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Wealth and Poverty in Stockholm 1650-1750

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Mercantilist Inequality:
Wealth and Poverty in Stockholm 1650–1750*

Erik Bengtsson♦, Mats Olsson♠ and Patrick Svensson♣

Abstract

This paper maps social structure, poverty, wealth and economic inequality in Stockholm from 1650 to 1750. We begin by establishing the social structure, using census data and other sources. To study wealth and poverty, the main sources are a sample from the wealth tax of 1715, and probate inventory samples from 1650, 1700 and 1750. These provide detailed and sometimes surprising insights into the living standards of both the poor and rich. Stockholm in this period was a starkly unequal city, with the top decile of wealth holders owning about 90 per cent of total wealth. We argue that this inequality was the result of deliberate policy – the Mercantilist conviction of "just rewards" for each and every one according to his or her standing. The case of Stockholm shows the need for the historical inequality literature to consider class and power relations to understand the determinants of inequality.

Keywords: wealth, inequality, social stratification, Sweden, Stockholm, probate inventories

JEL codes: D31, I31, N13, N33, P16

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1. Introduction

In historical research on economic inequality, the role of class and power relations is underestimated. It is a flourishing area of research,[1] but, analytically, much of it is very closely focused on either basic economic factors – economic growth, industrialization – or natural disasters and wars as drivers of inequality.[2] Several recent studies have pointed to the limitations of the 'growth-and-disasters' perspective, pointing to agrarian class structure, welfare state redistribution, regressive tax policies and other factors as drivers.[3] The conceptualization, however, is still under-developed.[4] This paper, focusing on power and the regulation of the economy, provides a case study of wealth, poverty and inequality in an early modern capitalist setting, to extend our understanding of historical inequality and its drivers. We study the city of Stockholm from 1650 to 1750, a period when its status as capital of the Swedish realm was consolidated and the city grew rapidly, being central to the bureaucracy and political power as well as an important hub of commerce on the Baltic. Our analysis proceeds as follows. First, we use census figures and other sources to establish the social structure of Stockholm in this period: from the impoverished and workers and sailors at the bottom, to merchants and nobles at the top of the social pyramid. We then use a wealth taxation sample from 1715 and probate inventories from 1650, 1700 and 1750, to study poverty, wealth and inequality over a hundred years. Taken together, these rich data give us detailed insights, unusually detailed for an early modern setting, into the living standards of very poor people, the bulk of soldiers, workers, and ordinary artisans, as well as merchants and nobles.

We show that Stockholm throughout this period had extremely high levels of economic inequality. Its double role as trading hub and administrative centre meant that it combined the riches of merchants with those of estate-owning nobles living close to the Court. However, the city at the same time harboured a large class of soldiers, labourers and other poor people, who struggled to get by. We will argue that the case of Stockholm shows the importance of the effect of politics and the state in understanding historical economic inequality. While it bore the "modern" traits of expanding trade and growing wealth, the

[1] e.g. Piketty, Postel-Vinay, and Rosenthal, "Wealth Concentration"; Ryckbosch, "Economic inequality"; Alfani and Ammanati, "Long-term Trends".
[2] Growth: van Zanden, "Tracing the Beginning". Disasters: Alfani, "Wealth Inequalities". Wars: Scheidel, *The Great Leveler*.
[3] Bengtsson et al. "Unequal Poverty", "Wealth Inequality"; Gómez León and De Jong, "Inequality in turbulent times"; Alfani and Di Tullio, *The Lion's Share*.
[4] Cf. Piketty's, *Capital*, pp. 11ff, critique of Kuznets, "Economic Growth". Kuznets casts a very long shadow over this literature.

country was also ruled by the mercantilist dogma of *justium pretium*, or the correct remuneration for everyone according to his standing in estates society. Attitudes to the poor were harsh and repressive and the differences between poor and rich were intended to be wide.[5] Since the rulers wanted society to be unequal, they rigged the institutions to engender inequality. And succeeded: Stockholm in this period was an extremely unequal society, with the wealthiest ten per cent owning 80-90 per cent of total wealth. We call this "mercantilist inequality", and argue that it has ramifications for the broader literature on historical inequality, beyond the case of Stockholm.

2. Power, wealth and inequality in an early modern city

"Mercantilist inequality" resulted, we contend, from the rulers' decision to keep inequality high: opulent living standards for those who deserved it (mainly nobles, but also merchants), casual provision for the masses. The economic historian Arthur Montgomery pointed out that *justum pretium*, the principle of living standards according to one's estate, guided Swedish social policy in the seventeenth, eighteenth and early nineteenth centuries.[6] According to this, a doctrine with roots back to Aristotle and Thomas Aquinas[7], the rich should be rich and the poor should stay poor.

We study an early modern city, where, as in other European cities of the time, the economic elite was to a high degree the political elite also: the wealthiest merchants and noblemen, in line with the typical pattern for larger cities and for the smaller Swedish towns too.[8] Of course, when economic power by definition conferred political power, we might talk of class rule. However, what was special about Stockholm is that it was not only – or even foremost – a bourgeois trading city, but it was also a capital city, with all that this entails. Over the seventeenth century, the Crown became more and more involved in the running of

[5] Unger, *Makten och fattigdomen*, pp. 30–3; cf. Ling, *Konsten att försörja sig*, p. 15; Snare, *Work, War, Prison, and Welfare*.
[6] Montgomery, *Svensk socialpolitik*, pp. 23, 38. Magnusson, *Merkantilism*, ch. 9, in the most recent Swedish study of mercantilism emphasizes the boosting of industry as a key aspect of Swedish mercantilism, but also that it was as much about power and the overall social order as about economics.
[7] The doctrine of *justum pretium* has its origins in Aristotle and Thomas Aquinas, and its practical importance for mediaeval and early modern European economies, together with its weight versus more market-oriented thought, has long been debated – cf. Worland, "Justum Pretium" and Noell, "In Pursuit". Söderberg, "Resistance to commodification", investigates whether *justum pretium* principles prevented market-driven price changes for farmland in sixteenth and seventeenth century Sweden.
[8] Europe: Friedrichs, *Urban Society*; Soliday, *A Community in Conflict*; Amelang, *Honored Citizens of Barcelona*; Cowan, *The Urban Patriciate*; Burke, *Venice and Amsterdam*. Swedish towns: Stadin, *Småstäder, småborgare*; Andersson, *Stadens dignitärer*.

city affairs, appointing professional career bureaucrats to leading positions, along with the merchants and wealthy.[9] Yet this did not diminish the role of Stockholm in the country. On the contrary, the rulers of the 1620s and 1630s explicitly wanted to concentrate trade and manufactures in the capital.[10] As much as 50 to 70 percent of Swedish exports, not the least iron, but also copper, tar and pitch, left through Stockholm.[11] The population of the city grew from 35,000 in 1650 to 52,000 in 1700 and 66,000 in 1750, i.e. nearly doubling in a hundred years.

The city, then, was ruled by a combination of local bigwigs, and Crown interests. Beyond the local plutocracy, we also need to consider the national setting. Wage rises were forbidden, punishable by fines, and the fines were twice as high if the pay rise had been preceded by demands from the workers. Work was mandatory for those who did not own property; unemployment was punishable by forced labour or, for men, conscription into the army.[12] From 1577, men who refused service could be forcibly recruited into the army; from 1635, when Sweden was in the midst of the Thirty Years War, this was true for any unemployed person. The repressive nature of the city government is highlighted by the fact that from 1603, the great copper statue of *Kopparmatte*, a master wielding the whip, adorned the grand square in the centre of the city, to infuse the city's residents with fear and respect for the established order, and remind them of the elite's right to punish and the ample punishment available for those who disturbed the social order.[13] Poor relief in seventeenth century Stockholm was downright repressive, with the double aim of keeping order – i.e. minimizing the troublesome results of poverty, begging and the like – and putting the poor to work in workhouses. A workhouse was established in the seventeenth century to handle the growing mass of paupers, and to provide cheap labour for the Crown's manufacturing needs.[14] This forced labour was used particularly in the navy, whose main base was in the capital. As

[9] Ericson, *Borgare och byråkrater*.
[10] Sandberg, *I slottets skugga*, pp. 382-3; Magnusson, *Sveriges ekonomiska historia*, pp. 159, 178.
[11] Bureaucracy and politics: Ericson, *Borgare och byråkrater*; Sandberg, *I slottets skugga*. Trade: Müller, *Merchant Houses of Stockholm*, pp. 50-1; Samuelsson, *De stora köpmanshusen*. Population growth: Lilja, "Stockholms befolkningsutveckling".
[12] Westerståhl, *Svensk fackföreningsrörelse*, p. 9; Ling, *Konsten att försörja sig*, p. 18; Snare, *Work, War, Prison, and Welfare*, pp. 62–4.
[13] Unger, *Makten och fattigdomen*, p. 33.
[14] Utterström, *Fattig och föräldralös*. In a typical European pattern, there was a rasp house for men and a *spinnhus* for women Cf. Burke's study of Amsterdam: Burke, *Venice and Amsterdam*. On the use of forced labour for the navy, see Ling, *Konsten att försörja* sig, p. 31. On the wider supply of "poor relief", see Johanson, *Fattiga och tiggare*, esp. p. 27.

