QUADERNI DELLA SOCIETÀ LIGURE DI STORIA PATRIA

13

Per Giuseppe Felloni ricercatore e maestro.

Memorie e scritti di storia economica

a cura di
Andrea Zanini

GENOVA
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Collana diretta da Stefano Gardini

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Income and inequality in a pre-industrial economy: Genoa at the end of the golden century

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1. *An historical framework: the city at the sunset of the golden age*

The last decades of the sixteenth century and the early ones of the seventeenth century were years of ferment for Genoa and the Genoese. Strategic in Spanish geo-political diplomacy, at the beginning of the sixteenth century the Republic gave up having an autonomous foreign policy to gradually reap the benefits of the protection of its powerful ally, with the return of Corsica – through the peace of Cateau Cambresis in 1559 – and the preservation of its internal independence and the integrity of the local domains. Entrusted to a college of foreign diplomats to pacify the old and new nobility, the constitutional reform of 1576 abolished any form of citizenship division into orders, parties or factions. In continuity with 1528 reforms, the *Leges Novae* reaffirmed the principle of absolute autonomy and sovereignty of the state with respect to any other subject, public or private [1].While the constitutional reor-

* This essay is part of a larger work of forthcoming publication aimed at reconstructing the total wealth produced by the Genoese economy in 1629 and analyzing the distribution of

ganization consolidated the foundations of the Republic, three reform processes reshaped the administrative structure, reaching completion in the early seventeenth century: the construction of the food supply system with the creation of *Abbondanza*, of the *Provvisori del Vino e dell'Olio*; the reorganization and the innovation of the offices with harbour responsibilities concerning the *Padri del Comune*, the *Magistrato dell'Arsenale* and the establishment of the *Magistrato dei Conservatori del Mare*; the restructuring of the public fleet with the creation of the *Magistrato dei Provvisori delle Galee* [2].

This gradual maturation of the administrative and institutional structure of the State was counterbalanced by a complex situation of the public finance. Historically absorbed by political and diplomatic issues, the organization of defence from foreign aggressions and the maintenance of public order, the Government "delegated" to the House of St. George the management of its financial needs, progressively compressing its tax prerogatives [3]. The State found in the House a solid interlocutor, with multifaceted competences and apparently coincident financial and commercial interests [4]. Although vested with public authority and privileges guaranteed by the Constitution, St. George had private legal personality and a strategic orientation of mercantile inspiration, comparable to a trading company. Its flexibility to *Camera*'s requests was intrinsically linked to the common objective to protect creditors, a key condition for debtors' prosperity. The territorial conservation of the Republic domain as well as traffic protection were mandatory prerequisites to preserve high tax revenues while ensuring high interest rates to the *Comperisti*, the so-called holders of the Government bonds [5]. At the beginning of the seventeenth century, the expansion of the whole debt administered by the House – already reordered with the

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incomes and inequalities. For reasons of space a precise analysis of estimation methodologies developed in that work cannot be developed here.

[1] FORCHERI 1990.

[2] GIACCHERO 1979, pp. 105-118.

[3] See on this point: FELLONI 2010; BITOSSI 2006, pp. 91-106.

[4] The House of St. George was one of those institutions that typified the Middle Ages: the weakening in the power of the State meant that these institutions assumed part of its functions. The House was a separate political organization in favour of capitalists, in whose hands public debt securities were concentrated. SIEVEKING 1906, p. 25.

[5] FELLONI 1998c

Contractus Solidationis in 1539 – and the huge costs of its remuneration persuaded the Government to review its strategy to contain and progressively reduce the overall interest expenditure. In the first decades of the seventeenth century, this new extraordinary debt was raised with the establishment of two new loans – called *Compere* (purchases) – and its administration was entrusted to the *Camera* of the Republic, with a limited support from the House of St. George, accountable only for placement and management of the new debt.

One fact, however, underlines the centrality of the House of St. George in the public finance. At the end of the first thirty years of the seventeenth century, this institution directly administered three quarters of the whole public debt of about sixty million Genoese Lira and provided management support for the remaining quarter [6].

The financial constraints of the Public Administration were counterweighted by the concentration of very high levels of private wealth. Whilst nine-tenths of the public debt was owed to creditors residing within the walls, the decades at the turn of the sixteenth century and the beginning of the seventeenth represented the peak of the golden period of financial capitalism, in which Genoese bankers played a hegemonic role in European finance and were the primary support of Spanish imperialism. Financial resources, reputation and knowledge of markets were mandatory credentials to serve the Real Hacienda, but what makes them crucial is the network of international contacts developed through the government of exchange fairs [7].

Because of these close-knit relationships – with a solid background of commercial transactions – Genoese bankers enabled the meeting between financial surplus deriving from Northern European and Italian regions and the endemic demand for liquidity of the chaotic imperial finances. The proliferation of transactions with the Spanish administration conceals the Real Hacienda's main weakness: the inability to govern the intermittent cash flows and to transfer liquidity within the Empire where necessary to punctually honour payments [8].

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[6] FELLONI 1998a, pp. 281-286.

[7] FELLONI 2016, pp. 81-82.

[8] FELLONI 1998b.

The rise of financial transactions, began in around 1580, levelled out between the end of the sixteenth century and the first decade of the seventeenth century and was interspersed by crises in 1596 and 1607 formalized by decrees issued by the Spanish monarchy suspending payments. Growing fears of creditor bankruptcy led Genoese bankers to adopt precautions against the Crown of Castile and to start a gradual repositioning of their investment strategies [9]. Despite operation downsizing due to losses resulting from the 1627 slump and the competition generated by the recruitment of new financiers, Genoese bankers' skills and professionalism remained essential for the Spanish financial administration also in the second half of the seventeenth century [10].

Family fortunes accrued from the second half of the sixteenth century onwards were the drivers of impressive urban planning operations within the city walls where over forty years imposing residential buildings were designed and constructed along the "Via Aurea". The authorities identified in a semi-peripheral area located between the medieval city and the steep slope dominated by the fortress of *Castelletto* a functional and valuable route for the city. While local authorities financed the construction of the cathedral dome with proceeds from the sale of the building plots, the financial aristocracy invested the fortunes accumulated during those years in these properties and other new buildings [11].

Such urban development features are highly symbolic. The new public road was connected to the medieval city by numerous criss-crossing alleys, closely connecting it to the rest of the urban fabric, whilst the free transit in the most exclusive residential areas conveyed a sense of refined opulence [12]. The families of the old nobility competed in flaunting their economic power by commissioning the building and decorating of their palaces or religious buildings under their patronage, and in constructing private collections. This competition in luxury had indirect positive economic and cultural implications. The significant impulse of domestic demand, though fuelled by a limited number of individuals, provided a shock to the econ-

[9] ZANINI 2020.

[10] ALVAREZ NOGAL 2001.

[11] DORIA 1986, pp. 5-55.

[12] BOZZO 2001.

omy: it increased local employment, recruited leading artisans and attracted to the city art dealers, sculptors, architects and painters of international fame [13]. Economic dynamism brought with it a process of cultural contamination in the urban environment which in turn became an instrument of promotion for the city and the prestige of the Republic. Within a few years, renowned art historians and artists testified to this beauty by celebrating around Europe the magnificence of this urban development [14].

However, living conditions for most citizens were nowhere near as comfortable. There were various reasons for this. Firstly, the fiscal policy of the State. Public finance was grounded on two pillars: a levy model focused on indirect taxation, which usually involved the handover of a public income, and the expansion of new public debt. In both cases the interlocutor of the State was the House of Saint George which fulfilled its functions with a sole purpose: maximizing tax incomes – the so-called *gabelle* – to ensure sustainable interests rates on the *Compere* [15]. This fiscal approach obscured the power of property and income compared to consumption and it severely affected citizens' purchasing power. A large part of tax was gradually shifted onto the retail sales prices of primary foods, penalizing essential consumptions that could only be reduced to within the limits of survival.

Since interest payment was granted by additional indirect taxes, the start-up of new debt fuelled a perverse spiral with grim consequences for most people. In the first decades of the seventeenth century, the establishment of two new *Compere* to finance the construction of the new city walls and support the war effort with the Savoy is an emblematic example of this fiscal strategy. In order to guarantee remuneration to the bond holders of the new *Compera of San Bernardo* – established in 1625 and further expanded in 1627 – a tax on olive oil consumed in the city was restored and tax rates on grain, grain milling and meat were increased [16]. A similar approach was followed by the Government with the *Compera of Saint John the Baptist*, established in 1627 and further expanded in 1629, when authorities resorted

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[13] For details, see POLEGGI 1998.

[14] As of 2006 "Le Strade Nuove e il sistema dei Palazzi del Rolli" are included in the UNESCO World Heritage Site because of the quality of their architecture, the decorations and the original system of public hospitality of the buildings.

[15] FELLONI 1998a.

[16] GIACCHERO 1979, pp. 288-289.

to tightening taxation on the *mezzarola* of wine, salt, and customs duties, but also to the resale of the old *gabella* on wine [17].

This model of taxation gradually marked off those who were able to hold *Luoghi* [18] – regardless of liquidity risks caused by bond value fluctuations or lack of late interest rate payments – from those who contributed to servicing the debt through their consumption.

The lack of a structured levy on assets and incomes prevented the adoption of redistributive tax policies to support primary needs or to counteract the numerous social problems affecting citizens. The problem of the availability and distribution of an essential good such as water is a clear example. At the beginning of the seventeenth century, Genoa faced water availability issues due to significant increased demand driven by expansion in population and commerce [19]. The city centre fountains saw intermittent flows as water was directed to the needs of increasing numbers of ships arriving in the port as trade boomed. Maintenance works went back to 1582 and the progressive worsening supply due to the age of the infrastructure [20] generated growing discontent in the city especially amongst the poorest whose homes did not have their own cistern and were therefore forced to pay exorbitant prices for water [21]. In 1605 the critical situation denounced by the *Padri del Comune* forced the Government to entrust a specific committee to come up with technical solutions. In their final report, experts recommended extending the aqueduct to *Calsolo* – to collect new water – as well as major refurbishments to combat water loss. Despite several technical opinions confirming the validity of the project, the question was politically side-lined and work began only in the spring of 1623. The

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[17] *Ibidem*, pp. 288-289.

[18] FELLONI - LAURA 2004, the "luogo. di monte" or simply "luogo" was the term given from medieval times onwards to describe the different tranches of shares which made up the capital of the "*monti*", p. 25.

[19] For further details, see ZANINI 2004, pp. 73-85

[20] According to the estimates of the *Padri del Comune*, in fact, landslides, leakages and tampering significantly affected the limited supply, causing losses of up to a third of the water drawn from Trensasco. Water theft from the city aqueduct was a frequent phenomenon. The systems adopted ranged from the use of diversions with a diameter higher than that allowed, to the obstruction of the pipeline to direct water out of the system o the adjacent crops for irrigation.

[21] PODESTÀ 1879, pp. 46-47.

new aqueduct became one of the most important engineering infrastructures of the Capital but it failed to solve longstanding urban water issues and thirty years later the State had to intervene to build a pipeline transferring water from Saint Thomas' moat to the mills built inside the new city walls [22].

In terms of welfare policies and social measures against pauperism, at the beginning of the seventeenth century public assistance agencies acting within the city operated in the legal capacity of Magistrates or *Deputazioni*. These juridical forms, which today we would call public law entities, apparently conceal the characteristic common to all the charities of the Republic, namely their private nature. The foundation, the endowment, the original management and the day-to-day financial support of the institutions assisting the needy [23] were ensured by the good will of private citizens, more sensitive than the political authorities to the numerous social problems afflicting the Capital. The intervention of the State always followed generous initiatives of private individuals. In placing these initiatives under its own protection by awarding them the title of Magistrates, the Republic ensured control over their administration through the appointment of Protectors and Magistrates and regulated their operation with a series of rules that integrated by-laws and conferred jurisdictional powers.

2. *A survey on wages, poverty and inequality in 1629*

Against the backdrop of these key events in the social and economic history of the Genoese state in the first decades of the seventeenth century, some features emerge over the course of time as cardinal points in the life of the Republic. A boom-bust cycle of development or relative prosperity followed by recession or temporary economic difficulties (due to famines, epidemics etc.) was the context of a constant and uninterrupted dialectic between the State and the House of St. George that inevitably conditioned the administration of the public debt, the entrepreneurial determination of individuals and the efforts of charitable organizations to alleviate the discomfort of the sick and desperate.

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[22] A.S.G., Manoscritti della Biblioteca, n. 20, *Legum 1648-1655*, *Approbatio expensorum factorum ab introdutione aque fossati S.ti Thome, 26 novembre 1652*.

[23] A.S.G., Antica Finanza, Sala 41, n. 958, *Relatione delli bilanci delli Magistrati della Ser.ma Repubblica dell'anno 1629 fatta dai M. Ill. Sig. Supremi Sindicatori da leggersi al Minor Consiglio*.

It is precisely from these aspects that the present work draws its inspiration in an attempt to go beyond a purely descriptive approach of such phenomena and to trace the network of relationships in terms of their magnitude that ultimately characterised the main social, political and economic events of the city. The aim is not so much to propose further insights on topics only partially known, but rather to trace a macroeconomic profile of the Republic by representing these qualifying traits into a matrix model, for the first time applied to the historical analysis.

This essay – which constitutes a cross-section of the work quoted above – proposes an in-depth analysis of the profiles of the distribution of income from work and the boundaries of the fluctuating area of poverty within the city at the sunset of the period of maximum economic and financial prosperity in its history. The study starts from a detailed profiling of the Genoese population. Through the elaboration of a socio-demographic stratification and reconstructing the contribution of each economic sector to the production of macroeconomic income, this survey attempts to identify and describe as many homogeneous groups of individuals with similar socio-economic profiles, representing the "n" factors into which the income generated can be broken down. Finally, the research proposes some concentration indexes and a synoptic table regarding the population in poverty to propose a measurement of existing inequalities at the end of a century of prosperity.

In focusing attention on the above objectives, the choices of the year and the geographical environment in which to set the survey were the first problems to be addressed. The decision to fix the analysis to the area within the city walls was the result of a careful weighting of some objective parameters. From a geo-political point of view, the urban centre constitutes an entirely autonomous demographic, administrative and fiscal unit. There characteristics play a decisive role in the choice of the Capital as the privileged nucleus of research. A larger territorial area risks compromising the reliability of the investigation as it would require broadening the observation to include a greater number of phenomena with the objective difficulties in finding the relevant archival data this would raise. The risk of losing sight of the peculiarities governing the social and economic events of the Republic is not offset by any other appreciable advantage generated from widening the field of investigation. The Capital, the centre of trade and finance in the State, constitutes the best observation point to study the set of relations that inspired the political, administrative and entrepreneurial orientations of the Republic.

The choice to anchor the survey in one year rather than another one of the second decade of the seventeenth century was driven by historical and technical assessments. Curiosity to observe the evolution of the macroeconomic framework in the Capital following the 1627 financial crisis meant conducting the survey after that year. Moreover, the valuable records collected for wealth taxation in 1628 [24] and 1630 [25] as well as the Payroll of the House of St. George available for 1631 were unique and essential sources that narrowed further the scope. However, the prerequisite to conduct such a survey depended on the wider availability of archival administrative material, such as financial statements, for the categories investigated [26]. These entities varied widely in nature and their financial and economic accounts present corresponding significant heterogeneity. Given the abundance of archival documents for St. George, the problem of the choice of the year was largely conditioned by the limited accounting documents relating to public bodies and private welfare magistrates. Consequently, 1629 – the year selected for the research – coincides with the most voluminous archive in terms of accounting documentation [27].

3. *A macroeconomic perspective: population, consumptions and incomes*

The study of the relations between the main protagonists of the economic life of the Capital cannot disregard a reconstruction of incomes and consumption of the people living within the city walls. While the scientific validity of the research conducted on the administration of the State, the House of St. George and the Public debt emanates from archival documentation, the observation of the macroeconomic profiles of the Capital is partly based on data derived, directly or indirectly [28], from archival sources and partly based on estimates, conventions and assumptions formulated with reference to the Republic or adapted to the Genoese reality on the basis of reasonable assessments.

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[24] For further information, see: DI TUCCI 1933, pp. 818-820.

[25] For an introduction, see: GRENDI 1974, pp. 403-444.

[26] The limited availability of financial statements came up against complex problems of interpretation, sometimes resolved by reasonable compromises imposed by the fragmentation and confusion inherent in some accounting records observed in the archive.

[27] Details of this are given in the upcoming book.

[28] In many cases historical data processed by other scholars are cited.

Data collected on accounting records and legal texts of the time are accompanied, in this context, by multiple interpretative theories derived from the numerous bibliographical sources consulted and – in some cases – processed directly. Although the intention remains to keep separate in the model data and figures drawn from registers and balance sheets from those obtained by means of calculations and interpolations, only the study of citizens' incomes and consumptions makes it possible to close the circle on an otherwise incomplete work. While the analysis of the interdependencies between the various bodies of the State administration and between these and St. George are of clear interest, it is equally important to frame these links into a quantitative model. The representation of the complex relationships between the State organization and the House of St. George has therefore a completely different power of interpretation and value when framed into a scenario enriched by parameters such as wages, prices, consumption and taxes: instruments that enable us to connect simple accounting data to everyday life of the time.

3.1. *The population of the city in 1629*

Although an exhaustive analysis of the origin and source of the data, the methods used to develop estimates, as well as the assumptions and conjectures adopted in this research will be found in the upcoming volume, this paragraph offers some reflections and interpretative observations stimulated by the overall picture, illustrated in Table 1, on the estimated composition and stratification of the Genoese population in 1629. The starting point is the absolute value of the total population of the city, quantified in 81,130 people, made up by 50.99% individuals of male sex (41,371 men) and 49.01% individuals of female sex (39,759 women).

In the context of the time, this estimate gives us the idea of a centre of primary importance in Europe. In the landscape of pre-industrial societies, where the threshold of fifty thousand inhabitants constituted the imaginary demarcation line between cities and metropolises, the largest agglomerations rarely exceeded one hundred thousand inhabitants. The relative importance of the Capital can be appreciated from a comparison of the first three European metropolises by population size: Paris had about three hundred thousand citizens, Naples, the biggest Italian city, reached about two hundred and eighty thousand people while London stood at a population of two hundred and fifty thousand. For none of these three great seventeenth-century metropolises was the ratio with the inhabitants of the

city of Genoa higher than four times: today, less than four hundred years later, for every citizen in Genoa there are twenty-one inhabitants in London and twenty in Paris. In 1629, however, in the rest of Europe only the urban agglomerations of Seville (150,000) and Amsterdam (100,000) significantly exceeded the Capital, while Madrid, Barcelona, Leiden and Vienna – among the most populous urban centres of the time – followed it at various distances. Italy was the European country that had the highest number of metropolises in seventeenth century, but only five had a greater population than Genoa: Venice, with 150,000 inhabitants, was the second most populous city, Milan had a population of around 112,000, while Rome and Palermo just passed the 100,000 mark [29].

Compared to other cities of central and northern Italy, Genoa was not affected by the pestilence of 1628-1630 and as a consequence the estimated population figure in 1629 can reasonably be considered for the city a demographic peak of the seventeenth century. In an international context increasingly dominated by the powers of the nation states, the maintenance of neutrality as a way of pursuing better its economic interests is nothing more than a theoretical hypothesis for a small Republic like the Genoese one.

Hence, almost a century in the sphere of influence of the Spanish monarchy ensured the Republic solid military protection and gradual stability [30]. The financial support to the Real Hacienda, the central role of Genoese bankers in the European landscape as well as the strategic position from a geo-political and commercial point of view constituted the grounds for a progressive increase of the population, which reached 71,000 inhabitants at the beginning of the seventeenth century and 77,000 in 1625, thanks also to immigration from the dominion.

In about five centuries of history of the Republic – namely from 1300 to 1800 – characterized by the paradox of a Malthusian urbanization, i.e. urbanization without demographic growth, nearly a hundred years after the alliance between Andrea Doria and Charles V were both for the Capital and for the state entity a long period of significant population growth accompanied by an increasing albeit less evident rate of urbanization [31].

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[29] CIPOLLA 1990, pp. 15-16.

[30] KIRK 2005, pp. 3-28.

[31] ODDO - ZANINI 2022, pp. 7-8.

