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Global Economic Trends: A Study of Data from the Years 1961–2013

**Tendencje gospodarki światowej.
Badanie danych z lat 1961–2013**

• **Abstrakt** •

Niniejsze badanie skupia się na problemie nierówności społecznych wynikających z dysproporcji w rozwoju gospodarki światowej. Ocenie poddano niektóre przejawy nierówności ekonomicznych w skali globalnej. Przeprowadzona analiza dotyczy częstości względnej i charakterystyki statystycznej krajów świata ze względu na produkt krajowy brutto (PKB) przypadający na jednego mieszkańca w latach 1961–2013. Pozwała ona dostrzec głębokie rozbieżności między średnią wartością PKB osiąganą w różnych krajach. Ilościowe i procentowe zestawienie krajów świata pod względem kategorii dochodu poświadcza, że w ostatnich latach nierówności społeczne, choć pozostają silne, nieznacznie się zacierają.

Słowa kluczowe: nierówności w rozwoju gospodarczym; PKB na mieszkańca; wskaźnik zasięgu ubóstwa; kraje rozwinięte; kraje rozwijające się

• **Abstract** •

This research focuses on the problem of unequal development of the world economy. Manifestations of some modern global economic inequality are evaluated. Relative frequency and statistical characteristics for countries of the world in terms of GDP per capita from 1961 to 2013 are analyzed on which deep divergences between countries and very low average value of GDP per capita are identified. Analysis of quantitative and percentage distribution of countries of the world by the revenue categories shows that lately the inequality between countries has slightly decreased, although it remains to be deep.

Keywords: unequal economic development; GDP per capita; poverty rate; developed countries; developing countries

A fundamental feature of globalization as a process of global economic, political and cultural integration and unification is that it contributes to the “imbalance” of world regions at the international level. Despite the fact that the modern world is dynamically changing, economic systems are transforming, the realities of today’s world show that economic inequality is increasing. For example, the incomes of the average resident of Ethiopia in 2015 were 35 times lower than the incomes of the average inhabitants of the United States or Western Europe. For comparison, in 1950, the incomes of the inhabitants of Ethiopia were 16 times lower. The reason for such disparities is that over the past decades, the incomes of highly developed countries have risen dramatically, while in developing countries they have remained at the same level. Among the developing countries, sustainable economic growth was observed only in India and China, but given that the total population of these countries is half the world’s population, the global inequality is decreasing. Yet, if we exclude from the study the indicators of these countries, we can state that the unequal economic development of the countries of the world is deep (Ocampo & Vos, 2009).

One of the reasons for rising interest in the problem of unequal economic development is that over the past 30 years many new independent states have appeared in the world, most of which remain politically unstable. In the year of the founding of the United Nations – 1945 – there were only 51 states in the world. In 1960, there were 100, in 1984 – 159, in 1992 – 172, in 1994 – 192 (Bradshaw & Wallace, 1996, p. 28), and in 2015 – 197 (United Nations, 2015).

The discussions of the 1960s around the issues of asymmetric access of the countries of the world to the capital markets, structural differences and, consequently, the preferential benefits of the developed countries from the integration and globalization processes, which means the “center-periphery” interrelationship, contributed to the formation of the “North-South” concept and the theory of “external dependence” represented by M. Brewer, A. Burgstaller, P. Conway, N. Dutta, B. Erten, R. Findlay, N. Kaldor, W.A Lewis, T. Malone, N. Saavedra-Rivano, L. Taylor, and others.

Empirical Analysis

According to the Population Reference Bureau, in 2014 the population of the Earth was 7.2 billion people, of which 6 billion lived in developing countries and only 1.2 billion – in developed countries. According to forecasts, the population of the Earth in 2050 will be 9.7 billion people, in particular, the population of Africa

will grow to 2.4 billion people. Today, the top three leaders in terms of the number of people are China, India, and the United States, and in 2050 it will be China, India and Nigeria, with a population of 396 million people. Nigeria is the country with the highest fertility rate, namely 7.6. South Sudan, Somalia, Chad, the Democratic Republic of the Congo, Central African Republic, Angola, Mali, Burundi and Zambia also rank among the leaders. In all these countries, the fertility rate is within the range of 6–7.6. Instead, in 2014, the lowest birth rates were in Taiwan, Portugal, Singapore, South Korea, Moldova, Poland, Bosnia and Herzegovina, Spain, Greece, Hungary, Slovakia, and Romania (Population Reference Bureau, 2015). In one minute, 273 children are born in the world (only 26 of which are in developed countries) while 108 people die (23 of them in developed countries).

