Land distribution in pre-industrial Luxembourg: a comparison of urban and rural areas*

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Abstract

This paper uses the land distribution derived from the Maria Theresa cadastre in Luxembourg from 1766 to compare inequality levels between Luxembourg City and Dudelange, a rural municipality in the south of the country. The Gini coefficients for the two areas show a big difference in inequality. Dudelange, with a Gini coefficient of 0.87, seems to be much more unequal than Luxembourg City that registers a Gini coefficient on land distribution of 0.53. The professions of the declarants disclose two different societies. A high variety of professions associated to declarants from Luxembourg City belongs to commercial activities, while the majority of declarants in Dudelange has a profession related to the cultivation of land. The decomposition of the Gini coefficient by category of land and the difference in the percentages of net revenues associated to the deciles of the distributions reproduce the different socio-economic structures of these two places. Luxembourg City being a commercial centre and Dudelange being a rural feudal village.

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Introduction

Wealth inequality refers to the unequal distribution of wealth among individuals. Whether unequal means unfair is still debated and the discussion is part of the political agenda now more than ever. In the last years, the Covid-19 pandemic exacerbated economic disparities and the distance between the poorest and the richest increased (Oxfam, 2022).

These data are alarming, and in the implementation of inequality reducing reforms, governments are not independent from the richest. The richest people in the world have enough money to lobby and to influence government interests to be in line with theirs and it is difficult to assure that institutions really do what is best for everyone. In this increasing inequality scenario, it is important to raise awareness among scholars and public audience, to be sure that despite the economic and social differences that exist between voters and elected politicians, all economic categories are represented in political institutions. Studying long-term inequality patterns is fundamental to understand current inequality trends.

In the last decades, researchers contributed to data collection and production of inequality measures on pre-industrial societies (Alfani et al., 2020). Some European countries have received the attention from many scholars thanks to well-preserved archival sources that allowed the study of wealth inequality in one or more communities and for one or more years or decades. For the pre-industrial era, the places studied the most were Italy, Spain and Low Countries (Alfani and Ammannati, 2017; Alfani, Di Tullio and Fochesato, 2020; Alfani and Ryckbosch, 2016; Nicolini and Ramos-Palencia, 2021; Ryckbosch, 2016). In recent years, also Germany, Sweden and Finland became part of the research agenda on wealth inequality (Alfani, Gierok and Schaff, 2020; Bengtsson et al., 2017).

Although the effort of the last decades, there are many countries that did not attract the attention from scholars. One of the main problem in doing research in this field, is the scarcity of data that additionally to be scarce, are also not harmonised. Research in collecting long-term series of data for the past societies increased in the last decades and it is important to collect as much data as possible to be able to have a global picture of wealth inequality in the long run. This problem has been debated among scholars starting from the second half of the twentieth century (Milanovic et al., 2011, Alfani and Schifano, 2021).

The study presented in this paper tries to add new knowledge on the topic throughout the analysis of wealth inequality in Luxembourg in 1766. The data used are new and collected from the archival source "Le cadastre de Marie Thérèse".[1] The information included in the land registry allow analysing inequality level in the urban area of Luxembourg City and the rural municipality of Dudelange. The paper aims at understanding how areas with different socio-economic characteristics, but exposed to the same institutions, react in terms of inequality. The data allow understanding whether the bottom of the distribution drove inequality in pre-industrial societies as conjectured by Milanovic et al.

[1] Luxembourg, Archives nationales, A-XIV Cadastre de Marie-Thérèse, 1752-1772 (Fonds)

(2007). This research should be considered as the starting point of a bigger project that wants to give a picture of inequality in the whole Luxembourg in 1766. This will help to understand how rural and urban places with the same institutional setting behaved in terms of inequality and if and how geographic position influences inequality. In addition, Luxembourg is a small country that nowadays has the highest household net wealth among the OECD countries.[2] In the past decades, the national fiscal system with respect to royalties and interest payments paid by businesses based in Luxembourg contributed to increase the wealth of the country (Tørsløv et al. 2018). Luxembourg could be used in comparison with other small countries that have a wealthy economic system; an example could be the Republic of San Marino or the Principality of Monaco. Studying the wealth distribution of these places in the past could help to understand what the key factors that promoted wealth accumulation were. The research has focused so far on big countries that have also big economic power; no one focused on small countries that were able to create wealthy economies, and this is a first step to fill in this gap in the inequality research literature.

Historical context

The death of Charles II, the last of the Spanish Habsburgs that had no children, caused the War of the Spanish Succession that lasted from 1701 until 1714 (Kreins, 2007, pages 39-68). At the end of the war, the treaty of Utrecht of 1713 and of Rastatt of 1714 assigned the control of Luxembourg to Charles VI of Habsburg that in the meantime inherited the empire from his older brother Joseph that died of smallpox. In the absence of a male heir and according to the law in force, the first in the succession line would have been the daughter of Joseph. However, Charles spent his life in assuring that his daughter, Maria Theresa, could become the sovereign of the empire at his death. In 1740, Charles VI died and Maria Theresa succeeded her father and became a reigning queen (Mahan, 1932). Luxembourg remained part of the House of Habsburg until 1795, when the French Revolution spread across the country (Hudemann-Simon, 1986).

The empress Maria Theresa tried to create a more egalitarian state, she introduced reforms aiming at reducing inequalities and she tried to condemn the practice of torture (Kreins, 2007, pages 52-53). She gave birth to sixteen children while being always involved in the political and institutional control of the reign (Mahan, 1932). Despite the wars that constantly affected her Empire, Maria Theresa tried to create a more egalitarian state where welfare was central in reforms. It is in this context that the Maria Theresa cadastre was introduced. The cadastre aimed at increasing the fiscal burden for the richest part of the population, including the clergy and the nobility, and at decreasing it for the poorest. In addition to finance wars, the tax paid by the citizens were used by the Queen to introduce state schools over the Habsburg domains, wherever she could, and a health care system (Mahan, 1932).