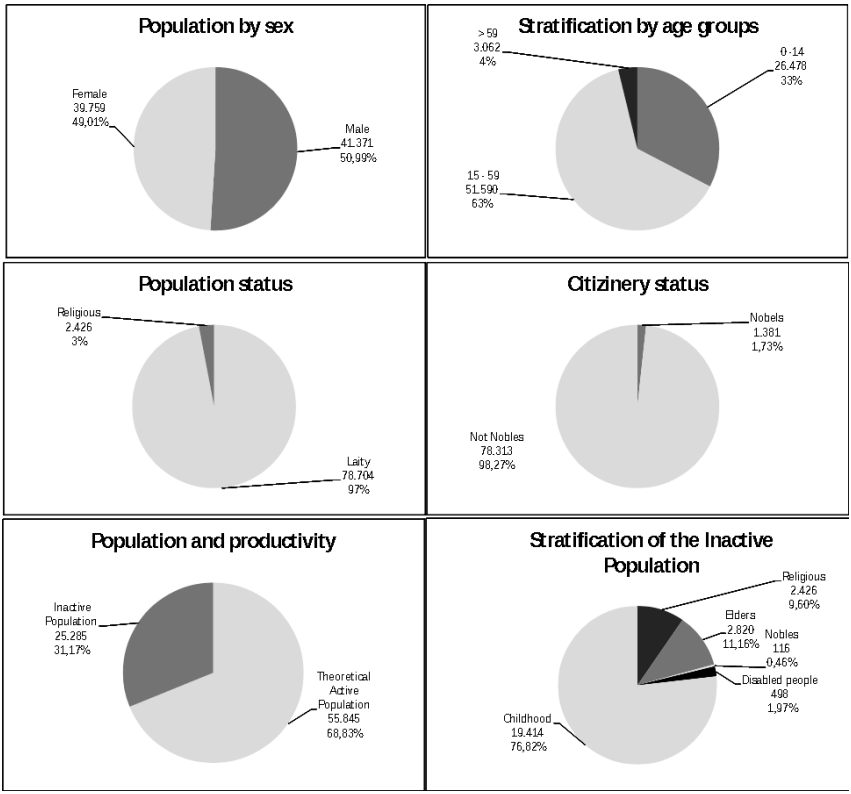
Table 1 - Estimates on the social and demographic stratification of the Genoese population in 1629

Estimates of population composition, theoretical labour force and real employment																
	0 - 14				15 - 59				> 59				General Total			
	M	F	MF		M	F	MF		M	F	MF		M		F		MF	
TOTAL POPULATION (A)	13.429	13.048	26.478	32,64%	26.376	25.214	51.590	63,59%	1.565	1.497	3.062	3,77%	41.371	50,99%	39.759	49,01%	81.130	100,00%
LAY PEOPLE	13.429	13.048	26.478	100,00%	25.643	23.657	49.300	95,56%	1.522	1.404	2.926,1	95,56%	40.594		38.109		78.704	97,01%
RELIGIOUS	-	-	-	0,00%	733	1.557	2.290	4,44%	43	92	136	4,44%	776		1.650		2.426	2,99%
NOBLES	-	-	-	0,00%	1.265	39	1.304	2,53%	75	2	77	2,53%	1.340		41		1.381	1,70%
NOT NOBLES	13.429	13.048	26.478	100,00%	25.111	25.176	50.286	97,47%	1.490	1.494	2.985	97,47%	40.031		39.718		79.749	98,30%
THEORETICAL ACTIVE POPULATION (C)	3.630	3.433	7.063	26,68%	25.399	23.393	48.792	94,58%	-	-	-	0,00%	29.029		26.826		55.856	68,85% *
C= A - B																		
- Religious	-	-	-		733	1.557	2.290		43	92	136		776		1.650		2.426	
- Nobles	-	-	-		-	39	39		75	2	77		75		41		116	
- Elders	-	-	-		-	-	-		1.432	1.388	2.820		1.432		1.388		2.820	
- Disabled	-	-	-		244	225	469		14	14	28		259		239		498	
- Infants	9.799	9.615	19.414		-	-	-		-	-	-		9.799		9.615		19.414	
INACTIVE POPULATION (B)	9.799	9.615	19.414	73,32%	977	1.821	2.798	5,56%	1.565	1.497	3.062	0,00%	12.341		12.933		25.274	31,15% *
ACTIVE EMPLOYED POPULATION	3.317	164	3.481	49,28%	21.261	9.552	30.813	63,15%	-	-	-	0,00%	24.578		9.716		34.294	61,40% *
- Employed persons	3.317	164	3.481	100%	13.736	9.552	23.288	75,58%	-	-	-	0,00%	17.053		9.716		26.769	78,06% **
Public	-	-	-		4.310	83	4.393		-	-	-		4.310		83		4.393	
Private	3.317	164	3.481		9.426	9.469	18.895		-	-	-		12.743		9.633		22.376	
- Self employed	-	-	-	0%	7.525	-	7.525	24,42%	-	-	-	0,00%	7.525		-		7.525	21,94% **
ACTIVE UNEMPLOYED POPULATION	313	3.269	3.582	50,72%	4.138	13.841	17.979	36,85%	-	-	-	0,00%	4.451		17.110		21.562	38,60% *
Inmates	-	-	-		97	92	189		6	6	12		103		98		201	0,25% *
Involuntarily unemployed	313	3.269	3.582		4.041	13.749	17.790		-	-	-		4.355		17.018		21.373	38,26% *
PASSIVE POPULATION	9.799	9.615	19.414	73,32%	733	1.596	2.329	4,51%	1.565	1.497	3.062	100,00%	12.097		12.708		24.805	30,57% *
Lay people	9.799	9.615	19.414	100,00%	-	39	39	1,66%	1.522	1.404	2.926	95,56%	11.321		11.058		22.379	90,22%
- Nobles	-	-	-		-	39	39		75	2	77		75		41		116	
- Not Nobles	9.799	9.615	19.414		-	-	-		1.447	1.402	2.849		11.246		11.017		22.263	
Religious	-	-	-	0,00%	733	1.557	2.290	98,34%	43	92	136	4,44%	776		1.650		2.426	9,78%

* % On Total Estimated Population * % On Total Active Theoretical Population ** % On Total Active Employed Population " Estimate on shop boys labour < 15 years old

The subdivision of the population in three conventional age groups – childhood, adulthood, elderly – leads to a redistribution with 32.64% of young people under fourteen, equivalent to 26,478 individuals, 63.59% adults between fifteen and fifty-nine, equal to 51,590 inhabitants, and finally 3.77% of the population over 59 years, equal to 3,062 people.

Graph 1 - *Estimates of the stratification of the Genoese population*



These figures depict a very young society where one in three individuals had not yet reached adulthood, conventionally established with the age of 15, and where almost one out of four had not yet received the Eucharist. Despite high infant mortality rates, the relative youth of the population indicates high fertility and is likely the result of a period of about thirty years characterized by births exceeding deaths after the serious food

crisis of two years 1591-1592 [32]. For a relatively long period of time, the Capital escaped mortality typically connected to catastrophic events and the high birth rate of the population exceeded the ordinary death rates [33].

Among this multitude of children, those suitable for apprenticeship, aged between eleven and fourteen years, amounted to seven thousand: 3,630 boys and 3,433 girls. They are counted as part of the theoretical active population and they represent a portion equivalent to 12.65% of the total. Infants and young people, up to 10 years of age, estimated at 19,414 individuals, make up the passive population. Adulthood, which includes individuals between 15 and 59 years, is the predominant class in the theoretical computation of the individuals "useful" to the production of the wealth and numbers 48,792 individuals, constituting the 87.35% of the indicator. The theoretical active population as a whole amounts to 55,856 people, equivalent to 68.85% of the overall population. In other words, these estimates reveal that about seven out of ten citizens of the city were potentially able to contribute to the creation of economic value while three remain excluded, being inhibited by age, physical impairment or belonging to religious orders.

In the city of 1629, the estimated ratio of the inactive population over the theoretical active population (44.4%) suggests that, in the best-case scenario, the relationship between people consuming wealth and individual producing and consuming it is 1 person for every 2.2. Clearly, this indicator constitutes a purely hypothetical parameter which implies that (a) the entire theoretical workforce is available to work and (b) a condition of full employment is fulfilled at the same time. Having said that, it is interesting to compare this theoretical data with that obtained analysing labour incomes from surveys conducted to estimate the active employed and non-employed population.

The further detailed study of the stratification of the inactive population confirms one of the structural elements of pre-industrial societies, na-

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[32] That of 1590-1591 can be considered the worst famine to hit Italy since the Black Death of the fourteenth century. The sharp rise in mortality affected all age groups. Moreover, during the crisis the order 'natural' of the deaths, according to which the very young died much more frequently than adults, was offset by the effect of an excess mortality of adults accompanied by a contraction of fertility. ALFANI 2012.

[33] For further information on the Malthusian demographic model, see: CLARK 2007, pp. 19-189; VOIGTLANDER - VOTH 2009, pp. 2-10.

mely the clear preponderance of infants compared to the elderly. The estimates on the urban area, summarized in Table 1, indicates that out of ten individuals dependant on others for their economic survival eight were children under the age of ten years and only one was elderly [34]. As we move from the modern age towards industrial societies, the problem of economic dependence gradually tends to shift to the elderly, while the progressive growth of productivity together with the introduction of redistributive tax policies make it possible to support inactive populations rates well above the estimated figure for the Genoese population in 1629: 30,57%.

Graph 1 provides an indication of the ecclesiastics, equal to 2.99% of the total population, corresponding to 9.60% of the whole inactive population. In terms of gender distribution, estimates reported in Table 1 reveals a clear prevalence of nuns and sisters (68%) compared to priests and friars (32%). This data seems to be consistent with a major concern of the time, frequently addressed through a religious affiliation. For poor families, the establishment of a dowry for female daughters often represented a very onerous problem, leading in many cases to the abandonment of the new born for whom, in the case of survival, a cloistered life was likely. In wealthy families, the route to religious life was a way of protecting and safeguarding the unity of the family patrimony. In this essay, church men and women are conventionally included in the unproductive population although their activities were not limited then as now to spiritual assistance to the faithful, playing an important role in the care of the sick in city hospitals and abandoned children and orphans within religious institutions and colleges established for that purpose. In their churches, priests often took care of the education of their parishioners, providing support to their faithful as teachers or tutors. In general, all these activities were not carried out for a reward and known cases of a salary were exceptions. In Genoa in 1629, each chaplain embarked on the ships of the public fleet was entitled, in addition to food, to a remuneration for the religious services provided to the crew. In general, therefore, it seems correct to include this category of individuals

[34] In an industrialized society the population between 15 and 64 years represents two thirds of the total population, therefore substantially in line with the weight that this demographic group had in preindustrial age. The real difference in stratification between the two models lies in the profound difference in the composition of the inactive population. In preindustrial society, children made up 90% of those who consumed without producing while in industrial societies they weigh between 65 and 70%. CIPOLLA 1990, pp. 83-85.

in the inactive population since they were not regular recipients of earned income.

The inactive population includes an estimate of 480 individuals residing at the *Lazzaretto* or sheltered in the *Hospital of the Incurables*. They account for 1.97% of the total inactive population and 0.61% of the whole citizenry. It is reasonable to think that this data represents a rounded down calculation which probably refers only to persons suffering from chronic diseases, physical limitations or mental illness which make them completely unfit for any work. The condition of disability was widespread in the modern age but not considered worthy of special social protection: for individuals affected there was no support other than that provided within households, neighbourhood mutualistic groups or for those who are enrolled in a craft or guild the consortium in support of the specific corporation. The category of deformity includes genetic deformities present at birth or as a result of diseases contracted subsequently and physical defects caused by punishments ordered by the state intended to permanently mark the honour of the person. Only the most extreme cases generally associated with a condition of absolute poverty lead to the solution of the internment. Persons suffering from mental illness, for instance, were almost exclusively assisted within families: in the health facility of the *Hospital of Incurables* the number of beds for the mentally ill was increased to 50 units only in 1630. The set of the inactive population is completed by all nobles aged over fifty-nine as well as women classified as heads of family according to the 1630 capitation tax. All the other citizens belonging to the gentry were considered part of the working population (details in the forthcoming publication).

The tables and graph above make a distinction between two different categories of citizens: those enrolled as the nobility and those non-enrolled, i.e. non-nobility. Compared to the whole population estimate, nobles represented 1.7% of the total. In this quantitative summary it is worth remembering what this percentage means: only a very small portion of people enjoyed full civil rights, namely the active and passive electorate. Compared to the non-enrolled, nobles could hold public positions in the administration of the State and in this way influence the political orientation of the Republic.

3.2. *A macroeconomic perspective: consumption and taxes*

Most of the population's income was devoted to the purchase of subsistence foods. The heavy deficit of the agricultural balance of trade due to

the total dependency on foreign cereal products forced the Republic to meet its annual demand for wheat, oil, wine and meat through a consistent flow of foreign supplies.

Data sourced from fiscal archives for the years 1627, 1628, 1629 and 1633, reveal an average annual import of 345,368 *mine* of wheat [35] taxed, and about 4,000 *mine* free from taxation, intended for certain categories enjoying tax exemption schemes (noble, political and religious). In the whole of the reference period, foreign grain supplies averaged 349,368 *mine* for a corresponding overall value of 7,214,449.20 *Lire Correnti* [36], obtained on the basis of an average price of 20.65 *Lire Correnti* per *mina* [37].

Most of the imported grain was consumed by the city but a significant portion was rerouted to the communities under the direct rule of the Republic or to be sent abroad. As 2.5 mines per person [38] were granted as duty-free quantities, this figure seems to suggest that the average annual consumption of taxpayers exempted from the duty was probably this. This estimate, which assumes a per capita consumption of 218 kg per year, is confirmed in local archival sources and it seems substantially consistent with other studies. Similar indications come from the surveys on the incomes of the population of the Roman Empire conducted by Hopkins [39] and Goldsmith [40] but espe-

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[35] A *mina* of wheat was equivalent to 87.35 Kg of wheat. GIACCHERO 1979, p. 695.

[36] The *Lira Corrente* is the nominal Lira used in daily transactions by the population whose legal value was much higher than that of the metal content (intrinsic value). The *Lira di Numerato* refers to the monetary unit of reference adopted in the official accounting records or in the accounting book (*cartolari*) of the Public Authorities, the House of St. George and the public debt. The numbered Lira was equal to 1.25 Lira. FELLONI 1975.

[37] FORNASARI 1969-1970.

[38] This element was maintained by the Genoese authorities also with reference to subsequent years. ASGe, Antica Finanza, 1344.

[39] In the survey to quantify a measure of income of the Roman Empire in 14 BC Hopkins estimates per capita annual subsistence levels - in terms of food, clothing, heating and housing - expressed in 250 kg units grain equivalent per person. The breakdown of such subsistence income is as follows: 220 kg for real consumption of wheat, 15 kg for clothing and 15 kg for heating and housing . HOPKINS 1980, pag.118.

[40] Goldsmith estimates a per capita consumption of an adult man at 50 *modii*, equivalent to 337.5 kilograms. However, he consider an average per capita consumption of the population – including women and infants – between 35/40 *modii*, equivalent to a range of 236,25 and 270 kg. kilograms. GOLDSMITH 1988, pp.. 263-288.

cially by evidence provided by Grendi [41], Cipolla and Doria [42] on the Genoese environment of the seventeenth century and from more recent insights by Federico and Malanima [43] with reference to the Italian states in the modern age. By extending this average quantity to the entire population resident within the city walls, we can estimate a consumption of 200,000 *mine* of wheat, equal to 57.24% of the overall importation, for a value of 4,130,000 *Lire Correnti*.

As regards olive oil, mainly purchased from the two *Riviere*, fiscal data related to imports in 1629 are not available but the average city consumption in the years from 1638 to 1642, calculated on the basis of the *Gabella dell'Olio*, is about 21,394 barrels [44]: a certainly realistic quantity if we consider that the magistrate responsible for supplying the Capital purchased about nineteen thousand barrels per year from the communities of the domain. In terms of order of magnitude, an average price [45] of 36,70 *Lire Correnti* per barrel, leads the overall total value of the imported olive oil to 785,159,80 *Lire Correnti*.

Also the estimation of wine volumes consumed in the Capital starts from a tax: the *Gabella del Vino*. Dividing the average revenue of this tax in the period from 1626 to 1635 (211,158 *Lire Correnti*) by the rate applied to the *mezzarola* [46] of wine introduced into the customs district of the Re-

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[41] For the city, Grendi estimate an individual annual average consumption of 227 kg of wheat. GRENDI 1973, p. 36.

[42] A worker needs 10 mines of wheat to feed an average family of 4 people. In Genoa the price of wheat reached its peak in 1648-1649 and the price range moved between 40 and 45 *Lire Correnti* per mine of wheat. These prices, which represent a peak for the seventeenth century, make it necessary for an average worker to take between 400 and 500 pay days to buy 10 mines, which is the estimate of the average annual consumption for a family of four people. Since 10 mines amount to 873.5 kg, the corresponding annual per capita consumption is 218,375. CIPOLLA - DORIA 1982, pp. 171-171.

[43] In the basket of essential subsistence goods suitable to provide support between 2,100 and 2,2000 calories per day to individual Giovanni Federico and Paolo Malanima include 220 kg of wheat and cereals, 3 kg of olive oil, 80 of wine, 10 of meat and 365 kg of firewood. FEDERICO - MALANIMA 2004, p. 445.

[44] An olive oil barrel was approximately 65,48 liters. GIACCHERO 1979, p. 695.

[45] This average price was calculated for 1629/1639. L. FORNASARI, *Contributo allo storia dei consumi alimentari a Genova nei secoli XVII e XVIII*, Tesi di Laurea, Facoltà di Economia e Commercio, Università di Genova, anno accademico 1969-70.

[46] One *mezzarola* of wine corresponded to two barrels of wine with a capacity of 79.50 litres each GIACCHERO 1979, p. 695.

public (1.35 *Lire Correnti*, equivalent to 27 *Denari*) we obtain the number of *mezzarole* subject to taxation: 156,413. This amount does not coincide with the overall wine that came into the city because every year at least 15,000 *mezzarole* were imported free from any customs charges [47]. The combination of the two above lead to an overall consumption estimate for 1629 of 171,413 *mezzarole of wine*, for a global value of 2,900,307.96 *Lire Correnti* obtained by applying an average price of 16.92 *Lire Correnti* per *mezzarola* [48].

On the basis of the average number of cattle slaughtered in Genoa in the period from 1625 to 1635, an annual consumption can be assumed within the customs district of about 3,617,170 pounds of beef and 667,480 pounds of veal. On the basis of the average prices calculated between 1620 and 1639, equal to 0.16 *Lire Correnti* per pound for beef and 0.2475 *Lire Correnti* per pound for veal, the overall order of magnitude of the value of this consumption could perhaps rise to 743,948.50 *Lire Correnti*.

While for the main foodstuffs some data are available, allowing albeit an approximation of the order of magnitude of the city consumption, for other goods consumed on a daily basis on the Genoese table and for non-food goods, insufficient data prevents reliable estimates. The taxable value of imported and exported goods subject to the general duty can be traced from the tax sources relating to *Carati di Mare*, The annual average tax revenue of 336,660 *Lire di Numerato* for the period from 1623 to 1627 corresponds to a taxed asset of 6,733,000 *Lire di Numerato:* 6,133,800 *Lire* related to imports value and 599,500 *Lire* to exports. Assuming that goods imported subject to customs duties are entirely consumed within the city walls, without being used in manufacturing process of goods subsequently re-exported, their value, added to food consumption (6,848,867.97 *Lire Numerato*) and to rental revenues (1,855,476 *Lire Numerato*) would lead to an overall consumption value of 14,838,143.97 *Lire Numerato*.

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[47] L. FORNASARI, *Contributo allo storia dei consumi alimentari a Genova nei secoli XVII e XVIII*, Tesi di Laurea, Facoltà di Economia e Commercio, Università di Genova, anno accademico 1969-70.

[48] Average rating for the period 1620/1639. *Ibidem*.

Table 2 - Estimates on the social and demographic stratification of the Genoese population in 1629

OVERVIEW OF THE MAIN FOOD CONSUMPTIONS IN THE CAPITAL								
Primary Asset	Quantity	Unit of measure	Average Price Lire Correnti	Total Value Lire Correnti	Total Value Lire Numerato	Equivalenca in Actual Unit of Measurement		
Wheat	202.825,00	Mina	20,65	4.188.336,25	3.350.669,00	87,35 Kg = 1 Mina	17.716.763,75	Kg
Olive Oil	21.394,00	Barile	36,70	785.159,80	628.127,84	65,48 Litres = 1 Barrel	1.400.879,12	Litres
Wine	171.413,00	Mezzarola	16,92	2.900.307,96	2.320.246,37	159 Litres = 1 Mezzarola	27.254.667,00	Litres
Beef meat	3.617.170,00	Pound	0,16	578.747,20	462.997,76	0,317664 Kg = 1 Pound	1.149.044,69	Kg
Veal meat	667.480,00	Pound	0,25	166.870,00	133.496,00	0,317664 Kg = 1 Pound	212.034,37	Kg
		General Total:		8.619.421,21	6.895.536,97			

The attempt to obtain a picture of citizenry consumption based on archival data benefit from a comparison of the Genoese situation with that of other urban centres of the same age. Approximate estimates of consumption patterns in Antwerp between 1596 and 1600 indicate that food expenditure accounted for about 79% of the household budget, 10% was allocated to textiles and clothing and the rest used to buy wood and oil for heating and light and to the pay the rent. Bread expenditure alone accounted for about 49% of the total [49]. The comparison between these percentages and those recorded for Genoa gives contradictory results. The incidence of bread expenditure – here regarded as wheat – is significantly lower than that of the Flemish city and weighs less than 23% of total consumption. If within the city walls the expenditure on food consumption represented the same percentage found in Antwerp, the total expenditure would rise to 8,728,527.81 *Lire Numerato* against almost fifteen million here estimated on the basis of the Genoese fiscal data.

Greater similarities are found in the comparison with the Netherlands consumption structure for the period from 1596 to 1600 where approximate estimates indicate a weight of 60% for food spending and 11% for heating, light and rent [50]. While there is a substantial alignment on the latter item of expenditure, which in the city weighs about 12% of total, the incidence of food in Genoa absorbs "only" 46.3% of household spending power. Projecting Dutch percentages on the Capital, the total consumption expenditure would contract by about half a million, amounting to 14,365,702.00 *Lire Numerato*. At first glance, even this comparison with the Dutch reality would lead to assume that Genoese citizens had a greater degree of freedom in terms of non-food consumption. Since we are at the sunset of the century of great prosperity in the history of the Republic this is not surprising. However, it is equally true that only a deeper investigation into wealth and income distribution could confirm whether this apparent greater availability of disposable income was enjoyed by the whole community or by just an elite.

A significant part of incomes, generated by the factors of production, were taken away from economic circuits to become inflows as taxes in the coffers of the State bodies and of the House of St. George, the only tax raising entities in the Republic. Data on the tax levied in 1629 are derived di-

[49] See CIPOLLA 1990, p. 39; SCHOLLIER 1960, p. 174.

[50] CIPOLLA 1990, p. 39.

rectly from the economic accounts of the two institutions. While the public administration collected from citizens taxes for 1.541.198,17 *Lire Numerato,* St. George drained resources for 1.609.736,5 *Lire Numerato*. All in all the citizenry paid 3,150,934.67 *Lire Numerato* in taxes and duties. The relationship between this historical data and total incomes, estimated on the basis of the assumptions made in the course of this essay, would lead to a tax burden of about 17%. Adding to taxes the volume of consumption previously estimated, equal to 14,838,143.97 *Lire Numerato*, we would reach an expense flow of about 17,989,078.6 *Lire Numerato*.

3.3. *Labour incomes*

The starting point for an analysis and estimation of labour incomes of the city in 1629 is represented by two key benchmark variables illustrated in Table 1: the evaluation of the active population employed and non-employed. The observation of these parameters compared with the estimate of the theoretical active population gives us an idea of the level of employment within the city wall.

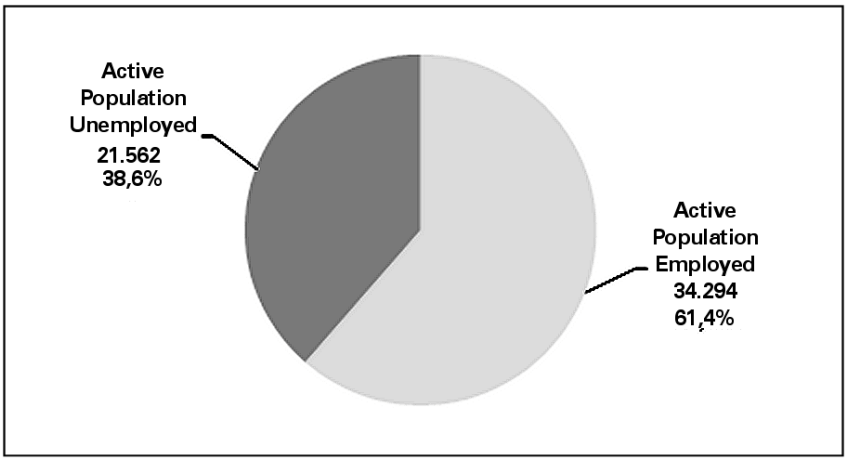
The estimated active population employed is 61.4% of the theoretical active population. This element, compared to the estimate of the inactive population, returns a dependency rate of 73.86%, significantly higher than the theoretical one previously seen. In other words, the ratio between those who limit themselves to consuming wealth and those who instead produce and consume it is 1 person for every 1.35.