In order to study the trends of economic inequality, we calculated the frequency distribution of the countries of the world in terms of GDP per capita from 1961 to 2013 and showed their statistical characteristics.

Figure 1. Histogram of GDP per capita Distribution for Countries of the World in 1961, 1973, 1980, 2000, and 2013

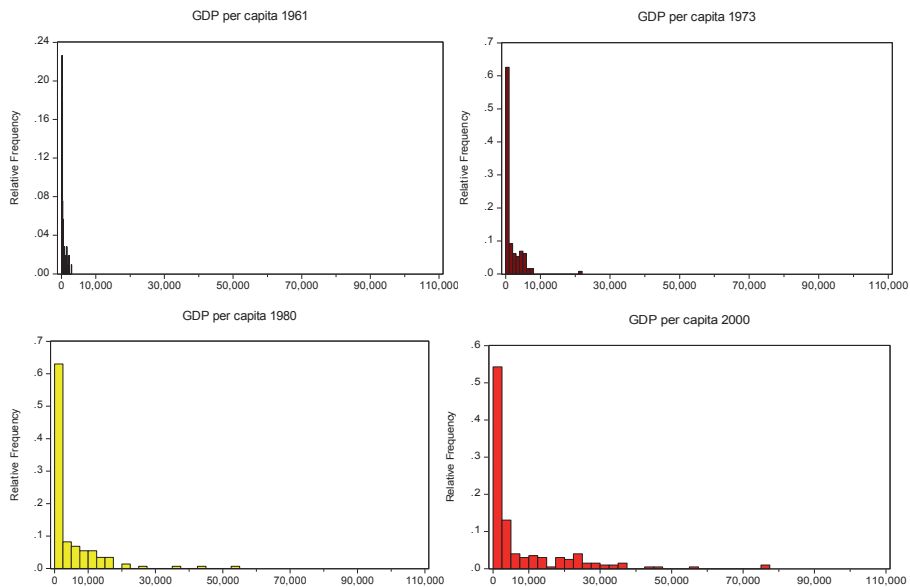
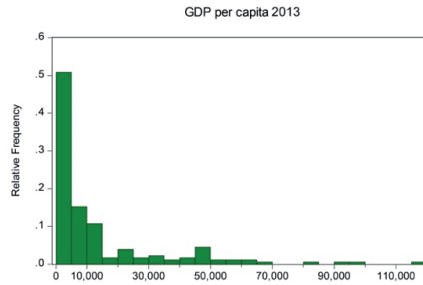


Fig. 1 – cont.



Source: authors' elaboration.

As can be seen from Figure 1, in 1961 GDP per capita was much more concentrated for all countries than in 2013. As of 2014, extreme poverty has declined in many countries around the world, indicating a positive trend. In particular, 2010 saw the achievement of the first of the above-mentioned UN Millennium Development Goals, namely: halving the proportion of people whose income does not exceed one US dollar per day and halving the proportion of the starving population over the period from 1990 to 2015. Despite the apparent progress on the world stage, these achievements are not so significant in some regions and countries. Today, 1.2 billion people in the world still live on less than 1.25 USD per day, and they are concentrated mainly in South Asia and in sub-Saharan Africa. The poverty rate in India and China has declined substantially, but if we take a total population of 2.5 billion people, they still remain in the top five countries with the highest poverty rates.

Table 1. Statistical Characteristics of GDP per capita

GDP per capita	1961	1973	1980	2000	2013
Mean	525.5083	1733.688	4769.444	7942.231	13553.90
Median	249.4916	586.6577	1481.042	2060.576	4925.339
Maximum	2934.553	21278.31	52846.50	75606.20	115037.9
Minimum	41.21842	70.52618	93.78981	86.76460	230.8559
Std. Dev.	636.4974	2586.715	7717.180	12543.83	20101.27
Skewness	1.772140	3.818009	3.335142	2.615110	2.377056
Kurtosis	5.286937	26.30446	17.29702	11.56203	9.168542
Jarque-Bera	78.58130	3282.679	1514.126	834.6684	447.3121
Probability	0.000000	0.000000	0.000000	0.000000	0.000000

Tab. 1 – cont.