The period of reforms that started with Maria Theresa aimed at increasing and supporting the industrial and agricultural production and at protecting private ownership of land (Trausch, 1993, pp.

[2] See: https://stats.oecd.org/Index.aspx?DataSetCode=BLI

35). However, the government intention to protect the poorest is visible in the contrasts that originated between the State and the feudal lords with respect to the practice to ask more work and resources to the peasants. The nobility and the clergy also opposed to the introduction of the *dénombrement* of 1766 that in addition to recalculate the fiscal distribution according to the family units populating the country, it did not exempt the upper classes from paying the taxes that were until that moment on the shoulders of peasants, farmers and artisans.

Citizens were divided into social groups with different functions and roles. Villages, clergy, nobility, guilds and officials were part of a system. Each group had its own rights, privileges or duties and they contributed to the social and economic equilibrium of the country. More generally, the representatives of the nobility, the clergy and the third estate, formed *les État Provinciaux*, which was responsible for voting the distribution of taxes, subsides and state aids. Despite the third estate represented 98 per cent of the population, the representatives were elected among the bourgeoisies and the officers and not among peasants and farmers.

Therefore, the peasants and the poorest were not represented and the distribution of taxes was unfair thus, the *Marie Thérèse cadastre* intervened to introduce a more egalitarian tax distribution system (Trausch, 1993, pp. 84).

The status of noble was inherited or attributed directly by the sovereign; a last opportunity to become noble was to be the president of the county council. In this last case, the status could not be passed to the offspring. The nobles could not work if they wanted to maintain their social status and titles, although some exceptions were allowed. The *Siège de Nobles* was the institution grouping together the nobility. During the eighteenth century, to avoid mixing with the new rich, namely the bourgeoisie, the *Siège de Nobles* refused the admission of the ones that were not able to demonstrate the status of noble of the four grand-parents. The secular clergy was endowed with strong power and their status relies on the fiscal revenues such as the dime, shared with the feudal lords, or the *casuel* received by the priest after officiating marriages or baptisms. The bourgeoisie that represented the third estate, was very limited in numbers since it represented the free citizens living in free cities or villages. However, Luxembourg was still a feudal country and only Luxembourg City could be considered as a free, economically and commercially autonomous city. Luxembourg was poor in commercial roads that could connect the country with Belgium and Germany and only with Maria Theresa the road, connecting Luxembourg City with Trier and Brussels was built. The bourgeoisie includes the *échevins*, lawyers, notaries, and craftsmen. All the rest of the population fell into the peasant category or fourth estate. This last category was not politically represented since it was supposed to be indirectly represented by the owners of the place where they lived, which were nobles or part or the clergy. Indeed, in the eighteenth century only 30 per cent of the population lived in a city or a village that was free, the remaining 70 per cent lived in feudal lordships. The system relied on impartible farms that were transmitted from father to son. The land and the tools to cultivate it could not be shared among the children, only the livestock and furniture could be partly partitioned. In this context, the heir could not impose the other members of the family to leave the farm and they

could either live within the same household or move in another dwelling that surfaces in the same land of the farm (Atten, 1989).

Luxembourg at the time of the theresian cadastre was overall a rural country, not well connected with the neighbours France, Belgium and Germany. The roads were not paved until the end of the eighteenth century and the Ardennes created a natural barrier to access the country. The isolation of the country resulted in very high costs and time to import goods and food (Trausch, 1993). The production of food in Luxembourg was not abundant and its productivity was low. The most common cultivation was wheat while potatoes started to become popular only in the mid eighteenth century. In the cadastre, the cultivable land is split in arable land and *terre sartable*. The arable land represents the land that is most appropriate to be cultivated according to a three seasons rotational system. During the year, the land was left uncultivated for one season, in the other two seasons it was cultivated with either winter or summer crops. The *terres sartables* were cultivated only once in 20 years because of very poor quality.

In this very rural context, the other economic activities that had an important role in the economy of the country were related to the steel industry and the textile. At the time of the *Marie Thérèse cadastre*, the richest person in the city of Luxembourg was known to be Nicolas Loutz, a tanner. This is reported in Sprunck (1980, pp. 94) and confirmed by the cadastre (see Appendix table A1). The development of the steel industry was related to the availability of charcoal, water and minerals. Because of the economic importance of this sector, Charles VI allowed the nobility to open furnaces without losing their titles in 1736 (Atten, 1989). In Dudelange, the steel factory was built only in the second half of the nineteenth century, at the time of the cadastre it was not an industrial pole.

Data

Luxembourg at the time of the introduction of the cadastre and until 1795 was part of the House of Habsburg-Lorraine. The Maria Theresa cadastre in Luxembourg is the sum of individual declarations done by the owners or the users of the land in the municipality where the land was. The first article of the law of the 12 of March 1766, that introduced the Maria Theresa cadastre, reads:

«Nous ordonnons à tous propriétaires, possesseurs ou défructuateurs de bienfonds ou immeubles quelconques, situe dans nos Pays Duché du Luxembourg et Compté de Chini, de quelque état ou condition qu'ils puissent être, sans nulle exception, Ecclésiastiques, Nobles ou Routiers, domicilies ou forains, privilégiés ou non privilégiés, ainsi qu'a tous Corps Collèges ou Communautés Ecclésiastiques ou Laïque, de remettre sans faute... une déclaration par écrit pertinente et spécifique... de tous biens-fonds ou immeubles... et généralement tout fond raportant fruit ou utilité quelconque... prestations ou Droits quelconques dont il résulte quelqu'utilité, profit, raport ou revenu… ».[3]

[3] Luxembourg, Archives nationales, B-0103 Cadastre de 1766 - Lois et instructions sur le nouveau cadastre, 1227-1238 (Dossier), Placcard concernant le rapport et l'estimation générale de tous les biens fonds de nos Pays, Duché de Luxembourg et Compté de Chiny, du 12 Mars 1766, Art. 4.

