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Systemic Crisis of the World Economy or the End of the "Bourgeois Mode of Production"

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Abstract:

Despite the fact that since the beginning of the global financial crisis of 2008 nearly nine years has passed, the world economy has not come to a steady trajectory of development. In the article it is shown that the crisis has a systemic character and it is connected with the managing model.

The fundamentals of methodology are represented by the analysis of dynamics of macro indicators of 10 leading economies of the world the contribution of which exceeds 61% of world GDP. In this research macroeconomic, demographic indicators, indicators of money supply, etc. were analyzed.

In the research it was revealed that the current state of the world economy is characterized by a number of contradictions in the field of investments, demography, central government debts, and monetary regulation of all leading economies of the world. It is possible to cope with them within the existing economic paradigm thanks to the constant economic growth, the opportunities of which are almost exhausted within the developed managing model (called by K. Marx in "the bourgeois way of production" and the uniform, global market).

Keywords*: a systemic crisis, the gross domestic product, government debt, demography, money supply*

JEL classification codes: *F01, F59, J00, G01*

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1. Introduction

Since 2008, we have heard of many apocalyptic forecasts concerning the development of the world economy. It is interesting that despite the seeming evidence of the reasons; only some economists could make out a crisis in advance. But what is symptomatic: in an economic mainstream there is still no theory which would systemically explain the crisis reasons. As a rule, most of the economists distinguish the problems concerning the market of derivatives and the problems connected with the market of mortgage. However, a more detailed analysis is likely to show that reasons causing these problems result from the reasons of a deeper system level. And if a crisis was over, it would be possible not to focus on it. It would be possible to do it if the crisis was cyclic.

Unfortunately, the crisis which began in August, 2008 has a system character. And it is impossible to find a way out without analysis and elimination of serious problems. Lack of any system analysis of such problems is quite explainable. The matter is that the modern economic science is based on liberalism philosophy, and in its purely economic part – on monetarism. All other scientific approaches are perceived as frivolous. And meanwhile, the causes of the current crisis are described by K. Marx. Aiming at profit forces, the capitalist (or as he/she is called "a bourgeois way of production") constantly increases the outputs and occupies the markets. However, the moment when limits of expansion of the markets are reached comes, it will be useless to provide more because there will be no demand. Of course, K. Marx made that statement only theoretically (the economy of the 19th century was far from being global). However, for the 21st century it became a reality. Limits of solvent demand are reached (or are almost reached), and the capitalist model cannot steadily develop in a different way (it needs a constant growth).

Actually, in the USA and other leading countries of the West limits of demand were reached in the 1970-1980s. However, Reaganomics, credit stimulation of demand and disintegration of the countries of the socialist block prolonged the life of "a bourgeois way of production" [2].

However, by the beginning of the 21st century the market became uniform, global, and interest rates of central banks of the majority of developed countries had a zero value (Table 1) and the mechanism of credit stimulation of demand was also exhausted.

Table 1. *Value of base rates (discount rate) of the leading central banks as of 24.01.2017 [3, 4, 5, 6]*

Refinancing rate	Value, %
European central bank	0
Federal Reserve USA	0,75
Bank of England	0,25
Bank of Japan	0,3

All this suggests an idea again that the crisis of 2008 has a systemic character, which roots in the model of managing ("a way of production").

2. Methods

In the research statistical methods, and also the methods of extrapolation and interpolation and others were widely used. The modern world economy is presented by 190 countries (according to MFV). However, their contribution is quite various. For example, ten countries give more than 61% of world GDP (if we take into account the purchasing power, PPS) (Table 2 and Figure 2).

Table 2. *Data on GDP on PPS, one billion US dollars as of 2015 [7]*[2]

№	Country	GDP (PPP), bln. $
1	China	19392
2	USA	17947
3	India	7965
4	Japan	4830
5	Germany	3841
6	Russia	3718
7	Brazil	3192
8	Indonesia	2842
9	UK	2679
10	France	2647
	Others	69053
	World	113524

In this regard it is logical to think that in the future the development of these countries will influence the world economy. We should also add that all the countries mentioned above have different cultural, historical, religious features, and they are located on different continents, which allow making a certain conclusion connected with the world economy on the whole. To analyze the tendencies of the world economy, we studied the dynamics of macro indicators of these countries within 1995-2015, including:

• macroeconomic indicators (gross domestic product (taking into account the purchasing power and nominal estimates in the national currency), a central government debt (the nominal sum and the relation of a central government debt to GDP), inflation rates);

• demographic indicators (population, the number of the working population, average age of the population);

• indicators of the monetary market (size of M2).

