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RESEARCH ARTICLE

Housing inequality and social segregation in Leiden, 1561–1606

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Abstract

The Dutch city of Leiden experienced economic and demographic growth from the last quarter of the sixteenth century onwards. This article analyses its effects on the urban private housing market by charting both the ratio of owners to tenants and the spatial patterns of housing wealth. Housing inequality increased in Leiden, reinforcing existing economic disparities and patterns of residential segregation. These dynamics were mainly caused by migration, which created great demand for housing. Gaining an insight into the pre-modern housing market also helps us to understand how inequalities were (re)produced and how they affected the daily lives of urbanites differently.

Recent research on housing markets in contemporary European societies has highlighted three key developments. First, a gradual shift from a rental society to one of high homeownership has occurred in several countries over the past few decades, stimulated by governments through fiscal measures intended to encourage capital formation. As a result, the share of the lower-income social housing market has decreased, while the private housing market and, more recently, the private rental sector have increased.¹ Second, these developments have produced greater wealth inequality within societies. Thomas Piketty, for example, observes that housing wealth accounts for half of the total stock of private wealth in the early twenty-first century, with the middle classes especially holding their capital in bricks and mortar.² Finally, the effects of housing policies – shaped by the local supply of land, the forms of housing finance and the construction sector – on society are not always straightforward.³ But the accumulation of housing wealth has sometimes resulted in greater

¹B. Wind, 'Ongelijk woonvermogen: hoe de stimulering van het eigenwoningbezit uitpakt in Nederland, Duitsland en Zweden', *Sociologie*, 11 (2015), 349–71.

²T. Piketty, *A Brief History of Equality* (Cambridge, MA, and London, 2022), 37–40.

³S. Kohl, *Homeownership, Renting and Society: Historical and Comparative Perspectives* (Abingdon and New York, 2017).

spatial inequality and social segregation, while the costs of renting have sometimes amplified real income disparities.⁴

Without assuming that the dynamics were identical or had equal impact, these findings raise the question of whether, in the European past, access to housing played a similar role in the reproduction of economic inequality and social segregation over time. They are also helpful in framing how the urban housing market in the pre-modern period was entwined with the distribution of wealth and residential patterns. The aim of this article, therefore, is to situate the housing market of Leiden within the Dutch city's broader economic, demographic and spatial developments of the second half of the sixteenth century. Leiden's property market is well documented from the mid-sixteenth century onwards, permitting a qualitative and spatial analysis of its housing dynamics.

Registers of rental valuations, drawn up for fiscal purposes, are key sources for this analysis. Drawing on similar records from mid-nineteenth-century Edinburgh, Richard Rodger has recently shown how valuations of (rental) properties provide 'a lens on the city, and on the urban processes and complexities within it'.⁵ This observation is applicable to the case of Leiden too. In the second half of the sixteenth century, the city initially experienced demographic contraction and a decline of its vital cloth industry. But after the disastrous Spanish Siege of 1573–74, the urban population and economy recovered remarkably fast, predominantly by attracting migrants from the southern Low Countries, who played an important role in the revival of the textile industry.⁶ The first phase of this demographic growth was confined within the medieval town walls of 1389, as the city was not expanded until 1611. In the meantime, urban building density increased significantly, because industrial and former religious properties were, for example, parcelled and turned into residential homes to alleviate the immediate housing shortage.⁷

To understand how the evolution of the housing market in Leiden was entwined with economic and social developments, the distributive patterns of housing wealth are charted by analysing two registers of (rental) values covering nearly all properties in 1561 and 1606 respectively.⁸ First, the analysis focuses on changes in the structure of the housing market, especially the ratio of owner- to tenant-occupancy. Second, the analysis zooms in on changes in the composition of the homeowners and tenants

⁴For recent studies, see B. Christophers, 'A tale of two inequalities: housing-wealth inequality and tenure inequality', *Environment and Planning A: Economy and Space*, 53 (2021), 573–94; C. Dustmann, B. Fitzenberger and M. Zimmermann, 'Housing expenditure and income inequality', *Economic Journal*, 132 (2022), 1709–36; S.J. Smith *et al.*, 'Housing and economic inequality in the long run: the retreat of owner occupation', *Economy and Society*, 51 (2022), 161–86.

⁵R. Rodger, 'Property and inequality: housing dynamics in a nineteenth-century city', *Economic History Review*, 75 (2022), 1151–81.

⁶H. Brand, 'Leiden rond 1500: een pre-industriële stad onder spanning', *Leids Jaarboekje*, 100 (2008), 95–120; D.J. Noordam, 'Nieuwkomers in Leiden, 1574–1795', in J. Moes *et al.* (eds.), *In de nieuwe stad: nieuwkomers in Leiden, 1200–2000* (Leiden, 1996), 39–85.

⁷H. van Oerle, *Leiden binnen en buiten de stadsvesten: de geschiedenis van de stedenbouwkundige ontwikkeling binnen het Leidse rechtsgebied tot aan het einde van de Gouden Eeuw* (Leiden, 1975), vol. I, 293–320; F. Daelemans, 'Leiden 1581: een socio-demografisch onderzoek', *AAG Bijdragen*, 19 (1975), 187–8.

⁸The (geocoded) data from these registers are entered in a database, as part of the ongoing Mapping Historical Leiden-project, co-ordinated by Martin Hooymans. For an earlier analysis of the hearth tax of 1606, see N.W. Posthumus, *De geschiedenis van de Leidsche lakenindustrie: de nieuwe tijd (zestiende tot achttiende eeuw): de lakenindustrie en verwante industrieën* (The Hague, 1939), vols. II and III, 157–67.

in this period, in particular to establish what role investors played in the expansion of Leiden's housing stock. Finally, the (rental) property values are mapped to establish the spatial dimension of housing inequality, corroborating the identified patterns with reference to other data on economic inequality and social segregation. This approach allows further data on housing capital and rental values to be added, enabling a diachronic analysis over a longer range to be made of the dynamics of Leiden's housing market from the sixteenth to the first half of the nineteenth century.⁹

The housing market in pre-modern cities

The medieval and early modern urban property market was 'a seismograph for the political, economic, and social developments of the time'¹⁰ and 'one of the major forces which determined socio-topographical patterns'.¹¹ At the same time, unlocking the evidence of urban property values is, in the words of Derek Keene, a 'painstaking and elaborate exercise', because a proper examination requires linking capital and rental values to specific plots of land and properties, as well as determining the usage and quality of buildings and the socio-economic position of owners and users.¹² Methodologically, this exercise is often hampered by the partial information that can be derived from the extant sources, which comes with various problems of interpretation, as is illustrated by Thomas Ertl's in-depth study of Vienna's housing conditions and market in 1448.¹³

The available literature does not provide a straightforward picture of the late medieval and early modern residential property market, which is generally understood to have been open and subject to the forces of supply and demand. With regard to owner- and tenant-occupancy, an important topic of this article, significant differences have been observed. Early evidence from Norwich shows that at least three-quarters of the households in the leet of Mancroft were living in rented properties around 1311. The demand for rental properties was driven by demographic growth in this period.¹⁴ In contrast, homeownership was much higher in Manresa (Catalonia), where 73.5 per cent of households possessed a proper house in 1408, meaning that few inhabitants rented their lodgings. Moreover, wealthier

⁹For the eighteenth and nineteenth centuries, see G.P.M. Pot, *Arm Leiden: levensstandaard, bedeling en bedeelden, 1750–1854* (Hilversum, 1994), 119–34.

¹⁰T. Ertl and T. Haffner, 'The property market of late medieval Vienna: institutional framework and social practice', in S. Zapke and E. Gruber (eds.), *A Companion to Medieval Vienna* (Leiden, 2021), 129–30 (quotation); J.A. Schmidt-Funke, 'Haushaben: houses as resources in early modern Frankfurt', in S. Derix and M. Lanzinger (eds.), *Housing Capital: Resource and Representation* (Berlin, 2017), 35–55.

¹¹D. Keene, 'The property market in English towns, A.D. 1100–1600', in J.-C. Maire Vigueur (ed.), *D'une ville à l'autre: structures matérielles et organisation de l'espace dans les villes européennes, XIIIe–XVIIe siècle: actes du colloque* (Rome, 1989), 225.

