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THE IMPACT OF SOCIAL STATUS ON DEMOGRAPHIC CHANGES: RAGUSAN NOBILITY AND THE PROCESS OF DEMOGRAPHIC TRANSITION*

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ABSTRACT: The analysis of natural movement within the noble circle shows that the process of demographic transition of the elite ranks of the Dubrovnik population started with the mortality transition as early as the seventeenth century. The third decade of the eighteenth century witnessed the closing phase of the process, natality transition, and by the middle of the eighteenth century the process was already completed. In the first half of the eighteenth century the average age of the nobility increased by more than six years. The process of demographic transition in this social group ended by the time it started in the other contingents of the Dubrovnik population. The course of the process of demographic transition within that Ragusan social group indicates a clear positive correlation between economic power (high living standard) and positive demographic movements, revealing that the causes of the process of demographic transition had been at work at least a century earlier than generally assumed until now. The speed with which the broader population absorbed the new achievements was slow: on the overall level of the Dubrovnik population it lagged behind the elite rank a whole century, while on the broader Croatian level a time lag of two centuries has been observed.

Keywords: demographic transition, nobility, Republic of Dubrovnik, natality, mortality

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Introduction

Demographic transition involves the changes in the natality and mortality trends as a result of the overall socio-economic and cultural development of a certain region. Demographic development through direct influence of numerous factors on the socio-economic population structure affects the changes that take place in the population reproduction.[1]

The study of the process of demographic transition has attracted a number of Croatian demographic historians.[2] Their analyses mainly focus on the microlocal level,[3] and have revealed that the process of demographic transition first began in Dubrovnik,[4] in the second half of the eighteenth century, a whole

[1] Alica Wertheimer-Baletić, *Stanovništvo i razvoj*. Zagreb: Mate d.o.o, 1999: 109.

[2] For demographic transition in Croatia see: Jakov Gelo, »Usporedna slika demografskih promjena Hrvatske i odabranih zemalja od 1780. do 1980. godine«. *Stanovništvo* 3 (1982): pp. 85-98; Jakov Gelo, *Demografske promjene u Hrvatskoj 1780. do 1981. g.* Zagreb: Globus, 1987; Jakov Gelo, »Kretanje ukupnog stanovništva Hrvatske«, in: Jakov Gelo, Anđelko Akrap and Ivan Čipin, *Temeljne značajke demografskog razvoja Hrvatske*. Zagreb: Ministarstvo obitelji, branitelja i međugeneracijske solidarnosti RH, 2005: p. 60; Igor Karaman, »Počeci tranzicije stanovništva u Hrvatskoj i njihova socioekonomska osnova (do 1918)«. *Sociologija sela* 24/91-94 (1986): pp. 63-78; Igor Karaman, »Tranzicija stanovništva u povijesnim tokovima modernizacije društva«. *Naše teme* 12 (1986): pp. 2033-2062; Božena Vranješ-Šoljan, »Obilježja demografskog razvoja Hrvatske i Slavonije 1860.-1918.«. *Radovi Zavoda za hrvatsku povijest Filozofskog fakulteta Sveučilišta u Zagrebu* 31 (1998): pp. 41-53; *Početak demografske tranzicije u Hrvatskoj*, ed. Nenad Vekarić and Božena Vranješ-Šoljan. Zagreb-Dubrovnik: Zavod za povijesne znanosti HAZU u Dubrovniku and Sveučilište u Dubrovniku, 2009.

[3] For microlocal studies of demographic transition in Croatia see: Stjepan Krivošić, *Zagreb i njegovo stanovništvo od najstarijih vremena do sredine XIX. stoljeća*. [Građa za gospodarsku povijest Hrvatske, 19]. Zagreb: JAZU, 1981; Stjepan Krivošić, *Stanovništvo i demografske prilike u sjeverozapadnoj Hrvatskoj u XVIII. i prvoj polovini XIX. stoljeća*. Varaždin: Zavod za znanstveni rad HAZU, 1991; Ante Gabričević, »Prirodno kretanje stanovništva na području župe sv. Vida u Brdovcu između 1672. i 1981. godine«. *Starine JAZU* 59 (1984): pp. 187-308; Ante Gabričević, *Stanovništvo Varaždina tijekom minulih stoljeća*. Zagreb-Varaždin: Zavod za znanstveni rad HAZU Varaždin and Grad Varaždin, 2002. For the population of Istria there are a number of most authoritative studies in historical demography (Miroslav and Slaven Bertoša, Mario Budicin, Ivan Erceg, Egidio Ivetic and others), for the population of Slavonia, besides Jasna Čapo-Žmegač, for more recent research see Robert Skenderović, Hrvoje Čap and Davorin Hrkač. For further discussion on microlocal studies of the population of Croatia see: Vladimir Stipetić and Nenad Vekarić, *Povijesna demografija Hrvatske*. Zagreb-Dubrovnik: Zavod za povijesne znanosti HAZU, 2004.