Besides, in the course of the research the authors calculated the following

[2] *Are hereinafter brought according to the International Monetary Fund (http://www.imf.org/external/data.htm)*

indicators:

• Specific weight (share) working in economy;

• Labor productivity.

The indicator of the specific weight (share) working in economy (PW) is calculated as:

$$PW = W/P \quad (1)$$

where: W – the number of the working population of the country; P – population of the country. The indicator of labor productivity (LP) is calculated as:

$$LP = GDP/P \quad (2)$$

The analysis is defined by the need of comparability of numerical ranks of macro indicators of different countries that made a separate problem. The matter is that the relation of the certain countries, mainly Indonesia, India, Brazil data before 1995 are absent in public sources. In some cases there were no data (selectively by years or earlier defined year) till the period of 2000. We used the methods of extrapolation and interpolation on the basis of the revealed tendencies. Information basis of the real research includes the data of:

• The International Monetary Fund (http://www.imf.org) (concerning macroeconomic and demographic indicators);

• The IEconomics portal (http://ieconomics.com/) (concerning indicators of money supply);

• Department on economic and social problems of the United Nations (http://www.un.org/) (concerning retrospective and expected data on average age of the population).

3. Results

As it has already been mentioned, the research is based on the analysis of macro indicators of 10 leading economies of the world. For the analyzed 20-year period (from 1995 to 2015) GDP of the 10 largest economies of the world considerably grew (Table 3).

Table 3. The dynamics of GDP during 1995-2015 of 10 leading economies of the world [7]

Country	Index	Unit	Years		Growth rate	Average growth rate[3]
			1995	2015	2015/2005	2015/1995
China	GDP (PPP)	Bln. $	2231.502	19392.357	869.0%	11.4%

[3] It is calculated by means of average geometrical

	DP(nominal)	ill.national curr.	6132.895	68392.453	1115.2%	12.8%
USA	DP (PPP)	ln. $	7664.05	17947	234.2%	4.3%
	DP (nominal)	ill. national curr.	7664.05	17947	234.2%	4.3%
India	DP (PPP)	ln. $	1426.298	7965.162	558.5%	9.0%
	DP (nominal)	ill. national curr.	12267.249	136318.25	1111.2%	12.8%
Japan	DP (PPP)	ln. $	2855.739	4830.065	169.1%	2.7%
	DP (nominal)	ill. national curr.	501706.9	499095.7	99.5%	0.0%
Germany	DP (PPP)	ln. $	2033.788	840.55	188.8%	3.2%
	DP (nominal)	ill. national curr.	1898.88	3025.9	159.4%	2.4%
Russia	DP (PPP)	ln. $	1386.582	3717.617	268.1%	5.1%
	DP (nominal)	ill. national curr.	1523.73	80412.5	5277.3%	21.9%
Brazil	DP (PPP)	ln. $	1306.744	3192.405	244.3%	4.6%
	DP (nomi	ill. nation	720.985	5904.332	818.9%	11.1%

	nal)	al curr.				
Indonesia	DP (PPP)	ln. $	849.679	2842.247	334.5%	6.2%
	DP (nominal)	ill. national curr.	549170.8	11540790	2101.5%	16.4%
UK	DP (PPP)	ln. $	1208.777	2679.325	221.7%	4.1%
	DP (nominal)	ill. national curr.	784.243	1863.995	237.7%	4.4%
France	DP (PPP)	ln. $	1337.635	2646.888	197.9%	3.5%
	DP (nominal)	ill. national curr.	1224.967	2182.323	178.2%	2.9%

We should note that nominal estimates significantly differ from PPS estimates. It is quite obvious that in nominal estimates the inflationary component (see Table 4) is put. In this regard for the comparative analysis of the level of development of the different countries nominal estimates, as a rule, are not used. Certainly, and GDP indicator on PPS has a number of shortcomings (the main minus is connected with the algorithm of calculation of parity of purchasing power of currencies). However, this indicator is more comparable in time (as implicitly assumes a binding to currency with low inflation). Besides, it is the conventional indicator of assessment of level of economic development.

