THE LONG TERM GLOBAL CONTEXT AND ITS IMPLICATIONS ON INTERNATIONAL TRADE

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Abstract: - The paper analyzes the long term factors of influence for international trade and includes among them: output measured by GDP as representing the supply, population as representing the demand, and a number of variables that influence supply and demand (purchasing power, institutional changes, technology, climate change, etc.). The conclusion is that the relative position of the major players in the world economy will change in the coming decades and that decision makers at macroeconomic level have to take into account all these factors of influence in order to participate in a competitive and efficient manner to the global trade flows.

Key words: international trade, world economy, world economic order.

JEL classification: F01, F14, F60, O19, O33

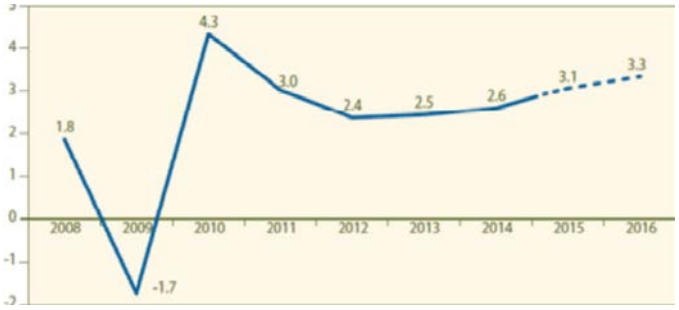
1. Introduction

The world economy presents a permanent fluctuation of its quantitative and qualitative characteristics but this fluctuation has periods of acceleration and periods of slow change or even of quasi-stagnation. The last decade of the 20th century and the first decade of the 21st century represented periods of accumulation for the globalization process, but also periods defined by significant changes, such as:

- the shift of the economic center of the world economy from the Atlantic to the Pacific Ocean, in fact from USA and Europe towards Asia (Quah, 2011, pp. 3-9);
- the full return of the Central and Eastern Europe to the global economic system once with the transition of the countries from that region from a centrally planned to a market economy and the accession of the majority of them to the European Union in 2004 , 2007 and 2013.

The beginning of a significant economic crisis in 2008 has affected especially the developed countries and generated a number of changes in the hierarchies of economic power. One interesting aspect is the fact that this crisis affected the world economy as a system from the point of view of Gross Domestic Product only in 2008, both in the previous years and after 2008 at the world level being no other decline whatsoever. This is why we state that in the world economy there was no long term systemic crisis, and not even a world crisis as the only decline of global GDP was recorded in 2009 (Figure 1).

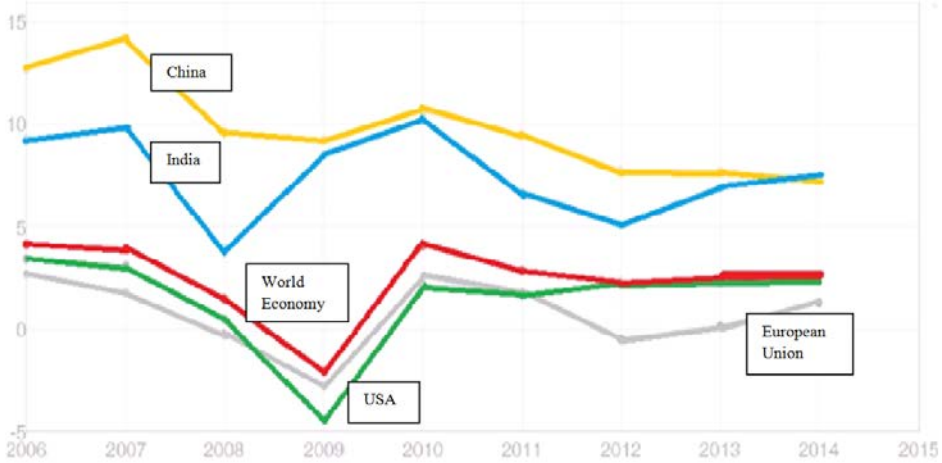
Figure 1: Evolution of world GDP during 2008-2016[1] - in %



Source: UN/DESA (2015), p.1. Note: [1] The growth rate for 2014 was partially estimated; the growth rates for 2015 and 2016 represents forecasts.