Estimates of the active population employed indicate a clear prevalence of adults over young people and the predominant role played by men compared to women. While the first figure is explained by the higher absolute number of that group in the active population compared to apprentices between eleven and four years, the second element shows the prevalence of men employed (71.67%) compared to women (28.33%). Although the absolute data is indisputable, the female contribution, apparently modest, reveals for the time a significant participation of Genoese women in the official economic circuit of production of goods and services; a contribution in some ways comparable to the visible part of an iceberg, with work connected to the home and family making up the huge submerged – and unvalued – part.

When focusing on the unemployed active population, the weight of adulthood compared to young people aged between 11 and 14 remains always predominant, while the composition of the sexes is reversed and women clearly outnumber men. Active unemployed population consists of two ca-

tegories: prisoners – a minority group of individuals (0.88%) deprived of their personal freedom who cannot look for a job – and the remaining vast majority of involuntarily unoccupied individuals, people who do not have a job although they are looking for one (99.12%).

Graph 2 - *Composition of Active Population in 1629*



Even with regard to this latter social group, the prevalence of women is overwhelming. What may perhaps explain the considerable difference between the two sexes probably lies in whether or not the condition of non-employment is voluntary. It is reasonable to believe that while male unemployment is predominantly involuntary, female unemployment may depend on a decision taken within the family and therefore largely responds to domestic organizational choices. On the basis of the estimates made, the unemployment rate in the city of 1629 – calculated as the ratio of the unemployed population divided by the theoretical working population, namely the labour force – was 38.26%.

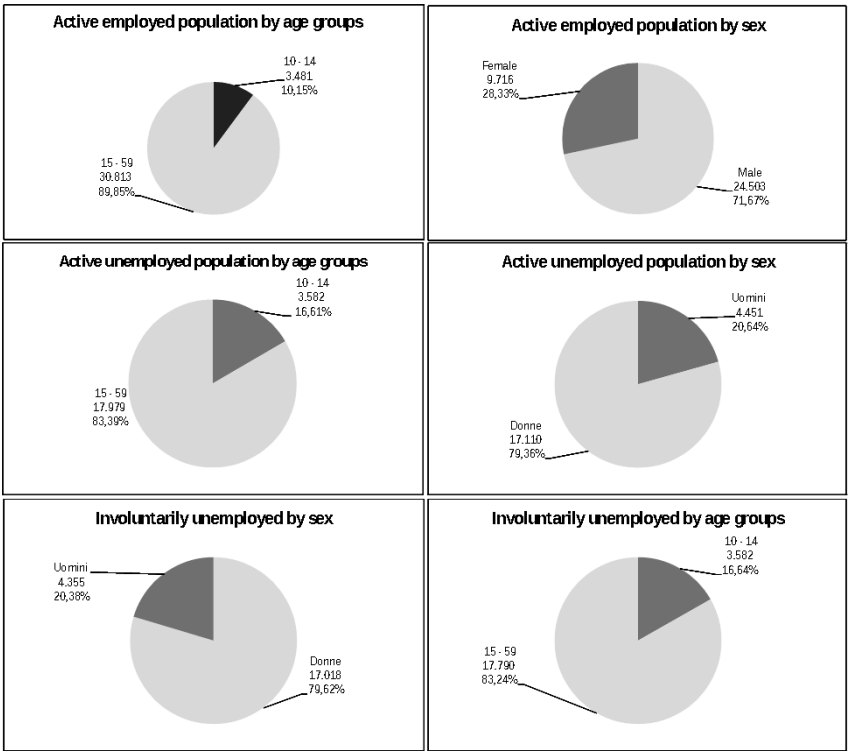
In today's world, for example, similar values are reported in the Republic of South Africa (34.9%) [51] or Nigeria (33.3%) [52], countries where this

[51] Reported data refer to Q3 2021. *Quarterly Labour Force Survey Report,* Available on line: http://www.statssa.gov.za/.

[52] Reported data refer to 2020. Available on line: https://nigerianstat.gov.ng/ .

indicator goes hand-in-hand with modest values of the corresponding Human Development Index (HDI) [53].

Graph 3 - *Active Population composition*



However, it should be noted that the estimated unemployment rate takes on a different meaning if we accept the reasonable assumption that adult unemployed women being exclusively devoted to unsalaried domestic

[53] The human development index – between 0 and 1 – classifies the countries of the world according to their level of development. It is a multidimensional synthesis parameter which, in addition to the average GDP per capita, considers life expectancy and the level of schooling in different countries. According to data compiled by the UN for 2017, South Africa (0.699) and Nigeria (0.532) are in the world ranking at one hundred and fifteenth out of one hundred and eighty-nine positions, respectively. The data are available online: https://ourworldindata.org/.

work, they were fully active and engaged within the household. This hypothesis leads us to reconsider the level of unemployment at 7,624 persons, equivalent to the 13.65% of the workforce: a percentage quite different from the previous one which seems, perhaps, more likely.

Nevertheless, it is a fact that in the modern age unemployment was for politics primarily a public order problem. The lack of a livelihood and the absence of personal savings or social protection pushed individuals into absolute poverty which led them to begging and vagrancy, forcing authorities to deal with it to counter the resulting social disorder. However, the contextualisation of the estimated data through a comparison with employment studies for the same historical period remains a complex exercise, despite eminent scholars having offered important contributions with countless qualitative and quantitative data on the populations of other socio-economic areas [54]. A comparison can perhaps be attempted with Wales and England of the seventeenth century, thanks to the contributions of Lindert and Williamson [55], Maddison [56] and the scholars of the Cambridge Group on Population History. The first three, in their analysis of the "*Social Tables*", recognized the importance of King [57] – as well as Massie and Colquhoun for the centuries to follow – the uniqueness of a quantitative vision of social structure and distribution of income in the dark ages of statistics, elaborated using a personal wealth of socio-economic knowledge and information which was lost after their death. After the Cambridge Group researchers in 1997 *de facto* recognized the reliability of King's 1695 population data ,reaching almost identical results through sophisticated reconstructions [58], Maddison reassessed the quality and rigour of King's demographic studies by himself proposing in-depth analysis.

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[54] See MILANOVIC - LINDERT - WILLIAMSON 2007. This latter work offers a mine of data and comparison tables on fourteen ancient pre-industrial societies, about population numbers, housing density, social stratification, levels of urbanization, wage indications, per capita income, concentration indices.

[55] LINDERT WILLIAMSON 1982.

[56] MADDISON 2007.

[57] KING 1696.

[58] The deviation from King's estimate (5,500,000 inhabitants) of 1695 is about 14,000 individuals. See the results and the sophisticated methods of reconstructing the demographic studies of England and Wales which estimate a population of 5,486,000 for the same year WRIGLEY - DAVIS - OEPPEN - SCHOFIELD 1997.

Table 3 - Population composition comparison between Genoa in 1629 and England in 1631

GENOA 1629						
AGE	M		F		Total	
	Individuals	%	Individuals	%	Individuals	%
00 - 14	13.429	50,72%	13.048	49,28%	26.478	32,64%
15 - 59	26.376	51,13%	25.214	48,87%	51.590	63,59%
> 59	1.565	51,11%	1.497	48,89%	3.062	3,77%
Totale	41.370	50,99%	39.759	49,01%	81.130	100,00%

ENGLAND 1631*						
AGE	M		F		Total	
	Individuals	%	Individuals	%	Individuals	%
00 - 14	N.A.		N.A.		1.621.253	32,91%
15 - 59	N.A.		N.A.		2.922.787	59,33%
> 59	N.A.		N.A.		382.775	7,77%
Total					4.926.322	100,00%

ENGLAND & WALES 1695**						
AGE	M		F		Total	
	Individuals	%	Individuals	%	Individuals	%
00 - 15	1.122.000	50,09%	1.118.000	49,91%	2.240.000	40,73%
16 - 59	1.308.000	49,17%	1.352.000	50,83%	2.660.000	48,36%
> 59	270.000	45,00%	330.000	55,00%	600.000	10,91%
Total	2.700.000	49,09%	2.800.000	50,91%	5.500.000	100,00%

* WRIGLEY DAVIS OEPPEN SCHOFIELD 1997, Appendix 9, pgg. 614-615.

** MADDISON 2007, Table 5.4 King's estimates on England and Wales population in 1695, page 265.

Table 3 shows the stratification estimated by King for Wales and England in 1695 – substantially in agreement with the one elaborated by Wrigley, Davis, Oeppen and Schofield for the same year – and compares the estimates of the composition of the Genoese population for 1629 with that of England elaborated by the demographics of the Cambridge Group for 1631 in his "Quinquennial demographic data produced by generalised inverse projection". The similarities found in the comparison are significant. The estimates are broadly the same for the younger portion of the population, which in both contexts accounts for one third of the total.

The adult class is clearly dominant and accounts for at least six tenths of the total population in both Genoa and England. The difference between the two stratifications lies in the weight of the elderly class. Although modest, the gap reveals a double percent incidence of the over-60s across the Channel compared to the Capital. This figure suggests that, most likely, the average age of the Genoese population was lower than the average age (unknown) of the English, whose life expectancy at birth estimated by the demographics of the Cambridge Group was about forty years ($e_0 = 39.72$) [59]. The dependency rate, measured as the ratio of the number of individuals belonging to the two outer groups of the population (young and old) to the central one (adults), is not very dissimilar: 0.573 compared to 0.686.

The fact that out of 1000 adults theoretically independent from an economic standpoint, in Genoa 573 individuals were in theoretical conditions of dependence compared to the 686 estimated for England, probably suggests that the theoretical active population was higher in Genoa than across the Channel.For this latter indicator, a comparison with the Capital in 1629, at least in terms of orders of magnitude, is less immediate. The obligatory reference is that of the "social tables" of Wales and England of 1688, reworked by the previously mentioned scholars.

As can be seen from the adaptation of Table No. 4, applying the composition by age groups and the breakdown between the sexes proposed by King for 1695 [60] to that year, the theoretical working population - albeit including the disabled, men and women of the church and nobles - would rise

[59] WRIGLEY - DAVIS - OEPPEN - SCHOFIELD 1997, p. 614.

[60] MADDISON 2007, Percentages are reported Table 5.4 Population estimates of Wales and England in 1695 by age and gender, p. 266.

to 61.45% of the estimated total population, against 68.85% of the Capital in 1629.

Table 4 - *Stratification of Wales and England population in 1688 based on King's estimates of age and gender composition for 1695*

ENGLAND & WALES 1688***							
Age	M		F		M/F Ratio	Total	
	Individuals	%	Individuals	%		Individuals	%
00 - 09	763.416	50,21%	756.928	49,79%	1,009	1.520.344	27,64%
10 - 15	358.018	49,72%	362.000	50,28%	0,989	720.018	13,09%
16 - 59	1.308.399	49,19%	1.351.652	50,81%	0,968	2.660.051	48,36%
> 59	270.015	44,99%	330.092	55,01%	0,818	600.107	10,91%
Total	2.699.848	49,08%	2.800.672	50,92%	0,964	5.500.520	100,00%

A comparison in terms of unemployed individuals may perhaps be attempted with reference to the male population, but it requires some preliminary considerations. According to King's estimates, the population of more than five and a half million of inhabitants gravitates around 1,390,586, householders, 794,000 of which are workers, peasants, apprentices, the poor and vagabonds. However, according to Lindert and Williamson's regression analyses their number could not exceed 621,669 units to be consistent with the revised estimates of the other six groups of heads of families which precede them in the social tables: Wealthy Élite, professionals, merchants, captains of industry, landowners & farmers and soldiers. Starting from Lindert and Williamson's economic sector breakdown table [61], Maddison proposes an allocation of this vast and indistinct social category assuming that 400,000 persons are employed in agriculture, 100,000 in industry and 121,669 without employment [62]. This latter figure, compared with the total number of men theoretically able to work, suggests that 7.3% of men of working age did not have a job. A much lower percentage than the one

[61] LINDERT WILLIAMSON 1982, p. 389.

[62] MADDISON 2007. Maddison acknowledges that his hypothesis of allocation may appear arbitrary but nevertheless based on the reflections shared by King in his Notebook (p. 209); Comments on Table 5.10, p. 279.

estimated for the Capital in 1629, where the active male unemployed population was more than double (15.33%).

However, the view that work is a right was not the cultural norm of a time when persons without employment were regarded as lazy or idle. Although the problem of precarious working relationships and employment instability are at the root of economic inequalities in the population, until the nineteenth century censuses do not consider the jobless, who are grouped together with the inactive [63]. In Italy, for instance, both the 1861 and 1871 censuses provide an index of the inactive population in relation to the total population – respectively 41% [64] and 43.4% [65] – which includes a group of "*people who are financially dependent on others or without a specific profession*" consisting in women over 15 years of age and individuals who did not have a job or had not declared having one [66].

Excluding these categories of people to attempt a comparison with the rate estimated for Genoa (31.15%), the index decreases to 28.73% in 1861 and 26.34% in 1871 [67]. The element that can be derived from the juxtaposition of the two sets of data is the further pointer about the presence of a

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[63] ALBERTI 2016.

[64] 1861 Census reports 10,793,000 inactive individuals. Dependents on others are 8,155,917. Excepting the poor, wanderers or hospitalized (305,343, equivalent to 1.4% of the population); persons financially dependent on others are 7,850,574 individuals: 2,520,286 males and 5,330,288 females. They were distributed as follows: children of very low age (4,621,917), housewives (2,916,491) and persons who – although within a working age – did not declare either their occupation or their profession (312,166). Statistica del Regno d'Italia, Popolazione. Censimento generale 31 dicembre 1861, vol. III, Tipografia Letteraria, Florence 1866.

[65] 1871 census reports 12,210.00 inactive people. Individual "*dependents and without a specific profession*" amounted to 11,773,208. Considering only the population over 15, in the category of "dependants and without a specific profession" there were 377,387 males and 4,415,295 females (respectively 4.1% and 48.7% of the population over 15 years). Statistica del Regno d'Italia, Popolazione classificata per professioni, culti e infermità principali. Censimento 31 dicembre 1871, vol. III, Stamperia reale, Rome 1876, p. VI.

[66] ALBERTI, 2013, pp. 243-259. Available on line https://media.fupress.com/files/pdf/24/2651/2651_6301

[67] In 1861 the inactive population, removing dependants or individuals without a given occupation, fell to 7,564,343 individuals out of a total population of 26,328,000 people. In 1871 the inactive population rectified as above dropped to 7,417,318 persons out of a total population of 28,151,000. ISTAT, *Sommario di statistiche storiche dell'Italia 1861-1975*, Istat, Roma 1976, p. 13.

very young population in the Capital, where out of ten inactive almost eight are not old enough for apprenticeship.

Table 5 - *Population comparison with the stratification of the Italian Kingdom in 1861*

	Genoa	Italian Kingdom	
Age Class	**1629***	**1861°**	**Δ**
0 - 14	32,64%	34,19%	-1,55%
15 - 59	63,59%	59,26%	4,33%
> 59	3,77%	6,50%	-2,73%
Total	100%	100%	
Average Age	?	27	

*** Population estimate** **° ISTAT Official Census 1861**

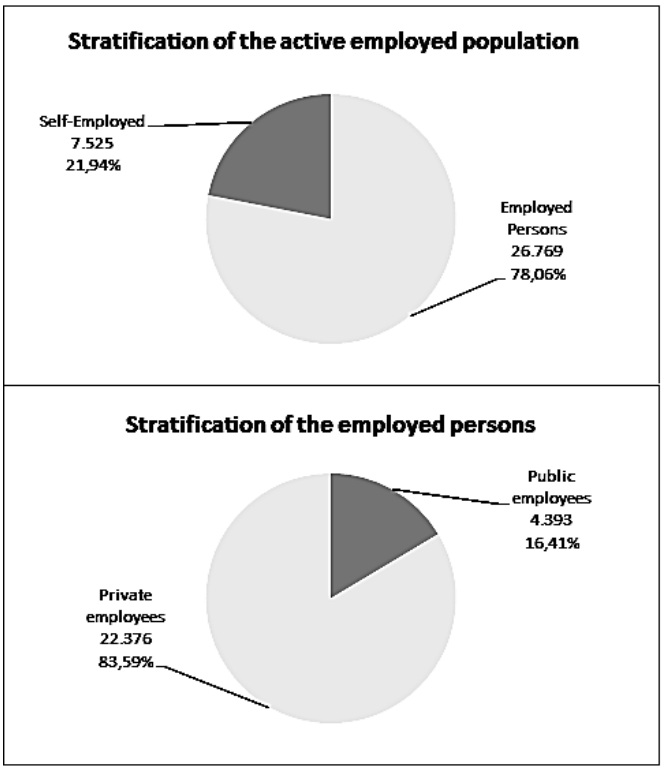
The comparison between the two stratifications shows interesting analogies. The weight of the younger population is substantially overlapping and clearly dominant if observed as a statistical distribution, because the number of years within this age class is much shorter than the other two. Adulthood is the area with the highest deviation. However, as detailed in my upcoming publication, the estimation of distribution within this class decreases while age increases. Furthermore, it is primarily spread out in the range between fifteen and twenty-one years, in other words on those born from 1614 to 1608; a period characterized by a higher birth rate than in the years from 1597 to 1607.

In contrast, the weight of the elder population in the Italian Kingdom was 6.55% in relative terms, almost twice the amount estimated for Genoa's population. As the Italian Kingdom 1861 census, built on the above stratification, reports an average age of 27 years, it is highly likely that in the Genoese urban agglomeration within the city walls this average index is at the same level or even lower.

An ad hoc question on the state of unemployment appeared only in 1901 census. Although no longer repeated in the years to come until 1931, it exclu-

sively referred to temporarily unemployed individuals engaged in manual work: day labourers, workmen, servants and artisans. The absolute figure recorded is 229,117 individuals over 15 years of age compared to an active population of 16,695,000 inhabitants [68]. The relative percentage, 1.31%, is distant even from the most conservative estimate proposed for Genoa in 1629.

Graph 4 - *Profile of the active employed population*



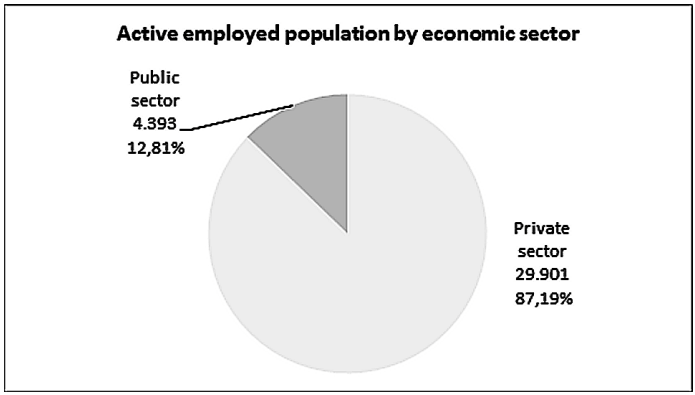
In the previous tables we have analysed the demographic stratification of the population and the gender distribution of the active employed population. At this point, the observation shifts to employment characteristics. Estimates signify a clear prevalence of employed people (78.06%) compared to the self-

[68] Ministero di Agricoltura, industria e commercio. Direzione generale della statistica, *Censimento della popolazione del Regno d'Italia al 10 febbraio 1901*, vol. V, p. 157.

employed (21.94%). The first category conventionally includes all those who had a subordinate relationship to an employer, embodied by a physical person or a public or private juridical person, namely an entity or an organisation having legal personality. The self-employed constituted the real engine of the economy of preindustrial society and they created the vast majority of economic wealth through four fundamental categories: artisans, merchants, merchant-entrepreneurs and professionals.

In the context of subordinate work, the private sector had a net prevalence over the public sector: more than eight out of ten employed persons worked for one of the four key private categories mentioned above.

Graph 5 - *Estimate of active employed population by economic sector*



The importance of the private sector in the urban economy of 1629 is further consolidated if we look at the estimates of employed persons distributed between the two sectors, regardless of the type of contractual lien established between the parties. Historical data referring to 1628 and 1630 head tax levied on the bases of a fixed amount per person combined with estimates indicate that nearly nine out of ten persons of the active employed population were engaged in a private economic activity.

An overall picture of the structure of the city's economy and the wealth produced in the year investigated derives from the allocation of employees across the different activities and the incomes redistributed by the various sectors through wages. In absolute terms, the leading sector from an employment point of view was domestic services, which is part of a category generically defined "Other Sectors".

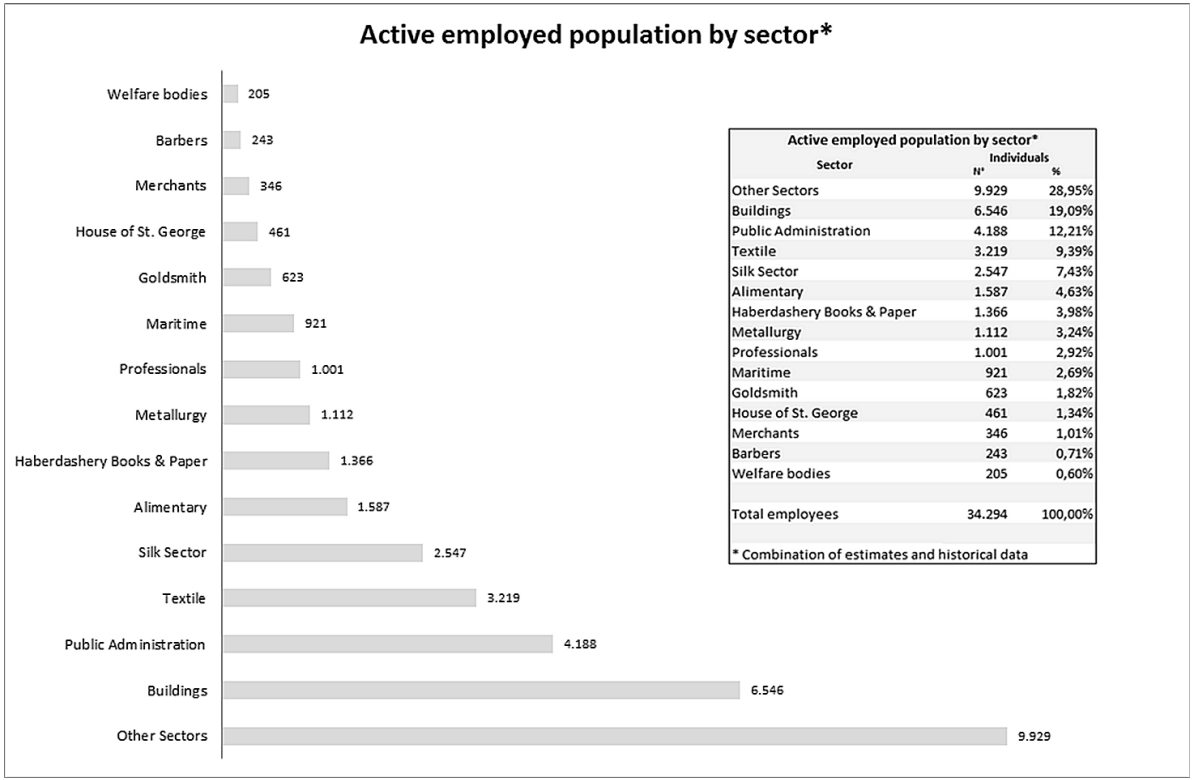
Between men, identified through the aforementioned capitations, and women, evaluated on the basis of the assumptions detailed in the forthcoming book, we estimate 7,887 employed persons, equivalent to 23.05% of the total working population. Within this hybrid category we find 1,197 dockworkers, locally called *camalli*, identified by the head taxation levied on to finance the new city walls construction.