¹²*Ibid.*, 206; D. Denecke, 'Soziale Strukturen im städtischen Raum: Entwicklung und Stand der sozialtopographischen Stadtgeschichtsforschung', in M. Meinhardt and A. Ranft (eds.), *Die Sozialstruktur und Sozialtopographie vorindustrieller Städte* (Munich, 2005), 123.

¹³T. Ertl, *Wien 1448: Steuerwesen und Wohnverhältnisse in einer spätmittelalterlichen Stadt* (Vienna, 2020), 60–1.

¹⁴E. Rutledge, 'Landlords and tenants: housing and the rented property market in early fourteenth-century Norwich', *Urban History*, 22 (1995), 10–12.

Manresans did not invest in rental properties.¹⁵ Fiscal pressure was comparatively low in this Catalan town and its population was stable, allowing many citizens to acquire their own properties. In Bruges, the proportion of owner-occupants fell from 43 per cent in 1382 to 34 per cent in 1583. This decrease was mainly driven by investments in real estate that drove up the price of properties, meaning that acquiring a home became out of reach for many middle-class households.¹⁶

More research has been done on the rental prices of properties. Catherine Casson and Mark Casson, for example, established the determinants of rents in medieval Gloucester and Hull, which were set by the market from the outset and influenced by location and type of property.¹⁷ This confirms earlier findings on late fifteenth-century Ghent, where the capital value of more centrally located properties and those with a commercial function was higher.¹⁸ For the early modern period, more serial data on rents are available and indices have been compiled for (parts) of several places. Inspired by the method developed by Étienne Scholliers, who compiled an index of the rental prices of private houses for Antwerp between 1500 and 1873, similar series have been published for several other Belgian cities, and for Amsterdam and Toledo (Spain).¹⁹ In general, the evidence points towards a correlation between rental prices and local economic and demographic circumstances.²⁰

Finally, the literature on urban economic inequality and social segregation is more extensive, but housing does not generally play a prominent role in it. For the Low Countries, historians have identified long-term income inequalities on the basis of fiscal registers of (rental) valuations of urban dwellings that were compiled from the mid-sixteenth century onwards.²¹ The same sources have been used to establish patterns of social segregation. Clé Lesger, in particular, has demonstrated for the cities of early modern Holland, including Leiden, that no rigid spatial segregation of social classes emerged, partly due to the fixed blocks of houses and fragmented landownership.²² Although social differences existed between central and more

¹⁵J. Fynn-Paul, *The Rise and Decline of an Iberian Bourgeoisie: Manresa in the Later Middle Ages, 1250–1500* (Cambridge, 2015), 270–2.

¹⁶H. Deneweth, W. Leloup and M. Speecke, 'Een versteende ruimte? De impact van stedelijke veranderingsprocessen op de sociale topografie van Brugge, 1380–1670', *Stadsgeschiedenis*, 13 (2018), 38–9.

¹⁷M. Casson and C. Casson, 'Location, location, location? Analysing property rents in medieval Gloucester', *Economic History Review*, 69 (2016), 575–99; C. Casson and M. Casson, 'Property rents in medieval English towns: Hull in the fourteenth century', *Urban History*, 46 (2019), 374–97.

¹⁸M. Boone *et al.*, *Immobiëlenmarkt, fiscaliteit en sociale ongelijkheid te Gent, 1483–1503* (Kortrijk-Heule, 1981).

¹⁹E. Scholliers, 'Un indice du loyer: les loyers anversoïses de 1500 à 1873', in *Studi in onore di Amintore Fanfani* (Milan, 1962), vol. V, 593–617; C. Lesger, *Huur en conjunctuur: de woningmarkt in Amsterdam, 1550–1850* (Amsterdam, 1986); M. Drelichman and D. González Agudo, 'Housing and the cost of living in early modern Toledo', *Explorations in Economic History*, 54 (2014), 27–47.

²⁰H. Soly, 'De schepenregisters als bron voor de conjunctuurgeschiedenis van Zuid- en Noordnederlandse steden in het Ancien Régime', *Tijdschrift voor geschiedenis*, 87 (1974), 521–44.

²¹L. Soltow and J.L. van Zanden, *Income and Wealth Inequality in the Netherlands, 16th–20th Century* (Amsterdam, 1998), 31–6; W. Ryckbosch, 'Economic inequality and growth before the industrial revolution: the case of the Low Countries (fourteenth to nineteenth centuries)', *European Review of Economic History*, 20 (2016), 1–22.

²²C. Lesger and M.H.D. van Leeuwen, 'Residential segregation from the sixteenth to the nineteenth century: evidence from the Netherlands', *Journal of Interdisciplinary History*, 4 (2012), 333–69; C. Lesger, *Power and Urban Space in Pre-Modern Holland: Arenas of Appropriation in the Netherlands, 1500–1850* (London and New York, 2024), ch. 3. Lesger provides a useful discussion of older models of social segregation in pre-modern towns.

peripheral wards, they were more pronounced at a meso-level, as the wealthier households lived along the main streets and the poorer in the alleys. These socio-topographical patterns have been established for medieval Leiden too.²³

The most significant studies for the pre-modern Low Countries, as they directly address the question of housing inequality, are those by Heidi Deneweth and Rogier van Kooten. Deneweth argues that income inequality caused housing inequality in pre-modern Bruges, but even at times of crisis at the end of sixteenth century housing inequality did not decline, because elite investors in the real estate market controlled the supply of properties, leading to even greater housing inequality.²⁴ Van Kooten's analysis of Antwerp's housing market in 1584–86 also focuses on a period of crisis and he particularly discusses the impact of outward migration, showing that there was a modest levelling effect on housing inequality, as the market collapsed, a development from which the middle incomes gained the most.²⁵ Given the demographic and construction boom in Antwerp in the preceding period, the city had a rather atypical social topography, with a clearer distinction between affluent and peripheral, poorer wards. Moreover, rents were relatively high and 80 per cent of all houses were rental properties. In that sense, the Brabantine city might be more comparable to seventeenth-century Amsterdam than sixteenth-century Leiden. Yet, the different, often case-specific explanations given for changes in housing inequality need to be further scrutinized to assess their validity.

Sources and methodology

The demographic and housing market dynamics in Leiden during the second half of the sixteenth century can be reconstructed thanks to a relative abundance of sources. On the instruction of the central authorities in 1560, the city council of Leiden kept registers (*waarboeken*) in which all deeds concerning properties were written down for its own administration.²⁶ From 1585, these registers were linked to successive series (*vetus, oud-belastingboeken* and *bonboeken*) in which the transfer of (mortgaged) real estate was recorded parcel-wise.²⁷ Generally, the inheritance of property was not recorded, but otherwise the records together reveal a remarkable pre-cadastral administration. As living documents, they are notoriously illegible, but they provide a continuous overview of the transactions of built properties and their market value from

²³T. Bisschops, 'Ruimtelijke vermogensverhoudingen in Leiden (1438–1561): een pleidooi voor een percelsgewijze analyse van steden en stedelijke samenlevingen in de Lage Landen', *Stadsgeschiedenis*, 2 (2007), 121–38; A. van Steensel, 'Measuring urban inequalities: spatial patterns of service access in sixteenth-century Leiden', in G. Nigro (ed.), *Economic Inequality in Pre-Industrial Societies: Causes and Effect* (Florence, 2020), 369–88.

²⁴H. Deneweth, 'Real property, speculation and housing inequality: Bruges, 1550–1670', in B. Blondé et al. (eds.), *Inequality and the City in the Low Countries (1200–2020)* (Turnhout, 2020), 251–68.

²⁵R. van Kooten, 'Levelling through space?: the redistributive capacity of demographic decline in Antwerp's darkest hour (1584–1586)', in Blondé et al. (eds.), *Inequality and the City*, 231–49.

²⁶Earlier registers of deeds, so-called *schepenregisters* preserved for other cities in the Low Countries, are not available for Leiden, but some deeds are preserved as charters. The first series of deeds, the *inbrengboeken*, run from 1540 to 1811, and contain more complex contracts that were later registered in the *waarboeken*; Erfgoed Leiden en Omstreken (hereafter ELO), NL-LdnRAL-0508, no. 73.

²⁷In general, see C. van Bochove, H. Deneweth and J. Zuijderduijn, 'Real estate and mortgage finance in England and the Low Countries, 1300–1800', *Continuity and Change*, 30 (2015), 16–24.

the late sixteenth to the early nineteenth centuries.²⁸ The question these records do not answer is whether properties were rented out, and at what rates.