[4] On the study of demographic transition in Dubrovnik see: Stjepan Krivošić, *Stanovništvo Dubrovnika i demografske promjene u prošlosti*. Dubrovnik: Zavod za povijesne znanosti JAZU u Dubrovniku, 1990; Nenad Vekarić, *Stanovništvo poluotoka Pelješca*, I. Dubrovnik: Zavod za povijesne znanosti HAZU u Dubrovniku, 1992; Nenad Vekarić, »Demografski uzroci iseljavanja s dubrovačkog područja u Ameriku u 19. i početkom 20. stoljeća.« *Dubrovnik* N.S. 3/5 (1992): pp. 97-102; Nenad Vekarić, »The Influence of Demographic Trends on Number of Undivided Family Households in Southern Croatia«. *The History of the Family* 1/4 (1996): pp. 461-476; Nenad Vekarić, »Changes in Age Patterns in the Process of Demographic Transition (Dubrovnik Data).« *Dubrovnik Annals* 4 (2000): pp. 143-187; Niko Kapetanić and Nenad Vekarić, *Stanovništvo Konavala,* I. Dubrovnik: Zavod za povijesne znanosti HAZU, 1998.

century earlier than in the rest of Croatia.[5] This discrepancy is primarily accounted by a higher level of the social and economic development which, thanks to the specific geographical position and political circumstances, positioned the Dubrovnik Republic among the most developed European states for a number of centuries, as illustrated by the per capita GDP estimates submitted by Vladimir Stipetić.[6] As confirmation of the direct correlation between the socio-economic and political conditions on the one hand and the process of demographic transition on the other is the fact that once the Dubrovnik Republic ceased to exist and integrated with other Croatian regions, Dubrovnik soon levelled with the rest of Croatia, Dalmatia in particular. Thus despite the earlier timing of its onset than in the other parts of Croatia, the process of demographic transition in Dubrovnik did not end a century earlier but at the same time as elsewhere in Croatia, in the 1960s. Therefore, the region of Dubrovnik experienced a very long central stage of demographic transition with traumatic consequences, the result of which was a notable population surplus and increased out-migration.[7]

The research has also shown that on the microlevel the process of demographic transition did not unfold uniformly. Capillary dispersion of the process depended on the adoption of the improving hygienic-sanitary conditions and the dissemination of knowledge and innovations (particularly in the field of medicine), as well as on the speed with which these innovations and improvements were absorbed on the local level. "The speed of transition depended largely on the achieved living standard, economic factors and geographical position, whereas the speed of absorption on the stability and the archaic level of the traditional customs. Therefore on the capillary level development was not uniform, characterised by a wealth of phenomena, often the result of pure coincidence or individual actions (e.g. a wise decision of the village chief to have a doctor in the village)".[8]

By analysing the natural movement of the elite contingent of the Dubrovnik population—the nobility, this study aims to establish whether capillary dispersion

[5] N. Vekarić, »Mijene dobnih struktura i procesi demografske tranzicije«: pp. 109-149.

[6] Vladimir Stipetić, »Population and Gross Domestic Product of Croatia (1500-1913) in the Light of Angus Maddison's Book *The World Economy: A Millenial Perspective*«. *Dubrovnik Annals* 8 (2004): pp. 109-176.

[7] N. Vekarić, »Demografski uzroci iseljavanja s dubrovačkog područja u Ameriku u 19. i početkom 20. stoljeća«: p. 101.

[8] Nenad Vekarić and Božena Vranješ-Šoljan, »Početak demografske tranzicije u Hrvatskoj«, in: *Početak demografske tranzicije u Hrvatskoj*, ed. Nenad Vekarić and Božena Vranješ-Šoljan. Zagreb-Dubrovnik: Zavod za povijesne znanosti HAZU u Dubrovniku and Sveučilište u Dubrovniku, 2009: p. 59.

of the process of demographic transition was also affected by the status element. The investigation is mainly based on the Ragusan parish records as well as genealogies which, including the data from other sources, helped fill the eventual gaps of the primary source.

Natality of the Ragusan nobility

Given that the Ragusan parish registers were destroyed together with the archbishop's palace in a fire during the Great Earthquake in 1667, birth and mortality rates of the Ragusan nobility in the centuries prior to that may be discussed only on the basis of the limited results of genealogical reconstruction.

Genealogies of the nobility reveal marriages with a larger number of children, as in the case of a preserved genealogy recorded in the business book of Andrija Pozza,[9] testifying to very short birth spacing: his eight children were born in the period between 10 November 1572 and 6 December 1582.[10] Extremely fertile were also the marriages of the Ragusan notary and secretary of the Republic Bartolomeo de Sfondratis (c. 1420-c. 1504), a nobleman of Cremona: with Maruša Cotrugli, his first wife, and Magdalena Pace, as second, he had as many as 28 children.[11] It is likely that at the time the birth rate exceeded 40‰ , dropping below this level in the seventeenth century.

In Croatia (as a whole) the birth rate exceeded 40‰ throughout the nineteenth century, exhibiting a decline not earlier than the first decade of the twentieth century. In the Dubrovnik rural regions birth rate ranged between 35 and 40‰, while in the City of Dubrovnik it was lower, between 25 and 30‰.[12]

According to Krivošić, birth rate in the City of Dubrovnik during the seventeenth and eighteenth centuries hovered between 29 and 33‰.[13] Amongst the noble rank it was on the level of 30‰ in the first two decades of the eighteenth century, followed by a rapid decline below 23‰ in the third decade, and a steady decline

[9] Zdenka Janeković Römer, »The Family Records of Andreas de Pozza 1569-1603«. *Dubrovnik Annals* 13 (2009): pp. 41-54.

[10] Z. Janeković Römer, »The Family Records of Andreas de Pozza 1569-1603«: pp. 47-50.

[11] *Vlajkijeva genealogija Antunina*, Arhiv Čingrija, vol. 2 (State Archives of Dubrovnik).

[12] J. Gelo, *Demografske promjene u Hrvatskoj*: pp. 123, 126; S. Krivošić, *Stanovništvo Dubrovnika i demografske promjene u prošlosti*: p. 76.

[13] S. Krivošić, *Stanovništvo Dubrovnika i demografske promjene u prošlosti*: p. 76.

to the end of the century when it fell below 14‰.[14] The "boom" generation in the eighth decade (22‰) is the only deviation on the descending curve of the eighteenth century (Table 1). Natality differentials between the noble and non-noble population of Dubrovnik in the third decade of the eighteenth century are probably the result of the transitional process, which amongst the noble rank had sooner reached the final stage of the natality decline.