The second sector in terms of labour absorption is building, i.e. the group of persons directly and indirectly involved in all construction activities. The sector employed almost one person out of five in work, enlisting highly qualified professionals, such as mason craftsmen, sculptors, stonecutters, carpenters, scaffolders, painters, together with many workers with little or no experience working in labor intensive non-specialized activities such demolitions, excavations, terracing, removals and transportations of materials.

The Public Administration, understood as the set of state and public offices within the city walls, recruited over ten per cent of the active employed workforce. Of the 4,188 estimated public employees, 2,359 people (56%) served the Galleys Superintendents in the public fleet, which fitted out eight vessels in the year under investigation. Among these workers, 470 individuals worked on board as officers, general staff and sailors, and 1889 scullers distributed among oarsmen (615), convicts (635), who served their time at the oar, repaying through their physical efforts the costs of their criminal proceedings together with all debts incurred on board, and slaves (639), who were entitled only to nourishment. On the mainland, the professional category most represented in the public administration was the defence and protection of public order, which hired 673 individuals made up by indigenous militias devoted to the city walls defence (424) and local police (249).

The third and fourth most important private sectors in terms of employment were textiles and silk, both characterized by two common traits of economic development. The first was the expansion of productive activities in the administrative districts outside the wall enclosure along the two nearby coasts, used by artisans and principally by merchants-entrepreneurs as pools of cheap labour. Estimates carried out point out an externalization of 44.83% in textiles (2,616 individuals) and 65.52% in silk (4,839 individuals). The second common trait was the prevalence of female employment in both sectors: women accounted for 58.82% in textiles (3,270 women) and for 70.89% in silk (5,069 women). Overall, regardless of geographical and gender distinctions, the two sectors employed 13,221 individuals: 8,337 were women (63.04%) and 7,455 worked outside the city walls (56.39%).

Table 6 - Employees by economic sector



Active employed population by sector*		
Sector	Individuals N°	%
Other Sectors	9.929	28,95%
Buildings	6.546	19,09%
Public Administration	4.188	12,21%
Textile	3.219	9,39%
Silk Sector	2.547	7,43%
Alimentary	1.587	4,63%
Haberdashery Books & Paper	1.366	3,98%
Metallurgy	1.112	3,24%
Professionals	1.001	2,92%
Maritime	921	2,69%
Goldsmith	623	1,82%
House of St. George	461	1,34%
Merchants	346	1,01%
Barbers	243	0,71%
Welfare bodies	205	0,60%
Total employees	34.294	100,00%
* Combination of estimates and historical data		

Table 7 - *Labour incomes distributed by economic sector*

Employees and salary bill by sector*				
Sector	Individuals		Salary bill	
	N°	%	Lire Correnti	%
Other sectors	9.929	28,95%	2.040.489	19,59%
Buildings	6.546	19,09%	1.410.205	13,54%
Silk	2.547	7,43%	1.142.156	10,97%
Professionals	1.001	2,92%	857.497	8,23%
Textile	3.219	9,39%	842.929	8,09%
Public Administration	4.188	12,21%	834.621	8,01%
Merchants	346	1,01%	831.206	7,98%
Haberdashery, Books & Paper	1.366	3,98%	653.010	6,27%
Alimentary	1.587	4,63%	510.872	4,91%
Metallurgy	1.112	3,24%	369.905	3,55%
Goldsmith	623	1,82%	342.595	3,29%
Maritime	921	2,69%	254.753	2,45%
House of S. George	461	1,34%	219.006	2,10%
Barbers	243	0,71%	68.755	0,66%
Welfare bodies	205	0,60%	35.584	0,34%
Total employees	34.294	100,00%	10.413.582,86	100,00%

* Combination of estimates and historical data.

In terms of number of employees, the maritime sector deserves a dedicated analysis, which is provided in the upcoming publication. Staff estimates exclusively relate to city dwellers embarked on the private fleet, given that a large part of the crew was recruited along the route. For instance, convicts were often enlisted through agreements with other political entities and slaves were purchased at the various ports of call, exploiting the best commercial opportunities.

Sorted in descending order according to the individual average annual salary, Table n. 7 combines headcounts and payroll redistributed from each economic sector with people hired within the city walls. Interestingly, the first five sectors distributed 60.43 % of the city's wealth to 67.77% of the employees, while the other ten distributed 39.57% of the whole compensation to 32.23% of the workforce.

The table reveals that a number of sectors at the top of the ranking in terms of employee intensity – Public Administration, Haberdashery, Alimentary and Metallurgy – significantly lag behind in the ranking of distributed wealth and are behind sectors with lower labour intensity. This observation immediately raises some general points regarding the distribution of labour income across the population through the filter of productive sectors.

Table 8 - *Labour incomes and average annual salary*

Employees, payroll and salaries distributed by economic sector*					
Economic sector	Individuals		Total payroll		Average Salary in Lire Correnti
	N°	%	Lire Correnti	%	
Merchants	346	1,01%	831.206	7,98%	2.402,33
Professionals	1.001	2,92%	857.497	8,23%	856,64
Goldsmith	623	1,82%	342.595	3,29%	549,91
Haberdashery, Books & Paper	1.366	3,98%	653.010	6,27%	478,05
House of St. George	461	1,34%	219.006	2,10%	475,07
Silk	2.547	7,43%	1.142.156	10,97%	448,43
Metallurgy	1.112	3,24%	369.905	3,55%	332,65
Alimentary	1.587	4,63%	510.872	4,91%	321,91
Barbers	243	0,71%	68.755	0,66%	282,94
Maritime	921	2,69%	254.753	2,45%	276,61
Textile	3.219	9,39%	842.929	8,09%	261,86
Buildings	6.546	19,09%	1.410.205	13,54%	215,43
Other sectors	9.929	28,95%	2.040.489	19,59%	205,51
Public Administration	4.188	12,21%	834.621	8,01%	199,29
Welfare Bodies	205	0,60%	35.584	0,34%	173,58
Total employees	34.294	100,00%	10.413.582,86	100,00%	

* Combination of estimates and historical data

The inclusion of the average annual salary by sector in Table n. 8 provides further clues of the distribution of the incomes within the city walls. The fact that Merchants represented the most wealthy profession is not surprising. What is interesting to observe is rather the ratio of their compensation compared to the second economic sector in terms of average annual salary. Estimates reveals that one Mercatores earned in an entire year as much as three Professionals. Hidden among silk total payroll, the compensation of the Setaioli – merchant entrepreneurs – was aligned to the one of the Professionals, significantly contributing to raise the average of their sector. A similar observation applies to Drappieri and Lanieri – the other two types of merchant entrepreneurs existing at that time and belonging to the textile sector.

Their salaries compare to those of Professionals and contribute to significantly raising the average level within their productive sector. The best-paying employer was certainly the House of St. George, which distributed average wages equal to double those paid by the State and two and a half times those of the welfare bodies. Among the arts, the richest sector was Haberdashery, Books and Paper artisans; also in this branch, average compensations were pushed upwards by master artisans' emoluments aligned to those of the Professionals.

The table also illustrates the distribution of wealth produced and redistributed by the different sectors through wages. In fact, eleven economic sectors, grouping 90.27% of the workforce, delivered 74.22% of the wage bill, while 4 out of 15 – accounting for 9.75% of employees – redistributed almost one third (28.35%) of total labour incomes.

The concentration dynamic of wage and employee distribution in the different branches is expressed in the Graph 6, while the corresponding calculation of the index is as follows:

$$\text{I.C.}_{\text{Salary Bill}} = 1 - \frac{2}{n-1} \sum_{i=1}^{n-1} Q_i = 0{,}26114404$$

The coefficient obtained indicates a low concentration and reveals an equitable contribution of the different economic sectors to the total wage bill.

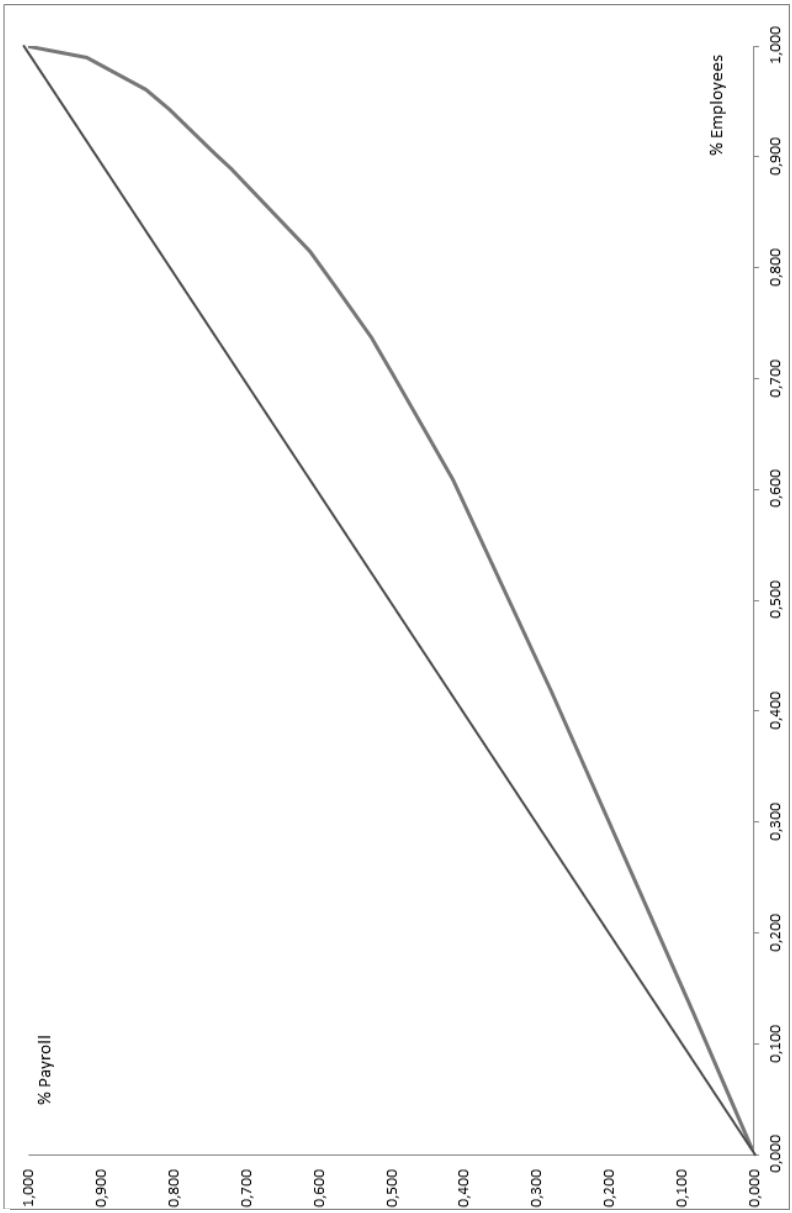
3.4. *Labour income distribution and population*

In the following paragraph, I will analyse labour income concentration, going beyond the filters of the different economic branches and the active employed population, and shifting the focus to individual earners and the population as a whole, to build a model as representative as possible of the wealth distribution inside the city walls.

3.4.1. *Labour income distribution: conceptual maps*

Average income distributed by an economic sector to its employees provides an idea of the relative well-being generated by that sector and, in some way, of its prosperity. However, within the same sector various factors, such as work organisation, hierarchies, responsibilities and individual different competences, determine a more rounded picture than salary averages alone. In order to somehow overcome this limit and be in a position to analyse wage distribution among individuals across the different areas of business, I pursued an in-depth observation of the characteristics of the various economic

Graph 6 - Payroll concentration index by economic sectors



sectors and on the combination of the resources they employed. Therefore, I took care to reconstruct for each sector a number of professional profiles which were adequately representative of the social economic-organization of the time, collecting and elaborating historical data on the various fields obtained from archives, either found by other scholars or through my personal research, and estimates resulting from hypotheses and conjectures to be detailed in the future publication. In this way, I have elaborated 136 different professional and pay profiles [69]; in some cases, "individuals" when referring to a specific professional assignment, and in many others cases "collectives" when attributable to a group of people having the same qualification. The Cashier of the House of St. George or the Choirmaster directing the musicians of the ducal palace, for instance, fall in the first category. Blacksmith Masters or Weavers masters are examples of collective profiles as they include all craftsmen of the same craft derived by capitations.

To provide a cross-sectional observation to the various economic sectors aimed at formulating some hypotheses on the concentration of these labour incomes among the population, I then expressed the combination of data and estimates by means of two tools:

– a general synoptic table, where the active employed population is redistributed over a rising scale of fourteen annual salary ranges. For each of them, the table reports the number of employees, the number of profiles embedded, the average salary of the band, the total payroll distributed, the kind of employment relationship (subordinated/self-employed) and the private or public nature of the employer. The information is provided for the total number of individuals employed and with a distinction by sex;
– scatter plots – or scatter tables – which are intended to give depth to the individual ranges of the synoptic table by returning qualitative information on remuneration profiles. Using Cartesian coordinates to display values for typically two variables for a set of data, each scatter plot became a conceptual map visually showing the position in which the professional and pay profiles of each wage bracket stand against two key coordinates: the headcounts and average salaries.

The synoptic Table 9 offers immediately two interesting elements; firstly, the reference salary range of the working population within the category 'Salary

[69] Curiously, there are 135 valid profiles for the city and dominion and one specific for 'the Captain of Voltri'.

Table 9 - Synoptic table of labour incomes of the active employed population in 1629

HISTORICAL DATA AND ESTIMATES ON SALARY RANGES, PAY AND PROFESSIONAL PROFILES, AVERAGE SALARIES																													
Active employed population										Men									Women										
Salary range		Individuals		Range data				Employment Relationship			Individuals		Range data				Employment Relationship			Heads		Range data				Employment Relationship		
N°	Lire C	N°	%	Profiles	Average Salary Lire C	Total Salaries Lire C	% Total Salaries	SUB		SELF	N°	%	Profiles	Average Salary Lire C	Total Salaries Lire C	% Total Salaries	SUB		SELF	N°	%	Profiles	Average Salary Lire C	Total Salaries Lire C	% Total Salaries	SUB		SELF
								PUBLIC	PRIVATE								PUBLIC	PRIVATE								PUBLIC	PRIVATE	
1	< 150	3.952	11,52%	16	106,34	420.263,03	4,04%	1.588	2.364	-	3.193	12,99%	13	107,98	344.777,57	4,04%	1.588	1.605	-	759	7,81%	3	99,45	75.485,460	4,00%	-	759	-
2	< 300	23.752	69,26%	51	206,45	4.903.552,99	47,09%	2.450	19.544	1.758	14.795	60,20%	43	209,08	3.093.333,41	36,27%	2.367	10.670	1.758	8.957	92,19%	8	202,10	1.810.219,580	96,00%	83	8.874	-
3	< 500	2.900	8,46%	22	350,55	1.016.607,00	9,76%	221	135	2.544	2.900	11,80%	22	350,55	1.016.607,00	11,92%	221	135	2.544	-	0,00%					-	-	-
4	< 700	277	0,81%	8	542,18	150.183,33	1,44%	18	259	-	277	1,13%	8	542,18	150.183,33	1,76%	18	259	-	-	0,00%					-	-	-
5	< 900	2.678	7,81%	17	848,24	2.271.589,78	21,81%	44	26	2.608	2.678	10,90%	17	848,24	2.271.589,78	26,64%	44	26	2.608	-	0,00%					-	-	-
6	< 1.100	3	0,01%	1	900,00	2.700,00	0,03%	-	3	-	3	0,01%	1	900,00	2.700,00	0,03%	-	3	-	-	0,00%					-	-	-
7	< 1.300	74	0,22%	3	1.190,88	88.125,24	0,85%	38	36	-	74	0,30%	3	1.190,88	88.125,24	1,03%	38	36	-	-	0,00%							
8	< 1.500	7	0,02%	2	1.402,46	9.817,25	0,09%	5	2	-	7	0,03%	2	1.402,46	9.817,25	0,12%	5	2	-	-	0,00%					-	-	-
9	< 1.700	4	0,01%	2	1.548,75	6.195,00	0,06%	4	-	-	4	0,02%	2	1.548,75	6.195,00	0,07%	4	-	-	-	0,00%					-	-	-
10	< 1.900	9	0,03%	2	1.831,81	16.486,26	0,16%	9	-	-	9	0,04%	2	1.831,81	16.486,26	0,19%	9	-	-	-	0,00%					-	-	-
11	< 2.100	41	0,12%	3	2.017,89	82.733,57	0,79%	3	5	33	41	0,17%	3	2.017,89	82.733,57	0,97%	3	5	33	-	0,00%					-	-	-
12	< 2.300	5	0,01%	1	2.181,77	10.908,85	0,10%	5	-	-	5	0,02%	1	2.181,77	10.908,85	0,13%	5	-	-	-	0,00%					-	-	-
13	< 2.500	582	1,70%	2	2.402,33	1.398.156,06	13,43%	-	-	582	582	2,37%	2	2.402,33	1.398.156,06	16,40%	-	-	582	-	0,00%					-	-	-
14	> 2.500	9	0,03%	5	4.029,39	36.264,50	0,35%	7	2	-	9	0,04%	5	4.029,39	36.264,50	0,43%	7	2	-	-	0,00%					-	-	-
General Total:		**34.293**	**100,00%**	**135**	**303,665**	**10.413.582,86**	**100,00%**	**4.392**	**22.376**	**7.525**	**24.577**	**100,00%**	**124**	**346,99**	**8.527.877,82**	**100,00%**	**4.309**	**12.743**	**7.525**	**9.716**	**100,00%**	**11**	**194,08**	**1.885.705,04**	**100,00%**	**83**	**9.633**	-

Graph 7 - Salary Range N. 2 plot chart

details' includes average salaries between 150 and 300 *Lire Correnti* per year, concentrating 68.73% of the workforce (23,752 individuals) who receive an average annual reward of 206,448 *Lire*. Within this band, men (14,795) receive an average salary (209.08 *Lire Correnti*) 3.45% higher than women (202.10 *Lire Correnti*). Almost all in work (92.48%) were in subordinate employment: 11.14% worked in the public sector (State or Welfare Institutions) and 88.86% in the private sector. Only 7.52% were self-employed and belonged to low-level crafts. Within this segment, 51 of the 136 professional pay profiles are reconstructed: 43 for men and 8 for women. The second element revealed by the synoptic table refers to women's employment and provides three pieces of information: the female workforce is redistributed exclusively in the first two pay brackets, the lowest in terms of rewards; in both bands women earned lower average wages than men; finally, no women were self-employed.

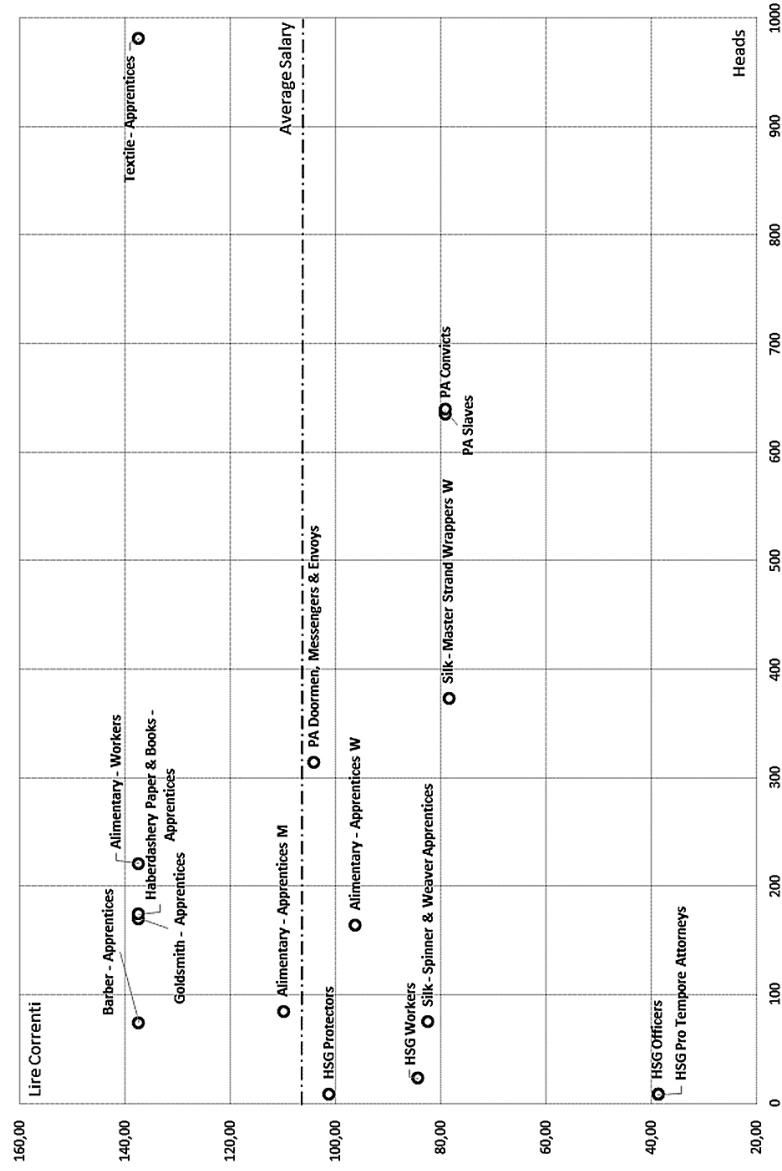
We now analyse in detail the second salary range in terms of pay profiles and professions allocated with the support of the relevant plot chart (Graph 7). There are five macro categories of employees: workers and labourers of the various crafts (7,039 individuals), servants and porters (9,084), the vast majority of public employees (2,450), the less wealthy artisans classes (1758 individuals among them master spinners, master weavers, *Repezzini*[70], *Rebaroli*[71], *Untori*[72]) and the House of Saint George operational personnel (146 individuals including guardians, *Barigelli*[73], watchmen, knights and young assistants assigned to auditors, scriveners and deputies). It is interesting to observe the distribution of pay profiles compared to the average salary of the economic sector, equal to 206.448 *Lire Correnti* per year. The soldiers of the Republic Army and the officers in charge for maintaining public order (Barigelli and Prison Guards) are flattened on the lower edge of the salary band. Senior Sailors hired by the private ship-owners (299.42 *Lire Correnti* per year) are positioned close to the upper limit of the plot chart. Behind them we find three professional profiles belonging to the House of St. George: Subscriveners (278.25 *Lire Correnti*), youths assigned to Auditors, Scriveners and

[70] *Repezzini* is the name used in Genoa for resellers of old clothes and other discarded items.