one historian concluded, ”until the 19th century, the history of coercive measures directed at the laboring poor reflected ruling class needs for servants, soldiers, and workers”.[15]

Postan spoke of mediaeval cities as “non-feudal islands in the feudal seas”, and many historians followed to associate cities and capitalism: “Capitalism and towns were basically the same things in the West”, argued Braudel.[16] However, the institutional information on seventeenth-eighteenth century Stockholm presented above should prevent us from going too far in associating cities with (capitalist) freedoms. Stockholm from 1650 to 1750 was not a city of free wage labour.[17] It was a capitalist city in the sense that profit-making merchants accumulated and invested capital, but under heavy regulation – a Mercantilist system, one might say. Bois coined the concept “centralized feudalism”, with the state in a central role. This concept has been used more in agrarian history, but is also highly relevant for seventeenth and eighteenth century Sweden and can certainly be applied to its capital city.[18]

It is striking that the literature on historical inequality, which is mainly concerned with pre-industrial Europe, almost without exception has neglected the implications for inequality of exploitative feudal relations. One exception is Malinowski’s and van Zanden’s study of Poland in 1578.[19] Against a common assumption in the literature, they find that the rural sector was more unequal than the urban, and explain this with reference to the use of serfdom in agriculture. They counterpose Kula’s views on the Polish feudal economy, emphasizing the exploitation of serfs by landlords, with those of Kuznets, who tends to assume that the agrarian sector is more equal than the industrial or urban. Their findings support Kula’s view. This highlights the need to go beyond sectoral division, and understand the basis of economic inequality in terms of class relations as well.

Our argument that inequality to a high degree was a political choice and dependent upon power relations is not without predecessors in Sweden, either. Lindberg, in a study of income distribution between burghers in Stockholm from 1730 to 1810, explicitly relates his work to Heckscher’s old studies of mercantilism. Lindberg shows increasing inequality within the burgher class and argues that the prevailing mercantilist trade policy enriched the largest merchants. Ågren, similarly, discusses the major role of political corruption and monopolies in increasing the wealth of the very highest ranks of Stockholm merchants in the mid-

[15] Snare, *Work, War, Prison, and Welfare*, p. 103.
[16] De Vries, *European Urbanization*, pp. 4–9.
[17] Indeed, unfree labour lasted much longer, in Sweden and elsewhere, than many historians have supposed – cf. Steinfeld, *Coercion, Contract and Free Labour*.
[18] Kriedte, *Peasants, Landlords and Merchant Capitalists*, p. 15; cf. Anderson, *Passages from Antiquity*. For the application to Swedish agrarian history, see Myrdal, *Jordbruket under feodalismen*.
[19] Malinowski and van Zanden, “Income and Its Distribution”.

eighteenth century.[20] This is in itself interesting, but the most intriguing aspect of inequality in this period is not the inequality within the burgher class – that some burghers or merchants were advantaged in relation to others – but that between the classes, between those who owned and those who did not.

Finally, a comment on case selection. Is there reason to believe that Stockholm is atypical of European early modern cities? We think not. As discussed above, the political institutions of the city were quite typical of European cities of the time. The same is true of the Mercantilist ideas and policies, which Swedish rulers imported from England, Holland and Germany. The doctrine of *justum pretium* was of course a long-standing inheritance in Europe. The repressive treatment of the poor was also highly typical of western European states in general.[21] Thus, while we focus on one city, we believe that our case study has something more general to contribute to the discussion of preindustrial inequality; there are good grounds to believe that the mechanisms described here to deepen inequality were present in other cities too.

3. Data and approach

We use three main data sources for the analyses in this paper. First, to reconstruct the social class structure in early modern Stockholm, we use the population census of 1754, beside existing literature with its numerous calculations for various groups. See Appendix 1 for a comprehensive account. Since the sources for wealth that we use – taxation lists and probate inventories – lack some groups, as is discussed below, we use the reconstructed social structure to adjust our wealth inequality estimates so that they are representative for the city's population as a whole.

Second, our first wealth source is the Charles XII wealth tax registers from 1715. This is a quite outstanding source for the time. Different from all previous taxes, which had been class specific or had included exemptions for certain estates or social groups, the wealth tax of 1715 explicitly was intended to apply to every Swede, from the wealthiest nobleman to the lowest maid. They should all pay 1 per cent (later 2 per cent) of their wealth in tax. The reason for this extraordinary measure was the dire straits of Swedish state finances in the

[20] Lindberg, "Mercantilism and Urban Inequalities"; Ågren, *Köpmannen i Stockholm*.
[21] On mercantilism, see Heckscher, *Sveriges ekonomiska historia*. On repression, see Snare, *Work, War, Prison, and Welfare*.

1710s, after a hundred years of almost uninterrupted warfare.[22] A special authority, *Kontributionsränteriet*, was established and was active for the three years – 1713, 1715, and 1716 – in which the wealth tax was collected. It is clear from the general principles of the regulation that the taxation would be based on the public self-declaration of property in real estate and movables, which was then controlled by the neighbours, after which adjustments could take place.[23] The adjusted sample holds 371 Stockholm residents. The 30 richest individuals were collected and the rest were drawn by random sampling.[24] The strategy of sampling the 30 richest to represent the elite means that our 1715 estimate will slightly over-estimate inequality.[25] While everyone was taxed in 1715, in practice the Stockholm taxation lists lack actual estimates of wealth for maids and servants. For these, we estimate wealth by taking the figures for maids and servants from four smaller towns and adjusting upwards to correct for the fact that on average people in Stockholm were wealthier.[26]

Our third set of sources used both to dwell on details when it comes to people's belongings and to capture development over time are probate inventories. These are complete lists – with valuations – of households' belongings made at the time of death. They were used to resolve outstanding debts, divide inheritances, and to pay a small (0.125–0.25 percent) tax, which funded poor relief.[27] Inventories were made mandatory in Sweden in 1734, but in Stockholm, the fees based on one's estate size in 1665 and 1685 required a probate inventory, so in these years they are a good source for the capital. The Swedish probate inventories are very detailed, as we will see; in fact, seventeenth century Stockholm inventories have recently

[22] Karlsson, *Den jämlike undersåten*.
[23] Herlitz, *Jordegendom och ränta*, pp. 76–86.
[24] Söderberg, Jonsson, Persson, *A Stagnating Metropolis*, p. 132. We are grateful to Johan Söderberg for giving us access to the original database. It contains 401 individuals altogether, but 40 of the nobles and 10 of the merchants were not assigned any movables and thus were probably not residents of Stockholm, but merely held real estate in the city, which makes it impossible to calculate their total wealth.
[25] In the 1715 sample, there is also another bias, working in the other direction. This is that, in most cases, if a Stockholm resident owned property outside Stockholm, it was taxed in its own parish or town, and so was not included in the Stockholm estimate. This would make a difference for people such as nobles who live in cities but own land in the countryside: their wealth will often be underestimated and therefore inequality with it. This problem does not exist with the probate inventories, where all holdings, regardless of geography, are included. See Bengtsson, Olsson and Svensson, "Rural and Urban Inequality", for a calculation of this bias for Gothenburg and the west coast of Sweden. See also Bengtsson, Missiaia, Olsson and Svensson, "Wealth Inequality", Table 5.
[26] According to the instructions, they were to be assigned assets in a uniform way, but these parts of the instructions were not implemented in Stockholm. However, in smaller towns they were. We use the figures from four west coast towns, 30-45 *daler kopparmynt* (dkm) for maids and servants. We assume a level in Stockholm of 62.5 dkm for male servants and 31.25 for maids which is halfway between the instructions and the actual figures found in the West coast towns. On the instructions themselves, see Herlitz, *Jordegendom och ränta*, p. 80. The taxation lists from small towns are discussed in Bengtsson, Olsson and Svensson, "Rural and Urban Inequality".
[27] For discussion of Swedish probate inventories, see for example Kuuse, "The Probate Inventory"; Lindgren, "The Modernization"; Bengtsson, "Wealth Inequality". On Stockholm: Corin, *Stockholms förmyndarkammare*.

been used to study bourgeois fashion during this period.[28] We will not go to this level of detail, but will use some of the detailed information for our own purposes. The inventories in our period were used, among other things, when inheritances from a Stockholm resident had to be distributed to children or other relatives outside the city. This means that not only the wealthy became probated. However, the wealthier do predominate; Söderberg, Jonsson and Persson argue that "the inventories are no doubt better suited to describing wealth than poverty."[29] We would argue, nonetheless, that they are surprisingly good for discussing the working classes as well. About a third of the deceased in eighteenth century Stockholm were probated, and as our data set will show, while wealthier groups are over-represented, quite a few soldiers and workers may be found in the data.[30]

In 1650 and 1700, the probate inventories have a further representation problem: they lack nobles, who at this point were exempt from the need to make an inventory. This will give a downward bias in our estimates of inequality and wealth in these years, but, as discussed above, our 1715 estimate has an opposite bias, while the 1750 sample has neither of these problems. For this reason, we can triangulate the estimates to get a good picture of inequality in seventeenth and eighteenth century Stockholm. The four samples taken together, and combined with the new estimates of the social structure of the city, give a comprehensive view of poverty, wealth and inequality in Stockholm over a hundred years.