Mortality of the Ragusan nobility

The peaks of mortality curves have been obtained indirectly from other sources: the years 1348, 1363, 1482 and 1527 were marked by the epidemics of plague, while 1667 was the year of the Great Earthquake. An indicative presentation of the mortality curve from 1440 to 1808 is also provided by the mortality analysis of the Ragusan Rectors (Graph 1).[15] However, the sample is not representative for the general mortality rate.

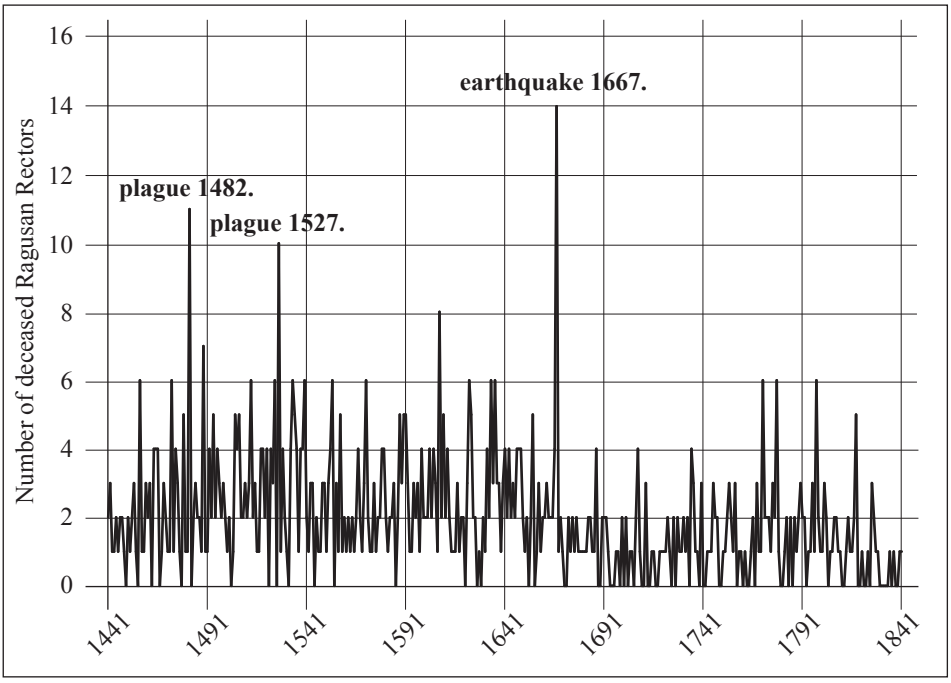
The general mortality rate in Dubrovnik in a seventeenth-century sample (1638-1646) was 28.4‰, in the years 1691-1756 it was 25.7‰, and 28.7‰ in 1757-1810.[16] In the noble circle, however, the rate was much lower: it was never higher than 23‰, in the fourth decade it dropped below 20‰, and towards the close of the century dropped slightly above 13‰. The eighth decade happened to witness "a rise" of mortality rate (22.06‰) not attributable to epidemics but a sharper increase of birth rate (Table 1). As a result, higher infant mortality contributed to an increase of the overall death rate. Thus amongst the nobility the mortality transition ended by the close of the eighteenth century, as contrasted to the non-noble strata: in the period 1811-1857, the mortality rate of the City of Dubrovnik was 22.8‰, in the maritime regions of Dubrovnik 16.7‰ (1831-

[14] Krivošić also tried to calculate the overall natality rate of the noble rank, but probably used biased parameters (he either over- or under-registered the nobility or made an error in their overall number), as his calculation greatly deviates from reality. Thus according to Krivošić the nobility birth rate in 1642-1650 was 14‰, in 1659-1677 it was 15‰, 15,6‰ in 1678-1756, in 1757-1810 it was 10‰, and in 1811-1857 it was 6,5‰ (S. Krivošić*, Stanovništvo Dubrovnika i demografske promjene u prošlosti*: p. 76).

[15] For the Table containing the data by year, see: Nenad Vekarić, *Dubrovačka vlastela*, I: *Korijeni, struktura i kretanje vlasteoskih rodova kroz stoljeća*. Zagreb-Dubrovnik: Zavod za povijesne znanosti HAZU u Dubrovniku, 2011: Table 18.

[16] S. Krivošić*, Stanovništvo Dubrovnika i demografske promjene u prošlosti*: p. 80.

Graph 1. Mortality of the Ragusan Rectors (1441-1808)



Source: *Specchio del Maggior Consiglio*, ser. 21.1, *Manuali pratici del cancelliere - Leggi e instruzioni*, vols. 1-4 (State Archives in Dubrovnik); genealogies of the Ragusan noble families

1869), and in the rural regions 24.5‰.[17] Elsewhere in Croatia the transition had not even begun, the mortality rate ranging between 36.2 and 40.7‰. Western and northern Europe, however, were experiencing a similar scenario to that of Dubrovnik: in Denmark over the period 1810-1850 the death rate ranged from 20.1 to 26.8‰, in France from 23.5 to 25.9‰, in Sweden from 20.6 to 33.1‰, and in the USA from 20 to 24‰.[18]

[17] Apparently, the best response to the adoption of the innovative sanitary and medical standards has been observed in the maritime-oriented regions. Here, however, one should be careful with conclusions. In the coastal, seafaring-oriented regions a lower mortality rate would be expected due to the lower birth rate (long-term absence of the mariners), but also because of the "hidden" mortality—unrecorded deaths of the shipwrecked seafarers.

