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POPULATION AND GROSS DOMESTIC PRODUCT OF CROATIA (1500-1913) IN THE LIGHT OF ANGUS MADDISON'S BOOK THE WORLD ECONOMY - A MILLENNIAL PERSPECTIVE

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ABSTRACT: Based on Maddison's data on the levels of gross domestic product per capita of Italy, the Venetian Republic, Austria and Eastern Europe, the author calculates through complex procedures an estimate of gross domestic product (GDP) per capita in Croatia in the period between 1500 and 1913. It is estimated that in 1500 the Republic of Dubrovnik realised 70% of the GDP of the Venetian Republic, while the coastal Dalmatian communes achieved 60%. The rural hinterland of Dalmatia and Istria, as well as both Croatia and Slavonia, had a substantially lower GDP per capita. By weighting these amounts, the author calculates the GDP per capita of Croatia as a whole. The situations in 1700, 1820 and 1913 are also estimated in a similar manner, by starting from regional differences and the realised progress or regress. When these results are compared with Maddison's findings, it is concluded that in around 1500, in terms of its economic development, Croatia was 2% below the world average, and 25% below the West European average, while in 1913 it was 9% below the world, and as much as 60% below the West European average.

1. Introduction

The book by Angus Maddison on the world economy viewed from a

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This article has already been published in Croatian under the following title: »Stanovništvo i bruto domaći proizvod Hrvatske (1500-1913) u kontekstu najnovijeg rada Angusa Maddisona« *Anali Zavoda za povijesne znanosti HAZU u Dubrovniku* 41 (2003): pp. 91-156. Translated by Davies d.o.o.

millennial perspective[1] inspires admiration for this economic historian (who sheds light through his work on the lesser known macroeconomic giants in the economic history of humankind) and at the same time presents a challenge to other scientists (to consider the path through which their country has passed, and which has not been dealt with by A. Maddison). With his book, Maddison throws down the gauntlet to scientists dealing with the world's economic history: they should make a choice between accepting his findings, complementing them with an analysis of their own countries, or finding other solutions. Maddison is a synthesist: the findings of numerous economic historians from all over the world have filtered through his critical analysis and are collected in his retort. A work has grown out of this *mixtum compositum* which the present author has taken up as a challenge to view Croatian economic development in a broader, world context.

First of all, a few words about Angus Maddison. He is an economic historian who for as many as forty years has been performing the quantitative analysis of the economic history of the world. He made his mark in world science in 1962 with a piece of work that showed him as an exceptional comparative economic analyst. This work, dealing with the growth and fluctuations of the world economy between 1870 and 1960, set the trail that he has persistently followed for the last 40 years by complementing previous findings with new facts.[2] The book, which we here present only in some of its segments[3] is, in many ways, a synthesis of the author's perception of the economic history of the world, and of Western Europe in particular.

The method used by the author is a *macroeconomic* one, based on:

a) the determination of the population of the world, regions, and countries, based on the latest works of historical demography (which have been multiplying

[1] Angus Maddison, *L'économie mondiale - une perspective millénaire*. Paris: Études du Centre de Développement OCDE, 2001; Angus Maddison, *The World Economy - A Millennial Perspective*. Paris, 2001.

[2] I will mention only some of his books: *Economic Growth in Japan and USSR*. London: Allen and Unwin, 1969; *Economic Progress and Policy in Developing Countries*. London: Allen and Unwin, 1970; *Phases of Capitalist Development*. Oxford: Oxford University Press, 1982; *The World Economy in the Twentieth Century*, Paris, 1989; *Monitoring the World Economy 1820-1920*. Paris, 1995; *Explaining the Economic Performance of Nations: Essays in Time and Space*. Aldeshot: Elgar, 1995; *Economic Growth and Structural Change: Comparative Approaches over the Long-Run: Proceedings of the Eleventh International Economic History Congress*, ed. A. Maddison and H. Van der Wee. Milan, 1994.

[3] I will touch only upon the segment of Maddison's book that is relevant to Croatian parts and circumstances.

throughout the world) for the period between 1000 to 2000;

b) the calculation of gross domestic product (GDP and per capita GDP) in fixed prices. The author provides estimates on GDP employing a number of works used in the last thirty years to assess the growth dynamics of individual countries. All these data - expressed in various units of value - have been converted and are given in terms of the purchasing power of the international dollar of 1990 (calculated by using the Geary-Khamis method), thus making them suitable for comparative analysis.

c) the established facts related to the movements of these macroeconomic values, from which the author draws conclusions on the success or failure of economic development per country and region, and in the world.

Such an approach allows for the establishment of long-term trends in the movement of the GDP of nations and the well-being of the population in these countries (the latter is measured in GDP per capita). Research on the growth of real income in other periods is conducted today by economic historians through the quantitative analysis of facts, which has bolstered the concept of *new economic history* (sometimes called econometric history or cliometrics[4]). Maddison's book deepens knowledge of economic history. It covers in broad terms the dynamics of the world's economic development between 1000 and 1500, and determines in detail the development dynamics of the world, wider geographic areas and the major countries between 1500 and 1820; it gives precise data per major country after 1820 (the population, total GDP and per capita GDP); and provides annual data for all major countries for the period following 1950.

The theme is broad and the author of this paper has neither the intention nor the possibility of summarising the vast wealth of this magnificent work in a few pages. Therefore, I will focus on several fundamental macroeconomic parameters related to the period between 1500 and 1913, which are also relevant for a consideration of the economic history of Croatia.

The author himself explains the aim of his book. The purpose of this book, he writes, is to quantify these long-term changes in world income and population in a comprehensive way; identify the forces which explain the

[4] See a new approach for this source: *New Economic History*, ed. Peter Temin. Harmondsworth: Penguin, 1973; John Hicks, *A Theory of Economic History*. Oxford: Clarendon Press, 1969; J. D. Gould, *Economic Growth in History (Survey and Analysis)*. London: Methuen & Co, 1972. To acknowledge this approach, we should stress that R.W. Fogel, the renowned economic historian, received the Nobel Prize for economics for his work on the quantitative economic history of the USA.

success of the rich countries; explore the obstacles which hindered advance in regions which lagged behind; to scrutinise the interaction between the rich countries and the rest to assess the degree to which their backwardness may have been due to Western policy (p. 17). This is an ambitious goal, which he attempts to reach in his voluminous book (400 pages in the format of an encyclopaedia).

We shall focus here on only three aspects of his research: one is related to the population dynamics in the second millennium of humankind (the period between 1000 and 1998), the second to the advancement of well-being in the world in the past millennium, and the third to the division of world history into periods, and the role of Venice in the economic development of the world. After that, I will attempt to respond to the challenge that this book poses for the economic history of Croatia

2. Population

We will begin the presentation of Maddison's book with the findings on the growth dynamics of the world population. In his book, Maddison does not seek to propound his own estimate of the world population during the

Table 1 - The world population (1500-1950) (in millions)

Estimate given by	year	1500	1600	1750	1900	1950
Carr-Saunders	1936	..	..	728	1,608	..
Benett	1954	446	..	749	1,555	..
Cipolla	1962	..	..	750	1,650	..
Clark C.	1968	427	498	731	1,668	..
McEvedy&Jones	1975	425	545	720	1,630	2,500
UN	1995	..	507*	711	1,590	2,516
Maddison, A.	2001	438	555	754**	1,565	2,524

*1650.
**Interpolated by V.S.
Sources: Colin McEvedy and Richard Jones, *Atlas of World Population History*. Middlesex: Penguin Books, 1978; Angus Maddison, *Monitoring the World Economy 1820-1920*. Paris, 1995; Angus Maddison, *The World Economy - A Millennial Perspective*. Paris, 2001.

second millennium. He mainly uses previously published estimates, which historical demographists have been working on for seventy years. These findings are not significantly different in terms of the size of the world population (as shown in Table 1), but the differences are more noticeable when they relate to the population of some regions and/or countries.

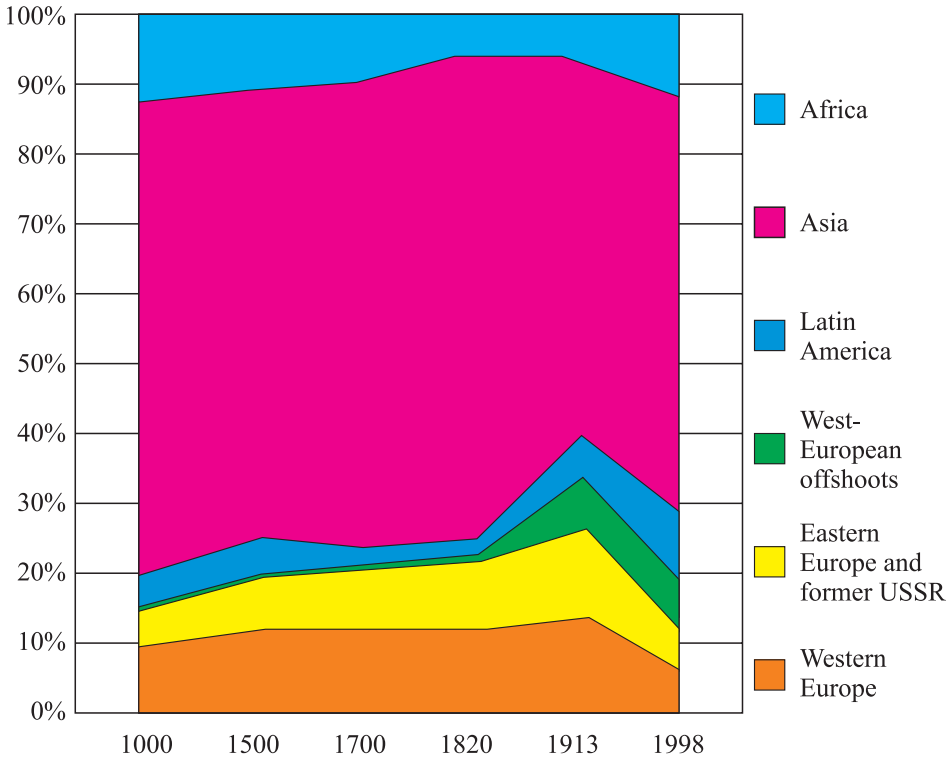
The differences are small for the world as a whole, but they become larger when individual regions are considered (Table 1). Therefore, we present his data on the population of the world also by region to show the dynamics and the regional distribution of the world population (Table 2, Figure 1).

Table 2 - World population (1000-1998), by region

Area-region	year					
	1000	1500	1700	1820	1913	1998
A. Population (in millions)						
THE WORLD	268.3	437.8	603.4	1,041.1	1,791.0	5,907.7
Western Europe	25.4	57.3	81.5	132.9	261.0	388.4
Eastern Europe and former USSR	13.6	30.5	45.4	91.2	235.8	411.9
West-European offshoots*	2.0	2.8	1.8	11.2	111.4	323.4
Latin America	11.4	17.5	12.0	21.2	80.5	507.6
Asia	182.9	283.8	401.8	710.4	977.6	3,515.4
Africa	33.0	46.0	61.0	74.2	124.7	759.9
B. Structure of the world population (world=100)						
Western Europe	9.5	13.1	13.5	12.8	14.6	6.6
Eastern Europe and former USSR	5.0	7.0	7.5	8.8	13.1	6.9
West European offshoots*	0.7	0.6	0.3	1.1	6.2	5.5
Latin America	4.2	4.0	2.0	2.0	4.5	8.6
Asia	68.2	64.8	66.6	68.3	54.6	59.5
Africa	12.3	10.5	10.1	7.1	7.0	12.9

*USA, Canada, Australia and New Zealand - according to A. Maddison's definition

Figure 1 - Structure of the world population (1000-1998), by region



First of all, we should mention the exceptional progress of the world population after 1820. Between 1000 and 1500 the world population was growing by only 1‰ a year; between 1500 and 1820 the annual growth had already reached 2.7‰, only to increase to 4‰ in the period between 1820 and 1870; it jumped exponentially to 8‰ before the First World War (1870-1913), and reached 9.3‰ in the period between 1913 and 1950, in spite of two world wars which caused huge losses of human lives, the Spanish Flu, and other calamities. This rate of growth of the world population that had never been seen before doubled in the period of peace between 1950 and 1973, reaching a growth of as much as 19.2‰ a year. Subsequently, world population growth slowed, although it remained high, reaching as much as 16.6‰ a year in the last quarter of the 20th century.

UN demographists are counting on further stagnation in world population growth in the first half of the 21st century, although, according to their projection, it could be expected that in as early as 2025 the population of the Earth will be 8.47 billion.

This high growth in population has not been distributed equally (which can be seen from the data presented in Table 2). In the last two centuries, exceptional growth was seen in Africa (a 10-fold growth in population between 1820 and 1998), Latin America (25-fold - mostly through immigration), while the population of the West European "offshoots" (Maddison's term) multiplied 24 times between 1820 and 1998. A slower growth dynamics in this period was observed in Asia (a 5-fold growth), Eastern Europe and the former USSR (4.5-fold), and particularly Western Europe (where growth was less than 3-fold) - and all this with an average 5.7-fold growth in the world population in these two centuries.

It is only natural that such differentiated population growth per individual area, or per continent, led to a different distribution of the world population (as shown by item B in Table 2). In the course of the twentieth century the significance of Western Europe decreased the most in terms of world population (falling from 14.6% of the world population in 1913 to a mere 6.6% in 1998), and the share of the population of Eastern Europe and the former USSR in the world population decreased only a little less (from 13.1% in 1913 to 6.9% in 1998). This fall in the significance of Europe in terms of the world population - halving from 27.7% in 1913 to 13.5% in 1998 (and as we will see later, also in world product) - led to the collapse of what had been known as Eurocentrism, a doctrine that interpreted world flows through the crucial influence of Europe. In contrast to this fall of Europe's significance in the 19th and 20th century in terms of world population, the significance of the population of the West European offshoots, Latin America, Africa and Asia, increased drastically. We have to add immediately that these latter three areas have a generally low GDP per capita. Such exceptional population growth dynamics was seen in countries with a low standard of living, while, on the other hand, the growth in the standard of living of highly developed countries slowed the process of population growth.

In order to show the growing differences between the developed and underdeveloped world, Maddison divides the world into two groups of countries. One group consists of Western Europe with its offshoots (USA,

Canada, Australia and New Zealand) and Japan, which are, according to their condition in 1998, economically highly developed countries. Maddison labels them A countries. The second group consists of all other countries (labelled B countries). From the gigantic task of grouping all countries into these two groups, Maddison obtained Table 3, which is given here in a summarised form. The following far-reaching conclusion may be drawn: the population of the developed part of the world has been rapidly decreasing. At the end of the 20th century, only one seventh (14.2%) of the population lived in countries enjoying high economic development (compared to 18.2% in 1700 and 16.8% in 1820). However, in 1998, this seventh part of the population possessed more than half of the world product (53.4%, Figure 2). Each citizen in these countries realised a nearly four times higher GDP per capita than the average person living on this planet. In 1700, the average inhabitant of an A country had a 65% higher GDP than one living in a B

Table 3 - The economically developed and underdeveloped world, in 1700, 1820 and 1998

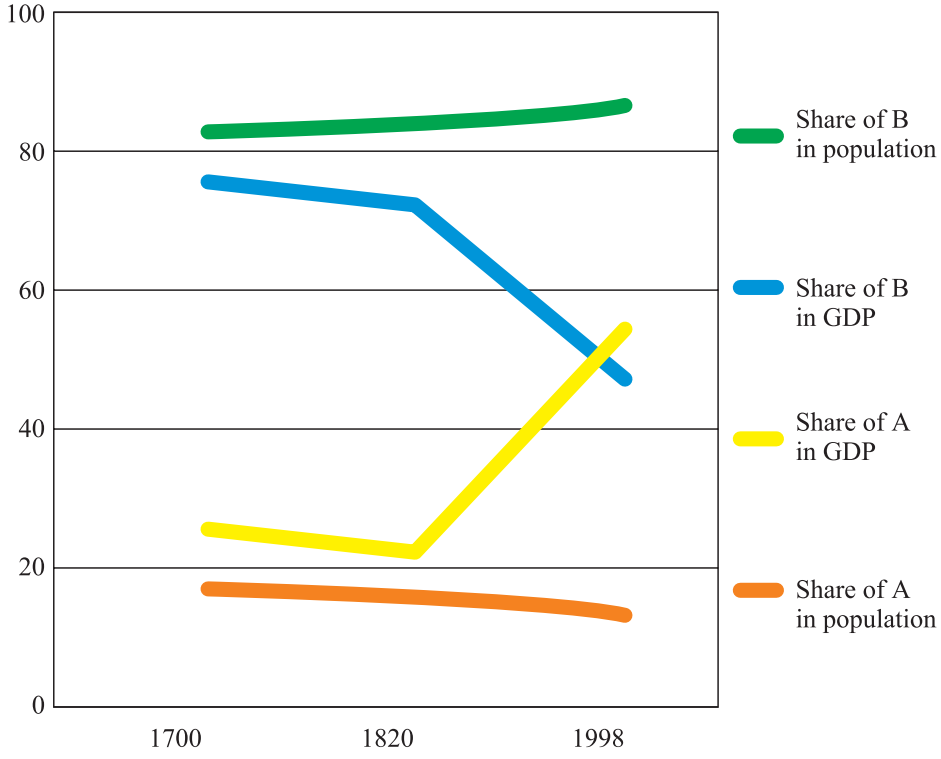
Area of the world	1700	1820	1998	Structure (world=100)		
				1700	1820	1998
A. Population (in millions)						
Share of A	110	175	838	18.2	16.8	14.2
Share of B	493	866	5,069	81.8	83.2	85.8
THE WORLD	603	1,041	5,908	100.0	100.0	100.0
B. Gross domestic product (million $ from 1990)						
Share of A	100	198	17,998	27.0	28.5	53.4
Share of B	272	496	15,727	73.0	71.5	46.6
THE WORLD	371	694	33,726	100.0	100.0	100.0
C. Per capita GDP ($ from 1990)						
Share of A	907	1,130	21,470	147.5	169.4	376.1
Share of B	551	573	3,102	95.9	59.1	54.3
THE WORLD	615	667	5,709	100.0	100.0	100.0

Source: Angus Maddison, *L'économie mondiale - une perspective millénaire*. Paris: Études du Centre de Développement OCDE, 2001: 28

country. This gap between developed and underdeveloped countries has been widening; in 1820, the inhabitants of A countries had twice the per capita GDP as those in B countries, while in 1998, this difference grew into a 7-fold one. The ratio between the most developed area in the world (Western Europe) and the most underdeveloped (Africa) amounted in 1820 to 3:1; by 1998, the ratio of per capita GDP between Africa and the West European offshoots had risen to 19:1. Thus, the division of the world into wealthy regions and continents on the one hand and into those that were not wealthy on the other hand, became more evident, and Maddison's book provides persuasive facts to support this view.

