

The Race towards the Future: Geopolitics versus Technology. Implications for Romania

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Abstract: *The paper identifies two broad and unrelated processes that take place in contemporary world economy, the historical process of redefinition of the balance of power and spheres of influence which is characterized by **the geopolitical dimension** and the process of profound technological change determined by the 4th industrial revolution which is characterized by **the technological dimension**. The research identifies a race not between the two processes per se, but between the implications of their outcomes. Depending on which of the two processes will succeed in redefining the architecture and predominant type of relations in the world economy the reality of the period from 2020 to 2030 - 2050 might be very different. Based on the conclusions of this research, the final part of the paper analyses the implications of these possible outcomes for Romania, given its current characteristics which resulted after 27 years of transition.*

Keywords: globalization, geopolitics, balance of power, 4th industrial revolution, return of the nation states/state entities

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Looking into the future

The preoccupation for studying the future in the sense of designing potential scenarios and alternative solutions to different challenges has always been more intense during periods of uncertainty, of perceived discontinuity and when the understanding and representation of the world has substantially changed.

Apart from the study of the future as an academic research, the state entities with significant global or regional power as well as some international institutions, organizations or foundations have attempted, especially after World War II, to systematically explore the medium to long term future from time to time and particularly when out of the ordinary events required it (Bell, D., 1965).

Usually the prospective researches are based on certain hypotheses such as the demographic dynamics at a global or local level, the climate change, the environment

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pollution or the exhaustion of the main resources used by the current technologies. Starting from these hypotheses assumptions are made regarding the economic growth rates, the increase of energy efficiency, the recycling of waste or the impact of new technologies. A common limit of many of these approaches is that they are, to a large extent, uni-factorial, that is they take into account the impact or consequences of a given factor. Another rather common limit or even weakness is that factors like cultural, spiritual, political or anthropological ones are very rarely if ever taken into account. This latter limit is somehow understandable as such factors are rather difficult to grasp and even more difficult to quantify.

On the other hand, although many scenarios take into account cases of exponential growth (such as the Moore's law that has predicted successfully for the past 50 years the increase in density of components in integrated circuits (Anthony, S., 2016) or models that predict the impact of the increase of environment temperature in the next 50 years), it is very rare that the transformation of quantitative accumulation into a qualitative leap or the vectorial result of the addition of several complex forces are taken into account in making predictions or forecasts.

In an attempt to avoid these limitations this research approaches the exploration of the medium to long term future of the world economy on the basis of a **metaphor of a race towards the future**. According to this approach, looking from a very broad perspective, the **world economy** of today can be represented as **the place** where **a race** between the **outcomes/end results of two unrelated processes** is taking place. These two processes are enabled and manifested by the people but they are not designed deliberately by the people in view of obtaining a particular result. Although people, firms and states have permanently their own objectives, the inter-action of their behaviour is much too complex to fit a simplifying pattern and that is why "unexpected" events often happen.

According to the above mentioned metaphor, depending on the outcome/end result that will win the race in the sense of influencing and determining the major characteristics of the world order, the world economy will have in the next decades a different architecture, with different institutions and different new rules of the game. And while the transition from the current situation to a future one is expected to take some time (in our estimation this transition will be clearly launched by 2020 and most probably it will be completed by 2030), what can be expected with a relatively high level of certainty is that the transition will not be linear or smooth but rather non-linear and marked by moments of crisis and discontinuity.

The race towards the future and the two contenders

When analysing the world economy it is useful to bear in mind a number of characteristics specific to long term history. One is that history is not moving in a linear way, but rather on a dialectical spiral that make some things, situations and events repeat, on a different level, with a different meaning and a different content.

The difficult part in looking to the flow of historical events from this perspective is to separate the external manifestations (which are different from one historical period to another) from the inner principles (which are intrinsically the same). One example regarding the manifestation of the dialectical spiral is to compare the literacy rate and access to knowledge during the Middle Ages and nowadays. During the Middle Ages the number of people able to read and write was extremely low while the access to knowledge and written materials was very difficult. Nowadays the literacy rate is by any means much higher and the access to knowledge is very easy, almost universal. The two manifestations are extremely different in their appearance. But in reality, the number of people in contemporary world that can operate with the huge amount of data and information available (not to mention here the implications of so-called “fake news”) is extremely low. This current situation is made worse by the existence in all countries, developed and developing, of significant percentage of people affected by functional illiteracy which means that while they can read and write to a certain level, they cannot make sense of what they read in order to fulfil daily personal or professional tasks (UNESCO, 2013).

