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Globalization and recurrent crises
Pax Economica

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Abstract

There are many factors of crisis in the daily life of the citizens of this world. Thus, the four great eternal problems of humanity (pandemics, war, religious intolerance, hunger), which for a time man believed capable, if not of eradicating, at least of controlling, have come back to challenge international chancelleries, philosophers or the whole of suffering humanity.

- The famous pandemics such as the plague or smallpox seemed to have been solved when Covid-19 appeared. Of course, the appearance of new pandemics was not excluded, but the modern world, imbued with its technicality, has always thought that it had the logistical, scientific and medical means to find a quick solution to the lethality of this threat.

- With nuclear weapons and the opening of most countries to free trade under the control of the World Trade Organization, conflicts between the great powers seemed highly unlikely, given the destructive consequences of nuclear weapons capable of eradicating life on Earth. Moreover, the economic interdependencies that lead to the respect of the "soft market" favor situations of negotiations for a lasting peace, considering the economic stakes of the partners, who have no interest in becoming belligerents.

- Philosophical and religious issues seemed to lead to more secularism and less intolerance. Today, the principles of life that bring people together diverge, between a Western world based on republican principles, but also on an inequitable consumer society, the world of the great contesting powers that are not very sensitive to democratic values and are concerned with establishing a less American-centric world that is more open to their own ideologies (China, Russia, India, Middle Eastern states, for example) and finally the countries of the rest of the world (the Third World in perpetuity) still sucked in by economic scarcity and hunger, continuing imbalances of state power, national and international wars and conflicts, and religious issues.

- Religious beliefs and divergent notions of the concept of democracy do not lead to a peaceful world, especially because of proselytizing and the will to power expressed by great powers.

Table des matières

1. Introduction
2. Economic Globalization and Peace
3. World Economic and Strategic Security
4. The consequences for peace of the underlying ideologies of economic and management sciences
5. Economic globalization is not a factor of peace
6. Human Security, national security and globalization
7. GDP, an insufficient indicator for estimating the power and well-being of a country
8. The use of GDP, against sustainable development
9. The crisis of economics
10. Ten Contemporary Wounds of the Market economy
11. Scarcity as a cause and means of conflict and war
12. The Alternative Report of Africa (AROA). An African project under construction
13. Is Russia still a superpower?
14. War and economy. Putin and Sun Tzu
15. Public debt as a political opportunity for national economy
16. Tax havens, a huge cost for public and social activities
17. European Union and Tax Havens
18. Tax havens. The perverse effects of globalization on national economies
19. The lessons of the Covid-19 pandemic for National security
20. Public debt and Covid-19
21. Success, threats and potential dangers of GAFAMs
22. The Economics of Climate Change

1. By way of introduction

Unbridled globalization, an aggravating factor in economic and social crises

There are many factors of crisis in the daily life of the citizens of this world. Thus, the four great eternal problems of humanity (pandemics, war, religious intolerance, hunger), which for a time man believed capable, if not of eradicating, at least of controlling, have come back to challenge international chancelleries, philosophers or the whole of suffering humanity.

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- With nuclear weapons and the opening of most countries to free trade under the control of the World Trade Organization, conflicts between the great powers seemed highly unlikely, given the destructive consequences of nuclear weapons capable of eradicating life on Earth. Moreover, the economic interdependencies that lead to the respect of the "soft market" favor situations of negotiations for a lasting peace, considering the economic stakes of the partners, who have no interest in becoming belligerents.

- Philosophical and religious issues seemed to lead to more secularism and less intolerance. Today, the principles of life that bring people together diverge, between a Western world based on republican principles, but also on an inequitable consumer society, the world of the great contesting powers that are not very sensitive to democratic values and are concerned with establishing a less American-centric world that is more open to their own ideologies (China, Russia, India, Middle Eastern states, for example) and finally the countries of the rest of the world (the Third World in perpetuity) still sucked in by economic scarcity and hunger, continuing imbalances of state power, national and international wars and conflicts, and religious issues.

- Religious beliefs and divergent notions of the concept of democracy do not lead to a peaceful world, especially because of proselytizing and the will to power expressed by great powers.

For liberal economists, with the end of the Soviet Union, globalization is a step towards peace. However, war is still a threat for a humanity capable today of committing suicide, with nuclear and cybernetic weapons. The analyses of mercantilism do not disappear and the relations of force are still alive. The nature of "war" has changed. National security cannot be limited to the military, it also includes health, education, industrial risks or the protection of natural resources. The economy is both a cause of war and a means of armed conflict. Economic warfare uses weapons adapted to obtain a right or the exercise of a domination. As such, blockades, embargoes, boycotts or mercantilist-type power actions are techniques of war or conflict recognized by States. The international economic system is largely dominated and organized by the great powers and by multinational corporations. Moreover, the coercive power of states is mainly controlled by the largest multinationals. The current globalization is criticized, it is accused of developing inequalities and factors of conflicts, by giving power to the actors of international finance and to an unscrupulous commercial world. With the process of digitalization, a new type of colonialism in a dematerialized world deeply influenced by mercantilist behavior. There is a need for economic and social democratization of democracy.

The concept of international security has often been analyzed from a military perspective. Today, the concept of economic and human security broadens this conception, adding to strategic and military considerations, international pollution, global warming, environmental rights and the security of individuals and minority groups. The aim is to reduce the potential for military, police, economic, psychological and social violence against human beings, to reduce poverty, lack of care,

precariousness and illiteracy. Security theories must take into account national and international economic, human and social relations, as well as the balance of power in the international system.

Wars and the threat of war remain constant realities in our societies, and the twentieth century has been particularly rich in deadly conflicts. However, the neoclassical current still assumes, never discussed as if it were self-evident, that international trade is a factor of peace; when states cannot and should not intervene in the national economy, they are no longer in a position to wage economic war. With the slogan "America first" inspired by mercantilism and government-controlled Chinese capitalism, the domination and demonstration effects of states obviously change the conditions of the international market economy. Moreover, short-term self-interest is not compatible with the need to collectively save the planet Earth in great danger. Capitalism reveals its flaws, especially in the fields of ecology, environment, climate, but also in the unbearable inequalities of income and power between countries or between citizens.

Today's economic globalization is not in itself a factor of peace. With its development, the economic war has taken other strategic forms imposed both by the most powerful countries and by the large multinational corporations, which ultimately account only for Washington or possibly for those of Chinese origin, in Beijing. It is a question of using the adapted weapons to obtain a right or the exercise of domination. Economic and military values become inseparable, which clearly expresses the close relationship between globalization and the balance of power in today's world. The Covid-19 pandemic has clearly highlighted the dangers of an economic globalization that has little respect for environmental standards and is always threatened by the belligerent actions of the great powers in the never-ending race for economic, strategic and political power. In this context, the Thucydides trap of world leadership between the United States and China cannot fail to worry the citizens of the world. At the same time, the threats of "rogue states" and terrorism have not disappeared. What then are the new forms of state power, but also what are the greatest threats shaking the world in the 21st century? Environmental and economic conflicts will be dangerous. The ecological and economic catastrophes (global warming, rare earths, transformation of production methods, excessive inequalities) are underway, close to the tipping point. The liberal economic system is not able to solve it, with the individual interest priority.

GDP is the most widely used economic indicator. It is a basis for classifying states in their obsession of development and power. The more the environmental and societal issues become worrying, the more the current indicator systems, especially GDP, become unsuitable. Short run economism neglects the scarcity of clean air but also democratic freedoms, citizen solidarity or cultural life. It is urgent to construct sets of indicators adapted to the questions posed for the understanding of the international relations and comparisons. GDP is the most widely used economic aggregate to compare, over time and space, the development of the national economy. International experts usually refer to this indicator to comment on the national economy. Its weight is important in determining the classification of countries according to their degree of development among developed countries. However, the limitations of GDP are both technical and conceptual. Real GDP (removing the effects of inflation) per capita does not refer to the productive and redistributive inequalities of economic actors. It does not include bad goods, pollution and it does not account for many free activities. The unique or dominant reference to GDP is dangerous. Economic actors should no longer be encouraged to go in the direction of an unsustainable form of growth. It is necessary to have indicators on democratic freedoms, citizen solidarity, cultural influence, the rise of the digital economy and artificial intelligence. It is also essential to count the negative effects of growth and their discounted costs, such as the definitive disappearance of certain raw materials, the influence of pollution on the people concerned and, in international relations, its effects on neighboring countries.

The crisis of globalisation and the rise of the Covid-19 pandemic pose new threats to the national security of all countries. States have been increasingly challenged on their role, particularly in the economic order. Their actions concerning ecology, climate or air pollution have been strongly inspired by the decisions of specialised international organisations, too often advised by dominant commercial and financial interests. In this context, states have no longer been able to assume the full range of national security components. Mercantilists considered that dependence on a State's foreign trade led to an unacceptable reduction to the power of the Prince. Today, all countries are dependent on others. Moreover, the pandemic has highlighted the inability of states to find quick

solutions to the economic dependencies of states, creating a sense of insecurity among citizens. Tax havens contribute to the degradation of available statistical information, they aggravate the public debt of many States, they participate in the plunder of developing countries and they call into question the principle of equality of citizens and businesses before the tax. In addition, by their action and the cover-up they allow on the "reality" of financial funds, they sometimes prevent developing countries from benefiting from the funds generated by the activities carried out on their territory.

The faith in the self-balancing of the markets is however contradicted by the facts, but its defenders always find in economic intervention the State the fundamental cause of crises. The role assigned to the State in economic and social life is mainly a philosophical, moral and of course political question. Market economy did not lead to peace, and globalisation is not a panacea. At the international level, American leadership is taking hold, but China is beginning to concurrence it. The struggle will be fierce in the years to come, because both countries want to rule the world to their benefit, thanks to their domination effects on the most powerful technologies for the future, such as artificial intelligence, space and especially information management. Europe is still in political, economic and philosophical crisis. BRICS do seek to define common solidarity policies, but their internal divergences often do not allow them to impose their objectives. Social inequalities have been growing for almost half a century. In the future, they will raise considerable economic problems that will undoubtedly lead to worrying social and societal conflicts. The robotic and digital revolutions call into question the importance and content of human labour. Finally, the looming environmental crisis, especially with global warming, may lead to the progressive collapse of the human race.

Scarcity is inscribed in human fibres; it concerns the limited time of life of the individual, but also the survival of man. Sometimes it is natural with the depletion of mineral resources; sometimes it is the result of an economic system of domination and the expression of a political power of power. The security of a community depends as much on the existence and appropriate exercise of weapons systems or expressions of power as on the sense of relative incapacity of potential adversaries to engage in aggression against it. It is, however, a costly service, especially in the context of economic globalisation that produces growing inequalities. Moreover, economics is sometimes a weapon in a system of non-self-governing nations, artificially creating pockets of poverty through predation or political coercion.

AROA proposes a philosophical, ideological and methodological reversal of the usual economic and statistical analyses. International experts still have knowledge based on the values they have been taught in the past and which they constantly reproduce. The statistical methods that underlie economic and political decisions only take into account market values, which are subject to manipulation that influences all economic agents. The famous catching up of development in stages is only a delusion at a time in history when great environmental and human damage has been committed by the economic actors of a greedy capitalism that is not interested in the living conditions of people or their survival. Under these conditions, Africa must build its own instruments to measure the progress of its national economies against the needs of its people and citizens.

Russia considers the conceptualization of a policy of "soft power" and "hard power" active, at least in the environment of Russia's proximity, mainly with the former members of the USSR. Russia wants to be once again a dominant actor on the international scene. Russia is increasingly worried about the progressive "encirclement" of its territory, with the enlargement of NATO and the reduction of its field of influence. In 2018, for United States, Russia is still perceived as the main geopolitical enemy, with China. However, economically, Russia has lost much ground to the United States, Europe and China. At the end, the military effort will be more difficult to grow in the case of a new arms race. The annexation of Crimea to Russia has been the subject of economic retaliation measures mainly by NATO members. Putin has used the lessons of Sun Tzu to achieve a result that, on the side of Russia, is globally positive; since the question of the return of Crimea to Ukraine is hardly mentioned anymore. In this context, we realize that Russia has suffered some negative effects on its growth, but it has considerably improved the conditions of its national security and its patrimony and heritage.

Economic science is an ideology that consecrates the omnipotence of the market economy, the police state and the management, often short-term, of an economy condemned to perpetual economic growth. With the Covid-19 pandemic, the analyses of liberal economists are losing their bearings, because the basic assumptions no longer have any concrete application in the face of a profound economic and social crisis. The economy now reveals its eminently political character. The international, national and local public sectors are organizing the fight against the crisis of the market economy. The State then becomes the central actor in the management of the national economy, in connection with the other States. The profoundly political and social character of a globalized economy highlights the violence of relations between states and citizens and often between states themselves. This situation of collective dependence is likely to create many tensions, which may lead to new conflicts or wars between states.

Public debt is always seen as the result of mismanagement of public funds and as a burden that future generations will have to bear. The morality defined by the political system of the market economy is based on the respect of debt repayment. However, public debt is different and has not to be analysed as a worse management of public resources. Contrary to private agents, State has not, in principle, a limited time horizon and it is possible to repay its debt over long periods by "rolling over its debt". Moreover, public debt helps to regulate the economy in times of crisis. This obviously depends on the type of debt and the economic circumstances of its development. In a crisis situation, the state is the economic agent capable of reviving national activity by investing and thus preparing the future of future generations. The weight of the debt, its spread over time, the nationality of the creditors, the investments effectively undertaken by the State or public administrations are all factors that deserve to be studied in order to analyse the interest of the public debt. Several methods exist which have been applied in economic history and which show that debt has often been the pragmatic and effective solution to combat national economic stagnation. When a Covid-19 arrives, public health becomes the national and international priority and the public debt is a solution to solve both the pandemic and the problems of unemployment, health costs and education gap that it causes. Public debt is an instrument for societal change, with less inequalities, poverty and precariousness.

Economic globalization has favored the rise of tax havens and offshore centers, which allow powerful economic actors to escape at the new tax levies necessary to reduce public debt. At the same time, criminal activities benefit from money laundering. Money laundering circuits were so opaque that very few banks knew whether or not they had dirty or terrorist money in their books. It thus favored the policies of "beggar-thy-neighbor" with impunity for countries. There is no consensual definition of tax havens, judicial, financial and judicial. The term tax haven is often used to define all "non-cooperative territories", with resources of unknown origin. Since 2014, the United States has enacted a Foreign Account Tax Compliance Act (FATCA), which requires financial institutions around the world to disclose the transactions of US nationals. Tax havens still cultivate the secret, they protect all their operations, and they distract most activities to make more complex reading from outside. Capitalism has become difficult to control, politicians no longer control the economic situation, and worst solutions are possible because greed and foolishness of men have no limit.

Due to economic globalization, tax havens allow owners to place their capital, even virtually, in financial centers that are particularly undemanding in terms of taxation and control over the origin of the funds thus placed. A distinction must be made between tax havens "*stricto sensu*", regulatory havens, judicial havens and offshore financial centers (OFC). The United Kingdom has the greatest weight in the world, ahead of Switzerland, Luxembourg, Hong Kong, the Cayman Islands, Singapore and the United States. There is even a certain specialization of "tax havens". Until 2010, the United Kingdom or Switzerland were highly recommended by banks, but today investments in Europe are increasingly risky for Europeans themselves. At the initiative of France, a tax of 3% of the turnover (and not the profits) generated by the exploitation of digital activities has been proposed on these companies. However, tax havens" are still very present in the world of financial markets. Most multinational companies use tax havens to optimize their profits. Democracy is clearly in danger.