Limited space does not allow me to show the reasons that Maddison gives to explain how humankind, in spite of the proliferation of the population, was able not only to maintain its existing wealth, but also to multiply it several

Figure 2 - Population trends and GDP in the developed (A) and underdeveloped (B) world in 1700, 1820 and 1998



times. The Malthusian fears, which assumed that the population boom would destroy the material well-being of humanity, did not come true.[5] Maddison analyses the stages of this progress (he finds that particular progress was realised in the second half of the 20th century), the factors of fast growth, etc. We do not intend to dwell on this - we will only point out urbanisation (as a side effect of industrialisation) and the change in the socio-economic structure of the population. Maddison relies on the findings of a number of authors to determine the beginnings of this fast economic growth of countries that are today highly developed. To support the thesis that cities were the main generators of economic growth, he presents Table 4, which shows the size of cities in Western Europe.

Urbanisation appeared with economic growth after 1600 (see the exceptionally large population growth in London, Paris, Madrid, Barcelona and Lisbon, Naples and Vienna), while some other cities stagnated (Venice, Florence, Cologne, etc.), and others even experienced a decline (Nuremberg, Danzig, Augsburg, Granada, etc.). Maddison analyses the reasons for the progress of some, and the stagnation of others (see Venice, the German Hanse towns, etc.).[6]

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[5] At the beginning of the 19th century Thomas Malthus established a hypothesis claiming that the population had the tendency of growing by geometrical progression, while food production grew by arithmetical progression. Therefore, the plague, starvation, war and other misfortunes were the unavoidable natural consequences of two divergent tendencies (*Essays on Population...*, 1808). Although long-term trends continue to contradict T. Malthus, his theoretical offspring are still present. I will only mention here the book by Paul R. and Anne H. Ehrlich, *The End of Affluence* (*A Blueprint for Your Future*) of 1974 (p. 21), in which the authors foresee that humanity is facing the most hideous shortage, the shortage of food, which in the sixties led to the premature death of 10 to 20 million people for the lack of a suitable diet. But this is nothing compared to the dietary catastrophe which will dominate humankind in the seventies. A situation has been created which will lead to hundreds of millions of people starving to death. As can be seen, there is no end to frightening people with the Malthusian nightmare.

[6] In 1981, the writer of this work used the data on the city population of Europe presented by Roger Mols in the famous *The Fontana Economic History of Europe*, edited by Carlo M. Cipolla in 1976 (Vladimir Stipetić, »O istraživanju povijesti stanovništva u gradovima Hrvatske«, in Stjepan Krivošić, *Zagreb i njegovo stanovništvo od najstarijih vremena do sredine XIX. stoljeća*. [Građa za gospodarsku povijest Hrvatske, vol. 19]. Zagreb: JAZU, 1981: pp. 1-22). When comparing the data given by Mols with De Vries's data, it should be stressed that the more recent data are more complete, because they also included in the group of the largest cities those that Mols had not mentioned in individual years (let us just mention Rome 1500, Palermo 1600, etc.), but also by providing new, more precise data on the population in individual cities (thanks to numerous economic and demographic studies conducted in the last twenty years, in which we should include those conducted in our country on the population of Zagreb, Varaždin, Zadar, Dubrovnik and other cities).

Table 4 - Population of the biggest European cities (1500-1800)

Town	Population (in thousands)			
	1500	1600	1700	1800
Italy				
Naples	150	281	216	427
Venice	100	139	138	138
Milan	100	120	124	135
Florence	70	70	72	81
Rome	60	71	80	91
Bologna	55	63	63	71
Palermo	55	105	100	139
France				
Paris	100	220	510	581
Lyon	50	40	97	100
Rouen	40	60	64	81
Bordeaux	20	40	50	88
The Netherlands and Belgium				
Antwerp	40	47	70	60
Ghent	40	31	51	51
Brussels	35	50	80	74
Bruges	30	27	38	32
Amsterdam	14	65	200	217
Germany and Austria				
Nuremberg	36	40	40	27
Cologne	30	40	42	42
Lübeck	24	23	..	23
Danzig	20	50	50	40
Ausgburg	20	48	21	28
Vienna	20	50	114	231

Town	Population (in thousands)			
	1500	1600	1700	1800
Iberian peninsula				
Granada	70	69	..	55
Valencia	40	65	50	80
Lisbon	30	100	165	180
Barcelona	29	43	43	115
Cordoba	27	45	28	40
Seville	25	90	96	96
Madrid	0	49	110	167
England				
London	40	200	575	865

Source: J. De Vries, *European Urbanisation, 1500-1800*. London: Methuen, 1984 (quoted after A. Maddison, *The World Economy - A Millennial Perspective*. Paris, 2001)

3. The growth of the well-being of humankind

In his latest book, Maddison significantly refined his calculation of GDP by country in comparison with the study he published in 1995. The methodological base of the calculation has not changed (based on the 1990 international dollar calculated according to Geary-Khamis's method of international purchasing power parity), but the newly published studies enabled him to more precisely determine the level and dynamism of product per capita in a number of countries.[7]

In the study published in 1995 for the period between 1500 and 1820 (after this year he was able to use national studies) Maddison relied on three simple principles related to the growth of per capita GDP: he used S. Kuznet's hypothesis that in these three centuries Western Europe had a growth of

[7] A. Maddison very critically compares the results he obtained in his book published in 1995 with the results in this one, published in 2001. He finds that his estimate of the world GDP for 1870 was 2.3% higher in 1995, the one for 1913 only 0.8% higher, while the estimates for the years 1950 and 1990 were almost identical. However, when we arrive at the level of regions, the differences are more significant, especially in the 20th century (in the earlier work, Maddison overestimated the progress of Asia during the 20th century, and underestimated the progress achieved by Latin America, Africa, and Europe and its "offspring"). See: A. Maddison, *The World Economy*: p. 175.

0.2% of GDP/capita per year.[8] The rate of growth of Eastern Europe, the former USSR and Latin America was 0.1% a year, while Asia and Africa stagnated. In his book, Maddison relied on detailed investigations conducted by numerous researchers of the economic history of this period, but also on studies conducted by himself alone. This shows that the realised progress in Western Europe was somewhat slower than Kuznets had assumed (only 0.15% a year between 1500 and 1820), although the dynamism of growth was faster in Latin America and in the West European offshoots. The hypothesis on the stagnant per capita income in Asia and Africa was confirmed. Although space does not allow me to list all the authors and countries that form the foundation for Maddison to build his economic picture of the world in these three centuries, let us say only that a number of studies were conducted in a whole range of countries (such as France, Italy, the Netherlands, England, Spain, and the West European offshoots). I would simply like to stress that, in my opinion, Maddison obtained in this way a solid basis for assessing the economic development of the world in the period between 1500 and 1820. He also added to this his estimates of the conditions of the world at the beginning of the second millennium (the year 1000), which satisfied his intention given in the very title of the book: of viewing the world economy during the second millennium of its new history.

In this overview, I will present Maddison's findings in an abbreviated form, skipping a large number of years for which he provides data (1600, 1870, 1950 and 1973), as well as data by major country (Maddison analysed some 20 countries). I hold that the years presented in Table 5 (and Figure 3) are sufficient to explain the secular tendencies in the economic development of humankind, and that those who are interested in individual countries and years will easily find data on them in the book itself. I particularly emphasise that the data by country are extremely important for the conducting of specific research to assess the time and role of other countries not dealt with by Maddison, for example, Croatia.

Table 5 presents the basic data on the size of world product in the second millennium - as provided by Maddison. The data, given in fixed prices, point to the growth dynamism of both the world and individual regions over this extended length of time.

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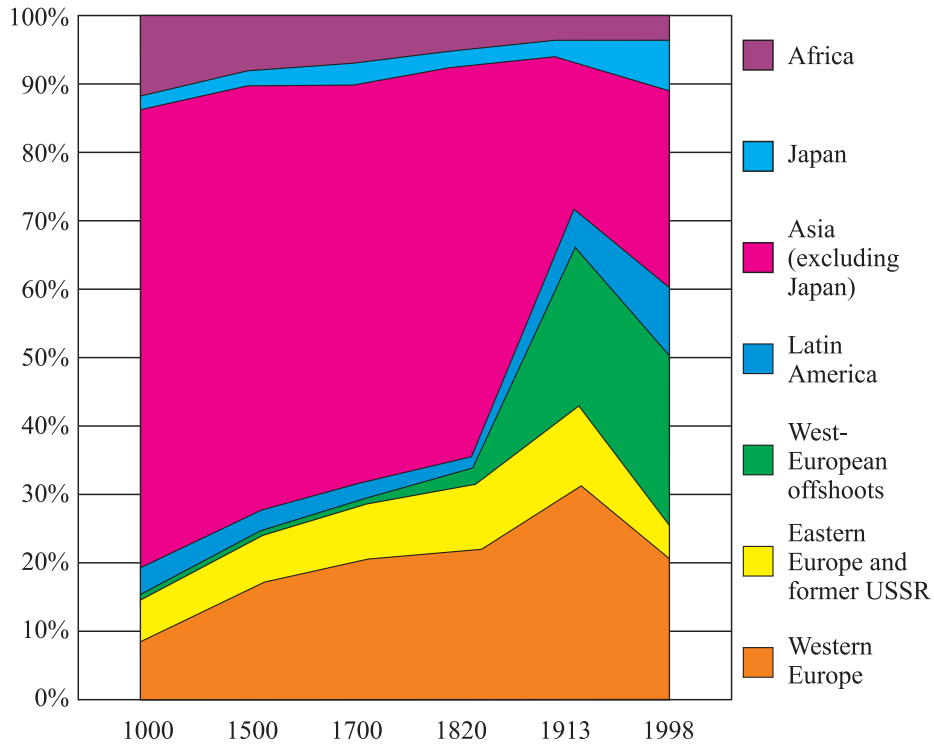
[8] Presented in his book: Simon Kuznets, *Population, Capital and Growth: Selected Essays*. New York: Norton, 1973.

Table 5 - World Gross Domestic Product (1000-1998)

Area-region	years					
	1000	1500	1700	1820	1913	1998
A Amounts (million 1990 international $)						
THE WORLD	116.8	247.1	371.4	694.4	2,704.8	33,725.6
Western Europe	10.2	44.3	83.4	163.7	906.4	6,960.6
Eastern Europe	2.6	6.2	10.6	23.1	121.6	660.9
Former USSR	2.8	8.5	16.2	33.7	232.4	1,132.4
West-European offshoots	0.8	1.1	0.8	13.5	585.6	8,456.1
Latin America	4.6	7.3	6.4	14.1	121.7	2,941.6
Japan	3.2	7.7	15.4	20.7	71.7	2,581.6
Asia (excluding Japan)	78.9	153.6	214.1	390.5	592.6	9,953.0
Africa	13.7	18.4	24.4	31.0	72.9	1,039.4
B Structure of the world product (world = 100)						
Western Europe	8.7	17.9	22.5	23.6	33.5	20.6
Eastern Europe	2.2	2.5	2.9	3.3	4.5	2.0
Former USSR	2.4	3.4	4.4	5.4	8.6	3.4
West-European offshoots	0.7	0.5	0.2	1.9	21.7	25.1
Latin America	3.9	2.9	1.7	2.0	4.5	8.7
Japan	2.7	3.1	4.1	3.0	2.6	7.7
Asia (excluding Japan)	67.6	62.1	57.6	56.2	21.9	29.5
Africa	11.8	7.4	6.6	4.5	2.7	3.1

First, I will comment on the wide divergence between the progress of humankind in the first half of the second millennium (when world product increased 2.1-fold in 500 years) and the progress achieved in the second half (when world product increased 136-fold). This exceptional result in the second half of the second millennium bears witness to the freeing of the enormous creative capacity of humankind, propelled by the spread of literacy and science that led to new technological achievements, the expansion and acceleration of communications, and other factors. Humankind “broke out”

Figure 3 - Structure of world GDP (1000-1998)



of its closed civilisations (the Chinese civilisation, for instance, barely had any contact with the European civilisation until the 16th century, so that the truth about China, told by Marco Polo in 1298 in his Genoa prison, was for centuries considered to be a product of his imagination) and was becoming increasingly global. The speedy intertwining of civilisations, economies and people accelerated the economic growth of both the world and individual countries, which began to adapt to the new circumstances.

However, the development that began in 1500 was uneven. Europe developed faster than the rest of the world between 1000 and 1500, emerging from the stagnation experienced after the downfall of the Roman Empire. Boosted by this initial momentum (quadrupling total GDP in 500 years), Western Europe continued its speedy development after 1500, reaching a four-fold increase in total GDP between 1500 and 1820, whereas between 1820 and 1998 its GDP shot up 40 times. The West European offshoots developed even faster, particularly after 1820, and soared in terms of growth

of product (between 1820 and 1998 they increased their product by as much as 625 times). Eastern Europe and Russia advanced at a slower pace (until 1820), but their development also accelerated after 1820 (economic growth in Eastern Europe in the 19th and 20th century increased 29 times, and in the former USSR, 34 times), Latin America also recorded a huge growth in product after 1820 (208 times), while this increase was more modest in Asia (excluding Japan), where it was only 25-fold, and Africa (a 34-fold increase). On the other extreme of these relatively unfavourable tendencies related to Africa and Asia, there is, in economic terms, the exceptionally successful Japan, which increased its total GDP between 1820 and 1998 by as much as 125 times, enabling it to reach the highest level of the most economically developed countries.

This great disparity in the increase of generated GDP led to a different distribution of generated product of humankind. The data in the lower half of Table 5 clearly show this. Western Europe increased its share in world product (from 17.9% in 1500 to as much as 33.5% in 1913; it then fell back to 20.6% in 1998). The same significant growth was recorded by the West European offshoots, Latin America and Japan. On the other hand, Asia (excluding Japan) and Africa recorded a long-term decrease in their share in the structure of world product, which has only partly been remedied in most recent times (as seen from the data of 1998).

However, the data presented in Table 5 do not take into account the fact that humankind during the second millennium also generated significant disparity in population growth (as shown by A. Maddison in his book, and summarised in this overview in Table 2). For this reason, the data on the level of per capita GDP (Table 6) is the actual benchmark of the realised economic growth and well-being per individual region, or per country. An analysis of these data tells us that Maddison believes that at the beginning of the second millennium the world was quite uniform in terms of its level of economic development, in which Asia (particularly China and Japan) and Africa were in the lead, finding themselves slightly ahead of the world average, while Europe as a whole was below the world average. The situation changed from as early as 1500: Western Europe positioned itself in the lead of the more developed part of the world, while Asia (excluding Japan) was slightly above the world average. However, from the middle of the second millennium, dramatic changes occurred in the level of well-being of the average citizen of individual regions, which we do not intend to explain here, since Maddison's data clearly show this. I will, however, focus on several general conclusions.

Table 6 - Per capita gross domestic product (1000-1998) (in 1990 purchasing power dollar)

Area of the world	year					
	1000	1500	1700	1820	1913	1998
A Absolute amounts						
THE WORLD	435	565	615	667	1,510	5,709
Western Europe	400	774	1,024	1,232	3,473	17,921
Eastern Europe	400	462	566	636	1,527	5,461
Former USSR	400	500	611	689	1,488	3,893
West-European offshoots	400	400	473	1,201	5,257	26,146
Latin America	400	416	529	665	1,511	5,795
Japan	425	500	570	669	1,387	20,413
Asia (excluding Japan)	450	572	571	575	640	2,936
Africa	416	400	400	418	585	1,368
B Relative level (world = 100)						
Western Europe	92	137	167	185	230	314
Eastern Europe	92	82	92	95	101	96
Former USSR	92	88	99	103	99	68
West-European offshoots	92	71	77	180	348	458
Latin America	92	74	86	100	100	102
Japan	98	88	93	101	92	358
Asia (excluding Japan)	103	101	93	86	42	51
Africa	96	71	65	63	39	24

Humankind now had a standard of living and well-being that was incomparably higher than ever before. The standard of living of an average world citizen was 10 times higher in 1998 than it had been in 1500. It is important to emphasise that in the first half of the second millennium, the standard of living of the average inhabitant of the planet increased very slowly (by 30% in these five hundred years); the well-being of humankind also changed very little in the following 320 years (an increase of only 18%

in the period between 1500 and 1820). However, after this, huge improvements followed in the living conditions of the world, a real explosion of well-being (an 8.5-fold improvement in the next 180 years). Well-being increased enormously in the 20th century, especially after 1950. In 97 years (between 1820 and 1913) the well-being of the average inhabitant of the world increased 2.2-fold; and in the next 85 years (between 1913 and 1998) 3.8-fold (which shows that the annual increase of well-being was two times faster in the 20th than it had been in the 19th century). However, this progress was uneven: Western Europe dynamically improved the standard of living of its inhabitants, and this continued consistently in the last two centuries of the second millennium; Eastern Europe and the former USSR advanced at a somewhat slower pace. After 1820, incredible progress was recorded by the West European offshoots (a 22-fold growth until 1998) and Japan (31-fold). On the other hand, in the same period, Asia and Africa achieved modest growth (5-fold and 3.3-fold respectively). Humankind as a whole was incomparably wealthier in 1998 than it had ever been before. The increase achieved in the last 180 years has been greater than that achieved in the whole written history of humankind.[9]

In 1500, Western Europe surpassed the world average, increasing over time the distance between it and the world average - precise data can be found in the lower half of Table 6. In contrast with Western Europe, the dynamism of Eastern Europe followed the world average, so that the gap in the level of economic development between Western and Eastern Europe widened, which was also the case with the territory of the former USSR. According to Maddison, a similar differentiation can also be found in Asia. There, Japan stood out from the Asian average after 1820: the rest of Asia was lagging behind the world average, while Japan, taking gigantic strides after 1950, surpassed Western Europe and approached the level of the West

[9] This is the opinion of numerous experts who deal with economic history. Thus, E. Gundlach, »Das Wirtschaftswachstum der Nationen im zwanzigsten Jahrhundert«. *Die Weltwirtschaft, Vierteljahresschrift des Instituts für Weltwirtschaft an der Universität Kiel* 1 (1998): pp. 85-107 writes: "Economic growth during the twentieth century was extremely fast - without precedent in the history of humankind. Never before had such large parts of the population of many countries participated to such an extent in creating material well-being as has been the case in this century. Even the 19th century, for which contemporaries such as Karl Marx and Friedrich Engels claimed that it had created miracles different from the building of the Egyptian pyramids, the Roman aqueducts, or Gothic cathedrals, fades before the miracles created in the 20th century, especially those in the second half of the 20th century."