A second characteristic is that the study of history as well as that of economy deals with people and societies and therefore one should take into account all aspects related to human beings such as those studied by anthropology, sociology and psychology and not only numerical values (quantitative aspects). And as historical experience proved time and again in the long run cultural and spiritual values, traditions and identities are much more important than whatever can be measured by numbers. The design of simplifying and simplified models of human societies where all (or most of) the participants are presumed to be rational (whatever that means) and motivated by profit and/or efficiency can lead to results that may be very far from reality.

Taking into account these two characteristics and analysing the current trends that have been manifesting in the world economy in the last decades, we identified two processes (contenders) in this race towards the future that are taking place here and now.

The first contender is represented by the historical process of redefining the balance of power and the spheres of influence at a global level. This is a classical/natural process that involves states, diplomacy, realpolitik, all sorts of negotiations and sometimes wars. These elements can be generically labelled as geopolitics or **the geopolitical dimension**.

The second contender refers to a profound technological change often named the 4th industrial revolution or the digital revolution (Schwab, K., 2016). This revolution includes and will bring with it the rise of robots and of artificial intelligence, the genetic revolution determined by the possibility to edit genes, nanotechnology, new materials, 3D printing but also a new architecture of the world economy defined by Parag Khanna as “connectography”, meaning interconnected geography and/or reality (Khanna, P., 2016). All these elements can be generically labelled as technology or **the technological dimension**.

In the next part we are looking in depth to each of these contenders in order to define their characteristics and implications for the world economy, as well as for the actors that operate within the world economy and for the institutions and rules of the game.

Geopolitics

The first contender (geopolitics) in this race towards the future is the less optimistic one but also the most likely to happen. It has as argument in its favour the long term history of humankind, marked by numberless conflicts of all sorts, where peace (at local or regional level) has too often been just the period between two wars. The return of geopolitics in present times is a proof that history is not moving in a linear way from nation states to multilateral and then to universal institutions that could have been specific for a globalized world. We speak nowadays about a return to geopolitics because after 1990 (once with the demise of the Soviet Union and of the socialist system centred on it) there was a perception of the “end of history” (Fukuyama, F.) and of a linear and accelerated movement towards a type of globalization characterized by universal institutions and rules.

According to this perception the importance of states was supposed to diminish and their role be replaced by new institutions – such as the United States of Europe which was expected to transform the European Union into a federal super-state (Reding, V., 2012) - or global rules as those included in the Transatlantic Trade and Investment Partnership (TTIP) or the Trans Pacific Partnership (TPP). In case of the two mentioned partnerships the diminishing role of the state could have resulted indirectly from the so-called Investor State Dispute Settlement, a mechanism which could have limited the ability of states to initiate measures (such as the change of the level of minimum wage or of the level of Value Added tax) that could affect the profitability of multinational corporations. In case such disputes might have arisen their settlement was supposed to be addressed outside the normal legal system (Krist, B., 2014). At the beginning of 2016 these developments, especially the two partnerships, seemed almost completed.

Instead of that, what we have today, just one year later, at the beginning of 2017, is a return on a dialectical spiral to national approaches, to bilateralism and to new alliances and new balances of power. As of early March 2017 the European Union gave up not only the concept of the United States of Europe but much more. Jean-Claude Juncker, the president of the European Commission evoked the possibility that European Union may even give up the political union and be just a single market (Foster, P., 2017).

At the same time, the citizens in many countries (including many developed ones) have re-launched the dialogue to their respective states mainly because the states are entities they can understand and interact with (however imperfect that interaction may be). Regional, continental (such as the European Union) or global institutions (such as the United Nations) are way too abstract and too far for the normal people to be perceived as partners in a dialogue and providers of concrete solutions to the challenges and hardships of daily life.

In times of crisis or uncertainty, in times when the social tensions between “the 1%” or even “the 0.1%” (that is the ones that have considerable wealth) and “the forgotten” (the rest of society) are increasing, the majority of people are seeking protection within and from their communities, be they local, regional or national.

After the year 2008 (that is after the onset of the economic crisis) and particularly after 2016 geopolitics has been brought to the fore by a number of factors such as:

- The consequences of globalization that improved beyond any doubt the aggregated economic indicators (such as Gross World Product or volume of international trade) but also generated a very unequal distribution of the accumulated wealth, especially in the developed countries (Oxfarm International, 2017);
- The new balance of power and the emergence of a true multi-polar world;
- The new relations between economic and political factors in the developed countries and the return of state entities as key players in many parts of the world;
- The inequality issue and the need of a new discussion about the social contract, especially in the developed countries. The significance of this issue is so high that in many countries (like United States, France or Italy) the political parties are faced with an existential crisis and new parties emerge attempting to reflect the new preoccupations of large segments of the population;
- The coming of age of national approaches in Latin America & Africa;
- The historical need for a sustainable solution in the Middle East.