Table 4. *The level of inflation during 1995-2015 of 10 leading economies of the world [7]*

Country	Index	Growth rate	Average growth rate[4]
		2015/1995	2015/1995
China	Inflation rate	181.7%	3.03%
USA	Inflation rate	159.9%	2.37%
India	Inflation rate	412.3%	7.34%

[4] *It is calculated by means of average geometrical.*

Japan	Inflation rate	102.3%	0.12%
Germany	Inflation rate	135.3%	1.52%
Russia	Inflation rate	7116.8%	23.77%
Brazil	Inflation rate	627.0%	9.61%
Indonesia	Inflation rate	750.2%	10.60%
UK	Inflation rate	152.9%	2.15%
France	Inflation rate	138.6%	1.65%

The influence of inflation complicates considerably the analysis of dynamics of nominal indicators (GDP and others). It is problematic to analyze the indicators of Russia. Market reforms of the 1990s and the default in 1998 were characterized by jumps of a hyperinflation which was reflected in nominal estimates of indicators (not only GDP). Despite the fact that nominal estimates are not convenient for comparing the countries, they are quite suitable for the analysis of dynamics of different nominal indicators of one country. Further, the period of 1995-2015 was marked literally by the explosive growth of the sizes of money supply (Table 5) and a central government debt (Table 6) of the leading economies of the world.

Table 5. *Dynamics of M2 within 1995-2015 of 10 leading economies of the world [7]*

Country	Index	Unit	Years		Growth rate	Average growth rate[5]
			1995	2015	2015/1995	2015/1995
China	Money Supply M2	trn (national currency)	5.84	39	2380.1%	17.2%
USA	Money Supply M2	trn (national currency)	3.63	2.3	338.8%	6.3%
India	Money Supply M2	trn (national currency)	2.03	5.1	1236.5%	13.4%
Japan	Money Supply M2	trn (national currency)	549	21	167.8%	2.6%
Germany	Money Supply M2	trn (national currency)	1.01	.6	257.4%	4.8%
Russia	Money Supply M2	trn (national currency)	0.22	5.8	16272.7%	29.0%
Brazil	Money Supply M2	trn (national currency)	0.18	.27	1261.1%	13.5%
Indonesia	Money Supply M2	trn (national currency)	0.22	.55	2068.2%	16.4%
UK	Money Supply M2	trn (national currency)	0.44	.58	359.1%	6.6%

[5] *It is calculated by means of average geometrical*

France	Money Supply M2	trn (national currency)	0.59	.79	303.4%	5.7%

We used M2 as the indicator of money supply.

Table 6. *Dynamics of the central government debt within 1995-2015 of 10 leading economies of the world [7]*

Country	Index	Unit	Years		Growth rate	Average growth rate[6]
			1995	2015	2015/2005	2015/1995
China	Amount of government debt	Bill. national curr.	1319.843	30024.042	2274.8%	16.9%
	Government debt to GDP	%	21.521	43.9	204.0%	3.6%
USA	Amount of government debt	Bill. national curr.	4990	18992.81	380.6%	6.9%
	Government debt to GDP	%	65.1	105.8	162.5%	2.5%
India	Amount of government debt	Bill. national curr.	8544.61	91607.221	1072.1%	12.6%
	Government debt to GDP	%	69.6	67.2	96.5%	-0.2%
Japan	Amount of government debt	Bill. national curr.	476974.2	1238055.04	259.6%	4.9%
	Government debt to GDP	%	95.1	248.1	260.9%	4.9%
Germany	Amount of government debt	Bill. national curr.	1027.705	2148.236	209.0%	3.8%
	Government debt to GDP	%	54.1	70.9	131.2%	1.4%
Russia	Amount of government debt	Bill. national curr.	577.58	14242.86	2465.9%	17.4%
	Government debt to GDP	%	37.9	17.7	46.7%	-3.7%
Brazil	Amount of	Bill. national	357.60856	3192.405	892.7%	11.6%

[6] It is calculated by means of average geometrical

	government debt	curr.				
	Government debt to GDP	%	49.6	73.697	148.6%	2.0%
Indonesia	Amount of government debt	Bill. national curr.	169144.60	3144829.96	1859.3%	15.7%
	Government debt to GDP	%	30.8	27.25	88.5%	-0.6%
UK	Amount of government debt	Bill. national curr.	371.852	1664.517	447.6%	7.8%
	Government debt to GDP	%	47.4	89.3	188.3%	3.2%
France	Amount of government debt	Bill. national curr.	679.3	2112.2	310.9%	5.8%
	Government debt to GDP	%	55.4	67.0	120.8%	1.0%

On the basis of the collected data we have calculated the share of the working population (see Table 7, calculation is made by means of formula 1) and labor productivity (see Table 8, calculation is made by means of formula 2) (taking into account the average age of the population). The data are highlighted "in bold".