European offshoots. The worst case was that of Africa. While, at the beginning of the second millennium it was at the level of the world average, today an African citizen generates less than one quarter of the world average of well-being. It can be concluded from the data presented in Table 6 that Western Europe lost its lead in terms of well-being at the end of the 19th century when it was overtaken by its offshoots. In 1820, Western Europe was wealthier than its offshoots, while in 1913 the offshoots had already overtaken Western Europe (by 51%), and in 1998 this difference was still 46% in favour of the offshoots.[10]

These relative relations (according to the world average) should not obscure the general picture of the progress of human well-being. The standard of living (well-being) of a world citizen is today 8.5 times higher than it was only 180 years ago. These trends take a number of forms: housing conditions have improved; drinking water has come to the houses of many world citizens; electrical power has entered almost every home, and has been put to tens or even hundreds of uses; we eat better than we ever did before, so that starvation has almost disappeared, while only as far back as the 20th century it took millions of victims; although a sixth of the population are still malnourished. Health conditions have improved, so that life expectancy has been greatly extended in the world (from 26 in 1820, to 66 in 1999, while in economically developed countries it already surpasses the age of 80).[11] A person today

[10] Extensive literature has been published about the causes of this relative lagging behind of Western Europe, which we do not have the opportunity of considering here. Insight into this type of literature is provided in the book: J. R. Western, *The End of European Primacy*. London: Blandford Press, 1971. The condition of Western Europe would deserve special analysis after the creation of the European Union through the Rome Treaty (1958).

[11] The progress realised in the 20th century was surprising even for great visionaries. The example of Leon Trotsky was illustrative in this respect. After years of living in Vienna, Zurich, Paris, London and other West European cities, Trotsky was deported to the USA by the French police in 1916. In his own words, he says he rented (with his family) "a flat in a workers' district of New York and bought furniture on credit. This flat cost me eighteen dollars a month. But it had some **advantages completely unknown to Europe**: it had electricity, a gas stove, a bathroom, a telephone, a cargo lift for things we would send up and for rubbish we would take down". These accomplishments of civilisation which could even be found in the workers' parts of town amazed Trotsky. Therefore, he wrote: "Europe is destroying the very sources of its wealth while America is getting rich. Observing New York **with envy**, I, who have not yet renounced my European feelings, have been asking myself with anxiety whether Europe would endure… Will not the centre of economic and cultural life move to America?" Léon Trotsky, *Ma vie*. Paris: Gallimard, 1953 (emphasis by V. S). This viewpoint of Trotsky's also shows how Eurocentrism became deeply nested in the mindsets of all Europeans.

works less (fewer hours), which leaves more time to pursue his or her interests. The flourishing of tourism is only one of the consequences of this situation.

This huge progress made in the world has not made humanity happier, particularly not its poorer part. The demonstrative effect of well-being in developed world countries is enormous: from the silver screen and from the TV screen, great expectations rain down on the millions of poor inhabitants of our planet, along with the belief that in these economically underdeveloped countries such well-being could be easily and comfortably created. Such expectations are generally connected with political events: new elections, a different government and a change in economic policy, or something similar. However, these expectations are often followed by disappointment; resistance increases, and some new *deus ex machina* is expected to appear and create well-being overnight. But the centennial experience that Angus Maddison so lucidly presents in his book shows that there is no quick and easy way to social well-being. This is a thorny path that requires the coordinated activities of all the stakeholders in the process of economic growth; if only one of these stakeholders is missing, all other efforts could be in vain.[12]

However, one reserve should be added here. The general improvement in the standard of living of humankind (as a whole) has not resolved the issue of the relative distribution of income and wealth. Although the average inhabitant of Africa became wealthier in 1998 than his or her predecessor in 1820 (by as much as 3.2 times), in 1998 he or she was farther behind the standard of living of the inhabitant of a West European "offshoot" than he or she had been in 1820. The ratio between Africa and offshoots, which was 1:2.9 in 1820, had already reached 1:9 in 1913, and in 1998 was as much as 1:19. The relative gap between the wealthy and poor areas of the world, as we see, is growing dramatically: so far, neither humankind nor economic

[12] In his book, Maddison presents the annual rates of growth of all the time periods covered by his analysis. I am omitting these, since there are few people who will understand that when analysing long-term periods, apparently small differences in figures lead to a huge difference in the final result. Here is one example from Maddison's book (*The World Economy*: p. 126): the annual rate of growth for the period of 1913-1950 of world gross domestic product amounted to 0.91%; it amounted to 2.93% for the period of 1950-1973, and 1.33% for the period of 1973-1998. In 50 years the annual rate of growth of 0.91 will lead to an increase of 57% (index 157), a rate of 1.33% to as much as 94%, and a growth of 2.93% will be more than quadrupled (index 424). Such relatively "small" differences in annual rates of growth lead to huge differences when applied to a long period of time. Many people do not generally know this, so in this overview of Maddison's work for the presentation of progress I most often used the index for the period, and not the annual rate of growth.

science has any precise answer about how to remove this huge inequality in living conditions.[13] The result is growing dissatisfaction with the condition in which the greater part of the population finds itself, whose members, consequently, find themselves less satisfied and less happy.[14]

And finally, I feel compelled to add a personal comment to the exceptional panorama of the economic development of the world presented in Maddison's capital work. When reading this book, I became aware of three factors that added to my own experiences. First of all was the fact that I had lived my life in an extremely successful period of economic progress of humanity. This general image of progress was blurred by the wars I had lived through, the starvations that occurred, the concentration camps, the prisons of Siberia

[13] Simon Kuznets, as far back as in 1955, in his speech to the *American Economic Association* (as its president) explained his hypothesis about income inequality which, in his opinion, grew in the early stages of economic development, only to decrease later. Kuznets stated this for an individual country, and not for humanity as a whole, thus the significance of his conclusions (and the conclusions of his followers) is, nevertheless, limited. See: Simon Kuznets, »Economic Growth and Income Inequality«. *The American Economic Review* 45 (1955); idem, *Modern Economic Growth: Rate, Structure and Spread*. New Haven-London: Yale University Press, 1967; idem, *Postwar Economic Growth*. Cambridge, Ma.: Harvard University Press, 1964. For the followers of Kuznets's hypothesis, see J. Williamson, *The Great Egalitarian Levelling under Twentieth Century Capitalism*, 1984 and Peter L. Berger, *The capitalist revolution: fifty propositions about prosperity, equality and liberty*. New York: Basic Books, 1986.

[14] Well-being, satisfaction and happiness are generally considered to be the end goals of human life: literally everyone wants to be happy. The US Declaration of Independence of 1776, which is based on the tenets of the Enlightenment, regards this human pursuit of happiness as an inalienable right, almost at the same level as life and liberty. Many economists derived from this the conclusion that economics was a means and a way of achieving individual happiness; in this sense, economic growth, inflation, unemployment, administration and other macroeconomic categories are only at the service of raising the well-being of individuals, and of achieving a sense of happiness. This is why economists have increasingly been dealing with the problem of the relation of the well-being and happiness of individuals, a problem which had been until recently within the domain of social psychology. Research conducted in individual countries shows that a sense of happiness and satisfaction grows with an increase in income, but, on the other hand, a high income does not simply transform itself into a sensation of happiness. Great differences in the level of income within a country often lead to a feeling of dissatisfaction. However, when observing the time series, the happiness index does not grow with well-being, which is particularly evident in the analysis of the sensation of happiness in Japan (after 1950). Studying extensive literature on this topic, B. S. Frey and A. Stutzer, »What Can Economists Learn From Happiness Research«, in: *Journal of Economic Literature* 40 (2002), reached the conclusion that there was no strong link between the level of per capita income and individual happiness. It is obvious that new products are continually being introduced by fast technological and economic growth, but these products are years, or even decades, away for many users, and this situation makes them unhappy.

and Goli Otok, the totalitarian regimes of all kinds, the peaks and troughs of individual countries, economic policies and concepts. It was not infrequently that these hurdles and difficulties distracted my (and not only my) attention from the economic life blossoming in the world as well as in my country. Maddison allows us to observe economic history from above, providing a bird's-eye view, which frees us from the pressure of the current moment, due to which we sometimes fail to see the wood for the trees (as the saying goes).

The second factor is no less important: it says that all this exceptional progress of humankind is the work of Western civilisation to which I also belong (although since I have lived in its periphery, the results reached my people with delay and only partially). The magnificent springtime of creative humankind, this inexhaustible, continuous scientific, technological, industrial, intellectual and moral revolution began and continued in Europe and in its (to use Maddison's term again) offshoots. This process has been continuing for almost two centuries, where, let us put it poetically, every day, from year to year, more and more complex innovations are added to the fund of discoveries and achievements; the standpoints that have been valid so far are now being reviewed, and old knowledge is being replaced. These are not individual events or forms of knowledge; this is a continuous unrolling of novelties that change the world. This flood of innovations has had no precedent in the economic and cultural history of humankind, it is an avalanche, sweeping away the canons of days gone by, creating the world as we know it today. This is also reflected in the dynamism of the world economy, in the already mentioned accelerated growth of well-being in countries that generated this new era of human development. In this sense, it can be said that at the beginning of the 19th century Western civilisation took up the reins of the world. Science, which was born here, became real science: we are not just speaking of exact disciplines (where this contribution is indisputable), but also of philosophy, medicine, law (which codified the world according to the Western model), and particularly economics, which, from the position of being an auxiliary discipline to law (from the end of the 18th century), transformed itself into what is today a leading social science, leading in many ways the focused efforts of humanity towards well-being.

This dominance of West European civilisation suppressed and overpowered the great classic civilisations of the past (in equal measure the Chinese, Arabic

or Aztec civilisations). Economic development supported this process: the exceptional dynamism of economic progress achieved by the West led to the abandonment of the previous business principles of ancient civilisations. And the faster the individual nations freed themselves of the burden of their traditionalism, the easier it was to approach the level of economic growth of the West. Japan started on this path way back in the 19th century (with the Meiji dynasty), then Korea, Hong Kong, Thailand and Malaysia in the 1960s, while China with Deng, and India did so only in the last 20 years of the 20th century, generating accelerated economic development and approaching the level of development of Western countries.

The third great factor of knowledge, which is boosted by the study of the panorama of Maddison's economic history, was that the Western civilisation itself that had enabled this progress to be made began to decline in number in the course of the last two centuries. At the beginning of the 20th century, the West (Western and Eastern Europe and the West European offshoots) made up 35% of the world population; at the end of the same century, it made up less than 19%. Eurocentrism (which I had soaked up from my textbooks in school, and which was the ground from which philosophy and history, science and art, law and economics, not to list them all - the dominant forces of the world - sprouted in Europe), which in my youth was the alpha and omega of humanity, was now losing its former significance, not only due to the falling significance of the region in terms of population, but also due to the decrease in significance of these areas in the structure of world product. By appropriately acknowledging the decisive role of the West in the economic and social growth of humankind in the second millennium of human history, we cannot avoid seeing that its former significance is slowly being transferred to the hands of the broader world, where billions of new beings, enriched by the experience of the West, compete in the fight for a better tomorrow. Invoking the contributions that the West has made to humanity should not give rise to nostalgia for the past, but should become an incentive for even faster development, especially that of the European periphery, which has not felt the benefits of the achieved progress to the same extent as Western Europe. Is not this the ultimate purpose of uniting Europe in the European Union?

4. Some implications of Maddison's findings on the interpretation of world history

The findings of Angus Maddison in his latest book cut extensively into the conventional presentations of human history. In this text, I will focus on just two aspects of his findings. The first relates to the periodisation of world history, and the second to Maddison's view about the role and significance of the Venetian Republic in the economic development of Western Europe and the world.

4.1. About the periodisation of world history

Maddison rightly establishes that the quantification of the facts he derived on the economic development of humankind allows for a clearer understanding of history, an understanding that is often left fuzzy by today's so-called qualitative historical analysis. The calculated data now help to distinguish between stylised facts and stylised fantasies which are sometimes perceived as reality. According to Maddison, it is possible to check the stated facts, although it should be accepted that they are liable to further analysis and verification. This promotes analytical scholarly discussion, leading in turn to new findings, which, with the help of increasingly sophisticated research methods, will bring us asymptotically closer to the Truth. Furthermore, the quantitative picture of the world provided by Maddison helps in interpreting local and national circumstances, since it allows for the determination of what are normal circumstances and what are exceptional ones for a certain region or country.[15]

Maddison first of all emphasises that his findings contradict earlier assumptions about the duration and pace of the ascension of Western Europe. In his opinion, there has been an almost universal tendency among historians to date the ascension of Western Europe around 1500, when Europeans discovered America and came into direct contact with Asia (Magellan). Max Weber attributed the dynamic advance of Europe after 1500 to protestant ethics, and this hypothesis attracted almost universal attention, also since it was congruent with the conventional assumption of historical science about the beginnings of the European ascension. Maddison now rejects this theory: "I no longer believe that there was a sharp break in the well-being of the

[15] I am paraphrasing A. Maddison's views presented on pp. 43-49 of his book (2001).

population or the pace of advance of per capita income around 1500", he states firmly in his new book.

Maddison's words can be taken as a kind of self-critique, since in the 1980s he too had accepted these conventional truths. At that time, he agreed with the opinions of the Nobel Prize winner, S. Kuznets,[16] who had claimed in 1966 that modern economic growth was preceded by merchant capitalism, which developed from the end of the fifteenth to the second half of the eighteenth century, and which replaced the previous epoch of feudal organisation. Somewhat later, S. Kuznets further developed this theory,[17] according to which the accelerated rate of per capita GDP growth in Western Europe in the period between 1500 and 1750 proved his hypothesis on the merchant capitalist period. In his book dated 1995,[18] Maddison still accepted these views, but now (after establishing that economic progress was slower than that suggested by Kuznets, and in the belief that the dynamism of development such as that in Western Europe between 1000 and 1500 actually continued over time), he abandons the division of epochs between feudal organisation and merchant capitalism, and instead, labels the entire period between 1000 and 1820 as "protocapitalist". Moreover, he also differs from Kuznets, his former role model, in the timing of the beginning of modern economic growth (which Maddison calls capitalist development). According to Maddison, this period did not begin in 1760, but rather in 1820. He claims that the works of N. F. Crafts[19] had helped to break the old dogma of a sudden takeoff in the second half of the eighteenth century in England. Research shows that the per capita income in the Netherlands at the end of the 18th century was higher than that in the United Kingdom. According to Maddison, this was also confirmed by other recent works in quantitative economic history of West European countries. For this reason, Maddison takes the year 1820 as the beginning of modern economic growth, which makes him abandon the former general belief about the exceptional British role as the driving force

[16] S. Kuznets, *Modern Economic Growth: Rate, Structure and Spread.*

[17] S. Kuznets, *Population, Capital and Growth: Selected Essays.*

[18] A. Maddison, *Monitoring the World Economy, 1820-1992.*

[19] »British Economic Growth 1700-1831: A Review of the Evidence«, in: *The Economic History Review*, May 1983; N. F. R. Crafts and C. K. Harley, »Output Growth and the British Industrial Revolution: A Restatement of the Crafts-Harley View«, in: *The Economic History Review*, November 1992.

of the new economic dynamism of the 18th century.[20]

In a similar way, he refutes the findings of some scientists who claimed that at the beginning of the 19th century China, Japan and some other Asian countries were at the same level as Western Europe, and then became poorer during the 19th and 20th centuries due to the colonial policies of wealthy West European countries. The advocates of these views were P. Bairoch and M. Levy-Leboyer[21] who claimed that in 1800 China was far ahead of Western Europe, and that Japan and the rest of Asia were behind Europe by only 5%. These scientists also considered that Latin America was ahead of North America in terms of economic development, and that Africa as a whole had about two thirds of the West European per capita income. Although Bairoch and his followers could never prove their claims, these assertions were taken for granted by many renowned historians, such as F. Braudel and K. Pomeranz,[22] who, based on these facts, derived far-reaching conclusions about the economic dynamism of the world in the 19th and 20th centuries.

In his latest book, Maddison returns to Adam Smith, who in his *Inquiry into the Nature and Causes of the Wealth of Nations* (published in 1776) established the following ranking of countries per level of economic development: the Netherlands, Britain, France, the British North American colonies,

[20] The scope of this work does not allow me to stress the comprehensiveness of Maddison's facts analysis. He refutes the previously dominant ideas claiming that the take-off period had a different development per individual countries (this is what W. Rostow claimed in *Stages of Economic Growth*. Cambridge: Cambridge University Press, 1960 and A. Gerschenkron in *Economic Backwardness in Historical Perspective*. New York: Praeger, 1965). He also believes that the findings on the dynamism of economic development of West European countries indicate that the acceleration of economic development in the second half of the 19th century had been much more synchronised than was previously believed.

[21] In the book *Disparities in Economic Development since the Industrial Revolution*. London: Macmillan, 1981. This edition repeats the earlier thesis expressed by P. Bairoch in the book *Diagnostic de l'évolution économique du tiers-monde 1900-1966*. Paris: Gauthiers-Villars, 1967.

[22] Fernand Braudel used extensively Bairoch's work in his monumental three-volume book *Civilisation matérielle, économie et capitalisme, XVe-XVIIIe siècle* Paris: Armand Colin Editeur, 1979. Here, Braudel thanks in particular Paul Bairoch for the large service he provided for historians (with his estimates of economic development - comment by V.S). In 2000, Kenneth Pomeranz (in his book *The Great Divergence: China, Europe and the Making of the Modern World Economy*. Princeton etc.: Princeton University Press) accepts Bairoch's figures with more caution, also stressing that it is not very feasible that West Europeans had been more entrepreneurial than their contemporaries living in densely populated parts of the world before 1750, or even 1800.

Scotland, Spain, the Spanish colonies in America, China and Bengal (pauperised through the plunder of the East India Company). Smith's views were confirmed by D. S. Landes[23] who claimed in 1969 that Western Europe was wealthy even before the industrial revolution - wealthy in comparison with the circumstances at the time in other parts of the world. This wealth was the product of hundreds of years of gradual accumulation, based on investments and allocations of extra-European resources and labour, but also on significant technological progress, not only in the sphere of commodities production, but also in the organisation and financing of the exchange and distribution of commodities. Following this analysis, Landes concluded that in a period of nearly one thousand years - from 1000 to 1800 - the per capita income in Western Europe grew significantly, perhaps even tripled. J. C. Chesnais[24] criticised Bairoch's view, claiming that the whole of the supposed quantitative analysis of economic development in Bairoch is a kind of "guesstimate" which would have confirmed his *a priori* theses on the manner of pauperisation of the Third World. Maddison, after a number of studies that he either conducted himself or just initiated, now proudly claims that the accumulated facts bring the inevitable conclusion that Bairoch and his epigones were utterly wrong. However, by refuting these writers, I do not negate the significance of colonial exploitation. My facts only show that it is necessary to take a more realistic stand in terms of the power of the West and the weakness of Asia around 1800.

However, the main problem, according to Maddison, still remains: to explain how such differences in the level of development of advanced capitalist countries and the rest of the world occurred. Naturally, there are examples of the gap narrowing (Japan overtaking China during Tokugawa's rule; Western Europe drawing closer to the USA which had soared ahead after the Second World War; similarly, in the last 25 years, the Tigers of the Pacific, such as China and India, drawing closer to the developed world, etc.). This, according to Maddison, remains a huge task for economic science, since there are no universal schemes to cover all the cases, or all the events that occurred in the past millennium, and which would explain all the causes of the different performances of individual countries-regions.