[71] The *Rebaroli* were artisans marketing legume flour, including chestnut, rye and millet.

[72] The *Untori* were artisan tanners responsible for preserving and processing leather. They were also called *ongitori* as they smeared hides with oily substances suitable for processing which gave off a strong and unpleasant smell.

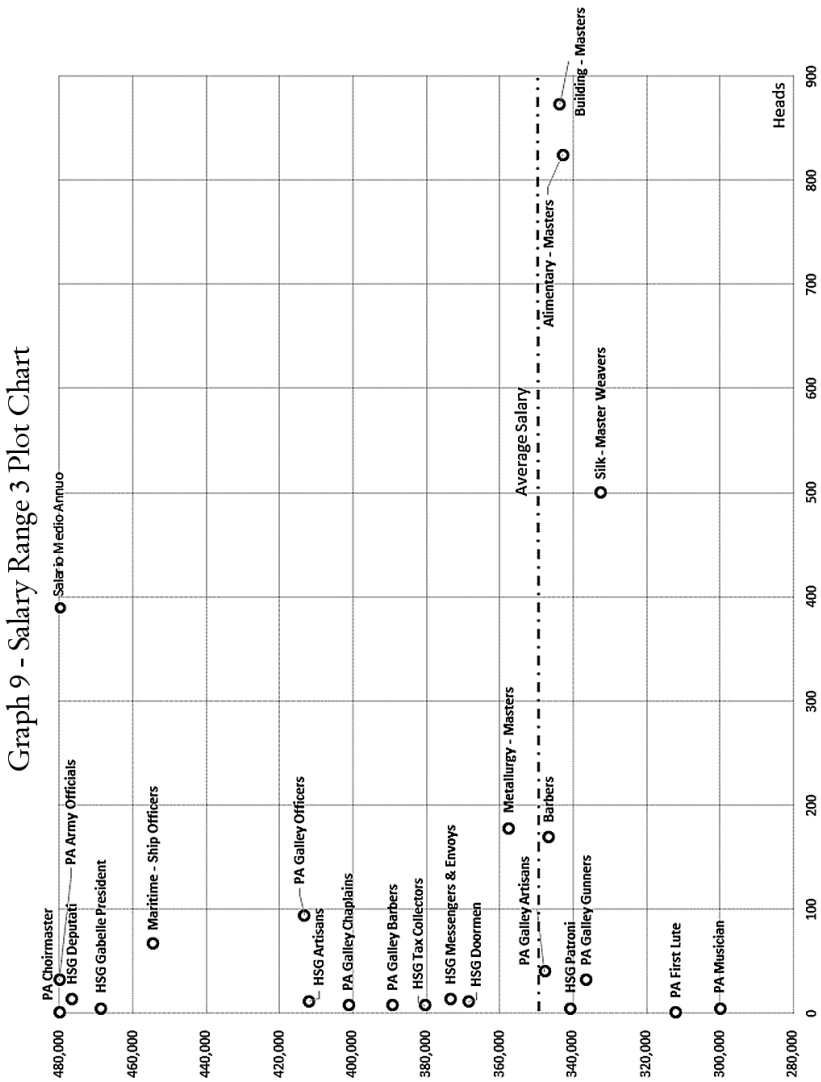
[73] *Barigelli* is the name used to qualify private or public security officers.


Graph 8 - Salary Range 1 plot chart
Lire Correnti
Barber - Apprentices
Alimentary - Workers
Haberdashery Paper & Books - Apprentices
Goldsmith - Apprentices
Textile - Apprentices
Alimentary - Apprentices M
Average Salary
PA Doormen, Messengers & Envoys
HSG Protectors
Alimentary - Apprentices W
HSG Workers
Silk - Spinner & Weaver Apprentices
Silk - Master Strand Wrappers W
PA Convicts
PA Slaves
HSG Officers
HSG Pro Tempore Attorneys
Heads
160,00
140,00
120,00
100,00
80,00
60,00
40,00
20,00
0
100
200
300
400
500
600
700
800
900
1000

Deputies (270.52 *Lire Correnti*), Knights (262.71 *Lire Correnti*) and the Senior Sailors (272.2 *Lire Correnti*) of the public fleet at the service of the Galleys Superintendents. The first craftsmen we meet descending this segment are the master spinners of the silk sector and the master weavers belonging to textiles (264.31 *Lire Correnti*), whose incomes were slightly higher compared to the salaries of workers at the service of the richest artisan guilds, namely Haberdashery, Paper and Book manufacturers, Goldsmith and Buildings. Women workers in Haberdashery along with almost all clerks and workers of the Public Administration and Welfare bodies are positioned just above the average salary of the segment. This latter parameter is significantly influenced by the multitude of individuals making up the most humble artisan classes mentioned above together with porters, servants and private nurses.

Just below this average we find the majority of the crafts workforce whose salaries gradually slip downwards from Silk, Textile workers and Silk warpers (192.5 *Lire Correnti*), to Buildings and Metallurgy workers (185.63 *Lire Correnti*) down to Building labours (185,625 *Lire Correnti*). The guardians of the House of St. George (181.30 *Lire Correnti*) are positioned slightly below this level of compensation. This salary range includes best paid apprentice category; those apprentices at the service of silk dyers (192.5 *Lire Correnti*). Alimentary and Welfare Bodies workers, as well as private security officers and silk master warpers, who worked mainly from home and probably on a part-time basis, are positioned 20% below the average salary of the range. Just below these occupations are the only other two apprentice categories of the segment: boys at the service of Building and Metallurgy craftsmen.

The first wage bracket, with salaries below 150 *Lire Correnti*, is the poorest segment of the synoptic chart and accounts for 11.52% of the active employed population. The Synoptic Table 9 reveals that all individuals falling in this salary range were employed persons earning an average annual reward of 106,342 *Lire Correnti*: about half of the average salary of the upper band. Men account for 80.79% of the total and received an average compensation (107.98 *Lire Correnti*) 8.58% higher than women (99.45 *Lire Correnti*). In two out of three cases, the employer is a private entity, represented by a craftsman. Within this segment, there are 16 of the 136 pay profiles reconstructed: 13 for men and 3 for women. Graph 8 clearly shows that apprenticeship falls almost entirely within this segment, accounting for 49.16% of the total number of individuals. 1,943 young people employed out of the 3,481 estimated for 1629 – namely 55.81% – are allocated in this band, which encompasses the professional category's lowest wage levels. Busboys belonging



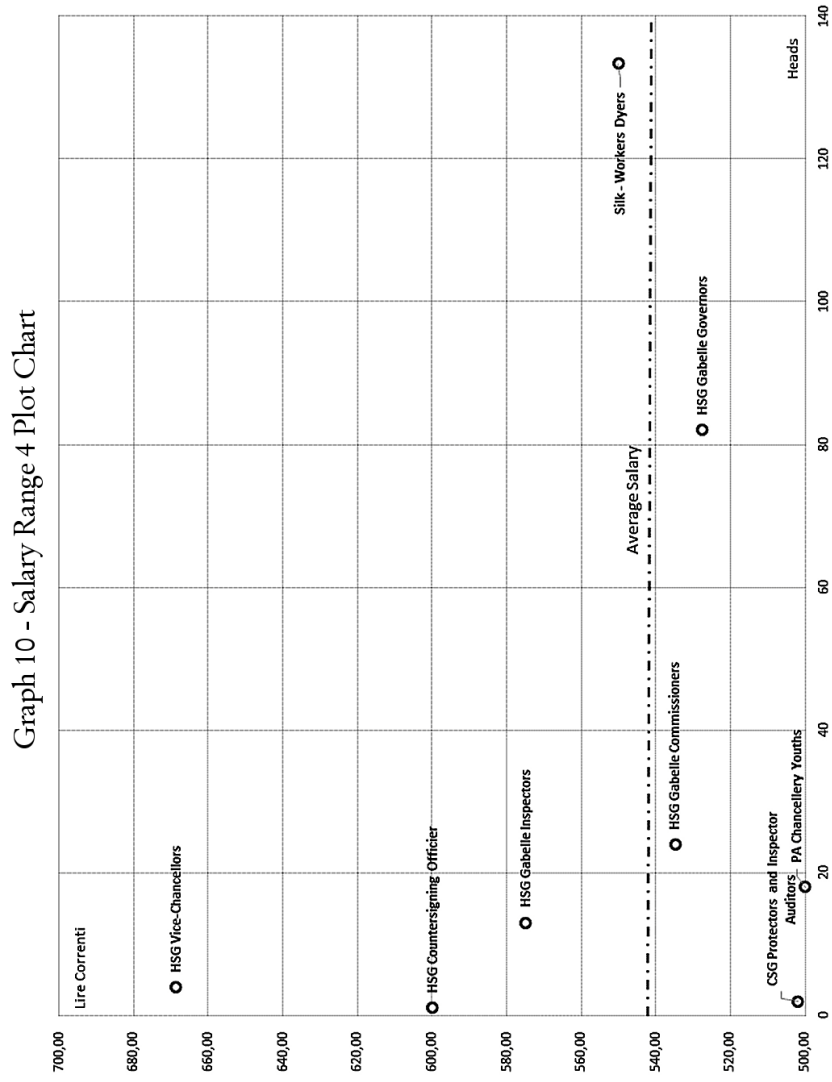
to master Goldsmiths, Haberdashers, Papers manufacturers and Barbers are at the upper edge of the plot chart, relying on an annual compensation of 137.5 *Lire Correnti*. Behind them we find the apprentices working in the Alimentary sector (96.25 *Lire Correnti*) and finally those hired by Spinners

and Weavers (82.5 *Lire Correnti*). The average remuneration of the pay band is dictated by the *Traglietta*[74] who served in the public administration and drew an average annual salary equal to 104.198 *Lire Correnti*. On the lower edge of the chart we find two different categories of oarsmen belonging to the public fleet: convicts and slaves.

The rules regulating their engagement will be discussed in detail in the forthcoming book. However, convicts and slaves are part of this wage analysis because they received compensation in kind from the Galleys Superintendents and were undoubtedly part of the workforce at the service of the Republic. Substantially paired to the oarsmen, the plot chart highlights the worst paid voluntary activities, namely those carried out by Spinner and Weaver apprentices (82.5 *Lire Correnti*) and by the Master strand silk wrappers (78.52 *Lire Correnti*), whose job was typically part-time and done by women. Finally, the chart highlights the compensation of four profiles belonging to the House of St. George: the annual one-off compensation awarded to the 8 Protectors (80 *Lire Correnti*), the 8 Pro Tempore Attorneys, the 8 Officers (38.75 *Lire Correnti*) and the part-time remuneration paid to 23 workers (84.29 *Lire Correnti*).

In the third pay range, which includes all annual salaries between 300 and 500 *Lire Correnti*, we find exclusively male workers (2,900 individuals) representing 8.46% of the active employed population. Their earnings, equal to 9.76% of the total salary bill, corresponded to an average annual salary of 350.55 *Lire Correnti*. Twenty-two professional profiles fall into this segment: 87.72% of them (2,544 persons) were self-employed artisans but among employees there were also workers carrying out craft professions for the House of St. George (12) or the Public Administration (40). As visually illustrated in Graph 9, the average salary of the segment is mainly due to the craft profiles positioned between the upper imaginary line of 360 *Lire Correnti* – close to the Metallurgy Masters remuneration – and the lower virtual edge corresponding to 330 *Lire Correnti*, prerogative of the Silk Master Weavers. Within this area there are Barbers, Alimentary and Building Masters and artisans working on board for the public fleet. Officers of the Army and Choirmaster are placed on top of this third salary range with a personal appanage of 480 *Lire Correnti*. The entire orchestral body of the

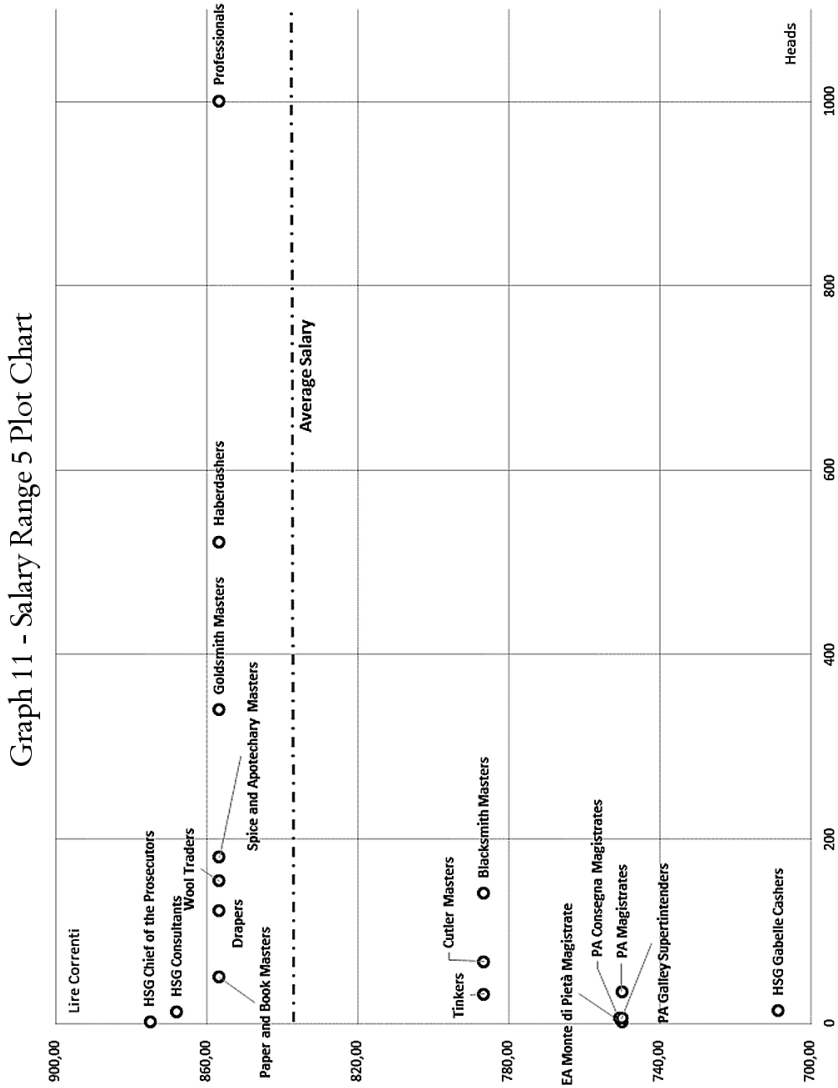
[74] *Traglietta* were public employees assigned to various occupations, such as doormen, ushers, messengers, envoys or agents.



ducal palace falls within the wage perimeter in question but – except for the First Lute (312 *Lire Correnti*) – the other members drew salaries flattened at the bottom of the grid (300 *Lire Correnti*). Officers hired by the private armament (454.61 *Lire Correnti*) are positioned just below the top catego-

ries. In addition to their artisans, the House of St. George is also significantly represented within this wage band with three key profiles involved in the tax collection process. Deputies and Presidents of gabella are positioned close to the upper limits of the pay bracket, respectively with 476.70 and 468.75 *Lire Correnti*. Tax Collectors received a compensation (380.47 *Lire Correnti)* significantly above the band average, but substantially aligned with two other categories with operational responsibilities within the organizational chart of the House: messengers and envoys of the institution (373.3 *Lire Correnti*) – namely the *Traglietta* – and doormen (368.54 *Lire Correnti*). In quantitative terms, the top employer within the Public Administration is the Magistrate led by the Galley Superintendents. In addition to the craftsmen taking care of maintenance and repairs on board we find here the apanages of several crew members: Officers, Gunners, Barbers and even Chaplains serving on board. This is the only religious body whose remuneration is known.

The fourth wage band, which includes compensations between 500 and 700 *Lire Correnti*, has a small weight in terms of the number of persons (0.81%) and redistributed incomes (1.44%), but the average salary level, equal to 542.18 *Lire Correnti*, is significantly higher (54.66%) compared to the preceding band. There are 18 salary profiles allocated to this segment. As illustrated in Graph 10, all these occupations had in common a subordinate employment contract attributable to three employers: the Master Silk Dyers, the Public Administration and, primarily, the House of St. George. Apart from the 18 Youths serving the Chancellery of the Republic (500 *Lire Correnti*) and the compensation of the 133 workers belonging to the silk sector (550 *Lire Correnti*), which drives the average salary of the band and represents 48.01% of the total of individuals, we find in this salary bracket six different types of middle officials hired by the House of Saint George. Excluding the four Vice-Chancellors (668.75 *Lire Correnti*), whose pay significantly exceeded the levels of their colleagues, as clearly highlighted in the relevant plot chart, all those executives supervised the tax collection process. Slightly below the Countersigning Officer of the *Gabella della Canna* (600.00 *Lire Correnti*), there are 13 *Gabelle* inspectors (575 *Lire Correnti*) positioned above the 24 *Gabelle* Commissioners (534.9 *Lire Correnti*), followed by 82 *Gabelle* Governors (527.55 *Lire Correnti*) and the 2 Auditors working for St. George Protectors and Inspectors (500 *Lire Correnti*).

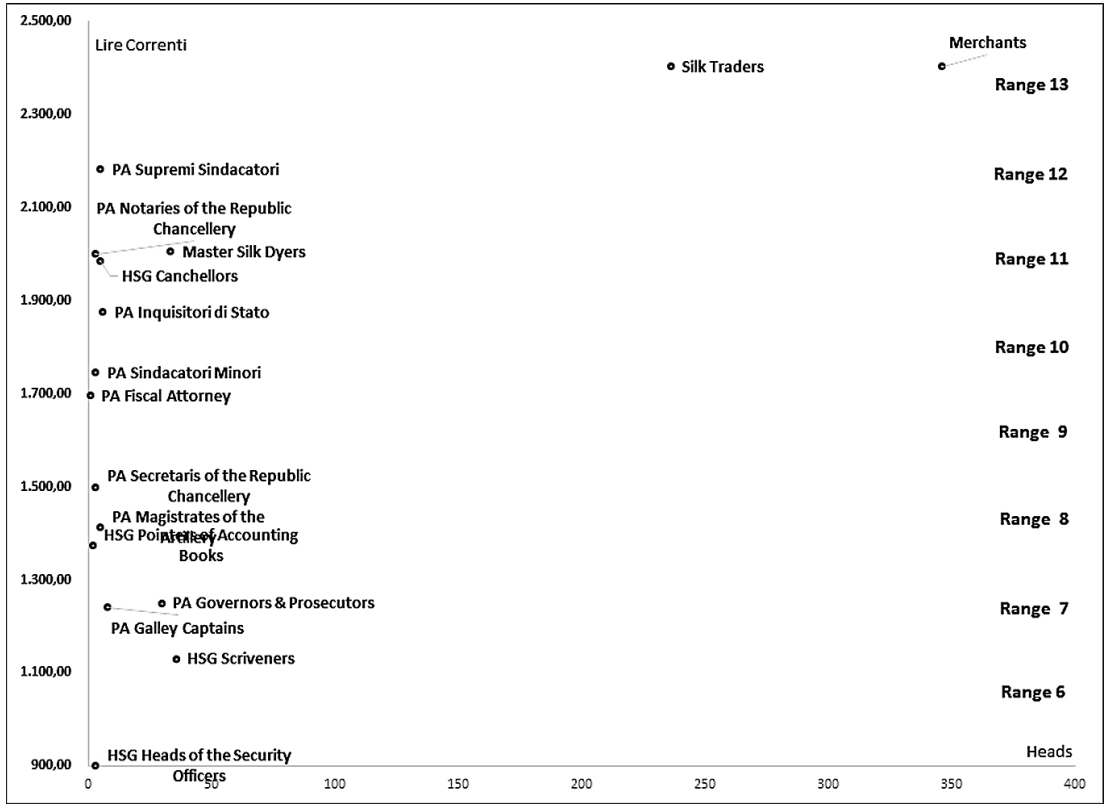


The fifth pay bracket, which includes salaries between 700 and 900 *Lire Correnti*, represents 7.81% of the active employed population, drawing 21.81% of the total wage bill redistributed within the city area. The average salary of this band, which contains only 17 professional profiles, amounts

to 847.93 *Lire Correnti*. The analysis carried out so far reveals that each band is characterized by a particular professional macro-category. Supported by the scatter tables, the first segment or band belongs to the apprenticeship, the second represents craft workers, the third is the prerogative of the medium artisan class and the fourth is devoted to St. George tax management. The fifth pay range is undoubtedly monopolized by the highest profiles of the self-employed. Three main occupational categories grouping 97.35% of the total heads distinguish this band: Professionals, textile merchant entrepreneurs, i.e. drapers and wool traders, and the upper artisan class. The relevant scatter table (Graph 11) shows the substantial salary alignment of the above-mentioned categories. Slightly below the upper edge of the grid, we find two executives of the House of St. George: the Chief of the Prosecutors (875 *Lire Correnti*) and the 12 Consultants (867.81 *Lire Correnti*). The 13 Cashiers of *Gabella* (708.46 *Lire Correnti*) are compressed down the lower wage limit of the section, marginally overtaken by some senior officials of the Public Administration: the Magistrates of the various public deputations of the State, the Galley Superintendents and the chairmen of the *Monte di Pietà* and *Magistrato di Consegna*.