Probate inventories from Stockholm are archived in the *Stockholms rådhusrätt* archive. We have located 585 inventories from Stockholm from the years 1699–1701, which in our sample represent 1700. From 1645–55, which represents 1650, we have 187 inventories, and for 1750, we have 146 inventories, including 42 from the nobility.

[28] Andersson, "Swedish Burgher's Dress".
[29] Söderberg, Jonsson, Persson, *A Stagnating Metropolis*, pp. 93–4.
[30] On probate frequency: Söderberg, Jonsson, Persson, *A Stagnating Metropolis*, pp. 93–4, find a third for adult men in 1790. Lili-Annè Aldman (personal communication) based on painstaking ongoing research comparing the church death books with the probates, has calculated the probate frequency in Stockholm in 1700 as 38.4 per cent. A back of the envelope calculation based on population (57,000 in 1690), mortality rates (2.7 per cent in 1751, the first year for which we have data), and assumptions of the share of children also produces a rough estimate of 25 per cent probate frequency. Mortality rates from Historisk statistik för Sverige, *Befolkning*, Table 39, and population data from Lilja, "Stockholms befolkningsutveckling".

4. Stockholm, 1650–1750: poverty, wealth, and inequality

To estimate inequality, we need to know the class structure of the society we study. In any society, there will be relatively poor people and relatively wealthy ones, but we need to know how many are in each group. Our data and calculation of the social structure in Stockholm is shown in Table 1.[31] The columns headed "Real" convey the reconstructed social structure, while the columns headed "Probates" imply the social structure represented in our samples of probate inventories. A comparison of the two columns for a year shows, not surprisingly, that the wealthier groups are over-represented in the probates. For example, merchants constitute a rather large share of the samples, 10, 9 and 5 per cent, though they were only 4, 3 and 3 per cent of the population respectively in these years. Artisans constitute a third to half of the probate samples. Poorer groups are under-represented. But they are by no means absent. Among the civilian workers, some recurring jobs are for example carpenters, day labourers, ship builders, chefs, maids, transport workers (*åkare*), iron transporters (*järnbärare*), fish mongers (*sillpackare*) and janitors (*vaktmästare*) (see Appendix Table A2). Workers were, by our definition, 56-60 per cent of the population of the city, while they form 18-29 per cent of the probate samples.

[31] The class scheme combines Marx's emphasis on the ownership of the means of production and Weber's emphasis on education and market position. Such a scheme works quite well for capturing the social differences in early modern cities. Schultz, *Berlin 1650-1800*, pp. 38–9, 77–95, uses a corresponding scheme in her analysis of Berlin, as does Friedrichs, *Urban Society*, in his study of Nördlingen. For further discussion of the classification, see the Appendix. See also Fynn-Paul, "Let's Talk about Class", on class in early modern cities and the need to combine economic and political-institutional distinctions.

Table 1. The social structure in Stockholm 1650, 1700, and 1750 (per cent)

	1650			1700			1750		
	Class	*Real*	*Probates*	*Class*	*Real*	*Probates*	*Class*	*Real*	*Probates*
1	Nobility	2	1	Nobility	2	1	Nobility	2	29
2	Higher civil and military servants	5	13	Higher civil and military servants	7	11	Higher civil and military servants	8	10
3	Merchants	4	10	Merchants	3	9	Merchants	3	5
4	Artisans and middle class	19	35	Artisans and middle class	21	54	Artisans and middle class	24	30
5	Soldiers	8	12	Soldiers	7	7	Soldiers	6	6
6	Workers and lower civil servants	60	29	Workers and lower civil servants	58	18	Workers and lower civil servants	56	21
7	Impoverished	3	0	Impoverished	2	0	Impoverished	2	0
		101	100		100	100		101	101

Note: Workers and lower civil servants includes maids and male unskilled servants.
Sources: Real shares: see Appendix 1. Wealth data: probate inventories from Stockholms rådhusrätt archives.

The 1715 taxation sample is more comprehensive than the probate samples – in particular, the taxation lists include nobles, while there are very few of them in the 1650 and 1700 samples. For this reason, we begin our inequality analysis with the 1715 sample. Table 2 shows, then, wealth per social group in 1715, revealing the contours of a very unequal town. The average wealth of a male Stockholm noble was 41 times higher than that of an artisan and 464 times higher than a worker or lower civil servant.[32]

[32] There were parallel currencies in Sweden in this period, and we measure wealth in copper coin dalers – *daler kopparmynt*, abbreviated dkm. We use exchange rates from Edvinsson, "Foreign Exchange Rates", Table 5.22, to translate the Swedish sums to British Pounds (£) to facilitate international comparisons (see below). Edvinsson's exchange rates for the dkm begins in 1658. In 1658 17.49 dkm would buy a London pound, by 1700 27.08 dkm translated into one pound, and in 1750 the exchange rate had deteriorated further; 43.53 dkm equalled one pound.

Table 2. Social classes in Stockholm 1715, real and tax register sample distribution, and average wealth in daler kopparmynt (dkm)

	Social class	Real share, %	1715 sample, %	1715 sample, numbers	Average wealth, dkm
1	Nobility	1.5	10.8	40	150,251
2	Higher civil and military servants	6.7	13.2	49	11,944
3	Merchants	3.3	11.1	41	26,565
4	Artisans and middle class	21.3	46.9	174	3,684
5	Soldiers	7.0	3.8	14	218
6a	Workers and lower civil servants	17.1	14.3	53	324
6b	Maids	29.1	0	0	31
6c	Male unskilled servants	11.6	0	0	62
7	Poor	2.3	0	0	0
		100	100	371	

Note: Real share based on calculations in Appendix. For discussion of the taxation sample, see section 3 and Söderberg, Jonsson and Persson, *A Stagnating Metropolis*.

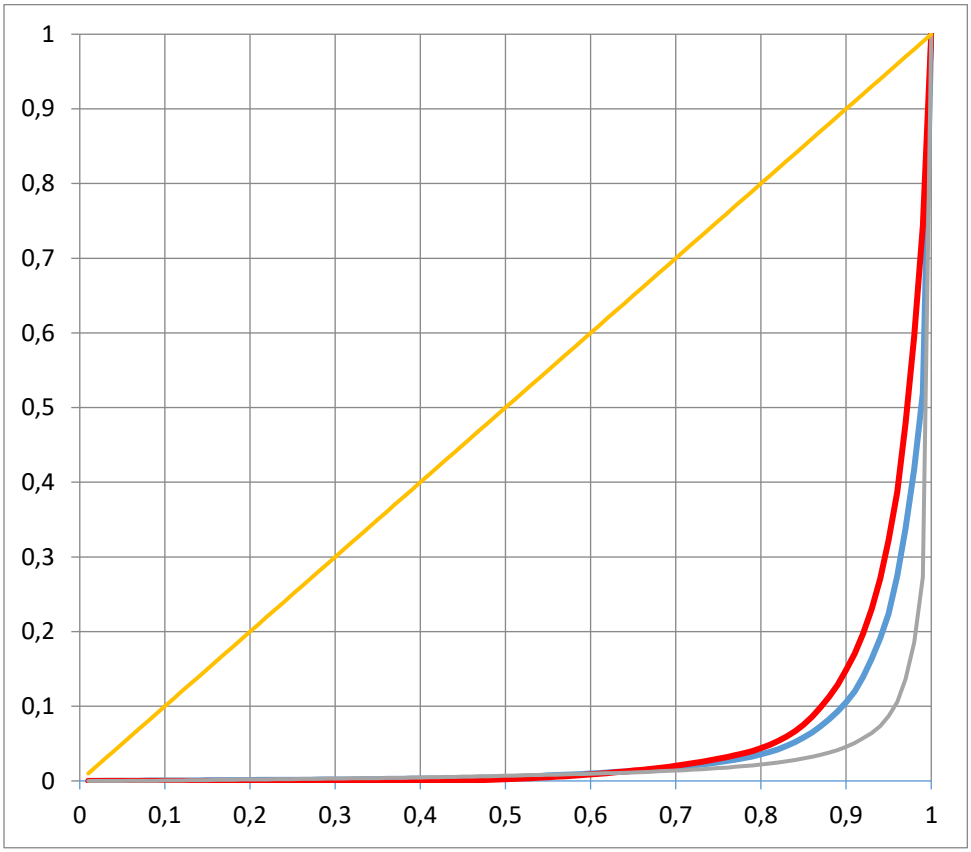
To calculate inequality in the shape of the Lorentz curve, the Gini coefficient and top shares of total wealth, we adjust the sample by the actual shares of the population of the different social groups, as in the column "Real share".[33] Table 3 shows the Gini coefficient and top shares, and Figure 2 the Gini indexes, as Lorentz curves.

Table 3. Inequality in Stockholm 1715

	Gini coefficient	Top decile share (%)	Top percentile share (%)
Real estate	0.89	85.3	26.2
Movables	0.96	95.5	73.1
All assets	0.92	89.6	48.4

[33] We adjust the sample for social class as follows. We start with the most overrepresented group, here the nobility, as nominator and expand all the other classes by cloning the individuals until their class's real share of population is reached. In this way, the importance of the sampled individuals is weighted according to the degree of over/underrepresentation of their class.