When an economic crisis occurs, often caused by speculation by private actors, the state is called to the rescue and usually socialises the losses. Private debt then becomes public debt. For the liberal

doxa, a debtor must pay his debts. In the case of public debt, this is not the case in practice, as the state has no time constraints. Therefore, it can "roll over" its debt and support a national economy in difficulty. Without its intervention, the economic crisis can lead to the collapse of societies and to particularly dangerous social and political problems, as economic history reminds us. It is usual to use particular indicators to underline the importance and dangerousness of public debt, but these indicators, too aggregated, do not give a satisfactory answer on the sustainability of the debt, whose temporal structure, the importance of the burden and the citizenship of the creditors modify its concrete interpretation.

GAFAMs dominate the world of information and knowledge highways. Their technological, economic and financial successes are remarkable. However, their quasi-monopoly situation constitutes a danger for the world, both by the power of their actions on the economic and political world, by their disinterest in financing public services, by their ability to use and reproduce information to their advantage and to produce important biases on political choices and freedom of expression.

Climate change poses a problem for the economic system that fostered the polluting industrial revolutions of coal and oil. Today, the digital economy revolution offers significant hope for reducing pollution and promoting decarbonisation. However, the economic interest struggles of the powerful lobbies of the polluting sectors seem to reduce the potential for transformation of an economic system driven by the search for short-term profit. The major powers want to preserve their economic gains and are undertaking this revolution at a pace that suits them, which is not without conflict, given the urgency of action in the face of the harmful transformations undergone by eco-systems. Furthermore, the GAFAMs, the powerful providers of digital services and instruments, together with their Chinese competitors, have a considerable economic and strategic force that could undermine freedoms and human and citizens' rights. Finally, for the production of digital tools, rare earths are likely to pose new problems, those relating to the pollution involved in their production and their relative scarcity compared to the stocks known today.

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2. Economic globalization and peace¹

For Heraclitus, "War is the father of all things and of all things he is king", War mobilizes all the energies of a Nation, it has often been at the origin of the specific creation of States and of their shifting historical contours. Until the sixteenth century, economic thought was dominated by philosophical and religious ideas, with the right price principal and the interdiction of interest rate. The emergence of mercantilist ideas coincided with the rise of nation states. It encourages the race for wealth and power of the Prince, by the search of autarky, and the setting up of a more or less sophisticated process of predation. The enrichment is a condition of power and it helps for the constitution of powerful armies. In this context, military power and the possession of stocks of gold, are the main expressions of the State's power and wealth.

Mercantilism recommends both the annexion of the territories that will provide the wealth that the metropolis does not have and the constant organization of economic wars, in order to contain the ambitions of powerful neighbouring states. Moreover, powerful states engaged violent territories invasions. Military actions had mainly economic and power purposes, which allowed short-term predation, medium-term slavery and long-term colonization. These ideas were accepted by Christianity, under the pretext that human beings remained free in their submission to God, and they were condemned only at the end of the 19th century,

The philosophers of the Enlightened criticized the mercantilist system. In *De l'esprit des lois* (1748), Montesquieu considered that when nations exchange goods and services, they become mutually dependent. In this case, trade and peace always go hand in hand. With its *Project of perpetual peace* (1775), Emmanuel Kant, considered that the tripod of peace relates firstly to free and sovereign Republics having their own public law, secondly to international laws and organizations and finally on commercial interdependence.

At the same time, for Adam Smith (1776), free trade allows for generalized economic development, with the primacy of the human liberty in the pursuit of private interest. As such, he condemns not only colonial war, but also slavery, which reduces the freedom of each individual. Market economy in the individual respect of liberty is a factor of international peace.

However, during the XIXth century, the large majority of progressist economists, neglecting the Adam's Smith position, thought that colonization war was a process of "civilization" of peoples deemed primitive. In this context, war appeared as the triumph of the rational man over the wild man, relying indirectly the supposed inferiority of the races. The great economic powers have had the ambition of colonizing countries, in a constant process of predation of wealth, which, later, Lenin theorized under the term of imperialism.

The concept of globalization does not have the same meaning for everyone. For Marx, with the mutual dependence between nations, the bourgeoisie is able to civilize the most barbaric nations. Globalization is, in itself, a "progressive" approach to socialism and communism. However, the definitive disappearance of the conflicts will take place only when the inevitable extension of the capitalist mode of production will increase its definitive contradictions. Then, after the social revolution of the proletariat, a new peaceful, classless and stateless society will establish the definitive humanity liberation.

In the same way, Friedrich Engels considered that this division of the world, for a time necessary to resolve the contradictions of the capitalist system, ultimately might led capitalist globalism to a disastrous war opposing all the major industrial powers. This was to result in the advent of socialism, the first step towards world communism. With this world war, Soviet Union was born, but capitalism survived and stayed powerful.

Later, the presence of two antagonistic economic systems (capitalism versus socialism) and the existence of nuclear weapons led to a cold war, which was an important obstacle to the process of

¹ World Peace Congress International Peace Bureau. The role of Peace Economics and Peace Science in the Peace Movement, Coordinated by Manas Chatterji, Barcelone, 16 October 2021

globalization. Anti-colonialist struggles modified clearly the old colonialist division of the world. In this context, the Third World did try to get out of its dependence, but it did not succeed in imposing a New International Economic Order that it called for.

After the end of Soviet Union, the acceleration of the globalization process has incited Fukuyama the question of the end of history with the market economy victory, as a new and definitive trend towards the pacification of international relations. The fear of nuclear weapons was fade, and capitalism and American power take the responsibility to organize world peace, mainly with the creation of the World Trade Organization, designed to develop free trade, in order to increase world GDP for the benefit of all Humanity. This story was beautiful, a fairy tale, but it explained a wrong reality (Coulomb, Fontanel, 2003). War is always a threat for a humanity able today to suicide itself, with nuclear and cybernetic weapons.

For Amartya Sen, globalization will only become a fruitful process if it is able to resolve the questions of employment, living conditions and precariousness. In this market context, the development of solidarity becomes a necessity. In truth, the complexity of the world appears in all its violence and its vagaries.

Some wars are the result of conflicts of interest that are not necessarily economic, such as revolutions against colonialism, slavery or tyranny. Warlike violence, whether civil, military or economic, has not disappeared (Iraq, Afghanistan, Libya, Yemen, Syria, Iran, etc.) such as the threats of "rogue states" and terrorism. Globalization is not able to ensure peace and prosperity for everyone, it even develops inequalities, which are factors of violence, war and political instability. In truth, the complexity of the world appears in all its violence and its wanderings.

"War" has changed in nature. National security cannot be limited to the military domain alone. The economy is both a cause of war and a means of armed conflict. In fact, trade and military conquest are substitutable means for acquiring the resources necessary for the political stability and economic growth of sovereign nation states. With the economic interdependence, the possibility of economic war is given for Nations able to sell some natural resources or technological goods and services in monopolist or scarcity situation. Today, the breakdown of trade is a signal of conflicts. Economic wars are mainly used for political reasons of national power or international coercitions.

The public authorities often forgot that the products and services essential to human survival must always be available within the country, either in stock or in immediate production capacity. This is the case for food products, medicines, collective and individual protective instruments, sanitary equipment, and rules concerning air and water quality set 'a minima' by international organizations. The same applies to the mastery of technology (especially digital technology) and the crucial dangerous importance for world security of monopolist private agents such as GAFAM.

Economic warfare uses adapted weapons to obtain a right or the exercise of domination. As such, blockades, embargos, boycotts or power actions of the mercantilist type are techniques of war or conflict recognized by the States. The "economic patriotism", such as the slogan "America first", is an apparent return to a new form of mercantilism. National security has to introduce progressively the concept of sustainable development. It encompasses issues of citizen security as a whole, such as the potential for food self-sufficiency, the capacity for independence in health matters or the technological potential of the digital economy. Today, the three biggest carbon polluters in the world are the biggest powers, the USA, China and Europe. Environmental issues are also essential to human life and could even be at the heart of future inter-state conflicts, given the international nature of pollution and its transmission to neighboring countries.

In fact, the international economic system is largely dominated and organized by the great powers and by multinational corporations. The rapid speed of the globalization process favours mainly the "possedants" and speculators to the detriment of other citizens. Then, liberal peace leads to the exacerbation of the risks of social, national and religious conflicts. States actions concerning ecology, climate or air pollution have been strongly inspired by the decisions of specialized international organizations, too often advised by dominant commercial and financial interests. In this context, states are no longer been able to assume all the components of national security.

The economic actors are complex, they have several simultaneous social functions. Power belongs to those who control the financial means, the information, and even the administrative and political functions. Multinational companies have considerable influence over public institutions, as they have the power to finance electoral campaigns, control information (television, newspapers, internet, government data) and lobby efficiency in all national and international bodies. Today, businessmen haunt the ministerial corridors and vice versa.

The new digital technologies create a daily dependency and are able to actively participate in the decision-making and election processes worldwide, according to the interests of their producers and the Nation that hosts them. Moreover, private companies play a significant role in interstate relations. States become some extensions of private interests, a "servant" of commercial and financial powers. The coercitive power of States is mainly controlled by the largest multinationals. For example, the problem of tax evasion is permitted by the absence of international agreements, with states that are at the services of private interests against public and common interest.

Global warming is a global problem that states cannot solve alone. It is therefore necessary to find collective solutions, to radically modify our fossil and consumerist production and consumption processes. A global industrial plan should be put in place, but no international authority can commit to it without the voluntary agreement of states. Moreover, the digital economy revolution offers significant hope for reducing pollution and promoting decarbonisation. However, the power of GAFAM and Chinese competitors have a considerable economic and strategic force that could undermine freedoms and human and citizens' rights. Finally, for the production of digital tools, the scarcity of rare earths will pose new problems with China., They are occasion of civil and international wars.

National security is not only a military matter, but also includes health, education, industrial risks or the protection of natural resources. States have the declared objective of increasing their gross domestic product (GDP), without measuring the content of pollution, violence at work, social inequality and underestimating the social contribution of public services or domestic work. Power belongs to the privileged persons. Democracy could be violently challenged. A plutocratic system is the reality of the international political situation.

However, for the neo-classic theory, globalization increases economic prosperity and the economic interdependencies become too strong for conflicts to arise. The stronger the commercial ties, the higher the opportunity cost of war. The peace-making power of commerce quickly becomes one of the pillars of liberal theory, and participates in the construction of a myth that is never verified by a very complex reality of multiple of civil and international wars in the XXIth century world. Today's globalization is criticized, it is accused of developing inequalities and conflict factors, by giving power to the actors of international finance and to an unscrupulous trading world. The economically and militarily powerful states imposes their ways of thinking, their values, their goods and services, their finance and their culture, a new kind of colonialism in dematerialized world deeply influenced by a mercantilist behaviour. We still need to democratize the democracy. But the road will be long and full of pitfalls, especially for the youth of today and tomorrow. For King Lear: "Hell is empty, all devils are here".

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3. World Economic and Strategic Security²

The economy of national security concerns the information, prevention and management of all insecurities in the functioning of a nation's economic and political system. It analyses the risks of war, economic conflicts, the probability of natural disasters, the effects of global warming, diseases resulting from pollution or the emergence of epidemics or pandemics. However, the notion of "risk" is both vague and polysomic. Economic cycles are sometimes predictable over time, but their depth and violence remain uncertain, particularly due to speculative phenomena or state reactions. Economists remain divided on the issue. For mercantilists, States are constantly seeking power, which almost always leads to the emergence of conflicts of interest, domination effects or wars. Military force is then seen as an instrument of national economic development because it can enslave other nations. However, the security dilemma is immutable: by protecting itself, the state becomes a threat to its counterparts, except in the case of reliable alliances³. For liberals, free international trade constitutes a guarantee of economic and political security because of the interdependence of the interests of Nations. Finally, for Marx, and later for Lenin, capitalism is a factor of class struggle and permanent civil war⁴.

The collapse of the planned economy of the USSR highlighted the insecurity of the civil economy in the face of the demands of a priority military economy within the framework of an arms race. With the domination of the market economy, wars were often considered obsolete, at least in the long run, but the forms of conflict have changed and insecurity has not diminished, even in intensity, in view of the importance of economic crises, terrorism and ideological wars. The concept of economic and human security has broadened from internal and external conflicts, to global warming, pollution, environmental rights and the security of individuals and minority groups. It is then a question of reducing the potential for military, police, economic, psychological and social violence against human beings, reducing misery, lack of care, precariousness and illiteracy. Security theories must take into account national and international economic, human and social relations and the balance of power in the international system.

The meaning of national security

There is no such thing as full security in itself. The law of nature causes beings to be born, live and disappear. The objective of the economy is to "feed men, take care of men and free slaves", as François Perroux⁵ used to say. In this context, insecurity exists when there is a lack of food, when collectively a system is unable to provide the necessary care to people in a highly vulnerable situation, and when individuals are exploited in their work to provide for the well-being of other wealthy people. Economic security must take into account the needs of people in all their economic activity. In this context, the famous GDP only provides information on production capacity⁶. Economic security conceived as the need for optimal growth of a GNP of questionable construction and content is complicit in violence at

² Conference St. Petersburg State University of Economics and Finance September 11, 2019

³ Smith, Ron, Fontanel, Jacques (2008), International security, defence economics and the powers of Nations, in Fontanel, J., Chatterji, M., War, peace and security, in Contributions to Conflict Management, Peace Economics and Development, Emerald Publ. London.

⁴ Fontanel, J., Coulomb, F. (2008), The Genesis of Economic Thought Concerning War and Peace, Defence and Peace Economics, Volume 19, number 5, October. Fontanel, J, Hébert J-P., Samson, I. (2008), The Birth of the political economy or the economy in the Hearts of Politics : Mercantilism, Defence and Peace Economics, Volume 19, number 5, October Fontanel, J. , Bensahel, L, Coissard, S., Echinard, Y. (2008), French Utopian Economists of the Nineteenth Century, Defence and Peace Economics, Volume 19, number 5, October. Fontanel, J., Chatterji, M. (2008), War, peace and security, Preface Walter Isard, Contributions to Conflict Management, peace economics and development, Emerald Publishing, London.

⁵ Perroux F. (1952), « Note sur les coûts de l'homme », *Economie appliquée*,

⁶ Guilhaudis, J.F. and Fontanel, J., 2019. Les effets « pervers » de l'usage du PIB pour la décision politique et les relations internationales. *Annuaire français de relations internationales*, 20.

work, the lack of satisfaction of basic material needs for everyone, care for all, lack of respect for human rights and the violence of injustice⁷.

In this context, the threshold of real vulnerability must be determined, taking into account natural forces (such as tsunamis or Ebola pandemics), destabilizing technological developments (monopolistic control of information), economic (the effects of destabilizing international speculation), social (such as uncontrolled international migration), environmental (such as global warming), strategic (the continuation of armed conflicts in the world) and political (such as terrorism or excessive nationalism)⁸. There is no optimal level of security per se, because "economics and politics each have distinct approaches with different dynamics operating at different speeds"⁹. This is why state-led strategies contain ideologies, conventions, and particular interests hidden behind the message of collective interest.

The objective of national economic security is to protect the economic development of a country facing multiple attacks such as financial fraud, cybercrime, cyber war, pandemics or the fight against industrial and research espionage. Homeland economic security becomes essential in the context of an open economy full of opportunities but also dangerous with the potential situation of predation of national strategic assets in key sectors. There is a striking contrast between highly structured, developed powerful states and the inverted, at least apparently anarchic, international order¹⁰. International rules are often bypassed by the major powers and Washington today does not fail, in certain increasingly broad economic areas, to impose its own laws on international public and private actors. International law is not sufficiently respected¹¹. The number of nuclear warheads also shows an important dangerous international security situation. The American forces have an explosive power of 2,400 megatons, 100,000 times that of Hiroshima, and a very high "value for money". The peace interest in the partial disarmament of nuclear weapons does not reduce the danger, because the proliferation of the weapon can be worrisome¹², just like the proliferation of conventional weapons, which are the subject of an international market that is ultimately poorly or inadequately controlled.