For this purpose, registers of taxes paid on real properties were consulted: the records of the tenth penny on rental value in 1561 (*kohieren van de tiende penning*) and those of a hearth tax levied in 1606 (*schoorsteengeld*). The first was a 10 per cent tax on income from real estate, levied six times between 1543 and 1564 by the States of Holland. The register for Leiden from 1561 gives the location of properties in the cities, the names of owners, the names of tenants if rented out, the (estimated) rental valuation of the property and the tax assessment. Owner-occupied properties with an estimated rental value of 6 guilders or less were exempted from the tax.²⁹ The hearth tax register from 1606 lists the location of properties, the owners and any tenants, as well as the tax assessment based on the number of fireplaces. This was an incidental tax, levied by the States of Holland to cover exceptional war expenses. The city council of Leiden decided to differentiate between properties on the tax rate per fireplace according to four categories of rental value, with only those belonging to the highest bracket of 3 guilders and more paying the top rate of 30 *stuivers* per fireplace. The regular tax assessments of the properties are also listed in the register, which normally served as the basis for a provincial real estate tax (*verponding*), the rate of which was 8.3 per cent (twelfth penny) in the early seventeenth century. The assessment method of the *verponding* was revised in Leiden in 1599 and the assessments were adjusted; the town council based the value of built properties on their location, size and quality or value.³⁰

By identifying the number of inhabited dwellings from the registers, it is possible to estimate Leiden's total population. It was uncommon for multiple households to share the same house. Based on an average household size of 4.3 individuals,³¹ we can determine that the population of Leiden grew from 12,393 in 1561 to 21,139 in 1606. This rapid growth occurred in the last two decades of the sixteenth century and the early seventeenth century, as confirmed by the censuses held in 1581 and 1622. In the first year, when the demographic recovery after the siege was already visible, Leiden counted 2,785 households with 12,243 inhabitants; four decades later, the city's population had almost quadrupled to 44,745 inhabitants.³²

²⁸E. van der Vlist, 'De bonboeken te Leiden', in G.A.A. van Syngel (ed.), *Bronnen betreffende de registratie van onroerend goed in Middeleeuwen en Ancien Régime* (The Hague, 2001), 82–107, 397–8. See also ELO, Library, LB 3299–33 plano: E.P. Wegener and H.A. van Oerle, *Register van de huizen in Leiden 1581–1585–1601: konkordantie 1581 Volkstelling, 1585 Vetus, 1601 Oudt Belastingboek* (typescript, Erfgoed Leiden, 1944–45).

²⁹Nationaal Archief, Den Haag (hereafter NL-HaNA), Staten van Holland voor 1572, toegangsnummer 3.01.03, no. 1130; J.A.M.Y. Bos-Rops, 'De kohieren van de tiende penning in Holland, 1543–1564', in Van Syngel (ed.), *Bronnen betreffende de registratie*, 341–68.

³⁰ELO, NL-LdnRAL-0501A, nos. 3839, 4178, fols. DI–DII, and 4988; R. Liesker and W. Fritschy, *Gewestelijke financiën ten tijde van de Republiek der Verenigde Nederlanden*, vol. IV: *Holland (1572–1795)* (The Hague, 2004), 356.

³¹R.C.J. van Maanen, 'De Leidse bevolkingsaantallen in de 16de en 17de eeuw: enkele kanttekeningen', *Leids Jaarboekje*, 101 (2009), 41–70. The average household size according to the census of 1581 was relatively low with 3.86 individuals, when non-kin are not included in the counting. On average, a dwelling was inhabited by 4.3 individuals. The conversion factor used is not adjusted for economic circumstances, but may have been 5.0 during periods of economic growth. Moreover, tax-exempted individuals, such as clerics, are excluded.

³²Leiden's census numbers from 1574 and 1581 have been recently revised and republished by a group of volunteers led by Martin Hooymans, see M. Hooymans, 'Dataset: Volkstelling Leiden 1581 (deel 1)', DANS, 2018, <https://doi.org/10.17026/dans-zwa-xdxy>; J.G. van Dillen, 'Summiere staat van de in 1622 in de provincie Holland gehouden volkstelling', *Economisch-Historisch Jaarboek*, 21 (1940), 167–89.

Rental prices in the Low Countries were set by the market in the pre-modern era, making the available data useful to pinpoint the economic position of households or to track economic developments.³³ Yet, the Leiden registers both come with a number of issues of interpretation. First, some of the properties combined residential with commercial or industrial functions. But non-residential usage of properties is often difficult to ascertain, unless it can be determined from mention of the owner's occupation or from a high tax assessment. The inclusion of high-valued breweries, for example, will distort the picture of the residential housing market. Second, the sources mention if houses were under construction or vacant, yet they do not fully capture the fluidity of the rental market, as properties were often rented out for short periods. In the latter case, the tax registers still provide the annual rental revenue. Third, in a number of cases it is difficult to distinguish between properties, houses and dwellings, as some properties came with backhouses or annexes (*achterhuizen*) and rooms (*cameren*). If these were rented out, the revenues from them were not always given separately. Fourth, the records do not consistently give the occupations of owners or tenants, meaning that occupational structures cannot be fully deduced from them. Finally, it has been shown for the neighbouring city of Haarlem that the assessment of the rental value of owner-occupied properties was structurally lower than their market value, as owners sought to evade taxation. The assessment of tenant-occupied properties was more accurate, because owners had to show proof of the actual rental revenues they earned.³⁴ Although the tax assessments have not been compared to the selling prices of properties, it can be assumed that this was the case in Leiden too.

Methodologically, the next steps were followed to clean up the data. First, the number of inhabited dwellings, their owners and possible tenants were identified. Second, the names of the homeowners were standardized to identify those who held multiple properties, and to differentiate between different types of owners and their activities on the real estate market. Third, all houses were mapped to link both registers through their location and to enable a spatial analysis of the data. To this end, a parcel-based historical GIS for sixteenth-century Leiden has been enriched with a points layer.³⁵ The advantage of points over polygons is that it allows new points (geographical co-ordinates) to be added wherever parcels or houses (geometries) were split, merged or otherwise altered, on the condition that the relationship between points is formally defined and recorded. By attributing date-stamped data to these points, or places in time, instead of geometries, it also becomes possible to link more diverse and incomplete data – such as the registration of addresses and characteristics of owners and inhabitants – and to map changes over time.³⁶

³³Lesger and Van Leeuwen, 'Residential segregation', 343; Rodger, 'Property and inequality', 1155. In general, almshouses provided a form of subsidised housing in the pre-modern era.

³⁴W.C. Boeschoten and E. van Manen, 'Een welstandsverdeling van Haarlem in 1543: kwantitatieve toetsing van een zestiende-eeuwse fiscale bron', *BMGN – Low Countries Historical Review*, 98 (1983), 523–39.

³⁵For the Mapping Historical Leiden-project, see A. van Steensel, 'Mapping medieval Leiden: residential and occupational topographies', in J.A. Solórzano Telechea and A. Sousa Melo (eds.), *Trabajar en la ciudad medieval europea* (Logroño, 2018), 237–60. The progress on the project can be followed at <https://hisGISleideninkaart.nl> (in Dutch).

³⁶This approach is similar to the methodology developed by Thomas Vermaut and Mark Raat for the Amsterdam Time Machine Project, www.amsterdamtimemachine.nl/hisgis-clariah.

Properties, ownership and tenancy

In order to unravel the relations between housing and spatial patterns of inequality and segregation, the first step is to establish the ratio between owner-occupancy and tenancy. Table 1 gives a breakdown of the different types of properties listed in the two registers. The number of inhabited dwellings increased between 1561 and 1606 from 2,884 to 4,889, including inhabited *achterhuizen* (backhouses), *cameren* (rooms) and basements. This was a relative increase of 69.5 per cent, which occurred after 1581, when the number of inhabited houses still stood at 2,868, according to a census from that year.³⁷ In the following decades up to 1606, the building density in Leiden increased from 456 to 757 houses per square kilometre. This building activity is also reflected by the fact that 43 properties were registered as under construction in 1606. The share of vacant or dilapidated houses remained stable over time, as did a small number of industrial properties. Finally, the 1606 register lists institutionally owned properties, including public buildings, such as the city's school and prison.

