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Income and wealth mobility in the smaller towns of the late medieval and early modern Low Countries: an exploratory analysis[1]

1. Introduction

Which societies tend to generate a fair distribution of opportunities, and which societies fail to do so? Although it is a question older than the disciplines of sociology, economics and history themselves, it still occupies a central place within those fields. In fact, recent concerns about the growth of inequality and the decline of mobility have placed the issue of social mobility back on the agenda (Lee and Solon 2009; Chetty, Grusky et al. 2017; Chetty, Hendren et al. 2014; Chetty, Hendren et al. 2014). As such questions are regaining prominence in the social sciences, recent historical research has tended to call into question the long-term impact of the traditional drivers of social mobility: education, economic growth, and inequality (Clark 2014). More empirical research and new methods will be needed in order to more closely study the relationship between social mobility and its determinants prior to the twentieth century.

The current paper seeks to contribute to this challenge by examining long-term trends in social mobility in the smaller towns of the Low Countries between 1400 and 1800. Did the rich in these towns remain rich, and did the poor remain poor? The analysis of newly gathered archival data on intra-generational mobility aims to contribute to our understanding of the long-term history of social mobility, and its relation to economic growth and inequality.

2. State of the art

The evolution of social mobility since the Middle Ages until the onset of modern economic growth in the nineteenth century has – often implicitly – been part of models that attempt to make sense of social mobility today. Ingrained in the very foundations of modern sociological scholarship on social mobility was the belief that modernity had brought about more dynamic channels of vertical mobility than prevailed in the pre-modern past. Already in 1927 Sorokin established a diminishing correlation between the occupational status of fathers and sons, and imagined the growth of opportunities for lifetime mobility – trends which he deemed responsible

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for a deplorable rise of loneliness and moral disintegration in modern society (Sorokin 1998). The functionalist theory of mobility that dominated the sociological discipline in the 1960s and 1970s shared the implicit belief in the contrast between a highly mobile modern society, and a stable, immovable past (Kerr, Harbison et al. 1960). Since modern economies relied on the principles of achievement and universalism, this implied a weakening of the association between social origins and destinations. By contrast, traditional societies were supposed to have been dominated by principles of ascription and particularism – and thus by low rates of social mobility (an overview in Goldthorpe 2005). Most influentially, Treiman argued that industrialization and technological advances necessarily made recruitment processes more universalistic and meritocratic (Treiman 1970).

Historians of the medieval and early modern period did not necessarily disagree with such an assessment. Following in the footsteps of nineteenth-century greats such as Werner Sombart, Jacob Burckhardt and Max Weber, many historians believed that there was at least some truth to the appeals of religious and moral authorities to the god-ordained and immovable nature of social rank and status (Herlihy 1973, 624). Both the industrial and the French Revolution were then seen as events that put an end to this period of relative immobility. Especially in the 1970s and 1980s a rich historiographical tradition attempted to chart the rise of new social groups in the late eighteenth and early nineteenth centuries comprised of individuals who had earned their wealth in trade and industry, and had managed to gain access to the political, social and economic elite of western societies. The underlying premise was that the ascent of the bourgeoisie was a marker of how elites were opened up, and how this resulted in unprecedented levels of social mobility (Daumard 2017; Vanhaute 1999).

In recent decades, different developments have given rise to serious challenges to this distinction between modern and pre-modern societies. For one thing, functionalist explanations have given way to more individual-level approaches to explaining social mobility rates (Goldthorpe 2000). As a growing body of empirical work has tended to show little variation over time in modern mobility rates (Goldthorpe 2005), it has again become more common to stress long-term continuity rather than change. Moreover, many sociologists and economists have turned their attention away from structural or absolute mobility, and have focused instead on the study of relative mobility (Featherman, Lancaster Jones et al. 1975). This shift in attention has made it less straightforward to assume that relative mobility changed radically between the early modern and modern period, since abstraction should then be made of the absolute effects sorted by the structural transformations of industrialization and globalization.

This is especially so since studies of migration, apprenticeship, and guilds in early modern Europe have consistently indicated that many types of mobility were more frequent well before the nineteenth century than had previously been assumed (Wallis 2008; Winter 2013; Lucassen, Lucassen et al. 2010; Epstein and Prak 2008). Local studies of wealth and income mobility, although limited in chronological scope, have similarly suggested that relative mobility was higher than expected in early modern Europe (Friedrichs 2014; Hanus 2012). This revisionism has been complemented by

a growing body of historical work indicating no increasing openness of elites during the period of industrialisation (van Leeuwen and Maas 1991).

As a result of these developments, there is now no longer a generally accepted model of long-term growth in social mobility from pre-modern and modern societies. In fact, the most notable major attempt to chart trends in social mobility levels from the Middle Ages until today arrived at the remarkable conclusion that there were no trends in the long run (Clark 2014). Nevertheless, on-going debates about the growing oligarchisation of political elites in early modern Europe (Liddy 2017), the creeping closure of guild institutions (De Munck 2017) and confraternities (Van Dijck 2012; Ryckbosch and Decraene 2014) in the seventeenth and eighteenth centuries, and the growth of inequality across early modern Europe (Alfani and Ryckbosch 2016; Alfani 2021; Alfani 2024; Federico, Nuvolari et al. 2023; Nigro 2020) call for a reconsideration of the development of social mobility in the centuries preceding the industrial revolution. Given the limitations of the surnames-based methodology employed in Clark's study (Torche and Corvalan 2016; Betzig 2007), it thus far remains impossible to chart temporal changes in rates of mobility in a more fine-grained way. It will thus be up to a new generation of mobility studies to show in which direction mobility evolved, where rupture or continuity prevailed, and which historical contexts influenced mobility outcomes.

3. Cases and sources

The present paper aims to contribute to the debate on pre-industrial social mobility by taking the Low Countries as a case study. Already around the end of the medieval period, and throughout the early modern era, the Low Countries were among the most densely populated and highly urbanized areas of Europe. During the high Middle Ages the core of (urban) economic development was situated in the Southern provinces of the Netherlands, particularly in the centres of urban textile (woollens) production such as Ghent, and in the main commercial hub for long-distance trade, Bruges (Murray 2005; Blockmans 2010). Around the end of the fifteenth century, political strife and geographic vagaries relocated the dominant commercial (and to a lesser extent industrial) activities northwards towards Antwerp and its surroundings (a recent interpretation of this relocation in Gelderblom 2013). During the first half of the sixteenth century Antwerp became the principal hub for trade in North-Western Europe, serving as a staple market for English textiles and Portuguese spices, but also stimulating industrial production within its own walls and hinterland (Van der Wee 1963). After the closure of the Scheldt, following the Spanish re-possession of Antwerp during the Eighty Years' War in 1585, the focal point of international trade routes shifted northwards again, this time towards Amsterdam and the rest of the Maritime Dutch provinces. The Northern Low Countries experienced their Golden Age in the seventeenth century, based on their involvement in global maritime trade and a highly specialised and commercialised domestic economy (Prak and van Zanden 2022). In the Southern Low Countries this marked the end of a period of economic and urban growth, although a successful economic reconversion (towards regional trade in the case of Flanders; and high-quality luxury goods in

the case of Brabant) postponed a deeper process of secular economic decline until the second half of the seventeenth century. While the Northern Netherlands stagnated in the eighteenth century, in the South a new phase of rapid demographic growth set in from the middle of the eighteenth century, and came hand in hand with commercial expansion, retail growth and modest forms of labour concentration in the form of (non-mechanised) workshops (*manufactures*) based on considerable numbers of wage labourers (Dejongh and Segers 2001). Proper industrialization started only from the beginning of the nineteenth century in Ghent, Aalst and Sint-Niklaas, and approximately two or three decades later in Bruges and Kortrijk. Flanders was thus among the earliest industrializing areas on the Continent.