The military expenditure indicator is not a good indicator of the level of international security. It depends very much on how it has been calculated and on the statistical modalities of comparison. Indeed, the concept of military expenditure has been the subject of many studies, but chronological and international comparisons are subject to assumptions that can change the understanding of strategic issues¹³. The United Nations has sought to establish a measurement instrument, which today is probably no longer sufficiently relevant in view of the potential for the underestimated effects of cyber warfare¹⁴.

⁷ Saez, E., Zucman, G. (2019), *The triumph of Injustice*, W.W.Norton & Company Inc. New York. Fontanel, J. (2016), *La sécurité économique et sociétale*, PSEI, Paix et Sécurité Européenne et Internationale, Nice.

⁸ OCDE (2003), *Les risques émergents au XXIe siècle*, OCDE, Paris.

OCDE (2004), *L'économie de la sécurité*, OCDE, Paris.

⁹ Smith, R. (2010), *Sécurité internationale et crise économique internationale*. in *Economie politique de la sécurité internationale* (Jacques Fontanel Ed.), Collection Librairie des Humanités, L'Harmattan, Paris.

¹⁰ Fontanel, J., Suscheva, N. (2019). *L'arme économique du droit extraterritorial américain*, CESICE, UPMF, Grenoble & UNECON, Saint-Pétersbourg, 2019,

¹¹ Fontanel, J., Coulomb, F. (2008), *The Genesis of Economic Thought Concerning War and Peace*, *Defence and Peace Economics*, Volume 19, number 5, October. Fontanel, J., Chatterji, M. (2008), *War, peace and security*, Preface Walter Isard, *Contributions to Conflict Management, peace economics and development*, Emerald Publishing, London.

¹² Natural Resources Defense Council (2006), *Global Nuclear Stockpiles, 1945-2006*, *Bulletin of the Atomic Scientists*.

¹³ Donsimoni, M., Fontanel, J. (2019), "Les ambiguïtés de la mesure de la puissance économique des États par les parités de pouvoir d'achat." *Annuaire français de relations internationales* 20 (2019).

¹⁴ Fontanel, J. (1980) *Le concept de dépenses militaires*, *Revue Défense Nationale*, Décembre 1980. Fontanel, J. (1982), *La comparaison des dépenses militaires*, *Revue Défense Nationale*, Novembre 1982. ONU (1980), *Reduction of Military Budgets - Refinement International Reporting of Military Expenditures and Comparison of Military Expenditures*, Report of the Secretary-General (New York, United Nations, A/S-12/7). ONU (1985), *Reduction of Military Budgets - Construction of Military Price Indexes and Purchasing-Power Parities for Comparison of Military Expenditures*, Report of the Secretary-General (New York, United Nations, A/40/421). Cars, H.C., Fontanel, J., (1985), *Military Expenditure Comparisons*, Colloque Association Internationale de Sciences Economiques et du SIPRI, Stockholm, Octobre 1985. in "Peace, Defence and Economic Analysis" Mac Millan, London, 1987 (12 pages). Fontanel, J. (1986), *A note on the International Comparison of Military*

In fact, the estimate of military spending first expresses a country's capacity to spend on its security or military power. However, the strategies employed may not be relevant. An excessive burden of military spending in relation to GDP can become a factor of economic exhaustion, as the example of the USSR has taught us¹⁵.

Table 1 – World nuclear weapons stockpiles from 1960 to 2010.

Countries	1960	1990	2018
United States	20.434	21.004	6450
USSR (Russia)	11.643	37.000	6600
China	0	430	270
United Kingdom	30	300	215
France	0	505	300
India	0	5	130
Pakistan	0	0	140
Israel	0	0	80
North Korea	0	0	10

Table 2 - Nuclear warhead stockpiles in 2019

Pays	Nuclear warhead	Nuclear warheads deployed
Russia	6500	1900
United States	6185	1750
France	300	280
United Kingdom	200	120
China	290	290
Pakistan	150-160	ND
India	130-140	ND
Israel	80-90	ND
North Korea	20-30	ND

Excessive military spending sometimes constitutes a burden on national economies in a situation of international security, but sometimes it reinforces the technologies of national industry, particularly in R&D.

International military, financial or political alliances such as NATO, the IMF and the UN aim to reduce uncertainty by improving the cohesion of the international system. Communal security requires that the states that make up the political world as a whole reject the use or threat of force as a mechanism for resolving their mutual conflicts. The internal enemy, such as terrorism, involves other forces and other forms of cooperation. However, state security policies can have perverse effects. National defence, anti-crime, and civil rights arrangements impose additional costs on business. In order to manage insecurity, states are developing new rules or laws for the civil management of natural disasters,

Expenditures Colloque de l'Association Internationale de Sciences Economiques, Paris in 'The economics of military expenditures. Military expenditures, economic growth and fluctuations, Mac Millan, London, 1986 (15 pages). Malizard, J, Fontanel, J. (2017). Les dépenses militaires, un indicateur polysémique, évolutif et concurrencé de la sécurité nationale. Annuaire français de relations internationales, Paris : La Documentation française, 2017, XVIII. Fontanel, J. (2018), De nouvelles séries des dépenses militaires mondiales et nationales proposées par la SIPRI. Leur objet, leur signification et leurs approximations. PSEI, n°9 <http://revel.unice.fr/psei/index.html>,

¹⁵ Fontanel, J., Coulomb, F., Samson, I. (2001), Military conversion and transition in Russia, Pax Economica, n°6. Fontanel, J., Borissova, I., Ward, M. (1995). The principles of arms conversion in the case of Russia. Defence and peace economics, 6(3), 237-251. Shkaratan, O., & Fontanel, J. (1998). Conversion and personnel in the Russian military-industrial-complex. Defence and peace economics, 9(4), 367-379.

industrial accidents, pandemic-type infectious diseases, and international terrorism. There are several methods of attack, ranging from propaganda disinformation, data collection, to confidential sabotage of infrastructures and systems (pipelines, transportation, nuclear power plants, etc.). The destruction of sensitive equipment to intercept command orders is an objective against an enemy. Electronic attack prevents the adversary from using its electronic spectrum. Cyber attacks can also be used to neutralize or destroy a country's military infrastructure in its C4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) capability.

Therefore, the concept of security cannot be reduced to active and passive defence zones; it is based on the specific economic, societal, environmental and political context. It must take into account issues related to pollution, climate change, terrorism, ethnic and regional conflicts, famine, drugs and crime, and religious fundamentalism. Globalization is transforming the definition of economic security, giving increasing weight to non-military factors of security.

Economic security

The market is not in itself a factor of stability and economic security. Industrialized economies are undergoing new concerns, with the gradual depletion of raw materials and energy, global warming and barriers against air or water pollution. How can we explain to developing countries that the type of economic development that developed countries have enjoyed is no longer applicable to them? The challenge is to understand how to reduce the uncertainty of economic agents and improve their performance. Markets are likely to appreciate government efforts to secure production and trade, but they can also take advantage of loopholes in the system to free themselves from security constraints. Transaction costs are important in the area of security.

Access to security services and products raises the crucial question of equity. The increasing liberalization of the economy too often leads to the lowest bidder with regard to heterogeneous national laws. Globalization produces perverse effects in terms of growing inequalities to the benefit of the richest societies¹⁶. New identification and surveillance technologies are being developed in the private and public sectors, such as biometrics or satellite surveillance. Risks are expected to come mainly from terrorism, the development of computer viruses, but also infectious health risks, war or economic conflict, embargoes affecting the distribution of oil and gas and international financial instability. Finally, in times of peace, the quest for hegemony over information networks is both secret and essential. In this respect, ocean barriers or military weapons do not improve international security and control over the security of communication tools. The dissemination of information around the world is faster, cheaper and simpler, and its resonance is difficult to counter. The interconnection of computers reduces the security of all states in the face of an enemy. The Pentagon has a Cyber Command responsible for responding to computer attacks and offensives in cyberspace. Political leaders must define a range of policy instruments to reduce, manage or compensate for insecurity. The question of the power of the GAFAMs is also not settled in terms of national security for countries that depend on their monopoly¹⁷.

Economic and technological factors can become formidable weapons of war. States can use this means to force a foreign country to achieve its own objectives, thus reducing international security¹⁸. "The relentless pressure of global competition threatens solidarity, the invisible heart of human development. We need to rethink national and global governance, focusing on human development and equity"¹⁹. There is a drain of wealth from the South to the North and a standardization of cultures. So far,

¹⁶ Saez, E., Zucman, G. (2019), *The triumph of Injustice*, W.W.Norton & Company Inc. New York. Fontanel, J. (2016), Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris.

¹⁷ Saez, E., Zucman, G. (2019), *The triumph of Injustice*, W.W.Norton & Company Inc. New York. Fontanel, J. (2016), Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris.

¹⁸ Fontanel, J. (2019), *Différends, conflits et guerres économiques*. PSEI, Unice, 2019, n° 11 - <http://revel.unice.fr/psei/index.html>.

¹⁹ PNUD (1999), *Rapport mondial sur le développement humain*, De Boeck & Larcier s.a., Paris, Bruxelles, p.7 et 8.

sustainable development is a theoretical concept that globalization is erasing in all daily activities. Moreover, illicit financial flows, fuelled by latent terrorist actors, are more difficult to control and easier to disguise as legal economic transactions (terrorism, crime, pollution). New shortages can lead to armed conflict. Water and "rare earth" raw materials are decisive strategic issues in regions facing scarcity for one for its users in developed countries for the others. Finally, international economic and financial shocks can undermine economic growth, increase inequalities and economic vulnerability and lead to new national and international military tensions.

Today, governments are increasingly aware of the dangerous fallout of an excessive globalization process and the risks of economic complexity allowed by economic openness. The growing perception of insecurity leads to an increase in the transaction costs associated with doing business, including transportation costs. A decline in trade can reduce economic activity and reinforce geographical compartmentalization. The global polarization of wealth threatens peace and security in the coming years. In other words, some relatively poor countries will have access to nuclear or cyber weapons to claim a greater role in the distribution of wealth. In this context, the threat of war could intensify in the future. The "strategists" of the major powers now insist on protecting the interests of the developed countries against the growing threats.

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Economic intelligence will be used to protect the country's economic and technological heritage. Information warfare consists of a set of methods and actions aimed at putting a rival in difficulty or getting involved in the acquisition of information (data or knowledge) to degrade the opponent's power. Cyber war must be prepared, at least for national defence. The expansion of ICT infrastructure (including broadband infrastructure) seems to contribute to the vulnerability of information systems. Blocking remote control centres, computers or information transmission is a powerful weapon in the hands of a competitor or enemy that can disrupt a country's defence system.

For a concept of human security

Human security introduces subjective contents such as freedom, privacy and the exercise of individual rights. The choice between economic freedom and security is often a delicate one. The security of a State and a Nation is a "public good". The economy must be concerned with feeding and caring for its citizens and freeing them from unnecessary hindrances based on optimizing work that benefits a few. If markets often leave with the image of economic efficiency, they neglect equity, public goods and the protection of the Earth. For UNDP, it is necessary to defend ethics (fighting human rights violations), equity (reducing national and international disparities), integration (rejecting exclusion and marginality), human security (reducing system instability and improving respect for collective rules), sustainability (including environmental conservation) and development (reducing poverty). The desire for growth at all costs has led to the development of unacceptable inequalities, the seeds of conflict. More than 1.3 billion people still live in undignified poverty.

The internationalization of production systems has led to a fragmentation of specialized business functions (R&D, technological development, production, distribution and marketing). The increasing geographical dispersion of productive activities organized in a global supply chain makes disruptions,

delays and fraud more frequent and less punishable²⁰. Global consumption of raw materials has increased by twenty since 1900²¹. There is depletion of fish stocks, overgrazing, desertification, and chemical pollution. American industry is dumping 150 times more chemical waste than in 1950: the risk of developing cancer is twice as high for an American as for his grandfather. Companies consider it normal that a profitable economic activity leads to irreversible environmental damage. Scientists predict 2 degrees increase in average global temperatures over the next century, *ceteris paribus*. Under these conditions, the environment becomes more hostile with cyclones, dust storms, and loss of forest or lack of water. Being normative in nature, research on collective security has a high subjective value. It depends on political and societal objectives in competition with social actions. When human needs are not a priority, states refer to the idea of a necessary but temporary collective sacrifice for a better future. It is therefore necessary to choose

International security must be based on the concept of sustainable human development, which in the long term implies environmentally sustainable production conditions, the end of extreme poverty, the creation of social stability and the rejection of discrimination. Several studies have sought to construct a human security index, which generally includes elements of the human development index (education, health and income), an indicator of equity, but also the choice between generations, that of the future versus that of the present. The perception of security is based on a social structure, which highlights problems of cultural, religious, linguistic and national identity and the question of the survival of traditional communities. The measurement of human security is difficult and suffers from a lack of consensus in defining and interpreting the data. However, there is no doubt that it is an interesting tool for understanding the international security situation.

Human security is a central objective of economic development because it expands human choices and the quality of life of society and individuals. Markets need the security of economic exchanges, justice to judge trade conflicts and police to stop illegal activities and violence. Finally, unbalanced development stimulates predation tendencies. For Amartya Sen²², the unequal distribution of freedoms, rights and substantive capabilities should be given as much attention as income. Similarly, for economic security, both inequality and poverty are the roots of individual vulnerability. Today, more than fifty percent of the world's people live with a sense of precariousness. Security requires that people have economic access to basic foodstuffs. Global food production is important, but inequality and lack of purchasing power are the main factors of famine. For the UN, access to work, a guaranteed income, protection against diseases, access to health security, a sufficient level of education, the availability of clean drinking water and unpolluted air on a daily basis, respect for traditional or ethnic peaceful relations and human rights and personal protection against violence are the main dimensions of economic security policy. Without controlling inequalities, class tensions, ethnic violence and regional conflicts generate general insecurity. The dominant paradigm of liberal economics ignores the inequality debate as irrelevant in the short term. It considers that economic development implies social sacrifices in areas such as health, education, environment and employment. Well-being enhances the stability and sustainability of human security.

In today's world, the state has the capacity to produce security among people, both within and outside its territory. All interests are subordinate to the state, which must protect national borders, values, institutions and people. Thus, national defence refers to the state's ability to deter or defeat an attack to protect its territory, maintain its integrity or strengthen its national power at the international level (in an idea of hegemony, international or regional military power). For Todd Sandler²³, prevention and protection have different externalities. Security equipment aimed at reducing the likelihood of a

²⁰ Saez, E., Zucman, G. (2019), *The triumph of Injustice*, W.W.Norton & Company Inc. New York. Fontanel, J. (2016), *La sécurité économique et sociétale*, PSEI, Paix et Sécurité Européenne et Internationale, Nice.

²¹ Fontanel, J., Corvaisier-Drouart, B. (2014), For a general concept of economic and human security, in *The evolving boundaries of defence : an assessment of récent shifts in defence activities*, (Bellais, R. Ed.), Emerald, Bingley, U.K., 2014.

²² Sen, A. (1981), *Poverty and famines: An Essay on Entitlement and Deprivation*, Oxford University Press. Sen, A. (2002), *Identité et conflit. Existe-t-il un choc de civilisations?* in Jacques Fontanel (direction), *Civilisations, globalisation, guerre. Discours d'économistes*. Collection Débats, Presses Universitaires de Grenoble, Grenoble.