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[23] *The Wealth and Poverty of Nations*. London: Little Brown, 1998. He also wrote the book: *The Unbound Prometheus*. Cambridge: Cambridge University Press, 1969.

[24] J. C. Chesnais, *La revanche du tiers-monde*. Paris: Laffont, 1987.

4.2. The role of Venice in the economic development of Western Europe and the world

Maddison is an expert economic historian who, unlike members of the Annales School, is not afraid of using macroeconomic indicators. He shows this tendency especially when assessing the economic progress of Western Europe. He begins his analysis with the 10th century, which H. Pirenne characterised as a time of overall stagnation in the European economy.[25]

Between the years 1000 and 1500, the West European population grew much faster than anywhere else in the world. Cities with more than ten thousand inhabitants, where textiles, shoes and other products were manufactured, began to multiply and their populations increased. All this was made possible by the rise in agricultural production, but also with the progress achieved by metallurgy, trade, the maritime economy and other branches of industry. In order to explain the paths that allowed Western Europe to become the carrier of the economic development of the world, Maddison identifies 4 states which symbolise the progress of Western Europe and which prove that it is misleading to present the West European experience as a homogeneous or monolithic one. The four case histories that show the changes in the focus of economic development from state to state are the following:[26]

- **Venice:** the richest and most successful West European economy from the eleventh to the sixteenth century.

- **Portugal:** which *was never as rich as Venice,* but opened up new trade routes with Africa and Asia.

- **The Netherlands**: which was the most developed European country with the highest per capita GDP between 1600 and 1820.

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[25] Henri Pirenne wrote: "If we consider that in the Carolingian epoch, the minting of gold had ceased, the lending of money at interest was prohibited, there was no longer a class of professional merchants, that Oriental products (papyrus, spices and silk) were no longer imported, that the circulation of money was reduced to a minimum, that laymen could neither read or write, that taxes were no longer organised, and that the towns were merely fortresses, we can say without hesitation that we are confronted by a civilisation that had retrogressed to the purely agricultural stage; which no longer needed commerce, credit and regular exchange for the maintenance of the social fabric." (*Mohammed and Charlemagne*. London: Allen and Unwin, 1939). Quoted from Maddison.

[26] I am taking over these views from: A. Maddison, *The World Economy - A Millennial Perspective*: p. 49.

- **Britain:** which followed the Dutch model of international specialisation and commercial development, building a huge commercial area in Asia, and *took the lead in the level of economic growth during the 19th century*.

I do not wish to consider all of Maddison's postulates, but would like to stress only his opinion according to which until 1500 the regions that had achieved the greatest economic progress within Europe were Flanders (the centre of wool production, international banking and commerce) and the Italian city states (Florence, Genoa, Pisa, Milan and Venice). *Of these, the most successful and the richest was Venice*. For this reason, the dynamism of the Venetian economic development is elaborated below in more detail.[27]

Since part of the territory of today's Croatia was under Venetian rule (Istria and Dalmatia), while the Republic of Dubrovnik was also to a significant extent under Venetian influence (it became independent of Venice in 1358), I will summarise here Maddison's basic thoughts about the role of Venice in the economic development of Europe and the world.[28]

Venice was the most successful of the North Italian city states in creating and maintaining a Republic dominated by a merchant capitalist elite. Thanks to its geographic position and willingness to defend itself, it was capable of ensuring its autonomy and avoiding the demands of feudal landlords and monarchs. Maddison points out that Venice developed political and legal institutions which guaranteed property rights and allowed for the enforceability of contracts. It was a pioneer in developing foreign exchange and credit markets; it created a government bond market and a fiscal system that was efficient and favourable for merchants and for the accumulation of capital. Furthermore, this was a tolerant secular state where foreigners (Armenians, Greeks and Jews) had the same rights as domestic merchants. Although predominantly Catholic, it enjoyed favoured relations with the Byzantine Empire. After giving these facts, Maddison provides the following assessment of the role of Venice in the first half of the second millennium: Venice had a leading role (between 1000 and 1500) in creating trade within Europe (from Flanders, France, Germany and the Balkans) and the Mediterranean. It traded with India and other Asian countries (through Syria and Alexandria). Through trade, it brought to Europe not only precious products (silk and

[27] A. Maddison, *The World Economy - A Millennial Perspective*: p. 52.
[28] A. Maddison, *The World Economy - A Millennial Perspective*: pp. 19, 52-57.

spices), but also introduced new technologies to Europe (silk and cotton production, the cultivation of rice to Italy, and the production of sugar from sugar cane in the Venetian colonies on Crete and Cyprus). This progress was based on navigation, which depended on the continuous advances in shipbuilding in the Venetian Arsenal shipyard, and on the use of the compass and other navigation techniques. In addition, Venice took over and developed a whole range of institutional innovations, such as banking, accounting and a credit system, currency exchange, a public finance system, as well as a highly capable diplomacy - all of which contributed to the ascension of Venice as the leading economy in the epoch between 1000 and 1500.[29]

When mentioning the trade routes of Venetian commerce (with the Levant, the Balkans and Northern Europe), Maddison points out that from as early as 1171 the city of Venice had about 66,000 inhabitants, and this population grew to 170,000 in the 16th century. This continuous growth was halted only by the plague (in 1347/8, 1575/7 and 1630), which took a toll of about one third of the city's population (on each occasion when an epidemic occurred), and by the wars Venice was waging.

The population of the Venetian Republic in 1557, given by Maddison,[30] is of special interest for Croatian demographic history. At that time, the Republic of Venice had 2,141,000 inhabitants, where the city itself had 158,000, the islands in the Laguna 50,000, Istria 52,000, Dalmatia 93,000, Ionia 52,000, Crete 194,000, and the Italian Terraferma (the hinterland, including Udine, Friuli, Vicenza, Padoa, Verona, Bergamo, Rovigo and Cremona) 1,542,000. Cyprus, which had about 166,000 inhabitants in around 1550, should be added to this list, since it was controlled by Venice between 1489 and 1573.

The progress of Venice was possible thanks to the development of shipbuilding, which took place in the state Arsenal shipyard, continuously improving the size and carrying capacity of vessels. Other manufacturing activities included the glass and crystal industry, and the activities of goldsmiths, mosaicists, woodcarvers, decorative artists, builders of palaces and others. There were also other significant activities. For instance, from the 10th century

[29] A. Maddison, *The World Economy - A Millennial Perspective*: p. 19.

[30] Maddison mentions 1557 as the year of the census (according to Beloch). Croatian researchers present the same data, but claim that these data relate to the year 1554. Where does the mistake lie?

onwards, Venice had large offices with scribes who copied the classical works of the masters of Greek and Latin literature. From the second half of the 15th century (Maddison gives the precise year of 1469), these offices developed into the graphic industry, printing as many as 20,000 titles by the mid-16th century. Venice established its sugar plantations on Crete and Cyprus (using agricultural techniques borrowed from Syria, and based on slave labour), from which it supplied Europe with this, at the time, extremely valuable product. Until the end of the 15th century, Venice held a near monopoly on the import of spices from the Far East to Europe (1,600 tons a year), which declined to less than 500 tons at the beginning of the 16th century.

All these signs of prosperity slowly started to evaporate with the development of trade in the Atlantic, and the penetration of Portugal and the Netherlands in the world markets. This is why, Maddison writes, from the sixteenth to the eighteenth century Venice did not significantly increase its per capita income, although it still remained one of the wealthiest parts of Italy and Europe, until overtaken by the Dutch in the 17th century.

I am presenting here Maddison's findings in more detail, since it seems that Croatian historiography has not emphasised until now that the maritime part of Croatia had been for centuries within the boundaries of what was then the richest country in the world. Literature and science developed within the framework of the existing general prosperity, although on the periphery of the Venetian state. The Republic of Dubrovnik, although independent from 1358, was undoubtedly in the sphere of this most prosperous part of the world. As Maddison writes, the Dubrovnik Statute (of 1272) took over to a significant extent the commercial provisions from the Venetian legislation, and this was even more the case with other Dalmatian and Istrian communes. The magnificent palaces and cathedrals, country mansions and libraries, monasteries and churches all embodied the well-being that at that time reigned in our region. So, it is good when people, with a bird's-eye view, look over their economic past to observe more clearly the outlines of this history. Thanks to Maddison, we know that part of the Croatian territory at that time belonged to the richest region of the world, which was never the case later on. And this, inevitably, had a specific impact on the flourishing of art and science, but also on the well-being of the population.

5. An attempt to incorporate Croatia into Maddison's quantitative analysis of economic development between 1500 and 1998

Maddison's works (1995 and 2001) have long been in my possession; his findings have occupied my thoughts - I could even say that they have obsessed me. I have always wanted, as an economist with a quantitative-analytic slant, to see more clearly and more precisely what our position was, what happened in economic terms, and how we arrived at the economic situation we find ourselves in today. Like many of my colleagues, I believed that one day it would be possible to comparatively measure the condition and dynamism of the Croatian economy in the past and attempt to identify the forces that determined our economic flows.

At secondary school, I accepted the beliefs of my teachers who claimed that the whirlwind of history had destined us to struggle for bare survival against the onslaught of the Hungarians, Mongolians and Ottomans; that centuries of foreign rule had robbed us of our natural wealth and the fruits of our labour, and that this was why we were pauperised and why we lagged so far behind the well-being of the West. The synthesis of these beliefs held by my former teachers and role models was recently expressed in contemporary language by Ive Mažuran who believed that while Croatia was bleeding and living through fateful moments of its historical drama, the civil revolution in Western Europe was successfully being conducted. In the West, opportunities were opened up for science and culture to flourish, and for an increase in the material wealth of the population. Unlike Europe, Mažuran goes on to say, the once blooming, economically powerful and densely populated Croatian regions, where life had been good and comfortable, and which enjoyed a **much better and higher standard than many parts of Western Europe**, were turned into a terrible wasteland… Besides the Ottoman invasion, Croatia and the Croatian people lived through a real catastrophe such as no people in Europe had ever experienced before.[31] Such a view expressed by Ive Mažuran is also supported by Jakov Gelo, who extends and elaborates on Mažuran's opinion.[32]

[31] Ive Mažuran, *Hrvati i Osmansko carstvo*. Zagreb, 1998: p. 310 (emphasis by V. S.).

[32] Jakov Gelo, »Kratka povijest hrvatskoga puta u stvarnu demografsku provaliju«, in: *Hrvatska demografska i demostrateška drama*, ed. Vlatko Pavletić. Zagreb: "Antun Gustav Matoš" d.d., Samobor i Udruga "11. siječnja 1972": Zagreb, 2002: pp. 73-76.

This perception of the historical development of Croatia prevails among historians and intellectuals, and I do not think that we should additionally support it here by presenting the thoughts of other writers. Thus far it is unclear upon what facts this belief is founded. Is there any proof that would constitute the grounds for claiming that in Croatia life had been much better and of a higher standard than in many parts of Western Europe, as Mažuran writes, and Gelo and other authors maintain? The answer is, unfortunately, negative: no comparative research has been conducted in our country to confirm the aforementioned hypothesis, especially not for Croatia as a whole.

Challenged by Maddison's research, I attempted to assess the real conditions in Croatia between 1500 and 1913 from the standpoint of two macroeconomic benchmarks: population and GDP per capita.

5.1. Population

Croatian historical demography has made extensive progress in the last thirty years, continuously and more precisely penetrating deeper into history. Thus, Mirko Korenčić accurately determined the population of Croatia from 1857 to 1971 by settlements;[33] in the Preface to Korenčić's edition, Vladimir Stipetić also estimated the population of Croatia in 1800;[34] Jakov Gelo refined these estimates and presented data on the population of Croatia in 20-year intervals from 1780 onwards;[35] after that, Jakov Gelo and Stjepan Krivošić presented a documented picture of the number of inhabitants in Croatia in 1700.[36] Many later works, which went even deeper into history, contain precise data for individual cities or regions (Stjepan Krivošić, Ante Gabričević, and others) and for earlier periods (especially Nenad Vekarić[37]). Consequently, the picture of the population of Croatia in the past has been constantly improving and has become more accurate. By using the estimates of these

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[33] Mirko Korenčić, *Naselja i stanovništvo Socijalističke Republike Hrvatske (1857-1971)*. [Djela JAZU, vol. 54]. Zagreb: JAZU, 1979.

[34] Vladimir Stipetić, »Predgovor«, in: Korenčić Mirko: *Naselja i stanovništvo Socijalističke Republike Hrvatske*: pp. IX-XXII.

[35] Jakov Gelo, *Demografske promjene u Hrvatskoj 1780 do 1981*. Zagreb: Globus, 1987.

[36] Jakov Gelo and Stjepan Krivošić, *Razvitak stanovništva na tlu Hrvatske*. Zagreb: Institut za ekonomska istraživanja, 1990.

[37] Nenad Vekarić, »Broj stanovnika Dubrovačke Republike u 15, 16. i 17. stoljeću«. *Anali Zavoda za povijesne znanosti HAZU u Dubrovniku* 29 (1991): pp. 7-22.

assiduous scientists, I (boldly) decided to estimate the population of the territory of today's Croatia in the year 1500.

Currently, the only accurate data are provided by the estimate of the population of the Dubrovnik Republic in 1498. This calculation, based on historical sources, was conducted and published by Nenad Vekarić. Nevertheless, not even these facts are indisputable. The author himself, when presenting the results of his analysis, writes that this result should be accepted with some reservation, awaiting confirmation from other sources and studies, since it is based upon data from an original that has disappeared, hence leaving itself open for misinterpretation. There is no doubt, however, that the Republic of Dubrovnik had more inhabitants in 1498 than in the 16th century. *But the question of the accuracy of the analysed values still remains*. The understandable reason for the author to distance himself from the presented findings required critical consideration, which I carried out. Vekarić's figure (of 88,500 inhabitants) shows an extraordinary density of population in the territory of the Republic of Dubrovnik (90 inhabitants per square kilometre), which is a density that would have been difficult to sustain at that time. Therefore I assessed that the population in 1500 was 10% lower than Vekarić's estimate and that it amounted to 80,000 souls (which is still a dense population of 83 inhabitants per square kilometre).[38]

In doing this, I would like to stress that the reason for reducing Vekarić's estimate was the conviction that some of the households included in the census were inhabited by bachelors and childless widows who inhabited up to one eighth of the total number of households (as the Turkish *defters* showed),[39] which diminishes the estimated number of residents per household. Therefore, I reduced Vekarić's estimate of the population of the Dubrovnik Republic by 10%, conforming to Vekarić's assessment that the estimate of 1498 is the least certain, and hence, the possible departure from the actual condition exceeds 10%.[40]

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[38] N. Vekarić, »Broj stanovnika Dubrovačke Republike u 15, 16. i 17. stoljeću«: p. 20 (italics by V. S.)

[39] The defter of the Sanjaks of the Herzegovina vilayet provides data about the total number of households (the number of unmarried persons in brackets) in the villages near Dubrovnik: Biograd (by Nevesinje) 146 (15); Jasenjani (Mostar) 25 (3); Dabrica (Stolac) 37 (6); Meča (Stolac) 51 (5); Ravno (Trebinje) 47 (2); Čavaš (Trebinje) 11 (2); Kučići (Trebinje) 16 (3); etc. See: Ahmed S. Aličić, *Poimenični popis sandžaka vilajeta Hercegovina*. Sarajevo: Orijentalni institut, 1985.

[40] N. Vekarić, »Broj stanovnika Dubrovačke Republike u 15, 16. i 17. stoljeću«: p. 18, note with Table 13 (emphasis by V. S.).

My estimate of the population of Dalmatia and Istria in 1500 is based on the population determined in the Venetian report dated 1554. This report, however, also includes smaller parts of these two historical regions which are not part of Croatia today, but does not include the inhabitants of the Mark-earldom of Pazin (which was in the hands of the Habsburg dynasty from as early as 1374), nor does it include parts of Dalmatia that were then part of the Ottoman Empire. I excluded from the data presented in Table 7 all the parts that were not included in modern Croatia, and estimated the population for those parts of Croatia which were not included in the Venetian data. Naturally, these are rough estimates.

Tomislav Raukar rightly indicates (1997) that any analysis of demographic events in the area of Croatian lands is extremely complex because it faces an insurmountable obstacle in that the sources before 1500 do not contain any data at all which would form the basis of even the most modest quantification of demographic estimates. Nevertheless, he stresses that there are sources and partial data for the period following 1526 (the Zadar census, etc.) that allow us to observe some changes in the coastal regions, even though in this sense, the hinterland remains unknown. However, Raukar also talks about the trend of depopulation of the hinterland once Bosnia fell under Turkish rule (1463). Some later studies, which will be mentioned here, show that this hinterland was not a *tabula rasa* since new data for this region are constantly being discovered (the Turkish 1477 *defter* for Herzegovina, for example, also contains data for some areas that are today in Croatia). The published data on Venetian Istria (Erceg,[41] Bertoša[42]), as well as on numerous islands and settlements in Dalmatia and Istria (Bezić-Božanić, Bertoša, Jutronić, Kapor and others), have obviously changed this condition, allowing insight into the conditions present in this territory in the 16th century. It should be taken into account that the preserved sources consist of an incidental statistical sample which may be representative of the given historical regions, and that basic trends can be determined by using these sources. However, it is not possible to obtain accurate data for the region as a whole, or for the territory of Croatia as a whole.

I will begin my estimate of the population of Croatia in 1500 with the weakest point - the population in Croatia and Slavonia, i.e. in the northern

[41] Ivan Erceg, »Dva i pol stoljeća kretanja stanovništva Istre (1554-1807)«, in: *Gunjačin zbornik*, ed. I. Erceg et al. Zagreb, 1980: pp. 229-250.

[42] Miroslav Bertoša, *Mletačka Istra u XVI. i XVII. stoljeću*, I. Pula: Istarska naklada, 1986.

part of the country. This is a rough estimate, since for this period we can find only partial data and data from fiscal censuses (extracted from the archives and published with extraordinary diligence by Adamček and Kampuš[43]). The estimate of the population of Croatia and Slavonia which I present here, before the Ottoman occupation of this part of Croatia, is based on the number of family holdings established through fiscal censuses before 1500, and on the assessment that 10 family members resided under one roof (this is how many members generally lived in one household in the Dubrovnik coastal area and in Konavle in 1498 based on the census of that period). In 1494, Croatia and Slavonia had 23,225 family holdings in four counties. I added to this the estimated number of family holdings south of the river Sava, as well as the estimated number of persons who were not liable for land tax (inhabitants of cities, noblemen, clergy, etc.). Since this is a very rough estimate, it can be used only for guidance.