The law clearly stated that the tax on properties had to be paid by owners and users with no difference among the nobility, clergy and the rest of the population. This reform aimed from the one hand at collecting more taxes to finance the wars and on the other hand at creating a more egalitarian state.

The declarations of the 1766 cadastre are self-reported and they do not rely on real measurements done by professionals. The law clearly stated that if someone was reported to the authorities to have declared less than what really owned or used, would have lost the net revenues associated to the part that was not declared. The net revenues of this part would have been shared, in half, between the State and the person who correctly reported the fraudulent declarant. Despite this pair control system, historians estimated that a quarter of the land surface of the country was missing from the declarations (Thewes, 2008, pag. 350). Since the declarations where not based on real measurement, it is probable that this is the result of an imprecise knowledge of the real surface owned or used. Although the cadastre is imperfect, it represents a valuable and reliable source to study inequality in the 1766.

The Luxembourgish theresian cadastre of 1766 that is available in the national archive of Luxembourg is the sum of 28,000 individual declarations organised in 48 different *hauts-commands*, which were divided in different *justices*. The declarations were to be filled and provided to the *justice* where the land or the real estate was. The national archive of Luxembourg collected and digitalised them in microfilms, which are publicly available. Within each microfilm, the declarations are organised in *liasse*, so that the declarations of the same *justice* are grouped together. It is worth to note that the declarations are ordered such that the richest individuals appear first in the microfilms. The cadastre includes also some summary tables showing the total of net revenues and surface of land owned or used by each declarants. The individual declarations report the revenues and the net revenues (that represent the 4 per cent of the revenues) associated to each category of land or real estate. The declarations are based on a pre-filled form sent by the central government to Luxembourg and the tables are divided in different sections. Each declaration starts with the details related to the district where the *biens fond*s were and after this, we can find the name, surname, profession and place of residence of the declarant. The declaration table continues with the list of the property to declare arranged in different sections and categories. The first section groups seven categories of land. These categories are arable land, gardens, forests, vineyards, meadows, enclosures, ponds, pastures and wasteland. The second section in the tables is the *batiments*, which includes real estate such as houses. The last section is called *droits et prestations* that are fees paid to the owners to use or cultivate the land or to rent a building. We are still in a feudal system based on the payment of fees to the clergy and to the nobles. The different categories of fees reported are the tithe, cense and rents, *banalités* (a tax to pay to use the facilities of the owner such as mills and ovens), the *terrage* (the right for the feudal lord to keep part of the harvest) and other feudal taxes not included in the previous categories (Hudemann-Simon, 1985). When the declarant was not the one receiving the *droits et prestations* but the one paying them, this amount was subtracted from the sum of the revenues to obtain the total. Each declaration ends with the total revenues left after the payment or the reception of the feudal burdens.

This paper focuses on the *hauts-command* of the *Ville de Luxembourg* and of the *Seigneurie Mont Saint Jean* that corresponds to the municipality of Dudelange.

For Luxembourg City, there are 1,119 declarations, after summing together the declarations made from the same individual, I obtain 1,071 declarations; after I exclude the institutions and groups, I obtain 1,045 individual observations. In Luxembourg City, 16 per cent of the declarants are female. For Dudelange, the original number of declarations is 273, after merging the declarations that share the same name (3 cases), and excluding the declarations related to the church of Ottange, the abbey of Marienthal, the church and the commune of Dudelange, I have 266 observations and only 10 per cent of declarants are female. The monetary unit used to fill in the declarations is not always the same. In Dudelange, declarants use deniers, sols (one corresponds to 12 deniers), escalins (one is made of 7 sols) and écu (one is made of 8 escalins). The declarations for Luxembourg City are mostly in deniers, sols and florins; this last is made of 20 sols. For comparability reasons, I converted the total net revenues in écu.

The profession is available in around 70 per cent of the declarations. The most common professions in Luxembourg City are *journalier*, *marchand* and *bourgeois*, while in Dudelange there is an overrepresentation of *journaliers* and *labourers*. This reflects of course the economy of the two municipalities, one being an urban centre and the other one being a feudal rural place.

The declaration had to be filled in also by congregations, religious institutions such as abbeys, churches and convents, and administrative entities such as municipalities and hospitals. These entities are excluded from the current analysis since the scope of the paper is to analyse inequality at the individual level.

More than 90 per cent of the declarants were resident in Luxembourg. This percentage is stable also in Dudelange, despite the fact that Dudelange, contrary to Luxembourg City, borders with France. In terms of origin, in both places more or less half of the declarants have a surname with French origin while the other half have a German origin's surname.

Data Analysis

The first question that I wanted to address is if Luxembourg City and Dudelange have different per capita total net revenues. Luxembourg City was the capital and economic centre of the country while Dudelange was a feudal seigneury based on agriculture. The average total net revenues in the two places are 23.1 and 17.2 écu respectively. Average total net revenues associated with land and real estates are not so different among urban and rural places in Luxembourg. However, the main question is whether net revenues are equally distributed among declarants and if the potential productivity of the land and of real estates are enough to assure the same standards of living in the two municipalities. Figure 1 presents two very different distributions. The total net revenues distribution for the city of Luxembourg is more normally distributed while the distribution for Dudelange is more skewed to the

right, meaning that there are many people having very low total net revenues and very few people owning high total net revenues.