²³ Sandler, T. (2003), *Collective Action and Transnational Terrorism*, *The World Economy*, 26(6), pp.779-802.

collectively undesirable phenomenon may be invested at the expense of other targets (negative externality), which often leads to insufficient investment in security. Thus, protecting a site against terrorism leads to increased security costs which, all other things being equal, will not be used on another site, increasing the overall risk. Finally, compensation schemes modify agents' reaction to risk and encourage them to play on moral hazard. The State is the only actor centralizing public decisions and deciding on security strategy. The current actions of the United States seem to develop the dubious effects of "American imperialism" with a "clash of religious civilizations" in return. However, when it comes to the state, the state conducts a policy that is not necessarily based on the interest of all citizens. Democracy is in danger because those who have both the financial and information means to convince other individuals of the interest of a trickle-down strategy that ultimately aims only to increase their own power and wealth concentrate the means.

Today, military action has been partially reconsidered, moving from the traditional objective of predation and hegemony to the defence of economic interests and the search for alternative strategies to terrorize terrorism. People-centered human security, aimed primarily at protecting the well-being of human beings, is about protecting citizens from international aggression, environmental threats, infectious diseases, economic recession, poverty and inequality. Economic interdependence could bring security benefits²⁴. The participation of regional and international organizations, local communities and non-governmental organizations is necessary. What is the main situation of insecurity, for whom and where? An international agenda needs to be established through a negotiation process involving international organizations, states, non-governmental organizations, private companies, financial institutions and some scientists.

Economic security is not always valued. Precariousness is even sometimes claimed as a certain factor of progress for humanity. In fact, this analysis supports liberal analyses; it allows all economic and social activities to compete. The law of the strongest is an ancestral practice that our societies could today call into question. Predation is not a noble activity of production; it is part of unequal distribution, the refusal of a collective future, the highlighting of daily violence. National security must be open to economic conditions, because they finance the armies, the police, and the rule of law. However, it cannot be only state security, especially since the democratic state is seriously threatened by the inequalities of wealth and means that lead democracies to gradually give in to the values of the plutocracy. The patrimony of mankind, the Earth, is today threatened. Each State, each region, each individual must today want human life to be more degraded, and even improved in equity. Economic development must open up to mankind, who is at the centre of attention in the search for sustainable, durable development, with a real desire to eradicate poverty and reduce all forms of inequality by developing a society of mutual tolerance, a true guarantee of human security and freedom.

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²⁴ Kauffmann, M. (2006), *Gouvernance économique mondiale et conflits armés*. Banque mondiale, FMI et GATT-OMC, Collection La Librairie des Humanités, L'Harmattan, Paris.

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4. The consequences for peace of the underlying ideologies of economic and management sciences²⁵

In the usual dictionaries, war is defined as "the use of armed force" in a conflict situation. With surprise, they define peace mainly as "the absence of war". These definitions highlight the endemic permanence of wars and the historical force to threats of armed conflict. War has always been an instrument of predation and power.

- Heraclitus considered that "war is the father of all things".

For Thomas Hobbes, "men are naturally in conflict with each other".

Internally, states have the vocation to settle the conflicts of their citizens through laws and, externally, to protect them by developing armed forces intended to dissuade their potential enemies. They take up the old principle of "Si vis pacem para bellum". Wars and threats of war remain constant realities in our societies and the twentieth century was particularly fond of deadly conflicts.

At the beginning of scientific economic thought during the sixteenth century was mercantilism. For mercantilism, war is an instrument like any other to ensure the power of the Prince, notably through the search for economic autarky and economic independence from other country. They accept slavery and racist laws.

On the contrary, for Montesquieu, the market economy is a factor of peace, because the growth of international trade makes all economic actors interdependent.

Friedrich List challenged these analyses by considering that free trade can only be adopted when all states are constituted within their natural borders and when they have equivalent political and economic power. The effects of domination by one country over another prevent free trade from being truly free, which is a cause of conflict and war.

For Marx, the class struggle (the bourgeoisie against the proletariat) constitutes an essential factor of capitalism, leading ineluctably to the relative and absolute impoverishment of the proletarians with the phenomenon of pauperization. The imperialist wars are only the ultimate avatars of the class war.

These four types of analysis are, in sometimes slightly different forms, still relevant in modern economic thought. Today, economists have always opposing conceptions on the peaceful interest of the market globalization.

For the neoclassical mainstream, peace is a strong hypothesis, seldom discussed, never included in their analyses. The conditions for liberal peace do not relate to equality, but to fairness while respecting competition and everyone's effective productive contribution. To agree with this proposal, three basic postulates are required.

- First, the growth of international trade is a factor of peace, which is supposed to be the normal situation of the market economy.

- Secondly, improving the knowledge of economics promotes economic development and justifies, without any conflicts, the incomes of each economic actor.

- Finally, growing economic interdependence tends to reduce government intervention in the economy. Any manifestation of "economic war" is only a political decision against anti-capitalist societies.

The theory of democratic peace supports the rise of multilateral organizations, which are presented as the fundamental instruments of market globalization. Indeed, they create an international environment favourable to the freedom of trade and the democratization processes of countries. To improve the fluidity of political, diplomatic, economic and strategic exchanges, States have set up international organizations such as the United Nations Organization, the World Trade Organization or the International Monetary Fund, intended to regulate commercial and diplomatic exchanges and to settle disputes and conflicts between States.

²⁵ Mahatma Gandhi Center for Conflict Prevention and Management, ABBS School of Management, Bangaluru, India and Binghamton University, USA, Bengalore, 5 Août 2021

Moreover, the rapid and permanent economic development of the great capitalist powers leads underdeveloped national economies to engage, by imitation, new democratic rules in their countries. With the development of trade, the considerations linked to economic interdependencies become too strong for conflicts to arise.

After the collapse of USSR, economic globalization was supposed to produce greater solidarity between nations, to increase productive efficiency, and to promote the economic development of all national economies. Francis Fukuyama spoke about "the end of History".

Three decades later, international tensions have not diminished. History has shown that economic interdependence is not a guarantee of world peace. States retain their sovereignty and armed conflicts have sometimes broken out between members of the same international organizations.

Wars and crises marked the history of capitalism since its origins.

Economic and financial crises have often resuscitated state economic protections and nationalist sentiments. Donald Trump, as President of the United States, wants to return to a more political and mercantilist conception of economic policy, expressed by the slogan "America first".

- For economists of Marxist inspiration, the class struggle has not disappeared. International tensions are rooted in the fundamental contradictions of the capitalist system. In other words, the conflicts and the struggle of classes and nations are inscribed inside the heart of capitalism. There may be temporary peace, but excessive exploitation and injustice inevitably lead to social conflicts and civil wars.

China's economy represents state capitalism rather than a socialist market economy. The state runs a large number of state-owned enterprises. Behind a global management geared towards export and international trade, it is developing a new mercantilist policy. State-owned enterprises are indirectly protected from foreign companies and exporting companies are clearly supported by monetary policy. In principle, the Chinese government manages these companies in the same way as private companies, including dividends. However, a great opacity of information and the control of the political and economic management of the country allow the government to intervene directly on all the sectors of the national economy. It operates it within the framework of an organisation that tends to develop a world leadership in strong competition with the American model which is itself strongly competitive, in particular in the search for the monopoly of the hardware and software information technologies.

- Many economists highlight the domination of developed countries, to the detriment of poor people and the excluded nation to richness. The military conflict is replaced by the economic competition, which is first and foremost a problem of power expressed in all dimensions of social and cultural life. Under these conditions, for the dominant States, the conquest of markets in all countries can be preferred to the interest of a territorial invasion without military armaments. It is a permanent war for richness, waged by powerful nations and their companies, in order to obtain a share world production more favourable to their national or private interests. The resurgence of protectionism and trade wars between major regional blocs is to be feared.

- In the same way, Robert Reich, recommend that a country must be driven like the business of an enterprise. "Wild" globalization is leading to inevitable disintegration of national economies and risks increasing insecurity and impoverishment. Through an adapted industrial policy, USA must be the arbiter of a new globalized economy, in the framework of a "controlled" international peace based on democracy and freedom, secured by a strong military power. In this concept, it's about getting the world leadership of a country, the USA.

The power relations of the United States are all the more effective today, as the process of globalization has made most multinational companies dependent on American laws, thanks to their extraterritoriality. Economic war and military power threatens are used for the interest of USA. This policy demonstrates that economy is still a cause of war, a means of armed conflict and an efficient arm against "rogue states" and their friends. By their detractors, globalization is a factor in the privatization of states and American hegemony. Political democracy is now replaced by a plutocracy that indirectly runs the economic life of countries, relying on a supposedly democratic process that their information organs control.

Many countries do not hesitate to apply the policy of "beggar thy neighbor", which allows a country to develop at the expense of its allies. Tax havens are getting richer at the expense of countries that are victims of illegal or secret procedures, which lead states to increased public debt or a decrease in the quality of their infrastructure.

Moreover, economic factors are violent weapons against those who do not comply with the principles laid down by international organizations. They highlight a political or strategic disagreement with a country and they indicate the means to eliminate its effects. For instance, no organization can prevent a state from suspending economic aid to the least developed countries.

"Economic warfare" includes oblique weapons, such as embargoes, boycotts, freezing of assets, "malware", secondary sanctions and above all economic blockades.

States declare to engage in coercive economic procedures in order to force the target country to renounce a political or military action deemed unacceptable, such as the annexation of Crimea by Russia.

The use of these weapons is particularly sensitive, as they are not without risk to the user. The strategies of international punishment such as the direct sanctions intended to condemn Iran's nuclear armament efforts and the "secondary" sanctions against all economic actors with commercial relations with Tehran, are violent and sometimes lethal retaliatory actions. This strategy of disruption has the direct objective of political regime change in the target country.

For the political economy of humanitarianism, the search for satisfaction of needs presupposes collective action, undertaken by the public sector or by NGOs, with a view to reducing poverty, improving the living conditions of each and ensuring dignity and human's security. For François Perroux, the fundamental objectives of any economy are of feeding people, caring for people and freeing slaves. Amartya Sen analyses "entitlements" as the fundamental indicator of the economic development of a society. Globalization will become a fruitful process only if it is able to resolve the issues of employment, living conditions, precariousness and solidarity between states and citizens.

However, peace is still threatened by divergent economic, political and sometimes religious interests. The economic peace of liberalism is still unattainable. In the early 1970s the Club of Rome report "Limits to Growth" was a first reminder of the fragility of Earth.

Demographic pressure, land depletion, climate change and economic inequalities are leading to the appearance of new scarcities. This situation favours social and international tensions, with probable warlike outlets and domination effects. All countries will be concerned, as migration, religious or ethnic conflicts and social violence will forcefully invite themselves into the human history of the XXIth century.

Today, some ecological catastrophes are announced on the earth life. War or the threat of war forces a re-evaluation of the current economic model and shows the need to adopt new norms that are particularly difficult to apply in a capitalist system. Capitalism is lived as a matter of course, but it is beginning to reveal its shortcomings, particularly in the areas of ecology, the environment, the climate, but also in the inequalities of income and power between countries or in relation to a group of industries.

The question of the relationship between the economy and war is often answered ideologically, far from the human realities of our time. Today, the emergence of conflicts and wars concerning the threatening evolution of global warming can lead to vast areas of migration and the appearance of increasingly violent conflicts between states, without a process of positive negotiation at the global level to regulate the dangers that weigh on the planet Earth.

Economics has overshadowed the political economy. Economic crises remind us that the economy is also political and that the great theories cannot overshadow the reality of human life.

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5. Economic globalization is not a factor of peace Pax Economica²⁶

Today globalization is not a new process²⁷. Since the sixteenth century, the great economic powers have had the ambition of colonizing countries, in a constant process of predation of wealth, which Lenin theorized under the term of imperialism. According to most enlightened philosophers, committed politicians and economists, this was a process of "civilization" of peoples deemed primitive or possibly opposed to their well-understood economic interests. Even the liberals then borrowed the mercantilist rules of power of the Prince²⁸, relying both on the duty of evangelization of pagan or superstitious souls and on the supposed inferiority of the races, without being overly concerned with this contradiction. Friedrich Engels was the only one to consider that this division of the world, necessary for a time to resolve the contradictions of the capitalist system (accumulation of capital, downward trend in the rate of profit and increased poverty of wage earners), ultimately led capitalist globalism to war. World opposing all the major industrial powers. This was to result in the advent of socialism, the first step towards world communism. During the interwar period, the globalization process was interrupted both by the 1929 crisis, partially fought by Keynesian remedies, and the advent of the Soviet Union and communist influence in the inside the capitalist countries themselves. After the Second World War, the existence of two antagonistic economic systems (capitalism versus socialism) and the existence of nuclear weapons led to a cold war, which was an obstacle to the process of globalization, and to anti-colonialist struggles. In this context, the Third World did try to get out of its dependence on the formerly colonizing metropolis, but it did not succeed in imposing a New International Economic Order that it called for. We then witnessed a struggle of political-economic systems, which did not commit to globalization. Europe weakened by the wars on its lands has embarked on a delicate process of regionalization, by creating the European Economic Community.

The accelerated globalization since the early 1990s has naively posed the question of the end of history in a new form²⁹. Are we witnessing, through the globalization of trade, a new and definitive trend towards the pacification of international relations? The development of the facts does not seem to follow up on such a hypothesis³⁰. Today, the community of economists is divided on the strength of the link and the sense of causality between the trading world and armed conflict. The postulate of the liberal thought of a peace maintained thanks to the respect of the free conditions of circulation of the factors of production and the goods and services is still dominant in the economic analyses. However, despite the rejection of the MAD strategy and the liberalization of trade and the process of globalization, and we are witnessing a multiplication of conflicts. Under these conditions, the economic values, which the commercial world defends, cannot always present themselves as the main foundations of peace. Economic interests always remain, as in Antiquity, factors of military conflicts. The war in Afghanistan, in Iraq, in Lebanon, the civil wars, the right to interfere are all warning signs of the reduced bond which unites the process of globalization and peace. We can even wonder about the following question. From a certain level of globalization, are there not contrary effects which refute the effects of such a process and which lead to a challenge and a rejection? The rapid speed of a globalization process often

²⁶ ECCAR, Economistes Contre la Course aux Armements (ECCAR), Grenoble, novembre 2019

²⁷ Fontanel, J. (2017), *La globalisation économique est-elle un facteur de sécurité et de paix*, Institut libre des Relations Internationales (ILERI), Mars 2017. Fontanel J. (2005), *La Globalisation en « analyse » : Géoeconomie et Stratégie des Acteurs*, l'Harmattan, Paris,

²⁸ Fontanel, J., Hébert, J-P., Samson, I. (2008), *The birth of the political economy or the economy at the heart of politics. Mercantilism, Defence and Peace Economics*,

²⁹ Fukuyama, F. (1989), *The end of History, The National Interest*

³⁰ Saby, B, Saby, D ; (2019), *La science économique, paravent de la guerre économique*, Annuaire Français des Relations Internationales, AFRI, Paris. Galbraith, J.K. (1974), *La science économique et l'intérêt général*, Paris, Editions Gallimard, 1974 (Original title : *Economics and the public purpose*, 1973)

favours the rich regions to the detriment of the poor regions, it causes a precariousness which has become more and more unacceptable given the capacities of human production and it suggests the hegemony of certain religious or philosophical values which are not recognized by all parties. In other words, the process of globalization then finds brakes, oppositions and challenges as its development is realized as an objective in itself, without reference to the ethical, moral or economic values which concern the multiple groupings formed in the space, in life goals or in metaphysical beliefs.