However, I emphasise that through the exceptional effort and diligence of many researchers (Krivošić, Gabričević, Budak, Buturac, Feletar, Kolarić, Petrić and others) it has been possible to greatly improve our knowledge of the population of Croatia in the 16th and 17th centuries.[44] It may be expected that an analysis of the Turkish censuses of Slavonia (which Ive Mažuran announces to be a task for the future) will shed light on this unknown part of Croatian demographic history. Since, according to my preliminary estimate, more than 70% of the Croatian population lived within the territory of Croatia and Slavonia (compared to 75% in 1700 and 78% in 1780!), it is necessary to explain the factors that caused the decrease in the number of inhabitants in this area between 1500 and 1700, from which the reduced significance of the total population of Croatia in 1500 may be derived.

The most significant factor was the Ottoman invasions, which began to penetrate the territory of today's Croatia immediately after the Turkish victory at Kosovo (1389). The first incursion of light cavalry soldiers - *akinji* - into Slavonia and Srijem was recorded as early as 1391. Five years later, in 1396,

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[43] Josip Adamček and Ivan Kampuš, *Popisi i obračuni poreza u Hrvatskoj u XV i XVI stoljeću*. Zagreb: Sveučilište u Zagrebu, Institut za hrvatsku povijest, 1976.

[44] A useful view of these new investigations was provided by Hrvoje Petrić in his work: »Temeljne osobine demografskog i ekonomskog razvoja gradskih naselja na prostoru današnje sjeverozapadne Hrvatske na razmeđi kasnog srednjovjekovlja i ranog novog vijeka«, in: *Stvaralački potencijali u funkciji društveno-ekonomskog i kulturnog razvoja sjeverozapadne Hrvatske*. Zagreb-Varaždin: Zavod za znanstveni rad HAZU u Varaždinu, 2002: pp. 133-152.

they penetrated into the valley of Požega, the surroundings of Našice, and, moving along the valley of the river Drava, they arrived in Ptuj (in today's Slovenia), and conquered and temporarily occupied the town. This pressure of the Ottoman Empire on the north of Croatia, the regions on and around the rivers Drava and Sava in particular, could be felt throughout the 15th century, and had consequences on the size of the population of Croatia in 1500. The population of Croatia and Slavonia in the 15th century was subject to growing pressure from the emerging Ottoman Empire. As a matter of fact, Belgrade managed to fight off the Ottoman siege in 1456 (with the help of the Croatian troops which had arrived as part of Janos Hunyadi's and John of Capistrano's army of crusaders), but this was not sustained for long. Smederevo fell in 1459 and, with it, the Serbian medieval state. In 1463 the Bosnian kingdom was also defeated, and King Stjepan Tomašević was decapitated by the conquerors. The Turkish troops invaded Lika and Krbava. With the districts of Jajce, Srebrenica and Mačva being taken back into Christian hands, King Matthias Corvinus established a *cordon sanitaire* in 1465 opposite the Sanjak of Bosnia. This was a border area where in the following fifty years ruthless battles would be fought between the Croatian inhabitants and the Turkish troops. The focus of the *akinji* raids in the first part of this period was more often the hinterland of Dalmatian towns (Zadar, Šibenik and Split), but the *akinji* troops penetrated as far as Istria, and even as far as Celje and Ljubljana. These Turkish raids planted the seeds of fear: the *akinji* plundered cattle and provisions (leaving armies without logistic support), set houses on fire, and captured civilians and soldiers. They were paid for their military activity through the ransoms they demanded (for noblemen) or by selling people (serfs and peasants) into slavery. Towards the end of the 15th century, decisive battles of regular armies took place: on the Krbava field (on 9 September 1493), Jacub-pasha routed the Croatian army led by ban Ivan Derenčin. On this occasion, the flower of the Croatian nobility was slaughtered, and Derenčin himself was captured.

Who were the *akinji* that pillaged countries far beyond the Ottoman Empire? Studying the reports sent from the region of Friuli to Venice, Roberto Tirelli[45] claims that these were inhabitants of the Balkan regions, from Bosnia and Herzegovina. There is no doubt they were Muslims, but not serving the

[45] Roberto Tirelli, *1499, Corsero li Turchi la patria (Le incursioni dei Turchi in Friuli).* Pordenone: Biblioteca dell'immagine, 1998: pp. 32-33 (emphasis by V. S.).

holy war propagated by the prophet Mohamed; they were simply **peasants and shepherds that hunger had turned into warriors**. These small cavalry units, according to the author, would cross the river Una, and going further west, they would cross the river Isonzo and enter Friuli. This is where the cruel ritual, already familiar to Croatia, would begin: houses and homes would be burnt, cattle slaughtered, women raped, and property and treasure pillaged.[46] Friuli was subjected to this horror on several occasions between 1477 and 1570.

The Pope's envoy reported (in a letter dated 14 September 1493) that the village population had fled their homes and had found refuge in the woods. This marked the further depopulation of Croatian territory, which was reported to Pope Alexander VI by the Noblemen's Assembly (held in April 1494 in Bihać) in the following terms: "We have lost our fathers and brothers, we have lost our kin, in short, we have lost all our possessions. The Turks are among us; with fire and sword they ceaselessly devastate and pillage our homeland, leading us, our fathers and our children, into grinding slavery". And this was followed by the most piercing claim: "Since apart from our ill-fated language we know no other, and since, after losing all our possessions, we are not able to scatter to other parts of the world, whether we like it or not *we will have to bear the loss of our souls and Christianity in order to find a way of remaining in our homeland together with our persecutors*, and not be forced to disperse in foreign lands.[47]

It is difficult from our historical distance of more than 500 years to judge to what extent the noblemen's warning to the Pope about them having to abandon Christianity was a cry for military and other help, and to what extent it represented a realistic calculation of the catastrophe that was expected. However, the fact that this solution was at times actually carried out after the arrival of the Turks in Bosnia shows that it was not some fanciful notion, but a real possibility set before the nobility. The view expressed by the noblemen about abandoning Christianity seems to have been more than just an empty threat made on the spur of the moment. In their letter to Emperor

[46] R. Tirelli, *1499, Corsero li Turchi la patria*: pp. 144-5. I would like to thank Miroslav Bertoša, an exceptional connoisseur of these parts and conditions, for supplying this book to me.

[47] Ferdo Šišić, »Rukovet spomenika o hercegu Ivanišu Korvinu i o borbama Hrvata s Turcima (1473-1496)«. *Starine JAZU* 38 (1937): pp. 77-78.

Maximilian, the nobility made virtually the same statements: "If we do not receive help, we will not be able to defend ourselves from the Turks, the wars we waged with them have broken us, our towns and homes are virtually empty, our underlings and serfs have been taken away, and our estates ravaged, plundered and burnt to the ground. Until now we have refused *all kinds of offers made by the Turks*, because we thought that the Emperor and the princes would finally resist the Turkish force enabling us to remain connected with the Christian world. But now this is impossible - the Turks have set a deadline of spring or summer, by which time we have to respond by pledging our subservience.[48]

In as early as 1494, the Turks invaded Croatia, Slavonia and Styria, burning homes and taking slaves. The Turks were not alone in this, since the troops that came to help Croatia did the same. This is why King Vladislas II (on 9 February 1494) ordered his commanders not to rob people of their possessions, but to pay in cash for anything that they took. The fear of death and plunder became an everyday fact.[49] The population, terrified by rape and pillage, and fearful of their precarious future, began leaving their homes and heading for Hungary, Austria, Slovakia and Bohemia.[50] These sporadic invasions and wars continued almost without respite over the next hundred years, increasingly extending towards the west the territory occupied by the Ottoman Empire.

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[48] F. Šišić, »Rukovet spomenika o hercegu Ivanišu Korvinu«: pp. 78-81, quoted after: I. Mažuran, *Hrvati i Osmansko carstvo*: pp. 50-51 (italics by V. S.).

[49] F. Šišić, »Rukovet spomenika o hercegu Ivanišu Korvinu«: pp. 70-71.

[50] Mirko Valentić writes about this in *Enciklopedija Jugoslavije* (2nd edition, article »Gradišćanski Hrvati«): "To escape the incursions of the Turkish *martolos* during the 15th and 16th century, Croatians fled in several directions. The direction of the exodus towards the northwest, or over the River Drava, was the most extensive one. It extended through the counties of western Hungary, filled the plane between Vienna and Bratislava, led across Moravia all the way to the White Carpathians. In the first waves of the exodus, which involved the population of Lika and Krbava bordering the Turkish provinces, from 1503 to 1527 almost all the settlements from the Una River to Mount Velebit and from Mount Kapela to the Kupa River in the region of Gorski Kotar were burnt down. The people that the Turks had not managed to abduct fled most often to the north, to western Hungary, and to the west, to Carniola. Only a smaller part of the population remained in the valleys closer to the Kupa River and around Čabar and Brod, as well as in the coastal fortifications extending from Senj to Rijeka. The *martolos* penetrated to the most remote villages, and sold their prisoners in special markets at a very high price. One *ducat* would be paid for a young man or woman. This is why the *martolos* tried to capture as large a number of young people as possible. *The fear of Turkish slavery will be a strong motive for migrations…*".

But the people's real misfortune began with the fall of Sirmium and Belgrade (in 1521), and Knin, Omiš and Skradin (in 1522), which culminated in the defeat at Mohács (in 1526). Stjepan Brodarić bears witness that the Turks on that occasion executed or captured nearly 200,000 people, with attacks reaching as far as Buda.[51] In the following year, the Banovina of Jajce fell into Turkish hands, and in 1537 the Turks also conquered the fort of Klis and the entire territory of Slavonia. All this accelerated the migration of the population. Croats were beginning to settle in Burgenland, and also left for Slovakia and Bohemia, where the feudal masters received them as serfs. Although the population had been continuously deserting their homes and moving westward since the first Turkish invasions at the end of the 14th century, the exodus accelerated after the fall of Virovitica and Čazma (in 1552) and the arrival of the Turkish troops on the other side of the river Una (in 1556). However, emigrations from Croatia had begun before that. At the beginning of 1551, ban Nikola Šubić Zrinski wrote to Toma Nadásdy: "I am staying here in Croatia in our deserted towns, where we do not hear anything that is either good or new; the only thing we can see in our homeland is desolation".[52] Along with the Turkish conquests came the plague (1553/4) spreading from Slavonia, which was occupied by the Turks, to Međimurje, having a devastating effect on the population. All this diminished the number of inhabitants in the territory of today's Croatia in the 16th century (Table 7).

We should mention here that all the research conducted so far in relation to these migrations has considered only one side of the issue. There are numerous records of Croatians retreating from the Turks into Romania, Hungary, Slovakia, Austria, Moravia and Southern Italy. Generally, they moved in groups, and when they arrived, they would establish new villages and settlements. Many have kept their language and surnames until the present day. On the other hand, Croatians abducted and sold into slavery by the Turks generally dispersed into distant settlements in the Near East and became assimilated. There are few contemporary records about these people. However, one example from 1532 shows how the Turks captured and took into slavery Juraj Hus from Rasinje (near Koprivnica, in northern

[51] Stjepan Brodarić, *Mohačka bitka 1526. (De Conflictu Hungarorum cum Solymano Turcarum imperatore ad Mohach historia verissima)*, translated by S. Sršen. Vinkovci, 1990 (quoted after: I. Mažuran, *Hrvati i Osmansko carstvo*: p. 67).

[52] Quoted after: I. Mažuran, *Hrvati i Osmansko carstvo*: p. 115.

Croatia). As a slave, and later a trumpeter, he lived in different parts of the Ottoman Empire for eight years. Later, escaping from Turkey, he arrived in Croatia and then travelled further west where he wrote a manuscript which was widely read and transcribed about the conditions in the Ottoman Empire.[53] An even older source is the testimony of Konstantin Mihailović (around 1435-1500), a miner in the Novo Brdo silver mine, originating from the nearby village of Ostrovica, mentioned in the records of Dubrovnik merchants. Mihailović was "recruited" as a janissary in 1453, was among the janissary troops which conquered Constantinople, and was captured by the Hungarians during the fighting in Bosnia in 1463. He even appeared (perhaps as a witness of Turkish conditions?) at the French court, from where he went to Poland and completed his manuscript *Memoirs of a Janissary* (in Polish). There have been several Serbian translations of this book. I will only give here the colourful description of the Turkish assaults: "The Turks call their swift horsemen *akinji*, meaning flying, and they are like hard rain pelting down from the clouds. These rainstorms cause vast floods streaming down and sweeping away everything in their path. But the rainstorm does not last long. In the same way, the swift Turkish horsemen neither last nor stay long in the same place, but whatever they grab, they drag away, plunder, kill and destroy, so that for many years not even a cockcan crow in that place".[54]

Before giving an overview and analysis of the size of the population of Croatia, I must point out some of the weaknesses in the estimates for 1500, which I am aware of, but see no way of resolving. These are individual data, but since they generally concern towns (which were more or less fortified, and thus were not so much the target of invasion by the lightly-armed *akinji*), it is difficult to claim that they accurately reflect the movement of the population over the entire territory (poorly defended rural areas were a more popular target of attacks by irregular troops). In the city of Zagreb, for example, the population decreased from about 4,500 in 1450 to around 3,600 in 1668.[55] The population of Varaždin, for some time the capital of Croatia, marked a decline from the end of the 16th century until 1770. The situation

[53] The oldest known manuscript is that of 1548, but the Croatian translation of 1881 is based on the 1566 manuscript. Petar Matković in *Rad JAZU* 65 (1881) also published a study on the author, and Petar Grgec wrote *Od Hrvatske do Indije: lutanja i putovanja Jurja Rasinjanina*, Zagreb, 1933, based on the same manuscript.

[54] Konstantin Mihajlović iz Ostrovice, *Janjičarove napomene*. Beograd, 1966: p. 69.

[55] S. Krivošić, *Zagreb i njegovo stanovništvo od najstarijih vremena do sredine XIX. stoljeća*.

in Dalmatia was similar.[56] For instance, the population of Zadar also decreased from 8,051 in 1527 to a mere 3,181 inhabitants two hundred years later (in 1714).[57]

Maddison's data are related to the census conducted in Venetian Dalmatia. Therefore, my primary task was to establish the territory included in the Venetian estimate of the population of Dalmatia and Istria.

I will begin with the facts as listed by Grga Novak.[58] As early as 1474, the Turks conquered the Venetian Shköder, in 1482 Herceg-Novi, in 1499 Makarska, in 1521 Knin, in 1527 Obrovac on the river Zrmanja, in 1537 Klis, and in 1538 Vrana and Nadin. In 1540 the Ottoman Empire established the Sanjak of Klis, including Dalmatia from the river Krka to the south, as well as Drniš, Vrlika, Sinj, etc., and Livno and Glamoč in Bosnia, so that it reached all the way down to the Rama, Vrbas and Pliva rivers. Therefore, almost the entire Northern part of Dalmatia was not included in the Venetian census of 1554.

I had to estimate the population of this area. Thanks to the diligent work of our Turkologists, it is possible to estimate the population in these parts on the basis of the Turkish *defters*. What does history reveal about this? The translation of the Turkish *defters* for our areas was initiated by the work of Hazim Šabanović.[59] The Ottoman administrative governments listed in these *defters* the administrative and territorial division of a particular territory (usually a *sanjak*), settlements with a list of their inhabitants (!) and with their fiscal obligations, but also the abandoned settlements that the Turkish government leased or exploited in other ways. This provides an exceptional basis for the study of socio-economic relations. The first such *defter* from Herzegovina was published by A. S. Aličić in Sarajevo in 1985; it also showed the conditions in 1477 in some parts of Croatia that were then part of that vilayet.[60]

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[56] Ante Gabričević, *Stanovništvo Varaždina tijekom minulih stoljeća*. Zagreb-Varaždin: Zavod za znanstveni rad HAZU Varaždin i Grad Varaždin, 2002.

[57] Grga Novak, »Presjek kroz povijest grada Zadra«, in: *Zbornik Grad Zadar - presjek kroz povijest*. Zadar, 1996: pp. 7-75.

[58] Grga Novak, *Prošlost Dalmacije*. Zagreb: HBZ, 1944: pp. 187-202.

[59] Hazim Šabanović, *Krajište Isa-bega Ishakovića*. [Monumenta Turcica, vol. 2]. Sarajevo: Orijentalni institut, 1964; Hazim Šabanović, *Turski izvori za istoriju Beograda*, *Book I, vol. 1, Katastarski popisi Beograda i okoline 1476-1566*. Beograd: Istorijski arhiv Beograda, 1964.

[60] A. S. Aličić, *Poimenični popis sandžaka vilajeta Hercegovina*.

Fehim Dž. Spaho complemented this pioneering effort with a number of works in which he analysed the Turkish *defters* for the parts of Dalmatia conquered by the Turks.[61] Significant for our study of the population in 1544 are the claims by Spaho that after settlements in the hinterland of Split had been taken, the larger part of the population fled, so that only less settled agricultural land with remnants of the earlier settlements remained and were, as such, pronounced (in 1528) to be *mezra* (hamlets).[62] However, Spaho goes on to say that the population soon began to return to their homes, so that the conditions were again met for these settlements to be pronounced villages (the 1550 *defter*).[63] In fact, our estimate of the population in the Dalmatian hinterland is based on this analytical claim made by Fehim Spaho. Based on the map of the settlement given by the author, it was possible to approximately calculate the area of Dalmatia lying outside Venetian Dalmatia - a territory of about 5,700 km5 (including the former communes of Benkovac, Drniš, Imotski, Knin, Makarska, Metković, Obrovac, Sinj, Vrgorac, as well as parts of the communes of Šibenik and Zadar).

Calculating the population becomes extremely complex since the Turkish *defters* listed settlements and houses using Turkish names, which often do not allow for today's settlements to be determined.[64] Therefore, I decided to apply the indicator of population density in all of the Dalmatian hinterland that was in Ottoman hands. I took it that the average density of the population in this dominantly agrarian territory, excluding larger market towns, was necessarily small, lower than in the coastal areas. Therefore, (by using the

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[61] We would like to mention in particular the works that this exceptional turkologist published in *Acta historico-oeconomica Iugoslaviae*: Fehim Dž. Spaho, »Jedan turski popis Sinja i Vrlike iz 1604 godine«. *Acta historico-oeconomica Iugoslaviae* 12 (1985): pp. 21-120; »Splitsko zaleđe u prvim turskim popisima«. *Acta historico-oeconomica Iugoslaviae* 13 (1986): pp. 47-86; »Skradinska nahija 1574 godine«. *Acta historico-oeconomica Iugoslaviae* 16 (1989): pp. 79-107.

[62] A *mezra* marks a scarcely populated territory, with primarily agrarian resources that are not fully exploited.

[63] F. Dž. Spaho, »Splitsko zaleđe u prvim turskim popisima«: p. 49.

[64] I can mention as an example the village of Gradac within the Drniš municipality. In 1528, according to the Turkish census, this village had 69 Christian houses and 3 houses of unmarried Muslims. If it is assumed that there were 9 persons on average in each house, this would make 624 inhabitants in this village, which had 516 inhabitants in 1875 (Korenčić, 1979). On the other hand, the village of Bidnić in the Split municipality had as many as 93 houses in 1528 (830 people), while in 1857 it was only a hamlet belonging to Donji Muć, with 27 people. Did the Turkish censors call Bidnić the whole of Donji Muć?

incomplete data from the published Turkish *defters*) I decided to take an average of 10 inhabitants per square kilometre, which gives (a rounded figure of) 57,000 inhabitants in the area of Dalmatia that were not included in the census of the Venetian authorities.