A comparison of the absolute rental valuations is complicated by the fact that the values of 1606 no longer directly corresponded with the properties' annual market rental revenues, due to a change in the way the assessment was conducted. In 1561, the assessment of the rental value of a property was based on actual contracts and, in cases of owner-occupancy, on an estimation of the rental value. In 1606, the rates of the progressive hearth tax were linked to the *verponding*, a regional real estate tax based on the rental value of properties and land. The total sum of the *verponding* was more or less fixed per city, meaning that over the years the rate was adjusted according to changes in the number of houses.³⁸ The first register of the *verpondingen* in Leiden was compiled in 1585 (*vetus*), with assessments on average being slightly higher than those of the tax register of 1561. In 1599, the city council appointed a commission to revise the assessment of the *verpondingen* in order to ensure its fairness. A proposal was made by Jan van Hout, the city's secretary, to assess the value of properties on the basis of three criteria: location (fixed sum per street), size (square area) and quality (number of floors). It is not entirely clear whether this proposal was implemented, but the registrations of the *verponding* or rental value of houses in 1601 (*oud-belastingboek*) and 1606 were less than half as high as those from 1585.³⁹ For example, a house in the Maarsmansteeg, near the city hall, was owned by Adriana Cornelisdr in 1561 and taxed at an annual (estimated) revenue of 20 pounds. In 1585, the annual revenue of the property, now owned by Dirk Jansz, was set at 25 guilders, but it fell to 8 guilders in 1601 and was assessed at 12 guilders in 1606. Rents fluctuated in the last decades of the sixteenth century, but this does not explain the steep decline in assessments.⁴⁰ This means that the annual revenue of properties recorded in the 1606 register should not be interpreted as reflecting market rental prices.⁴¹ The relative values are, consequently, more meaningful for comparison than the absolute values.

³⁷ Daelemans, 'Leiden 1581', 187–8. In 1574, Leiden counted 12,543 inhabitants and 3,043 households, and, in 1581, 12,243 and 2,785 households; Hooymans, 'Dataset: Volkstelling Leiden'.

³⁸ For the *verpondingen* in general, see Liesker and Fritschy, *Gewelstelijke financiën*, vol. IV, 171–5; J.D. Tracy, *The Founding of the Dutch Republic: War, Finance, and Politics in Holland, 1572–1588* (Oxford, 2008), 256–61.

³⁹ ELO, NL-LdnRAL-0501A, nos. 3839, 4178, fols. DI–DII.

⁴⁰ Posthumus, *De geschiedenis van de Leidsche lakenindustrie*, vols. II and III, 206–9.

⁴¹ NL-HaNA, Staten van Holland voor 1572, 3.01.03, no. 1330; ELO, NL-LdnRAL-0501A, nos. 6596, fol. 6v, 6598, fol. 5r, 4498, fol. 3r. All sums are given in pennies to make them comparable. A technical issue concerns the money of account. Both registers use pounds or guilders of 40 Flemish pounds (40 *groten Vlaams*), making it likely that the Leiden city administration had not yet switched to Holland pounds, which means that a *schelling* or *stuiver* equalled 16 instead of 12 *penningen* or pennies. However, if the *stuivers* of the 1606 register were converted according to the *pond Hollands*, the total revenue would more or less equal that of 1561.

Table 1. Types of properties in Leiden, 1561 and 1606 (values in *penningen*)

| | 1561 | | | | | 1606 | | | | |
|--------------------|--------|-------|--------------------|-----------------------|----------------------|--------|-------|------------------|----------------|--------------------|
| | Number | % | Total rental value | Relative rental value | Average rental value | Number | % | Total assessment | Relative value | Average assessment |
| Total | 2,946 | 100.0 | 6,812,691 | 100.0 | 2,313 | 5,026 | 100.0 | 5,076,070 | 100.0 | 1,010 |
| Houses | 2,753 | 93.4 | 6,709,223 | 98.5 | 2,437 | 4,788 | 95.3 | 4,916,194 | 96.9 | 1,027 |
| Annexes | 131 | 4.4 | 72,439 | 1.1 | 553 | 101 | 2.0 | 9,396 | 0.2 | 93 |
| Under construction | 1 | 0.0 | 0 | 0.0 | 0 | 43 | 0.9 | 7,104 | 0.1 | 165 |
| Vacant | 23 | 0.8 | 3,693 | 0.1 | 161 | 31 | 0.6 | 27,264 | 0.5 | 879 |
| Public | | | | | | 9 | 0.2 | 768 | 0.0 | 85 |
| Industrial | 7 | 0.2 | 7,920 | 0.1 | 1,131 | 40 | 0.8 | 114,624 | 2.3 | 2,866 |
| Other | 31 | 1.1 | 19,416 | 0.3 | 626 | 14 | 0.3 | 720 | 0.0 | 51 |

Table 2. Homeowners in Leiden, 1561 and 1606 (values in *penningen*)

| | 1561 | | | | | 1606 | | | | |
|--------------------|--------|-------|--------------------|-----------------------|----------------------|--------|-------|-------------|----------------|--------------------|
| | Number | % | Total rental value | Relative rental value | Average rental value | Number | % | Total value | Relative value | Average assessment |
| Houses and annexes | 2,884 | 100.0 | 6,781,662 | 100.0 | 2,351 | 4,889 | 100.0 | 4,925,590 | 100.0 | 1,007 |
| Male | 2,015 | 69.9 | 5,097,229 | 75.2 | 2,530 | 3,543 | 72.5 | 3,678,994 | 74.7 | 1,038 |
| Female | 654 | 22.7 | 1,408,649 | 20.8 | 2,154 | 887 | 18.1 | 891,084 | 18.1 | 1,005 |
| Joint | 41 | 1.4 | 162,744 | 2.4 | 3,969 | 172 | 3.5 | 206,844 | 4.2 | 1,203 |
| Institutional | 170 | 5.9 | 108,489 | 1.6 | 638 | 284 | 5.8 | 146,712 | 3.0 | 517 |
| Other | 4 | 0.1 | 4,551 | 0.1 | 1,138 | 3 | 0.1 | 1,956 | 0.0 | 652 |

Table 2 gives a breakdown of the number of homeowners in Leiden and shows that the structure of homeownership remained stable in the decades between 1561 and 1606. The residential properties were overwhelmingly in the hands of private owners in both years: 94.0 per cent in 1561 and 94.1 in 1606. The relative share of properties owned by women – both widows and single women – decreased slightly. Interestingly, the difference between the average rental values of houses owned by men and those owned by women decreased at the same time. This gender difference had almost been erased by 1606. Public, corporate and charitable institutions increased their number of (rentable) properties; in particular, the city council expanded its portfolio, for example by initiating the construction of at least 71 small properties in 1591 to alleviate the housing problem for low-skilled textile workers.⁴² Ownership of churches, convents and other religious charitable institutions remained intact, but had largely been transferred into secular hands. In 1561, religious institutions held 67.5 per cent of the institutionally owned rentable properties, but this share had fallen to 11.6 per cent by 1606. Some institutional rental properties were small and cheap dwellings, but the rents from this type of property were generally not set by the market, explaining the significantly lower average annual rental value of this category.

A further breakdown of inhabited houses and annexes owned by private individuals gives the ratio of owners to tenants. Table 3 first shows that in 1561, 61.6 per cent of these properties were occupied by the owner and 38.4 per cent were rented out by the owners to tenants. This ratio changed, however, in the following decades, because in 1606 only 45.9 per cent of the properties were occupied by their owners, whereas 54.1 per cent were rented out to tenants. If the rentable properties owned by institutions and those rented by multiple individuals are included in the count, the share of rentable properties was 41.1 per cent (1,696 of 2,884) in 1561 and 57.6 per cent (2,816 of 4,889) in 1606. This was a marked increase in just a little over four decades, but it was still lower than in Bruges in 1583, where two-thirds of the inhabitants rented their home, and Antwerp in 1584, where more than three-quarters of the inhabitants were tenants.⁴³ Two other observations can be made. The first is that the share of houses owned by women decreased over the same period. The second is that the average (rental) value of properties inhabited by their owners in 1561 was by a factor of 1.66 higher than those occupied by tenants, but this difference increased to 1.79 in 1606. Moreover, the value of female-owned properties was structurally lower than that of male-owned properties.