For the neo-classic theory, the conditions for liberal peace do not relate to equality, but to fairness while respecting competition and everyone's effective productive contribution³¹. However, equality in international relations is discussed and debatable, taking into account operating rules, which are not neutral. The international economic system is largely dominated and organized by the great powers and by multinational corporations. Under these conditions, the emergence of true equality seems illusory. In this context, liberal peace leads to the exacerbation of the risks of conflict, because it consecrates the permanence of the stakes of power, the supremacy of individual interests and the good conscience in the inequality of men, human groups or Nations. Finally, the question is to what extent the challenges of power and private interests can threaten the integrity of the public service offered by States. Is the globalization gone too far?³²

Besides the dominant idea of a "happy globalization", there is the question of the power issues of actors in international relations. The resurgence of conflicts in a world where the state and the common interest are competing on the one hand by ever larger and more powerful firms and on the other, by the wishes of the Empire of a single State, which carries liberalism in these foundations raises the difficulties inherent in the relation capitalist globalization and permanence of world peace.

"Happy globalization"³³

The aim of the "archaic" war was the predation of physical resources and men in the context of slavery. It allowed a Nation to develop at the expense of other similar entities. Basically, war was a factor of development for some and underdevelopment for others. On the scale of human history, it is only recently that the idea of a close relationship between economy and war has emerged. The idea of pacifying international relations through trade is traditionally associated with Anglo-Saxon liberalism. For Adam Smith, globalization is a means of development, but he does not claim it. It now, at least initially, gives decisive importance to the Nations. International trade then presents itself as an alternative means of accessing wealth and resources, other than by military conquest, and thus preventing conflicts between Nations from being resolved only by violent means. In 1795, Emmanuel Kant, in his Project of perpetual peace, considers that the tripod of peace relates firstly to free and sovereign Republics having their own public law, secondly to International laws and organizations establishing a right of the people and a cosmopolitan right second and third on commercial interdependence.

The peace-making power of commerce quickly becomes one of the pillars of liberal theory, and therefore participates in the construction of the myth. This idea will be taken up without excessive additional reflection by neoclassical thought, for which the respect of the rules of capitalism is sufficient to lead to peace, since everyone receives his due, according to his marginal productivity. The idea, repeated many times, is to consider that when the products are exchanged and move, the soldiers remain in their garrisons and therefore do not initiate any movement towards foreign borders. When the products move, the soldiers do not move.

³¹ Rawls, J. (1997), A Theory of Justice, Harvard University Press, Harvard.

³² Rodrik, D. (1997), Has Globalization Gone too far ? Peterson Institute for International Economic Papers, Washington

³³ Minc, A. (1993), La globalisation heureuse, Plon, Paris. Passet, R. (2000), L'illusion néo-libérale, Fayard, Paris.

The question then is why do states (or groups, in the case of internal war) go to war? There is a struggle between individuals or private or public communities for control of resources and the appropriation of power. This explanation is not sufficient. Thus, conflict is not necessarily an inherently negative phenomenon for everyone. By the 19th century, utopian socialists were mostly in favour of colonial wars, which accelerated the establishment of a Western civilization deemed superior. In this context, war appeared as the triumph of the rational man over the wild man. Even today, violent conflict sometimes appears to be the only way out when a society does not have or no longer has the means to manage and resolve divergent interests. Some wars are the result of conflicts of interest that are not necessarily economic, which affect in particular the conditions of men. A war against colonialism, if no other solution can be imagined, is sometimes the only way to liberate men and slaves. In this case, it carries within it a project of economic, social and human development for dominated men. Today, with the assertion of the right of peoples to self-determination, partially challenged by the right to interfere, wars are presented as a political means to accelerate human values and respect for democratic laws and merchants.

For the dominant school of thought, the primary virtue of globalization is its ability to increase economic prosperity, which in turn fosters the expression of peaceful values around the world. Globalization encourages contacts and promotes communication between private and public actors and between countries, thus facilitating the establishment of cooperative policies. With the development of trade, the considerations linked to economic interdependencies become too strong for conflicts to arise. The gains from trade are pushing private actors to lobby for peace with their governments. This behaviour is of course reinforced by the expression of an individual interest, logically resistant to the idea of going to die for obscure reasons. Prosperity reduces aggression and grievances based on inequality. In this context, it has been deduced, in a simplistic way, that the economic interdependencies between two countries within the framework of a controlled globalization reduced the risk of conflict.

However, if experience has shown that war is as costly economically as it is human, it is difficult to quantify this price. Probably the least inaccurate reasoning involves the concept of opportunity cost. So what is the opportunity cost associated with war? It is the economic cost of the military campaign must be added the shortfall of what will not have been achieved because of the war, that is to say the economic benefits of trade with the country against which we're going to fight. The higher the cost, the greater the chance that the economic benefit expected from military victory will be reduced. The stronger the commercial ties, the higher the opportunity cost. In this context, globalization makes States economically more united and therefore less sensitive to war sirens.

Another reasoning leading to a similar result can also be advanced. The breakdown of trade is a signal of conflict, which is militarily akin to the destruction of bridges. They lead to a worsening of the separation between the two adversaries, to an accentuation of the information deficit and to the observation of irreversible evil. In this context, the cost becomes very high and the armed conflict can only worsen, take extreme forms and become less and less coherent in economic terms. This working hypothesis provides an interesting explanation of the worsening of conflicts resulting from the emergence of associated economic problems. However, it does not take into account political, ideological, and identity factors, which cannot be analysed by the mere expression of the issues of wealth and power. The concept of globalization does not have the same meaning for everyone, nor does it have the same contours. The advantages of some are often disadvantages for others. In this context, the "losers", at least in relative form, can oppose this process in order to retain their prerogatives.

In fact, trade and military conquest are substitutable means for acquiring the resources necessary for the political stability and economic growth of sovereign nation states. They are even sometimes complementary and not opposed. Note, however, that globalization is not limited to the economy; it also allows cultural rapprochement, communication, and ultimately the emergence of global public goods. It is a process favourable to economic development, but also not without conflict and probably without war.

Permanence of state power issues

Globalization is a "progressive" approach. Marx the first recognizes it. "The bourgeoisie, by exploiting the world market, has made production and consumption of all countries cosmopolitan. [...] The former local and national isolation where each was self-sufficient gives way to mutual dependence between nations. [...] Thanks to this rapid improvement of all the instruments of production, thanks to the communications made infinitely easier, the bourgeoisie leads in the course of civilization to the most barbaric nations. ". The mutual dependence between nations, brought about by the extension of the capitalist mode of production, attenuates the conflicts of competing interests of the national bourgeoisies³⁴. However, for Marx, the definitive disappearance of conflicts will only take place when the inevitable extension of the capitalist mode of production will lead to the victory of the proletariat, synonymous with the advent of classless society, first in the states taken in isolation (establishment of socialism), then at world level (advent of communism). The day when class antagonism within the same nation falls, the hostility between nations also falls. There are therefore two stages in the process of "cosmopolitanisation" (Marxist globalization), first, the attenuation, by trade, of conflicts between bourgeoisies before the victory of the proletariat by taking the direction of the tools of production.

Today's globalization is criticized. She is accused of developing inequalities and conflict factors³⁵, by giving power to the actors of international finance and to an unscrupulous trading world³⁶. As it stands today, it does not lead to the convergence of living conditions all over the world. On the contrary, it increases disparities and aggravates the poverty of a growing part of the world population. Globalization is leaving a painful mark in developing countries, with increasing indebtedness, imbalances in national production, the widening of the technology gap or the degradation of the environment. Under these conditions, contrary to what the World Trade Organization affirms, globalization does not participate in the factors that produce the conditions for peace. Is war or war threats necessary for the economic developed countries?³⁷

For Amartya Sen³⁸, globalization will only become a fruitful process if it is able to resolve the questions of employment, living conditions and precariousness. In this market context, the development of solidarity becomes a necessity. Globalization is not able to ensure prosperity for everyone, it even maintains and develops inequalities; which are factors of violence, war and political instability. It does not have moderating mechanisms, based on minimal solidarities, imbalances capable of framing economic developments. Today, poor countries are suffering from growing insecurity, while rich countries, especially the United States, have an excessive security temptation. In this context, globalization allows wealthy groups (countries or social classes) who profit from the market system to behave like islands of prosperity that should be protected against the aggressions of the "damned" of the Earth, who are born and are developing inside and outside of developed countries.

The state is a key player in the globalization process³⁹. He basically defends commercial and financial interests, notably with the World Trade Organization and the International Monetary

³⁴ For more similar and complementary analyses, see : Lénine V, O. L'impérialisme, stade suprême du capitalisme, Paris, Editions Sociales, 1971. Baran,P., Sweezy, P. (1966), Le capitalisme monopoliste, Maspéro, Paris, 1968

³⁵ Bourguignon, F. (2012), La mondialisation de l'inégalité, Coédition Seuil et République des Idées, Paris.

³⁶ Fontanel, J. (2019), Globalisation économique, facteur d'inégalités, CESICE, Université Grenoble-Alpes, Grenoble, hal-02142671. Grenoble.

³⁷ Ruttan V.W (2006), Is war necessary for economic growth? Military procurement and technology development, New York, Oxford University Press, 2006, 212 pp.

³⁸ Sen, A. (2003), Identité et conflit. Existe-t-il un choc des civilisations ?, in Fontanel (2003), Civilisations, globalisation et guerre (en collaboration notamment avec Arrow, Klein et Sen), PUG, Débats, 2003.

³⁹ Barre, R., Fontanel, J (1991), Principes de politique économique, Coll. Eco+, PUG, Grenoble. Smith, R., & Fontanel, J. (2008). International security, defence economics and the powers of nations. In Fontanel, J., & Chatterji, M. (Eds.), War, peace and security, contributions to conflict management, peace economics and development. London: Emerald.

Fund. It becomes an instrument for defending the special interest and the functioning of the laws of capitalism. Governments also protect national economic interests. If the great economic powers continue to be managed by strong states, these do not limit their action to the protection of the system of generalized free trade. They support large companies whose national character is fading. Nevertheless, the collusion between public and private interests hardly makes it possible to differentiate what belongs to a well-understood collective interest and the private interests of private firms, with strong political power. The militarization of the United States (whose military expenditure represents an amount equivalent to that of all military expenditure in other countries of the world) is the main response brought to these new threats, to the detriment of possible efforts of solidarity and social justice. Is the Iraq War a response to the economic difficulties of the United States in terms of energy dependence? In this context, the military sector comes to the rescue of the economy under the pretext of questionable democratic and humanitarian considerations.

There is confusion between economic security and military security, which sometimes poses a specific threat to globalization and an expression of hegemony of the Western powers, under the undisputed leadership of the United States. For the American government, national security encompasses values in economic entities. Without strong economic power, the military sector cannot assert its security role. The Soviet example is there to remind that the military forces cannot express themselves effectively without a powerful economy, adapted and capable of financing the security need of the citizens.

Multinational companies operate in an environment that will become increasingly hostile to their activities, to their relocation and to their permanent search for privileges for the benefit of shareholders and techno structure to the detriment of other citizens. The current absence of a global opposition movement, comparable to that of the unions born in the 19th century, still leaves an important advantage for the beneficiaries of globalization. But their excesses and their impunity could well be the occasion for the creation of a great social movement. In this context, military means would be ill suited to the repression of its claims. The 21st century world order is likely to be marked by the return of the logic of national power. Globalization is not mechanically eroding the logic of power⁴⁰. On the contrary, it develops strategies of power and appropriation favoured temporarily by the dynamics of interdependence. The question that arises today is the follow⁴¹ing: Do citizens of democratic states recognize themselves in the actions of the state? Are we not witnessing a privatization of public authority?

Globalization, a factor in the privatization of states and American hegemony

The larger the markets, the more companies expand, until they are compared, in size or financial power, to real states. In truth, the complexity of the world appears in all its violence and its vagaries. The economic actors are complex, they have several simultaneous social functions. Today, businessmen haunt the ministerial corridors and vice versa. For elections, companies are called upon, when they themselves do not take internal or external political actions.

Firms are brought to play a significant role in interstate relations, not only as actors that States must take into account to define the general interest, but as entities capable of putting themselves in direct competition with States, d 'equal to equal, and having almost equivalent means of action. In some cases, the state can be an instrument at the service of multinationals, which amounts to a privatization of the national interest. It is then quite simply an extension of private interests, a "servant" of commercial and financial powers. International relations themselves are being privatized. Businessmen get involved in political life or exercise a significant influence through their funding or their commitments in the dark corridors of democratic rules. It is easy to see the

⁴⁰ Coulomb, F., Fontanel, J. (2006), Mondialisation, guerre économique et souveraineté, in « *La question politique en économie internationale* », La Découverte, Paris. Fontanel, J., Bensahel, L. (1992), *La guerre économique*, ARES, Vol XIII, 4, Grenoble, 1992.

⁴¹ Fontanel, J., Corvaisier-Drouart, B. (2014), For a general concept of economic and human security, in *The evolving boundaries of defence : an assessment of récent shifts in defence activities*, (Bellais, R. Ed.), Emerald, Bingley, U.K.

increase in "revolving doors" and "production agreements" which ultimately reveal electoral compromises. How many times have these accusations been brought against the entourage of President Bush!

War is likely to take new forms based on forms of economic slavery for the benefit of large multinational corporations, with no other battlefields than a weakly competitive market. The question does not arise only for military or oil companies, whose link between market and conflict is perhaps more easily distinguished. Multinationals, even the most harmless, lead any space of exchange and commerce to issues of conflict.

Finally, we must ask the question of the famous conspiracy thesis of the war industries. What makes the military-industrial complex specific, and gives it its unique status, comes from the fact that the arms industries do not only cross the line between commercial interest and national interest: they are directly linked to the act of war itself. Their prosperity is not only linked to conquering and mastering the markets, it is also linked to war or the threat of conflict. These transnational industrial enterprises today ignore borders and acquire considerable financial power and power of influence. Given the specific nature of these industries, its requirement for secrecy and its refusal to respect the laws of the World Trade Organization, the weight of the military-industrial complex is considerable in political life. Armaments' economic activity is prosperous and the share prices of its companies have flourished since 1945, as Serfati and Mompayé have shown. In this framework, the citizens are more equal. We are then witnessing a "privatized" use of the collective interest.

Finally, globalization contributes to the erosion of the real power of states (in the sense of representing the collective public interest), by putting their coercive power in the hands of the largest multinationals, and by relegating diplomatic channels to the background market "regulatory mechanisms". It not only threatens the modes of expression of interstate relations, because it also disfigures local values by introducing the convergence of consumption patterns, cultures and tastes.

The liberal model stands out as a universal way of thinking and operating the world. The concept of governance, borrowed from companies (corporate governance) is now at the centre of the discourse of the Bretton Woods institutions, which until the 1990s spoke even more soberly, without necessarily being more successful, of structural adjustments. The language here reveals a radical change in philosophy. In this context, the hegemonic country economically and militarily imposes its ways of thinking, its constraints, its values, its products, its finance and its culture. The principle of humanitarian interference is applicable today not only to humanly unbearable situations, but also to the conditions of expression of the hegemony of the American and Western world.

At the same time, the United States has unparalleled military and economic power around the world⁴². Progressively, Washington imposes its national commercial rule to the world⁴³. In this context, we must remember the words of King Lear "We obey a dog when he has power". However, the United States government displays a clear desire for economic, commercial and cultural domination. It gives itself the military means to enforce it if necessary and to promise to use their overwhelming military supremacy for this purpose. This assumed hegemonic will not be lacking in growing disputes around the world. Terrorism is an antipathetic expression of this phenomenon, which is likely to increase in the years to come until calling into question the economic bases of a system that needs security to express its capacity for innovation and development. The United States government, under the guise of national interest, seeks to limit all economic, political and military risks. In this context, it tends to express itself as a world

⁴² Fontanel, J. (2017), *Etats-Unis, sanctuaire du capitalisme. Un siècle de leadership américain en questions*. PSEI, n°8. <http://revel.unice.fr/psei/index.html>, Fontanel, J. (2018), *Puissance et nationalisme économique*, PSEI, Paix et Sécurité Européenne et Internationale, Université de Nice Sophia-Antipolis, hal – 01934752.