Our estimates of social mobility are based on tax lists from six towns in the Low Countries: Diksmuide, Hoeke, Lo and Sint-Niklaas in Flanders in the Southern Low Countries, and Schiedam and Brielle in Holland in the Northern Low Counties. A map with the location of these cases is shown in Fig. 1; the years for which we use tax lists is shown in Fig. 2.

Our oldest data are for Hoeke and Diksmuide in Flanders in the fifteenth century. Hoeke was a very small settlement with urban privileges. In the first half of the fifteenth century it may have counted between 500 and 600 inhabitants. It functioned as an outer port of nearby Bruges, but its citizens were also involved in agriculture, which became its main activity as its commercial functions dwindled in the late Middle Ages (Dillen 2017, 116-19; Dillen 2018; Aernoudts 2001; De Smet 1937). Diksmuide was larger, with about 3000 inhabitants in the middle of the fifteenth century. The town of Diksmuide was a regional centre of meat, dairy and leather goods production and trade, and with a cloth industry in decline (Schacht 1974, 119-20).

Later data for Flanders are for seventeenth- and eighteenth-century Lo and Sint-Niklaas. Lo consisted of two parts, a rural and an urban section, each with its own fiscal administration. Only the urban part is considered here (Lo-town). It counted about 430 inhabitants in the middle of the 1690s. At that time, about half of all heads of households were active in industry, of which textiles and construction were the main sectors. Slightly more than twelve percent were active in trade (Dalle 1953, 106, 120). By the 1790s, population had grown to almost 700 inhabitants (Vanderpijpen 1968, 313).

Sint-Niklaas never had urban privileges in the early modern period, but was a large village growing into a town during this time. It grew from about 2900 inhabitants in 1571 to almost 11,000 around 1800 (Laureys 1986, 119-120). It functioned as a regional commercial centre, with a major weekly market for agricultural products and many tradesmen, and also an industrial centre, particularly for textiles. Industrial production was modernised in the eighteenth century and Sint-Niklaas became a major industrial town in the nineteenth century (Boon 1990; Boon 1991; Ronsijn 2013).

For Holland, we have data for Brielle (sixteenth and seventeenth centuries) and Schiedam (sixteenth to eighteenth centuries). Both were small port towns in the Dutch river area near Rotterdam, living mainly from fishing. Fishing declined in the course of the early modern period, but in the eighteenth century Schiedam became a major gin producer (de Vries and Van der Woude 1995, 298, 381, 416, 556). Both towns grew, Brielle from about 2000 inhabitants in 1514 to over 3600 in 1622, and

Schiedam from about 2400 in 1514 to almost 6000 in 1622. Afterwards, the population of Brielle declined to below 3200 in 1795, while Schiedam continued growing, reaching over 9100 inhabitants in 1795.[2]

The choice for these locations is in part based on the availability of tax lists. However, these tax lists from different locations and periods are not uniform. They come under different names: in Flanders, we use *pointingen*,[3] (forced) loans,[4] and *ommestellingen*;[5] for Holland, we use *penningkohieren*[6] and *verpondingen*.[7] These sources differ in terms of what is taxed, and from whom the tax is required.

The terms *pointingen* and *ommestellingen* in Flanders refer to the distribution among all taxable subjects of the total amount to be raised in tax. In urban locations, such direct taxes are comparatively rare, as the towns tended to rely on indirect taxes, usually on trade, instead. Concomitantly, we know little about the way urban administrations distributed the total sum among their taxpayers. Scholars generally assume that this happened in proportion to the taxpayers' means, but it is unclear whether the resulting distribution reflects differences in income or wealth. Tax assessors sometimes considered income from labour, trade, capital investments or real estate, but this varied from place to place (Zoete 1994, 72-74, 89-91, 118-25; Geens 2023, 145-53; Hanus 2012, 22-24; see also Craeybeckx 1949; Maddens 1968).

Likewise, there are no indications in the sources on how taxpayers' means were assessed for the *pointingen* of Hoeke and Diksmuide. That is also the case of the accounts of the forced loans we use for Diksmuide, though each person's share also seems to have been in proportion to their means. The loans of 1440 and 1441 use the same terminology by which taxes were distributed among the taxpayers ('*ghepoint ende ommeghestelt*'). For Diksmuide, there is the additional problem that the population subject to these taxes and loans is unclear and probably variable. Some apply to the stricter category of citizens of the town (*poorters*, 1416, 1425, 1427), some to the broader category of citizens and inhabitants (1441, 1450, 1458), and others to less precisely indicated groups (*poorters achter de stede*, 1408; *goeden lieden ende commune van dese stede*, 1440). For consistency, we split up the Diksmuide data in two series: (1) the period 1408-1440 covering (presumably) citizens only, and (2) 1441-1458, covering both citizens and other inhabitants.

Nothing is known about the *ommestellingen* in Lo before 1788. In that year, we have three types of taxes: contributions for poor relief, personal tax and house tax. Personal taxes appear to be based on people's or households' professions or rents;

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[2] Van der Woude (1972, 688 (note 81)) estimates Brielle in 1514 counted 400 hearths, corresponding to 1350 communicants, which using his conversion rate comes to 2037 inhabitants. Schiedam counted 470 hearths in 1514 (Stein 2021, 183). Using the conversion rates from Van der Woude, this corresponds to 2395 inhabitants. Figures for 1622 and 1795 from de Vries and Van der Woude (1995, 88).

[3] Diksmuide, 1416, 1450, 1458; Hoeke, 1410, 1427, 1428.

[4] Diksmuide, 1408, 1425, 1427, 'leenynghe ghepoint ende ommeghestelt' in 1440, 1441.

[5] Sint-Niklaas, 1675, 1692, 1709, 1727, 1745, 1763, 1780, 1795; Lo-town, 1672, 1682, 1692, 1702, 1717, 1728, 1781, 1788, 1794.

[6] Brielle, 1575 (100e penning), 1580, 1628, 1639 (all three 50e penning); Schiedam, 1557, 1561 (both 10e penning), 1607, 1614, 1622 (all three 50e penning).

[7] Schiedam, 1658, 1668, 1678, 1688, 1699, 1715, 1724, 1731, 1736, 1751, 1763, 1781, 1790.

the house tax is based on the rental values of houses, probably going back to the estimation of 1751.[8] The basis for the poor relief tax is not mentioned, but it is strongly correlated with the personal tax in 1788 (R = 0.87). Because the poor relief tax is available for three years, and the other taxes only for two years, we use the former.

Since Sint-Niklaas was officially a village, its *ommestellingen* have the characteristics of those in the countryside. Taxpayers were taxed based on two proxies of income: land use and *gestaedhede*. In theory, the latter included income from commercial and artisanal activities, ownership of real estate and capital, although we do not know how these were assessed in practice (Maddens 1972, 22-24; Maddens 1985, 73; Buntinx 1967). While Sint-Niklaas was growing into a town, it contained a large rural area. Because we focus on urban areas, we select only households occupying 0.5 hectare or less, and only consider the *gestaedhede*. We believe the latter tax corresponds best to the proxies of income we have for the other towns.

Contrary to the Flemish cases, the basis for taxation in the Holland cases is better documented. Taxes in the *penningkohieren* en *verpondingen* are all based on the estimated rental value of real estate. Most of these are houses, but other properties are sometimes also included, such as mills or storage spaces. Which properties are taxed and which are not, appears to differ between years, and where possible we have removed certain properties for the sake of comparability. The rental value of all real estate may have been re-estimated for each new tax list in the sixteenth century, but tax lists from the seventeenth century onwards probably relied on earlier estimations. For Schiedam, we know that the estimation of 1632 was used until 1732. A new estimation of that year, updated in 1754, was used for the rest of the eighteenth century. We only consider the owners of real estate. The earlier sources often mention both owners and (in case of tenants) occupants, but only owners are mentioned in later sources. Consequently, whereas the Flemish tax lists proxy income, the Holland lists proxy wealth (de Vries and Van der Woude 1995, 135-136; Soltow and Van Zanden 1998, 25-36; Bos-Rops 2001; Boeschoten and van Manen 1983).