The professions of the richest declarants already help the interpretation of these results. By selecting the top 5 per cent of the distributions, the profession associated with these people in Luxembourg are baron, pharmacist, lawyer, banker, count, shoemaker, trader, master, notary, priest, blacksmith, food steward, merchant, innkeeper, butcher, brewer, haberdasher, miller, tanner, glazier or inspector. In Dudelange, the ones in the top 5 per cent of the distribution are countess, peasant, trader, widow and council member. The two distributions share the Chanclos family among the richest 5 per cent, this family was resident in Brussels and was the owner of part of the seigneury of Dudelange. This family is also the richest in absolute terms if we consider the declarations filled in both municipalities.

The total net revenues of the Chanclos are more than three times the ones declared by François-Albert de Boland, the second richest person and owner of the rest of the seigneury of Dudelange, and more than eight times the revenues declared by the third richest person that is a merchant resident in Luxembourg City. Dudelange is the picture of the feudal system where the society revolves around the figure of the feudal lords, while Luxembourg City presents a complete different picture, based on second sector activities that created the base for the development of the bourgeoisie. Table A1 in the appendix shows the details of the richest top 2 per cent for both places.

The descriptive statistics presented in Table 1 show the distributions of net revenues associated with different categories of land and other revenues for the two municipalities under study. For Dudelange, the net revenues are associated mainly to arable land, gardens and meadows, as expected from its rural nature. For Luxembourg City, the most common categories are buildings and rights, and gardens. The hypothesis is that the owners of second sector activities work in buildings that they owned or rented. In the last case, they generated a charge for themselves and a right to the real owner of the building where their business was.

Inequality analysis

Figure1 shows that the two distributions of total net revenues are very different, despite the source used is the same as well as the year under study for the two municipalities. This difference is confirmed by the Lorenz curves and the Gini coefficients. The Lorenz curves in Figure 2 show that inequality is lower in Luxembourg City and that in Dudelange the high number of declarants reporting total net revenues of zero leads this trend. The people on the left hand side of the Dudelange distribution have actually net revenues that were lower than the charges that they had to pay to the feudal lord. These represent around 16.5 per cent of the total number of declarants. It is worth to note that in Luxembourg City, we have very few declarants that have charges higher than the revenues, thus total net revenues are almost always greater than zero and the Lorenz Curve starts to outdistance the *x-axis* from the very beginning. For Luxembourg City the Gini is 0.53 while for Dudelange is 0.87.

This confirms the political and economic differences of the two places considering that only Luxembourg City was a free city while Dudelange was a fief. For Dudelange, the Lorenz Curve lies on the *x-axis* for the bottom 40 per cent of the distribution, thus inequality is driven by the property-less declarants.

This finding also suggests that almost everyone that had a property or a business in the city was able to have some positive revenues, contrary to what happened in Dudelange.

To understand better what are the main sources of inequality among the categories of revenues reported in the cadastre, Table 2 and Table 3 show the inequality decomposition by factor components.[4] In light of the summary statistics, the focus is on the categories that were filled the most in both places.

In Luxembourg, the total Gini is very similar to the one related to buildings and rights, while in Dudelange arable lands have a Gini coefficient of 0.76. It seems that the total Gini increases because of the buildings and rights, since the analysis includes the two families owners of the fiefs and receiving also all the rents paid by the peasants. Charges are paid, in percentage, by more declarants in Luxembourg City than Dudelange where they are less egalitarian. There are different hypothesis on why the Gini coefficient for Luxembourg City is smaller than in Dudelange. There could be a self-selection of people living in the city. This means that there is a higher probability that the declarants living in Luxembourg City owned the land or building that is reported in the declaration instead of being simply users. Another explanation for a low Gini coefficient in Luxembourg City is that the cadastre does not include people that worked for someone else and that did not have their own house and lived in the shops where they worked or the owner of the shop provided them a place to stay. In this last case, the Gini coefficient would be downward biased with respect to Dudelange where the property-less had to rent the land and cultivate it to survive. This second hypothesis seems to be the most probable since the number of declarations for Luxembourg City is lower than what expected considering the population of the city in 1766.

To check for this, I replicated the Gini coefficient after adding the property-less individuals that did not fill in the declaration and are thus missing from the analysis. Considering that the population of Luxembourg City in 1765 was of 8,500 inhabitants (Atten, 1989, pp.31) and according to the *dénombrement* the family multiplier was between four and five, while only for the nobles it was of 3.5 (Hudemann-Simon, 1986), the *Marie Thérèse Cadastre* should cover around 1,900 declarations. The individual declarations that I recorded from the cadastre are 1,045. When the property-less are added to the analysis, the Gini coefficient rises to 0.73. Even if I take into account the different social and economic structure between Luxembourg City and Dudelange, adding the property-less that in the city do not work the land and are free, inequality in the city remains lower. If it is true the assumption that these people are missing from the cadastre because they were working for someone

[4] Stata command used is *sgini* by Van Kerm, P. (2009)

else, then they were better off than the declarants in Dudelange that had to pay a fee to live and work the land in the fief.

Whatever the explanation for this low inequality, Luxembourg in 1766 seems to be more developed than Dudelange a decade before the industrial revolution took place since in 1872 the municipality registered a Gini coefficient of 0.69 (Schifano and Paccoud, 2022). In addition, if I exclude de Chanclos from the analysis, the Gini coefficient of Dudelange is 0.76 and if I exclude both the Chanclos and the Boland and the ones that are not resident in Dudelange, the Gini becomes 0.72, while this exercise for Luxembourg City leaves the Gini coefficient almost unchanged. This shows that the left of the distribution, more than the right, drives inequality in the rural place as Figure 1 predicted.