⁴³ Laïdi, A. (2019), *Le droit, nouvelle arme de guerre économique. Comment les Etats-Unis déstabilisent les entreprises européennes*, Actes Sud, *Questions de société*, Arles.. Sushcheva, N., Fontanel, J. (2020), *L'arme économique du droit extraterritorial américain. La menace politique, stratégique et économique du leadership américain sur l'ensemble des économies nationales et des entreprises dans le monde (à paraître en russe)*. Disponible en français, hal-02144089.

government, dominated without division by the United States and imposed by the force of its oversized military tool.

The observation of globalization's drift and collateral damage are easily identifiable, in particular the growing impact of finance on trade, the militarization of private relations and the privatization of public activities. Forced and unequal globalization ignores cultural identities and the challenges of sustainable development, and promotes the hegemonic and authoritarian superpower. However, this will inevitably be challenged, particularly on the religious, philosophical and cultural levels. This will create new security risks.

The economy is both a cause of war and a means of armed conflict. The "war" has changed in nature. National security has to introduce progressively the concept of sustainable development⁴⁴. If it is not the main concern of today's societies, it is a recurring threat, without battalions on a battlefield. It no longer expresses a conflict in a particular field; it is diffuse, based on political, military and economic variables. Economic warfare is to state terrorism what war destruction is to armed conflict. It is a question of using the adapted weapons to obtain a right or the exercise of domination. As such, blockades, sieges or power actions of the mercantilist type can again become techniques of war or conflict recognized by the States. This is why economic and military values become inseparable, which clearly expresses the close relationship between globalization and the balance of power in today's world.

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⁴⁴ Wirth Timothy E. (1994), "Sustainable development and national security", address given by the Under Secretary for Global Affairs before the National Press Club in Washington, D.C., on July 12, U.S. Department of State Dispatch, 7/25/94, 5; 30 (1994).

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6. Human security, national security and globalization

After the collapse of the Soviet Union, the process of economic globalization seemed inescapable, encouraged by most states and supported by liberal economists who insisted on deregulating, deregulating and decompartmentalizing national economies and international finance. An optimal economic growth was to result which would benefit all countries through the "trickle down" effect of income from the rich to the poor, thus reducing famine and hunger, at least in the long term. Wars would become increasingly unlikely as economic interdependence would reduce the opportunities for armed conflict. The fear of nuclear war would fade, and American power and capitalism could organize, if not impose, world peace. Peaceful trade in complete freedom became the basis of global societal life. In terms of defense, Washington became the world's principal policeman. The story was beautiful, a fairy tale. However, at the end of 2021, wars, terrorism and economic conflicts have not disappeared.

The Covid-19 pandemic has clearly highlighted the dangers of an economic globalization that has little respect for environmental standards and is always threatened by the belligerent actions of the great powers in the never-ending race for economic, strategic and political power. It underlined the inability of States to find rapid solutions to the dependencies of Nations in the face of the sanitary constraints of a pandemic, thus developing a strong feeling of insecurity among citizens.

More generally, States are undergoing a growing challenge to their economic role and their policies concerning ecology, climate or air pollution are too often inspired by the decisions of specialized international organizations, too often advised by dominant commercial and financial interests. In this context, governments are no longer able to assume the full range of national security. Warlike violence, whether civil, military or economic (Iraq, Afghanistan, Libya, Yemen, Syria or Iran). Even if the principle "Si vis pacem para bellum" is still valid, military power has even lost its aura and its effectiveness, as the tragedies in Iraq, Syria and Afghanistan show. Today, international free trade is less claimed by American democracy than by Chinese capitalist communism. In this context, the Thucydides trap of world leadership between the United States and China cannot fail to worry the citizens of the world. At the same time, the threats of "rogue states" and terrorism have not disappeared. What then are the new forms of state power, but also what are the greatest threats shaking the world in the 21st century?

The forms of state power

In 2020, the combined military budget of NATO forces was estimated to be at least four times that of China and twenty times that of Russia. Yet despite this military hyperpower, the United States has abandoned Afghanistan to the Taliban. In order to defend its regional allies against Beijing's territorial claims on Taiwan and the waters of the China Sea, and to have effective deterrent weapons, the United States unilaterally withdrew from the Intermediate-range Nuclear Forces (INF) Treaty signed with the USSR in 1987. Indeed, while China does not have allies in the region, it is now capable of acting quickly in this theater of operation. Space is also a priority sector for the United States. In August 2019, threatened by Russia and China, which have the appropriate technologies for the conquest of space, Washington created a Military Space Command, with the doctrines of "Space Control" and "Space Dominance". The military power of these great powers is capable of annihilating life on Earth, but at the same time, none of these great powers can hope to annihilate potentially enemy forces without vital danger for all of its own citizens.

Economic globalization implies the increasing interconnection of economic actors through the opening of political borders to trade relations, foreign investment and international finance. In 2021, international public organizations still recommend respecting the neoclassical triptych (deregulation, deregulation, decompartmentalization) applied mainly to international finance but also to national economies, except during periods of pandemic crisis. The result is a rapid growth of financial and economic variables. GDP or GDP per capita, presented as the alpha and omega of wealth production in a market economy, are aggregates that highlight the capacity to produce, without any reference to global warming, pollution issues, tax evasion, non-market production, programmed obsolescence and intertemporal and territorial inequalities. Thus, traffic jams increase GDP, while voluntary participation in a collective service is considered unproductive. GDP hides social inequalities. Used as a basis for reflection, it is both lazy and misleading information.

In principle, the private sector of the market economy operates within the rules set by national or international governments. However, the large production and financial firms exert considerable influence on the decisions of a state and of intergovernmental multilateralism. Having dominant information organs, they value the efficiency of liberalism, they propose technological or legal norms that are favorable to them, they take advantage of the oppositions between national and international public actors to maintain their advantages (notably in the fiscal domain) and they apply a policy of all-out lobbying, under the cover of scientific analyses. The private sector of oligopolistic production is able to influence national governments and parliaments and intervenes directly with international organizations to maintain or develop systems of laws that ensure the continuity of their activity in an adequate legal space. It supports the "trickle-down theory", according to which the enrichment of the "first in line" (the richest) would eventually benefit everyone. This is not borne out by modern history, of course. The groups and shareholders of large multinational companies and banks have appropriated most of the growth since 1980, thanks to their financial power, the size of their assets and their political and ideological connections.

International organizations are addicted to liberalism. For the UN, the World Trade Organization (WTO), the International Monetary Fund (IMF), the World Bank or the WIPO (World Intellectual Property Organization), the globalization of markets and the freedom of world finance are the objective foundations of a world economic development capable of eradicating poverty and wars. The state should only have a subsidiary role in the economic field, despite some exceptions, especially in times of crisis. The UNCTAD (United Nations Conference on Trade and Development), once the advocate of a more egalitarian New International Economic Order, has lost its influence. The WTO of the powerful has prevailed over the UNCTAD of the developing countries.

The IMF and the World Bank have long defended the "Washington Consensus", which supported the privatization of public enterprises, the deregulation of markets, the respect of industrial property rules, the refusal of public indebtedness, the application of low-progressive tax reforms or the liberalization of national financial markets and foreign trade. These principles imposed on developing countries the pre-eminence of the private sector in the economic field. Today, this strategy has been called into question in view of the bad results of this policy applied by the "beneficiary" states.

In these new times of pandemic Covid-19, the WHO could have become a great health center available to the whole world, but it held first to enforce international norms concerning freedom of trade, industrial property and the values of the commercial world. Vaccine patents are thus protected under a monopoly claimed and protected by WIPO. In this framework, the fortune of a few is more important than the protection of billions of people in a precarious economic situation. After the collapse of the Soviet Union, Washington sought to strengthen its power through the multilateralism of the WTO, in order to extend international trade to all markets, on the basis of health, environmental and technological codes of conduct defined by the United States.

Ideological domination and political lobbying manipulate the information provided to citizens, just like any advertising action. With the control of the media and social networks, the information oligopolies convey the idea that their particular interests are in line with the collective interest. However, the examples of such citizen and customer-friendly behavior are not very encouraging in this respect.

Before the crisis of 2008, private banking organizations in the United States had been given the opportunity to "self-monitor" on the basis of banking and financial statistics. After the crisis, it was found that the banks, in order to maximize their profits, had taken foolish risks by making decisions that the system should have prevented. Even today, in order to avoid any new financial regulation measures that the G20 would like to impose on them, the big international banks have bundled their lobbying interests by defining their own international accounting standards (International Financial Reporting Standards, IFRS). One of their main activities is to ensure the tax optimization and evasion of their clients. For several years, the OECD has been trying to limit the exercise of the policy of "beggar thy neighbour", but on the issue of tax havens, private interests have always managed to delay the control of such lucrative operations. The OECD has been working to find a solution acceptable to all states, but the scandals of Panama's papers, Pandora's papers or OpenLux show the importance of this theft of public finances. It is true that the largest multinational companies will have to contribute 15% of their profits to public resources, but most other companies are taxed much more at the national level. Intergovernmental multilateralism is not attentive to these situations, whereas it should be a priority to defend the "international commons", the great forgotten goods of globalization.

Economic and environmental conflicts

Nuclear weapons are particularly dissuasive to the enemies of states that have them. Traditional wars are costly and ineffective in the medium term; terrorism and economic weapons are a privileged potential means of weakening or coercing a potential enemy. However, the intensity and forms of political-economic conflict are different depending on their application. Globalization has not eliminated international economic sanctions against several countries, including Russia. Economic sanctions do not necessarily imply future military action, they are a warning and sometimes a punishment to be borne by the citizens of the country. The use of economic weapons is intended to exert coercive actions against one or more states. There are several dominant weapons or power relations, such as embargoes, boycotts, blockades, asset and investment freezes, secondary sanctions (in particular the extraterritoriality of sanctions imposed by the United States) and cyberattacks, which disrupt a country's economy all the more as it is involved in a broad process of globalization.

Oblique" weapons have become essential in the manifestation of the political, economic and humanitarian power of States. States declare that they are engaging in coercive economic procedures in order to force the target country to renounce a political or military action deemed unacceptable. Several strategies can be put in place, from impoverishment through preparation efforts to violent war, through strategies of international rupture or punishment, or those of external domination and internal control. In order to act on another country, one needs both a public command unit, but also productions which, because of their technological importance and the relative scarcity of their components, are necessary for the proper functioning of downstream enterprises.

For example, "rare earths" enable the production of clean electricity and are necessary for new information and communication technologies. However, they have three disadvantages: firstly, they are available in limited quantities compared to potential demand; secondly, their extraction is both costly and highly polluting. Finally, most of these metals are poorly distributed in the world, to the great advantage of China, which is taking advantage of this monopoly to attract many high value-added activities dependent on rare metals. Economic, political and military conflicts can arise from this scarcity and from the balance of power between states. The idea, often evoked, of exporting polluting industries to poor countries, then materialized in China, under the direction of an authoritarian State, little concerned with immediate environmental constraints, and in search of international economic leadership. Militarily, the production of most sophisticated weapons depends on the purchase of rare earths. This dependence is potentially an opportunity for military conflict, in a new mercantilist conception of the power of the state over other states.

States can thus take retaliatory measures for security purposes, but also for economic reasons. The suspension of economic aid to a developing country is often an effective action, even in the form of a simple threat. Sanctions are not only applied to countries in difficult economic

situations. The state is in the front line as it wants to protect certain strategic sectors from increased competition. The U.S. government has opposed the Nord Stream 2 project to supply gas from Russia first to Germany and then to Europe. For Washington, companies involved in the Nord Stream 2 project could be sanctioned because the project undermines the security of NATO members. Secondary sanctions" are a decisive issue of state sovereignty. Washington's soft power is particularly effective in the power relations of economic globalization.

States must protect critical infrastructures, but in terms of health, they have almost all failed in the face of the Covid-19 pandemic. The ecological catastrophe is underway, close to the tipping point. The liberal economic system is incapable of taking the radical measures that are needed. "The terrible thing about catastrophe is that not only do we not believe it will happen [...], but once it has happened it appears to be part of the normal order of things" (Dupuy, 2014). Basically, in the face of climate change, ocean pollution and the hazards of nuclear power, genetic engineering or pandemics, humanity anticipates potential disasters, but any prevention fails in the face of present economic interests. The "enlightened catastrophism" assumes that man is in the worst scenario as if it were certain. It is a question of anticipating the retroactivity of the judgment in order to find a resilient link between the present and the future and to escape the recurrent tendency of state policies to reproduce identically the choices guided by the dominant economic interests. All states and all humans are concerned.

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7. GDP, an insufficient indicator for estimating the power and well-being of a country⁴⁵.

GDP is the representative aggregate of all goods and services producing activities of economic agents resident in a country. It aims to quantify the total value of wealth production created by economic agents. It is a summary measure of the total annual value added of all economic agents resident in a country, based on information provided by enterprises, banks and government. It can be calculated in several ways, either unadjusted (nominal or value GDP) or adjusted for inflation (real or volume GDP). The annual change in GDP expresses the economic growth rate of a country. It has, however, become an important instrument for analysing international relations, with States making its estimate the essential marker of their economic policy. However, the calculation and international comparison of GDP poses many problems and the use of GDP change alone is no longer acceptable (Coyle, 2014).

The limitations of GDP as an indicator of the productive power and well-being of national populations

The GDP highlights the productive capacity of a national economy, without any value judgement on the interest of the goods and services produced, on the excessive exploitation of the natural heritage (air, water, forests, raw materials, energy) or on the quality of the well-being of the Nation and its inhabitants. It ignores many economic activities, such as self-production, self-consumption, voluntary work, altruistic activities (free software, donations), barter (exchanges of books or time) or actions of the solidarity economy, which are nevertheless important for social and individual development. Conversely, the estimation of illegal activities is beginning to be introduced into the calculation in the same way as the underground economy in emerging developing countries (Bensahel, Fontanel, 2007). The real value of a country's production activity is then underestimated, as is the estimation of consumer purchasing power in relation to their income. GDP does not take into account the quality of the operations it considers productive, nor the conditions under which they are carried out (slavery or domination effects, for example). It simply measures activities that are invoiced, whether positive or negative.

- Collective services (public health, education or justice) are estimated on the basis of the public expenditure allocated to their operation. In many countries, some of these services are market-based and more expensive (e.g. access to university, health care). As the private health system is more expensive than the public service for an equivalent quality, the level of privatization inflates or reduces GDP, without the services rendered being significantly different.

- Estimates of GDP are often based on statistical conventions, on the basis of statements made by economic agents that are therefore assumed to be true. In addition, states (such as China) may cheat on the figures provided, as we have seen in the case of military expenditure (Fontanel, 1982). Companies are also involved. They use the interstices of globalization to provide the statistical information that enables them to maximize their profits. The globalization of production chains significantly changes the information on the territoriality of real value added. The real prices of transfers of goods and services within multinationals are kept secret, protected by the famous "business secret". It is then difficult to verify the added value relative to a national location whose activity provides only one element of the production chain. The fragmentation of production has allowed the development of international networks of production and exchange which transform the realisation of national comparative advantages. In this context, enterprises are seeking to improve their capacity to integrate into value chains by optimizing their tax and social security systems by bringing maximum value added to the most attractive countries, the lowest tax payers, or the best performers in terms of aid and subsidies. Tax avoidance and optimisation also lead to real changes in the figures (Fontanel, 2016; Saez & Zucman, 2020), notably thanks to the very

⁴⁵ ILERI, Paris, 2020, 3 March.

heterogeneous taxation of property rights. However, when international organisations provide information on the GDP of member countries, they simply transcribe the figures provided nationally, without any control by an authority.