Fig. 3 shows the number of people in the tax lists. These are all natural persons: institutions (e.g. municipalities, hospitals, orphanages), companies (e.g. *participanten* in Holland), or properties without a documented owner, have been removed. Also removed are non-residents where the sources indicate people as such. As port towns, the sources for Schiedam and Brielle do not mention people recurrently residing in these towns in boats without officially being part of their inhabitants. Where available, the poor (i.e. those listed but exempt from taxes and/or whose properties have no (estimated) value), are included. In the Flemish cases, people in the tax lists are generally the heads of households, and the number of people shown in this graph will correspond to the number of households in these locations. Lo and especially Sint-Niklaas grew in the eighteenth century; for Hoeke and Diksmuide in the fifteenth century we cannot discern a clear trend. In the case of Holland, these are the owners, which excludes the propertyless. In Fig. 4 we compare the number of people with the number of properties in the Holland towns. We assume the number of properties, most of which were houses, better reflects changes in the population of these towns. Properties are here proxied by the number of records in the sources

[8] State archives Bruges, Gemeente Lo (TBO 63), 95.

(though not all records include a house while some records include multiple houses). Our results confirm that Brielle and Schiedam both grew strongly between the middle of the sixteenth and the middle of the seventeenth century, but that the number of owners did not follow. On the contrary, certainly in the case of Schiedam the number of owners declined in the second half of the seventeenth century, leading to a concentration of real estate in the hands of a (slightly) smaller group of people. During the eighteenth century, both the number of properties and the number of owners stagnated in Schiedam. In the second half of the sixteenth century, the average owner in both towns had about 1.2 properties; by the end of the seventeenth century, this was about 1.7 properties in Schiedam. Throughout the eighteenth century, this ratio stagnated.

The trend in the number of properties per owner in Schiedam and Brielle closely follows the trends in Gini coefficients between owners in these towns, shown in Fig. 5. The Gini coefficient is a widely used measure of inequality, ranging between 0 (perfect equality) and 1 (perfect inequality). In these two towns, inequality rose from the middle of the sixteenth to the end of the seventeenth century, and stagnated during the eighteenth century. Trends in inequality in the Flemish towns are less straightforward. Inequality appears to have risen massively in Diksmuide in the first half of the fifteenth century. Between the late seventeenth and the end of the eighteenth century, inequality grew in the urban part of Sint-Niklaas, whereas it stagnated or declined in Lo-town.

Fig. 1. **Map of selected cases**

Fig. 2. **Selected cases: selected years with tax lists**

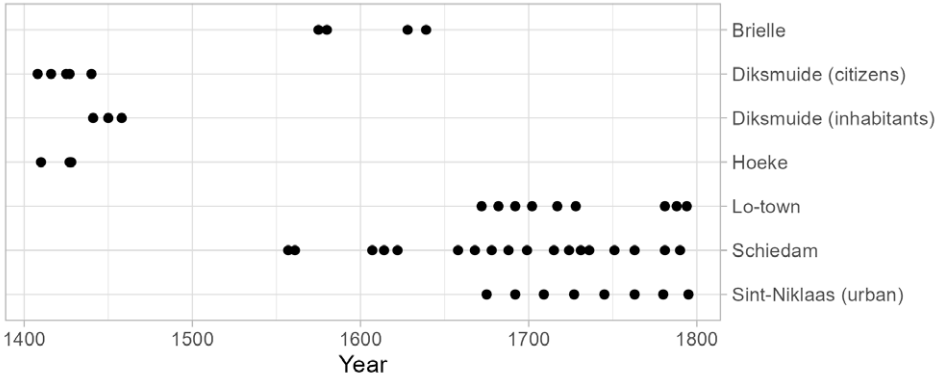
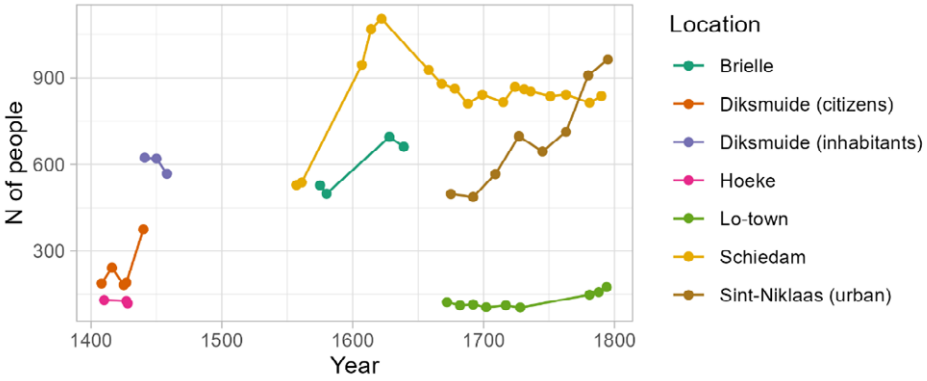
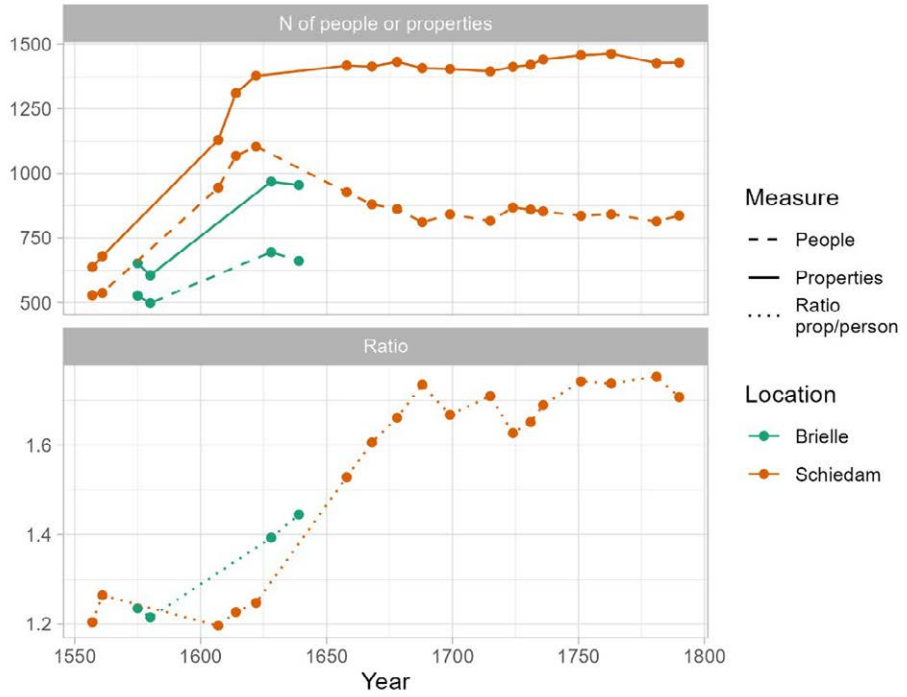


Fig. 3. **Number of people in the tax lists**



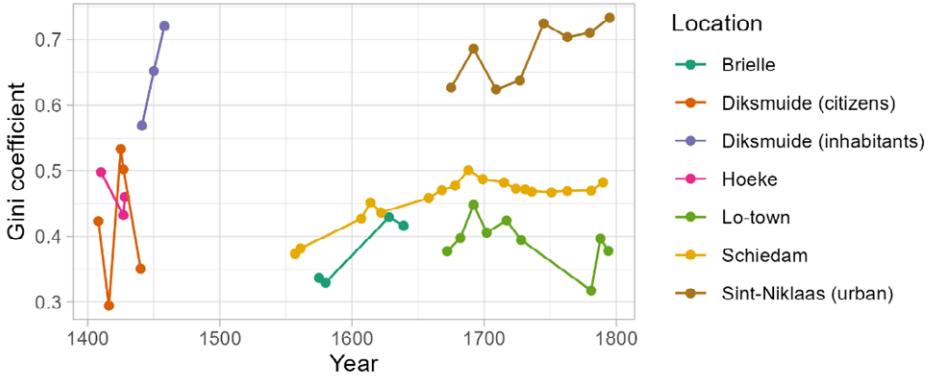
Note: Only natural persons included, excluding among others institutions or companies, and excluding non-residents where information on residence is available.