Table 4 shows how much wealth, in percentage with respect to the total, is owned by each decile of the distribution. In the city of Luxembourg, the percentage of wealth owned grows gradually from a decile to the next. In Dudelange, the ninth decile owns 13.6 per cent of the total wealth, and the tenth decile owns 74.3 per cent of wealth, of this, 48 per cent is owned by the top 1 per cent of the distribution.

Since Luxembourg borders with France and Germany, and the residence of the declarants is mostly in Luxembourg, the origin of the surnames could be used to differentiate between people that have French or German origins. German and French surnames are almost equally distributed in the sample for Luxembourg City and Dudelange, despite this borders with France. The average net wealth for the two groups is completely different for Dudelange, where of course the countess De Boland influences disproportionally the measure. In Luxembourg City, the average net wealth is almost equally distributed between the two groups. Overall, both groups in both places perfectly replicate the difference in the Gini coefficients mentioned above.

Since the profession of the declarants is available for 68 per cent of the declarations, tables 6 and 7 report the number of observations, the average net wealth (ANW) and the percentage of declarants in each professional category (according to the HISCO scheme) with respect to the total, by place of analysis. Looking at the full distribution, the nobility is the class with the highest average net wealth in both places.

After splitting the distribution, among the richest categories in the bottom 50 per cent of the distribution there are workers in the secondary sector and that provide services to the community. In Dudelange, there are the government executive workers (one of them is also among the top 10 per cent) while for Luxembourg City apart from the metalworkers, there are the masters, that follow the “2-2 Supervisors, Foremen and Inspectors” category and after them all the workers in the commercial sector. The average net wealth for the bottom 50 per cent of the distribution in Dudelange is 2.7 écu while in Luxembourg City it is of 4.3 and the differences between the richest category and the following ones is gradual and more or less constant, apart from the 1.3 écu difference between the richest and the second richest category. For Dudelange, the difference between the first two categories is of 4.9 écu, and this trend is confirmed in all the other parts of the distribution presented in the two

tables. For the top 10 per cent in Luxembourg City there are again sales workers, masters, lawyers and then there are religious workers and nobles, while a noble occupies the first position for the top 10 per cent in Dudelange. This applies also to the top 5 percent and 1 per cent.

The availability of the professions and the knowledge of the family multipliers in Luxembourg City and Dudelange in 1766, allow the computation of the equalised Gini coefficient. The unit of measure of the declarations is the household; the equalised Gini allows computing wealth inequality at the individual level. For Dudelange, I relied on Pauly (2014) to compute the family multiplier based on the real number of children of the declarants.

For the municipality of Dudelange the family multiplier is almost 6 while for Luxembourg City it was between 4 and 5, with the exception of the nobles for which the family multiplier was one point smaller (Hudemann-Simon, 1985).

To generate the correct number of individuals (adults and children) living in the same household, I computed the average number of children by profession for the municipality of Dudelange and I attributed this to everyone declaring the same profession in Luxembourg City and in Dudelange. Since some professions were not associated to any number of children, I proceeded to compute the average number of children by professional categories according to the HISCO major and minor group of 1 or 2 numbers code, starting from the most detailed to the least detailed classification. Nobles and all the rest had a multiplier of 3.5 so that the average family multiplier mirrored the documented one. After this, the database has around 5,800 observations and the Gini coefficients of Luxembourg City and Dudelange are 0.55 and 0.82 respectively. If I also add the property-less declarants in Luxembourg City, that as supposed above may be missing in the cadastre, the Gini coefficient for Luxembourg City rises to 0.69 and the number of observations is 8,493 reflecting the population of Luxembourg City in 1766.

Table 8 shows that going from the household level to an estimated individual level Gini for the original sample, would reduce the inequality distance between Luxembourg City and Dudelange, being this last one much less egalitarian. For the estimated full population sample, that includes the estimated property-less declarants in Luxembourg City, there is not much difference between the household level and the equalised Gini, being the individual one more reliable and egalitarian.

Conclusions

In this paper, I analysed wealth distribution in Dudelange, a municipality in the south of Luxembourg, and Luxembourg City, the capital of the Grand Duchy. The possibility to use the same source, the Maria Theresa cadastre of 1766, in both places, allows a comparative analysis in addition to an estimation of inequality in both places. This study shows that inequality is much smaller in the city than in the rural Dudelange that is completely absorbed by the feudal system that was in force at the time of the cadastre as suggested by the fact that the two richest declarants are also the owners of the seigneury. In Dudelange, the high number of property-less drives the Lorenz curve since it follows

the *x-axis* for the poorer 40 per cent of the distribution and it clearly reflects this into the Gini coefficient. In Luxembourg City, very few property-less declarants appear in the cadastre while most of them probably simply did not fill in the declarations. The estimated number of property-less for Luxembourg City is more or less 4,800 and the equalised Gini coefficient remains smaller than in Dudelange even when they are included in the analysis.

The paper also allows comparing these two places in terms of economic activities. The professions of the declarants disclose two different societies. Luxembourg City shows a variety of jobs that are typical of cities, where people outsource some activities, such as the production of bread that in a rural place people probably produced at home. A high variety of professions in Luxembourg City belongs to commercial activities, while the majority of declarants in Dudelange has a profession related to the cultivation of the land. The urban place has a higher average net wealth per capita, in addition to lower inequality, than the rural counterpart. The average net wealth per professional category reveal that Luxembourg City had a higher average net wealth for the bottom 50 per cent of the distribution than Dudelange. This is reversed when the analysis moves to the richest ones in the top 10, 5, and 1 per cent.

The identification of the origin of surnames of declarants informs us that half of them share a French surname and other half a German surname. In addition, the fact that the percentage of declarants resident abroad is very low for both Luxembourg City and Dudelange (that borders with France), confirms that the cadastre of Maria Theresa used on the entire country, could give a real picture of inequality in Luxembourg in the pre-industrial time.