International comparisons raise the problem of a homogeneous definition of GDP and the application of exchange rates. Several statistical instruments have been put in place to limit this random effect, which is sometimes based simply on speculative short-term activity. In particular, the purchasing power parity system consists of constituting a basket of significant products, valuing it in the currencies of each zone and thus determining the "true" value of the exchange rate, outside the monetary and financial system. But this procedure is not without flaws, particularly in the definition of the basket, which, depending on consumption and investment habits, are significantly different from country to country (Donsimoni, Fontanel, 2019).

Last but not least, GDP is indifferent to the social and human conditions of the mode of production, to the reduction of the patrimony concerning arable land, to the impoverishment of raw or energy materials in the subsoil, to the degradation or improvement of air quality, to the progress or decline in healthy life expectancy, to the well-being felt by citizens, to the availability of leisure, to the level of internal and external security, of education or, again, to inequalities of income and patrimony. It does not differentiate between production and nuisance. Among the goods produced, there are "Bads" (nuisance or inconvenience), whose definitions remain complex and conventional. Shale gas and oil are banned from production in some countries while others, notably the United States, produce and sell them for export. GDP makes no reference to the conservation of the natural heritage, which is assumed to be constant and free of charge. In the context of sustainable development, GDP neglects the consumption of natural capital, the value of which, although difficult to calculate, is nevertheless undeniable in view of its relative scarcity in time and space. The destruction of tropical forests in order to produce plants for agrofuels increases the national GDP of the countries concerned, without any regard for the ecological and humanitarian disaster it represents in the long term. It positively accounts for the highly polluting production that promotes diseases such as cancer. It then accounts for three activities: the wealth produced in the market world by the initial productive activity, the commodification of anti-polluting measures and the increase in health spending. GDP will also increase in the event of an attack, natural disaster, car accident or massive pollution.

The "perverse effects" of GDP and its declinations are reinforced by the use that is made of it, since it invites itself well beyond its normal scope of information. The indicator itself is not directly at fault, it is the use that is made of it that is so blatantly, obviously, constantly and permanently flawed that it is difficult not to think that these misuses are more than mere errors or easy mistakes, "deceptions".

With regard to GDP, a sign of economic power and might, the main excess is the image of the G2, the idea, starting from the observation that China's GDP, especially in terms of PPP, is on a par with that of the United States, that Washington now has an alter ego. However, Beijing is still far from the American level whether it is an economic power or, even more so, a global power. One need only recall the global importance of the dollar, the innovative strength of the American economy and the incomparable military power of the United States (Fontanel, 2020).

Similarly, the presentation of unified Germany as the European superpower on the basis of the size of its GDP has had an undeniable inhibiting effect on the development of the European Union and on the functioning of the Eurozone.

The misuse of GDP as a sign of performance and dynamism is reinforced by the assertion that there is a correlation between the level of GDP and unemployment and the need for a certain percentage of growth (at least 2%) in order to reduce unemployment. However, GDP depends on many factors, particularly the social laws that accompany the labour market, but also on the availability of raw materials and energy on the territory of the States. Their decrease or increase is not always due to the dynamism of the country; it is due to the market situation, speculation, strong or weak demand, but also to the organisation of negotiations between countries exporting and importing natural resources. GDP is not a sufficiently reliable and powerful indicator of a country's economic strength, as it does not give any indication of the content and development of the value of natural assets, the stock of economic wealth, the size of national public and private debt and the overall educational, cultural and health (it is only human wealth) potential of a country. Perhaps

the greatest misuse of GDP is in the area of welfare (OECD, 2001). As we have seen, a high and rapidly growing GDP can perfectly well coexist with deplorable living conditions, very high pollution and very unequal income distribution. The "median" wealth in the Global Wealth Data Book (Credit Suisse, 2019) and certain indicators of the human development index (life expectancy, education level), despite their own shortcomings, are more relevant. The use of a satisfaction questionnaire is a useful complement to the assessment of well-being, which is inevitably highly subjective and fluctuates according to the heterogeneity of national and international (regional and global) contexts.

GDP provides only a rough estimate of the national production capacity actually exercised by a country during a given year. Given the number and importance of its technical and conceptual limitations, it should be used only sparingly and cautiously. The announcement of its reduction or even disappearance creates a sense of instability and anxiety. This is the case during the Covid-19 period. However, many other values could also be put forward, such as air quality, social solidarity and political reflection on the living conditions of the poorest. The pandemic is undoubtedly also a warning about the dangers of productivist policies that neglect human values, develop increasingly unbearable inequalities and neglect the notion of well-being. Similarly, military power cannot exist without sufficient economic strength, but too much military spending also reduces the economic potential of a nation and thus, in the absence of war, the capacity of a state in the future to continue this effort (Fontanel, 2010). The collapse of the USSR is a recent example of this.

Other indicators of the comparative power of states

Economists and national accountants, aware that GDP and growth do not always give the necessary signals to prevent major economic, social and political crises in time, have sought to construct and promote other indices as a counterweight to the omnipotence of GDP and GDP per capita. They have developed indicators that constitute alternative compasses, allowing "civil society" to define, democratically, what a better society is for today and tomorrow, and citizens to express themselves on their vital objectives.

Despite common use, power and wealth remain vague and undeveloped notions (Coulomb, Fontanel, 2006). The economic, cultural, military, political and civilisational sectors are essential elements of power. It is undoubtedly preferable to reason in terms of capabilities in all these areas, but experts and the media show little interest in them. Reflection on the concept of power in military matters is limited to an analysis of military expenditure and the number of significant, often heterogeneous, armaments. In the economy, a large foreign trade surplus is often considered to be "the" sign of power, whereas it can also be a major vulnerability as soon as protectionism and economic crisis strike. Similar considerations can be made about wealth, efficiency, and well-being.

In the end, it can be seen that the very exaggerated share of GDP as an explanatory factor for the power of States is largely due to the weakness of scientific analysis of international relations. This is the result of the absence of multidisciplinary analyses, which are often poorly perceived and valued in academic circles. Linked to the market order, it finally benefits from the dynamics of globalisation and the support of those who carry it or have carried it. Washington and Beijing gain from an explanation of the world centred on GDP. Exiting from the GDP at all is likely to be difficult and time-consuming. We must denounce the GDP syllogism - a high and rapidly growing GDP is a sign of performance, wealth, increasing well-being and the growing power of the State. More complex approaches could lead to more nuanced results closer to reality. It should also be possible to take into account not only economic values, but also military strength, scientific innovation, population size, cultural influence, political footprint or diplomatic competence. Thus, military expenditure as a percentage of GDP is an interesting indicator for expressing the ability of a country or group of countries to maintain or develop the national defence military effort, but it is only a partial component of military power. Deterrence, especially nuclear deterrence, and force projection capabilities are also fundamental ingredients of a country's military power and should not be neglected. Moreover, the strategies proposed by the government for the defence of the country can make more or less optimal use of the sums made available to it to ensure the real defence of a country. France's spending on the Maginot Line was of no use in this conflict because

it was bypassed. Thus, this major expenditure was not used for the defence of the country when it was needed.

The gap between the United States and China, which is small if we judge only by GDP calculated on the basis of constant exchange rates, increases as soon as a broader notion of economic power is introduced, including the importance of the dollar, military forces and more generally "soft power". Indicators of international relations do not value the power of the European Union (Guilhaudis, 2017). This can be explained, in part, by the relative fragility of its governance and its relative dependence in terms of collective security. Conversely, China does not yet have a second strike capability, unlike the United Kingdom and France. A country's security is at least as important an indicator as GDP in defining its power (Aben, Fontanel, 2018).

It is therefore necessary to develop other significant indices. William Nordhaus and James Tobin (1973), constructors of the first monetary well-being indicator inspired by GDP, proposed the introduction of two new concepts, 'regrettable goods' (goods that create negative amenities) and 'defensive expenditures' (paid activities whose sole purpose is to repair the damage caused by other productive activities). The aim was thus to restore a sense of well-being threatened by the realization of certain market activities that generate 'regrettable goods'. To do this, they propose to consider defensive or reparative expenditure as intermediate expenditure and not as a final product to be valued in GDP. This conception, which is a priori very relevant, has not, however, been the subject of more detailed statistical studies, no doubt for technical reasons, but also because the conception of 'regrettable goods' or 'defensive expenditure' is not always immediately perceived in this way, their negative effects being expressed in particular conditions of concentration or with a more or less significant delay in perception or scientific understanding.

Osberg and Sharp (2002) have developed a well-being index (WBI) that proposes to estimate several variables such as current consumption flows, wealth stocks (tangible goods, durable consumer goods, accumulation of human and social capital, environmental costs) and income distribution (inequality, poverty, economic and social precariousness). This calculation carried out on 6 countries (United States, United Kingdom, Canada, Australia, Norway and Sweden) revealed distortions between the GDP per capita of these countries and the statistical perception of the well-being of their citizens (Sharpe, Méda, Jany-Catrice, Perret, 2003). For example, in 20 years, while GDP had risen sharply in national currency units, the individual and collective well-being of the British had stagnated (Sharpe, Méda, Jany-Catrice, Perret, 2003). For example, in 20 years, while GDP had increased sharply in national currency units, the individual and collective well-being of the British had stagnated, due to growing social inequalities.

National accountants propose the calculation of indicators of well-being through satellite accounts, but their media and political impact remains too weak. The Human Development Indicator proposed by Amartya Sen and the UNDP partly overlaps with the question of well-being. It gives interesting results, but is sometimes difficult to interpret. It calculates human health and longevity (measured by life expectancy at birth), knowledge or level of education (average length of schooling or ability to make decisions), standard of living (gross per capita income in purchasing power parity) and the satisfaction of essential material needs such as access to healthy food, drinking water, decent housing, good hygiene and medical care. However, these indicators do not always lend themselves to indisputable interpretation. If a country has more hospital beds, is this a sign of a better consideration of the necessary collective care or is it due to the development of new diseases, especially psychiatric ones? The available indicators are not always sufficiently substantiated. Developing countries have a slightly increasing HDI, which shows a better integration into the world economy between 1990 and 2016, with the exception of several African countries.

The United Nations Committee of Experts on Environmental-Economic Accounting (UNCEEAA), in a very interesting approach because it is more global, is working to define an indicator that takes into account the effects on the environment. This involves calculating a green Gross Domestic Product and building a System of Environmental-Economic Accounting (SEEA) an international standard and promoting its implementation in countries (United Nations, 2016).

The Economic, Social and Environmental Council and France Stratégie (CESE, France Stratégie, 2015) have proposed the presentation of ten indicators in addition to GDP to serve as a support annexed to the finance bill. The choices are not indisputable, but relevant and

comprehensible indicators must be selected to inform public policy choices, particularly in terms of "sustainability".

Income inequality is not only an economic problem, but also a political one, for while it also contributes to the definition of collective well-being, it also fuels demands and frustrations. Inequality has a price that of wasted resources in the case of very rich groups whose wealth is no longer a priority. It is therefore a question of implementing an efficiency indicator concerning the potential for political-social "sustainability" of a given situation. A poverty and precariousness rate could also be introduced.

The integration of environmental issues into the measurement of progress is necessary. The carbon footprint measures the amount of greenhouse gases needed to meet citizens' annual needs. The rate of waste recycling tends to lower the carbon footprint and highlights the importance of collective responsibility in refusing to waste natural resources. Finally, the evolution of diversity is highlighted as a criterion, based on the abundance of birds at the end of the food chain.

Table 1 - Summary of the 10 complementary indicators to GDP proposed by the EESC and France Stratégie (EESC, France Stratégie, 2015).

Income inequalities	Ratio of the mass of income held by the richest 10% and the poorest 10% of the population
Climate-energy	Carbon footprint
Resource management	Waste recycling rate
Biodiversity	Bird abundance index
Labour-employment	Employment rate of the labour force (15 - 64 years)
Investment	Physical and intangible productive assets as % of Net Domestic Product
Financial capital	Debt of the various non-financial economic agents (general government, enterprises, households) in relation to GDP
Education	Graduation rate from tertiary education among 25-34 year olds
Health	Healthy life expectancy at birth
Well-Being	Life satisfaction (SRCV/SILC survey)

With regard to employment, a more detailed analysis of job insecurity and "zero hour" contracts should be undertaken, along with the level of social protection for workers and their compensation in the event of unemployment. The differences between States are significant and must be highlighted in order to analyse the comparative situations of citizens.

Investment measures the accumulation of the means of production transmitted from one generation to the next. It is an essential element in the development of the national economy, although its content should also be more finely analysed.

The emphasis on public debt (public administration debt) is probably not always to be favoured, but private debt should also be taken into account (Banque de France, 2015). Not all debt is a burden for a country, it can also be the expression of strong investments towards the future, which will benefit the young population, or of a collective struggle to immediately combat situations of conflict, war or pandemic (Brunat, Fontanel, 2020).

The quality of the education system also measures a country's level of progress. The choice of the rate of higher education graduates among the 25-34 age group reflects an 'elitist' perception of the indicator. Literacy or reading ability rates of pupils at the age of 11 would probably be equally relevant indicators. Similarly, the number of researchers and their capacity to produce scientific discoveries or commercial patents shows a real consideration of human potential in favour of the national economy and technological advances. However, one may legitimately question both the nature of higher education training and its adequacy (whether sought or not) with the jobs of today or tomorrow. The OECD uses the PISA indicators.

Healthy life expectancy (without activity limitation and without disabilities) provides important information, which shows both a consideration of health needs and a capacity to protect the bodies and minds of citizens.

Finally, the indicator of satisfaction with one's life is subjective, and changes according to periods of national or international stress or calm. This indicator can change rapidly according to factors such as terrorism, the influence of the media, the age pyramid, precariousness, but also educational or religious values.

This analysis is a good starting point. However, it seems to us that other factors should also be taken into account, such as inequalities of wealth and income, but also the country's openness to the outside world, its degree of dependence on international trade and technological development, the quality of its diplomatic relations or the strength of its common security alliances (Smith, Fontanel, 2008).

Conclusions

National accountants are well aware of the limits of their instrument; they ask to use the concept of GDP only to the best advantage. But they are clearly not being listened to.

National accountants are well aware of the limits of their instrument; they ask to use the concept of GDP only to the best advantage. But they are clearly not being listened to.

Yet the single or dominant reference to GDP is dangerous. The very idea of economic development, such as indefinite growth and "catching up" for developing countries, is called into question with the concept of "sustainable" development. American-style" economic growth, which consumes too many raw materials and produce too much pollution, cannot be an objective for other national economies, especially if one takes into account the rapid emergence of new rarities. The more worrying ecological and societal issues become, the more we realise that our current systems of indicators, especially GDP, are counterproductive. What is the point of organising Earth Summits, climate and biodiversity conferences, if economic actors, on a daily basis, are encouraged to move towards an unsustainable form of growth?

It is unquestionably important and urgent to move away from GDP imperialism, but we are far from having achieved this. It is also of primary importance to account for the minuses, the "Bads" and their costs, such as the definitive disappearance of certain raw materials, rare earths, the influence of pollution on those concerned and, in international relations, their effects on neighbouring countries. Countries defend themselves to develop or maintain their political and economic power. In the history of economic thought, mercantilists had put the national economy at the service of the Prince's power. Today, while most countries belong to the World Trade Organization, which advocates and defends free trade and combats protectionism, the struggle between the great powers also involves actions that mercantilist thinking would not have denied (Fontanel, Hébert, Samson, 2008).