[18] J. Gelo, *Demografske promjene u Hrvatskoj*: p. 252, S. Krivošić*, Stanovništvo Dubrovnika i demografske promjene u prošlosti*: p. 80.

Demographic transition among the nobility

Mortality and natality rates indicate that the process of demographic transition among the nobility had reached its final stage as early as the eighteenth century. Not a single decade of the eighteenth century witnessed a mortality rate as high as 23‰. This implies that the mortality transition had an earlier onset, in the seventeenth century, reaching its final stage in the following century. Moreover, as early as the third decade of the eighteenth century natality experienced a sharp decline, reflecting in a period of zero population growth. From the third decade to the close of the century the natural movement in the noble circle experienced an increase or decline in a range of less than 3‰. In reality, a modest natural decline was at work, because the mortality rates did not include the patricians in convents, mostly noble women (Tables 1-2, Graphs 2-4).[19]

Table 1. Natural growth of the Ragusan nobility in the eighteenth century

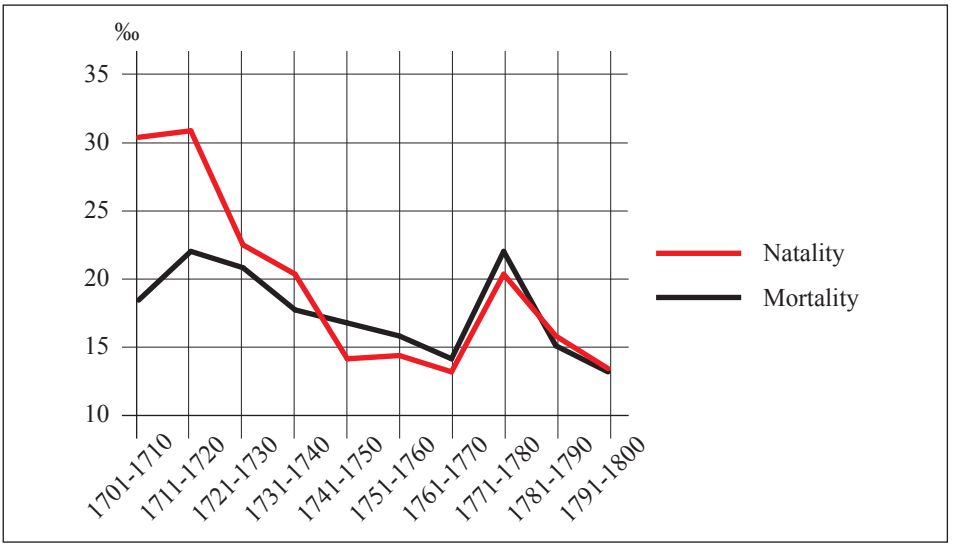
Year	Estimate of the number of nobles in the middle of the period	Number of births	Number of deaths	Growth (decline)	Number of marriages	Average annual natality rate	Average annual mortality rate	Average annual growth rate	Average annual migration total	Average annual nuptiality rate
Total	434	816	735	81	164	19.57	17.63	1.94	-2	4.34
1701-1710	417	127	77	50	27	30.46	18.47	11.99	-7	6.47
1711-1720	410	129	92	37	15	30.94	22.06	8.87	-4	3.66
1721-1730	404	94	87	7	16	22.54	20.86	1.68	-1	3.96
1731-1740	398	85	74	11	7	20.38	17.75	2.64	-2	1.76
1741-1750	391	59	70	-11	9	14.15	16.79	(2.64)	0	2.30
1751-1760	381	60	66	-6	22	14.39	15.83	(1.44)	0	5.77
1761-1770	366	55	59	-4	26	13.19	14.15	(0.96)	-1	7.10
1771-1780	351	85	92	-7	20	20.38	22.06	(1.68)	-1	5.70
1781-1790	336	66	63	3	11	15.83	15.11	0.72	-2	3.27
1791-1800	321	56	55	1	11	13.43	13.19	0.24	-2	3.43

Source for Tables 1-6 and Graphs 2-8: Genealogies of the Ragusan noble families

Other demographic indicators also confirm the final stage of demographic transition among the nobility. As early as the first half of the eighteenth century

[19] The structure of deaths exhibits a lower level of female mortality. In the first half of the eighteenth century male deaths outnumbered the female ones by 60 (230-170); in the latter half of the eighteenth century by 79 (207-128). For this reason in almost every decade of the eighteenth century a negative migration total (an average of two people per year) has been observed. This primarily concerns the noble women who entered convents, as the deaths of nuns remained unregistered in our sources. Similar was the case with friars, though somewhat less in number.

Graph 2. Natality and mortality rates among the nobility in the eighteenth century by decades