These developments were mainly driven by the arrival of migrants after 1574. The newcomers were predominantly men, as is confirmed by a breakdown of the tenants according to gender in Table 4; not only did the proportion of female tenants decrease significantly during the period in question, from 35.5 to 16.5 per cent, they also lived in cheaper rental properties.⁴⁴ To cope with the rapid demographic growth, many new tenant homes were built in the late sixteenth and early seventeenth centuries, and the relative value of these properties to that of owner-occupied houses decreased. Since the value of the most expensive properties tended to fall more steeply during periods of economic and demographic contraction,⁴⁵ an inverse pattern can be

⁴²Posthumus, *De geschiedenis van de Leidsche lakenindustrie*, vols. II and III, 169.

⁴³Deneweth, Leloup and Speeche, 'Een versteende ruimte?', 38; Van Kooten, 'Levelling through space?', 232.

⁴⁴The records of banns of marriage confirm that migrants were more likely male than female in Leiden around 1600; Noordam, 'Nieuwkomers in Leiden', 52.

⁴⁵Soly, 'De schepenregisters als bron', 543.

Table 3. Owner- and tenant-occupied properties in Leiden, 1561 and 1606 (values in *penningen*)

| | 1561 | | | | | 1606 | | | | |
|-----------------|---------|-------|--------------------|-----------------------|----------------------|--------|-------|-------------|----------------|--------------------|
| | Number | % | Total rental value | Relative rental value | Average rental value | Number | % | Total value | Relative value | Average assessment |
| Total | 2,669.0 | 100.0 | 6,505,878 | 100.0 | 2,438 | 4,430 | 100.0 | 4,570,078 | 100.0 | 1,032 |
| Owner-occupant | 1,643.0 | 61.6 | 4,734,852 | 72.8 | 2,882 | 2,034 | 45.9 | 2,758,006 | 60.3 | 1,356 |
| Male | 1,262.0 | 76.8 | 3,748,804 | 79.2 | 2,971 | 1,645 | 80.9 | 2,250,562 | 81.6 | 1,368 |
| Female | 381.0 | 23.2 | 986,048 | 20.8 | 2,588 | 389 | 19.1 | 507,444 | 18.4 | 1,304 |
| Tenant-occupied | 1,026.0 | 38.4 | 1,771,026 | 27.2 | 1,726 | 2,396 | 54.1 | 1,812,072 | 39.7 | 756 |
| Male | 753.0 | 73.4 | 1,348,425 | 76.1 | 1,791 | 1,898 | 79.2 | 1,428,432 | 78.8 | 753 |
| Female | 273.0 | 26.6 | 422,601 | 23.9 | 1,548 | 498 | 20.8 | 383,640 | 21.2 | 770 |

Table 4. Tenants in Leiden, 1561 and 1606 (values in *penningen*)

| | 1561 | | | | 1606 | | | |
|--------|--------|------------|---------------------|------------|--------|------------|---------------------|------------|
| | Number | Percentage | Value of properties | Percentage | Number | Percentage | Value of properties | Percentage |
| Total | 1,013 | 100.0 | 1,784,136 | 100.0 | 2,759 | 100.0 | 2,777,104 | 100.0 |
| Female | 330 | 32.6 | 440,977 | 24.7 | 451 | 16.3 | 372,176 | 13.4 |
| Male | 683 | 67.4 | 1,343,159 | 75.3 | 2,308 | 83.7 | 2,404,928 | 86.6 |

Table 5. Percentage of owner-occupied houses in Leiden per ward, 1561 and 1606

| Ward | 1561 | 1606 |
|---------------------|------|------|
| Burgstreng | 68% | 52% |
| Gansoord | 65% | 44% |
| Gasthuis | 52% | 48% |
| Hogewoerd | 50% | 43% |
| Kerkvierendeel | 64% | 48% |
| Marendorp Landzijde | 54% | 28% |
| Marendorp Rijnzijde | 66% | 55% |
| Nicolaasgracht | 60% | 42% |
| Nieuwland | 60% | 42% |
| Over 't Hof | 61% | 53% |
| Overmare Landzijde | 56% | 35% |
| Overmare Rijnzijde | 70% | 57% |
| Rapenburg | 51% | 33% |
| Vleeshuis | 57% | 44% |
| Waardbon | - | 41% |
| Wanthuis | 81% | 71% |
| Wolhuis | 63% | 36% |
| Zevenhuizen | 61% | 44% |

observed during this phase of Leiden's growth – the value of expensive, owner-occupied properties increased markedly due to a more active real estate market.

The ratio between owner-occupancy and tenancy varied between wards (*bonnen*) and developed differently. Table 5 lists the share of owner-occupied properties per ward in 1561 and 1606. The centrally located Wanthuis, for example, experienced a relative decline of owner-occupancy from 81 to 71 per cent, while the more peripheral wards – Overmare, Nicolaasgracht or Rapenburg – showed a steep decline, with owner-occupancy in Marendorp Landzijde even dropping from 54 to 28 per cent. These differences were related to the pre-existing urban social topography, with greater homeownership in the oldest central wards,⁴⁶ but an important catalyst was the construction of new houses, where possible, and the conversion of existing houses into tenant homes, especially in poorer wards. Figure 1 shows the location of 2,815 properties, not identified in 1561 and in use in 1606, thereby distinguishing between owner- and tenant-occupied houses – the latter made up for 65.5 per cent of the total.⁴⁷

Homeowners, landlords and investors

Identifying the homeowners allows us to determine their number and the distribution of homeownership amongst them, and helps us to answer the question concerning who was active in the urban real estate market. Large investors did not play an important role in the rather static pre-modern property market. In fifteenth-century Ghent, for example, the acquisition of real estate was regarded as a relatively risk-free means of investing capital. Hence, specific groups were over-represented in the market, such as the clergy and widows. Financial limitations, such as lack of access

⁴⁶Van Steensel, 'Measuring urban inequalities', 374–8. Also, see Bisschops, 'Ruimtelijke vermogensverhoudingen', 121–38.

⁴⁷This figure is higher than the absolute increase in the number of properties between 1561 and 1606 (see Table 3), due to the fact that it includes all properties in 1606 that could not be directly linked to those in 1561; some, for example, had been split, merged or otherwise rebuilt. Further research is needed to reconstruct the history of each parcel to determine the exact number of newly built properties in 1606.



Figure 1. New private properties in 1606.

to credit, made it less compelling for entrepreneurs to invest in properties.⁴⁸ The housing market of late medieval Vienna was more active and inhabitants had access to two different financial instruments: annuities and mortgages. Yet, Ertl and Haffner conclude that Vienna's housing market did not differ from other 'medieval real estate markets [which] do not seem to have been predominantly focused on profit maximisation, but instead served to safeguard one's economic foundation and a good livelihood'.⁴⁹ In early modern Bruges, in contrast, Deneweth observes that 'the investments and speculation strategies of wealthy groups drove housing prices up too fast and took them beyond reach of many'.⁵⁰

The evidence for Leiden does not confirm the latter statement, but it does point to a shift in private homeownership between 1561 and 1606 which indicates that specific groups and individuals were involved in the building of new homes. The number of private homeowners increased by almost 34.7 per cent (see Table 6), but more striking is the increasing number of men and women owning multiple properties. In 1561, 74.5 per cent of private homeowners owned only the property they occupied, but by 1606 this percentage had fallen to 69.5 per cent. Meanwhile, owner-occupiers with one property owned almost 50.3 per cent of the total stock of inhabited dwellings in 1561, but only 37.5 per cent in 1606. This change was mainly driven by a growing number of owners with six or more (rental) properties. Altogether, 30 homeowners (1.7 per cent) belonging to this group held 9.5 per cent of the total number of houses in 1561, but in 1606 this had grown to 120 individuals (5.0 per cent of the total group) holding almost 25.5 per cent of the houses. This was an incremental but significant

⁴⁸Boone *et al.*, *Immobilienmarkt, fiscaliteit en sociale ongelijkheid*, 86–9.

⁴⁹Ertl and Haffner, 'The property market', 117–18; cf. Keene, 'The property market', 201, who concludes in a similar vein that 'investment in real property may have been more widespread in English towns during the Middle Ages, and may have occupied a more central position in their financial life, than is the case today'.