While at the level of the world economy system there was a decline of global GDP in only one year, at the level of the main groups of countries there were significant differences during the 2006 – 2014 period (Figure 2). As one can note, even in 2009 some economies (such as China, India, but also other which are not presented in the graph) recorded significant increases as compared to the previous year. This fact is a further proof that one cannot speak about a world crisis, but rather of a redesign of hierarchies.

Figure 2: Annual global GDP growth compared to GDP growth of USA, European Union, China and India during the period 2006-2014 - in %



Source: Graph generated by using the World Bank Databank software, on October 30, 2015, at page: http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries/1W-EU-US-CN-IN?display=graph

1. The redesign of hierarchies: a new architecture of the world economic order

These different economic paths led us to the conclusion that the economic crisis that started in 2008 had in fact the role of a catalyst, accelerating the changes that determined a new architecture of the world economic order. These changes are anyway part of some much longer term trends because the world economy is characterized by an incessant movement of its center as it is indicated by a study of McKinsey Global Institute which analyzed the period 1 - 2025 (Dobbs et al., 2012, p. 17).

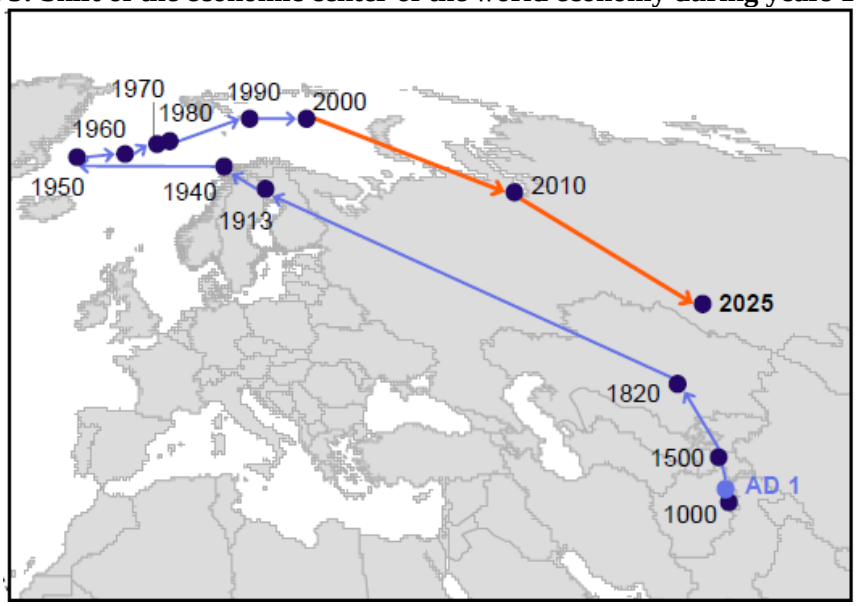
The research on the determination of the economic center of the world economy is based on the association of the GDP of each state to its geographical position, followed by the projection of the result on the world map (Figure 3). As results from Figure 3, for about 2000 years (between years 1 and 1820) the economic center of the world economy was relatively stable. This situation changed due to the industrialization and urbanization that took place in Western Europe and then in the USA which had as a consequence the shift towards Europe (from 1820 until the beginning of the World War II) and then towards the USA (from 1940 till 1950). The rapid recovery of Japan and the fast growth of the population in China and India determined a new change after 1950 when the economic center of the world economy returned towards East, but on different coordinates. The period 2000 – 2010 is characterized by the fastest movement of the economic center of the world economy ever recorded in history, that is faster by 30 % than the average recorded after World War II.