What has to be taken into account is the fact that all these factors have not appeared overnight; they were not the direct result of the crisis that started in 2008 and, at the same time, they do not represent accidents of consequences of mistakes made by politicians (in making some decisions or in designing certain public policies) or by the general public (in the manifestation of their options during elections). Each of them is the result of a gradual building up of characteristics and tensions that took decades to come to maturity.

The world economy has developed in quantitative terms considerably in the past 30 years, it is nowadays bigger and much more diverse, it has new centres of economic and military power. The world economy of 2017 is definitely, beyond the shadow of a doubt, different than the one from 1945 when World War II ended or that of 1990 when the world became unipolar, once with the demise of the Soviet Union.

Under these circumstances the most logical thing would be to have negotiations involving all states (maybe under the aegis of the United Nations) for adapting the world order to the new realities. Negotiation is always better than confrontation, but this evidence is not enough for making this option come true.

The alternative to global negotiations is that the states may negotiate new alliances among themselves on a bilateral or plurilateral basis, confront with each other in different ways (by means of trade wars, exchange rate wars or real wars) and continue to do so until it would be too costly and too inefficient to continue like that. This scenario is not very pleasing, it is to be avoided at all costs, but unfortunately it is still possible.

Technology

The second contender (technology) is, at first sight, more optimistic in its projection of the future; but this is because it tends to forget the past and focus mainly on the promises based on the technological and scientific achievements. Science and technology seem nowadays to have solutions for anything, but what is often forgotten is that these solutions may have dual potential (civil and military). In this case the obvious question is: who guarantees which use (civil or military) will prevail?

The efficient and effective use of the positive and civil applications of technology require rationality, cooperation and long term vision from the part of all significant actors within the world economy. These requirements although simple and evident are difficult to be fulfilled; anyway their repeated statement and observance may increase in the long term the chances of success.

Unfortunately, the long as well as the short term history show us that science and technology have always been used for military applications, not to mention that in many cases the military use has been the first one and the civil use the second.

But even if we are extremely optimistic and imagine that for the first time in the history of humankind the knowledge, science and technology that form the essence of the 4th industrial revolution will be used exclusively for civil purposes and therefore we avoid conflicts, two big questions still remain:

- 1) How will the results of the scientific achievements be distributed?**
- 2) What will happen with the people/the human factor who will become substantially obsolete and redundant?**

Regarding the first question many research documents point to the risk that the huge benefits of the scientific achievements will only enlarge the gap between the 1% and the 99% of the population (Marr, B., 2016). Under the current social and economic mechanisms it is just normal that the more affluent part of society will benefit more and sooner from the results of the new scientific discoveries and technologies.

As for the second question, because we are at the very beginning of the manifestation of the 4th industrial revolution there is a lack of comprehensive understanding of its main implications for human beings and for society as a whole. Many studies point anyway to the possibility that artificial intelligence and robots will make redundant much more human labour than the previous industrial revolutions just because this one will cover all sectors of activity and all human activities (World Economic Forum, 2016).

In the early days of the exploration for a solution to the human redundancy problem, there is a lot of debate on the Universal Basic Income, a minimum amount of money to be distributed freely each month to every citizen. Universal Basic Income may be a solution to both inequality issue manifested in the developed countries as result of globalization and to the redundancy of the human factor as result of the rise of the robots and artificial intelligence (AI). But for the moment this concept is just explored and tested. For instance Bill Gates thinks that the countries are not rich enough yet to implement this concept but the time may come sooner than we think (Javelosa, J., 2017).

The two processes at work and the new characteristics of globalization

The crisis that started in 2008 as well as the decline of the multilateralism as shown by the failure of the international trade negotiations during the Doha Round (negotiations that took place under the aegis of the World Trade Organization), the rise of China as a global power and the remarkable growth of India, the increase of the political and military role of the Russian Federation and the multiple and persistent crises confronting the European Union which celebrates in 2017 its 60th anniversary, all these have determined a new balance of power at the regional and global level and a return to an increased role for the state entities.

This new international landscape is marked at the beginning of 2017 by aspects such as:

- The existence of vast areas of instability (such as Middle East) with major economic and social implications (like those related to massive migration);
- The need to rethink the European Union project, especially after Brexit, after the formulation by the Visegrad countries of a position on the need for a new Treaty and, especially, after the 2017 elections in France, Germany and Netherlands;
- The existence of technological changes that can be compared from the point of view of implications with the first industrial revolution. Although many of the technologies of the 4th industrial revolution already exist to a significant extent and some of them are even implemented, their full scale deployment is still to come until 2020. In our opinion one characteristic of the 4th industrial revolution is of utmost importance and unfortunately it is largely unknown and not understood: **“the fact that this industrial revolution will change not only what we do, but also who we are”** (Schwab, K., 2016);
- The climate and demographical challenges are well documented by numerous studies, but they are not internalized by the general public and/or political decision makers as being imminent and of significant relevance.