Archival Sources

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Tables and Figures

Figure 1 and distribution in Dudelange and Luxembourg City in 1766 (IHS transformation)

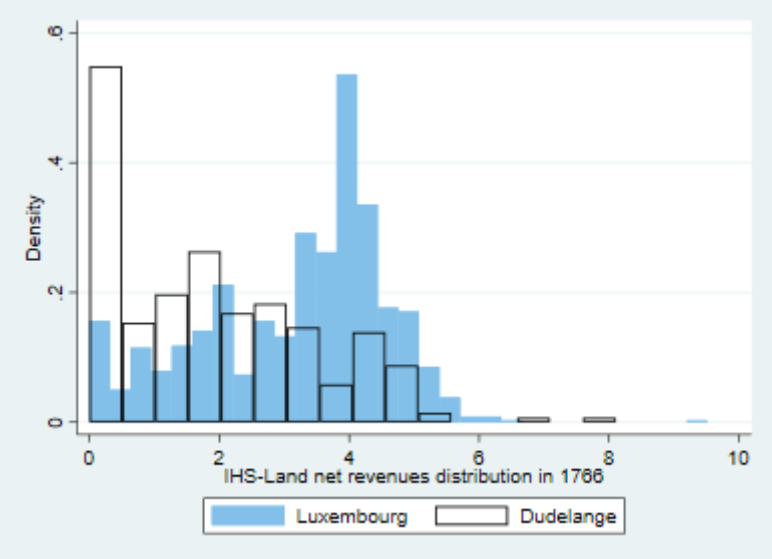

Figure 2 Lorenz Curve for Luxembourg City and Dudelange 1766

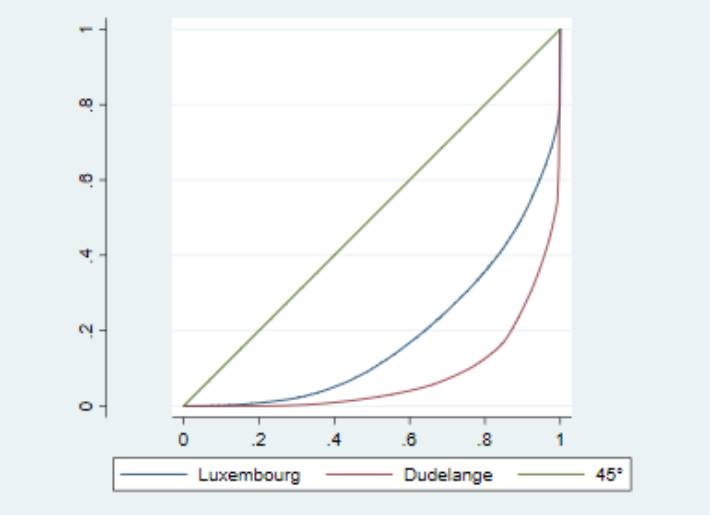

Table 1 Descriptive Statistics Net revenues by land category (no zeros)

Variable	Obs		Mean		Std. Dev.		Min		Max	
	Lux City	Dudelange	Lux City	Dudelange	Lux City	Dudelange	Lux City	Dudelange	Lux City	Dudelange
Buildings and Rights	941	16	37.1	131.1	38.3	382.0	0.1	0.3	287.5	1513.0
Forest	27	2	0.5	43.6	1.2	0.0	0.0	43.6	5.9	43.6
Charges	951	172	12.6	6.3	15.0	16.5	0.0	0.1	98.6	168.4
Intermittent arable land	45		0.4		0.8		0.0		4.1	
Vineyards	6		0.6		0.8		0.1		2.2	
Ponds	1		0.2		.		0.2		0.2	

Uncultivated land	2		0.8		0.3		0.6		1.1	
Enclosures	23	20	1.0	2.2	1.2	1.6	0.0	0.2	4.1	5.4
Gardens	479	187	1.2	0.7	2.0	1.1	0.0	0.0	22.0	10.1
Arable land	68	197	7.3	7.8	12.8	13.6	0.0	0.1	65.5	116.8
Pastures	1	2	0.0	0.4	.	0.3	0.0	0.2	0.0	0.6
Meadows	46	188	2.1	8.9	4.3	14.1	0.0	0.1	24.0	103.5
Total (with zeros)	1045	266								

Table 2 Inequality decomposition by factor components (Lerman & Yitzhaki, 1985): Luxembourg City

Variable	**Share s**	**Coeff. g**	**Corr. r**	**Conc. c=g*r**	**Contri. s*g*r**	**%Contri. s*g*r/G**	**Elasticity s*g*r/G-s**
Buildings and rights	1.45	0.57	0.98	0.55	0.80	1.50	0.06
Charges	-0.50	-0.62	-0.89	0.55	-0.28	-0.52	-0.02
Arable land	0.02	0.98	0.38	0.37	0.01	0.01	-0.01
Others	0.03	0.85	-0.02	-0.01	0.00	0.00	-0.03
TOTAL	1.0	0.53	1.0	0.53	0.53	1.0	0.0

Note: Institutions and groups excluded.

Table 3 Inequality decomposition by factor components (Lerman & Yitzhaki, 1985): Dudelange

	Share s	**Coeff. g**	**Corr. r**	**Conc. c=g*r**	**Contri. s*g*r**	**%Contri. s*g*r/G**	**Elasticity s*g*r/G-s**
Buildings and rights	0.47	0.99	0.98	0.98	0.46	0.52	0.06
Charges	-0.24	-0.78	-0.66	0.52	-0.12	-0.14	0.10
Arable land	0.34	0.76	0.92	0.70	0.24	0.27	-0.07
Others	0.43	0.74	0.94	0.69	0.30	0.34	-0.09
TOTAL	1.00	0.87	1.00	0.87	0.87	1.00	0.00

Note: Institutions and groups excluded.