Figure 1. Inequality in 1715, Lorentz curves



Note: Left curve – real estate; middle curve – all assets; right curve – movables. The diagonal represents an absolute equal society, with a Gini coefficient of 0. A line following the lower and right axis represents a society where one person owns all the assets, with a Gini coefficient of 1.

The overall Gini coefficient is as high as 0.92, which is above the highest level of inequality ever previously observed on a national level in Sweden, around the year 1900.[34] The same goes for the top decile's 90 percent share of total wealth; later we will see that this, as compared to other early modern cities in Europe and the US, is a very high level of inequality. Interestingly enough, while inequality in real estate ownership was high, it was even higher for movables. This is in spite of the fact that 95 percent of the inhabitants owned movables and only 58 percent owned real estate. But the figures are driven by extremely high concentrations of movable assets among the very richest, as can be seen by the shape of the right Lorenz curve in Figure 1. It is also confirmed by the top one-percent's share of movables, shown in Table 3. While they held 48.4 percent of all the wealth in Stockholm,

[34] Bengtsson et al, "Wealth Inequality".

they held 73.1 percent of the movable assets.[35] Studies of the elite, for example the inventory for Magnus Gabriel de la Gardie's possessions made when they were confiscated by the Crown in 1686, shows that elite people held large values in movables such as jewels, paintings, expensive furniture, and weapons.[36]

The living standard of the poor

The 1715 taxation was unique and provides a snapshot of wealth and inequality. For a dynamic perspective and for more detailed information about people's assets, we need to move to the probate inventories from 1650, 1700 and 1750. Let us start with the question, *what* was (material) life like in Stockholm at this time, for a person at or near the bottom of the social hierarchy? Dorothea Pärsdotter, who was married to a sailor in the royal navy (*kronans båtsman*), died in 1700, in middle age, leaving behind her husband and an eight-year daughter. Her summarized gross wealth was 22.25 dkm, quite comparable to the 31 dkm of maids in 1715 (cf. Table 2.) What did her "wealth" consist of? In total, the inventory lists 14 items. Among them, pillows (6.25 dkm), an "old quilt (3 dkm), bed linen (1.33 dkm), one "small corner cabinet" (1.33 dkm), seven copper pots (1.16 dkm) and a hat (1 dkm). To summarize, Dorothea Pärsdotter, a poor Stockholm resident, in 1700, had some clothes, some bed linen, a few pieces of (poor) furniture, and some kitchen utensils. This is close to the bare minimum for survival. Obviously, Dorothea and her sailor husband Johan did not own a house, but when she died they owed 13 dkm in rent to their landlord. The contents of the inventory after the death of the sailor Erich Carlsson Båte is similar. It contains twelve items, totalling 18.33 dkm, of which the most valuable is a quilt worth 2 dkm. In all, bed linen takes up more than one third of his wealth. Almost every item is described as "old", as in "1 old blue coat" (*1 gl. blå råck*), 2 dkm; "1 pair old trousers", 1 dkm; "1 old pipe", 1 dkm. This indicates a depressed living standard comparable to that of other poor urban dwellers throughout Europe.[37] An example from our 1650 sample is the maid Brita Matsdotter. She

[35] An example of the relatively wide-spread ownership of real estate is the inventory of the sailor Michael Bertilson Walmo from 1701. His gross wealth was 243 dkm, of which 4 was a coffer, 1 was a bench, 2 three chairs, 7 dkm pewter, 20 a brown cloth coat and trousers, 2 a pewter for beer (*tennstop*), 6 a bearskin hat, and 200 was a house in Kvarngränd in the southern district. As can be seen, he owned very little, but he did own a house, which accounted for 82 per cent of his gross wealth.

[36] Magnus Gabriel de la Gardie is said to have been the wealthiest man in Swedish history, in relation to the standards of his time. When his palace *Makalös* was confiscated by the crown in 1686, an inventory of his belongings was made, as they were sold off to strengthen the crown's finances. The inventory includes jewels worth 41,304 dkm and weapons worth 4,877 dkm; it reached a total of 78,579 dkm, not counting outstanding loans, and the value of the palace itself. The inventory is reproduced in Axel-Nilsson, *Makalös*, pp. 253–275.

[37] Jütte, *Poverty and Deviance*, pp. 78-80.

was originally from Småland in the south of Sweden and her last year had been spent as a servant in a burgher's house. Her clothing was superior to that of the sailor wife: in total, she had 18 items, worth 49 dkm. She also had a coffer (3 dkm), some small coins (4 dkm) and a claim for half a year's salary from her employer (20 dkm).

Another source completes the picture of the living standards of the poor of Stockholm in this period. At the Danviken hospital and poorhouse, the property of the better-off among the residents was assessed when they died. The historian Karin Sennefelt has generously shared with us four such assessments, three from 1684 and one from 1692.[38] They show that Elsa Erichsdotter, who died in 1684, had several pieces of bed linen, a few pieces of furniture and some clothing. The "poor old woman" (*fattig gumma*) Maria Mattsdotter owned less – 14 riksdaler in cash and some lesser coins, a blue skirt and a "ditto, somewhat worse [condition]", one black skirt and two brown ones, one brown sweater and one red. And so on. The poorhouse materials support the idea that not even the poor had nothing to their name – but they did not own much, and the old and tattered belongings were not worth much. Compared to Anna Guintes, a poor Amsterdam resident probated in 1740 and studied by Anne McCants, the poor discussed here were worse off: less bed linen, and none of the more advanced consumer goods such as paintings and a mirror, such as Guintes owned.[39]

This information taken together gives us a rather reliable picture of the living standards of Stockholm workers and the poor in the seventeenth and eighteenth centuries. According to our social structure estimates (Table 1) about 62–8 per cent of the early modern Stockholm population were soldiers or workers. Not all of them were as poor as Dorothea Pärsdotter or Erich Carlsson Båte, but the sources do suggest that a large share of the population had a poor material standard of living.[40] With this information in mind, we can no go back to the over-arching question of inequality, from a dynamic perspective: moving from the mid-seventeenth century to the mid-eighteenth.

[38] The materials from the poorhouse are in the Politikollegiet archive, housed at the Stockholm city archive. National archive ID: SE/SSA/0146.

[39] McCants, "After-Death Inventories", p. 15. McCants also describes this as "a fairly sizable inventory".

[40] It would be interesting to compare these calculations to those from other early modern cities, but comparisons are complicated by the fact that "poverty" is a relative and somewhat nebulous concept. Arkell, "The Incidence of Poverty", argues that the proportion of poor people, defined as those exempt from paying the hearth tax, in late seventeenth century London, was 25 per cent, while Baer, "Stuart London's Standard of Living", found that London in 1638 had about 30-40 per cent in poverty inside the city – within the walls, and around 45 per cent outside the walls. The question is of course whether and how such tax-exempt poverty definitions can be reconciled with the more direct estimates made here.

Constant inequality, mercantilist inequality

Inequality in 1715 was very high, as we have seen. Let us now extend our view to the years 1650, 1700 and 1750, making use of the samples from probate inventories.

Table 4. The distribution of net wealth: Stockholm, 1650, 1700 and 1750

	Gini	Top 10%	Top 1 %
1650	85.7	80.2 %	26.3 %
1700	89.1	84.6 %	41.5 %
1750	92.7	90.0 %	50.2 %

Note: Estimates based on probate inventory samples, adjusted by social structure.

Inequality was markedly persistent over time. The Gini coefficient of wealth grew from 85.7 in 1650 to 89.1 in 1700 and 92.7 in 1750. Here we should consider that the 1650 and 1700 estimates underestimate inequality, since they lack nobles. But the estimates align very well with that of 1715, based on the taxation sample, where we have an opposite bias. According to the probate-based estimates, the wealthiest tenth of the population held 80.2 per cent of wealth in 1650, 84.6 per cent in 1700 and 90.0 per cent in 1750, while according to the 1715 taxation based estimate, they held 89.6 per cent. Thus, the actual value in 1650 and 1700 was probably somewhat higher, still of course showing a slight increase in the late seventeenth century but overall a very stable level over the hundred years that we study. The high and stable level of inequality is, we argue, an indicator of the persistence of the anti-poor policies and mercantilism, both of which benefited the rich and punished the poor.

Financial wealth was a large share of the assets and debts were very important in Stockholm at this time[41]. Among our 586 individuals in the 1700 sample, total gross wealth was 3,6 million dkm, and total debt was 1.82 million dkm, making debts as a share of gross wealth equal to a rather high 50.2 percent. This is probably related to the fact that probates in part were made to resolve outstanding debts, so the indebted should be over-represented in the sample as compared to the population. But we might still in the Stockholm context cite the study by Ogilvie, Küpker, and Maegraith of the German town of Wildberg 1602–1700: "in this less-developed economy everyone borrowed".[42] The great extent of lending indicates that one could earn quite a sum by being a creditor; indeed, the ongoing work of Christopher Pihl

[41] Ericsson and Winton, "The Market for Government Debt", show that financial markets in Sweden were surprisingly sophisticated by the 1710s.
[42] Ogilvie, Küpker, and Maegraith, "Household Debt".

shows the existence of such rentiers in late-seventeenth century Stockholm, similar to the moneylenders of Venice and Amsterdam.[43] We will return to this issue in our discussion of the wealthy, but, to give only one example, 40 per cent of the wealth of one of the wealthiest persons in Stockholm in 1700, Petter Minder, consisted of claims and investments (103 000 dkm). With a standard yield of 6 per cent on loans, this could be a significant source of income.[44]

The rich

We have learnt something about the living standards of the poor, and something about the overall distribution of wealth. Let us now turn to the rich. Who grew richest in mercantilist Stockholm? Since the 1715 tax sample by design includes the 30 wealthiest, we begin there; the ten wealthiest individuals from this sample are shown in Table 5.