⁵⁰Deneweth, 'Real property, speculation and housing inequality', 266.

Table 6. Number of properties per private owner, 1561 and 1606 (values in *penningen*)

| Properties | 1561 | | | | | |
|------------|------------------|-------|----------------------|-------|-----------|-------|
| | Number of owners | % | Number of properties | % | Value | % |
| Total | 1,774 | 100.0 | 2,669 | 100.0 | 6,505,878 | 100.0 |
| 1 | 1,321 | 74.5 | 1,321 | 49.5 | 3,273,093 | 50.3 |
| 2 | 267 | 15.1 | 534 | 20.0 | 1,313,123 | 20.2 |
| 3–5 | 156 | 8.8 | 561 | 21.0 | 1,388,307 | 21.3 |
| 6–10 | 26 | 1.5 | 189 | 7.1 | 432,799 | 6.7 |
| 11–20 | 3 | 0.2 | 41 | 1.5 | 57,948 | 0.9 |
| > 20 | 1 | 0.1 | 23 | 0.9 | 40,608 | 0.6 |
| | 1606 | | | | | |
| | Number of owners | % | Number of properties | % | Value | % |
| Total | 2,389 | 100.0 | 4,430 | 100.0 | 4,570,078 | 100.0 |
| 1 | 1,661 | 69.5 | 1,661 | 37.5 | 1,883,160 | 41.2 |
| 2 | 349 | 14.6 | 698 | 15.8 | 831,168 | 18.2 |
| 3–5 | 259 | 10.8 | 943 | 21.3 | 984,552 | 21.5 |
| 6–10 | 84 | 3.5 | 610 | 13.8 | 548,542 | 12.0 |
| 11–20 | 34 | 1.4 | 470 | 10.6 | 291,552 | 6.4 |
| > 20 | 2 | 0.1 | 48 | 1.1 | 31,104 | 0.7 |

clustering of mainly rental properties in the hands of a limited group of landlords. They were also more often male, as the relative number of female homeowners decreased from 25.1 to 20.5 per cent between 1561 and 1606.

Possession of a home gave the majority of households in late medieval Leiden a certain degree of economic stability. A quarter of homeowners could even rent out one or more properties to generate additional income. In 1561, a minority of households spent income on housing rents, but the Dutch city saw a gradual shift towards becoming a rental society in the following decades. Not only did the share of owner-occupant houses fall, but also a larger share of homeowners – 30.5 against 25.5 per cent – possessed more than one property in 1606. The share of housing wealth shifted to this group of multiple property owners from 49.7 to 58.2 per cent. With owner-occupancy becoming out of reach for a growing number of households, housing inequality began to contribute to overall income inequality,⁵¹ as these households, in which expenditure on housing was already relatively high, had to transfer part of their income to landlords. This development was unequal. Existing homeowners could maintain their status, while the occupants of newly built properties were overwhelmingly tenants. The expansion of the housing market offered investors some new opportunities, but unlike in Bruges or Antwerp economic circumstances did not drive poorer homeowners into becoming tenants.

The composition of the group of owners of multiple properties was diverse. It is difficult to systematically gather information on the characteristics of homeowners, and no typical social profile can be derived from the available data. The numbers regarding occupational and migrant status are particularly incomplete. Among the men and women with the most valuable portfolios of rental property were members of the city's council of forty (*veertigenraad*), entrepreneurs, craftsmen and migrants. But those belonging to the top decile of housing wealth were not necessarily the

⁵¹For the effect of housing expenditure on income inequality, see Dustmann, Fitzenberger and Zimmermann, 'Housing expenditure'.

owners of the largest portfolios of rentable properties, since few expensive properties could already occupy a top spot in the ranking of housing wealth – as for example the four houses possessed by Dirk Jansz den Bont, a draper, in 1606. As is evidenced by Table 7, the composition of the group of homeowners with five properties or more underwent some changes over time. Relatively speaking, fewer members of the political elite were among them by 1606, and craftsmen from the construction sector (masons and carpenters) had taken over the position of most represented occupational group from the brewers. Strikingly, entrepreneurs from the city's important textile sector were not prominently investing in the real estate market. An example of a migrant who became a property owner in Leiden was Pieter Longespey, a master mason of Flemish origin, who possessed 14 cheap rental properties in 1606.⁵² The couple Daniel van der Meulen and Hester della Faille, members of Antwerp merchant dynasties, were another example. They settled in Leiden in 1591 and acquired nine expensive properties along the Rapenburg, one of which was their newly built mansion (Rapenburg, no. 19).⁵³

Finally, the distribution of the value of rentable properties can be established by giving a breakdown of the hearth tax in 1606. Contrary to the instructions of the States of Holland, the city of Leiden decided to turn it into a modestly progressive tax. The city council defined four rates (Table 8) based on the value of the properties according to the *verponding*. The portfolios of the private owners of five or more rentable properties were fairly equally distributed across the tax rate groups. Adriana van Wijngaarden possessed 28 properties, mostly within tax rate group III, while Klaas Rijkaard's 27 houses were spread across the upper three tax groups. Few houses were valued at less than 20 *stuivers* (1 guilder), but 52.8 per cent of these cheap rental properties belonged to the owners of five or more properties. Most houses were valued at more than 3 guilders (tax rate group IV), but the same group of owners only possessed 20.1 per cent of those belonging to this category. Cheaper rental properties were thus predominantly owned by individuals who held more than five of these properties, even though the precise composition of their portfolios varied.

More than in 1561, the acquisition of rentable properties was regarded as a form of investment for a small group of landlords in 1606. But they were not 'slumlords', who mainly invested in low-quality rental housing. In fact, the properties of the top homeowners covered all tax groups and were often clustered around their own residences. Unfortunately, there are no studies that allow a proper comparison of the profiles of the larger landlords with those in other cities. In 1606, most major landlords in Leiden had their properties within a 100-metre circle range of their personal home. Landlords and tenants would therefore have met each other frequently on the streets, which again shows that residential segregation in late medieval and early modern Leiden was very gradual in nature.

Housing inequality: a spatial perspective

Leiden's housing market evolved towards one of greater inequality between 1561 and 1606, if access to housing is measured by the ratio between owner- and tenant-

⁵²Posthumus, *De geschiedenis van de Leidsche lakenindustrie*, vols. II and III, 167.

⁵³A. Versprille, 'Hester della Faille', *Leids Jaarboekje*, 67 (1975), 77–97; H. Deneweth, 'Renovating early modern Leiden: new perspectives on the building trades', in I. Wouters *et al.* (eds.), *Building Knowledge, Constructing Histories* (Boca Raton, FL, 2018), 540.

Table 7. Characteristics of homeowners, 1561 and 1606

| | 1561 | | | | 1606 | | | |
|--------------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|
| | ≥ 5 properties | | < 5 properties | | ≥ 5 properties | | < 5 properties | |
| | Number | Percentage | Number | Percentage | Number | Percentage | Number | Percentage |
| Total | 55 | 100.0 | 1,719 | 100.0 | 168 | 100.0 | 2,221 | 100.0 |
| Female | 12 | 21.8 | 434 | 25.2 | 34 | 20.2 | 457 | 20.6 |
| City Councillor | 7 | 12.7 | 24 | 1.4 | 10 | 6.0 | 27 | 1.2 |
| Brewer | 10 | 18.2 | 15 | 0.9 | 2 | 1.2 | 13 | 0.6 |
| Carpenter or Mason | 2 | 3.6 | 59 | 3.4 | 15 | 8.9 | 52 | 2.3 |
| Migrant | | | 25 | 1.5 | 16 | 9.5 | 129 | 5.8 |

Table 8. Distribution of private rentable properties across the tax rate groups, 1606

| Tax rate groups (assessed value of property) | ≥ 5 properties | | < 5 properties | |
|--|----------------------|------------|----------------------|------------|
| | Number of properties | Percentage | Number of properties | Percentage |
| I – 0 to 20 stuivers | 218 | 15.9 | 195 | 6.4 |
| II – 20 to 39 stuivers | 362 | 26.5 | 430 | 14.0 |
| III – 40 to 59 stuivers | 332 | 24.3 | 621 | 20.3 |
| IV – more than 60 stuivers | 456 | 33.3 | 1,816 | 59.3 |
| Total | 1,368 | 100.0 | 3,062 | 100.0 |

occupancy. Another manifestation of housing inequality is expressed by differences in the quality of dwellings, which can be revealed by means of a spatial analysis of the value and location of properties. Already in the pre-modern period, homeownership reflected and perpetuated social and economic status.⁵⁴ This multidimensional nature of housing inequality emerges from mapping its two manifestations (access to and quality of housing), because it originated from economic and social disparities but also reinforced them by producing residential segregation and affecting life opportunities.⁵⁵

Access to homeownership in Leiden fell markedly and the gap between the average value of owner- and tenant-occupied properties widened. The growing demand for (rental) properties, driven by migration and to a lesser extent by the limited construction options, explains these dynamics. As N.W. Posthumus has already calculated, rental prices increased between 1583 and 1606, with the exception of shorter periods around 1590 and 1600. This means, according to his interpretation, that in 1580 tenants spent 20 per cent of their subsistence costs on housing. But despite an increase in rents of 81 per cent, the relative share of housing costs had risen only modestly to 22.8 per cent by 1606.⁵⁶ Still, this meant that tenants, in contrast to homeowners, had to spend a considerable part of their income on housing, having a negative effect on income distribution after housing costs.