It should, however, be stressed that the censuses in Dalmatia at that time included the islands of Cres, Lošinj, Krk and Rab, so that the territory of Dalmatia in 1500 was not identical to that in 1700 (and a reciprocal situation is true of Istria). On the other hand, the population of Venetian Dalmatia included the inhabitants of Kotor and other settlements, which were then part of Venetian Dalmatia, but which do not pertain to Croatia today. Therefore, from the given number of inhabitants, I deducted an estimated number of inhabitants of this part of Venetian Dalmatia (9,000).

The relatively low population density I thus obtained can be derived from the understanding that in the first years of the sixteenth century there was a relatively significant number of deserted settlements, i.e. settlements in which agricultural neglect reached large proportions. This was not solely a Croatia phenomenon. This phenomenon could be observed from the 14th to the mid-17th century throughout Europe (the lost villages in Britain, *Wüstungen* in Germany, *mesta* in Spain, *villages deserts* in France, and similar phenomena in the Netherlands and Denmark).[65] In our country, the reason for this lay not just in the epidemics of the plague, the pillaging of village holdings (due to the increased taxes occasioned by the war operations), and climate changes, but also in some as yet unexplained disruptions in the amount of yield and production. Due to all this, peasants increasingly fled from the starved villages, and settled abroad (from the north of Croatia to the west, to Burgenland, Slovakia and Bohemia, and from Dalmatia and Istria to Italy). The Venetian authorities fought against this phenomenon by colonising people (from what is today Montenegro and Albania), but the results were modest until 1650 when (judging by the extant data) both agricultural production and the population figures began to recover. Therefore, Miroslav Bertoša is right when he asserts that the standpoint of the old historiography

[65] B. H. Slicher van Bath, *The Agrarian History of Western Europe, A.D. 500-1850*. London: Arnold, 1963, gives an extensive overview of the agricultural crisis in the 14th and 15th century in Western Europe, finding almost identical phenomena throughout the broad West-European territory. Croatia was obviously similar to these countries, although the causes of these phenomena were not always the same. See also G. Cherubini, *Agricoltura e società rurale nel medioevo*. Firenze: Sansoni, 1972.

which claimed that only wars and disasters led to depopulation is unsustainable since it neglects other (in many ways more significant) factors.[66] Miroslav Bertoša's accurate statement on the varied causes of demographic variations in the population of Venetian Istria[67] can, for a number of reasons, also be applied to Dalmatia, as well as to Dubrovnik (for which we also have precise data that confirm depopulation during the 16th and 17th centuries).

Miroslav Bertoša (1995) rightly speaks of Istria from the Venetian period as if it had met the Apocalypse. Istria was depopulated between 1500 and 1700 due to the exodus of the population fleeing from the Turkish *akinji* (there were five such incursions between 1470 and 1511), the wars of Venice and Austria, the plague epidemics (the plague in the early 16th century lasted from 1507 to 1514), and other misfortunes. In 1556, the plague took two thirds of the inhabitants of Buje and Piran, and after a few small-scale epidemics, the last occurrence of the plague, which proved the most deadly, took place in 1631/2. Malaria was also constant (taking, for example, three quarters of the population of Poreč between 1580 and 1601). All of this, added to the Uskok war (1615-1618), and the lack of attention that Venice paid towards economic revival, led to stagnation in the population. According to Bertoša's data, which he presented in another of his works, Venetian Istria had 52,765 inhabitants in 1554,[68] it had 64,000 in 1655, and 69,415 in 1741. Naturally, the population of the Mark-earldom of Pazin should be added to these data, and the parts of Istria which are today in Slovenia have to be removed, to obtain the number of inhabitants in the part of Istria which is today in Croatia.

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[66] M. Bertoša, *Mletačka Istra u XVI. i XVII. stoljeću*, I: p. 312. We should emphasise that such voices are not isolated even in the new historiography. The excellent book by I. Mažuran (*Hrvati i Osmansko Carstvo*), by concentrating on the horrific consequences of the expansion of the Ottoman Empire to Croatia, indirectly supports such views. This is even more evident in some contributions in *Hrvatska demografska i demostrateška drama*.

[67] Bertoša writes: "The negative factors affecting the population - malaria (which took away more people than the plague), epidemics of smallpox, typhus and other diseases, high mortality, ***economic depletion related to the conditions in the Mediterranean and Adriatic basin, general poverty, frequent shortages and years of starvation, the departure of the most able male labour force to far-away battlefields*** (particularly in Dalmatia and Levant) at the time of long-lasting wars which the Republic waged with Turkey, fear of new wars breaking out, as well as the politics of Venice towards Istria, prevented the revitalisation of the population in the region during the 16th and 17th century (M. Bertoša, *Mletačka Istra u XVI. i XVII. stoljeću*, I: p. 316 - emphasis by V. S.).

[68] Miroslav Bertoša, »Neki povijesni i statistički podaci o demografskim kretanjima u Istri u XVI i XVII stoljeću«. *Radovi Instituta za hrvatsku povijest* 11 (1978): pp. 103-129.

I approached this calculation on the basis of data given by Miroslav Bertoša[69] (founded on archival research). In 1554, Venetian Istria had a population of 52,765, inhabiting an area of 2,587 km^2. This figure includes the inhabitants of the municipalities outside Croatia: Milje (1,548), Kopar (11,294), Izola (1,725) and Piran (50% - 1,500). The figures shown in brackets include the population of the mentioned towns and belonging territories, so that the population of the Croatian part of Venetian Istria amounted that year to 36,698 inhabitants. To this estimate I added the population of the Mark-earldom of Pazin (10,302), putting in this way the population of Istria at 47,000. This figure does not include the population of Cres and Lošinj (which was then in Venetian Dalmatia), or part of Liburnia which later became part of historical Istria. I would also like to emphasise that subtracting and/or adding some parts of the old historical provinces leads to significant changes in the derived facts. For example, Venetian Istria in 1554 had a population density of 20.4 inhabitants per km^2,[70] but when Kopar, Izola, Milje and part of Piran (which are now in Slovenia) are taken away, and when the inhabitants of the Mark-earldom of Pazin are included, the average density falls to 18.0 inhabitants/km^2.

The data for 1700 are, however, incomparably more accurate, based on the detailed and extensive work of J. Gelo and S. Krivošić (1990) who thoroughly analysed all the sources known by that year (for this task, I. Mažuran provided enormous help by publishing the census of Slavonia of 1698). All other data in Table 7 are based on the results of censuses limited to the territory of contemporary Croatia and as such do not raise any doubts. A timeline of the population of Croatia between 1500 and 1913 grew out of all these activities (Table 7). The data are organised by historical province, so that the reader can more easily verify the procedures I used to obtain data on the population of today's territory of Croatia in 1500.

The first thing that draws attention in Table 7 is the decrease in the population of Croatia between 1500 and 1700. In these 200 years, the population of Croatia fell by 31%. On the other hand, the population of Western Europe in the same time period grew by 41.4%, that of Eastern Europe by 39.3%, and in the whole world by 37.8%. The population of our neighbour, Austria, increased in this period by 25%, that of Italy by 24.8%, Mediterranean Spain by 29%, and France by as much as 43% (Table 8).

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[69] M. Bertoša, *Mletačka Istra u XVI. i XVII. stoljeću*, I: pp. 305-320.

[70] M. Bertoša, *Mletačka Istra u XVI. i XVII. stoljeću*, I: p. 309.

Table 7 - Population of the territory of today's Croatia (1500-1913)

Year	Istria	Dalmatia	Dubrovnik	Military Border	Croatia and Slavonia	Total
1500	47,000	141,000	80,000	660,000		928,000
1700	56,440	76,263	26,067	158,430	327,300	644,500
1780	80,000	240,200		443,400	713,000	1,476,600
1820	100,800	280,250		544,439	856,080	1,781,569
1850	141,700	356,460		621,733	955,950	2,075,843
1880	179,575	432,284		764,294	1,130,075	2,506,228
1913	272,000	605,000		2,671,000		3,548,000

Table 8 - Population of some West European countries (1500-1820)

Country / area	1500	1700	1820	Index 1500 = 100	
				1700	1820
Austria	2,000	2,500	3,369	125.0	168.5
France	15,000	21,471	31,246	143.1	208.3
Germany	12,000	15,000	24,905	125.0	207.5
Italy	10,500	13,100	20,176	124.8	192.2
Switzerland	650	1,200	1,829	184.6	281.4
Spain	6,800	8,770	12,203	129.0	223.6
Portugal	1,000	2,000	3,297	200.0	329.7
Croatia	928	645	1,782	69.5	192.0
Western Europe	57,628	81,460	132,888	141.4	230.6
Eastern Europe	13,500	18,800	36,415	139.3	269.7
THE WORLD	437,818	603,410	1,041,092	137.8	237.8

Source: Angus Maddison, *The World Economy - A Millennial Perspective*. Paris, 2001.

As we can see, Croatia experienced a fall in population at a time when the population was beginning to increase in Europe (1500-1700). What are the causes of this? There is no doubt that the main reason was the expansion of the Ottoman Empire: for centuries Croatia had been a border area tramped over by armies, which without exception took a large toll in human lives. This Croatian fate, to be *Antemurale Christianitatis*, for centuries led not only to the loss of warriors' lives, but also to the exodus of Croats towards the west (Austria, Slovakia and Bohemia), as well as towards Mediterranean lands (Dubrovnik, Dalmatia and Italy). However, at the same time hundreds of thousands of people were taken to the east as slaves - to Anatolia and the Eastern Balkans.[71] Many consider that 1500, which I take here for comparison with other countries, was not historically the year when the territory of Croatia had the largest population. Gelo thinks that the population in Croatia began to decline as early as in 1391 (when the Osmanli arrived on Croatian territory for the first time), hence he sets the hypothesis that during the three hundred years when the border between the Ottoman Empire and Europe was constituted, the number of inhabitants of Croatia almost halved (which could mean that Gelo assesses that around 1400 there were 1,200,000 inhabitants in the territory of today's Croatia.[72] Gelo describes the condition in poetic terms, by stating that in these three hundred Turkish years, none of the fifteen Croatian generations that lived in the more than three thousand settlements - villages, market towns and cities (in three quarters of the plundered territory of Croatia) - had lived their lives without being subjected to persecution, pillage, the burning down of their homes, robbery or killing, so that at the dawn of the eighteenth century, in the deserted and burnt homeland, life

[71] Vjekoslav Klaić, in his *Povijest Hrvata*, provides data on how this unfavourable fate hit the Croats in the 15th and 16th century. Thus, on the occasion of the Turkish invasion in 1415, about 30,000 inhabitants were captured and taken to Turkey to become slaves. In 1469, the penetration of the Turks into Lika and Krbava resulted in the abduction of 75,000 people; the incursion of the Ottomans into Dalmatia in 1471 took away 30,000 inhabitants into slavery. The largest abductions occurred after 1500, in 1510, 1514, 1532 (when Suleiman drew about 50,000 Croatians into slavery), 1536, 1556, and 1591-2. Later, Mladen Lorković, *Narod i zemlja Hrvata*, Zagreb: Matica hrvatska, 1939, on the basis on these historical sources, calculated that from 1415 to 1600, about 560,000 inhabitants of Croatia were taken into slavery. The estimate provided by the Venetian chronicler Marin Sanudo, who claimed in 1533 that the Turks had taken away from the conquered lands and border areas about 600,000 people, is even higher. It is probable that the data of contemporaries were exaggerated, which can be assessed today in the light of well-known facts on the number of inhabitants. However, they do indicate the huge losses of lives that occurred.

[72] J. Gelo, »Kratka povijest hrvatskog puta u stvarnu demografsku provaliju«: p. 73.

would begin for the new (sixteenth) generation, which numbered just about half that (644,500) of their ancestors in 1391.

The result we obtained is so significant that it seeks verification. I tried to determine this on the basis of a comparative analysis of the population density in some European countries. I approached it from a simple economic standpoint: in 1500 and 1700, Europe was a predominantly agrarian continent whose number of inhabitants living in a particular area was determined by the potential of the land to produce a sufficient quantity of food. Since production procedures were similar throughout Europe (though there were great differences in the amount and fertility of the soil), and if we assume that there was an equal amount of fertile soil, the number of inhabitants could vary only within the variables mentioned above. For this purpose I drew up Table 9 from which it can be derived that in 1500 the density of the population in Croatia (on the basis of the estimate above) was in most cases similar to the density of the population in Central Europe (Hungary, Switzerland, Italy and Austria); it was slightly higher than the population density of Britain and Spain, while the density was significantly higher in the Netherlands, France and Germany - all those countries that had made much more progress in crafts, navigation, trade and other non-agricultural activities at that time.

The first thing that stands out related to Croatia is the exceptional density of the population in the Republic of Dubrovnik, which was almost three times higher than other densely populated countries in the same period. The cause of this, in my opinion, is the exodus of the population from the Balkan hinterland fleeing the Ottoman Empire. Some time before the year in question, the Serbian state under despot rule had disappeared (1459), Bosnia had been destroyed (1463), and the border of the Ottoman Empire had permanently moved westwards. The *akinji* and other Ottoman troops were penetrating deeper and deeper into the territory of Croatia, Slavonia and Hungary. There was a general feeling of insecurity, so that many families decided to leave their homes.

Dubrovnik was close by, offering work on its ships, in textile manufacturing, and in other jobs. However, the agriculture of Dubrovnik alone could not produce enough food, so that wheat was imported by ship to feed the hungry population.[73] Still, the most important factor was that the shipping

[73] Bogumil Hrabak, *Izvoz žitarica iz Osmanlijskog carstva u XIV, XV i XVI stoljeću*. Priština: Zajednica naučnih ustanova Kosova, 1971.

companies of Dubrovnik offered work. But we will look at this in more detail when we consider the estimated per capita GDP.

Table 9 - Population density in some European countries in 1500 and 1700

Country	Area (000 km^2)	Number of inhabitants			
		in millions		by 1 km^2	
		1500	1700	1500	1700
A Countries					
Austria	83.8	2.0	2.5	24	30
Hungary	93.0	1.25	1.25	14	14
Italy	301.2	10.50	13.30	35	44
Czechoslovakia	127.9	3.0	4.5	23	35
Switzerland	41.3	0.65	1.20	16	29
Spain	504.8	6.80	8.77	14	17
France	547.0	15.0	21.5	27	39
The Netherlands	40.8	0.95	1.90	23	47
Germany	357.0	12.00	15.00	34	42
United Kingdom	244.0	3.94	8.57	16	35
B Croatia		in thousands			
Dubrovnik	1.0	80	26.1	83	27
Istria	3.1	47	56.4	20	18
Dalmatia	10.8	141	76.3	12	7
Croatia and Slavonia	41.6	660.0	485.7	16	12
CROATIA	56.5	928	644.5	17	11

Source: Colin McEvedy and Richard Jones, *Atlas of World Population History*. Middlesex: Penguin Books, 1978; Angus Maddison, *The World Economy - A Millennial Perspective*. Paris, 2001; Jakov Gelo and Stjepan Krivošić, *Razvitak stanovništva na tlu Hrvatske*. Zagreb: Institut za ekonomska istraživanja, 1990. For Croatia: this paper

What did this development mean for Croatia in comparative terms? Now that we have Maddison's data at our disposal it is not difficult to give a quantitative answer (Table 10).

Table 10 - Share of Croatia in the population of Western Europe and the World (1500-1998)

Year	Share of Croatia in the population (in ‰)	
	of Western Europe	of the World
1500	16.1	2.1
1700	7.9	1.1
1820	13.4	1.7
1913	13.6	2.0
1998*	10.9	0.7

*The population in Croatia in 1998 according to: Alica Wertheimer-Baletić, »Dugoročni demografski procesi u Hrvatskoj«: in *Hrvatska demografska i demostrateška drama,* ed. V. Pavletić. Zagreb: Matica hrvatska, 2002: p. 15.

The decrease in the number of inhabitants in Croatia between 1500 and 1700 halved the significance of Croatia in terms of the population of Western Europe and of the world. However, the sudden growth of the Croatian population during the demographic transition in the 18th and 19th century, together with immigrations to Croatian territory (of Germans and Hungarians, Czechs and Slovaks, Serbs and Ruthenians, not to mention others) provided an opportunity for Croatia to very nearly restore its former significance in the West European context by 1913. Since the share of the European population in the world population grew during the 19th century, the Croatian share in the world population in 1913 climbed again to 2‰ of the world population, the same as it had been in 1500. However, in the 20th century, a demographic explosion occurred (outside Europe), while Croatia recorded high losses of human lives in the course of three wars (two world wars and the war for independence), and losses in the post-war period through emigration and other misfortunes. This caused a considerable decrease in the significance of Croatia in the world population in the 20th century, together with a decrease in the significance of Croatia in the West European population. Croatia now

makes up only a little more than 1% of the West European population and *less than one per mill* of the world population. At the end of the 20th century, Croatia had only a third of the share in the world population that it had in 1913. There is no doubt that this result is a matter of concern.

5.2. Estimating the level of gross domestic product of Croatia, 1500-1913

I estimated the level of gross domestic product of Croatia for the period 1850-1913 in one of my earlier works (1999), which was based on statistical and other sources on agricultural production, number of livestock, workforce and many other indicators that had been diligently collected by Austrian statisticians (headed by Inam-Sternegg, an outstanding economic historian). All these values were expressed in dollars at the purchasing power of 1990 and calculated on the basis of multilateral purchasing power, mirroring the method used by Maddison in both of his works (1995 and 2001). Since there have been no objections to this method of calculation in the last four years, I have left these estimates unchanged.

Working backwards, I first estimated per capita GDP for the year 1820. To accomplish this task, I used Maddison's estimates of trends in per capita GDP in Austria and Italy. I believe that the result for this particular year will be indisputable. However, estimates for earlier years are much more complex and require more detailed explanation, particularly in view of the fact that I am treading on new ground in this, for economic history, *terra incognita*.

The estimate of per capita GDP for the years 1500 and 1700 is based on Maddison's estimates for Italy and Austria. These in turn are based on the critical evaluation of the level of gross domestic product carried out by the authors before him. Thus, P. Malanima[74] maintained that between 1500 and 1700, per capita income in Italy decreased, basing his conclusion on a series of indicators on manufacturing and trading activities in the towns of that time, as well as on estimates on the level of food consumption, wages, and other items. His findings confirmed earlier claims by C. M. Cipolla,[75] who, moreover, believed that from the late 15th to the 17th century Italy suffered

[74] Paolo Malanima, *Economia preindustriale*. Milano: Mondadori, 1995.