Table 7. *Dynamics of the share of the working population and the average age within 1995-2015 of 10 leading economies of the world [8]*

Country	Index	Unit	Years		Growth rate	2050
			1995	2015	2015/2005	
China	Proportion of the working population	%	**56.2**	**6.4**	**0.3**	
	Median age	years	27.0	7.0	36.9	5.0
USA	Proportion of the working population	%	**46.9**	**6.3**	**-1.3**	
	Median age	years	30.7	8.0	23.8	1.1
India	Proportion of the working population	%	**33.5**	**3.4**	**-0.3**	
	Median age	years	21.8	6.6	22.0	8.6
Japan	Proportion of	%	**5**		**-2.4**	

	the working population		**1.5**	**0.2**		
	Median age	years	39.6	6.5	17.5	54.9
Germany	Proportion of the working population	%	**43.7**	**8.9**	**11.8**	
	Median age	years	38.4	6.2	20.3	49.4
Russia	Proportion of the working population	%	**44.6**	**9.4**	**10.7**	
	Median age	years	35.0	8.7	10.5	45.3
Brazil	Proportion of the working population	%	**47.7**	**5.4**	**-4.8**	
	Median age	years	23.8	1.3	31.3	40.4
Indonesia	Proportion of the working population	%	**42.9**	**4.9**	**4.8**	
	Median age	years	22.8	8.4	24.5	41.1
UK	Proportion of the working population	%	**44.5**	**7.9**	**7.7**	
	Median age	years	36.4	0.0	9.9	43.5
France	Proportion of the working population	%	**39.5**	**8.8**	**-0.4**	
	Median age	years	36.4	1.2	13.3	44.7

Table 8. *Dynamics of the number of the working population and labor productivity within 1995-2015 of 10 leading economies of the world [7]*

Country	Index	Unit	Years		Growth rate
			1995	2015	2015/2005
China	Number of working population	mln. of people	681.00	775.00	113.8%
	Labor productivity	ths. $ per person	**3.28**	**25.02**	763.6%
USA	Number of working population	mln. of people	124.91	148.84	119.2%
	Labor productivity	ths. $ per person	**61.36**	**120.58**	196.5%
India	Number of working population	mln. of people	313.90	431.76	137.6%
	Labor	ths. $	**4.54**	**18.45**	406.0%

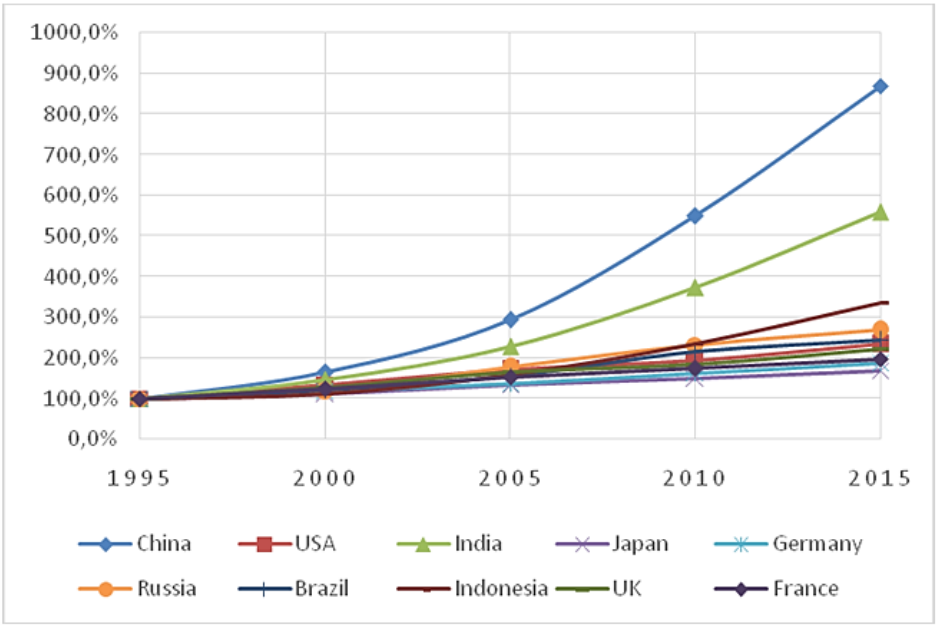
	productivity	per person			
Japan	Number of working population	mln. of people	64.57	63.76	98.7%
	Labor productivity	ths. $ per person	**44.22**	**75.76**	171.3%
Germany	Number of working population	mln. of people	35.76	40.02	111.9%
	Labor productivity	ths. $ per person	**56.87**	**95.97**	168.7%
Russia	Number of working population	mln. of people	66.20	72.32	109.3%
	Labor productivity	ths. $ per person	**20.95**	**51.40**	245.4%
Brazil	Number of working population	mln. of people	75.74	92.80	122.5%
	Labor productivity	ths. $ per person	**17.25**	**34.40**	199.4%
Indonesia	Number of working population	mln. of people	83.50	114.80	137.5%
	Labor productivity	ths. $ per person	**10.18**	**24.76**	243.3%
UK	Number of working population	mln. of people	25.82	31.19	120.8%
	Labor productivity	ths. $ per person	**46.82**	**85.90**	183.5%
France	Number of working population	mln. of people	22.81	24.95	109.4%
	Labor productivity	ths. $ per person	**58.64**	**106.10**	181.0%