Graph 3. The number of births among the nobility

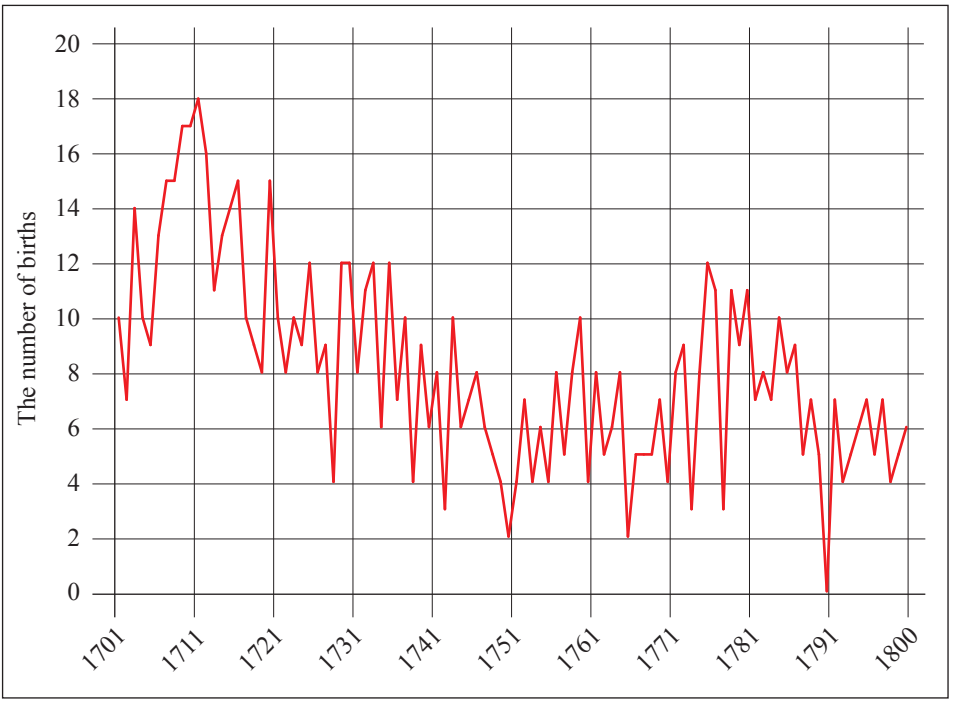
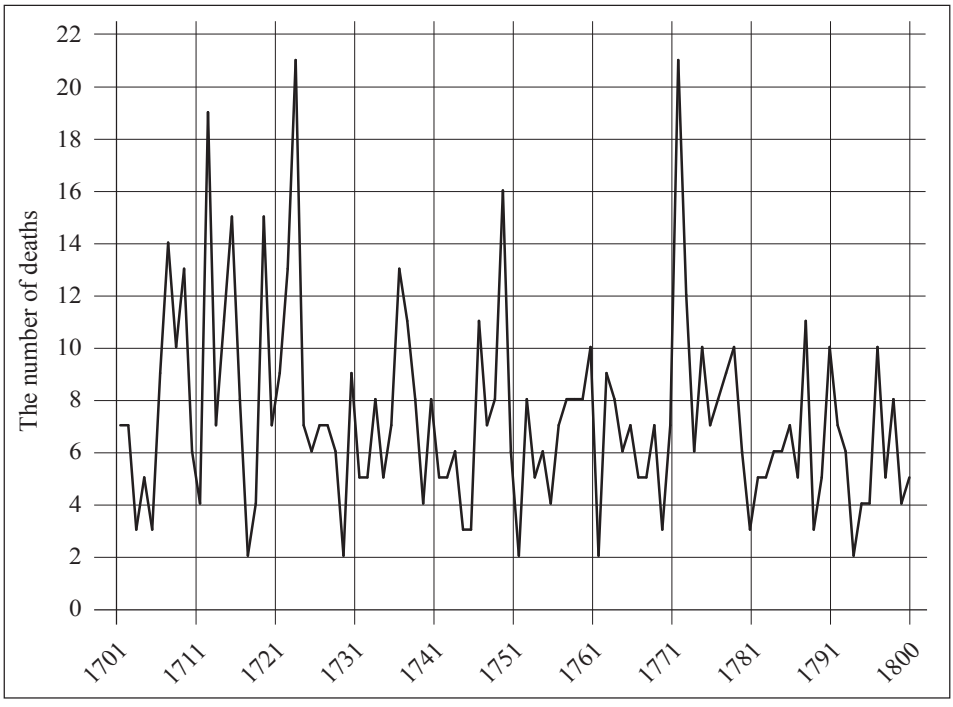


Table 2. Birth, death and marriage of the nobility in the eighteenth century by decades

Year	Births			Deaths			Marriages
	Total	Male	Female	*Total*	Male	Female	*Total*
1701-1800	816	406	410	735	437	298	164
1701-1750	494	247	247	400	230	170	74
1751-1800	322	159	163	335	207	128	90
1701-1710	127	66	61	77	45	32	27
1711-1720	129	75	54	92	50	42	15
1721-1730	94	38	56	87	46	41	16
1731-1740	85	36	49	74	52	22	7
1741-1750	59	32	27	70	37	33	9
1751-1760	60	23	37	66	39	27	22
1761-1770	55	28	27	59	39	20	26
1771-1780	85	44	41	92	62	30	20
1781-1790	66	31	35	63	33	30	11
1791-1800	56	33	23	55	34	21	11

Graph 4. The number of deaths among the nobility



Graph 5. The proportion of age specific death contingents among nobility in the first and second half of the eighteenth century

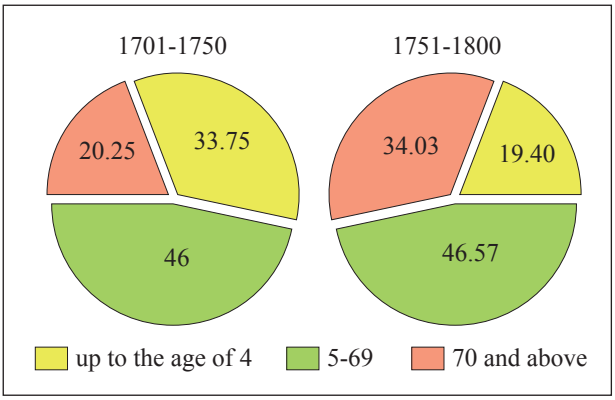


Table 3. Age at death among nobility in the first and second half of the eighteenth century