Fig. 4. **Number of people and properties in the tax lists of Brielle and Schiedam**



Note: Number of people as in Fig. 3; number of properties proxied by the number of records in the sources.

Fig. 5. **Gini coefficients**



4. Method

We measure social mobility using mobility tables. A mobility table compares the income or wealth group to which households belonged in Year 1 and Year 2. Between these two years, some households might have remained in the same group (immobile households), while other households might have moved up or down (mobile households). We calculate mobility levels as the proportion of mobile households.

These mobility tables are drawn up using pairs of tax lists. We use surviving tax lists that are proximate enough in time (almost always less than 20 years) to allow us tracking the same people across successive lists. People (or rather households) are linked when we find them, or their widow or heirs (when those widows or heirs are not listed by their own name, but as «the widow/heir of…») in the next list. To avoid linking two different people with the same name, the order in which people appear in the list, the mention of a father's name or in a few cases even aliases, can be used for disambiguation. Often, people appear in almost the same order in each list, since lists are often drawn up by updating a previous list, and/or by tax assessors drawing up their lists street by street. Still, this procedure is not error-proof, and some people may have been linked incorrectly.

In theory, income or wealth groups in the mobility tables can represent both absolute income or wealth (households with an income ranging between the same specified lower and upper limits in both years) and relative income or wealth (e.g. quintiles or deciles, with possibly different lower and upper limits in the beginning and end years). In practice, the sources only allow us to draw up mobility tables based on relative income or wealth groups. This is due to variation, between successive tax lists, in the rate of taxation, the community's prosperity, the selection criteria for inclusion in the tax list, and the total population. If a person pays twice the amount of taxes as in the previous list, we do not know whether this is because s/he earned twice as much, or was simply taxed twice as heavy. Furthermore, we only divide people linked to both tax lists into income or wealth groups, rather than all people in the tax lists. If we would do the latter, then a person's relative position might go up simply because of the immigration or inclusion of many poor people in the second year. For that reason, our estimates of relative mobility refer to the mobility of linked households relative towards each other. This approach has the disadvantage that income mobility due to collective impoverishment or enrichment (i.e. absolute mobility) is missed. For our analyses, we divide the observed distribution into quintiles of growing wealth or income (from the poorest 20 per cent, to the richest 20 per cent). Hence, our mobility estimates indicate the proportion of linked people moving up or down into a different quintile group.

An additional problem is that some tax lists only work with a small number of different values, and hence that many people pay the same amount of tax. If those values overlap with the boundary values of the quintile groups, then the quintile group to which people belong is partly determined by chance. For that reason, for each pair of tax lists we determine people's quintile group in the first and last list twice, each time using two levels to sort the data: the tax list for which quintile groups are determined is always sorted with values rising; we use the other tax list as a second sorting level, once sorted upwards, and once sorted downwards.

Take for example lawyer De Cock in Sint-Niklaas. We find him in 1675 paying £1.33 in tax. In 1692, we find his widow only paying £0.10. Originally, in 1675 De Cock belonged to the fifth quintile group, but his widow in 1692 could be put either in the second or third quintile group. That is because £0.10 corresponds to the second quintile value, and there were in total 11 people paying £0.10. Without additional information, which quintile group these 11 people end up in (the second or third), is random. That is where the second sorting layer matters. We sort those 11 people paying £10 in 1692 according to what they pay in 1675, once upwards, once downwards. Hence, of those 11 people, the ones paying the highest tax in 1675 once end up in the third quintile (1675 values sorted upwards), once in the second quintile (1675 values sorted downwards). Accordingly, we can draw up two mobility tables for each pair of tax lists: one where the De Cock household drops from the fifth to the third quintile, and another where this household drops to the second quintile.

As an example, we show this for Sint-Niklaas between 1675 and 1692. The number of people in the tax list in the urban part of Sint-Niklaas declines slightly between these war-torn years, from 498 to 487. On average, these people paid 0.36£ and 0.41£ respectively. Inequality among them, measured by the Gini coefficient, was 0.63 and 0.69 respectively. Of these, only 152 people appear in both lists (31 per cent of the people in the first tax list), paying on average 0.39£ and 0.49£ in 1675 and 1692 resp.; inequality among them was 0.62 and 0.73 resp. It is with these 152 people only that we can draw up the mobility tables in Tab. 1 and Tab. 2. Many people stay in the same income group, but the proportion of people ending up in a different income group in the first mobility table is smaller than in the second table. Total mobility is 43 per cent in the first table (22 per cent up, 21 per cent down), and 66 per cent in the second table (35 per cent up, 31 per cent down). Of these two estimates, we take the mean: social mobility was 55 per cent over seventeen years. We use the extremes of both tables as error margins.

Because we can only work with the people found in both tax lists, our results apply to a selection of the population. The time interval between tax lists affects this selection: the longer the time interval, the fewer people we can link (see Fig. 6). If the time between tax lists is less than five years, we usually find over 60 per cent of all people in the first tax list. This ratio drops to about 40 per cent after ten or fifteen years, with large differences between locations. This selection is biased: on average, the people we can link are usually somewhat better off than their fellow citizens (see Fig. 7). This selection effect is likely due to social differences in mortality and migration patterns. It seems poorer people are more likely to die sooner or seek their fortunes elsewhere. In the first tax list, linked people pay about ten per cent more in taxes than the average citizen, a ratio that does not seem to change in proportion to the time interval between tax lists. In contrast, duration may affect their position in the second tax list: the longer the time interval between tax lists, the higher they end up relative to the other people in the second tax list.

The time interval between tax lists has a similar effect on our mobility estimates: the longer this interval, the more likely we are to find people in a different income or wealth quintile (see Fig. 8). To neutralise the effect of variations in this time interval, we normalise our mobility estimates and the percentage of people linked (for a similar approach, see Alfani, Ammannati et al. 2022). We normalize our results to 10-year

intervals. A normalized result for a specific location and year is the expected result for a 10-year interval, multiplied by the ratio of the observed and expected result for that specific location and year:

$$Normalised\ result_{Loc,\,10\ yrs} = Expected\ result_{Loc,\,10\ yrs} * \frac{Observed_{Loc,\ \ x\ yrs}}{Expected_{Loc,\ \ x\ yrs}}$$

The expected results are estimated with a regression model with only two predictors, the time interval between tax lists, and location dummies. That means that we assume the slope is the same for each location, and that only the intercept differs by location.

$$Expected\ result_i = \alpha + \beta_1 TimeInterval_i + \beta_2 LocationDummy_i$$

The normalised ratio of people linked and mobility estimates are shown in Fig. 9 and 10. These normalised estimates still show a lot of variance, but they are no longer a function of the time interval between tax lists.