4. Discussion

4.1. From GDP Growth to the Change of the World Leader

Analyzing the dynamics of GDP and PPS, we can see that the development of the top ten countries is not the same (see fig. 1). For example, within 1995-2015 the growth of economy of Japan made 169,1% while the growth of economy of China made 869%.

Figure 1. *The dynamics of GDP on PPS within 1995-2000 (100% are taken from 1995)*



We should note the activation of economic growth which began in 2003-2005. The geography of the economic centers also changed in the early 2000s. For example, if in 2000 the share of the USA in the world GDP made 23,3%, and China – 7%, then the share of the USA was already 15,8%, and China of 28,1% [9, 10]. Within that period the share of India in the world GDP grew from 3,8% to 7%, and the share of Japan was reduced from 7,8% to 4,3%. The vector of shift of the world center to Asia (mainly, towards China) is quite obvious.

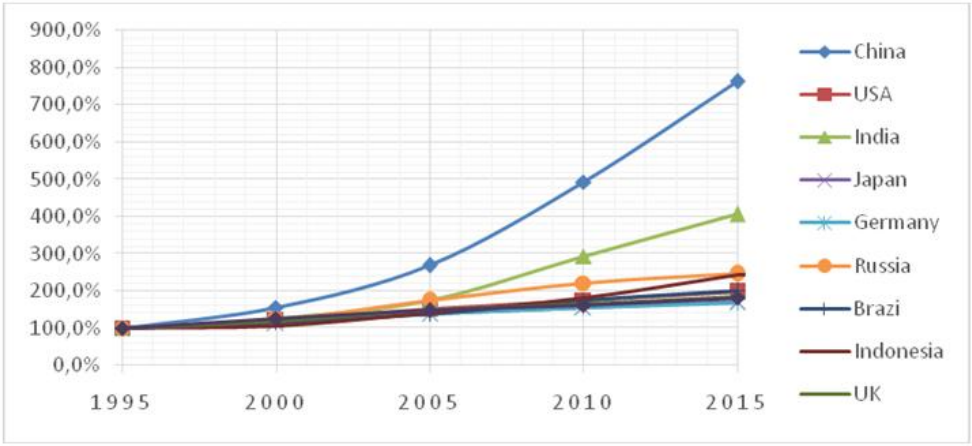
However, it also creates a number of problems for the world economy. In particular, the history shows that the change of the world leader, as a rule, is painful. For example, Graham Ellison's researches showed that in 12 of 16 similar situations for the last 500 years came to an end with the large military conflict. Such a situation in literature is called "Thucydides's trap" [11]. It is quite probable that the regional military conflicts (the number of which, by the way, sharply grew from the beginning of the 21st century), area of fight against the economic opponents. That is why the term "instability export" exists in the political terminology.

4.2. Nature of Economic Growth

In addition we should mention the nature of the economic growth. Let's pay attention to Table 8. At first sight everything looks quite optimistic. All the countries - world leaders increased the labor productivity quite dynamically (Figure 2). Someone succeeded more, someone less. The high labor productivity level is an

indicator of the level of development of economy, intensity of economic growth and (at first it can seem strange) the level of welfare of the population. Growth rates of labor productivity influence the dynamics of the economic growth and its quality.

Figure 2. *Dynamics of the growth of labor productivity within 1995-2000 (100% are taken from 1995)*



It is remarkable; all the countries of G7 in 1995 had a labor productivity level not less than 44 thousand dollars of the USA per 1 person, and by 2015 – not less than 75 thousand dollars of the USA per 1 person. It is obvious that BRIC countries (including Indonesia) will not be able to have the same results in the near future. However, it is important to mention, the dynamics of growth of labor productivity is less than the dynamics of GDP growth. Only in Japan both indicators are at the same level (Table 9).