Table 5. The top ten wealthiest in Stockholm tax sample in 1715.

Title or Occupation	**Name**	**Wealth**
Lieutenant-general, Ambassador, Baron	Erich Sparre	1,260,000
Chamberlain, Right honourable	Hindrich Jacob Hildebrands sterbhus	846,000
Right honourable, Madam	Elisabet Funck	788,937
Royal counsellow, President, Count	Fabian Wredes änka Grevinna Brita Kruus	756,885
Countess	Christina Piper	461,040
Merchant	Paul Johan Heublein	266,256
Member of the highest trade collegium	Olof Törnflychts änkefru	264,150
Right honourable, Herr	Herman Daniel Hermann	262,728
Merchant	Johan Zedritz	235,131
Governor, His Excellence, Count	Carl Gyllenstierna	229,140

Note: Wealth in dkm, current prices. In 1715, CPI was 11.7 per cent higher than in 1700: Edvinsson and Söderberg, "The Evolution of Swedish Consumer Prices". On the sample, see Söderberg, Jonsson, and Persson, *A Stagnating Metropolis*, pp. 129–36.

In this top 10 list, eight are nobles (Sparre, Hildebrand. Funck, Kruus, Piper, Törnflycht, Hermann, and Gyllenstierna) but three of these (Hildebrand, Hermann and Törnflycht) had made their fortune as merchants in the city and had recently been ennobled. Two were merchants and commoners.

[43] Pihl, "Learning to bring dead capital to life". Burke, *Venice and Amsterdam*.
[44] Amelang, *Honoured Citizens*, pp. 73–4, argues that "identification with a rentier existence was a longstanding attribute of the Catalan nobility" of the sixteenth century. There is little indication of such deep financialization of the Stockholm elite in our period, but the probate inventories do reveal a quite liquid credit market and some specialized informal bankers.

From the 1715 taxation sample, we move to the probate inventory samples from 1650, 1700 and 1750. Table 6 shows the wealth elite from these years – but again, we must recall that in the first two years nobles are missing. A comparison of the wealthiest (Table 5) in 1715 and those in 1700 (Table 6) is instructive. The wealthiest person in the 1700 sample, Petter Minder, a tobacco trader and ship owner, would put him only sixth in the 1715 list.[45] To further locate our sample in its context, we may compare it with Gudrun Andersson's sample of the wealthiest residents of the small iron-trading town of Arboga from the 1660s to the 1790s. The wealthiest person she finds is the assessor Olof Ahllöf, who in 1740 left 1.4 million dkm.[46] This equals 1.05 million at 1700 prices. In other words, Ahllöf was much wealthier than Petter Minder. But if we compare Ahllöf, who was probated in 1740, with our 1750 sample, Baron Johan Gabriel Sack, worth 3.4 million dkm, was significantly richer.[47]

[45] Lili-Annè Aldman's research in the taxation lists of Stockholm shows Minder in 68th place among (income) taxpayers in 1690, indicating that while he belonged to the city's elite, he was not in the highest rank. Unpublished research. Source: Stockholm City Archive: Stockholms enskilda räkenskaper: Stockholms stadz verifikationer 1690.

[46] Andersson, *Stadens dignitärer*, pp. 132–7; see also pp. 304-13 for an overview of the inventories.

[47] The CPI increased by 48 per cent from 1700 to 1750 (Edvinsson and Söderberg, "The Evolution"), so at 1700 prices Sack was worth 2.3 million dkm – still more than twice Ahllöf's fortune.

Table 6. Ten wealthiest individuals in Stockholm, probated 1650, 1700 and 1750

Name		*Occupation/ Title of spouse*	*Gross wealth*	*Debts*
1650				
Johan	Persson	Legislative Official, Merchant	104,711	0
Ingrid	Hansdotter	Mayor	76,849	4,315
Jöran	Jerke	Pewterer	57,954	8,753
Baltzar	Gere	Malter	28,648	25,533
Elisabeth	Hess	Flayer	25,576	1,537
Anders	Hartig	Brewer, grain merchant	22,154	12,058
Peter	Ratken	Merchant	16,029	11,249
Henrik	Henriksson	Custom clerk	15,316	0
Erik	Andersson	Assessor court of Appeal	14,745	8,323
Märta	Knutsdotter	Pot moulder	14,509	15,570
1700				
Petter	Minder	Manufacturer	249,000	10,061
Britta	Åkesd:r Folcker	Merchant	150,170	938
Petter	Räf	Merchant	102,273	140,911
Michel	Bader	Naval gun officer, artisan	75,658	91,374
Johan	Nyman	Rope maker master	84,593	90,031
Johan	Dahlström	Merchant	79,660	102,822
Didrich	von der Listh	Merchant	78,788	7,328
Johan Adam	Kalkberner	Merchant	68,506	428
Juliana	Fült	Matron, Hawser manager	66,463	10,697
Catharina	Meistens	Merchant	58,620	18,786
1750				
Johan Gabriel	Sack	Baron	3,392,763	86,259
Eleonora Margareta	Wachtmeister	Countess	1,296,463	126,346
Carl Gustav	Spens	Count, Marshal of the court	643,764	0
Arvid	Hägerflycht	Governor	594,236	12,088
Anna Sophia	von Fersen	Countess	476,820	15,466
Elisabeth	Wrangel (von Rosen)	Baroness	367,232	11,059
Carl	Iserhielm	Attorney-general	340,833	301,375
Carl	Cronstedt	Baron, President	338,866	49,196
Maria Sophia	Stierncrona	Countess	335,754	115,440
Beata	Piper	Lady	147,466	272,795

Note: The sources are Stockholms rådhusrätt 1:a avdelning F1A; Svea hovrätt, adelns boupptecknings. All wealth figures in *daler kopparmynt*. The consumer price index was stable from 1650 to 1700 but increased by 48 per cent from 1700 to 1750: Edvinsson and Söderberg, "The Evolution of Swedish Consumer Prices".

Where do the fortunes come from? Who are the wealthy? In 1650, with the lack of nobles, the wealthiest are merchants, burghers and artisans. Here, as in 1700, German names (Jerke, Gere, Hess, Hartig, Ratken) are frequent, which is indicative of the strong foreign component in seventeenth century Stockholm. Combining a position in city government/ the magistracy with merchant activity was favourable, as indicated by the wealthiest individual Johan Persson, both *rådman* and merchant.[48] In the small town of Arboga, the magistrate dominated the wealth list at the beginning of the eighteenth century, but by less when it ended.[49] The confluence of political power and wealth was typical of the earlier period, while at the end of the eighteenth century, Andersson argues, entrepreneurship and trade were so profitable that holding local political office was no longer so important for the economic elite. In Stockholm, the 1700 list is dominated by merchants: six of the ten are merchant households. One is a master artisan – a rope maker. The final, and indeed wealthiest of them all, is a manufacturer, more specifically a tobacco manufacturer. He, Petter Minder, as well as the naval gun officer, the hawser manager's wife and two of the merchants, has a German name. Three of the ten, the naval gun officer and artisan Michael Bader, merchant Johan Dahlström, and merchant Petter Räf, actually have negative net wealth, because of large debts.

In 1750, four of the richest were born nobles, Sack, Wachtmeister, Tilas and Bremsköld, although the latter had lost her noble status with the death of her father in 1721, the last male head of the family. In all these cases, a substantial part of the wealth consisted of rural landed estates outside Stockholm. Beside the nobles, almost all of the richest were merchants. Of course, nobles in the seventeenth century who lived in Stockholm could hold much of their fortune in estates in the countryside –Magnus Gabriel de la Gardie (see above) is a prime example.[50] Thus, we might conclude that the wealthiest Stockholm residents 1650–1750 became rich through owning estates, and/or being a merchant, or perhaps a manufacturer. Burke argued that a typical rich Amsterdam citizen in 1700 invested half his fortune in bonds, 32 per cent in stocks, 12 per cent in houses and only 6 per cent in land, down from 30 per cent in 1600; the Stockholm elite was certainly more agrarian-based than this.[51] Similarly, Soliday argued that in eighteenth century Frankfurt the aristocrats were less wealthy (but more politically powerful) than the merchants.[52] Again, Stockholm appears to have been the less burgher-dominated.

[48] He is discussed in Unger, *Makten och fattigdomen*, p. 105, as a prominent merchant and mayor.
[49] Andersson, *Stadens dignitärer*, pp. 84-90, 98-104.
[50] Revera, *Gods och gård*, is a fine study of de la Gardie's management of his estates in one region.
[51] Burke, *Venice and Amsterdam*, p. 65; see pp. 62–69 for the wider discussion.
[52] Soliday, *Community in Conflict*, p. 235.