Table 4 Distribution of land in Luxembourg and Dudelange. deciles and top percentages

	D1	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**D10**	**0-95**	**95-100**	**0-99**	**99-100**
Luxembourg	0.2	0.9	1.7	3.8	6.2	9.1	11.2	13.6	18.5	34.8	79.0	21.0	94.1	5.9
Dudelange	0	0	0.2	0.7	1.2	1.9	3.1	5.5	13.0	74.3	37.5	62.5	52.0	48.0

Table 5 Average net wealth (ANW) and Gini coefficients by surname origin

Hautscommands	Origin of surname	Obs	ANW	Gini
Mont St Jean (Dudelange)	French	146	24.95	0.87
	German	120	7.68	0.70
Mont St Jean (Dudelange) Total		266	17.16	
Luxembourg City	French	463	25.69	0.49
	German	581	21.09	0.55
	n.a.	1	24.17	
Luxembourg City total		1045	23.13	
Grand Total		1311	21.92	

Table 6 Distribution of total net revenues by profession in Luxembourg City (1766)

Hautscommands	All			1-50%			Top 10%			Top 5%			Top 1%		
Ville de Luxembourg HISCO class	Obs	ANW	%	Obs	ANW	%	Obs	ANW	%	Obs	ANW	%	Obs	ANW	%
(-) 2 bourgeois	76	13.5	7%	48	5.1	11%	1	55.6	1%						
(-)1 Nobility	20	56.2	2%	3	3.9	1%	11	87.2	9%	7	102.5	12%	2	132.7	18%
0-6/0-7 Medical, Dental, Veterinary and Related Workers	7	44.0	1%				2	74.9	2%	1	89.9	2%			
1-2 Jurists	21	51.8	2%	3	4.3	1%	8	94.6	7%	6	105.8	10%	3	122.8	27%
1-4 Workers in Religion	19	18.0	2%	14	3.3	3%	2	90.3	2%	1	123.8	2%	1	123.8	9%
2-0 Legislative Officials and Government Administrators	5	21.1	0%	2	0.3	0%									
2-1 Managers	1	12.2	0%												
2-2 Supervisors, Foremen and Inspectors	52	26.1	5%	12	6.9	3%	5	78.3	4%	2	99.8	3%	1	117.6	9%
3-1 Government Executive Officials	22	40.0	2%				6	65.0	5%	2	77.3	3%			
3-9 Clerical and Related Workers Not Elsewhere Classified	3	32.6	0%												
4-1 Working Proprietors (Wholesale and Retail Trade)	1	0.3	0%	1	0.3	0%									
4-5 Salesmen, Shop Assistants and Related Workers	91	42.6	9%	8	5.7	2%	25	80.4	22%	15	94.3	25%	2	159.3	18%
5-1 Working Proprietors (Catering, Lodging and Leisure Services)	8	36.9	1%	1	3.1	0%	2	71.3	2%	1	78.9	2%			

5-4 Maids and Related Housekeeping Service Workers Not Elsewhere Classified	2	11.8	0%	1	3.6	0%										
5-7 Hairdressers, Barbers, Beauticians and Related Workers	6	29.9	1%	1	0.4	0%	1	69.9	1%							
5-8 Protective Service Workers	13	25.0	1%	4	3.1	1%	1	64.9	1%							
5-9 Service Workers Not Elsewhere Classified	2	15.0	0%	1	0.1	0%										
6-1 Farmers	21	10.2	2%	14	3.7	3%										
6-2 Agricultural and Animal Husbandry Workers	16	3.7	2%	15	2.7	3%										
6-3 Forestry Workers	2	1.7	0%	2	1.7	0%										
7-2 Metal Processors	6	26.2	1%	2	8.2	0%	1	61.3	1%							
7-5 Spinners, Weavers, Knitters, Dyers and Related Workers	26	17.1	2%	12	5.8	3%	2	50.4	2%							
7-6 Tanners, Fellmongers and Pelt Dressers	17	27.4	2%				2	67.0	2%	1	75.5	2%				
7-7 Food and Beverage Processors	62	31.7	6%	18	4.6	4%	12	77.8	10%	7	88.5	12%	1	133.4	9%	
7-9 Tailors, Dressmakers, Sewers, Upholsterers and Related Workers	20	22.2	2%	6	6.6	1%	1	92.8	1%	1	92.8	2%				
8-0 Shoemakers and Leather Goods Makers	2	27.4	0%													
8-1 Cabinetmakers and Related Woodworkers	42	18.0	4%	17	4.1	4%	1	107.2	1%	1	107.2	2%				
8-3 Blacksmiths, Toolmakers and Machine Tool Operators	17	13.9	2%	8	4.5	2%										
8-7 Plumbers, Welders, Sheet Metal and Structural Metal Preparers and Erectors	2	30.1	0%													
9-2 Printers and Related Workers	1	52.7	0%				1	52.7	1%							
9-3 Painters	1	2.0	0%	1	2.0	0%										
9-4 Production and Related Workers Not	1	22.9	0%													

Elsewhere Classified															
9-5 Bricklayers, Carpenters and Other Construction Workers	38	19.6	4%	17	5.8	4%	2	74.0	2%	1	79.8	2%			
9-8 Transport Equipment Operators	2	15.8	0%												
9-9 Labourers Not Elsewhere Classified	68	5.7	7%	63	4.1	14%									
n.a.	3	22.9	0%	1	0.2	0%									
(blank)	349	19.8	33%	171	4.0	38%	30	73.5	26%	13	89.3	22%	1	155.3	9%
total	**1,045**	**23.1**	**100%**	**446**	**4.3**	**100%**	**116**	**77.7**	**100%**	**59**	**94.1**	**100%**	**11**	**134.8**	**100%**

Note(s): This table is the result of the profession reported in the *cadastre* codified using the HISCO class system (https://historyofwork.iisg.nl/index.php). See reference for more details Van Leeuwen et al. (2002) and Mandemakers et al. (2018).