These changes have had and will continue to have significant consequences on the international trade due to the fact that trade flows are influenced from quantitative and qualitative points of view by factors such as:

- **Size of production**, expressed by Gross Domestic Product (which offers an image about what will represent the object of international exchanges), especially in case of the main global economic powers;
- **Size of population** of the states that form the world economy (which offer an image on the size of potential demand);
- **Evolution of purchasing power in different regions** of the world economy (which offer an image on the size of solvable demand);
- **Institutional changes** with reference to financial and banking institutions as well as to institutions that have regulatory attributions in the field of trade (which can influence the rules of the game and the possibilities to finance the international trade flows);

- **Technological evolutions with a significant impact on economy** (which can determine new geographical centers of supply or demand, can generate substitution products or facilitate transactions, etc.);
- **Climate changes** (that can affect both supply and demand, especially in sectors such as agriculture and tourism).

Figure 3: Shift of the economic center of the world economy during years 1 - 2025



Source: Dobbs *et al.* (2012, p. 17).

Regarding the size of production in its capacity of supply component, we appreciate as a reference moment (even from a symbolic point of view) the month of October 2014 when China became the first economy of the world (it is true that only in case of expressing the GDP by Purchasing Power Parity (PPP). We could say that in October 2014 the difference between China and USA was very small, but the significance was very big (the levels of GDP expressed by PPP were of 17,617 billion USD for GDP of China and of 17,419 billion USD for USA). The structural and not accidental character of this change of places between USA and China can be demonstrated by the existence of a growing trend for the Chinese economy that dated for at least 35 years, a fact that create the premises for an increase of this difference and even for a catching up by China, at a later date, of the nominal GDP level of USA (Table 1).

Table 1: The positions of USA and China in the global hierarchy based on GDP expressed by PPP during the period 1980 – 2015 - billion USD current prices

Country and place in hierarchy	1980	1990	2000	2011	2012	2013	2014	2015
SUA	1st place 2,862	1st place 5,980	1st place 10,285	1st place 15,518	1st place 16,163	1st place 16,768	2nd place 17,419	2nd place 18,125
China	10th place 298	6th place 1,091	2nd place 3,608	2nd place 13,482	2nd place 14,790	2nd place 16,173	1st place 17,617	1st place 18,976

Source: Data from IMF (2015), at page http://knoema.com/nwnfkne/world-gdp-ranking-2015-data-and-charts.

According to some recent estimates, presented in a study published by PriceWaterhouseCoopers in February 2015 (Hawksworth and Chan, 2015), even if we take into consideration the decline of the growth rates for the GDP of China, at the time horizon of 2050 the hierarchies will change even more substantially as compared to 2015. At that time USA might be on the 3rd place, being over passed by China and India (Table 2).

In fact, such a hierarchy of economic powers explains the position of Asia, and the more so of Asia – Pacific on the first position as regards production but also international trade. In this context we want to express the position that the slowing down of the growth rate in China in the last two years does not represent a crisis or a change of trend but rather a normal phenomenon for every economy that reached a certain level of development.

Table 2: The first 3 global economic powers in 2014 – 2030 - 2050 based on GDP expressed at PPP (in billion USD)

Place	Country	GDP 2014	Country	GDP 2030 (estimates)	Country	GDP 2050 (estimates)
1	China	17.632	China	36.112	China	61.079
2	USA	17.416	USA	25.451	India	42.205
3	India	7.277	India	17.138	USA	41.384

Source: Data grouped by author based on Hawksworth and Chan (2015, p. 3). The source of date is IMF WEO database (October 2014) for 2014 and projections of PwC for 2030 and 2050.

With reference to economic growth rates, it is well known for several decades that the developed countries, members of the Organization for Economic Cooperation and Development (OECD) had growth rates which did not exceed around 3 % per year, even during the best periods. We can ask ourselves why would China make an exception from this trend once it reached the status of the largest economy (measured as GDP in PPP terms).

From our point of view the special relevance of October 2014 when China traded places with USA as the largest economy consist in the conclusion of a historical period that started in 1870 and the return to a multi-millennial situation. As Angus Maddison presented, from the last 20 centuries, in 19 of them China was the largest economy of the world and in 1870 China was still on the first position (Maddison, 2007, p. 43). This return of China on the first position among the economies of the world, as well as the context of the increase of importance for the Asia – Pacific area redefines the balance of economic power at the world level, with consequences for the Western countries and especially for the USA. It is without doubt that no substantial changes will be visible in the short term, but it is clear that they have already begun.