[75] Carlo M. Cipolla, *Before the Industrial Revolution*: *European Society and Economy*. New York: Norton, 1976.

retrogression even in the level of per capita income. His findings were critically analysed by A. Maddison and H. van der Wee in the study submitted at the 11th International Congress of Economic Historians.[76] On that occasion they supported the theses by D. Sella[77] and T. Rapp.[78] who claimed that there was progress in Spanish Lombardy (with Milan as its capital), but that in the case of Venice the level of per capita income stagnated (but did not decline). Starting from these claims, Maddison assumed that per capita income in Italy was stagnant between 1500 and 1820, which, compared to the progress achieved in Northern and Western Europe, meant that in relative terms Italy lagged behind.

However, although Maddison considers Venice the most developed area of the world at that time, he does not quantify the level of income in the Venetian Republic with the level of per capita GDP. Starting from Maddison's general thesis that Venice in that period had the highest per capita GDP in the world, I *assumed* that in the year 1500 the level of per capita income in Venice exceeded that of Italy by 20% on average. Since the Italian per capita GDP was constant (according to Maddison) both in 1500 and 1700 and amounted to 1,100 dollars (1990 international dollars), according to my calculations, the level of per capita GDP in the Venetian Republic came to 1,320 dollars. But this is the average for all parts of the Venetian Republic: the city of Venice must have had a higher income than *Terraferma*, or Istria and Dalmatia. In my estimate (Table 9), I assume that Venetian Dalmatia generated two thirds of the **average** income of the Venetian Republic in 1500, and three fifths in 1700 (the Turkish onslaughts after 1500 towards the Dalmatian coast and their conquest of a part of the territory caused, to my mind, Dalmatia to fall further behind the average of the Venetian Republic). The amount for Dalmatia obtained in this way for the year 1500 should be complemented with data for the parts under Turkish rule. As I previously established that there were 57,000 people living in this area, the

[76] A. Maddison and H. van der Wee, »Economic Growth and Structural Change: Comparative Approaches over the Long Run«, in: *Proceedings of the Eleventh International Economic History Congress*. Milano, 1994.

[77] Domenico Sella, *Crisis and Continuity: The Economy of Spanish Lombardy in the Seventeenth Century*. Cambridge, Ma.: Harvard University Press, 1979.

[78] Richard T. Rapp, *Industry and Economic Decline in Seventeenth-Century Venice*. Harvard University Press, 1976.

majority of whom were farmers, I adopted Maddison's estimate (which relates to the predominantly agrarian countries of Western and Eastern Europe for 1500) of 462 dollars per capita. Such a low level of income in the agrarian regions of the Dalmatian hinterland decreased the average per capita income for Dalmatia as a whole (Venetian Dalmatia 870 dollars, the hinterland 462 dollars, averaging 705 dollars per capita). I used the same approach for Istria, but I estimated that the rate of development in 1500 was slightly lower than that in Venetian Dalmatia. However, since the hinterland of Venetian Istria was sparsely populated (the Mark-earldom of Pazin), then, on the whole, according to my estimate, Istria had a higher per capita GDP than the whole of Dalmatia in 1500. After 1500, Istria suffered impoverishment.[79]

For me, the hardest task was to estimate the level of per capita gross domestic product in the Republic of Dubrovnik. The high number of inhabitants in 1500 testifies that the Republic was very densely populated (over 80 people per square kilometre, compared to 12-20 in other parts of Croatia and only 15-25 in the neighbouring countries of that time). Dubrovnik of that time must have been so large due to large-scale flights of the Balkan population leaving the territories that had been conquered or threatened by the Turks. These people were mostly farmers[80] whose work productivity was even then lower than that of craftsmen and/or merchants.[81] It is for this reason that I assumed that per capita GDP in Dubrovnik in 1500 accounted

[79] Miroslav Bertoša, *Istarsko vrijeme prošlo*. Pula: Glas Istre and Čakavski sabor, 1978.

[80] This is pointed out largely because the then scarce aristocracy and Balkan merchants considered Dubrovnik the Switzerland of that period, into which money should be brought and kept for security. Thus Vuk Vinaver, »Problem proizvodnje srebra u srednjovjekovnoj Srbiji«. *Istoriski zapisi* 13/3 (1960), says that the Serbian despot and Turkish vassal Đurad Branković stored his gold reserve in Dubrovnik in 1441. It consisted of 175 kg of gold, 112.3 kg of gold mixed with silver, 973.15 kg of silver (all in bullion), 114.13 kg of silverware and one million Turkish *aspers* (silver coins). The treasurers of the Dubrovnik Republic, according to the description by Philippus de Diversis, looked all their lives after the deposited wealth committed to their care by either the Dubrovnik municipality or by the neighbouring rulers. The rulers of the neighbouring regions deposited their wealth, gold and silver with the government of Dubrovnik, where they felt it was as secure as if it were deposited in the most secure house. It is very possible that the same was done by other wealthy people from the hinterland of Dubrovnik (merchants and feudal lords). For this reason, Dubrovnik might be considered a haven for capital arriving from the Balkan hinterland (see: Vladimir Stipetić, *Povijest hrvatske ekonomske misli* (1298-1847). Zagreb: Golden Marketing, 2001: pp. 110-115).

[81] B. H. Slicher van Bath, *The Agrarian History of Western Europe AD 500-1850*.

for only 70% of per capita GDP of the Venetian Republic,[82] whereas the percentage was slightly below 70% in the year 1700 (the consequences of an earthquake that devastated the city and the costs of dealing with the aftermath). A slightly higher per capita product in Dubrovnik than that in Venetian Dalmatia (in 1500: 930 against 870) was also mentioned in a travelogue written by Giovanni Battista Giustiniani, who stayed in Zadar, Šibenik, Trogir, Split and Dubrovnik. According to B. Krekić,[83] Giustiniani found that the nobility and the citizens of Dalmatian towns were very poor, the nobility in particular, because their lands had been abandoned or left uncultivated for fear of the Turks. In contrast, Giustiniani finds exceptional wealth in Dubrovnik, which he attributes to the trade and maritime economy that flourished in Dubrovnik at that time. Even if Giustiniani did exaggerate a little (as suggested by Krekić[84]), the fact that he stresses the differences in the level of well-being between Dalmatia and Dubrovnik is indicative.

I submitted my estimates to the analytical scrutiny of well-known data from the economic history of Dubrovnik. Obviously, agriculture in the Republic of Dubrovnik could not have sustained such a large number of inhabitants. Since Dubrovnik authorities estimated that, to satisfy the needs of the population, they had to ensure a quantity of 216 kilograms of grain a year (from domestic production and from imports), the import of grain was inevitable. Dubrovnik did precisely this, importing grain by ship and storing it in granary holes every year.[85] The quantity of imports indicates that the population in the area of the

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[82] Philippus de Diversis (Diversi), who lived in Dubrovnik between 1434 and 1441 (after spending ten years of his life in Venice), in 1440 also mentions the fact that Dubrovnik lagged behind the level of income generated by Italy and Venice. In his book Diversi writes that Italy was the most advanced and in every sense the wealthiest country. He points out, however, the entrepreneurial spirit of Dubrovnik people, which drives noblemen to send their children into trading business, since they think and believe that happiness is contained in wealth, and virtue in its acquisition and greedy hoarding ... As opposed to these entrepreneurs, seamen and merchants, *the majority of other people live in abject poverty*. Among the poor, sailors and peasants who till their fields, vineyards and gardens are the most numerous ... but the Dubrovnik area, due to its infertile lands and a large number of people, yields such small income that no family can make a living from their holding ...". See more details on Diversi in: V. Stipetić, *Povijest hrvatske ekonomske misli*: pp. 100-118.

[83] Bariša Krekić, »Developed Autonomy: The Patricians in Dubrovnik and Dalmatian Cities«, in: *Urban Society of Eastern Europe in Premodern Times*, ed. B. Krekić. Berkeley-Los Angeles-London: University of California Press, 1987: p. 193.

[84] *Ibid*.

[85] See: B. Hrabak, *Izvoz žitarica iz Osmanlijskog carstva u XIV, XV i XVI stoljeću*.

Dubrovnik Republic was large, but also that the Republic had sufficient means to procure grain on the Mediterranean market. The principal source of foreign-trade income for Dubrovnik came from maritime activities: Dubrovnik had shipyards, where ships were built for its fleet. The fleet was very large, as proven by Jorjo Tadić[86] some sixty years ago, with 3,000 people working on the vessels around 1500. Drawing upon archive sources for the years 1539 to 1544, Tadić found as many as 132 vessels and calculated their carrying capacity. The fleet grew to as many as 170 ships by the end of the 16th century, with the carrying capacity increasing twofold compared to 1540 (33,000 wagons in the period 1570-85 against 15,200 in the period 1539-44). What this meant for the European merchant fleet of that time can be seen in comparison with Maddison's data (Table 11). All the data were reduced to a carrying capacity expressed in thousands of metric tons, whereby I used the calculations made by Mijo Mirković.[87] According to the comparison, the merchant fleet of Dubrovnik in 1570 was larger than that of England, and was slightly smaller than the French merchant fleet. The rise of the merchant fleet, occurring in Dubrovnik in the century between 1470 and 1570, unveils the secret of Dubrovnik's prosperity of that time, but also the causes of later stagnation.

Table 11 - European merchant fleet 1470-1780 (carrying capacity in thousands of metric tons)

Country	1470	1570	1670	1780
The Netherlands	60	232	568	450
Germany	60	110	104	155
England	...	51	260	1000
France	...	80	80	700
Italy, Portugal and Spain	...	...	250	546
Denmark, Norway and Sweden	...	...	...	550
Republic of Dubrovnik	29	63	10	...

Source: Angus Maddison, *The World Economy - A Millennial Perspective*. Paris, 2001: p. 77); for Dubrovnik in 1540 and 1570: Jorjo Tadić, *Organizacija dubrovačkog pomorstva u 16. veku*. Dubrovnik, 1952; Mijo Mirković, *Ekonomska historija Jugoslavije*, 1. Pula-Rijeka, 1985: p. 171; the year 1670 - estimate by V. Stipetić according to F. M. Appendini.

[86] Jorjo Tadić, *Organizacija dubrovačkog pomorstva u 16. veku*. Dubrovnik, 1952.

[87] Mijo Mirković, *Ekonomska historija Jugoslavije*, 1. Pula-Rijeka: Čakavski sabor etc., 1985: pp. 171-172.

Tadić estimates that the maritime affairs of Dubrovnik around 1570 provided employment for about 5,000 people, which generated income for about 40,000 families (some families had 2 members working on ships). The maritime economy was exceptionally profitable in Mediterranean trade, but its importance waned with the transfer of the main merchant routes from the Mediterranean to the Atlantic (after 1570). This fact led to a sharp rise in the merchant fleets of the Netherlands, England, Portugal and Spain (as seen in Table 11).

Taking into account the low life expectancy of that time, in around 1500 Dubrovnik had about 18,000 men of working age. This means that in that year almost one third of the economically active population of Dubrovnik were engaged in maritime activities (seamen + shipyards). Another 1,500 of the economically active population were merchants who had offices and warehouses in Dubrovnik, from where they shipped caravans loaded with goods to Balkan destinations, where the people from Dubrovnik were in turn engaged in collecting and sending exchange goods back to Dubrovnik; there were also 500 craftsmen (with about 1,000 workers); another thousand were employed in the textile industry (including women, who spun thread at home). Aristocratic and merchant families employed numerous servants; therefore, according to this rough estimate, around the year 1500 fewer than one half of the men in Dubrovnik were employed in primary activities (agriculture, fishing and forestry), which reflects the structure of the European population at the end of the 19th century.[88] However, it is difficult to make a completely accurate estimate because some of the people were employed in different jobs. Ship crews were partly made up of farmers (*part-time farming* is not an invention of the twentieth century!); likewise, farmers also found employment in the building industry (house construction, but also working in quarries), in manufacturing and in crafts, depending on the demand for certain services and/or activities. Thus, farmers became a classic reservoir of manpower, which was more fully drawn upon in times of the growing needs of trade, seafaring, building and other activities. The secret of Dubrovnik's high income of that time lies, therefore, in the versatile structure of employment. This internal economic power made it possible for Dubrovnik to gain independence from Venice (1358) when Venice was at the height of its power, and even to expand into its area of interest, both territorially and economically. In the following centuries, despite its indubitable military

[88] V. Stipetić, *Povijest hrvatske ekonomske misli*.

inferiority, Dubrovnik competed with Venice on an economic plane, albeit with varying fortune (yet, always with a positive final outcome). For this reason, we can rightly claim that Dubrovnik of this period should not be compared with many Italian towns on the western coast of the Adriatic; instead, within Mediterranean history, it should be designated the position of Monaco - a state which reached the very peak of world power in this historical interval.

The data on gross domestic product in 1500 do not, therefore, represent the highest achieved power of Dubrovnik, but only a moment in its rise to the apogee of power and wealth (which would be realised only in the second half of the 16th century). The same could be said for Dalmatia and Istria, although there are considerably fewer indicators of the power of regional economy (there are indicators for individual centres, such as Zadar, Hvar and others).

I based my estimate of the level of per capita gross domestic product for Croatia and Slavonia on the two dominantly agrarian countries for which Maddison gives data. The working productivity of the medieval peasant did not vary significantly because it was rooted in traditions and processes that had remained unchanged for centuries.[89] The very few existing towns retrogressed in the period between 1500 and 1700. Slavonia was particularly afflicted by the Vienna war (1683-1699), a number of Slavonian villages were abandoned[90] because the population had either fled from their villages (the retreat of the Muslim population into Bosnia) or was killed in the bloodthirsty raids of the warring parties.[91]

How does one estimate the level of gross domestic product in this area, for which there is some indication of the size of population, but no estimates on agricultural or other production? In the estimation for 1500 I started from the fact that farming was performed on better, more fertile land than in the rest of Eastern Europe; consequently, per capita GDP was 5% higher in this

[89] B. H. Slicher van Bath, *The Agrarian History of Western Europe AD 500-1850*.

[90] According to the 1698 census, Slavonia had 491 inhabited settlements and 240 uninhabited villages. There were about 80,000 people, only slightly more than one third of the population of 1680. See: Vladimir Stipetić, »Predgovor«, in: Ive Mažuran, *Popis naselja i stanovništva u Slavoniji 1698 godine*. Osijek: Zavod za znanstveni rad JAZUu Osijeku, 1988: pp. 7-10.

[91] I. Mažuran, *Popis naselja i stanovništva u Slavoniji 1698 godine*.

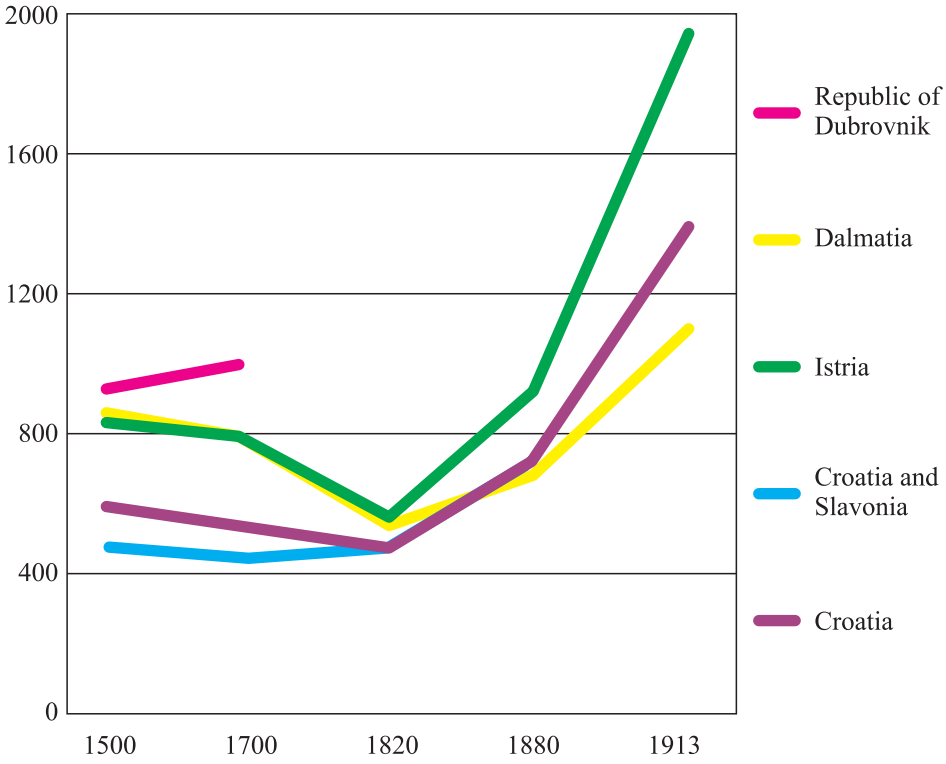
area than in Eastern Europe (462 dollars in 1500) and reached 490 dollars per capita. In 1700, in my estimate, farming estates had only just begun to regenerate; there was little livestock, the land was neglected, there were no good seeds, and the new people were unfamiliar with the land they were working on. A combination of all these factors resulted in lower yields. Consequently, per capita GDP in this area remained low and retained the same level as in 1500. I stress the word low, because Maddison estimates that per capita GDP between 1500 and 1700 rose by 22% in Eastern Europe; however, such devastating wars as were fought on the territory of Croatia and Slavonia during the 16th and the 17th centuries were recorded neither in the Czech state nor in Slovakia, Poland and Russia.

The results, collected by very complex procedures, are given in Table 12 and in Figures 4, 5 and 6.