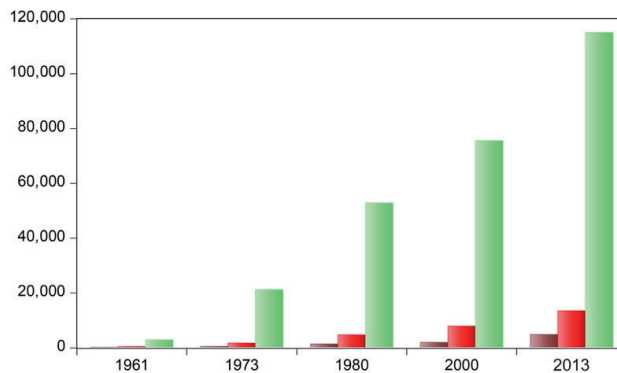
GDP per capita	1961	1973	1980	2000	2013
Sum	55703.88	227113.2	696338.8	1580504.	2399041.
Sum Sq. Dev.	42538545	8.70E+08	8.64E+09	3.12E+10	7.11E+10
Observations	106	131	146	199	177

Source: authors' elaboration.

As it can be seen from Table 1, the minimum value of GDP per capita in 1961 was 41.2 USD and the maximum – 2934.5 USD. For comparison, in 2013 this indicator was 230.8 UDS and 115037.9 USD, respectively. Thus, in 1961, the income of the poorest was 71 times lower than the income of the richest, and already in 2013 – 500 times lower.

On the basis of Table 1, the distribution frequency histogram is constructed for 214 countries of the world on the basis of GDP per capita. Countries are divided into three groups by income. As one can see, a group of countries whose incomes are higher than the world average is growing extremely rapidly, while the other two groups are far behind.

Figure 2. Growth of GDP per capita in the World Compared to the Average World Level (GDP per capita 1990 USD PPP's)



Source: authors' elaboration.

The problem of unequal economic development was not so acute in post-war period. During “the golden age” (1950–1983) GDP per capita increased almost in all regions of the world (Table 2). The second “oil shock” of 1979–1980, caused by rising oil prices and rising lending rates in developed countries that dealt with

high inflation, dramatically increased the external debt of developing countries. By the end of 1981 it reached 530 billion USD (Veduta, 2004). As a result – between 1980 and 1990 – economic disparities between developed and developing countries has grown rapidly (except of South-Eastern Asian countries).

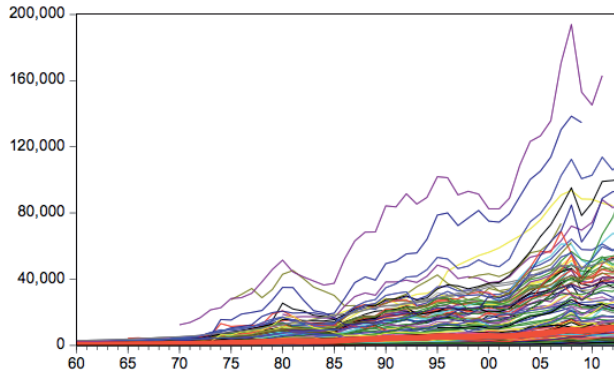
Table 2. Annual Growth of GDP per capita in the Regions of the World

Regions	1820–1913	1913–1950	1950–1973	1973–1980	1980–2002	1820–2002
Developed Countries of the World	1.3	1.2	3.3	1.9	2.0	19.4
Eastern Europe	1.0	0.6	3.8	2.1	0.3	9.1
Ex-Soviet Union Countries	0.8	1.8	3.3	0.8	-1.1	7.3
South Africa	0.8	1.4	2.6	2.7	0.3	8.3
Asia	0.4	0.1	3.6	2.8	2.3	7.1
China	-0.1	-0.6	2.9	3.5	6.4	7.0
India	0.3	-0.2	1.4	1.4	3.5	3.8
Japan	0.8	0.9	8.1	2.3	2.0	31.3
Africa	0.4	0.9	2.0	1.2	-0.1	3.6

Source: Ocampo & Vos, 2009, p. 6.