So we know how they became rich. But how rich could one become in seventeenth-eighteenth century Stockholm? How do they compare, from a European perspective? Stockholm was a central trading hub in the Baltic, but of course not a European or global city on the level of Amsterdam or London. This might easily have limited the wealth building possibilities. For comparison, the absolutely wealthiest elite in 1660s London is said to have held more than £10,000,[53] and it has been said that in the 1710s, no man worth less than £15,000 could realistically run for high office in London.[54] Our 1715 sample, in deliberately including the 30 wealthiest Stockholm residents, is the most reliable comparison here. None of our 1700 Stockholm residents would qualify as highest ranking in London, since the richest person, the manufacturer Petter Minder, was worth only £9,222. But in the 1750 sample Sack's wealth in 1750 corresponded to £77,941, so he would have been a rich man in the London of his time. Wachtmeister also would have qualified above the £15,000 cut-off point, and Spens is just below it. In the 1715 sample, the top five individuals were above £15,000; the following five all left around eight to nine thousand pounds.

To sum up our analysis of the wealth elite, political connections were very important for amassing wealth. As discussed in the introduction, in early modern European cities it was typically the wealthy – merchants and nobles – who were given political power over cities, but the causality ran the other way too: political power could increase one's wealth. This has been shown in the studies of eighteenth century burghers in Stockholm by Lindberg and merchants by Ågren; they both stress that politically awarded monopolies were instrumental in forming large fortunes.[55] Politics mattered for inequality at the bottom, as discussed in section 2, but also for top-driven inequality. *Justum pretium* and mercantilist inequality shaped the lives of rich and poor alike.

5. Stockholm wealth and inequality from an international perspective

Figure 2 compares the inequality in Stockholm in 1715 and 1750, our two years with most precise estimates, to that of European and American cities studied in previous research. The extant literature suggests three obvious hypotheses on variations in inequality between cities. One: larger cities should be more unequal: they have more diverse local economies and should allow for a sharper development of wealth at the top end.[56] Two: wealthier cities

[53] Grassby, "The Personal Wealth", p. 226
[54] Rogers, "Money, Land and Lineage", p. 439.
[55] Lindberg, "Mercantilism and urban inequalities"; Ågren, *Köpmannen i Stockholm*.
[56] Cf. Ryckbosch, "Economic Inequality".

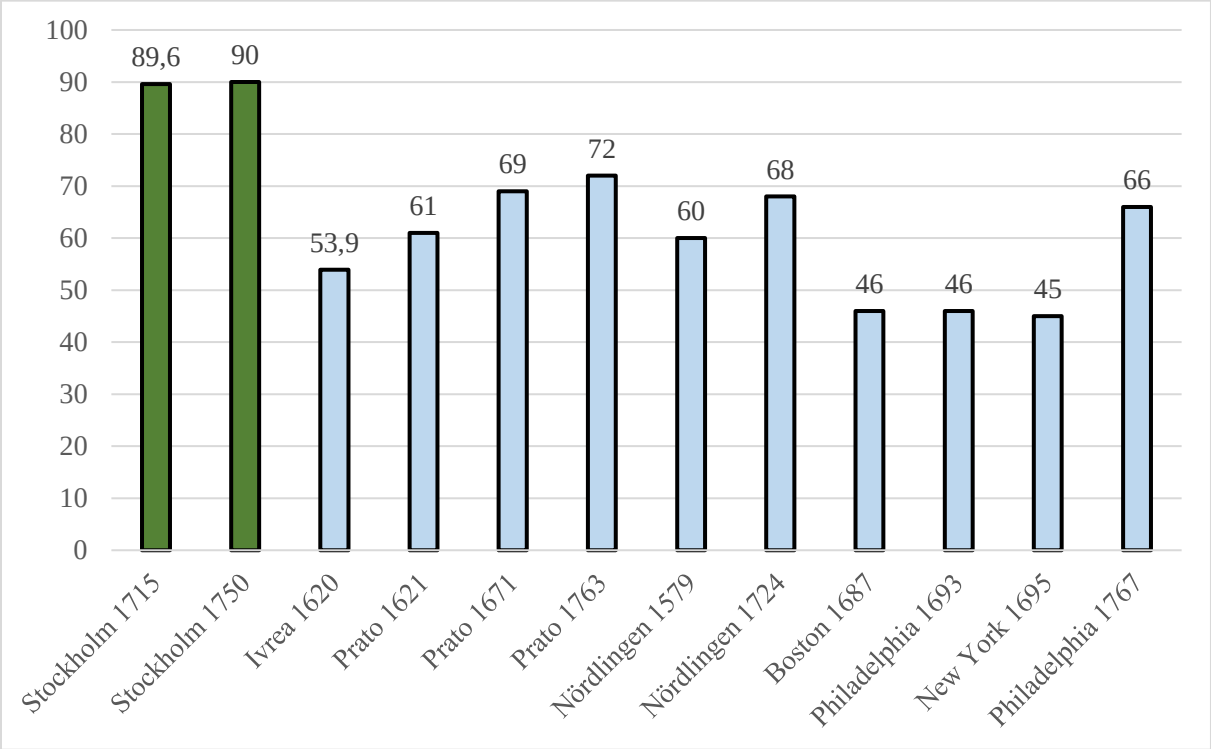
should be more unequal.[57] Three: cities with more rapid economic growth should see increasing inequality.[58]

The most striking finding for Stockholm 1650–1750 is that inequality is high and stable. Concentration barely changes over the 100-year period.[59] This speaks against the assumption that inequality is first and foremost driven by economic growth. The average wealth for a Stockholm household in 1650, 1700 and 1750, according to our estimates was 2699, 3241 and 5136 dkm.[60] In real terms (1700 prices), this becomes 2699, 3241 and 3470 dkm or an increase of 29 per cent over a hundred years. This is not overly impressive growth, but it is still striking how Stockholm basically was as unequal in 1650 as in 1750. The very high inequality in this relatively poor town also speaks against the second hypothesis, i.e. Stockholm being poor and unequal.

When it comes to comparing cities, the American cities of Boston (1687), Philadelphia (1693) and New York (1695) look quite equal by comparison, but this may be a statistical artefact stemming from a lack of controls in these studies of poverty among non tax-payers.[61] With a consistent methodology for adjusting for the social structure, such as the one employed in this paper, the differences between Stockholm and the American cities would probably seem smaller. However, Stockholm is also much more unequal than Ivrea and Prato in Italy and Nördlingen in Germany. Moreover, under Gini coefficients, a measure that has been calculated for more cities, the inequality in Stockholm is maintained. The Gini coefficient for our adjusted sample of Stockholm in 1700 is 0.92. This can be compared with the results reported by van Zanden: 0.79 in Florence in 1427, around 0.75 in Lyons (1545), Dresden (1488 and 1502), Freiburg (1445), Konstanz (1450), Norwich (1525) and Leiden (1498), 0.66 in Augsburg 1498 and 0.89 in 1604.[62] Of these eight European cities, only Augsburg in 1604 has a degree of wealth concentration like Stockholm's.

[57] In a very influential analysis, Milanovic, Lindert and Williamson, "Pre-industrial Inequality", point to a relationship between wealth and inequality: richer economies can be more unequal, since in poor economies, high inequality in the end will lead to the poor starving to death. Stockholm in this period was not a very wealthy city, but still very unequal.
[58] Van Zanden, "Tracing the Beginning". Cf. the discussion in Alfani and Di Tullio, *The Lion's Share*, p. 11.
[59] Indeed, the levels of inequality here are very similar to those found for Swedish cities in 1850 and 1900. See Bengtsson, Missiaia, Olsson and Svensson, "Wealth Inequality".
[60] Average and median diverge significantly. Median (gross) wealth in the Stockholm population was 200 dkm in 1650, 243 dkm in 1700, and 75 dkm in 1750.
[61] See Warden, "Inequality and Instability", for discussion.
[62] Van Zanden, "Tracing the Beginning", pp. 645-649.

Figure 2. Top decile's share of gross wealth: Stockholm from an international perspective



Note: Figure for Ivrea from Alfani, "Wealth Inequalities", Table 2, and for Prato 1621–1763 from Alfani and Ammanati, "Long-term Trends". Nördlingen from Friedrichs, *Urban Society*, pp. 106, 122. American cities from Nash, "Urban Wealth", table 1.