From the point of view of the sources of supply for the international trade it is to be also noted a change regarding the contribution to world GDP by groups of countries. In 2013 the developing and emerging economies contributed for the first time with more than 50 % at the formation of global GDP, in PPP terms. The importance of this moment is given not only by the change in the balance of power, even if only in quantitative terms, but also by the very high dynamics of this group of countries. 25 years ago, in 1990, the developing and emerging countries represented only 33 % of the global GDP, while in 2013 this group over passed the 50 % threshold (The Economist, 2013).

An important aspect that gives new meanings to the interpretation of this change is that of the globalization of production and trade, as well as of the manifestation of the global value chains. This latter phenomenon means, among other things, that a significant part of the activities related to production and trade from developing and emerging countries is carried out by affiliates of multinational companies. But irrespective who is carrying out the production or trade activities, these economic activities as well as the corresponding jobs and monetary transactions moved to a significant degree towards the new dynamic markets which have a long term growth potential.

A distinct comment is necessary with reference to the European Union. Within the context of global economic hierarchies (be they about production or trade) European Union is mentioned, from a statistical point of view, as an important economic actor. But here some clarification is needed. European Union is not a country but an association of member states and its share in the global GDP or world trade is nothing but the addition of a number of national figures that gives a significant total. From this point of view, a consistent approach would be to compare European Union with other organizations of economic integration which contain at least a free trade area, such as the North American Free Trade Agreement (NAFTA) or the Association of South East Asian Nations (ASEAN).

Beyond these methodological considerations, European Union (and particularly the Euro zone) has been characterized for a while by fragile and modest economic dynamism (as shown in Figure 2). From the long term perspective it is important to determine to which extent this weakness is circumstantial, maybe just a consequence of the economic crisis that started in 2008, or it is a more structural situation. The answer to this

question can be found in a research published in 2012 under the heading of the European Commission (European Commission, 2012): „ In 1900 Europe (without Russia) represented approximately 40 % of world economic output. 100 years later, in 2000, the share of Europe in world output were less than 25 %. In 2050, function of the growth of China's and India's GDP, the share of Europe in world economic output will be of about 15 %, that is less than it was at the beginning of the industrial revolution."

In view of the above we appreciate that the changes in the hierarchies of economic powers can offer a relatively clear image of the future trends of international trade flows because production (as expressed by GDP) is a major determinant of the orientation and volume of international trade flows.

2. The impact of demographic factors

The future evolutions of international trade will be affected, without any doubt, by **the number of population and its purchasing power**. From this point of view the developing countries of today will represent in the coming decades an important growth pole and a destination of interest.

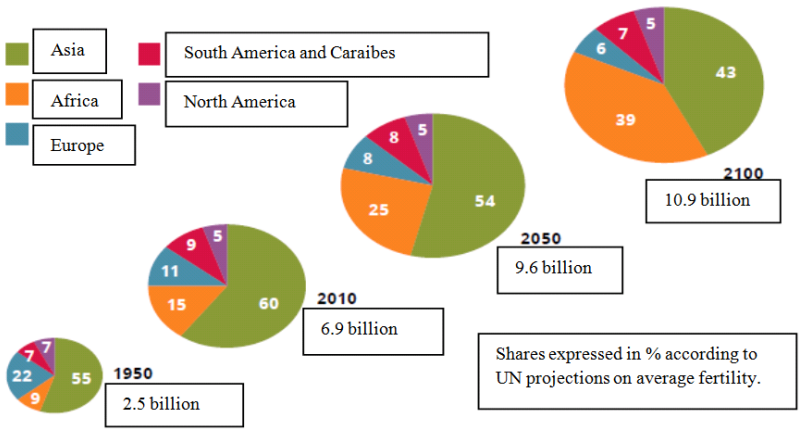
At a global level the population increased over 2 times since the 1960s, exceeding the threshold of 7 billion in 2013. According to United Nations Organization the world population will have in 2050 between 8.3 and 10.9 billion, function of the policies adopted by different states, especially those with a large population (United Nations/DESA, 2013).

