceilings correlate strongly with deeper mortgage markets and price inflation, reinforcing debt-led growth. In less financialized contexts, LTV rules appear less influential, reflecting structural credit constraints and smaller pools of creditworthy borrowers. In both contexts, however, financial regulation shapes risk distribution: variable-rate mortgage systems transfer interest-rate risk directly to households, while fixed-rate systems shift duration risk onto lenders or capital markets, depending on funding structures. The prevalence of variable-rate mortgages—still substantial in

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parts of Europe—makes housing systems more sensitive to macro-financial volatility, increasing exposure to monetary tightening cycles.

Market-structuring instruments also play a decisive role. Securitization and covered bonds help transform mortgages into tradable, collateral-rich assets, embedding housing firmly within global liquidity chains. The rise of institutional landlords interacts with these dynamics by creating new channels for financial extraction and new vulnerabilities, particularly where rental yields respond to global capital cycles rather than local demand conditions. This aligns with the critical macro-finance perspective developed by Gabor (2020), which highlights the growing importance of collateral hierarchies and liquidity production in shaping national housing markets. The stabilization of housing asset values becomes a systemic priority, influencing regulatory choices in subtle but powerful ways.

One of the report's broader contributions is clarifying the evolving role of the European Union. Although housing was long excluded from EU competencies, EU-level policies have nonetheless shaped national housing trajectories through competition rules, state-aid decisions, the regulation of services of general economic interest and—crucially—the Capital Markets Union (CMU). The CMU sought to deepen securitization and promote convergence toward market-based finance, indirectly affecting housing systems by standardizing mortgage markets, encouraging covered bond issuance and facilitating cross-border investment in real estate. Yet the findings here suggest that convergence has been limited. Medium-financialized systems have moved gradually toward higher financialization, but less financialized systems have remained largely distinct. Past EU financial integration efforts have therefore produced only partial alignment, reinforcing rather than erasing variegation.

The current political shift at EU level—including the appointment of a Commissioner for Energy and Housing and the forthcoming Affordable Housing Plan—marks a potentially significant reorientation. The expansion of Horizon Europe funding for housing research and rising political attention signal that a de jure EU housing policy may emerge. Whether this will counteract, reinforce or merely coexist with the financial-market integration pursued through CMU

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remains an open question. The findings of this report underscore that any future EU housing strategy will need to confront the deep entanglement of housing with financial markets and to engage seriously with the fiscal and monetary contexts that shape housing outcomes.

Taken together, the analyses presented in this report demonstrate three overarching conclusions. First, the VoRC+ approach is a robust tool for mapping the divergent trajectories of European housing systems and for integrating temporal, institutional and financial dimensions into comparative analysis. Second, fiscal policy—while politically visible and often contested—has less structural influence over housing trajectories than financial or monetary policy, although it remains crucial in shaping the architecture of incentives and in producing the underlying tenure structures. Third, despite common exposure to EU monetary policy and global financial conditions, European housing systems continue to diverge. Financialization has not produced convergence; instead, it has generated patterns of stability, divergence and gradual polarization.

Ultimately, the report highlights that housing systems are co-produced by fiscal architectures, financial regulatory frameworks and monetary conditions. These interacting policy arenas shape not only who can access housing but also how risks, wealth and vulnerabilities are distributed across societies. Understanding these multi-level interactions is essential not just for diagnosing the failures of contemporary housing systems but also for imagining policy trajectories capable of countering financialization and restoring housing's social function.

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