Table 12 - Gross domestic product of Croatia (1500-1913) by region

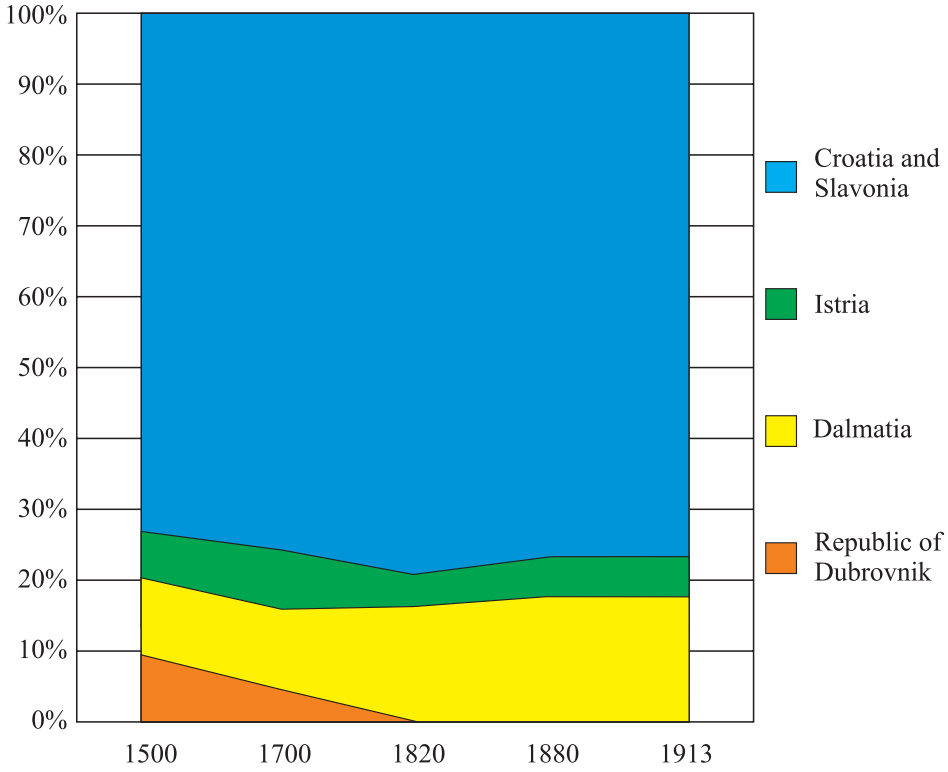
	Area				
Year	Republic of Dubrovnik	Dalmatia	Istria	Croatia and Slavonia	CROATIA
A Total GDP (in million 1990 international $)					
1500	74	100	38	323	535
1700	24	48	41	238	351
1820	147		60	707	914
1850	191		98	809	1,098
1880	288		164	1,320	1,773
1913	671		506	3,687	4,864
B Per capita GDP (in 1990 $)					
1500	930	706	800	490	577
1700	900	635	720	490	545
1820	525		595	505	513
1850	536		690	515	529
1880	667		915	698	709
1913	1,136		1,909	1,366	1,371

Figure 4 - Gross domestic product of Croatia (1500-1913) by region



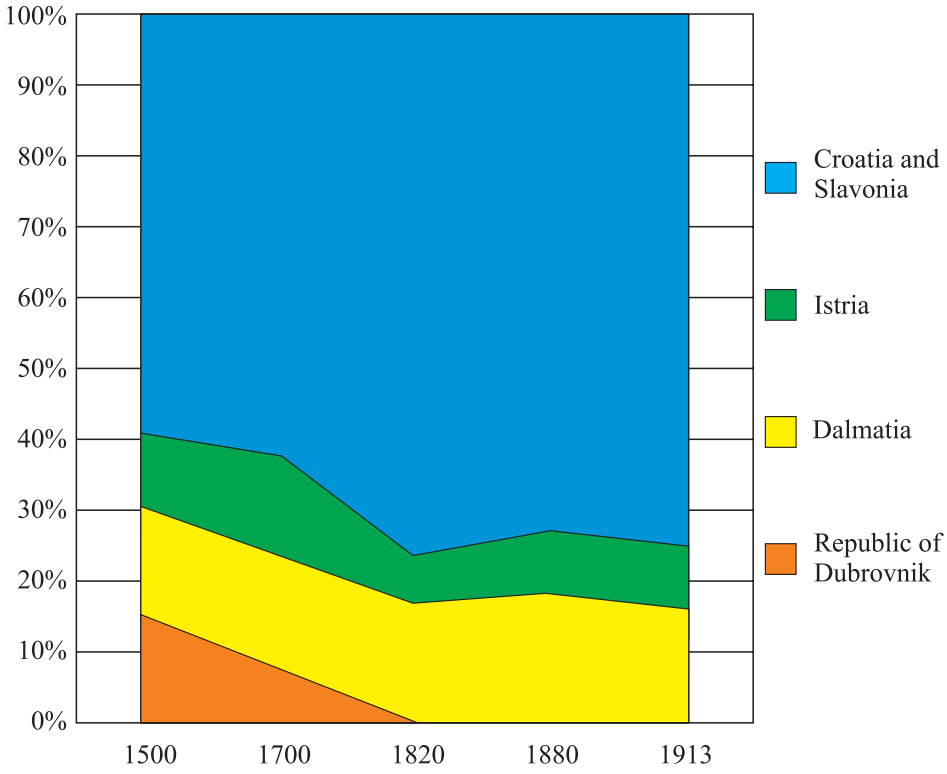
The results astounded me. Not only did Croatia lose **over one quarter** of its population between 1500 and 1700, but it was impoverished - the total GDP decreased by one third during these two hundred years, while per capita GDP dropped by almost 5%. At the time in which the economic well-being of the average citizen in other countries had begun to rise (for this is the idea of per capita GDP indicators given in item B in Table 12), Croatia experienced a reverse trend. The reasons for this are many: the long-lasting Vienna war (during which a third of the Slavonian villages were abandoned, while the remaining villagers lived in abject poverty after the plundering armies had passed through the area), the stagnation of Venice, the dramatic loss of economic potential of the Dubrovnik Republic on the eve of and after the big earthquake, and a variety of other reasons. It is in this period that a gap opened and widened between Croatia and Western Europe, which would reach unprecedented proportions in the future.

Figure 5 - Structure of population of the present territory of Croatia by region (1500-1913)



In the next 120 years (1700-1820) the total generated gross domestic product increased (by as much as 2.6 times), but exclusively as a result of increased population, since per capita gross domestic product continued to slide downwards (by another 5% over the 120 years). The impoverishment of the population went on; thus, the famous comment made by P. Ritter Vitezović, "if you meet an abjectly poor person in Europe, it must be a Slav" is not surprising at all. These results give economic confirmation to the literary inscription in his book *Two Centuries of Grieving Croatia* (*Plorantis Croatiae saecula duo* - written in Latin). He writes: "Incessant wars have for centuries devastated Croatia, ravaging the fields of its farmers, the settlements and towns of its citizens, the fortified towns of its noblemen, the castles of its lords, and the temples of its clergy. These people have all been killed, or taken into lifelong slavery, or exiled and forced to flee. *The*

Figure 6 - Structure of gross domestic product of the present territory of Croatia by region (1500-1913)



whole country is enveloped in a veil of sadness, leaving its citizens to grieve for the rest of their lives, its neighbours to share in the grief, and the entire Christian world to commiserate".[92]

I wanted to check this result with historical facts. In his texts, A. M. Reljković, for example, talks about the considerable progress achieved by the Slavonian village in the first seventy years of the 18th century (the second edition of *Satir* came out in Osijek in 1779). At that time, the largest proportion of the Croatian population lived in that area. However, it seems that the Austrian-Turkish war (started in 1785) led to a decline in agriculture, the main economic activity. Count Oršić writes that in 1786 the royal armies

[92] For more on the economic estimates of P. Ritter Vitezović, see: V. Stipetić, *Povijest hrvatske ekonomske misli*: pp. 397-399.

halted land cultivation by mobilising villagers and carriages, which led to famine. Many villagers, stricken by famine, were found dead at the roadside, in forests, and their children in pastures.[93] Famine also ravaged Dalmatia[94] and Istria. Tens of thousands of men were forced to abandon their homes and fight in the Napoleonic wars, further hindering land cultivation. The crisis culminated in large-scale famine in the Croatian lands in 1816/7, which claimed thousands of lives. The survivors managed to overcome hunger by slaughtering livestock, postponing the recovery of agriculture until the livestock fund was regenerated.[95]

These conditions in agriculture, combined with the Continental Blockade, interrupted lucrative trade in grains carried along the rivers Sava and Kupa to the Adriatic ports.[96] The cessation of this trade in turn made seamen's condition of life more difficult: sailing ships, which had sustained thousands of families, remained in ports waiting futilely for cargo to be pulled, at great risk, through the Continental Blockade. The impoverished villages, the merchants and seamen showed little demand for artisan products. This whirl of cause-effect events hurt the economy in towns. Therefore, I believe that a fall in per capita gross domestic product was not unexpected, but was the inevitable result of the problems described above, problems with which the Croatian economy wrestled at the end of the 18th and the beginning of the 19th century.

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[93] A. Oršić Slavetički, *Rod Oršića*. Zagreb: Hrvatski izdavalačko-bibliografski zavod, 1943.

[94] Šime Peričić, »Gladne godine u Mletačkoj Dalmaciji XVIII. stoljeća«, in: *Radovi Zavoda JAZU u Zadru* 27-28 (1981): pp. 179-194.

[95] Retrogression in Croatia at the beginning of the 19th century is also elaborated on by Imbro Ignjatijević Tkalac: agriculture and trade were increasingly deteriorating - Croatia had never had developed industry - and when terrible famine struck in 1817, the whole population *became extremely poor*. As in Poland in the past, usury flourished as never before and ruined landowners in the first place. In order to keep their heads above water, they borrowed at a nominal rate of 10 or 12 percent. Since they could not pay back in cash, they paid in nature - wine, grain, plums (for brandy), hay, building timber and fuelwood: creditors would buy these products from them at ridiculous prices, so that interest would grow to between 30 and 49 percent. Some of the landowners tried to help themselves by leasing a part of their allodial land with a house and a holding to their serfs. Thus, a landowner would end up having only 5 or 6 serf homes from the 50 or more he had previously owned. He could not cultivate his land with so few serfs, and was forced to sink completely. Imbro Ignjatović Tkalac, *Uspomene iz Hrvatske*. Zagreb: MH, 1945: p. 53 (italics by V. S.).

[96] I. I. Tkalac, *Uspomene iz Hrvatske*: pp. 19-31, cites the example of his grandfather, a merchant from Karlovac, who was impoverished during the Turkish war on account of voluntary war taxes, surtaxes and the confiscation of cattle and grain.

It was only after 1820 that the Croatian economy and the well-being of its citizens started to improve. In the beginning, the growth was slow (per capita gross domestic product grew by only 5% between 1820 and 1850, or by 0.07% per year), but it gained momentum in the second half of the 19th century (and rose by 34% or 0.98% annually between 1850 and 1880), to reach 2.02% annually at the turn of the century (the increase in per capita gross domestic product amounted to 93.4% between 1880 and 1913). Thus, in terms of well-being, it was not until the turn of the 20th century that Croatia began to catch up with Western Europe.

5.3. Comparative analysis of research results in the gross domestic product of Croatia (1500 - 1913)

Data from Maddison's research (Table 13) show an immense contrast between the economic performances of Croatia and other countries. During these two centuries - between 1500 and 1700 - Austria, France and all Scandinavian countries increased their per capita gross domestic product (Austria by 40%, France by 36%, England by 75%, Denmark and Switzerland by 41%, etc.). Mediterranean Europe experienced slower development - in 1700, Italy stagnated at the level reached in 1500, whereas Spain increased its per capita GDP by 29% - slower than other West European countries despite its enormous colonial empire. Of all the European countries for which we possess data, only Croatia *recorded an economic regression*, since in 1700 its per capita GDP was 5.5% lower than in 1500. In that year, Croatia had the lowest per capita GDP of all the countries listed in the Table (Figure 7).

An economic reservation should be made here in interpreting data related to the level of gross domestic product - both in terms of total and per capita GDP. Data for Croatia were accurately derived from data for individual regions, but they do not refer to a unified Croatian national market, but to different countries (Venice, Dubrovnik, Austria and Hungary). The market is the first school in which nationalism is taught: in Croatia, too, trade was a school in which merchants, clergy and noblemen broadened their horizons in their attempt to create a unified national market (from Pribojević and Orbini through Križanić and Vitezović to Gaj and Seljan), which was non-existent at that time. Data on the total gross domestic product on the territory of Croatia, presented in Table 12, do not therefore give a realistic picture of the national market, because until 1913 this market remained disunited and fragmented,

while aspirations towards a unified market were utopian and romantic. All economic thinkers in Croatia dreamt of creating a large national market, clashing in the process with the Venetian, Austrian and Hungarian realisation of a unified market. The conflict between aspirations and their realisation could not be solved in the past,[97] and neither can it be solved now by aggregating data on the generated gross domestic product, as we have done in Table 12.

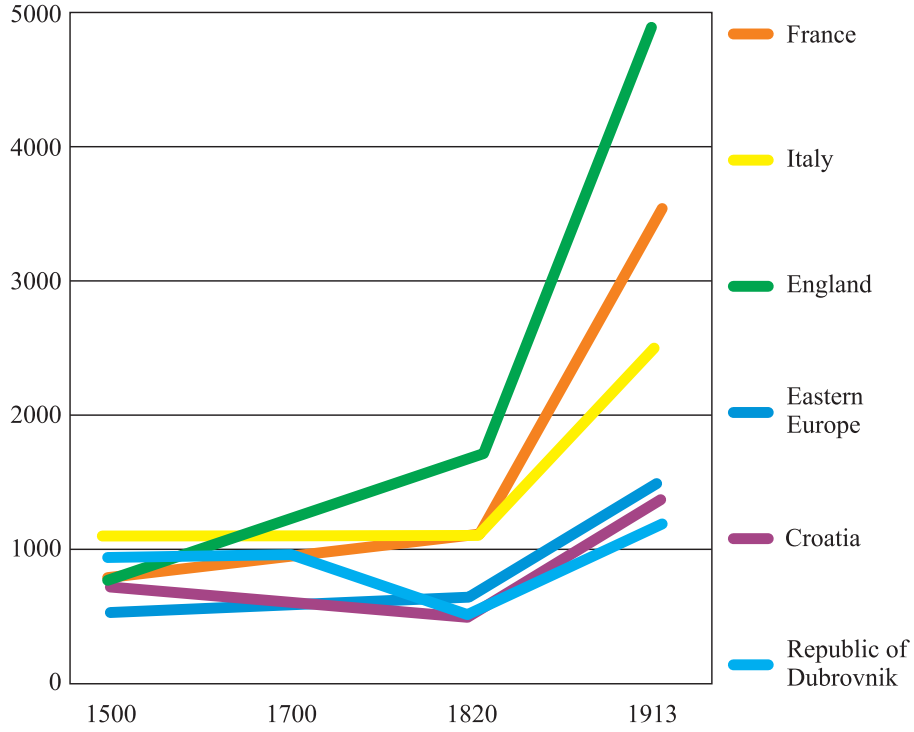
Table 13 - Per capita gross domestic product, selected countries (1500-1913)

Country	1500	1600	1700	1820	1870	1913
Austria	707	837	993	1,218	1,863	3,465
France	727	841	986	1,230	1,876	3,485
Italy	1,100	1,100	1,100	1,117	1,499	2,564
England	714	974	1,250	1,707	3,191	4,921
Denmark	738	875	1,039	1,274	2,003	3,912
Finland	453	538	638	781	1,140	2,111
Sweden	695	824	977	1,198	1,664	3,096
Norway	640	760	900	1,104	1,432	2,501
Switzerland	742	880	1,044	1,280	2,202	4,266
Spain	698	900	900	1,063	1,376	2,255
Western Europe	774	894	1,024	1,232	1,974	3,473
Eastern Europe	462	516	566	636	871	1,527
Czechoslovakia	..	..	..	849	1,164	2,096
Former USSR	500	553	311	689	943	1,488
Croatia	577	..	545	513	596	1,371
THE WORLD	565	593	615	667	867	1,510

Sources: Angus Maddison, *Monitoring the World Economy 1820-1920*. Paris, 1995; Angus Maddison, *The World Economy - A Millennial Perspective*. Paris, 2001; for Croatia, this study.

[97] Rudolf Bićanić, *Doba manufakture u Hrvatskoj i Slavoniji* (1750-1869), 1 (*Hrvatska ekonomika na prijelazu iz feudalizma u kapitalizam*). Zagreb: JAZU, 1951.

Figure 7 - Per capita gross domestic product, selected countries (1500-1913)



To make matters worse, a decline in the level of per capita gross domestic product continued in Croatia even after 1700 and lasted until 1820. The reasons for this were manifold: almost half of Croatia's territory was in the Military Border region, where the dominant extensive agriculture regressed every time Austrian armies, and then Napoleon's armies, waged wars, which were frequent between 1700 and 1820. On the other hand, the economic recession of Venice and the Dubrovnik Republic during the 18th and the beginning of the 19th century deepened the crisis in the Military Border region. It is for this reason that the gap between Croatia and other Western European countries widened, since the latter continued to advance in the period between 1700 and 1820 (Austria increased its per capita gross domestic product by 23%, France by 22%, England by 37%, Scandinavian countries by about 23%, with Spain and Switzerland achieving only a slightly lower growth).

Only after 1820 did Croatia begin to rise economically: the rise was somewhat slower in the first 50 years (from 1820 to 1870, per capita GDP increased from 513 to 596 international dollars, which was an increase of 16.2% over the 50 years, or an increase of 0.30% annually) than in the second part of the observed period (when from 1870 to 1913 it increased by 13% or by 1.96% annually, six times faster than in the previous 50-year period). This relatively favourable result during the 19th century (in 1913 it reached an index of 267, if the year 1820 is marked 100) was catching up with Western Europe (in the period from 1820 to 1913 its growth dynamics was slightly slower than that in Croatia). The growth dynamics in Croatia was faster than that in Eastern Europe (in Maddison's estimate), and was perceptibly faster than the growth dynamics achieved by the world in that century. According to these findings, in 1500 Croatia generated per capita GDP which was 2% higher than the world average: in 1700, Croatia was 11% below the world average, in 1820 it was as much as 21% below the world average, and in 1870 it was 31% below the world average. This constant lagging behind the world average in economic well-being was halted only in the period between 1870 and 1913, so that in 1913 Croatia lagged behind the world average by only 9%. However, while comparison with the world average was favourable for Croatia, the ratios with the West European average were less so. If the well-being of a Western European is denoted by 100, then per capita GDP in Croatia was as follows: in 1500 - 74%; in 1700 - 53%; in 1820 - 42%; in 1870 only 30%. It began to rise until World War I and reached 39% in 1913.

The beginnings of a modern, dynamic and economically developing Croatia should therefore be sought in the second half of the 19th century, as Mirjana Gross attempted to do.[98] At that time, liberalised Austrian economic politics stimulated modernisation and the transformation of a traditionally feudal society into a bourgeois society by broadening capitalist social relationships. In the first fifty years, the pace of modernisation was slower (and not only because of the Military Border region), but it gained momentum, as we have seen, only in 1870 onwards (despite the agrarian crisis that shook Europe between 1873 and 1895). I elaborated on this topic in more detail from the standpoint of economic development dynamics in one of my earlier works,[99] so I will not repeat my opinions here.

[98] Mirjana Gross, *Počeci moderne Hrvatske*. Zagreb: Globus, 1985.

[99] Vladimir Stipetić, »Gospodarski rast Hrvatske i Središnje Europe između 1850. i 1913. godine«. *Rad HAZU* 478 (1999): pp. 81-133.

6. In place of a conclusion

I believe that the account given here allows for a more realistic consideration of the place and role of the Croatian economy in West European and world proportions. I have attempted to use the results of the analysis to indicate the possibilities of a quantitative economic-historical analysis and to identify more accurately the deep roots of our present economic situation. The refinement of the presented data on the economic development of Croatia between 1500 and 1913, with a more complete analysis of all economic parameters, will not only make it possible to adopt more definite attitudes about the economic basis of Croatian history, but will also allow us to interpret more easily the background of a country which, in the period of prosperity, gave birth to such a large pleiad of scientists, writers and artists.