Age	Period											
	1701-1750						1751-1800					
	Number of deaths			Structure (%)			Number of deaths			Structure (%)		
	Male	Female	*Total*	Male	Female	*Total*	Male	Female	*Total*	Male	Female	*Total*
Total	230	170	400	100	100	100	207	128	335	100	100	100
0-23 hours	4	6	10	1.74	3.53	2.50	4	3	7	1.93	2.34	2.09
1-6 days	4	2	6	1.74	1.18	1.50	5	2	7	2.42	1.56	2.09
7-29 days	8	4	12	3.48	2.35	3.00	5	3	8	2.42	2.34	2.39
1-11 months	28	20	48	12.17	11.76	12.00	4	6	10	1.93	4.69	2.99
0-11 months	44	32	76	19.13	18.82	19.00	18	14	32	8.70	10.94	9.55
1-4	31	28	59	13.48	16.47	14.75	23	10	33	11.11	7.81	9.85
5-9	12	4	16	5.22	2.35	4.00	5	7	12	2.42	5.47	3.58
10-14	1	-	1	0.43	0.00	0.25	1	-	1	0.48	0.00	0.30
15-19	6	3	9	2.61	1.76	2.25	1	3	4	0.48	2.34	1.19
20-24	3	3	6	1.30	1.76	1.50	3	5	8	1.45	3.91	2.39
25-29	6	1	7	2.61	0.59	1.75	3	5	8	1.45	3.91	2.39
30-34	8	6	14	3.48	3.53	3.50	4	1	5	1.93	0.78	1.49
35-39	7	4	11	3.04	2.35	2.75	3	4	7	1.45	3.13	2.09
40-44	10	11	21	4.35	6.47	5.25	4	4	8	1.93	3.13	2.39
45-49	9	5	14	3.91	2.94	3.50	7	3	10	3.38	2.34	2.99
50-54	14	8	22	6.09	4.71	5.50	10	3	13	4.83	2.34	3.88
55-59	8	3	11	3.48	1.76	2.75	15	8	23	7.25	6.25	6.87
60-64	17	7	24	7.39	4.12	6.00	14	10	24	6.76	7.81	7.16
65-69	18	10	28	7.83	5.88	7.00	25	6	31	12.08	4.69	9.25
70-74	19	14	33	8.26	8.24	8.25	22	10	32	10.63	7.81	9.55
75-79	6	18	24	2.61	10.59	6.00	22	12	34	10.63	9.38	10.15
80-84	5	8	13	2.17	4.71	3.25	16	12	28	7.73	9.38	8.36
85-89	6	1	7	2.61	0.59	1.75	10	6	16	4.83	4.69	4.78
90-94	-	4	4	0.00	2.35	1.00	1	3	4	0.48	2.34	1.19
95-99	-	-	0	0.00	0.00	0.00	-	2	2	0.00	1.56	0.60

Table 4. Age and gender structure of the Ragusan nobility in 1700

Age	Population size			Gender structure (%)			Age structure (%)		
	Total	Male	Female	*Total*	Male	Female	*Total*	Male	Female
Total	420	216	204	100	51.43	48.57	100	100	100
0-4	41	27	14	100	65.85	34.15	9.76	12.50	6.86
5-9	35	25	10	100	71.43	28.57	8.33	11.57	4.90
10-14	40	22	18	100	55.00	45.00	9.52	10.19	8.82
15-19	47	25	22	100	53.19	46.81	11.19	11.57	10.78
20-24	45	19	26	100	42.22	57.78	10.71	8.80	12.75
25-29	57	22	35	100	38.60	61.40	13.57	10.19	17.16
30-34	18	10	8	100	55.56	44.44	4.29	4.63	3.92
35-39	18	14	4	100	77.78	22.22	4.29	6.48	1.96
40-44	16	8	8	100	50.00	50.00	3.81	3.70	3.92
45-49	24	16	8	100	66.67	33.33	5.71	7.41	3.92
50-54	25	11	14	100	44.00	56.00	5.95	5.09	6.86
55-59	20	7	13	100	35.00	65.00	4.76	3.24	6.37
60-64	13	3	10	100	23.08	76.92	3.10	1.39	4.90
65-69	13	5	8	100	38.46	61.54	3.10	2.31	3.92
70-74	3	1	2	100	33.33	66.67	0.71	0.46	0.98
75-79	3	1	2	100	33.33	66.67	0.71	0.46	0.98
80-84	2	-	2	100	0.00	100.00	0.48	0.00	0.98
Mean age	28.35	25.45	31.41						