The data from 1606 allows us to measure housing quality, as it lists the number of fireplaces per house. Although the city's secretary, Jan van Hout, already concluded that the location of a property was of more importance for determining its value than plot size or the number of floors, the number of hearths can be reasonably taken as a proxy for the size and quality of a house. Of all inhabited properties, 58.9 per cent had two or fewer hearths, while only 1 per cent counted 10 or more (on average, a house counted 2.6 fireplaces). Rental properties overwhelmingly had only one or two fireplaces, indicating that owner-occupied houses were generally of higher quality. The distribution of hearths per property is plotted on Figure 2, showing that smaller houses of lesser quality were to be found all over the city, but were mainly clustered in

⁵⁴Schmidt-Funke, 'Haushaben'.

⁵⁵For the causes, manifestations and consequences of contemporary housing inequality, see M. Grander, 'The inbetweeners of the housing markets: young adults facing housing inequality in Malmö, Sweden', *Housing Studies*, 38 (2023), 505–22.

⁵⁶Posthumus, *De geschiedenis van de Leidsche lakenindustrie*, vols. II and III, 208–10. His rental series are based on 11 houses owned by a charitable institution. The development of the rental price varied strongly between these houses, and the question remains to what extent they represent broader developments.

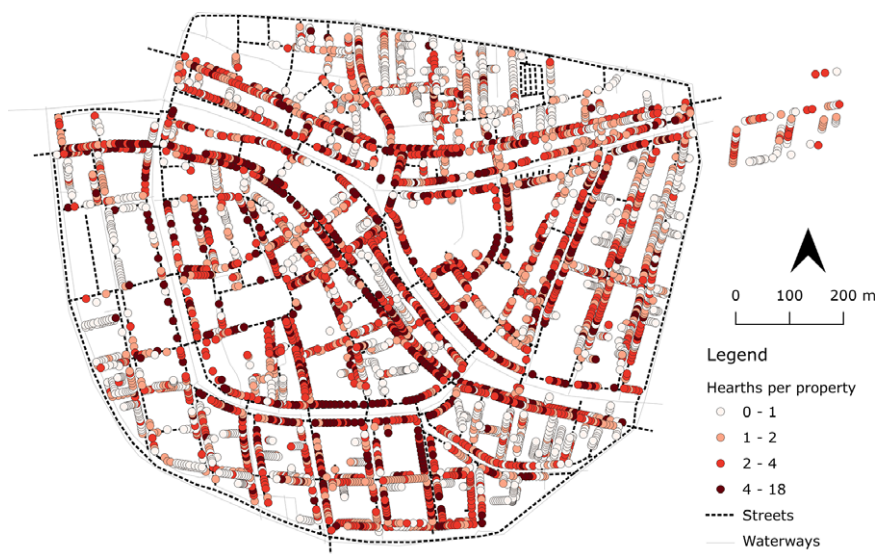


Figure 2. The number of hearths per inhabited property, 1606.

the northern, eastern and southern-western peripheral wards. The distribution in the number of hearths per house did not entirely match the distribution of housing values, as location was a more decisive determinant in this respect.

Differences in housing quality also related to the immediate environment of properties and the socio-economic composition of neighbourhoods. A comparison of the spatial distribution of the values of properties in 1561 to those in 1606 (Figures 3 and 4) leads to two observations. First, a distinction can be made between the older, more centrally located wards and the newer, more peripheral wards.⁵⁷ Some occupational clustering occurred as well, such as the presence of entrepreneurs in the cloth industry in the southern part of the city in 1561, along the Steenschuur, opposite the tenter grounds. By 1606, these grounds were moved outside the city wall, and mainly rental properties – 63 per cent of all new houses – were constructed in this area.⁵⁸ Second, this distinction between centre and periphery was at the same time not as absolute as theorists of urban development have argued, as has already been demonstrated for several other pre-modern cities.⁵⁹ In Leiden, even in 1606, rental properties of lesser value were to be found throughout the city, implying that residential segregation was gradual. Still, low-value rental properties with a single fireplace were predominantly located in the more peripheral and densely populated wards of Leiden, meaning that housing inequality expressed and reinforced economic, social and environmental disparities.

The registers of rental values have been used to calculate income inequalities, assuming that the annual rent of houses can be taken as a relatively fixed share of

⁵⁷For the origins and persistence of this pattern, see Lesger, *Power and Urban Space*, 194–200.

⁵⁸Van Oerle, *Leiden*, vol. I, 313.

⁵⁹For references and discussion, see Van Steensel, 'Measuring urban inequalities'; Lesger and Van Leeuwen, 'Residential segregation'.

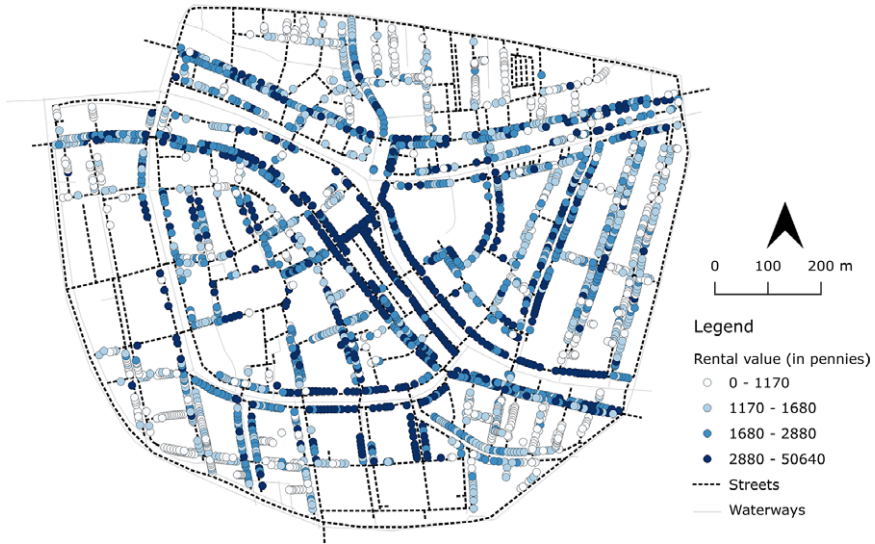


Figure 3. Distribution of the annual rental values of inhabited properties, 1561.