According to these estimates the whole growth in global population will take place in the developing countries, especially in their urban areas. For this group of states the total population is expected to grow from 5.9 billion in 2013 to about 8.2 billion in 2050. As regards the developed countries, they will witness an important reduction of their share in the world population. At individual level the developed states will either face a decline of population or a stagnation, while the possibility of a slight increase appears only as result of immigration.

As reflected in Figure 4 the share of Asia in world population increases from 1950 to 2050, followed by a relative decline till 2100, while maintaining the first position. The most spectacular change of position is that of Africa which moves from 9 % of total population in 1950 to 15 % in 2010 and then to 25 % in 2050 and 39 % in 2100. In the same time interval North and South America are the only continents that maintains their share in world population with only small variations. Europe has a spectacular decline, from 22 % in 1950 to 11 % in 2010, 8 % in 2050 and only 6 % in 2100 (European Environment Agency, 2015).

Even if the number of population is just a quantitative indicator, one can expect that the number and the share of population of a region or continent in world total may influence in a significant way the volume and orientation of international trade flows. It is obvious that the international trade flows will be directed towards the regions and continents with numerous population and with a reasonable or high purchasing power.

Figure 4: Share in world population of continents in 1950, 2010, 2050, 2100 - in %



Source: United Nations (2013), quoted in European Environment Agency (2015, p. 21)

From the point of view of international trade even more important than the number of population is its purchasing power, especially manifested in case of the so called middle class. From the beginning of the 19th century till present the world economy recorded two major increases of the so called middle class. The first increase took place in the 19th century and at the beginning of the 20th century, in Western Europe and then in the USA, especially as result of the economic consequences of the Industrial Revolution. The second major expansion of the middle class took place after World War II in Western Europe, USA and Japan.

At present the world economy is at the beginning of a third major expansion of the middle class, this time in the emerging economies, especially those from Asia. In 2013 the middle class in Asia counted about 525 million people, that is more than the entire population of European Union. It was estimated that in the next 2 decades the middle class at the world level will increase with 3 billion people which will be located almost entirely in the developing countries (Ernst & Young, 2011). Such changes will not influence only the direction and content of the international trade flows, but also the modalities of trading as the consumption preferences of the new middle class from Asia and Africa will differ without any doubt from those of the middle class from Western Europe or USA.

3. Institutional changes

The changes that took place in the hierarchies of economic powers have led to a series of changes of international financial and banking organizations as well as of the organizations that regulate international trade, even if to a large extent such changes are nowadays just in their early stages. One can mention in this respect the growing role attributed to G-20, a group that reunites 19 countries plus European Union.

A major new stage in the building of this new institutional framework has been represented by the establishment of 2 new multilateral financial institutions, namely, the Asian Infrastructure Investment Bank – AIIB and the New Development Bank – NDB Bank which was known before as the BRICS Bank. Both banks are perceived as alternatives (in fact they are complementary institutions) to the World Bank and the Asian Development Bank which represent the Western approaches and interests. The establishment of these banks is in fact a recognition of the existence of a new world order that goes beyond the Bretton Woods system (which was founded on the International Monetary Fund and the World Bank). The project of the **Asian Infrastructure Investment Bank – AIIB** has been launched in October 2013 as a Chinese initiative and already reunites 57 states, among which there are allies of the USA that initially had some reservations (such as Germany, France, Italy and United Kingdom (Kenny, 2015). This bank has an initial capital of 100 billion USD and its headquarters located in Beijing. The first credits will be granted in 2016 for infrastructure projects in areas such as energy, transportation, urban buildings, logistics, health care and education, as well as for the support of interconnection of Asian countries (AIIB, 2015). **The New Development Bank** with headquarters in Shanghai will also start its activity in 2016, being founded on principles of equal vote for all members and the elimination of a veto power. It is to be noted that the BRICS countries that founded this bank represent 41.4 % of the world population and about 25 % of the world GDP (NDB, 2015).

By means of financing projects and by promoting new decision making mechanisms the two multilateral banks will contribute to the development of Asia – Pacific area, but also of the BRICS countries as a whole. The two banks will also contribute to the development or appearance of new international trade flows due to the supply and demand that will be created as result of the investment projects that will be financed.