Figure 3 illustrates how the dynamics of the world development changed (in terms of GDP per capita) between 1950 and 2013. An increase in the interest of studying causes of economic development is observed in the period of rapid economic growth in the countries of South-Eastern Asia. The standard economic model of growth, which focuses primarily on the role of savings and investment, did not justify itself, so experts also became interested in other factors, such as human capital and endogenous technological change. For example, the Nobel laureate R. Lucas calculated that the spread of technology would help to reduce the disparity between the incomes of the rich and the poor, which will lead to leveling the incomes of the Earth's population till 2100 (Ocampo & Vos, 2009, p. 5). The time will show if it does indeed happen but, according to our estimates, unequal economic development in the world is only rising.

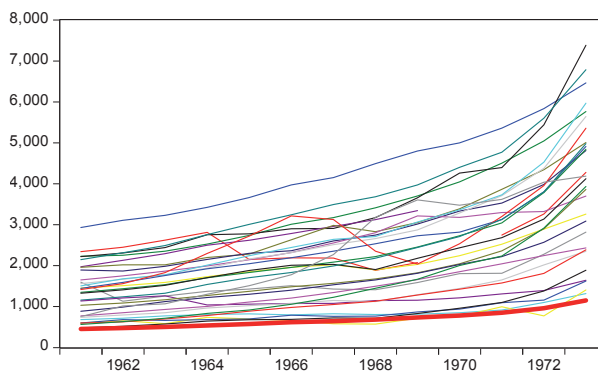
Figure 3. Dynamics and Average Level of GDP per capita in the World



Source: authors' elaboration.

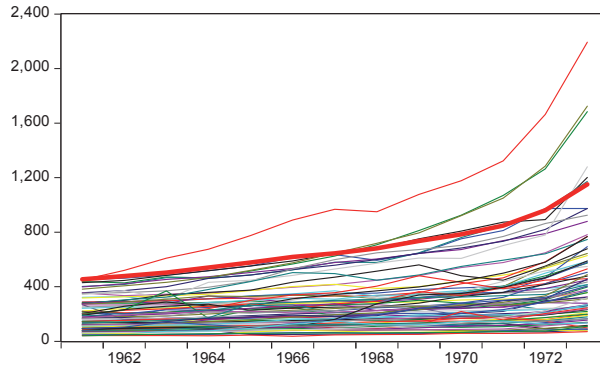
In the long-term retrospect, a rapid growth of Western countries, namely Western Europe, the USA, Australia, New Zealand, occurred during the first decades of the 19th century. The exception was Japan, which gradually began to grow economically in the end of the 19th century, and then the country made an economic breakthrough in the post-war period and reached the peak of economic development in 1970s. The growth of the rest of the world was slower. For example, GDP per capita in Africa in 2001 was only 3.5 times higher than in the beginning of the 19th century. Instead, in the developed world, this figure increased 19 times (Ocampo & Vos, 2009, p. 5).

Figure 4. Dynamics of GDP per capita Among the Countries of the World Which Are Above World Average Level (Between 1962–1972)



Source: authors' elaboration.

Figure 5. Dynamics of GDP per capita Among the Countries of the World Which Are Below the World Average Level (Between 1962–1972)



Source: authors' elaboration.

Based on Figures 4 and 5 we will conduct a comparative analysis of the countries of the world based on GDP per capita indicators which are lower or higher than the average world level in the period 1962–1972. The number of countries with indicators below the average world level is higher, which is particularly clearly seen in Figure 5, where the red line indicates the average level of GDP per capita of the countries of the world. In 1961, the number of countries below the average world level were 76, and above – 30. Already in 1973, there were 84 and 47 countries, respectively. Of course, this is due to the fact that the databases for some countries in 1961 were still unavailable, but one can constrain the fact that a small group of countries achieved an economic breakthrough and crossed the border, while from a group of countries with indicators above the average world level nobody dropped (Figure 4).