Table 9. *Comparative dynamics of growth rates of GDP and labor productivity*

Country	Index	Unit	Growth rate	Average growth rate
			2015/2005	2015/2005
China	Number of working population	mln. of people	869.0%	11.4%
	Labor productivity	ths. $ per person	763.6%	10.7%
USA	Number of working population	mln. of people	234.2%	4.3%
	Labor productivity	ths. $ per person	196.5%	3.4%

India	Number of working population	mln. of people	558.5%	9.0%
	Labor productivity	ths. $ per person	406.0%	7.3%
Japan	Number of working population	mln. of people	169.1%	2.7%
	Labor productivity	ths. $ per person	171.3%	2.7%
Germany	Number of working population	mln. of people	188.8%	3.2%
	Labor productivity	ths. $ per person	168.7%	2.7%
Russia	Number of working population	mln. of people	268.1%	5.1%
	Labor productivity	ths. $ per person	245.4%	4.6%
Brazil	Number of working population	mln. of people	244.3%	4.6%
	Labor productivity	ths. $ per person	199.4%	3.5%
Indonesia	Number of working population	mln. of people	334.5%	6.2%
	Labor productivity	ths. $ per person	243.3%	4.5%
UK	Number of working population	mln. of people	221.7%	4.1%
	Labor productivity	ths. $ per person	183.5%	3.1%
France	Number of working population	mln. of people	197.9%	3.5%
	Labor productivity	ths. $ per person	181.0%	3.0%

From the theoretical point of view, this phenomenon is well explainable. From the statistics position this tendency is a manifestation of effect of low base and the relative gain in productivity of work will decrease in the future. From a position of

the economic theory, it is well explained by the law of the decreasing extreme productivity (return). We should note that quite a big period (20 years) with its essential technological changes was analyzed (the growth of productivity of computers, introduction of the robo-equipment, development of means of communication, etc.). But according to this law, there will be time when increase in labor productivity will have a negative effect on the economic growth. Certainly, for the economic theory it is a certain abstraction, but in the conditions of globalization (the uniform market of resources, work and the capital) it becomes a reality. Actually, it means that the economic growth is extensive by nature, and it is an additional restriction for the development of the world economy.

4.3. Investment Dilemma

Let's return to the low interest rates. Here one more problem is covered: as the central bank holds a discount rate at the levels close to zero, profitability on "normal" (not speculative) investments is close to zero (such as profitability on deposits, the credits, state and corporate the bond, etc.). In the presence of inflation real profitability on such investments will be either zero, or negative. Negative real profitability is for a long time the ordinary on investments the state securities of Japan, the countries of the Eurozone (for example, Germany, Austria, Sweden), Switzerland [12]. Moreover, by estimates of the Fitch agency in 2016 of the state bonds for the sum of more than 10 trillion dollars bargain with negative nominal profitability [13]. But it is not a limit yet negative profitability in a public sector "pulls" for itself corporate bonds [14].

All this leads to deformation of the investment behavior. Really, what are the motives of the investor when capital investments have negative (it is not important if it is nominal or real) profitability. As a rule, such investments are means of preservation of the capital, though guaranteeing a stable (but a small) loss. Partially, it is connected with the fact that investors predict deflation in that country the bonds of which are acquired, which will allow receiving positive real profitability. But what is more important, investors are going to gain the main income from speculative (most often currency) operations, and investments into such bonds are perceived as some kind of reserve [15]. There is a paradoxical situation when on the market profitability is either zero or almost zero (or even negative) for the conservative investor, or very high – for the speculator. Potentially, it deprives of motivation to invest in traditional assets (bonds, deposits, etc.) which are a basis for real investments into economy. And the main cash flow goes into fictitious assets (mainly, derivatives and currency). It is well illustrated in the following drawing (Figure 3). The S&P Global 1200 index is on historical maxima, exceeding even pre-crisis (till 2008) values. We'll remind you, the S&P Global 1200 index includes 7 regional indexes and analyzes data on stock quotations of 1200 companies from 31 countries of the world and 10 branches (the largest specific weight in an index occupies financial sector). And what is amazing the world transportations of resources are on historical minima (Figure 1).