Graph 6. Age and gender structure of the Ragusan nobility in 1700

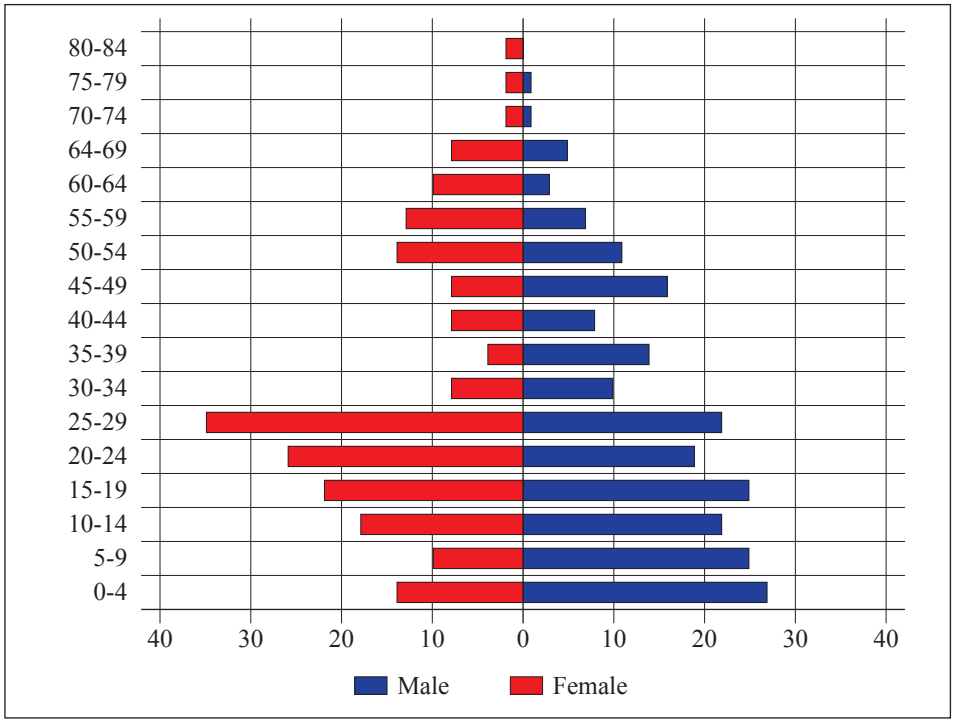


Table 5. Age and gender structure of the Ragusan nobility in 1750

Age	Population size			Gender structure (%)			Age structure (%)		
	Total	Male	Female	*Total*	Male	Female	*Total*	Male	Female
Total	388	197	191	100	50.77	49.23	100	100	100
0-4	18	7	11	100	38.89	61.11	4.64	3.55	5.76
5-9	24	14	10	100	58.33	41.67	6.19	7.11	5.24
10-14	25	12	13	100	48.00	52.00	6.44	6.09	6.81
15-19	34	11	23	100	32.35	67.65	8.76	5.58	12.04
20-24	37	13	24	100	35.14	64.86	9.54	6.60	12.57
25-29	27	10	17	100	37.04	62.96	6.96	5.08	8.90
30-34	37	25	12	100	67.57	32.43	9.54	12.69	6.28
35-39	32	14	18	100	43.75	56.25	8.25	7.11	9.42
40-44	34	19	15	100	55.88	44.12	8.76	9.64	7.85
45-49	22	11	11	100	50.00	50.00	5.67	5.58	5.76
50-54	24	17	7	100	70.83	29.17	6.19	8.63	3.66
55-59	22	20	2	100	90.91	9.09	5.67	10.15	1.05
60-64	13	7	6	100	53.85	46.15	3.35	3.55	3.14
65-69	18	11	7	100	61.11	38.89	4.64	5.58	3.66
70-74	10	3	7	100	30.00	70.00	2.58	1.52	3.66
75-79	10	3	7	100	30.00	70.00	2.58	1.52	3.66
80-84	0	-	-	100	-	-	0.00	0.00	0.00
85-89	0	-	-	100	-	-	0.00	0.00	0.00
90-94	1	-	1	100	0.00	100.00	0.26	0.00	0.52
Mean age	34.93	36.92	32.86						

Graph 7. Age and gender structure of the Ragusan nobility in 1750

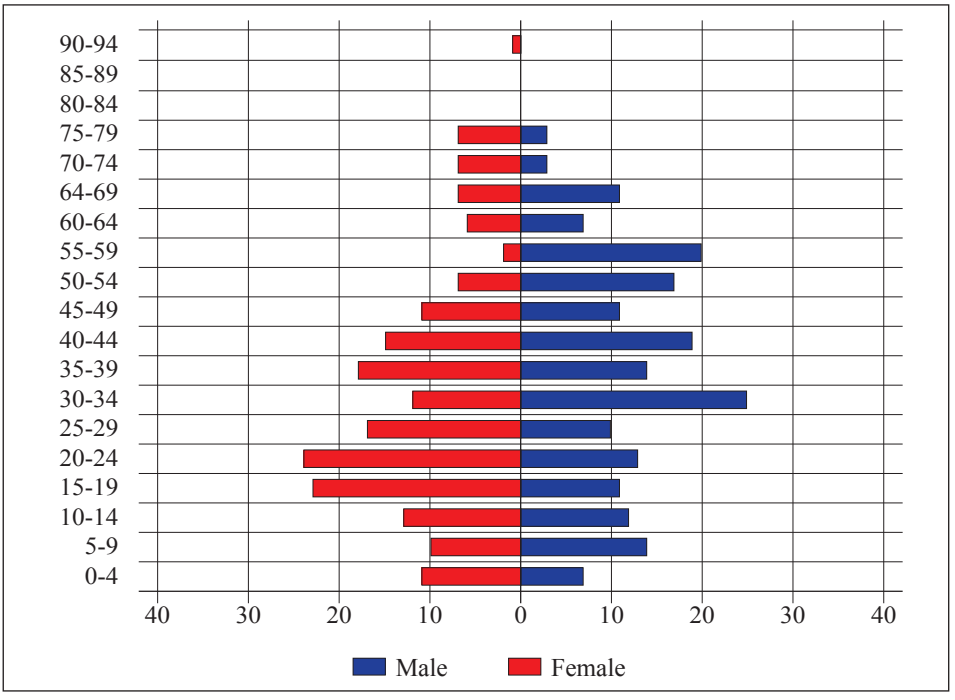
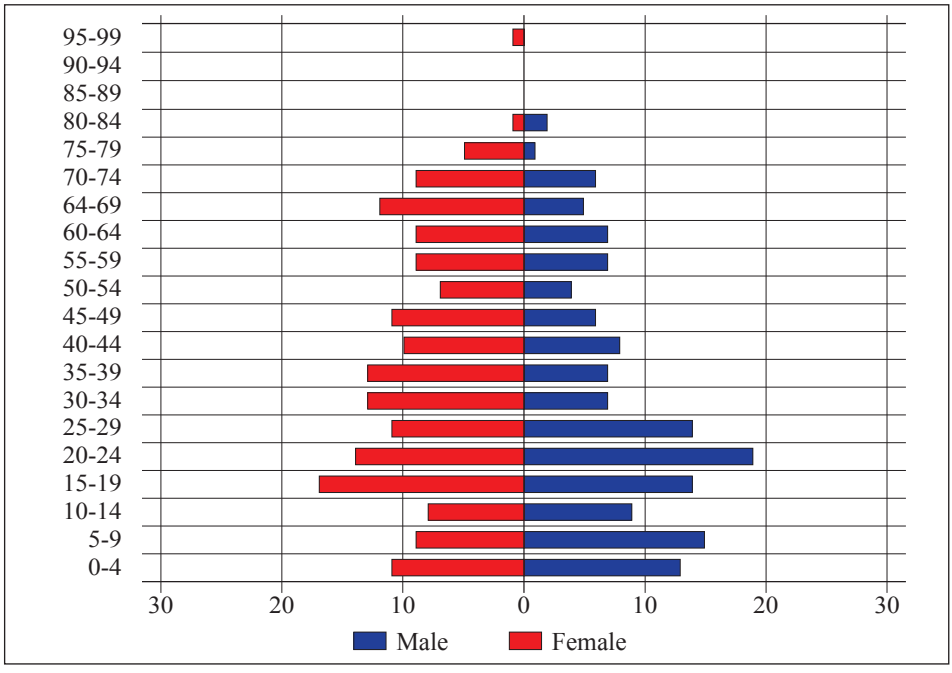