We have argued that the Stockholm case is interesting not only in itself, but also in a wider understanding of early modern inequality. But Stockholm appears to have been more unequal than the comparison cities. How can we square these facts? As we have emphasized, the policies in place in Stockholm were largely inspired by the greater and more important European states: mercantilist ideas from Britain, France and Holland; poor laws not least by Britain and Holland.[63] The impact of Luther's teaching was common to all Lutheran states. We argue that Stockholm in this sense should not be seen as an aberration from the European norm, but rather as an unusually full implementation of harsh poor laws and *justum pretium* policies. The Swedish state had an unusual degree of control over its territory and inhabitants,

[63] On economic policy generally see Heckscher, *Sveriges ekonomiska historia*, pp. 672–703. The 1715 wealth tax which we use was explicitly influenced by German cameralism and other Continental schools of economic thinking: Karlsson, *Den jämlike undersåten*, pp. 57ff. On poor laws and inspiration from Holland and Germany see Snare, *Work, War, Prison and Welfare*, pp. 92ff; inspiration from England, p. 130; from Holland also Johanson, *Fattiga och tiggare*, p. 47

and this great degree of state strength enabled also a severe level of extraction of the citizens, and redistribution from the poor to the rich.[64]

In this militarist and mercantilist time, the capital city created some great fortunes from trading and state administration, but also much poverty, for sailors, soldiers, ship builders, hawkers and other workers who struggled to get by.[65] As poor men, women and children toiled in the workhouses of the city to provide the navy with cheap materials and to maintain social order, they might not have been surprised to learn that Stockholm in this period was a deeply unequal city. But for the inequality literature, we might all need reminding that such regulations of labour and the right to earn incomes in different ways profoundly determine the degree of inequality in a society.[66]

6. Conclusions

Stockholm in the seventeenth and eighteenth century was a deeply unequal city-economy. This to a large degree depended upon the income structure generated by an active military-fiscal state which paid its sailors, soldiers and ship builders a pittance while putting lavish resources in the hands of the elite, all in accordance with the philosophy of *justium pretium*, rewards according to one's standing. Our research, then, reinforces the argument of Alfani and Di Tullio that historical inequality research must consider politics and the state to a much higher degree than hitherto, and rely less for explanation on economic growth and external shocks.[67] The paper also follows Malinowski and van Zanden in shedding light on feudalism as a factor shaping historical inequality.[68] In Stockholm, elite power and the practice of *justum pretium* reinforced class differences, upholding inequality. Friedrichs discusses a similar philosophy in seventeenth-century Nördlingen, but with opposite tendencies: "the ideology of *bürgerliche Nahrung* – economic self-sufficiency for every citizen – continued to motivate the magistrates of Nördlingen until the opening of the eighteenth century".[69] This

[64] On state capacity see Glete, *War and the State*, ch. 5; and Hallenberg, *Kungen, fogdarna och riket*. On implementation of mercantilism see Heckscher, *Merkantilismen*, pp. 35, 101–102.
[65] cf. the accounts in Nyström, *Stadsindustriens arbetare*; Utterström, *Fattig och föräldralös*; Unger, *Makten och fattigdomen*, among others.
[66] On the regulation of entrepreneurship and corporations, cf. Heckscher, *Sveriges ekonomiska historia*; Lindberg, "Mercantilism and urban inequalities"; Ågren, *Köpmannen i Stockholm*.
[67] Of course, this is not a completely original argument. Lindert and Williamson, *Unequal Gains*, p. 12, argue that politics is one of six basic factors – along with demography, education policy, trade, finance, and technical change – that shape economic inequality. The contribution is here rather to specify some ways in which feudal and mercantilist policies could do so.
[68] Malinowski and Van Zanden, "Income and Its Distribution".
[69] Friedrichs, *Urban Society*, p. 259.

ideology, in Friedrichs' analysis, motivated the magistrate of Nördlingen to oppose the growing market power of a particular weaver family, the Wörners. In Stockholm, the equivalent ideology had no such egalitarian impulse – rather the contrary.[70] This had consequences for economic inequality. As the new research on financial markets in seventeenth and early eighteenth century Stockholm also shows, with relatively sophisticated activities such as secondary markets in government debt, there was serious, profit-motivated finance capitalism even in an economy as poor as Stockholm's.[71] At the same time, the capital attracted landed nobility with wealth created in the countryside. Seventeenth and eighteenth century Stockholm in this way blended feudal, mercantilist, and capitalist inequality.

Early modern urban studies have often debated the possible "transition" from feudalism to capitalism in certain cities; i.e. Schultz, in her study of Berlin, argues that the "processes of Berlin social history between 1650 and 1800 were all of evolutionary, not of revolutionary character. But they heaped explosives for the following bourgeois upheaval".[72] This recalls the once lively Swedish debate on the possible bourgeois character of Carolingian absolutism and the following parliament-dominated "age of liberty".[73] The results of severe urban inequality here highlights the fact that in seventeenth century Sweden, immense noble wealth in the countryside[74] co-existed with bourgeois merchant wealth and a proletariat of soldiers, day labourers and servants which would not seem out of place in a nineteenth century city. The Swedish economy around 1700 was in this sense capitalist and feudal at the same time, and both systems implied systematic inequality. We believe that this study of Stockholm highlights the need in research on historical economic inequality to consider governing ideologies – formulated in phrases such as *justum pretium* and *bürgerliche Nahrung* – and power relations, political and economic.

[70] cf. Ling 2016, *Konsten att försörja sig*, 15–19.
[71] Ericsson and Winton, "The Market for Government Debt"; Pihl, "'Learning to Bring Dead Capital to Life'". Cf. Hoffman, Postel-Vinay, and Rosenthal, "Information and Economic History" on the development of capitalism.
[72] Schultz, *Berlin 1650–1800*, p. 351.
[73] Dahlgren, "Karl XI".
[74] Cf. Bengtsson, Missiaia, Olsson and Svensson, "Aristocratic Wealth".

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Appendix. Estimating the social structure of Stockholm in 1650, 1700 and 1750

When using probate inventories it is essential to take into account the often skewed social distribution shown in the inventories, as compared to the "true" population, since wealthy people were more likely than poor people to leave an inventory after their death. To adjust for this we need to estimate the social structure in Stockholm for the benchmark years 1650, 1700, and 1750. For 1650 and 1750, different sources are used here and the year's estimate for 1700 is the average of 1650 and 1750 for each social group.

Starting with 1650, we mainly use previous research that has focused on the size of different groups within the city, their income, and their power.[75] The population of Stockholm was around 35,000 at this point[76] and the most researched group is the burghers. The two largest burgher groups were the artisans and the merchants, but in fact they included other groups as well, such as inn-keepers, people involved in transport, e.g. skippers, and people in other occupations.[77] To make it even more complex, each of the largest groups was to some extent diverse; the merchant groups were composed of large-scale wholesale traders but also of sellers of tiny goods, and added to the artisan masters within the guilds were people outside the guild system. In 1650, the merchants and artisan masters consisted approximately of around 1,350 households, making the first part of our social structure.[78] The artisan masters formed by far the largest group among the burghers, around 75 per cent, with the merchants and salesmen a relatively small minority.[79]

To these 1,350 households we add the members of the civil and military services, a much larger group than the burghers at the time, thereby reflecting the administrative character of the Swedish capital; in 1650 this group numbered about 2,500.[80] It was very heterogeneous, representing all levels of the social structure from the highest nobility to journeymen, workers, guards, and handymen. Jansson has used the pay-rolls for the year 1663 and classified the civil servants into seven groups.[81] We use these, but merge them into four

[75] Ericson, *Borgare och byråkrater*; Sandberg, *I slottets skugga*; Jansson, *Bördor och bärkraft*; Unger, *Makten och fattigdomen*; Ling, *Konsten att försörja sig*.
[76] Utterström, "Stockholms folkmängd", says 37-39,000 in 1663 and Lilja, "Stockholms befolkningsutveckling", p. 315, says 34-43,000 in 1652. A reasonable guesstimate is then 35,000 in 1650, considering Stockholm experienced a phase of expansion up to the 1660s and then stagnation. This figure is also agreed upon in the website www.ortshistoria.se has (run by Stads och kommunhistoriska institutet, Stockholm).
[77] Stadin, *Stånd och genus*, p. 212.
[78] Heckscher, *Sveriges ekonomiska historia*, p. 518; Jansson, *Bördor och bärkraft*, pp. 25–26.
[79] Jansson, *Bördor och bärkraft* p. 25.
[80] Jansson, *Bördor och bärkraft*, p. 30.
[81] Jansson, *Bördor och bärkraft*, p. 77.

groups: the nobility, the higher civil servants, middle-class civil servants and lower grades of civil servants/workers.

We also use a previous study estimating the size of the soldiers' group (important for the Great Power of Sweden), consisting of around 700 households.[82] Finally, Unger aggregates the various groups of poor people in the population, ending with around 246 households.[83]

Given the above estimations, the most viable option in calculating the socio-economic structure is to use households – but how big was a household? Several different estimations of household sizes in Sweden and Stockholm are available. Palm ends up with around 4.5 persons per household in Sweden; Jansson argues for between 4 and 6 persons in Stockholm, and Jansson, Palm and Söderberg for between 3.7 and 5.5 persons in the same context.[84] One source used in these calculations is the poll-tax registers for Stockholm in 1676. From these, Söderlund finds that 1800 households of the artisan class thus estimated consisted of 8,500 people (including journeymen, servants to the masters' families, etc.).[85] This would result in 4.72 persons per household. Åke Meyerson uses the same source to calculate the number of children per household. Together with other studies, it shows a relatively low number of children per household and a social gradient whereby low-income households had fewer children.[86] These trends all lead us to assume that households in the highest social groups, including also the burghers and civil servants, had on average five members, while workers' and poor people's households consisted of four.