These 2 institutions are not singular as regards the new mechanisms that will influence international trade. To the extend that they would become reality, the largest impact will be determined by 2 partnerships under negotiation and/or ratification, namely the Transatlantic Trade and Investment Partnership – TTIP (which has as partners USA and the European Union) and the Transpacific Partnership – TPP, project supported by the USA and which reunites 12 states from the Pacific area with the notable exception of China. The 2 partnerships represent to a large extent the Western countries' approach to globalization. Both partnerships aim at establishing new regulations for carrying out international economic relations, including trade, according to 21st century requirements. The 2 partnerships had as deadlines 2015, but the negotiation/ratification process will continue at least in 2016. The TPP has been agreed upon in October 2015 and will be debated in the US Congress in the coming months, until mid 2016. The negotiations on TTIP could be finalized in 2015 and will continue in 2016.

To these 2 partnerships one has to add the Regional Comprehensive Economic Partnership – RCEP which reunites 16 countries from the Pacific area and which represent the interests of China, but also of ASEAN countries (Chen, 2015).

Irrespective of the result of these negotiations, they imply a drift from the regulation of international trade centered on the World Trade Organization. One with these negotiations we note a new type of multipolarity or multi-level regulation in the field of international trade, a hybrid system in which the role of the WTO is shared with other institutions or agreements. Maybe there is a symmetry in this process, a multi-polar world economy generating multi-polar regulations and institutions.

4. Implication of technological developments

A factor that will influence significantly the volume, direction and structure of international trade flows will be represented by the new technological developments. The specialized literature is unanimous that technologies will determine major changes in the world economy by 2020 – 2030. In this context Roland Berger includes technology and innovation among the 7 megatrends that will shape the world economy by 2030 (Roland Berger, 2015, p. 4).

Because the challenges for humankind refer to securing the food, water, heath care, increase in the efficiency in using resources, energy and transport, reducing waste and pollution, the solutions cannot be found outside technology and innovation. This idea is supported by the approach that considers that wealth and welfare created by technology and innovation are more stable than those created by mere exploitation of resources.

In its turn KPMG International by its MOWAT center in Toronto included technologies among the 9 megatrends that will influence world economy and governance by 2030 (KPMG, 2014, p. 22). One of the most representative areas by means of which technology influenced economy and trade has been the information and communication technologies (ITC). Some convincing figures show that if in 1995 only about 1 % of world population had access to internet (that is 14.1 million people), in 2014 about 40 % of world population had access to internet - that is over 3 billion people - (Internet live stats, 2015). In the same context one can note that in 2014 China had about 22 % of the world internet users (about 624 million), which means more than the next 3 states together - that is USA, India and Japan - (Internet live stats, 2015). Although internet is not by far the only technology with impact on economy we appreciate that the above figures offer an image on the speed of penetration and also on the geographical orientation of the trade flows in the coming decades.

European Union, by means of ESPAS - The European Strategy and Policy Analysis System, which had in view to identify the main global trends, to assess their implications and challenges and to suggest adequate policies, stated in March 2015 that in the world economy an economic and technological revolution is underway, determined by the convergence of technologies and the mass proliferation of instruments and techniques that will transform economies and societies (ESPAS, 2015, p. 8).

This revolution will allow for increases of productivity and wealth, as well as for new means of individual expression. On the other hand, technological developments may generate social distortions as result of the digital divide, increase of unemployment and inequalities and the decline of the middle class in developed countries, inclusively in Europe.

The impact of technological developments can be that big at the world economy scale that some authors speak about “a third industrial revolution” (Markillie, 2012). The first industrial revolution began at the end of the 17th century in England with the use of machines that allowed the production of a higher number of products compared to the individual shops of the Middle Ages. The second industrial revolution started at the beginning of the 20th century in USA once with the mass production and the assembly line. The impact on trade flows has been remarkable in both cases.