Figure 3. *Dynamics of the S&P Global 1200 [16] index*

It means that an overwhelming part of monetary flow which makes a basis of monetary priming of economy is connected not with real economy, but with financing the fictitious capital, forming more and more "financial bubbles". By the way, it is also the main way of "utilization" of excess liquidity which prevents the consumer inflation. So, inflation causes the increase in prices for the fictitious capital.

Growth of the markets of the fictitious capital hardly helps the real sector. But threats from "collapse" of such bubbles are quite real. We should take into account the crisis of 2008 which was caused by the mortgage market of the USA. However, the problem was not really connected with the mortgage market but it resulted from as CDO and SDS.

4.5. Demographic Crisis

However, these are not all the problems of the world economy: as discount rates are close to zero (and their increase is impossible without risk of a default on sovereign debts) as profitability on "normal" investments is close to zero or is even negative, it creates a problem for the pension system which accumulates and invests different kinds of payments of the working population. As a rule, the pension funds follow a conservative investment policy (most often formed by the state) and risky assets cannot make investments. Then it leads to the problems of pension savings connected with the transfers from government budgets, which creates even more problems.

This problem can be solved if there is a demographic increase. However, many countries have already faced demographic problems. In China, the USA, India, Japan, Brazil, France the share of the working population within the period 1995-

2015 was the same or decreased. Different statistics give different data connected with the number of the working population. At the same time the term "working population" differs from the term "economically active population".

The situation is more understandable if we analyze the dynamics of the average age of the population (which was monitored by the Department on economic and social problems of the United Nations). In all the top 10 countries the population is considerably growing old. Besides, according to the UN, by 2050 the problem will become even more critical (see Table 10).

Table 10. *Forecast of the average age of the population and comparison with the retirement age [8, 17]*

Country	Index	Unit	1995	2015	2050	Reference: Retirement age	
						Male	Female
China	Median age	years	27.0	37.0	45.0	0	0-55
USA	Median age	years	30.7	38.0	41.1	5	5
India	Median age	years	21.8	26.6	38.6	0	0
Japan	Median age	years	39.6	46.5	54.9	5	5
Germany	Median age	years	38.4	46.2	49.4	5-67	5-67
Russia	Median age	years	35.0	38.7	45.3	0	5
Brazil	Median age	years	23.8	31.3	40.4	5	0
Indonesia	Median age	years	22.8	28.4	41.1	5	5
UK	Median age	years	36.4	40.0	43.5	5	0
France	Median age	years	36.4	41.2	44.7	0	0

Growth of the average age of the population means an increase in the number of pensioners and consequently, creates an additional load on the pension system and public finances. In fact, we face a "debt – demography" trap when a high debt does not raise a discount rate and a profitability of investments in economy, and in case of the falling demography low profitability leads the pension system to bankruptcy. Unfortunately, the demographic situation will be worse in all the countries. For

example, now the optimum growth of the population is in Indonesia. However, according to the UN, by 2050-2055 the growth will be replaced by reduction [18].

For many European countries (including Russia) and Japan the demographic problem in general becomes a matter of survival. And there are few solutions to this problem: increases in birth rate and encouragement of migration. Both ways are not that simple. As we see, the current state of the world economy is a number of contradictions and traps. The problems of investments, demography, pension system, state (and corporate) debts, poverty and many others have closely intertwined. Within the capitalist model of managing they are solved by means of ensuring constant growth of realization and profit.

However, in the conditions of the global market there is no place to grow. The problem of demand (solvent, but not demand per se) rises very sharply as without it the growth is impossible. It is obvious that the credit stimulation of demand has exhausted its potential, having left in inheritance huge debts (both state, and private). Redistribution of the market among participants is not taken into account as it does not lead to the growth of the market.It is obvious that the crisis which began in 2008 has a system character, it is connected with the model of the economic relations (or "the way of production" as Marx called it). This crisis is influenced by the credit character of modern money which instead of serving commodity turnover, is the capital and a source of profit in itself. The loan percent put in money provides the constant growth of money supply and debts, harming the global economy. Actually, the managing model created 250-300 years ago and the monetary model (created a bit later) are not suitable for the global economy. The steady rise of the global economy leads to a big (and actually unexplored) problem. And any way of artificial stimulation of demand (for example, credit stimulation) seems tricky if there is no change in the system of managing.

Conflict of Interests

The authors argue that the data presented in the article do not contain a conflict of interest.

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This research is based on considering the restrictions of the model of "a bourgeois way of production" (capitalist production) described by K. Marx.

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References

Interactive schedule of Baltic Dry Index//Investing.com. URL: https://ru.investing.com/indices/baltic-dry-advanced-chart.