Table 7 Distribution of total net revenues by profession in Dudelange (1766)

Hautscommands de Mont St Jean	**All**			**1-50%**			**Top 10%**			**Top 5%**			**Top 1%**		
HISCO class	**Obs**	**ANW**	**%**	**Obs**	**ANW**	**%**	**Obs**	**ANW**	**%**	**Obs**	**ANW**	**%**	**Obs**	**ANW**	**%**
(-)1 Nobility	2	827.9	1%	1	4.3	0%	1	1651.5	7%	1	1651.5	20%	1	1651.5	50%
1-2 Jurists	2	18.2	1%	1	4.8	0%									
1-3 Teachers	1	1.3	0%	1	1.3	0%									
1-4 Workers in Religion	7	10.3	3%	4	3.3	2%									
2-2 Supervisors, Foremen and Inspectors	1	0.1	0%	1	0.1	0%									
3-1 Government Executive Officials	3	23.6	1%	2	10.0	1%	1	50.9	7%						
3-9 Clerical and Related Workers Not Elsewhere Classified	1	35.9	0%												
4-5 Salesmen, Shop Assistants and Related Workers	3	29.1	1%	1	0.8	0%	1	70.0	7%						
5-1 Working Proprietors (Catering, Lodging and Leisure Services)	2	1.3	1%	2	1.3	1%									
5-8 Protective Service Workers	3	4.9	1%	3	4.9	1%									
6-1 Farmers	67	17.4	25%	40	3.0	19%	7	66.4	50%	3	83.0	60%			
6-2 Agricultural and Animal	2	0.3	1%	2	0.3	1%									

Husbandry Workers															
7-3 Wood Preparation Workers and Paper Makers	1	0.0	0%	1	0.0	0%									
7-5 Spinners, Weavers, Knitters, Dyers and Related Workers	17	3.7	6%	17	3.7	8%									
7-6 Tanners, Fellmongers and Pelt Dressers	1	3.4	0%	1	3.4	0%									
7-7 Food and Beverage Processors	5	9.9	2%	4	2.9	2%									
7-9 Tailors, Dressmakers, Sewers, Upholsterers and Related Workers	13	4.1	5%	12	3.0	6%									
8-0 Shoemakers and Leather Goods Makers	8	2.6	3%	8	2.6	4%									
8-1 Cabinetmakers and Related Woodworkers	6	9.5	2%	5	5.1	2%									
8-3 Blacksmiths, Toolmakers and Machine Tool Operators	7	7.0	3%	6	4.0	3%									
9-5 Bricklayers, Carpenters and Other Construction Workers	10	2.7	4%	10	2.7	5%									
9-9 Workers Not Elsewhere Classified	43	2.4	16%	42	2.1	20%									
n.a.	5	2.4	2%	4	0.0	2%									
(blank)	56	17.6	21%	43	1.8	20%	4	162.8	29%	1	476.1	20%	1	476.1	50%
total	**266**	**17.2**	**100%**	**211**	**2.7**	**100%**	**14**	**206.3**	**100%**	**5**	**475.3**	**100%**	**2**	**1063.8**	**100%**

Note(s): This table is the result of the profession reported in the *cadastre* codified using the HISCO class system (https://historyofwork.iisg.nl/index.php). See reference for more details Van Leeuwen et al. (2002) and Mandemakers et al. (2018).

Table 8 Different Gini coefficients and samples

	Original Sample		Estimated full population		Original Sample		Estimated full population	
	Obs	**Gini**	**Obs**	**Gini**	**Obs**	**Equalised Gini**	**Obs**	**Equalised Gini**
Luxembourg City	1,045	0.53	1,797	0.73	5,861	0.55	8,493	0.69
Dudelange	266	0.84	266	0.84	1,921	0.82	1,921	0.82

Appendix

Table A1 Top 2 per cent richest

Declarant	Justice	Profession	Total net revenues
Chanclos (de)	Dudelange	Comtesse Maréchale	1652
Boland (de) François-Albert	Dudelange		475
Paulus Nicolas	Dudelange	Laboureur	94
Barthels Nicolas	Dudelange	Laboureur	79
Schmit Nicolas	Dudelange	Laboureur	77
Loutz Nicolas	Lux city	Négociant	191
Lanser (de) Jean-Henri	Lux city		155
Chanclos (de)	Lux city	Comtesse Maréchale	135
Remy Nicolas	Lux city	Boulangèr	133
Lefèbre (de)	Lux city	Baron	130
Eyden Jean-Baptiste	Lux city	Avocat	128
Braska Catherine	Lux city	Marchand	128
Eydt Joseph	Lux city	Prêtre	124
Terweich François	Lux city	Avocat	124
Schmit Jean-Nicolas	Lux city	Maître	118
Heuschling Antoine-Hubert	Lux city	Notaire	117
Wurmelding Marie	Lux city	Notaire	115
Jardin André-Christophe (de)	Lux city	Seigneur De Bernabrück	113
Olinger Mathias	Lux city	Cordonnier	107
Didenhoven Antoine	Lux city	Boucher	107
Deleau Marie et Thérèse	Lux city		106
Roehr Jean, les héritiers	Lux city		100
Soleuvre (de) (les cohéritiers)	Lux city	Baron	99
Serwais Jean	Lux city	Marchand	99
Georges Mathias	Lux city	Marchand	95
Rinck Jacques	Lux city	Marchand	95