At present, a third industrial revolution is under way as result of the emergence of the information society and the digital production. Under these circumstances the products can be made efficiently in small series, production is much more flexible, with a low consumption of labor, raw materials and energy due to the usage of new materials, 3D printing, use of robots and crowd sourcing. On a dialectical spiral there is a return to individual production like in the pre-industrial era, of course under very different circumstances. This new industrial revolution will also affect considerably the production and trade, having among other potential effects the return of certain activities to developed countries where from they migrated in the previous decades in search of lower production costs.

5. Impact of climate change

Among the factors that will influence considerably international trade in the coming decades climate change has an important place. Climate change or global warming may generate numerous negative effects: the reduction of agricultural output in certain areas, negative implications on certain activities like tourism, the increase of medical conditions.

Recent studies indicated that in absence of major measures for climate change prevention until 2100 the average temperature will increase by 4.3 degrees Celsius while the world average revenues will decline by 23 % (Sterner, 2015). In this case the impact on international trade will be significant. What is more important is that the impact on revenues will be unequal, meaning that some regions may benefit from global warming (those that have today a colder climate), while others will be heavily affected (those that have today a warm climate and which are usually less developed). According to some studies it is possible that the countries that are today among the richest 20 % of the world will register some increases of revenues, while the countries that belong today to the poorest 40 % of the world will have declines of up to 75 % of revenues until 2100 (Geiling, 2015).

In during the last decade and especially during the 1990s the debates on global warming were present more in the international institutions and academia, at present there is a much higher awareness on the subject among large corporations.

Large companies such as Walmart, Goldman Sachs, Johnson & Johnson or Starbucks set for themselves deadlines until their activity will be 100 % based on renewable energies. Microsoft already uses only renewable energies and buys emission certificates for carbon emissions generated in other related activities, such as transport. In Great Britain, Marks & Spencer became neutral from the point of view of emissions in 2012 by reducing energy consumption or by compensating carbon emission by financing projects that reduce the carbon emissions (Worland, 2015).

The implications of climate change on international trade are numerous and they are not assessed post-factum, by their impact on agricultural output, on fisheries or tourism. The awareness of states about the implications of climate change may determine states to restrict certain technologies or to impose ceilings for the emissions. But the results can be very diverse, positive and negative, because not all states adopt the same measures at the same time. The adoption of some strict measures on greenhouse gases emissions in certain countries may determine delocalization of industries towards more permissive states (for example from European Union to Asia). The requirement in European Union for the inclusion of a percentage of bioethanol in fuels determined an increase of the agricultural surface cultivated with plants used for biofuels which, in turn, determined a reduction of the surface cultivated with cereals, the increase of food prices and the disadvantaging of the poor population in urban areas in developing countries (Banse, van Meijl and Woltjer, 2008).

The implication of such measures on the direction and content of international trade flows is direct and immediate. For quite some time it was noted the bi-univocal link between the level of regulation or relaxation of measures related to international trade and those related to environment protection. Measures of relaxation regarding international trade can achieve their goal, increasing the volume of trade, but with the increased risk of exhausting some rare or strategic resources (such as the deforestation of large areas for exporting wood or timber) or, the other way round, measures concerning environment which are too restrictive for a given technological level may lead to limitations on international trade or to their deliberate use for discouraging some competitors (World Bank, 2008, p. 23). In some cases too restrictive environment protection measures may lead to large scale frauds for cheating environment regulation, as it happened in Volkswagen case in 2015 (Jordan, 2015).

6. Conclusions

The world economy is characterized in the first decades of the 21st century by numerous transformations that define hierarchies, mechanisms and institutions which can be completely new or just adaptations of existing ones. The world is already globalized, much more interconnected, multi-polar, witnessing new development models besides the Western ones.

Old as the world and permanent, international trade receives in different forms these changes, it is adapting, it diversifies the objects of trade and the partners or only their relative position. One can note here that in 2015 USA became again, after 4 decades, an exporter of energy as result of new technologies.

Beyond the sum of these transformations, the international trade will maintain some principles that decision makers will have to take into account. Among them, an important principle will be that relating the international prices with the level of value added included in goods and services. Those willing to participate in an efficient, competitive and profitable way to international trade will have to focus on high value added goods and services, be they bio food, biotechnology products, products based on new materials such as graphene or applications for smartphones.

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