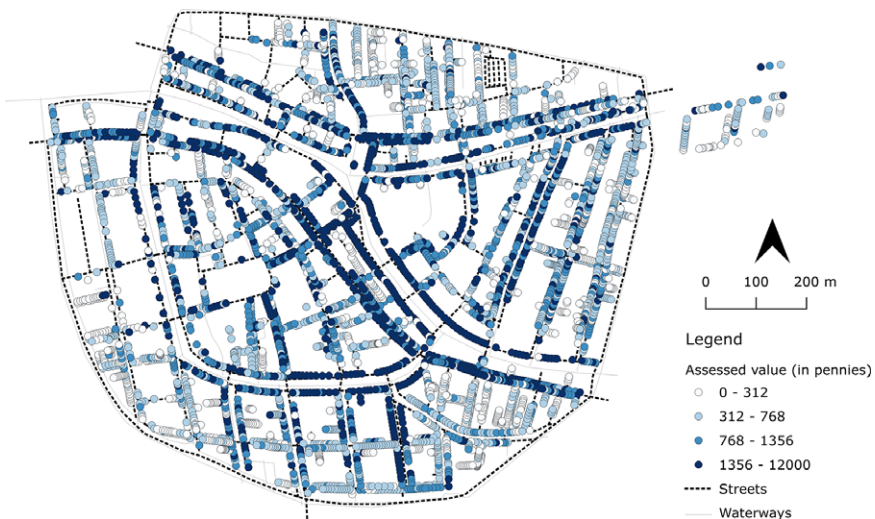


Figure 4. Distribution of the annual assessed values of inhabited properties, 1606.

household income.⁶⁰ Equating the distribution of annual rental values with income distribution gives a Gini coefficient of the latter of 0.45 in 1561. However, the tax register does not allow us to establish the income share of housing expenditure, which

⁶⁰Rodger, 'Property and inequality', 1173; Soltow and Van Zanden, *Income and Wealth Inequality*, 25–36; cf. J. Hanus, 'Real inequality in the early modern Low Countries: the city of 's-Hertogenbosch, 1500–1660', *Economic History Review*, 66 (2013), 733–56.

particularly affects the top incomes (of owners) positively and the bottom incomes (of tenants) negatively. Since the *verpondingen* in the 1606 register were value assessments of properties rather than annual rental revenues, the data cannot be used to deduce the distribution of income. It is possible to compare the assessments of 1606 to a forced loan on wealth (1 per cent on all wealth assessments above 2,000 guilders), levied in 1600 by the city council at the request of the States of Holland a year earlier.⁶¹ The register lists 1,249 individuals who met the wealth threshold, but the tax was levied on only 1,109 individuals (heads of households), who together constituted 23 per cent of the approximate total population of Leiden.⁶²

Of these 1,109 assessed citizens, the property of 785 tax-payers could be identified, of whom, in turn, 475 homeowners could be matched with homeowners in the register of 1606. For example, the top half of the wealthy Leideners from 1600 comprised 102 individuals: 68 were still homeowners in 1606, 3 were tenants, 19 had died and 12 could not be traced and had likely left the city. Wealthy Leideners were, as to be expected, almost all homeowners and owner-occupants. The 475 wealthy homeowners traced in both registers held 44.3 per cent of the total wealth assessed in 1600, which excluded assessments of less than 2,000 guilders, and 40.6 per cent of the total housing wealth in 1606 (and, with 1,490 houses, they owned 33.6 per cent of the total number of individually held properties). In general, the distribution of housing wealth and of overall wealth aligned with each other.

At the level of individual homeowners, the pattern was less straightforward. Of the 68 citizens belonging to the upper half of the wealth distribution in 1600, 59 also belonged to the upper half of the distribution of housing wealth in 1606. However, only 17 of the 68 citizens belonging to the upper half of the wealth distribution belonged to the group of citizens with five or more properties. Among the top 10 homeowners were, for example, Klaas Rijkaard, Pieter Longspee and Marietje Adriaansdr with modest wealth assessments of between 4,000 and 5,000 guilders (well below the average value of nearly 10,000 guilders). Rijkaard, a migrant from Flanders, who was himself a tenant, owned 27 properties, the annual rental value of which was valued at 41 guilders in 1606. His large number of properties did not translate into substantial (housing) wealth. At the same time, Dirk Jacobsz van Montfoort and Lambrecht Jacobsz van Zwieten, with assessments of 40,000 and 24,000 guilders, both owned just a single property each, of which the annual value was set at a mere 30 guilders. Personal housing wealth or real estate investments were not necessarily strong indicators of general wealth, confirming the earlier observation that the profiles of owners of multiple properties were rather diverse.

The tax registers do not provide information on the market prices of properties, making it difficult to assess how housing wealth weighed in on total individual wealth. Notwithstanding the clear shifts, the housing market in Leiden attracted relatively little capital investment in the early seventeenth century, as the comparatively low value of large portfolios shows. Unlike in Bruges,⁶³ for example, the prices of houses and rents were not driven up by speculators, and middle-class ownership remained stable. But further research is needed to chart and explain housing market dynamics

⁶¹ELO, NL-LdnRAL-0501A, no. 3989; for an analysis of this tax register, see R.C.J. van Maanen, 'De vermogensopbouw van de Leidse bevolking in het laatste kwart van de zestiende eeuw', *BMGN – Low Countries Historical Review*, 93 (1978), 1–42.

⁶²Van Maanen, 'De vermogensopbouw van de Leidse', 14.

⁶³Deneweth, Leloup and Speecke, 'Een versteende ruimte?', 38.

in the Dutch city. The high demand for housing by newcomers in Leiden at the end of the sixteenth century was mainly met by the building of new rental properties, which was financed by a broad and diverse group of owners.

Conclusions

Leiden's private housing market can be reconstructed on the basis of two fiscal registers, covering a period during which Leiden first experienced contraction (1561–83) and then expansion (1583–1606). This expansion was mainly driven by a revival of the cloth industry and the arrival of migrants from the southern Low Countries. The fast growth of the population led to a new demand for housing which could be hardly met by the Dutch city, and which explains changes in the structure of the housing market. The first part of the analysis established that there was a shift in the ratio between owner-occupancy and tenant-occupancy. This ratio almost flipped between 1561 and 1606, as tenant-occupancy rose from 38 to 54 per cent. At the same time, the gap between the value of owner-occupied and tenant-occupied properties widened. Together, it shows an increase in housing inequality in terms of access to affordable and higher-quality housing. These developments have also been observed in Bruges and Antwerp during periods of rapid demographic growth.

The share of homeowners with more than one rentable property also increased, meaning that the housing stock was gradually concentrated in the hands of a smaller group of owners. The group with five or more properties grew in absolute and relative numbers. The profile of the top property owners was still diverse. Unlike, for example, in Bruges, the evidence does not show a clear emergence of a group of real estate investors who financed the expansion of Leiden's stock of rentable housing. Ownership of properties resided mainly in private, male hands, but the wealth accumulated in housing slowly changed hands as a small and diverse group of top landlords expanded their portfolios.

The many migrants that flocked into Leiden during this period spread all over the city, and the wealthier among them were able to acquire properties of their own and even become landlords. Poorer migrant workers were strongly represented in the more peripheral wards, where lower-skilled workers, unable to acquire a property of their own, tended to live in lower-quality rental dwellings. As is the case in the Netherlands today,⁶⁴ housing trajectories among migrants were diverse in pre-modern Leiden. The construction of new rental properties driven mainly by migration was highest in the more peripheral wards, reinforcing the already existing socio-spatial differentiation between and within wards. The structural shift in the housing market did not fundamentally change the gradual residential segregation in Leiden, as owner- and tenant-occupation remained mixed in all wards and highly taxed properties were to be found throughout the city. Location at street level, more than size or quality, determined the value of properties. The owners of higher-valued properties were likely to belong to the upper end of the wealth distribution scale in Leiden, but those who held large rental portfolios did not necessarily belong to this group. This raises the question how important real estate, particularly housing, was as an object of capital investment.

⁶⁴D. Loomans, 'Long-term housing challenges: the tenure trajectories of EU migrant workers in the Netherlands', *Housing Studies*, 39 (2024), 3138–67.

The sources come with limitations, though, as they do not provide information on the capital value and rental prices of properties; nor do they allow for a detailed analysis of the social characteristics of owners and tenants. Moreover, it cannot be established whether or not the urban housing market was influenced by those in other cities. Nonetheless, in the second half of the sixteenth and the early seventeenth centuries, housing inequality in Leiden increased by several measures, reinforcing existing social and spatial disparities within the town walls. This inequality was caused by access to resources, the local housing stock and urban policies, with the latter supporting the interests of homeowners over tenants.⁶⁵ In several ways, these observations provide historical answers to the questions about the housing market today. Whereas many Leideners in the late sixteenth century were able to possess a home of their own, giving them some financial stability, it was unskilled labourers and migrant workers in particular who struggled to find secure housing, a fact that reflected the (spatial) economic and social divisions in society, but also influenced the daily lives of many urbanites.

⁶⁵Lesger, *Power and Urban Space*, 95; Deneweth, 'Real property, speculation and housing inequality', 266.