In relation to the two processes (driven by geopolitical forces and by the technological ones) the world economy is nowadays like a scale that is only waiting some impulse for tilting one way or the other (that is towards competition and confrontation or towards the use of the benefits of science and technology for solving the vast majority of the humankind's problems).

The geopolitical process seem at present to have some advantage in influencing the course of events. The inequality phenomenon has affected the developed countries and determined already substantial social movements asking for the return of decision power to the nation states while multiple conflicts and local/regional wars generated a negative attitude towards the Western world in numerous places like Middle East, Africa or Latin America. If the geopolitical process wins the race, the world will be less stable, the economic growth will decline and the search for sustainable solutions may take a long time, while mistakes will be paid with waste or resources, of time and, at worst of all, of human lives.

The technological process represented by the 4th industrial revolution has started and has the potential to develop and expand exponentially. It can offer solutions for the demands of energy and raw materials, it may find cures for all diseases and it may allow for the full development of human potential. But it can also lead to a global control of the individuals, to redundancy of the majority of human labour and to an enormous challenge represented by the need to redefine the values, roles and mechanisms for the daily functioning of the human society.

There is yet another scenario, we may call it the worst case scenario: that in which the geopolitical process uses/confiscate the results of the technological one. Given the contemporary potential of science and technology such a scenario will involve a lot of tensions, conflicts and instability that may end only when a new clear balance of power would be re-established, irrespective of the costs.

Having in view these considerations one may say that the contemporary period carries the most promising opportunities ever known to humankind, but, at the same time, risks which are higher than ever. And it is our perception that the probability of manifestation is higher for risks than for opportunities.

What will happen first in the coming months? Political decisions that may lead to conflicts or at best to a return to old style bilateral relations? Or the capability based on artificial intelligence to know and simulate potential paths or directions for the world economy so that we can anticipate and avoid dangerous options? Will humankind be able to simulate options in a virtual reality or are we at risk to learn only by doing (and thus exposing ourselves to numerous perils)?

In our view the merit of asking these questions is that this may generate new questions, useful answers or at least it may raise awareness. And the more aware we are, the more chances we have for a better and sustainable world.

Conclusions - Challenges for Romania

The race towards the future between the outcomes of **geopolitics** and **technology** has specific challenges for Romania due to a number of characteristics of the Romanian economy and society after 27 years since the change of the system from a centrally planned economy to a market economy. Among these characteristics we can enumerate:

- Romania has the vast majority of its economic relations with European Union member countries although the European Union represents only about 17 % of world gross product measured at PPP and only about 7 % of world population;
- Romania relies on external intervention for defending its borders, option that implied the massive reduction of its own defence capabilities. A shift towards developing more domestic military capabilities is under consideration but this new approach is in its early days;
- Romania has opted for a significant decline of the role of state in economy. The impact of this option on the maintenance and development of infrastructure of all sorts is yet to be understood and evaluated;

- Romania has a rather limited participation of domestic capital companies in the economy not to mention a very limited participation of the Romanian companies abroad;
- Romania has not been consistent in designing strategies, in planning and implementing them, even in sectors like infrastructure, education, health, science.
- Romania has allocated very few resources for research – innovation and development and it is therefore disadvantaged at the start of the 4th industrial revolution.

From the geopolitical point of view, the return to a major role played by the state entities as well as the perceived new foreign policy of the US which seems to be less interventionist and more transactional requires Romania to rethink its domestic and foreign policy, keeping existing partnerships but relying more on its own resources and strategies.

From this perspective a key resource Romania should concentrate on, in our opinion, is the human resource. Providing for a long term strategy that will allow for an education system better and more adapted to the realities of the 21st century, for better health services and for a much better research and development environment are mandatory in order to be competitive and prosperous.

Romania should also take into account the process of rethinking and redesigning of the European Union which is now well underway. This process indicate some trends towards the re-nationalization of some policies and towards the diminishing of the EU funding in the post-2020 period, at the same time with the distribution of community funds in a much more competitive way.

At the same time, given the large scale implications of the 4th industrial revolution Romania should define (using in an efficient and intelligent way its own resources) a sustainable and effective development strategy, based on science and technology, in all fields of activity. This strategy should include in a coherent and consistent manner a number of key factors that belong to long time neglected sectors: education, research-development-innovation as well as industry.

The world economy is changing and Romania, as well as all other countries, needs to make decisions in order to adapt to the new realities. These decisions need to be coherent and consistent and they should provide for defining and implementing of a firm and clear development strategy at least until 2030 and recommended until 2050. The positive part of the situation is that today's world has all the knowledge and the instruments that make such a strategy possible.

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