Tab. 1. **Mobility table Sint-Niklaas (urban), 1675-1692: first sorting**

Destination quintile (1692)	Origin quintile (1675)					total
	1	**2**	**3**	**4**	**5**	
1	21	8	2	NA	NA	31
2	4	11	11	2	3	31
3	6	9	10	3	2	30
4	NA	3	6	20	1	30
5	NA	NA	1	5	24	30
total	31	31	30	30	30	152

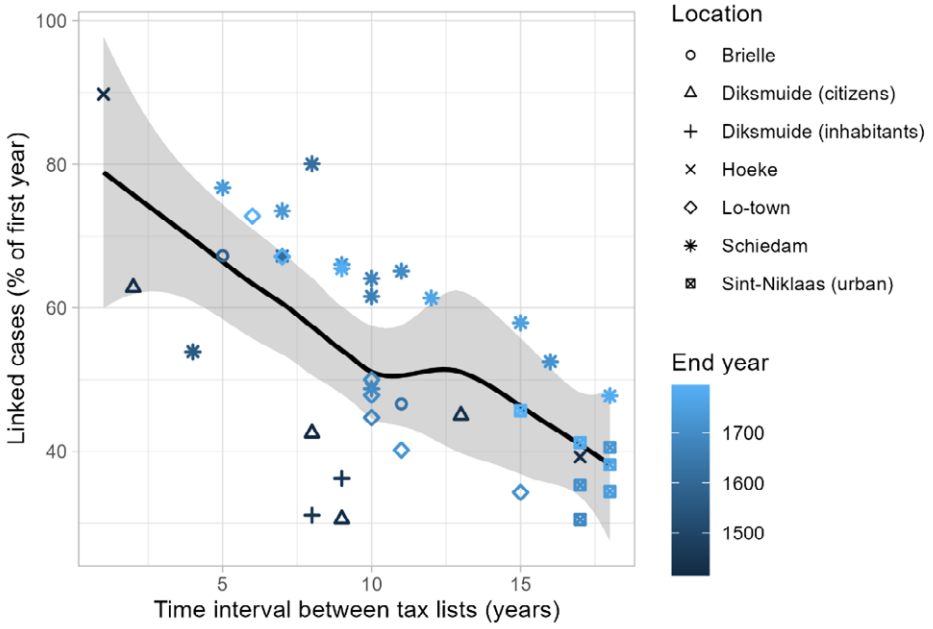
Note: This table shows the 152 people (heads of households) that appear in both the 1675 and 1692 tax lists in Sint-Niklaas. They are distributed into quintiles for the applicable year (1675 or 1692), using as second sorting layer the other year (resp. 1692 or 1675) sorted upwards.

Tab. 2. **Mobility table Sint-Niklaas (urban), 1675-1692: second sorting**

Destination quintile (1692)	Origin quintile (1675)					total
	1	**2**	**3**	**4**	**5**	
1	4	15	7	2	3	31
2	11	9	4	5	2	31
3	11	5	6	6	2	30
4	5	2	11	11	1	30
5	NA	NA	2	6	22	30
total	31	31	30	30	30	152

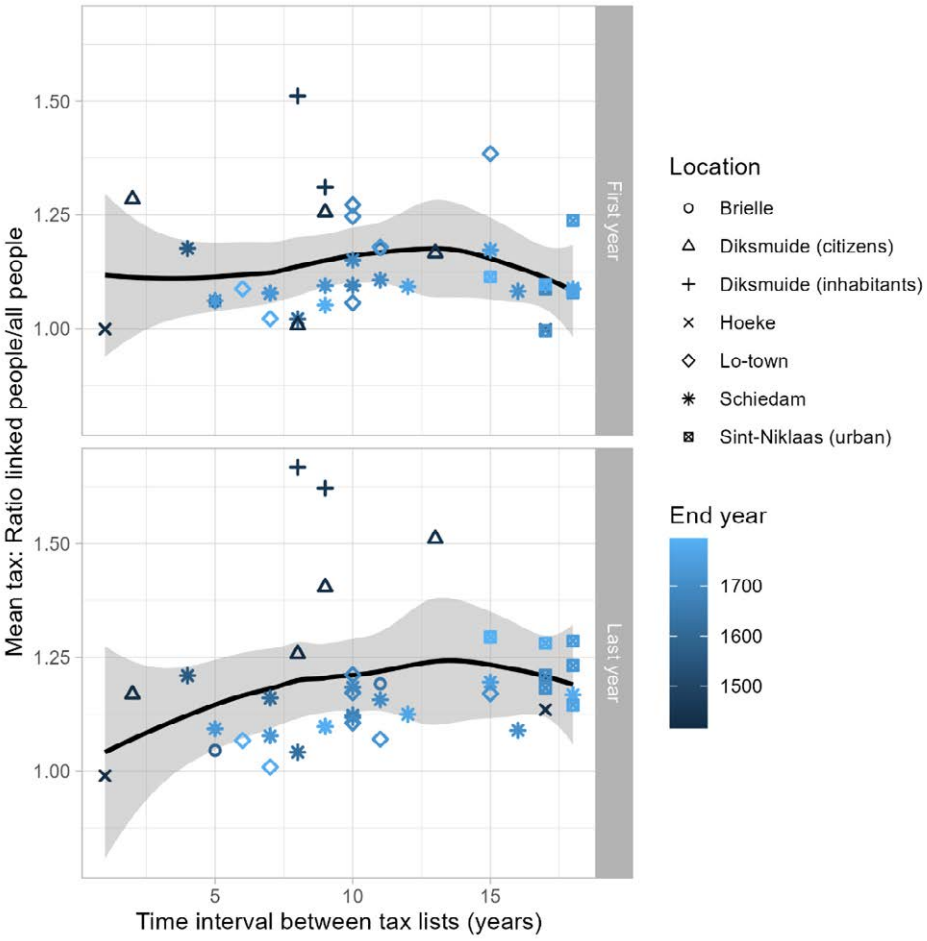
Note: This table shows the same 152 people as in the previous table. They are distributed into quintiles for the applicable year (1675 or 1692), using as second sorting layer the other year (resp. 1692 or 1675) sorted downwards.

Fig. 6. **People linked as per cent of all people in the tax list of the first year, by time interval between tax lists**