Conclusions

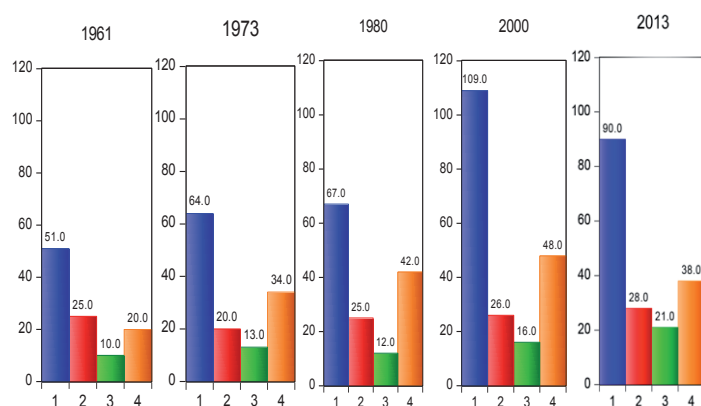
In order to make a conclusion, one should take a look at quantitative and percentage distribution of countries of the world by the income category.

Table 3. Quantitative and Percentage Distribution of Countries by the Income Category

Countries' Distribution	1961		1973		1980		2000		2013	
	Amount of countries	% of countries	Amount of countries	% of countries	Amount of countries	% of countries	Amount of countries	% of countries	Amount of countries	% of countries
1. $Y < 0.5 \text{ wld}$	51	48	64	49	67	46	109	55	90	51
2. $0,5w < Y < w$	25	24	20	15	25	17	26	13	28	16
3. $w < Y < 2w$	10	9	13	10	12	8	16	8	21	12
4. $2w < Y$	20	19	34	26	42	29	48	24	38	21

Source: authors' elaboration.

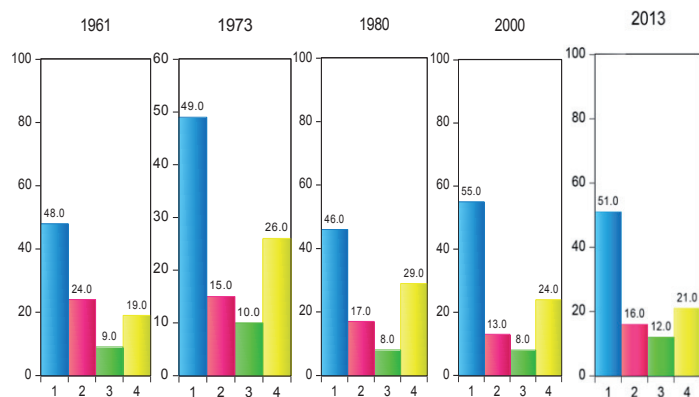
Figure 6. Quantitative Distribution of Countries by the Income Category



Source: authors' elaboration.

If one takes a look at Figure 7, it turns out that in 1961 the amount of the countries which GDP per capita was less than the half of world average is 51, or 48%. In 1973, their number is increasing, which indicates the aggravation of the problem – it is already 64 countries, or 49% of the world's population. In 1980, the 67 poorest countries in the world make 46% of the Earth's population, and in 2000 the amount reached a record level, reflecting 109 countries of the world and 55% of the Earth's population. In 2013, the situation has improved a bit, yet 90 poorest countries of the world represent 51% of Earth's population.

Figure 7. Percentage Distribution of Countries by the Income Category



Source: authors' elaboration.

It can be stated that between 2000 and 2013 the unequal economic development between countries of the world decreased to a small extent, but it still existed.

According to Credit Suisse's Global Wealth Report 2014, 3.3 billion of people, i.e., 70% of the adult world population, have wealth below 10,000 USD. A further billion adults (21% of people of the world) fall in the range between 10,000–100,000 USD. The average wealth holdings are modest in the base and middle segments of the pyramid, still total wealth in these segments amounts to 39 trillion USD. The adults who remained account for 408 millions of people (8% of the world) and each have a net worth above 100,000 USD. Those people include 35 millions of US dollar millionaires, a group that comprises less than 1% of the world's adult population. Yet this group holds 44% of global household wealth. Within this group, Credit Suisse's Global Wealth Report 2014 estimated that 128,200 individuals have wealth of more than 50 million USD, and 45,200 have over 100 million USD. In India and Africa, more than 90% of the adult population does not exceed wealth of 10,000 USD per year, while in the United States 4.1% of the population (14.2 million) are dollar millionaires. The United States recorded the largest increase in the number of millionaires. In 2014 their number increased by 1629. Also, the leaders in the growth are the United Kingdom, France, Germany, Italy, Australia, Canada, Japan, China, and Spain, while in Indonesia (-15), Russia (-12), Norway (-11), Argentina (-9), and Turkey (-8) the amount of rich people is becoming less and less (Credit Suisse, 2014).

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