Only a small portion of the total work force (2.11%) makes up the sixth to the thirteenth bands but collects 15.86% of the total wage bill. The synoptic table highlights the importance of the thirteenth band, which includes Merchants and Silk traders. The limited number of individuals and professional profiles allocated in these seven salary ranges – two per band on average – suggests adopting an overall view through a single plot chart gathering together all segments rather than a set of individual studies. Graph 12 conveniently represents such pay and occupational profiles of the seven aforementioned classes. In general terms, two elements can be drawn from the overall observation on employee distribution. The first is that the highest ranks of the Public Administration and the House of St. George are all allocated between the sixth and twelfth pay brackets: master silk dyers placed in the eleventh band represent the only exception. The second trait is that their weight is marginal in terms of total employees (110) and salaries (150,151.35 *Lire Correnti*) compared to the number of merchants, silk traders and master silk dyers (615) and the value of their wages (1,464,970.88 *Lire Correnti*), which are positioned at the upper edge of the grid. At the bottom of the consolidated plot chart we find the three Heads of Security Officers serving the House of St. George (900 *Lire Correnti*), which are the only professional profile of the sixth pay band. Moving to the seventh bracket,

Graph. 12 - Salary ranges 6-13 Plot Chart




Graph. 13 - Salary range 14 plot chart
Lire Correnti
9.000,000
8.500,000
8.000,000
7.500,000
7.000,000
6.500,000
6.000,000
5.500,000
5.000,000
4.500,000
4.000,000
3.500,000
3.000,000
2.500,000
PA Commander of the Army
HSG Cashier
HSG Sindaco delle Compere e dei Banchi
PA Criminal Court Judges
PA Civil Court Judges
0
1
2
3
4
Heads

which encompasses three pay profiles for seventy-four individuals, the average compensation rises to 1,190.88 *Lire Correnti*. Two out of three roles are related to senior governments officials – 30 Governors and Prosecutors, 8 Galley Captains of the Republic fleet – and one of the House of St. George, relating to the 36 Scriveners, who earn 1,130.42 *Lire Correnti*. In the eighth pay bracket, there are only two pay profiles belonging to the highest positions of the Public Administration and the House of St. George. The first refers to the 5 Magistrates of the Artillery, who received average pay for 1,413 *Lire Correnti*, the second refers to the 2 Pointers of Books, those responsible for the formal correctness of the accounting records of the House, who received 1,375 *Lire Correnti* each. In the ninth pay bracket we find two pay profiles corresponding to the second line of the Chancellery of the Republic: the Tax Attorney, who received a compensation of 1,700 *Lire Correnti* per year, and the 3 Secretaries, earning an average individual compensation of 1,500 *Lire Correnti*. The tenth band contains two law enforcement officials profiles, namely the three *Sindicatori Minori* (1,745.20 *Lire Correnti*), and the 6 *Inquisitori di Stato* (1,875 *Lire Correnti)*, whilst the eleventh band highlights the 5 Chancellors of the House of St. George (1,983.75 *Lire Correnti*) and the 3 Notaries of the Chancellery of the Republic (2,000.00 *Lire Correnti*). In the eleventh band there is a sole profile: the five *Supremi Sindicatori* of the Republic. The significance of the thirteenth wage bracket has already been mentioned and stems from its contents, i.e. Merchants and *Setaioli.* Of the last and richest wage bracket, shown in Graph 13, despite the relative modesty in absolute terms of persons (0.03%) and upstream wages (0.35%), it corresponds to the highest average wage (4,029.39 *Lire Correnti*) including as it does the two best-paid groups of people in the municipality. These lucky individuals are represented by the Army Commander, who was not only at the top of the overall salary pyramid, but also of the Public Administration, and the Cashier of the House of Saint George, who received 7,000 *Lire Correnti* per year and earned more than double the second best-paid director of the legal entity: the *Sindaco delle Compere e dei Banchi* (3,437.50 *Lire Correnti*). Going back to the State, the highest offices of the administration of justice in the Republic are placed close to the lower limit, with a pre-eminence of the senior officials of the Criminal *Rota* over those of the Civil *Rota*.

3.4.2. *Labour income distribution and non-employed population: assumptions for an estimate of poverty*

In the previous paragraph I attempted to observe labour income distribution crosswise economic sectors by proposing a number of profiles representative of the city's social and economic context. I will now move a step forward, going beyond the filter of the active employed population, to trigger some reflections on the whole citizenship. It is a fact that within a community well-being, safety, health and standard of living are reflected also in the conditions of the less privileged: those who do not have a job or for various reasons are unable to work. Clearly, the purpose underlying these observations is to offer a representative indicator of the city's wealth distribution as well as the inequalities in the Capital at the end of the century of Genoa's highest prosperity.

In this respect, I think it is appropriate to recall a fact shared by most scholars. In the contemporary world, the inequalities attracting the interest of researchers are those between the political and social realities of the world. In other words, there are even greater differences when comparing countries or groups of countries belonging to profoundly different social, economic and cultural contexts. This is the case, for instance, of the comparison between the countries of the European Union and those of the Eurasian Economic Union. This is all the more evident if we look at the GDP data per capita published by the International Monetary Fund. In 2019, 140 countries out of 227 surveyed did not reach 10,000 USD per person, while 15 were above 50,000 USD. It is therefore the case, in the contemporary world, that Switzerland has a per capita income 57 times higher than that of Cameroon, and Norway 79 times higher than that of Uganda[75]. The sustained growth of the poorest and emerging countries seems to be a factor in reducing global inequalities but the imbalances arising with such economic development constitute a real concern. For example, in the period from 1970 to 2010 inequalities within rich countries increased almost everywhere[76]. It is not at all clear whether the revolutionary transformations of the last twenty years can be effectively governed by the policies of public authorities and

[75] International Monetary Found, GDP in US Dollars per Capita, Data set available in Internet: https://www.imf.org/external/datamapper/NGDPDPC@WEO/OEMDC/ADVEC/WEOWORLD

[76] See MORELLI - SMEEDING - THOMPSON 2014, pp. 593-696.

institutions – as happened after the world wars – to ensure balanced growth in the long run. There is substantial uncertainty about the changes that will occur in the coming decades and reasoned concerns about the distribution of wealth between and within emerging and rich countries. In these scenarios, the issues of inequality and income distribution are extremely topical and should be at the heart of the economic debate to offer convincing answers that did not emerge in the last century [77].

In the Modern era, though inequalities among different kingdoms existed, they were not comparable to those we encounter today. From the beginning of the 18th century, the industrial revolution marked the onset of divergent economic and technological development between the European continent and the rest of the world that gradually was to grow over the following two centuries [78]. Such dissimilar development heavily affected growth, productivity and wealth in different areas of the world, generating huge inequalities. The disparities in the pre-industrial era were not so much between countries, but rather within the stratification of social organization. In seventeenth-century in Genoa, as more generally in all pre-industrial societies, for almost all individuals income coincided with salary. Because of low labour productivity, prices of goods were higher than real wages, which were barely sufficient to cover essential needs. The possibility of generating savings was rare and in the absence of social protections – except those arising from private Charities – the loss of employment represented the antechamber of poverty and begging. We can therefore affirm confidently that unemployment constituted in that historical epoch a subcategory of poverty. Consequently, it is legitimate to ask who were the poor and how many were in this condition in an opulent society such as Genoa's in 1629, at the sunset of almost a century of great prosperity. The question arises as to whether poverty was a static or, rather, fluctuating phenomenon and what its borders might be [79].

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[77] For further information see PIKETTY 2013.

[78] For further information, see: POMERANZ 2008.

[79] As well explained by Polonio, the definition of this category is a complex issue that depends on cultural changes – connected with the sensibilities of the times, with material conditioning, with the possibility that people "in misery" are not characterised solely or necessarily by poverty. In the face of such a complex argument, a reasonable compromise must be reached to take account of the emergencies that arise and – if possible – to grasp the new skills to interpret needs. It is necessary to remember the perennial presence of some weak

To outline, albeit approximately, a minimum limit to this complex set it is appropriate to start from a further reflection on the unemployed male population according to the social and demographic stratification reconstructed in Table 1. The main breadwinners of a family received cash donations paid out by the Magistrate of the Poor and were estimated to be 2,619 men regularly recorded the charity accounting books and well known to the municipal authorities. If we accept the hypothesis derived from our model, welcoming an average family unit consisting of 3,14 mouths to feed [80], we estimate approximately 10,280 individuals in miserable conditions regularly supported by the Magistrate of the Poor with weekly donations of bread and alms. Even though the amount granted was modest, it represented in the overall view of the population an income which others did not even have access to. It is the case of the remaining 767 unemployed adult men, for whom I formulated the reasonable hypothesis that they were certainly destitute but unknown to the Magistrate because of their irregular position within the municipality. Given the descriptions of a chaotic town handed down by the chroniclers of the time, it is likely that these men lived in hiding but at the same time aspired to a job to escape this way of life and obtain legitimate citizenship. Therefore, if this reconstruction is acceptable, it is certainly reasonable to assume that these men did not have a family in tow. It would be an impossible burden to bear in a state of illegality, which presupposes extreme ability to adapt and spirit of sacrifice. If, therefore, unemployment constitutes a subset of poverty, the two categories mentio-

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people in society, such as women, minors, the elderly, the disabled without a supportive family. To these must be added, assessing the different numbers according to the times and situations, the mostly rural victims of natural disasters, famine, wars, fiscal injustice, who are forced to migrate to cities, settling there or ending up homeless. On the roads there are also people in transit marked by characteristics that are very different from each other economically, but who all are considered weak because they were uprooted from their original environment where they enjoyed forms of protection. In the twelfth century canon law protected merchants that were considered "in misery" because they were victims of robbery and fiscal injustice. And others, with other faces that are still full of pain, may appear; on the contrary, those who made a voluntary choice by associating themselves with forms of religious life were to remain on the sidelines. POLONIO 2004, p. 5.

[80] It is a coefficient derived from a report of 1625 of the Office of Mercy that accounts for a description « of all those who are present in the city in need are numbered 8,606 families or 34,635 mouths so distributed ... » Grendi quotes it in an attempt to estimate the extent of the poor of the city. This report is preserved in A.S.G, Diversorum Collegi, Filza 60. GRENDI 1973, pp. 76-77.

ned above are a fully-fledged part of it, contributing with 11,047 persons, according to the assumptions made, and accounting for 13.6% of the total population. While setting a theoretical minimum limit to the fluctuating range of poverty, there are other four categories of overt destitution within the adult population: convicts (635), slaves (639), prisoners (189) and people with disabilities (469). Overall, an estimated total of 12,979 persons – equivalent to 15.99% of citizenship – relied exclusively on public and private charitable institutions.

Setting a maximum threshold for this theoretical bracket is risky since several clues suggest a further significant enlargement. It is a widespread opinion among scholars that this category includes the elderly population, with the sole exclusion of nobles and ecclesiastics, as they typically depended on economic support. From this point of view, the adult group over 59 years of age is conventionally considered inactive, although there is some evidence of individuals employed beyond that age. The relationship between biological and chronological age in pre-industrial societies shows significant similarities with the condition of the poorest countries in the contemporary world. Several studies have noticed a correlation between GDP per capita growth and biological age. The progressive increase in well-being is accompanied by a progressive reduction in biological compared to chronological age [81]. Some research has also tried to measure this relationship, showing that illnesses of a given chronological age occur up to 11 years later in richer countries and 19 years earlier in poorer countries [82]. Differences in lifestyle, culture, diet, hygiene and prevention are the determinants of a gap of about 30 years for two individuals with the same chronological age. Two other objective facts, specific of that era, contribute to the reasoning set out above: the absolute prevalence of humble occupations at high intensity

[81] J. JYLHAVA - N.L. PEDERSEN - S. HAGG 2017. Available at https://www.thelancet.com/action/showPdf?pii=S2352-3964%2817%2930142-1

[82] Ageing and worsening health conditions do not travel around the world at the same speed. In some countries, behind an advanced age, there is a typical state of health of a younger person, while in other countries the exact opposite can happen. For example, age-related disorders typical of a 65-year-old individual in Japan and Switzerland, respectively with a per capita GDP of 40,689.70 USD and 85,721.73 USD in 2019, appear on average at 76 years of age, while in Papua New Guinea, the last ranking country with a GDP per capita in 2019 of 2,886.59 USD, are already suffered at 46 years. *The Value of Preventing Premature Ageing*, in *The Lancet Public Health*, 2018.

of fatigue and physical demands, and the concurrent impossibility of spending on healthcare given the modesty of the average wages. All these factors, with few exceptions, relegate elderly people into a condition of structural economic dependency. In the case of the 1629 survey, this fluctuating band of poverty is swelled by 2,849 additional estimated persons, which leads to a total 15,828, 19.5% of the total estimated population. A similar proportion, although referring to a significantly lower estimate of the population, is the one considered structural and acceptable by Grendi, based on his investigations carried out for 1625 [83].

However, evidence gathered along this path suggests that this approximate estimate appears conservative. The same scholar cites in his work a report of the Office of Mercy stating 8,606 families per 34,635 members needing support among which 3,151 male householders receiving bread from the Magistrate of the Poor. The idea that the report of the Office of Mercy is not reliable is explained by the fact that

> « ... the rapporteur believes that the number is inflated by including also those who fear need: certainly, it is inflated by the extraordinary influx of outsiders in those years »

And again

> « ... what other index could be significant if not to be treated as poor by the welfare offices? We can assume that a percentage close to one fifth of the population constitutes an order of acceptable magnitude, a parameter "psychologically" swelling up to 42% in that year when the presence of so many foreigners in the city accounts for at least doubling the number of those who were usually assisted by charities ».

Although not entirely clear the psychological implications persuading Grendi not to validate this estimate, the fact remains that the Magistrate of Mercy was a trustworthy institution in the government of the Genoese munificence, overseeing legacies, intervening in the hospital administration and pious institutions as well as in the aid and care of the poor and abandoned infants. Moreover, this office was in charge of such a large mass of public debt administered by the *Compere* that in 1515 St. George set up an ad hoc register where all the securities in favour of the Magistrate, of the Da-

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[83] Grendi considers structural poverty at a figure of 13,350 people, equivalent to 19% of the population. This assumption is based on an estimated population of 70,200 in 1625. GRENDI 1973, p. 76-77.

mes of Mercy and others – called *particularium* – were transcribed in as many sections.

Even disregarding the prestige of the Magistrate and the reliability of its sources, the information obtained from the investigation on the composition and redistribution of labour incomes presented in Table 7 enhance the framework of the social stratification reconstructed in Table 1, stimulating further and more refined elaborations. However, a solid approach of investigation to the issue of poverty cannot be separated from an in-depth study of the purchasing power of individuals. There is reason to question, for instance, how families could economically survive when supported only by one householder – worker or labourer – earning about 209.08 *Lire Correnti*, corresponding to the average male salary of the second wage range of the synoptic Table 7. The medium-low level salary profiles are positioned in that segment, which aggregates 60.2% of the employed male population. It is therefore natural to wonder what purchasing power that salary actually had in the city of 1629 and what kind of livelihood it could afford to the family unit we are investigating.

An attempt to answer this question must go hand-in-hand with an in-depth analysis on the primary consumption of the population, according to the lifestyle of that time. Although there is little information about the food budget of the lower classes, in Table 17 I reconstructed a pool of fourteen primary subsistence goods and services to represent, as faithfully as possible, a level of consumption ensuring the satisfaction of essential needs with a modest disposable income. In terms of variety of foods, this basket can be compared to the nutritional regimes reconstructed for 1608 by Fornasari [84] for people treated in the *Speziario* of the *Galley Superintendents*, by Novelli [85] regarding those admitted to the *Hospital of the Incurable*, and also with the regime hypothesised by Doria [86], relative to a rural village of peasants in the *Oltregiogo* [87] in 1680. The common trait in the fee-

[84] FORNASARI 1969-1970.

[85] Calories data per 100 grams of food is basically the one adopted by Novelli in his work comparing the food expenditure of the Spinola family and the Hospital of the Incurables. The only exception is red wine, where 83 C replace 6 C. NOVELLI 1955, pp. 84-87.

[86] DORIA 1968; Part II, Chapter 3.

[87] The *Oltregiogo* (also known as *Oltregiovo* or *Oltregioco*, *Ôtrazovo* in Ligurian) is a historical region located close to the current Liguria and Piedmont. It extends over part of

ding of the poorest classes and in the guests of Charities and public institutions is represented by the strict budget constraint, which imposed severe limitations on variability, quality and nature of the diet. Table 17 shows the basket breakdown in 12 primary food consumptions, providing a daily intake per capita of about 2,189 [88] calories, necessary to have the minimum energy to cope with the daily workload. As the table shows, cereal expenditure (bread and wheat) had a decisive influence on the overall food balance of the basket, representing 74.2% of the total. Bread and wheat had similar importance, as first item of expenditure, in the food budgets of Montaldeo farmers (72.3%), of the *Speziario* (55.5%) and in those of the Hospital of the Incurables (39%). An additional unifying element of these poor food balances – although with appreciable differences in terms of precentral incidence – is the orientation towards low-cost edible foods but at the same time with the highest energy intake. From this point of view, the difference with the Spinola regime rebuilt by Novelli in 1615 is striking. While our basket counts twelve basic nutrients, the diet of this aristocratic family – representative of the upper-class Genoese of the time – includes 16 dietary classes with 28 different foods, among which meat, fish, poultry and dairy products. In Spinola's alimentary budget, cereal spending drops to 18.6% in preference for meat and fish supplies which constitute the first item of expenditure, weighing 27.7% of the total. Unsurprisingly, greater elasticity to budget constraint allowed for an increasingly varied and nutritional diet as affluence levels grew.

This comparison, although schematic, helps to understand and contextualize the food deemed necessary for survival for a family unit belonging to the most modest social groups of the city. All surveys mentioned above do not allow for comparisons on per capita consumptions, since the number of people for whom the provisions in those food balances were intended is not known. Overall, consumption data proposed in the basket that I reconstructed do not represent the simple product between the number of family components multiplied by the average consumption shared by

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the Ligurian Apennines to the north of Genoa and its foothills, beyond the Apennine watershed (passed through the Giovi pass, the Bocchetta pass and the Turchino pass). It lies between the metropolitan city of Genoa and the provinces of Alessandria, Piacenza and Pavia. These territories once belonged to the Republic of Genoa and the neighbouring Imperial Fiefdoms.

[88] The basis of computation is the estimated number of inhabitants for 1629 proposed in this essay, i.e. 81,130.

other scholars or inferred in the course of this investigation. The fundamental idea is that within the family units of these poorer classes there are "economies of scale" attributable to at least one of the following three elements: (i) belonging to consumption levels lower than the average of the town; (ii) the different nutritional needs within the household (adult man/adult woman/ boys or infants); (iii) the ability of the person in charge of combining and transforming aliments into food for the whole family. In the case of wheat, for instance, the basket considers a consumption of 7.5 mines, equivalent to 655 kg, and not 7.85, the number of mines equivalent to a per capita consumption of 2.5 mine [89] per 3.14 core components. Indications on wine consumption levels, on the other hand, deserve a separate discussion since the data I have proposed, i.e. a barrel equal to about 80 litres per year, differs significantly from information available regarding individual consumption. We have seen before that the combination of taxed and duty free *mezzarole* indicates a total consumption of 171,413 *mezzarole* equivalent to 27,254,667 litres, for a per capita consumption of 335.93 litres [90]. This figure must be reasonably understood for the city as a whole, so much so that Grendi estimates an individual consumption of three barrels, equivalent to 235 litres [91]. In the essays by Novelli and Fornasari on food budgets, wine consumption expenditure is considerable both in the Hospital of the Incurables and in the *Speziario* of the Galleys Superintendents and weighs respectively 26 and 16% of the total. All the information gathered underlines the importance wine had at the time. However, realistically the hypothesis of wine consumption approaching the averages indicated above would have dramatically impoverished energy intake since the family unit would have to cut back consumption on wheat or seasonings.

Healthcare, clothing, transport and water expenditures are deliberately excluded from the basket. With regard to this last essential good, we accept the hypothesis that the dwelling had a form of recipient and water could be drawn from the aqueduct, without resorting to buying from private individuals. This conjecture albeit aiding simplification does not represent the absolute rule for that time.

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[89] As seen on page 17 above, the average per capita consumption of the city is 2.5 mines equivalent to 218 kg.

[90] The basis of computation is the essay proposed estimate of 81,130 inhabitants.

[91] GRENDI 1973, p. 36.

Table 17 - Household basket of primary subsistence goods and services (3.14 Heads)

FAMILY UNIT CONSUMPTION BASKET FOR PRIMARY SUBSISTENCE GOODS AND SERVICES											
Goods	Quantity	Unit of measure (UM)	Price UM Lire Correnti	Total Value Lire Correnti	Total Value Lire Numerato	Equivalence in current Unit of Measurement				Calories x Kg	Total Calories
Bread - Wheat *	7,50	Mina	24,550	184,13	147,30	87,35	Kg = 1 Mina	655,13	Kg	3.260,00	2.135.707,50
Olive Oil*	0,50	Barrel	47,850	23,93	19,14	65,48	Litres = 1 Barrel	32,74	Litres	891,00	29.171,34
Wine*	0,50	Mezzarola	18,550	9,28	7,42	159	Litres = 1 Mezzarola	79,50	Litres	830,00	65.985,00
Beef meat*	10,00	Pound	0,160	1,60	1,28	0,317664	Kg = 1 Pound	3,18	Kg	1.370,00	4.352,00
Veal meat*	3,50	Pound	0,250	0,88	0,70	0,317664	Kg = 1 Pound	1,11	Kg	940,00	1.045,11
Butter**	10,00	Pound	0,300	3,00	2,40	0,317664	Kg = 1 Pound	3,18	Kg	7.160,00	22.744,74
Black Pasta***	115,00	Pound	0,058	6,67	5,34	0,317664	Kg = 1 Pound	36,53	Kg	3.770,00	137.723,23
Normal Pasta***	10,00	Pound	0,104	1,04	0,84	0,317664	Kg = 1 Pound	3,18	Kg	3.770,00	11.975,93
Milk**	50,00	Amola	0,100	5,00	4,00	0,883333	Litres = 1 Amola	44,17	Litres	650,00	28.708,32
Eggs**	6,00	Dozen	0,500	3,00	2,40	12	Uova = 1 Dozen	72,00	Uova	81,00	5.832,00
Grascia**	10,00	Pound	0,300	3,00	2,40	0,317664	Kg = 1 Pound	3,18	Kg	7.200,00	22.871,81
Lard**	15,00	Pound	0,450	6,75	5,40	0,317664	Kg = 1 Pound	4,76	Kg	9.020,00	42.979,94
Carbon**	15,00	4 Rubbi Bag	1,600	24,00	19,20	31,675	Kg = 1 Bag	475,13	Kg		
Rent****	0,25	House	185,00	46,25	37,00						
	Total Consumptions:			**318,51**	**254,81**					**Total Calories**	**2.509.096,92**
										Per capita Calories / day:	**2.189,25**

* Average prices paid by Ospedale di Pammattone in 1629 for stock replenishments

** Average prices paid by the Galley's Superintenders to replenish his internal drugstore taking care of onboard personnel

*** Mete dei Censori year 1627 - A.C.Ge. Magistrato dei Censori

**** Average rent value collected by the Magistrate fo the Poor in 1619 is 185 Lire Correnti. AVERNA A., Edilizia e mercato immobiliare a Genova nei secoli XVI° e XVII°, Tesi di Laurea, Facoltà di Economia e Commercio, Anno accademico 1991-92

The primary costs of subsistence are valued at the average prices paid by administrative entities (*deputazioni)* for their stock replenishments. Using these rather than retail prices allows for a comparison based on an equivalence in terms of value and quality. Prices guaranteed to these institutions for high purchased volumes are associated *ceteris paribus* to a higher quality compared to goods supplied to citizens in retail purchases. The consequent compromise is that private individuals could buy at those prices but accepting a lower quality. The assumption underpinning rent costs is based on the fact that from the 1672 and 1682 censuses we learn that the average number of hearths or fireplaces per building was respectively 2.1 and 2.3 [92]. These coefficients represent a weighted average that also takes into account the "free" houses, namely those inhabited by a single family. Data and estimates relating to the 1682 census identify 12,495 dwellings: 9,431 dwellings in 2,275 houses with 2 or more apartments and 3,064 single-family dwellings. This distinction indicates that each "shared" house hosted an average of 4.15 hearths. A very similar coefficient (4.06 hearths) comes from the 1672 census data available for San Lorenzo, the "E" district, where 83 out of 100 houses were destined for residential use [93]. Since the aim of the survey is to outline the level of livelihood above poverty, it seems reasonable to believe that poorer families lived in shared buildings and the cost of the rent was therefore split according to the average number of hearths.