Marx K. Capital: criticism of political economy / K. Marx. T. I, book 1: Process of production of the capital. M.: Politizdat, 1988. 891 pages.

Interest on Required Balances and Excess Balances // Board of Governors of the Federal Reserve System. URL: https://www.federalreserve.gov/monetarypolicy/reqresbalances.htm.

Main refinancing operations (fixed rate)// European Central Bank. URL: https://www.ecb.europa.eu/home/html/index.en.html.

Current Bank Rate// Bank of England. URL: http://www.bankofengland.co.uk/Pages/home.aspx.

Basic Loan Rate// Bank of Japan. URL: https://www.boj.or.jp/en/index.htm/

IMF Data// International Monetary Fund. URL: http://www.imf.org/external/data.htm

World Population Prospects: The 2015 Revision. File POP/5: Median age by major area, region and country, 1950-2100 (years)// United Nations. Population Division. Department of Economic and Social Affairs. URL: https://esa.un.org/unpd/wpp/

Kalabekov I. G. Share of GDP of the large countries in world GDP. Russia and the countries of the world in figures//Russia and the countries of the world. URL://http://kaig.ru/rf/gdpr5.pdf

The rating of the countries of the world according to GDP (a data source: imf.org)//SVSPB.NET. URL: http://svspb.net/danmark/vvp-stran.php

Graham Allison. "The Thucydides Trap: Are the U.S. and China Headed for War?" Atlantic, September 24, 2015.

Sutyagin V. Yu., Radyukova Ya. Yu., Kolesnichenko E. A Risk-free rates: are they risk-free in the conditions of crisis?//Materials II of the International scientific and practical conference "Modern Calls and Realities of Economic Development of Russia" – Stavropol: LLC Publishing Information Centre Fabula, 2016. – 250 pages.

Peter Wells. Universe of negative-yielding sovereign debt falls to $10.9tn: Fitch// THE FINANCIAL TIMES LTD. URL: https://www.ft.com/content/49b83ec7-7f20-3eb5-a2cd-f4e64c1e19f4

Ayzyatulova I. Lend, the loss is guaranteed//JSC Газета.Ру. URL: https://www.gazeta.ru/business/2016/09/16/10198019.shtml

Rubini N. Era of absurdity: as earn on negative interest rates// RBC. - URL: http://www.rbc.ru/opinions/economics/03/03/2015/54f54e309a79474a07070b9b

S&P Global 1200// S&P Dow Jones Indices LLC. URL: https://us.spindices.com/indices/equity/sp-global-1200

A retirement age in Russia and other countries of the world//your pension. URL: http://tvoyapensiya.ru/pensionnyy_vozrast.html

United Nations. Population Division. Department of Economic and Social Affairs. URL: WORLD POPULATION TO 2300 // http://www.un.org/esa/population/publications/longrange2/WorldPop2300final.pdf

Smith. T. Evolution of a family in the USA//URL: Demoscope Weekly. http://demoscope.ru/weekly/2002/081/analit04.php

Smith T. Evolution de la famille aux Etats-Unis // Futuribles. - p., 2000. - № 255. - P.89-98

OECD Family Database // OECD - Social Policy Division - Directorate of Employment, Labour and Social Affairs// URL: http://www.oecd.org/els/family/SF_3_1_Marriage_and_divorce_rates.pdf

Kazachikhina M. V. Child-free as one of forms of a modern family//Socially - humanitarian researches. URL: http://journals.uspu.ru/attachments/article/799/%D0%92%D0%B5%D1%81%D1%82%D0%BD%D0%B8%D0%BA%20%D0%A1%D0%93%D0%9D_3_2014_%D1%81%D1%82.%2002.pdf

Gary J. Gates Same-sex Couples and the Gay, Lesbian, Bisexual Population: New Estimates from the American Community Survey // The Williams Institute on Sexual Orientation Law and Public Policy, UCLA School of Law, October, 2006

Coefficient of total birth rate, 1950-2015//URL: Demoscope Weekly. http://demoscope.ru/weekly/app/app4007.php

Shapilov A. B. Decline of modern Europe: political and social and economic prerequisites / Modern problems of global economy: from a celebration of the ideas of liberalism to new "old" economic science: Materials of the international scientific conference / under the editorship of R. M. Nureev, M. L. Alpidovskaya. – M.: Direkt-media, 2014. 456 pages.

Felyakhov R. Germany pays for migrants//JSC Газета.Ру. https://www.gazeta.ru/business/2016/01/18/8029007.shtml