Table 6. Age and gender structure of the Ragusan nobility in 1800

Age	Population size			Gender structure (%)			Age structure (%)		
	Total	Male	Female	*Total*	Male	Female	*Total*	Male	Female
Total	314	144	170	100	45.86	54.14	100	100	100
0-4	24	13	11	100	54.17	45.83	7.64	9.03	6.47
5-9	24	15	9	100	62.50	37.50	7.64	10.42	5.29
10-14	17	9	8	100	52.94	47.06	5.41	6.25	4.71
15-19	31	14	17	100	45.16	54.84	9.87	9.72	10.00
20-24	33	19	14	100	57.58	42.42	10.51	13.19	8.24
25-29	25	14	11	100	56.00	44.00	7.96	9.72	6.47
30-34	20	7	13	100	35.00	65.00	6.37	4.86	7.65
35-39	20	7	13	100	35.00	65.00	6.37	4.86	7.65
40-44	18	8	10	100	44.44	55.56	5.73	5.56	5.88
45-49	17	6	11	100	35.29	64.71	5.41	4.17	6.47
50-54	11	4	7	100	36.36	63.64	3.50	2.78	4.12
55-59	16	7	9	100	43.75	56.25	5.10	4.86	5.29
60-64	16	7	9	100	43.75	56.25	5.10	4.86	5.29
65-69	17	5	12	100	29.41	70.59	5.41	3.47	7.06
70-74	15	6	9	100	40.00	60.00	4.78	4.17	5.29
75-79	6	1	5	100	16.67	83.33	1.91	0.69	2.94
80-84	3	2	1	100	66.67	33.33	0.96	1.39	0.59
85-89	0	-	-	100	-	-	0.00	0.00	0.00
90-94	0	-	-	100	-	-	0.00	0.00	0.00
95-99	1	-	1	100	0.00	100.00	0.32	0.00	0.59
Mean age	34.34	30.72	37.41						

Graph 8. Age and gender structure of the Ragusan nobility in 1800



age structure at death displays some of the characteristics of the transition process. The proportion of infant deaths was 19%, while the proportion of infant and under-4 mortalities was below 34%. That level in the rest of the population of Dubrovnik and Croatia was not achieved even a hundred years later.[20] In the latter half of the eighteenth century child mortality experienced a radical decline: the proportion of infant deaths dropped below 10%, and infant and early-childhood mortality below 20%. An increase in the life-span has also been observed: in the first half of the eighteenth century out of those who survived their fourth birthday the majority died at the age 70-74; in the second half of the eighteenth century at the age 75-79 (Graph 5). In the first half of the eighteenth century 6% of deaths occurred at the age of 80 or above; in the latter half of the eighteenth century 15% (Table 3). Higher death age has also been recorded amongst the noble population. In 1700 the mean age of the Ragusan nobility was 28.35 years, and by 1750 rose to 34.93 years, retaining this level until the end of the century, and well after the fall of the Republic (Tables 4-6, Graphs 6-8).

Conclusion

The analysis of natural movement within the noble circle shows that the process of demographic transition of the elite ranks of the Dubrovnik population started with the mortality transition as early as the seventeenth century. The third decade of the eighteenth century witnessed the closing phase of the process, natality transition, and by the middle of the eighteenth century the process was already completed. In the first half of the eighteenth century the average age of the nobility increased by more than six years. The process of demographic transition in this social group ended by the time it started in the other contingents of the Dubrovnik population.

The course of the process of demographic transition within that Ragusan social group indicates a clear positive correlation between economic power (high living standard) and positive demographic movements, revealing that the causes of the process of demographic transition had been at work at least a century earlier than generally assumed until now. The speed with which the broader population absorbed the new achievements was slow: on the overall level of the Dubrovnik population it lagged behind the elite rank a whole century, while on the broader Croatian level a time lag of two centuries has been observed.

Translated by Vesna Baće

[20] N. Vekarić and B. Vranješ-Šoljan, »Početak demografske tranzicije u Hrvatskoj«: pp. 33-37.