Consequently, the comparison between the purchasing power of our single-income family unit and the value of the minimum subsistence basket is significantly disproportionate. Although this family can reasonably be claimed to belong to the poverty band, such a conclusion risks oversimplification. In fact, it cannot be excluded "a priori" that a child living in that unit had an apprentice's job, so contributing to the sustenance of the family budget. A further approach to a reasoned estimate of poverty requires therefore the intersection of Table 17 with the combined use of the information obtained by the synoptic table on salaries (Table 9) and the estimates of the social and demographic stratification of the population (Table 1). The hybridization of these elements provides four conceptual coordinates.

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[92] FELLONI 1964, pp. 305-323.

[93] Among the 83 houses inhabited, 52 "free" and 31 "shared". Among the latter, there were 4 buildings with two apartments, 6 buildings with 3, 8 buildings with 4, 10 buildings with 5 and 3 buildings with 2. *Ibidem*, pp. 322-323.

The first indication is that the availability of a job was a necessary but not sufficient condition for escaping poverty. If – as mentioned above – in pre-industrial society unemployment represented a subcategory of poverty, it seems equally true that a job allowed the individual to avoid destitution only when organizing his life within a family context. Net of the economies of scale deriving from such a domestic environment, an individual would have had to face subsistence costs ranging from 160-180 *Lire Correnti* to ensure an economically self-determined life. However, unfortunately, over one in five workers did not receive a salary at that level.

The second coordinate is the confirmation that – with a reasonable degree of approximation – the third wage band constitutes an area outside the floating area of poverty. Going down to the third step of the synoptic Table 9, the most representative of artisan professions, the typical basket of goods and services starts to be within the reach of potential single-income families. Starting from this segment, female employment disappears, and employees are exclusively men. The estimated average salary, equal to 350.55 *Lire Correnti*, exceeds the value of the basket and leaves a margin to be allocated to other important albeit non-essential needs. Within the range, we only count two salary profiles below the average basket concerning only 6 employees out of 2,900: a negligible portion that further validates the soundness of the starting assumption.

The third reference point concerns the peculiarities of the first salary bracket. Although at first glance it may appear an area of general poverty – since a hypothetical family unit consisting of two workers belonging to the band can count on an average income (207.43 *Lire Correnti*) well below the value of the basket – this impression leads to a hasty conclusion. The overlapping between labour incomes data and the socio-economic stratification of the population reveals a theoretical marginality of these family units generated by the combination of the chronological characteristics and personal profiles of the 3,952 individuals composing this segment. Just under half (1,722), in fact, are young apprentices (1,558 males and 164 females). Their salaries are inadequate to start an economically independent life, but can be decisive in supporting the budget of the families of origin. Over 1,300 individuals, who certainly fall into the ranks of the destitute, were embarked on the galleys as slaves or forced. As a logical consequence, the theoretical maximum estimated number of family units that could have been made up by workers of that group is equal to 337, dictated by the

meeting between 337 men and 594 adult women [94]. The potential combinations of these families' salary income would have allowed them to count on a maximum purchasing power of 241.70 *Lire Correnti*, well below our standard basket value. These observations allow us to conclude that only 1,948 individuals – equal to 49.29% of the set of individuals belonging to this range – can reasonably be considered within the poverty band.

The last coordinate of orientation reveals that the limit to the fluctuating poverty is necessarily within the second wage band and – in principle – concerns only single-income households or families consisting of a worker belonging to this group and a worker of the upper salary range. In fact, there are only two wage combinations (315.87 and 315.61 *Lire Correnti*) of the families made up of men and women belonging to this group with an income lower than the basket of essential goods and services (318.51). However the weighted statistical probabilities that such combinations can occur are slight. If then we can reasonably conclude that the 8,957 nuclei hypothetically made up of workers belonging to the second salary bracket are freed from a condition of relative poverty, we cannot support a similar statement for nuclei made up of workers of this group married to the workers of the previous band (257). Out of 22 theoretical wage combinations, the 14 having a lower value than the basket are those with the highest weighted probability to occur. It therefore seems reasonable to assimilate even those nuclei to a theoretical condition of poverty.

At this point, the further approach to a reasoned estimate of the perimeter of poverty requires a hypothesis to be formulated on the nature and characteristics of female unemployment. Perhaps questionable, the guiding thesis inspiring the continuation of the reasoning is certainly realistic and socially grounded. Given the conditions of precariousness and social insecurity, marriage was often seen by women as the sole way of ensuring a dignified existence. There are in fact thousands of statistical combinations, just as there is only one condition of Paretian efficiency: namely the combination for which the marriage between these individuals minimizes the

[94] The average estimated wages for men were 102.84 *Lire Correnti*, those of women 108.01 *Lire Correnti*. Among the 594 women considered, there are 373 *Maestre Incannatrici* and 221 Workers of the Food Sector, who received respectively 78.53 and 137.5 *Lire Correnti*. Among the men there are 314 *Traglietta* of the Public Administration and 23 Workers of the House of San Giorgio.

number of households with a purchasing power lower than the value of the reference basket. If for Pareto this scenario constitutes the efficient allocation of resources, in our research this event – possible but extremely unlikely – constitutes the floor of poverty in the city, which is a theoretical minimum threshold below which it is not possible to fall on the basis of the available information. With this in mind, the unemployed adult female population, estimated at 13,749 women, can therefore be mapped as follows:

1. voluntary inactivity due to belonging to a wealthy family unit. This status concerns all women married to a man earning a salary income above the value of the estimated basket. This condition is fulfilled by all men from the fourth to the fourteenth salary range and by almost all men in the third bands [95]. Going down within the synoptic table, average salaries grow significantly and family units can count on increasingly wealthy heads of households. The fact that wives are dedicated exclusively to their own care and that of infants has a marked social connotation and constitutes an indirect ostentation of the household well-being. In absolute theoretical terms, this segment can absorb up to 6,583 women.
2. involuntary inactivity in a context of potential poverty of the family unit. This theoretical condition arises for unemployed adult women married to three types of men: (a) householders helped by the Magistrate of the Poor (3,274); (b) workers in the third salary bracket with an income lower than the value of the basket of goods and services (6); (c) employees belonging to the second wage range who are not married to women employed (3,822).
3. involuntary inactivity and absence of a family context. At least 64 unemployed adult women who do not have the opportunity to marry an employed man. They are completely dependent for their subsistence on the family of origin, if existing, or on perhaps illicit or clandestine occupations.

Downstream from above considerations, the picture summarizing the Pareto efficiency condition with respect to the combinations of family units and wage bands is highlighted in Table 18.

[95] Respectively of 1.1 and 2.6 per thousand.

Table 18 - *Combination of households by wage brackets in Pareto optimum condition*

Theoretical Combinations		Women			Total
		Unemployed	W R1	W R2	
Men	H	3.274			3.274
	M R1		337		337
	M R2	3.822	257	8.957	13.037
	M R3	2.894 6			2.900
	M R4-14	3.689			3.689
Total		13.685	594	8.957	**23.237**

Family units with a purchasing power < of the basket value:	7.696
Family units with a purchasing power > or = of the basket value:	15.540

M= Men W=Women R= Salary Range H = Helped by the Magistry of Poor

Each combination different from the above proposed hypothesis leads to a significantly higher number of needy households. As an example – useful to confirm the assumption but also to give an account of the complexity in detecting an upper limit of poverty – we will assume that women workers aspired to marry wealthy men and vice versa. The scenario that would have emerged is represented in Table 19.

Table 19 - *Combination of households by wage brackets assuming women workers married to wealthier men*

Theoretical Combinations		Women			Total
		Unemployed	W R1	W R2	
Men	H	3274			3.274
	M R1			337	337
	M R2	10411		2.625	13.036
	M R3			2.900	2.900
	M R4-14		594	3.095	3.689
Total		13.685	594	8.958	**23.237**

Family units with a purchasing power < of the basket value:	14.022
Family units with a purchasing power > or = of the basket value:	9.215

M= Men W=Women R= Salary Range H = Helped by the Magistry of Poor

As we can see from the comparison of the tables, the number of family units with a purchasing power lower than the value of the basket comes almost to double compared to the Pareto optimal condition and poverty – measured only in a family context – is projected over fifty percent (44,029 individuals) of the estimated city population.

The set of reflections shared so far is summarized in a general framework of reference presented in synoptic Table 20. The reasoning on the contours of poverty is divided into three sequential steps that move progressively from a hypothesis of "Potential Theoretical Poverty" (column 2) to one of "Differential Theoretical Poverty" (column 4) and finally to a "Minimum Theoretical Poverty" (column 6). Column 1 of Table 20 shows an observation of the adult population by combining data obtained from the social and demographic stratification of Table 1 with information sourced from salary income distribution illustrated in Table 9. In column 2, relating to "Potential Theoretical Poverty", the distinction between sexes leaves room for a reclassification of the individuals in theoretical conditions of poverty into "Individuals" or "Households" depending on whether the person lived alone or was part of a family unit with a purchasing power below the value of the basket detailed in Table 17.

The total family units falling within the area of poverty are derived from Table 18 and is the sum of the cells on a dark grey background. The Active Unemployed Population below the poverty threshold is now expressed in 1,020 individuals and 3,274 households. Among the first category, we find prisoners and all other people formally deprived of any regular income – that is to say, 767 men not assisted by the public deputation and 64 unmarried women without a job. The 3,274 households were the family units assisted by the Magistrate of the Poor, conventionally made up by the head of the family registered at the welfare institution, their wives and children. The Active Employed Population falling in this theoretical area of poverty consists of 1,274 individuals (forced and slaves) and 4,422 households with a purchasing power lower than that the value of the basket of primary subsistence goods and services. These family units are the result of: (i) 337 families constituted by the meeting between workers belonging to the first bracket; (ii) 3,822 single-income families with householders of the second band; (iii) 257 families consisting of man workers of the second salary band married to women workers of the first range and, finally, (iv) 6 single-income families financially supported by workers part of the third band.

Table 20 - Reasoned estimate for a measure of poverty in Genoa in 1629

	1		2		3		4		5		6		7
	Adult Population		**Theoretical Potential Poverty**		**Apprenticeship***		**Theoretical Differential Poverty**		**Passive Population**		**Theoretical Minimal Poverty**		**Total Population**
	15 - 59		**Individuals**	**Households***	**11 - 14**		**Individuals**	**Households***			**Individuals**	**Households***	
	Men	Women			Men	Women			Men	Women			
	A	B	A + B	A	A	B	A + B	A	A	B	A + B	A	
Active Unemployed Population	**4.138**	**13.841**	**1.020**	**3.274**	**313**	**3.269**	**1.020**	**3.274**	-	-	**1.020**	**3.274**	**21.562**
Unemployed (1)	**4.041**	**13.749**	**831**	**3.274**	**313**	**3.269**	**831**	**3.274**	-	-	**831**	**3.274**	**21.373**
Supported by the Magistrate of Poor	3.274	3.274		3.274				3.274				3.274	
Married to employees Salary Range 2		3.822		-									
Married to employees Salary Range 3		2.900											
Married to employees Salary Range > 3		3.689		-									
Not supported	767	64	831	-	313	3.269	831				831		
Prisoners (2)	**97**	**92**	**189**	-	-	-	**189**		-	-	**189**		**189**
Active Employed Population	21.260	9.552	**1.274**	**4.422**	3.318	164	**1.274**	**940**			**1.274**	**940**	34.294
Salary Range 1	1.635	595	**1.274**	**337**	1.558	164	**1.274**	-			**1.274**	-	
Salary Range 2	13.036	8.957		**4.079**	1.759	-	-	**934**				**934**	
Salary Range 3	2.900	-		**6**				**6**				**6**	
Salary Range 4-14	3.689												
Inactive Population	**977**	**1.821**	**469**				**469**		1.565	1.497	2.861		25.274
Unemployables	244	225	**469**				**469**		14	14	**28**		498
Elders									1.432	1.388	**2.820**		2.820
Religious	733	1.557							43	92			2.426
Nobles		39							75	2			116
Prisoners									6	6	**12**		12
Infants**									9.799	9.615			19.414
	Category Total:		2.763	7.696			2.763	4.214			5.155	4.214	
General Total (Individuals)			26.929	33,2%			15.995	19,7%			18.387	22,7%	81.130

*Family Unit Composition: Heads --> 3,14

**Part of Family units

Continuing along these lines, column 3 completes the observation on the Active Population estimated for 1629, focusing on the apprenticeship area, which includes children between eleven and fourteen years old, distinguishing between employed and unemployed. In summary, the 3,481 youths apprenticed to artisans can be reclassified into five different salary levels, whose frequency is linked to the corresponding number of apprentices. The move to column 4, i.e. "Theoretical Differential Poverty", weighs the impact of children's work on the family budgets of the 4,422 destitute households whose income is lower than the value of the basket but is pushed upwards by the compensation received by young apprentices. This last operation is once again inspired by the achievement of a Pareto optimal condition. In other words, among the thousands of possible combinations of scenarios, we are interested in gathering the one in which the distribution of the remuneration of young apprentices ensures the most efficient resource allocation.

Photographing this situation means measuring the most favorable context for the containment of poverty, that is to say where the contribution of young people's work raises the largest number of family budgets above the poverty threshold, set at the value of the basket. If the work of the 3,481 young apprentices had gone to supplement the budget of the 3,274 households supported by the Magistrate of the Poor, certainly their living condition would have improved but none of these families would have left the area of poverty by reaching a purchasing power higher than the estimated value of the basket of primary subsistence [96]. In other words, there would be no move from the hypothesis of Potential Theoretical Poverty of column 2, concerning 26,929 individuals equal to 33.2% of the total population.

As mentioned above, this extremely unlikely event leads to a condition of theoretical efficiency that pushes 3,481 households out of the poverty area, reducing the destitute population by 10,930 mouths to feed. Table 21 details the combination of family units and salary range by which this event arises.

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[96] The value of the subsidy paid by the Magistrate of the Poor to each registered head of family is equal to 34.47 *Lire Correnti.* In addition to the two *Denarii* distributed weekly, corresponding to 5.1 *Lire Correnti* per year, each householder received 14 loaves. The valuation is obtained from the ratio between the value recorded in 1629 financial statements – 81,687.70 *Lire di Numerato* equal to 102,109.63 *Lire Correnti* – and the overall number of people supported (3,477), which also took into account the internees in the Lazzaretto (203).

Table 21 - Pareto optimum condition of apprenticeship impact in household budgets

PARETO OPTIMUM COMBINATION OF HOUSEHOLDS AND APPRENTICES

	Households Number	Salary Range	Household Income type	Salary Profile	Salary Amount	APPRENTICES: Salary Amount 192,5	159,93	137,5	110	96,25	82,5	Heads 33	1726	1399	84	164	75	Households emerging from poverty area
HOUSEHOLDS	3274	Mag. of Poor	Welfare	Subsidy	34,47													0
	450	SR 2	Single	M SAL27	150,61	343,11						33						33
	190	SR 2	Mono	M SAL26	150,87													0
	23	SR 1	Double	H SAL3	162,81		322,74						23					23
	114	SR 2	Single	M SAL25	165,00		324,93						114					114
	90	SR 2	Single	M SAL24	165,30		325,23						90					90
	182	SR 2	Single	M SAL23	165,77		325,70						182					182
	52	SR 2	Single	M SAL22	181,30		341,23						52					52
	93	SR 1	Double	H SAL2	182,72		342,65						93					93
	43	SR 2	Single	M SAL20	192,50		352,43						43					43
	31	SR 2	Single	M SAL19	202,00		361,93						31					31
	12	SR 2	Single	M SAL17	208,75		368,68						12					12
	485	SR 2	Single	M SAL16	209,00		368,93	346,50					258	227				485
	359	SR 2	Single	M SAL15	213,60			351,10						359				359
	226	SR 2	Single	M SAL14	220,00			357,50						226				226
	73	SR 2	Single	M SAL13	223,00			360,50						73				73
	221	SR 1	Double	H SAL1	241,70		380,93						221					221
	405	SR 2	Single	M SAL11	234,96			372,46						405				405
	6	SR 2	Single	M SAL10	236,67			374,17						6				6
	24	SR 2	Single	M SAL9	243,96			381,46						24				24
	98	SR 2	Single	M SAL8	245,30			382,80	355,30					79	19			98
	211	SR 2	Single	M SAL7	247,50				357,50	343,75					65	146		211
	6	SR 2	Single	M SAL6	262,71					358,96						6		6
	161	SR 2	Single	M SAL5	264,31		424,24			360,56	346,81		74			12	75	161
	41	SR 2	Single	M SAL4	270,52		430,45						41					41
	207	SR 2	Single	M SAL3	272,20		432,13						207					207
	5	SR 2	Single	M SAL2	278,25		438,18						5					5
	257	H SR M2W1	Double	M SAL15; W SAL1	292,12		452,05						257					257
	351	SR 2	Single	M SAL1	299,42		459,35						23					23
	5	SR 3	Single	M SAL21	300,00													0
	1	SR 3	Single	M SAL20	312,00													0

HOUSEHOLDS REACHING A PURCHASING POWER HIGHER THAN THE BASKET VALUE (318.16 L.C.) OF PRIMARY SUBSISTENCE GOODS AND SERVICES: 3481

SR = SALARY RANGE; H SR M2 W1 = Household composed by a male emplyee of the 2nd salary range and a female worker of the 1st salary range; M SAL1 = 1st male salary within the relevant range;
H SAL1 = 1st household salary within the relevant range

To complete the reasoning, column 5 in Table 20 – dedicated to the Passive Population – adds disabled, elderly and prisoners not counted in the Active Population. This leads to a "Minimum Theoretical Poverty" – reported in column 6 – of 5,155 individuals and 4,214 family units, which is equivalent to an overall total of 18,387 persons. This last figure, observed in conjunction with that of Theoretical Potential Poverty, leads to the conclusion that more than one citizen out of four (22.75%) – or much more likely one citizen out of three (33.2%) – lived in the city in poverty.

Since the Pareto efficiency conditions underlying the above estimates are inherently prudential – as they relate to possible but extremely unlikely events – it seems at this point legitimate to consider entirely reasonable the data provided by the Office of Mercy's report issued in 1635. Compared to the estimated population for 1629, the 34,635 "*… mouths which are in need*" – according to the charity institute's report – would represent 42% of citizenship. It therefore seems reasonable to say that even an opulent society, such as Genoa's at the end of a very long period of prosperity, is not immune from a serious problem of pauperism. While the poverty indicators collected during the survey do not constitute proof of equally high levels of inequality, they can nevertheless be considered strong clues of the fact that the immense riches of the Genoese Baroque belonged for the most part to a small number of families.

3.4.3. *Wealth distributed to the population by labour incomes: an estimate of concentration*

The natural destination of this survey, which started by reconstructing the wealth distributed to the population in the form of wages, and moved on to analyse the purchasing power of families and finally arrived at elaborating a reasoned estimate of the poverty, is to measure inequalities through a concentration index. The estimation of an aseptic parameter, albeit with the constraints of the hypotheses formulated and the conjectures proposed, can help us to comprehend to what extent the appellative of "golden age of the Genoese" was a true inclusive statement at the sunset of the longest period of prosperity in the history of the Republic.

From a methodological point of view, the model is based on three elements:

– 97 combinations of employees and wages, ordered by average annual salary, representing a total of 34,294 individuals and a salary bill of 10,413,582.86 *Lire Correnti;*
– the transfers ensured by the Office of the Poor to adult men registered in the registers of deputation provided in the form of weekly alms in cash (16,697.63 *Lire Correnti*) and economic value of bread distributed (96,148.09 *Lire Correnti*), reaching 3,274 individuals for 110,845.72 *Lire Correnti*;
– a populace of 43,637 citizens without any form of support, completely dependent on income.

This model reflects a frequency distribution wherein the 99 different wage levels distributed to the population correspond to as many classes whose frequencies are represented by the number of each class income earners. The formula applied for calculating the concentration is as follows:

$$R \cong 1 - \sum_{i=0}^{k-1} (q_{i+1} + q_i)(p_{i+1} - p_i)$$

In our case "k" corresponds to the 99 salary bands in which labour incomes are distributed; "q_i" values correspond to the progressive and cumulative percentage of annual labour incomes; "p_i" values correspond to the progressive cumulative percentage of the population. The calculation process, detailed in Table 22, leads to the following result:

$$R = 0{,}731335$$

From a purely statistical standpoint, the value obtained indicates a medium high concentration ($0.5 < R < 0.75$). Nevertheless, in social and economic terms this data depicts a situation of serious inequality in the labour income distribution within Genoese society in 1629. Since financial and real estate incomes presuppose the existing assets, such as saved or inherited wealth, salaries are the source of livelihood of the majority of citizens. As a consequence, widening the field of investigation to other types of income can only increase this magnitude further.