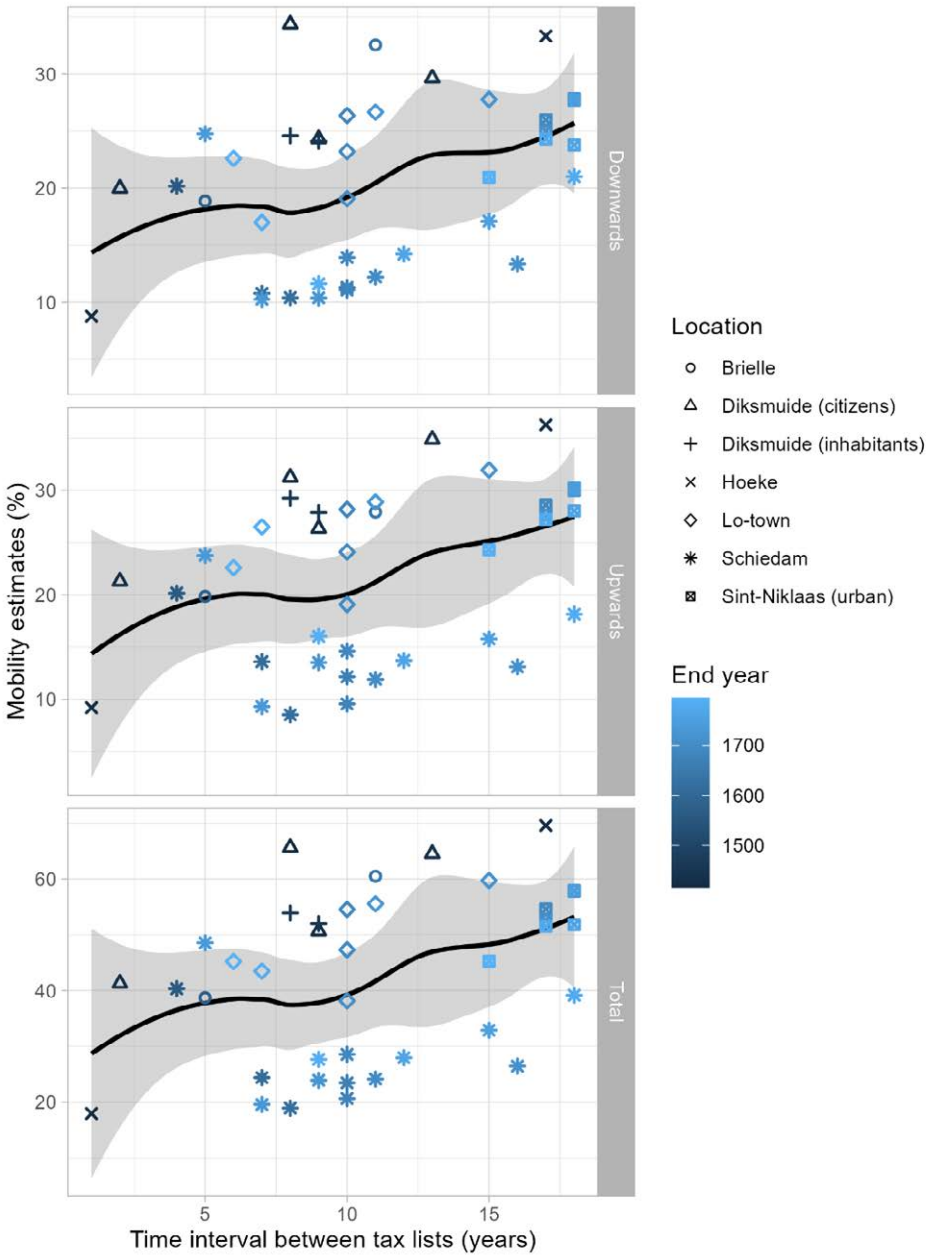
Note: The end year (year of the second tax list) indicated by shades of blue (darker shades for tax lists closer to 1400; lighter shades for tax lists closer to 1800). Each location has its own symbol. The black curve and grey shaded area indicate the trend with confidence intervals.

Fig. 7. **Ratio between mean tax paid by people linked and all people in tax list, by time interval between tax lists**



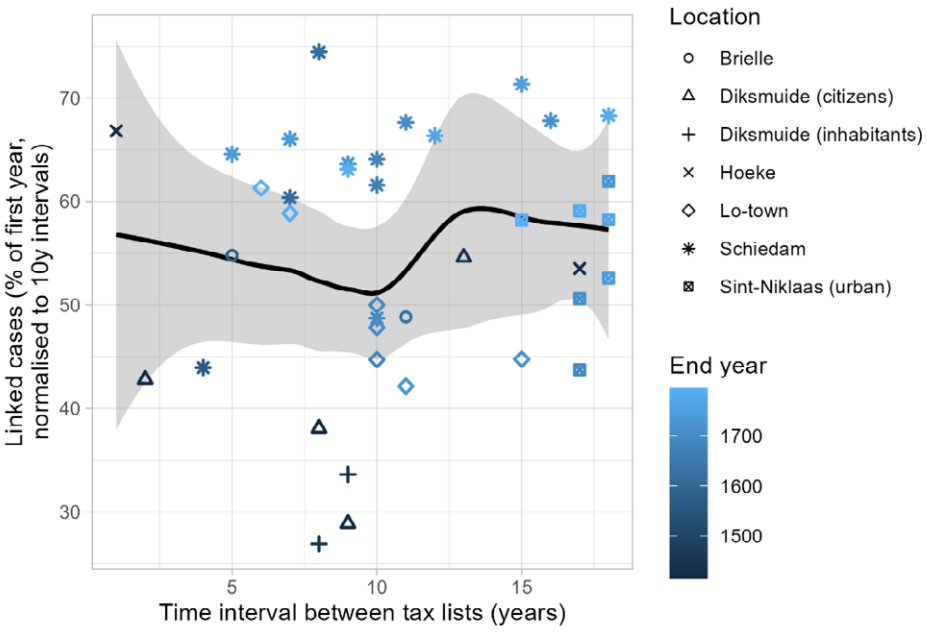
Note: see Fig. 6.

Fig. 8. **Mobility estimates, by time interval between tax lists**



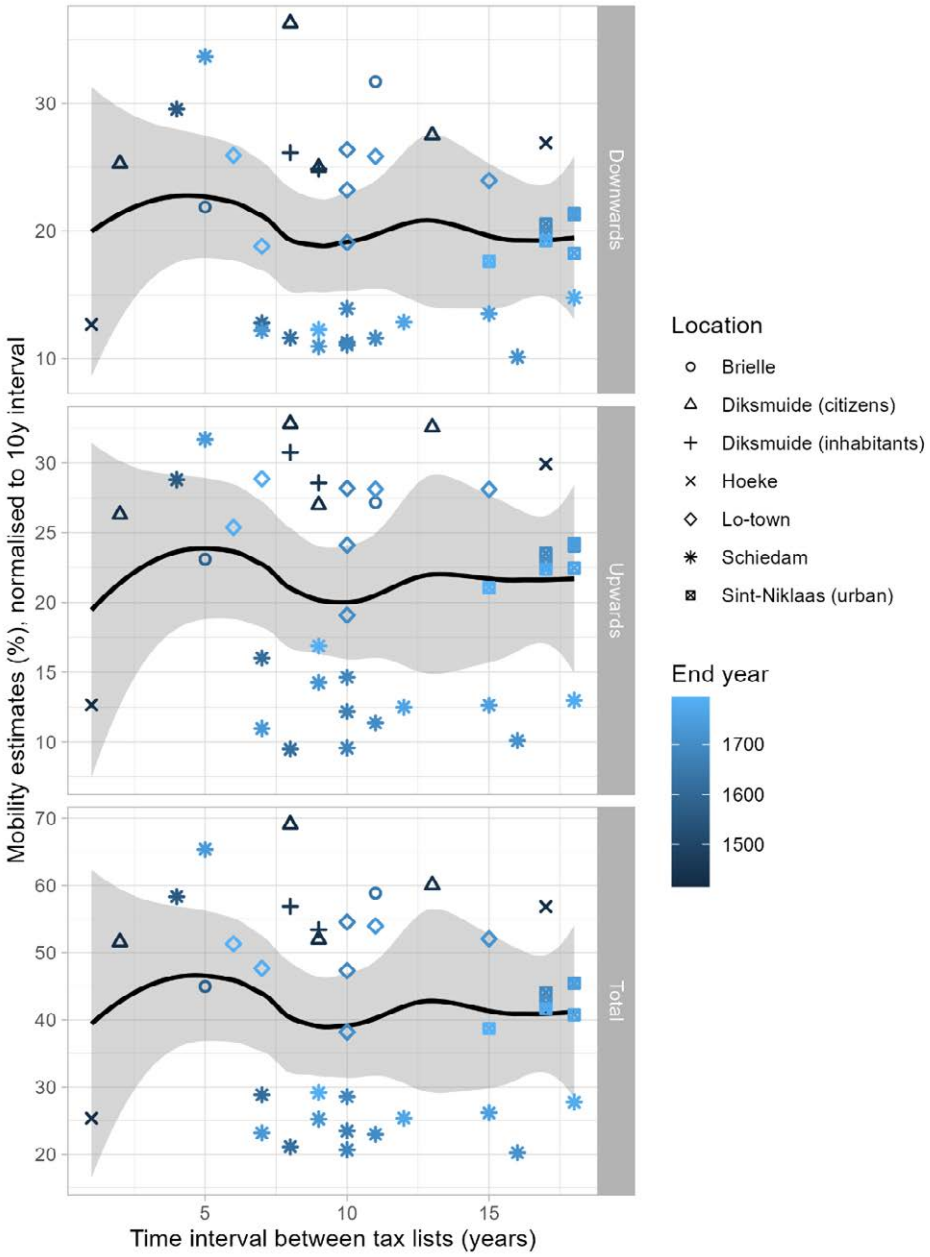
Note: see Fig. 6.