If we take the number of households per social group and multiply them by 5 or 4 as appropriate, we end up with almost 25,000 individuals in the nobility, burgher, civil servant, soldier and "officially poor" groups. The remaining c. 10,000 persons living in Stockholm in 1650 we assume to have been workers. This is in line with Jansson's statement that many people in Stockholm were outside the "societally acceptable pinfolds", mostly workers or

[82] Unger, *Makten och fattigdomen*, p. 167.
[83] Unger, *Makten och fattigdomen*, pp. 169, 216 and 227. This includes people in workhouses, imprisoned workers, the destitute and those receiving benefits. For the last of these groups, Unger cites the numbers for two out of the three main parts of the city. We have added the number for the third major part, the Old Town, by using the same share of the population but halved. This is in accordance with a larger share of the poor population living in the southern and northern part of the town relative to the old city center. Unger, *Makten och fattigdomen*, p. 56. Furthermore, in some cases the estimations are on individuals and in some on households – we have converted this into households.
[84] Palm, *Folkmängden i Sveriges socknar*, pp. 22–42; Jansson, *Bördor och bärkraft*, p. 108; Söderberg, Jonsson and Persson, *A Stagnating Metropolis*, pp. 29–30.
[85] Söderlund, *Stockholms hantverkarklass*, p. 20.
[86] Meyerson's investigation is referred to in Jansson, *Bördor och bärkraft*, p. 109. See also Unger, *Makten och fattigdomen*, p. 65; Söderlund, *Stockholms hantverkarklass*.

under-occupied groups.[87] Since the lowest civil servant group was made up of workers, in the final classification we merge this group with the worker group and the result for 1650 is shown in Table A1, left-hand column for each year.

For 1750, we use the population census (*Tabellverket*) of 1754.[88]Population censuses were proposed by the Swedish Diet of the Estates and the Royal Swedish Academy of Sciences in 1747 and the first census was taken in 1749. The census required information on the population by sex and age, births, deaths and causes of death and provided a table to show the social status of the population. The collection of data was decentralized down to parish level and then aggregated into county and national figures. The very first censuses for Stockholm lack sex and age distributions and the large garrison of soldiers and their families is missing from them.[89] However, in the census of 1754 the notary has added in the naval forces (*båtsmän*) and their families below the formalized columns and rows.[90] This census, then, divides the whole population, men, women and children, into a large number of occupations, making it possible to establish the social structure. The total population, including the naval forces and their family members, is 67,451 inhabitants[91] divided into 32 main occupational groups.

To align our results with the estimation of 1650, we aimed for the same social structure and accomplished it through merging the existing groups in the census. In this case, the burghers were not classified in the same way in the census as in the burgher lists of 1650: to complete a similar classification for 1750, we have followed the definition of the burghers given by Stadin.[92] The group 'merchants and salesmen' has been created by merging the magistracy with occupations clearly indicating merchant and sales businesses (*grosseurer, krämare, hökare,*), while the group 'artisan masters' consists of the group of artisan households (*ämbets och hantverksfolk*). However, this latter group is very small; it is replaced by a group of 'lower burghers' (Sw: *Ringare borgerskap*) where, among others, artisans outside the guild system are classified.[93] These two groups have been merged into one

[87] Jansson, *Bördor och bärkraft*, p. 108.
[88] Population census of 1754. Tabellverket, Folkmängdstabeller, E3A:1, Swedish National Archives (Riksarkivet)
[89] Carlsson, *Ståndssamhälle och ståndspersoner*.
[90] We discovered this when going through all the censuses close to 1750 but later found out that Utterström, "Stockholms folkmängd", p. 265, had in 1949 already noticed this addition made by the notary.
[91] The number is higher than the one given by Statistics Sweden – Historisk statistik för Sverige, *Del 1. Befolkning*, tab 5, p. 49 – but they are very similar if we subtract the naval forces from the census (61,766 in Statistics Sweden versus 62,111 in the census). To compare further, Palm, *Folkmängden i Sveriges socknar*, p. 317, uses the poll-tax register for 1751 and estimates the population at 63,000.
[92] Stadin, *Stånd och genus*, p. 212, as discussed above.
[93] Högberg, *Stockholms historia*, p. 279.

artisan/middle class group. Following Stadin, we have also added to this group the relatively small group of skippers.

As for the civil servants, they had not been classified in the census on the basis of income, of course; rather, they had been socially stratified. The highest strata among the civil servants appear as separate categories in the census and therefore pose no problem in aligning them in parallel with the 1650 (nobility, clergymen, persons of rank); we place the few factory owners in this group also. The remaining civil servants in the census are put into a single group (*kronotjänare*) which we have merged with the groups qualifying for the workers' group, e.g. factory workers, healthy lodgers, retired soldiers. In 1650 the journeymen in the records were largely in the class of named male servants (Sw: *dräng*), not distinct from the rest of the worker group. Accordingly, we have done the same for this group in 1750. In both 1650 and 1750 the worker group is therefore probably a little heterogeneous, consisting both of people with titles, indicating pure worker status, and groups perhaps barely above this group, e.g. journeymen and lower-ranking civil servants.

The census also classified people as sick, in hospital, poor (in or outside a poor-house), in prison or in a workhouse. All these have been merged in the poor group. Finally, there is a category for soldiers but the numbers are very small and, as said above, there is also a notation at the bottom of the form on the number of naval forces and their families; these two groups have been merged into a soldier group. The result of the classification for 1750 can be found in the right-hand columns of Table A1.

Relating this classification to other work on Stockholm for the same period, we find that our number of almost 1.9 per cent nobility is in accordance with the findings of Sten Carlsson: that the proportion of nobles was higher by far in Stockholm than in the rest of the country (his figure for 1751 is 1.72 per cent). Furthermore, he estimates the size of the higher civil and military group, excluding the nobility, as 9.9, compared with our slightly higher one of 10.7, partly due to including factory owners into this group.[94] Almqvist states that, according to a poll-tax register of 1747, 22 per cent of all households were burghers.[95] Our number is much higher but this is partly because we have integrated also other people of the middle class into this group, not restricting it to "pure" artisan masters and merchants. Söderberg et al. estimated the military population of Stockholm in 1750 at around 10 per cent, while we have 8.2 per cent for 1754.[96]

[94] Carlsson, *Ståndssamhälle och ståndspersoner*, p. 25.
[95] Almqvist, "Tillståndet i Sveriges städer", pp. 372-5.
[96] Söderberg, Jonsson and Persson, *A Stagnating Metropolis*, p. 17.

Appendix Table A1. The social structure in Stockholm 1650, 1700, and 1750 (per cent)

1650		1700		1750	
Nobility	1.9	Nobility	1.9	Nobility	1.9
Higher civil and military	6.6	Higher civil and military	8.6	Higher civil and military	10.7
Merchants	5.2	Merchants	4.3	Merchants	3.3
Artisans and middle class	24.4	Artisans and middle class	27.5	Artisans and middle class	30.6
Soldiers	10.0	Soldiers	9.1	Soldiers	8.2
Workers	48.4	Workers	45.7	Workers	42.9
Impoverished	3.5	Impoverished	2.9	Impoverished	2.4
TOTAL	100		100		100

Sources: Heckscher, *Sveriges ekonomiska historia*; Söderlund, *Stockholms hantverkarklass*; Högberg, *Stockholms historia*; Jansson, *Bördor och bärkraft*; Jansson, Palm and Söderberg, *Dagligt bröd*; Unger, *Makten och fattigdomen*; Population census of 1754 at the Swedish National Archives.

Appendix Table A2. Examples of titles in social classes from probate inventories

Class	**Example of job titles**
Nobility	*Högvälborna, Herr Direktör, Löjtnanten Välborna, Sekreterare och högvördige herr*
Higher civil and military servants	*Kyrkoherde, Sekreterare, Befallningsman, Hovkvartermästare, Assessor, Prokurator, Advokat, Bokhållare, Brukspatron, Kommissarie, Kammarskrivare*
Burghers, merchants	*Handelsman, Köpman, Borgmästare, Järnkrämare, Skeppare*
Burghers, artisans	*Skräddare, Bryggare, Glasmästare, Guldsmed, Handskmakare, Kanngjutare, Karduansmakaremästare, Kopparslagaremästare, Krögare, Perukmakare, Sadelmakare, Skomakaremästare*
Soldiers	*Båtsman, Artillerist (Fyrvärkare), Gardessoldat, Gardist, Soldat*
Workers	*Stadstjänare, Piga, Amma, Dagsverkskarl, Sågare, Järndragare, Sumpfiskare, Snickare, Murmästargesäll, Guldsmedsgesäll, Spånmakargesäll, Besökare, Visitör, Hovslagare, Timmerman, Linvävare, Sillpackare, Stadsarbetskarl, Vaktmästare, Åkare*
Impoverished	*Rasp- och spinnhusfolk, intagna i hospitaler och fattighus, eländige utom hospitaler eller fattighus, bräckligt inhysesfolk*

At the very end of this exercise, we should return to our main source for assessing the distribution of wealth: the probate inventories. These list all the assets of a family but not the assets of the hired labour within the household, i.e. the male and female servants. These latter people left their own inventories when they died. This means that for our purpose we need to extract the servants from the estimated households in the social structure and put them into the worker group. Using both the census for 1754 and the number of servants recorded in the tax register for Gothenburg in 1715, we find that the average household had 0.3 female servants and 0.12 male servants. Accordingly, we transfer these into the worker class and reach the numbers of different social classes, as displayed in Table 1 in the main text.