Table 22 - Labour income concentration in 1629 in Genoa (To follow)

Annual Salary	Population	Global Annual Salary	Cumulative Population	Cumulative Labour Income	% of Cumulative Population (p_i)	% of Cumulative Labour Income (q_i)	$q_{i+1} + q_i$	$p_{i+1} - p_i$	$(q_{i+1} + q_i)(p_{i+1} - p_i)$
-	43.562	-	43.562	-	0,536940	0,00000	0,01072	0,040355	0,00043
34,4700	3.274	112.845,72	46.836	112.845,72	0,577295	0,01072	0,02150	0,000197	0,00000
38,7500	16	620	46.852	113.465,72	0,577492	0,01078	0,02434	0,004602	0,00011
78,5170	373	29.313	47.225	142.778,68	0,582094	0,01356	0,03671	0,015703	0,00058
79,2000	1.274	100.901	48.499	243.679,48	0,597797	0,02315	0,04689	0,000924	0,00004
82,5000	75	6.188	48.574	249.866,98	0,598721	0,02374	0,04766	0,000283	0,00001
84,2930	23	1.939	48.597	251.805,73	0,599005	0,02392	0,04934	0,002021	0,00010
96,2500	164	15.785	48.761	267.590,73	0,601026	0,02542	0,05092	0,000099	0,00001
101,2500	8	810	48.769	268.400,73	0,601125	0,02550	0,05410	0,003870	0,00021
104,1980	314	32.718	49.083	301.118,75	0,604995	0,02861	0,05809	0,001035	0,00006
110,0000	84	9.240	49.167	310.358,75	0,606030	0,02948	0,08013	0,019968	0,00160
137,5000	1.620	222.750	50.787	533.108,75	0,625998	0,05064	0,10688	0,004820	0,00052
150,6070	391	58.892	51.178	592.000,54	0,630818	0,05624	0,11332	0,000723	0,00008
150,6100	59	8.839	51.237	600.839,84	0,631542	0,05708	0,11688	0,002342	0,00027
150,8720	190	28.666	51.427	629.505,59	0,633884	0,05980	0,14583	0,021274	0,00310
159,9340	1.726	276.046	53.153	905.551,67	0,655158	0,08603	0,18434	0,009659	0,00178
165,0000	784	129.305	53.937	1.034.856,67	0,664817	0,09831	0,19803	0,001109	0,00022
165,3000	90	14.877	54.027	1.049.733,67	0,665927	0,09972	0,20231	0,002243	0,00045
165,7700	182	30.170	54.209	1.079.903,81	0,668170	0,10259	0,20608	0,000641	0,00013
181,2980	52	9.428	54.261	1.089.331,31	0,668811	0,10349	0,25035	0,030322	0,00759
185,6250	2.460	456.638	56.721	1.545.968,81	0,699133	0,14687	0,31196	0,012289	0,00383
192,5000	997	191.923	57.718	1.737.891,31	0,711421	0,16510	0,33079	0,000382	0,00013
202,0000	31	6.262	57.749	1.744.153,31	0,711804	0,16569	0,52236	0,120140	0,06276
206,2500	9.747	2.010.319	67.496	3.754.472,06	0,831944	0,35667	0,71358	0,000148	0,00011
208,7500	12	2.505	67.508	3.756.977,06	0,832092	0,35691	0,72345	0,005978	0,00432
209,0000	485	101.365	67.993	3.858.342,06	0,838070	0,36654	0,74556	0,007580	0,00565
213,6000	615	131.364	68.608	3.989.706,06	0,845650	0,37902	0,77367	0,009220	0,00713
220,0000	748	164.560	69.356	4.154.266,06	0,854870	0,39465	0,79085	0,000900	0,00071
223,0000	73	16.279	69.429	4.170.545,06	0,855770	0,39620	0,83949	0,026895	0,02258

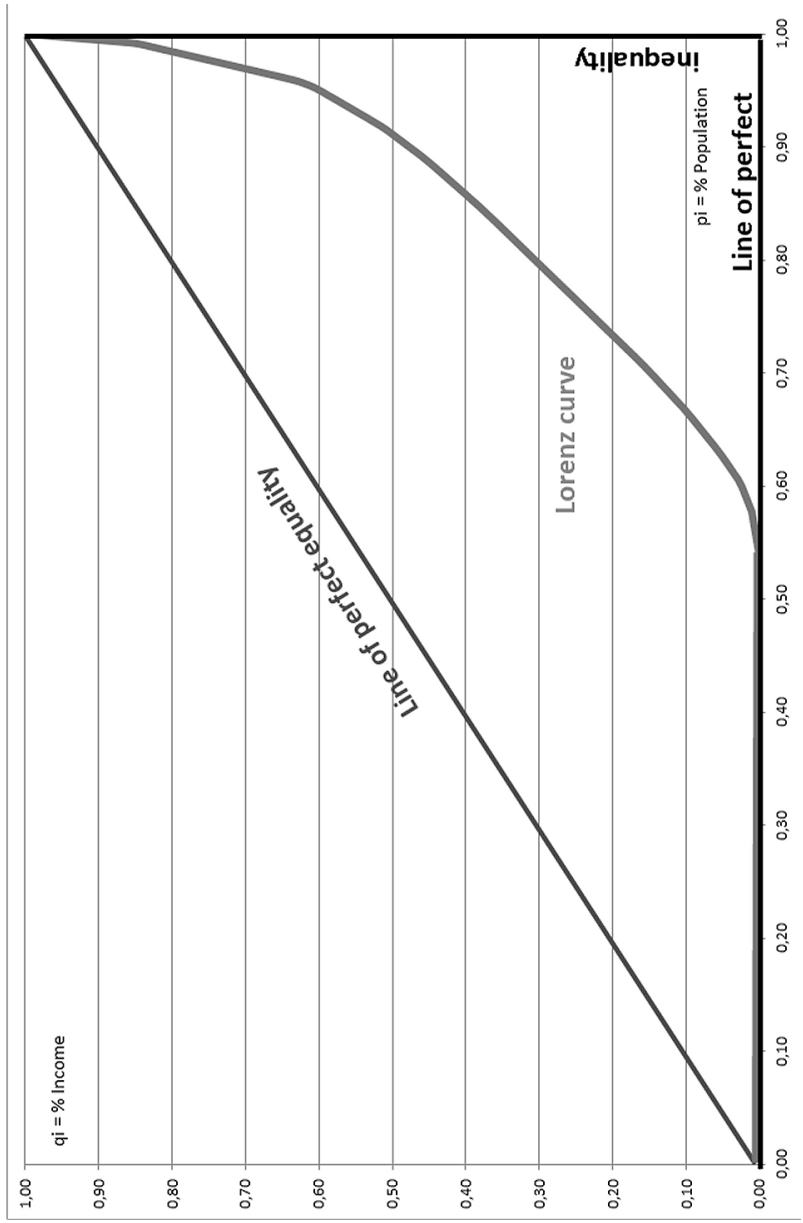
Annual Salary	Population	Global Annual Salary	Cumulative Population	Cumulative Labour Income	% of Cumulative Population (p_i)	% of Cumulative Labour Income (q_i)	$q_{i+1} + q_i$	$p_{i+1} - p_i$	$(q_{i+1} + q_i)(p_{i+1} - p_i)$
227,1880	2.182	495.724	71.611	4.666.269,28	0,882665	0,44329	0,89562	0,004992	0,00447
234,9600	405	95.159	72.016	4.761.428,08	0,887657	0,45233	0,90480	0,000074	0,00007
236,6670	6	1.420	72.022	4.762.848,08	0,887731	0,45247	0,90549	0,000296	0,00027
243,9580	24	5.855	72.046	4.768.703,08	0,888027	0,45302	0,90833	0,001208	0,00110
245,3000	98	24.039	72.144	4.792.742,48	0,889235	0,45531	0,91557	0,002601	0,00238
247,5000	211	52.223	72.355	4.844.964,98	0,891835	0,46027	0,92068	0,000074	0,00007
262,7080	6	1.576	72.361	4.846.541,23	0,891909	0,46042	0,96037	0,019409	0,01864
264,3070	1.575	416.196	73.935	5.262.737,42	0,911318	0,49995	1,00096	0,000505	0,00051
270,5180	41	11.091	73.976	5.273.828,67	0,911824	0,50101	1,00737	0,002551	0,00257
272,2000	207	56.345	74.183	5.330.174,07	0,914375	0,50636	1,01285	0,000062	0,00006
278,2500	5	1.391	74.188	5.331.565,32	0,914437	0,50649	1,02297	0,004326	0,00443
299,4200	351	105.096	74.539	5.436.661,74	0,918763	0,51648	1,03310	0,000062	0,00006
300,0000	5	1.500	74.544	5.438.161,74	0,918825	0,51662	1,03327	0,000012	0,00001
312,0000	1	312	74.545	5.438.473,74	0,918837	0,51665	1,04909	0,006163	0,00647
332,4950	500	166.248	75.045	5.604.721,45	0,925000	0,53244	1,06591	0,000394	0,00042
336,4000	32	10.765	75.077	5.615.486,25	0,925395	0,53347	1,06709	0,000062	0,00007
340,7500	5	1.704	75.082	5.617.190,00	0,925456	0,53363	1,09409	0,010157	0,01111
342,7880	824	282.457	75.906	5.899.646,90	0,935613	0,56046	1,14943	0,010760	0,01237
343,7500	873	300.094	76.779	6.199.740,65	0,946373	0,58897	1,18350	0,002083	0,00247
346,6300	169	58.580	76.948	6.258.321,12	0,948456	0,59453	1,19039	0,000493	0,00059
347,8000	40	13.912	76.988	6.272.233,12	0,948949	0,59586	1,19776	0,002194	0,00263
357,5000	178	63.635	77.166	6.335.868,12	0,951143	0,60190	1,20419	0,000136	0,00016
368,6360	11	4.055	77.177	6.339.923,12	0,951279	0,60229	1,20507	0,000173	0,00021
373,3040	14	5.226	77.191	6.345.149,37	0,951451	0,60278	1,20585	0,000099	0,00012
380,4690	8	3.044	77.199	6.348.193,12	0,951550	0,60307	1,20644	0,000099	0,00012
389,2800	8	3.114	77.207	6.351.307,36	0,951649	0,60337	1,20704	0,000099	0,00012
401,2800	8	3.210	77.215	6.354.517,60	0,951747	0,60367	1,20782	0,000148	0,00018
411,9790	12	4.944	77.227	6.359.461,35	0,951895	0,60414	1,21198	0,001159	0,00140
413,2800	94	38.848	77.321	6.398.309,67	0,953054	0,60783	1,21856	0,000826	0,00101

Annual Salary	Population	Global Annual Salary	Cumulative Population	Cumulative Labour Income	% of Cumulative Population (p_i)	% of Cumulative Labour Income (q_i)	$q_{i+1} + q_i$	$p_{i+1} - p_i$	$(q_{i+1} + q_i)(p_{i+1} - p_i)$
454,6080	67	30.459	77.388	6.428.768,40	0,953880	0,61073	1,22163	0,000049	0,00006
468,7500	4	1.875	77.392	6.430.643,40	0,953929	0,61090	1,22244	0,000173	0,00021
476,6960	14	6.674	77.406	6.437.317,15	0,954102	0,61154	1,22312	0,000012	0,00002
480,0000	1	480	77.407	6.437.797,15	0,954114	0,61158	1,22464	0,000397	0,00049
480,0030	32	15.472	77.440	6.453.268,74	0,954511	0,61305	1,22696	0,000222	0,00027
500,0000	18	9.000	77.458	6.462.268,74	0,954733	0,61391	1,22791	0,000025	0,00003
501,8750	2	1.004	77.460	6.463.272,49	0,954758	0,61400	1,23212	0,001011	0,00125
527,5460	82	43.259	77.542	6.506.531,24	0,955768	0,61811	1,23745	0,000296	0,00037
534,8960	24	12.838	77.566	6.519.368,74	0,956064	0,61933	1,24563	0,001643	0,00205
550,0000	133	73.333	77.699	6.592.702,08	0,957708	0,62630	1,25331	0,000160	0,00020
575,0000	13	7.475	77.712	6.600.177,08	0,957868	0,62701	1,25408	0,000012	0,00002
600,0000	1	600	77.713	6.600.777,08	0,957880	0,62707	1,25439	0,000049	0,00006
668,7500	4	2.675	77.717	6.603.452,08	0,957930	0,62732	1,25552	0,000160	0,00020
708,4620	13	9.210	77.730	6.612.662,08	0,958090	0,62820	1,25924	0,000493	0,00062
750,0000	40	30.000	77.770	6.642.662,08	0,958583	0,63105	1,26245	0,000062	0,00008
750,7500	5	3.754	77.775	6.646.415,83	0,958644	0,63140	1,28066	0,002946	0,00377
786,5000	239	187.974	78.014	6.834.389,33	0,961590	0,64926	1,38739	0,013460	0,01867
856,6250	1.092	935.435	79.106	7.769.823,83	0,975050	0,73813	1,58017	0,015740	0,02487
856,6400	1.277	1.093.929	80.383	8.863.753,11	0,990790	0,84205	1,68508	0,000148	0,00025
867,8130	12	10.414	80.395	8.874.166,86	0,990938	0,84304	1,68616	0,000012	0,00002
875,0000	1	875	80.396	8.875.041,86	0,990951	0,84312	1,68650	0,000037	0,00006
900,0000	3	2.700	80.399	8.877.741,86	0,990988	0,84338	1,69062	0,000444	0,00075
1.130,4170	36	40.695	80.435	8.918.436,86	0,991431	0,84724	1,69543	0,000099	0,00017
1.241,2800	8	9.930	80.443	8.928.367,10	0,991530	0,84819	1,69993	0,000370	0,00063
1.250,0000	30	37.500	80.473	8.965.867,10	0,991900	0,85175	1,70376	0,000025	0,00004
1.375,0000	2	2.750	80.475	8.968.617,10	0,991924	0,85201	1,70469	0,000062	0,00011
1.413,4500	5	7.067	80.480	8.975.684,35	0,991986	0,85268	1,70579	0,000037	0,00006
1.500,0000	3	4.500	80.483	8.980.184,35	0,992023	0,85311	1,70638	0,000012	0,00002
1.695,0000	1	1.695	80.484	8.981.879,35	0,992035	0,85327	1,70704	0,000037	0,00006

Annual Salary	Population	Global Annual Salary	Cumulative Population	Cumulative Labour Income	% of Cumulative Population (p_i)	% of Cumulative Labour Income (q_i)	$q_{i+1} + q_i$	$p_{i+1} - p_i$	$(q_{i+1} + q_i)(p_{i+1} - p_i)$
1.745,4200	3	5.236	80.487	8.987.115,61	0,992072	0,85377	1,70860	0,000074	0,00013
1.875,0000	6	11.250	80.493	8.998.365,61	0,992146	0,85484	1,71061	0,000062	0,00011
1.983,7500	5	9.919	80.498	9.008.284,36	0,992208	0,85578	1,71213	0,000037	0,00006
2.000,0000	3	6.000	80.501	9.014.284,36	0,992245	0,85635	1,71904	0,000411	0,00071
2.004,4450	33	66.815	80.534	9.081.099,18	0,992656	0,86270	1,72643	0,000062	0,00011
2.181,7700	5	10.909	80.539	9.092.008,03	0,992717	0,86373	1,86029	0,007174	0,01335
2.402,3300	582	1.398.156	81.121	10.490.164,09	0,999891	0,99655	1,99393	0,000037	0,00007
2.881,5000	3	8.645	81.124	10.498.808,59	0,999928	0,99738	1,99572	0,000037	0,00007
3.390,0000	3	10.170	81.127	10.508.978,59	0,999965	0,99834	1,99701	0,000012	0,00002
3.437,5000	1	3.438	81.128	10.512.416,09	0,999977	0,99867	1,99800	0,000012	0,00002
7.000,0000	1	7.000	81.129	10.519.416,09	0,999990	0,99933	1,99933	0,000010	0,00002
8.266,2040	1	7.012	81.130	10.526.428,58	1,000000	1,00000			
									0,26867

$R = 1 - 0{,}26867 = 0{,}731335$

Graph 14 - Lorenz curve related to labour income distribution to the population



Maybe it is improper to compare such data with the most recent statistics indicators produced by the OECD [97], as they take into account all kind of revenues. However, the fact that our labour income concentration index is higher than data reported in countries with the highest ratio represents a strong clue of serious social problems. The numerous chronicles of the time describing the Capital as a pole of attraction for those in search of more dignified living conditions seem now to fit into a scenario with more defined contours. Yearbooks telling of progressive influxes of foreigners in the first twenty years of the seventeenth century and a significant increase in the number of refugees, beggars and vagrants find now a more precise contextualization both in the reconstructed social stratification and in the estimates of the extent of the phenomenon of poverty. Such high inequality in the labour income distribution to the citizenry appears to explain the emphasis and uncommonly explicit tones used by the report accompanying the establishment law of the *Magistrato di Consigna* in 1628 to describe the social degradation as well as overpopulation and poor hygienic conditions existing within the walls of the city [98].

If the index figure reveals a modest inclusion of citizenry in the narrative of the golden age of the Genoese, scientific rigour does not allow us to draw a definitive conclusion in this sense and requires an investigation of the distribution of wealth linked to the payment of interest on public debt, which accounted for about a quarter of the global salary bill. If the reflections shared so far lead us to believe that this redistribution leaves very little or – even – no room for a reduction of inequalities, this essay on scientific grounds must identify the components of the interest paid on Saint George's *Compere* and on the Chamber's debts.

Who then were the lenders underwriting these bond issues and who received the income pay outs? Given the importance and widespread diffusion of debt securities, which at the time were one of the main points of reference for public and private investors in the Republic and neighbouring countries, the answers to these questions cannot come either by compromise

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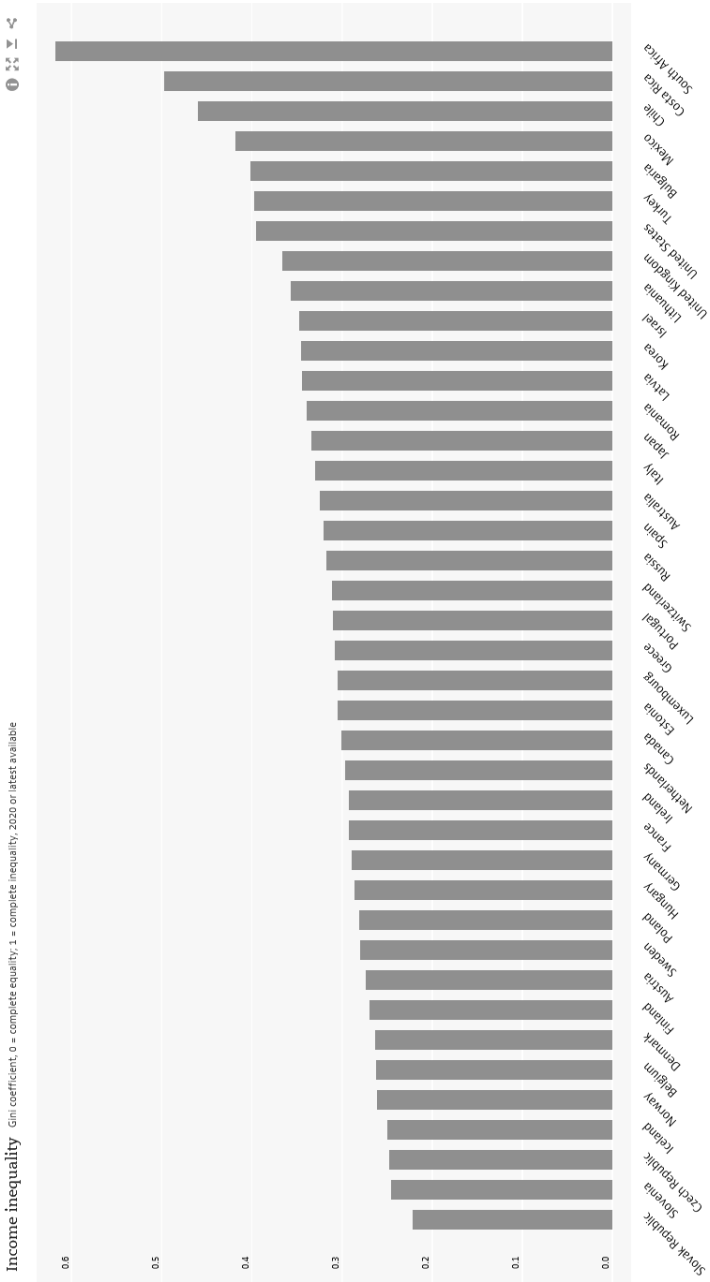
[97] The value of the highest concentration index according to the most recent OECD statistics concerns the Republic of South Africa. In 2017, the pre-pandemic figure was 0.62. The statistics are available online on the OECD website at the following link: Inequality – Income inequality – OECD Data.

[98] ASGe, *Archivio Segreto*, n. 1035.

Graph 15 - Income inequalities - Gini index (Source: OCSE 2020)



or rough estimate because both alternatives would lead to easily questionable results, so negatively impacting the penalizing the scientific validity of the proposed work. The immense archive material concerning the events of the Genoese public debt offers unparalleled research and study opportunities on the economic and financial organization of the Republic. The many works carried out around the House of St. George and the *Compere* have greatly contributed to creating a rich wealth of knowledge and data on the history of the institution and the debt administered and have stimulated further analysis on topics previously left in the shadows. Among the branches of investigation hitherto unexplored, the analytical study of the economic and social profile of the Genoese public debt is undoubtedly one of the most interesting and at the same time obscures aspects of the management of the *Compere* and of the Chamber debts. The work of forthcoming publication aims to answer the above proposed questions and to offer a definitive indication of the inequalities at the end of the most prosperous period in the history of the Republic.

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Sommario e parole significative - Abstract and keywords

Questo saggio costituisce lo spaccato di un'opera di prossima pubblicazione che mira a tracciare un profilo macroeconomico della Repubblica di Genova nel 1629 rappresentandone i tratti qualificanti in un modello matriciale, per la prima volta applicato all'analisi storica. Il presente studio propone un'analisi approfondita dei profili della distribuzione del reddito da lavoro e dei confini della fluttuante area di povertà all'interno della città al tramonto del periodo di massima prosperità economica e finanziaria della sua storia. Lo studio parte da una dettagliata profilazione della popolazione genovese e propone un confronto con il Galles e l'Inghilterra di fine Seicento e con i primi censimenti del Regno d'Italia. Attraverso l'elaborazione di una stratificazione socio-demografica e ricostruendo il contributo di ciascun settore economico alla produzione del reddito da lavoro, questa indagine tenta di segmentare altrettanti gruppi omogenei di individui con profili socio-economici simili, che rappresentano i "n" fattori in cui è possibile scomporre il reddito generato. Infine, l'articolo propone alcuni indici di concentrazione e una tavola sinottica sulla popolazione in povertà per proporre una misura delle disuguaglianze esistenti alla fine di un secolo di prosperità.

Parole significative: Repubblica di Genova, Casa di San Giorgio, debito pubblico, reddito da lavoro, disuguaglianze, povertà.

This essay constitutes a cross-section of a work of upcoming publication which aims to trace a macroeconomic profile of the Republic of Genoa in 1629 by representing its qualifying traits into a matrix model, for the first time applied to the historical analysis. This study proposes an in-depth analysis of the profiles of the distribution of income from work and the boundaries of the fluctuating area of poverty within the city at the sunset of the period of maximum economic and financial prosperity in its history. The study starts from a detailed profiling of the Genoese population and proposes a comparison with Wales & England in the late seventeenth century and with the first censuses of the Reign of Italy. Through the elaboration of a socio-demographic stratification and reconstructing the contribution of each economic sector to the production of the labour income, this survey attempts to segment as

many homogeneous groups of individuals with similar socio-economic profiles, representing the "n" factors into which the income generated can be broken down. Finally, the article proposes some concentration indexes and a synoptic table regarding the population in poverty to propose a measurement of existing inequalities at the end of a century of prosperity.

Keywords: Republic of Genoa, House of St. George, Public Debt, Labour Income, Inequalities, Poverty.

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