Fig. 9. **People linked as per cent of all people in the tax list of the first year, by time interval between tax lists, normalised to 10-year intervals**



Note: see Fig. 6. Observations are normalised as described in the text, to remove the effect of differing time intervals between pairs of tax lists.

Fig. 10. **Mobility estimates, by time interval between tax lists, normalised to 10-year intervals**



Note: see Fig. 9.

5. Results

Trends in our normalised mobility estimates are shown in Fig. 11. These are based on the averages of the two mobility tables that can be derived from each pair of tax lists. The error bands are based on the minima and maxima of the two mobility tables.

A first observation to be made from this, is that estimates for Schiedam in the seventeenth and eighteenth century are much lower than those of the other towns. Only the estimates for 1557-1561 and 1731-1736 are higher and comparable to the estimates we obtain for other places. This points to an importance feature of the sources for Schiedam. People's wealth was assessed based on the rental value of the properties they owned, but during the seventeenth and eighteenth centuries these rental values were fixed in time. Only in 1632 and 1732 were the values of properties re-estimated, producing the high mobility estimate for 1731-1736. The same applies to Brielle: the high mobility estimate for 1628-1639 is probably due to the revaluation of 1632 falling in between this time interval. The mobility we measure for Schiedam in most years is therefore the result of people acquiring or losing properties, not the result of changes in the values of those properties.

A second observation is that we find no common long-term trend in mobility levels. Our estimates for the late Middle Ages are somewhat higher than those of the seventeenth and eighteenth centuries, but we consider this evidence too weak to conclude there would be a structural downward trend in mobility levels during the early modern period. An additional caveat is that when we compare our estimates for the Middle Ages with those for later periods, we are comparing different locations with perhaps differences in their methods to assess people's means.

While the results do not exhibit a clear long-term trend, they do display fluctuations in the shorter term. These fluctuations differ between cases. Mobility in Diksmuide and Hoeke in the fifteenth century was relatively high and at a similar level for both towns. Only Hoeke between 1427-1428 was a low outlier, and is presumably an artifact due to the small time interval between both tax lists. Mobility in Lo-town displayed a u-curve between the late seventeenth and early eighteenth centuries; and was at a similar level when we have more data for the late eighteenth century. Mobility in Sint-Niklaas from the late seventeenth to the end of the eighteenth century did not display strong fluctuations but shows a gradually declining trend. Finally, mobility in Schiedam displayed an inverted u-curve during the late seventeenth century, and a gradually rising trend during the eighteenth century (disregarding the peak during 1731-1736).

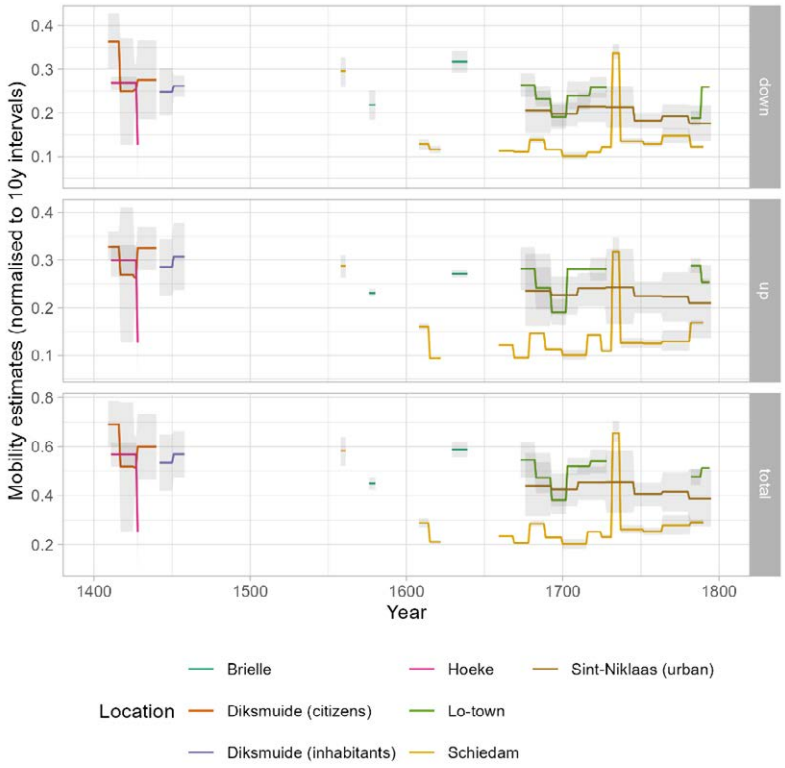
What explains these fluctuations? We can explore whether total mobility levels are related to the proportion of people linked between pairs of tax lists, to Gini coefficients and to population change. We do this only for those cases for which we have a sufficient number of mobility estimates to establish a meaningful correlation: Lo-town, Schiedam and Sint-Niklaas. The results are shown in Fig. 12 through 14. They suggest a negative correlation between mobility levels and the proportion of people linked between tax lists, but this correlation appears very weak. They also suggest a negative correlation between mobility levels and inequality. This correlation is very strong in the case of Sint-Niklaas ($R = -0.90$), but much weaker in the other cases, and in the case of Schiedam it is distorted by the outlying estimates of 1557-

1561 and 1731-1736. A correlation between mobility levels and population change appears to be non-existent.

Finally, we explore the relationship between total mobility levels, the proportion of people linked, Gini coefficients and population in a more rudimentary way, by merely looking at changes in these indicators (rising or dropping) between periods. We do this for all cases, but only for connected estimates (i.e. estimates based on connected pairs of tax lists, e.g. for Lo-town we compare the estimates based on the tax list pair 1717-1728 to those based on the previous pair, 1702-1717; but since we have no tax lists for the intervening period, we do not compare 1781-1788 to 1717-1728). That leaves us with 28 observations of changes (connected estimates). The results are shown in Tab. 3.

These show that there may be a weak relationship between total mobility levels and the proportion of people linked: in periods when the proportion of people linked drops, mobility rises. However, this relationship is only borderline significant (Chi-square test, p-value = 0.063; Cramers V = 0.35). There is no relation with the other variables.

Fig. 11. **Normalised mobility** estimates, by year



Note: Estimates based on the two mobility tables that can be drawn up from each pair of tax lists; error bands show the minima and maxima of the two tables.

Fig. 12. **Relation between mobility estimates and proportion of people linked (normalised estimates)**

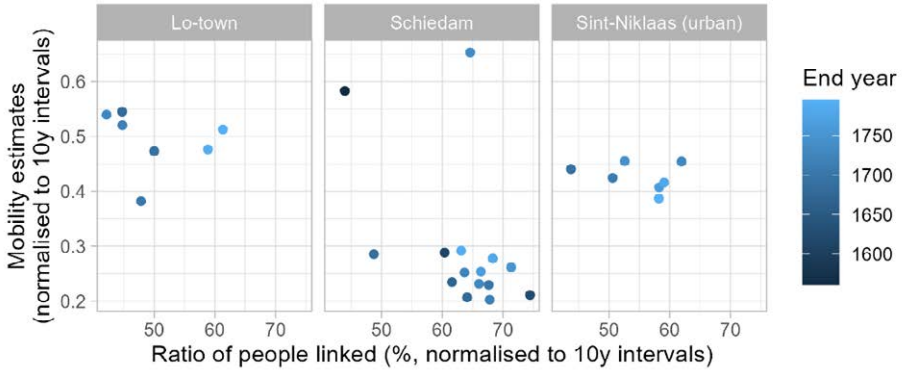


Fig. 13. **Relation between mobility estimates (normalised) and Gini coefficients**

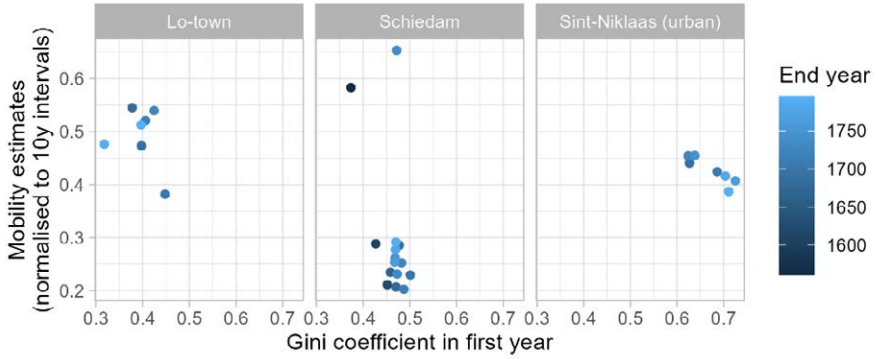
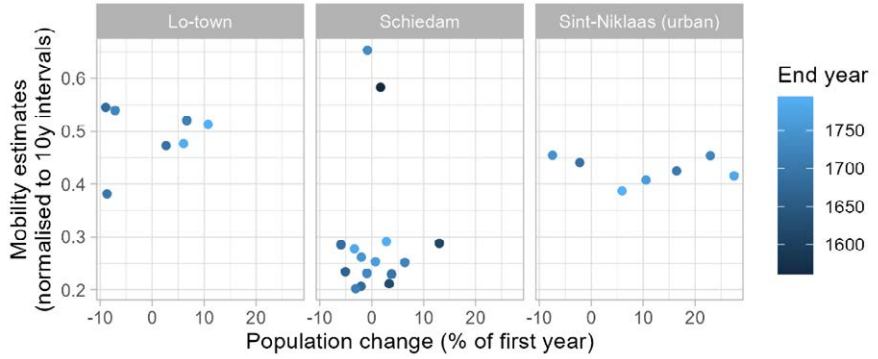


Fig. 14. **Relation between mobility estimates (normalised) and population change**



Tab. 3. **Crosstabulations: changes in mobility estimates, linkage ratios, Gini coefficients and population**

	Linkage		Gini coefficient		Population	
	dropping	**rising**	**dropping**	**rising**	**dropping**	**rising**
mobility dropping	4	11	9	6	7	8
mobility rising	8	5	5	8	6	7

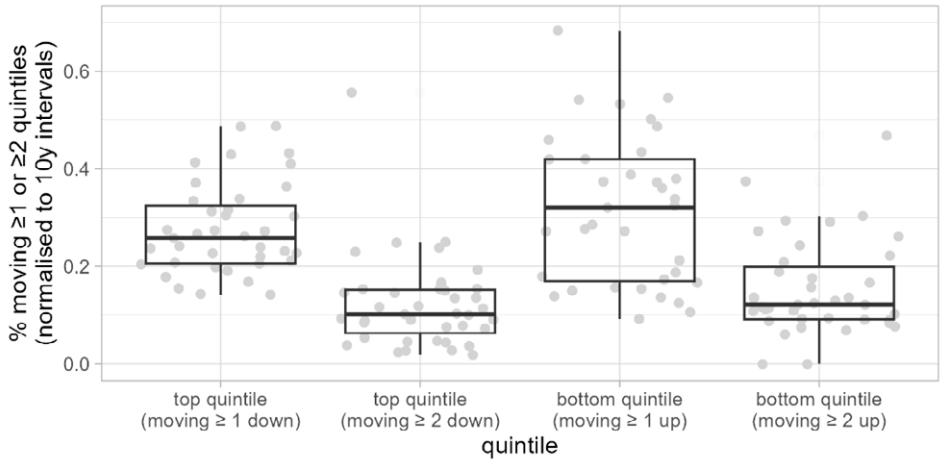
Note: This table crosstabulates 28 observations (of *changes*, relative to the previous observation, in mobility levels, linkage rates, Gini coefficients and population numbers), exploring the relationship between changes in mobility levels (rows) and changes in the other indicators (columns).

The results shown so far represent total mobility, the sum of upwards and downwards mobility. It includes each move from any quintile into a richer or poorer quintile. We can also look specifically at the mobility of the poorest and richest segments of society. This is one of the questions we posed at the start of this paper: to what extent did the rich remain rich, and the poor remain poor?

This is shown in Fig. 15. Using our pairs of tax lists, it shows how many percent of the linked households moved out of the top or bottom quintile between tax lists. People at the top could only move down, people at the bottom could only move up. Firstly, this shows that there is some fluidity in the social structure of preindustrial towns: some of the people at the top moved down, some of the people at the bottom moved up. However, this was almost always a minority, less than half of the people in these quintiles. Secondly, it shows that mobility levels at the top differed from those at the bottom. Mobility at the top was comparatively low. Many people at the top tended to remain at the top. Mobility at the bottom appears to have been higher, meaning that a comparatively larger group of people at the bottom managed to climb up.

Fig. 15 also distinguishes people at the bottom and the top moving at least 1 quintile, and those moving at least 2 quintiles. For the top and bottom, moving two quintiles means rising or dropping to at least the third quintile, or in other words from the extremes of the distribution to at least to the middle of the distribution. Apparently, this happened only rarely, usually less than 20% of the people at the bottom or the top. In other words, about 80% of the people at the top or bottom quintiles, remained in the top or bottom half of the distribution. It shows that a large part of mobility took place between adjacent quintiles: people rising from the first to the second quintile, people dropping from the fifth to the fourth quintile. Only rarely did people at the bottom or the top make it to the third quintile.

Fig. 15. **Mobility from the top (downwards) or bottom (upwards): % of people linked (normalised to 10-year intervals)**



Note: Observations are our mobility estimates for specific quintile groups, based on our pairs of tax lists. The grey dots in the background show the separate estimates for particular locations and periods; the boxes summarise the distribution of these estimates. Top and bottom of the boxes correspond to the third and first quartiles; the middle line of the box shows the median.

6. Conclusions

In this paper, we set out to explore trends in mobility levels in six smaller towns in the Northern and Southern Low Countries during the late Middle Ages and early modern period. We use pairs of tax lists reflecting income or wealth to divide the people we can track into quintile groups and draw up mobility tables. We estimate mobility as the proportion of people moving into a different quintile group. The longer the time interval between tax lists, the lower the share of the population we find again in the second list, and the higher the likelihood they have moved into a different quintile group.

Overall, we did not find a long-term trend in mobility levels: we have insufficient evidence to conclude that mobility levels at the end of the early modern period were higher or lower than during the late Middle Ages. In other words, there are no indications that the urban societies of the Northern and Southern Low Countries became more open as the modern period approached, which is consistent with Clark's claim that in the long run, there were no trends in mobility.

Mobility levels did fluctuate in the towns we investigate, but we did not find any relation to trends in or levels of population or inequality. There might be an association between mobility levels and the ratio of people linked between tax lists. Mobility appears to be higher in one period when, compared to the previous period, we find fewer people in the second tax list. Finding a comparatively low share of people in the second tax list might be indicative of periods of greater instability, when more

people disappear (by death or migration), providing opportunities that benefit part of the people who remain. However, the evidence we have provides only weak support for this association.

Finally, our results suggest that preindustrial urban societies remained fairly rigid. Many people remained either in the top or bottom half of the distribution. Particularly people at the top managed to stay at the top.

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