But probably the most important thing is, contrary to what is currently being done, to try to construct indicators or sets of indicators adapted to the understanding of a given issue - global power, economic power, well-being, security - and not to 'make talk' and transform into false oracles, indicators whose limits and defects are obvious.

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8. The use of GDP, against sustainable development⁴⁶

GDP and per capita GDP do not always provide the signals needed to prevent major economic, social and political crises in time. They should not be used as unique, versatile, indiscriminate "markers" in comparisons of current or potential economic and political power of a country relative to that of other states. The question asked is not a simple matter of experts; it goes well beyond. Other indicators should provide additional information, so as to improve the analysis of the concrete economic and human situation and improve decisions on the basis of shared information and democratically defined common objectives.

GDP is the most widely used economic aggregate for comparing, in time and space, the national economy development. International experts generally are referring this indicator, to comment the national economic health. Moreover, national added value influence international politics and national public actions. For instance, inside the UN, its weight is important to determine the classification of countries according to their degree of development between developed countries, BRICS, emerging countries or developing countries). However, the signification of GDP has extended well beyond his field of origin. If its definition is well regulated, the habitual use of it leads the rulers to give it excessive importance in the preparation of their decisions. This indicator is a statistical construction that does not fail to question, given the weight given to the market economy and the omission of elements as important as pollution, climate or volunteer and nonmarket works. The definition of the main soviet indicator was clearly different, mainly on the unproductive services, but it did not include the negative effects of the production, pollution, growing scarcity of natural resources or the cost of pollution on the citizens' health.

The economic aggregate itself does not lack conceptual simplifications, but above all it forgets the negative aspects of this national production on the natural and human heritages. The neglect of ecological and environmental issues is worrying, particularly with regard to the depletion of soils and subsoil, the scarcity of clean air, the various needs of civilizations and the human conditions of its realization. In fact, a country with a high level of GDP may also experience a weakening of its power, soft power and potential for development in the years to come, with the growing scarcity of its natural resources, new health human problems related to air pollution or the conflicting distribution and redistribution of income. The power and well-being of a country are relative concepts, the measures of which are the subject of many hypotheses⁴⁷. How to analyze the interest of GDP when, within a country, social, economic, regional or gender inequalities are strongly dissonant?

The gross domestic product (GDP) is a useful indicator for expressing the potential importance of the economic activity of agents residing in the territorial framework of the States. However, it gives no indication on the quality of the well-being of its population, the ultimate efficiency of its production system or the collapse of the collective goods that constitute the air or the pure water, the natural resources or still the violence of the production system for the citizens. These "shortcomings to the reality of the production system" as well as the frequent use of GDP outside its normal scope of meaning, raise the question of whether it is possible and how to get out of the analytic and political hold this indicator.

GDP is the aggregate of the goods and services producing activity of producing units residing in a country. It quantifies the total value of wealth production created by economic agents by adding up the annual added values of all resident economic actors in a country, based on information provided by companies and public administrations. Real GDP (eliminating the effects of inflation) per capita does not refer to the productive and redistributive inequalities of economic actors, but it gives a rough indication of the potential standard of living of each resident. However,

⁴⁶ Communication UNECON, State University of Economics and Finance, Saint-Petersbourg, 15 December, 2021

⁴⁷ Aben, J., Fontanel, J. (2018), Military expenditure as a proxy for State's power, *Defence and Peace Economics*.

GDP limits are both technical and conceptual. With globalization, the opportunities of international firms to inform on the real added value in a country is modified, but the national taxes references.

Technical limits.

GDP mainly calculates legal merchant goods and services. Public non-market services provided by the State (public health, education, security or justice) are estimated on the basis of public expenditure allocated to their operation. In many countries, however, these services provided by the market are more expensive (including education and health). At the same level of activity and competence, the estimate of service output is higher if it is carried out in the private commercial sector. As the private health system is more expensive than the public service for a quality that can be considered equivalent, the level of privatization increases the GDP, without the services rendered being significantly different. In the same way, how to value the final expenditure of security, without which all the productions are threatened⁴⁸.

The underground economy, especially "black" work, remunerated in "cash" or on a "barter" basis, is legal but not declared activities. Depending on the country, the share of the underground economy varies. It is very high in emerging and developing countries⁴⁹. It should be possible to include it, as barter activities become a hypothesis of action that is developing in certain regions. Their estimation is problematic. On the other hand, should we include in the GDP an estimate of "illegal" activities, estimated by the States between 1 and 5% of GDP? Some states do this for drug trafficking, prostitution, counterfeiting or the resale of stolen vehicles; others do not do it.

GDP is not calculated by an external authority, independent and on a homogeneous, agreed basis. Estimates of GDP are often based on statistical conventions, based on statements made by economic agents, all of which can be falsified. The information provided must accurately reflect economic activity and question the level of manipulation of states to promote their economy. These two conditions are far from being met, especially for the GDP of China whose inflation of the figure reflects a political will power of the Empire.

Companies are also involved. They do not fail to use the interstices of globalization to provide the statistical information that suits them, including tax. The fragmentation of production has led to the growth of international networks of production and exchange that are transforming the realization of national comparative advantages. The globalization of production chains has disrupted international trade and distorts statistics on the added value actually produced in each country concerned. The published figures are often triturated according to the well-understood interests of the multinational company protected by the famous "business secret". Transparency is not a managerial quality in the face of tax or social charges. Companies optimize their tax and mandatory benefits by showing the maximum value added in the most attractive countries, the lowest tax, or the best in terms of aid and subsidies, as are still today Ireland, the Netherlands or Luxembourg in Europe. Tax evasion and optimization also leads to real changes in figures, in particular by the specific location of patent property rights⁵⁰.

Inter-temporal comparisons of GDP need to take into account inflation and price indices to obtain a more realistic estimate of a country's real growth rate. The choice and calculation of the appropriate price index is subject to assumptions about the products and services selected by the

⁴⁸ These expenses must be considered as a final product (that of peace and respect for collective rules) and not as intermediate consumption. See: Fontanel, J. (2016) La sécurité économique et sociétale : pour une conceptualisation humaniste multidimensionnelle, *PSEI*, Paix et Sécurité Européenne et Internationale, n° 3. <http://revel.unice.fr/psei/>. Fontanel, J. (2015), La base des données des dépenses militaires recueillie par l'Organisation des Nations Unies : origine et évolution. United Nations Standardized Instrument for Reporting Military Expenditure (2015) In *PSEI*, Paix et sécurité européenne et internationale, <http://revel.unice.fr/psei/>. Fontanel, J., Corvaisier-Drouart, B. (2014), For a General Concept of Economic and Human Security, in R. Bellais (Ed.), *The Evolving Boundaries of Defence : An Assessment of Recent Shifts in Defence Activities*, Emerald, Bingley. Fontanel, J. (2010), Concept élargi de la sécurité économique, in *Politique Economique de la Sécurité Internationale*, Ed. Jacques Fontanel, L'Harmattan,

⁴⁹ Bensahel L. & Fontanel J. (2006). *L'économie souterraine : l'exemple de la Russie*, L'Harmattan.

⁵⁰ Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris.

statisticians. The selected products and services are the subject of specific analyzes, but the selected sample may be subject to pressure from the public authorities to enhance their economic action. Trade unions sometimes questioned the relevance of this index. Taking into account the rules defined by international organizations may limit, in time and space, a form of tampering with figures for political purposes.

International comparisons raise the problem of a homogeneous definition of GDP and the application of exchange rates. When, following a speculative attack, the euro falls by 10% against the dollar, its statistical expression leads to a 10% reduction in the GDP of all countries of the euro zone compared to that of the United States. Shortly after, a new configuration of speculative tensions changes can reverse the process. In addition, many states, including China, are accused of committing to monetary exchange rate policies in order to reap the benefits of trade. Several statistical instruments have been put in place to limit this statistical hazard, with strong consequences for governors' assessments of the state of their national economy. Exchange rates depend mainly on international commercial and financial transactions, while national currencies have their direct discharge power directly related to market transactions within the national soil or currency area. In this context, the exchange rate is the result of international trade, and initially only indirectly affects national markets.

The purchasing power parity system is often used to reduce the effects of monetary developments on international markets. It consists of defining a basket of significant products, valuing it in the currencies of each zone and thus determining the "true" value of the exchange rate, excluding the monetary and financial system. But this procedure is not without flaws. Which basket of products should be chosen, given that the purchases (and their structure) made in one country do not necessarily correspond to those of another country? If we retain a US "standard" basket, the dollar value in purchasing power parity will be undervalued relative to other currencies. It is not certain that the Big Mac, which can be chosen in the collective basket, is a satisfactory choice for Benin or countries rather open to vegetarianism⁵¹. In addition, the prices of products are subject to constant changes, linked to the diversity of brands or ingredients, but also to periods of inflationary tensions, very heterogeneous from country to country. Applying the purchasing power parity method often brings a new perception of the economy of a country, but differences with constant exchange rate methods question the use of statistics. However, the calculation of GDP in PPP highlights the gross value added produced by a country in its capacity to satisfy, in a global way, the well-being of a country, considering the importance of the cost of living. It reflects the quality of the potential life of a country, but it is not intended to highlight access to economic power. It does not provide reliable information on the functioning of an economic system that values precariousness, inequality and power relations between buyers and suppliers. Used inappropriately, its calculation makes it possible to value the reduction of costs (wages included, without social assistance), as a factor of increase of the PPPs.

Conceptual limits

One must be aware of the implicit assumptions of GDP. In international and inter-temporal comparisons, the GDP applies the hypothetical rule "all things being equal". This means that all goods and services are also useful, be it bread or drugs, health care or the sale of rifles. There are no "negative services", those who squander the scarce resources or pollute the atmosphere. GDP measures mainly billed activities, whether positive or negative. Self-production and self-consumption (gardens, orchards, farms, DIY, repair of various materials), volunteering (association, sports club), altruistic activities of the solidarity economy (free software, donations and free book exchanges) are poorly or poorly taken into account. The exchange of a few hours of lessons against the repair of a bike, a "baby sitting" evening against a day of help to start a business,

⁵¹ It has even been proposed to create a fictional exchange rate on the basis of the famous MacDo. The BMI (Big Mac Index) was, however, considered a good indicator of the level of the value of currencies relative to each other, local currencies having all been converted at the exchange rate of the day. BMI is used as a "shadow exchange rate" to check, on a daily basis, whether or not currencies are overvalued. Cf. Donsimoni, M., Fontanel, J. (2019), *Les ambiguïtés de la mesure de la puissance économique par les parités de pouvoir d'achat*, *Annuaire Français des Relations Internationales*, Paris.

makes the purely monetary analysis less efficient, while improving the living conditions of people. Domestic work also escapes GDP⁵².

Can all financial speculation activities be really "productive"? In most cases, are they not transactions that change the distribution of income or wealth more than GDP? Are not advertising activities more intermediate consumption than real collective production? GDP ignores the quality of the activities it counts; it produces no indicator of "sustainability" to meet the endowments of future generations. It is indifferent to the social and human conditions of the mode of production, to the reduction of heritage over arable land, to the impoverishment of raw materials or energy resources of the subsoil, to the degradation or to the improvement of air quality or inequalities in income and wealth. More seriously, as soon as production is established, it does not differentiate between a nuisance and a wealth. However, among the goods produced, there are "Bads" (nuisance or inconvenience), whose definitions remain complex and conventional. Since this is not its role, GDP makes no reference to the conservation of natural heritage. This one is supposed constant and free. Patrimonial accounting only intervenes indirectly in the choices of the agents of the market economy, because they are guided mainly by immediate profits. The exploitation of energy resources until their definitive disappearance in one or two centuries considerably increases the value of the GDP of the producing states (economy of rent), but the natural reserves of the Earth disappear for the future generations.

GDP depends on national and international laws. Should we accept shale gas or oil? What are their real costs in the long run? Shale gas and oil are banned from production in some countries while others, including the United States, produce and sell it for export. The destruction of tropical forests, in order to produce plants for agro-fuels, increases the national GDP of the countries concerned, without any regard for the ecological and humanitarian disaster that it represents. GDP includes positively highly polluting productions that favor diseases such as cancer. In this case, it will even develop three activities: the wealth produced in the commercial world by the initial productive activity, the merchandising of anti-polluting measures and the increase of health expenditure. Everything that sells is considered a factor of wealth.

Finally, one should consider the importance of a country's stocks of economic, natural and human wealth, non-reproducible capital such as the value of land, net "reproducible" productive capital, the overall level of education, and of the health capital of the population. But GDP does not explain income and wealth inequality, relative or absolute poverty, or equality of opportunity within a society. Expenses related to domestic, industrial or road accidents have a positive impact on the activities of doctors, physiotherapists, hospitals, garages or coachbuilders; they will increase the GDP. Conversely, the decline in car accidents may weaken the benchmark as it reduces heavy medical care and car purchases. We should count the "bads". Given its total indifference to the content and effects of what is produced, the increase in GDP can accommodate forms of violence (forced labor), racism (apartheid) or slavery. A high GDP and strong growth can perfectly coexist with deplorable living conditions, a very important pollution and a very uneven distribution of the income. The "median" fortune of the Global Wealth Data Book and some indicators of the human development index (life expectancy, education level), despite their own shortcomings, are more relevant. The end justifies all means.

In fact, GDP remains an interesting chronological indicator, to which the interpretation of it is questionable. It is too much like the power indicator of an economy. Thus, consider that, in purchasing power parities, China has a GDP equivalent to that of the United States cannot fail to surprise. The impression is that the manipulation of figures gives a distorted picture of the comparative economic and social development of countries. The famous G2 (USA-China) still remains very unbalanced if one wants, besides that of the GDP, to retain the military and geostrategic power, the respective weight of the dollar and the yuan, and the real standard of living of the inhabitants. The power of Russia depends mainly on the prices of raw materials and energy. Their decline or increase is not always due to the dynamism of the country; it is due to the market situation, speculation, the organization of negotiations between the OPEC countries, the economic war of a producing country (such as Iran or Iraq), or changes in agreements relating to climate or the environment. Competitiveness indices (including World Economic Forum and International

⁵² It does not include housekeeping, childcare, and child rearing or support activities.

Institute for Management Development (IMD) indexes, Global Dynamism Index) are sometimes complementary, although tax havens are taking advantage of the international system to develop a policy of beggar -thy-neighbor. In addition, GDP growth may be a mirage that hides a future economic crisis.

It should be renewed to highlight the "bad", even create a new indicator that would really highlight the positive production developed by a country, to compel the government to take into account the negative factors of the growth of productive forces at all costs and especially at any price. Economists and economists value the consistency of GDP content, in order to feed their calculations and equations over the long term. It's a leap forward. However, it will also be necessary to modify the content of GDP to give it a more representative meaning of the economic and social power of a country.

GDP and per capita GDP do not always provide the signals needed to prevent major economic, social and political crises in time. They should not be used as unique, versatile, indiscriminate "markers" in comparisons of current or potential economic and political power of a country relative to that of other states. The question asked is not a simple matter of experts; it goes well beyond. Other indicators should provide additional information, so as to improve the analysis of the concrete economic and human situation and improve decisions on the basis of shared information and democratically defined common objectives.

Osberg and Sharpque⁵³ developed an index of well-being (IBE), using several criteria such as market and non-market current consumption flows, wealth stocks (tangible goods, durable consumer goods, accumulation of human and social capital, environmental costs) or the distribution of income (inequality, economic poverty, precariousness). It highlights the gap between GDP per capita and the index of well-being. In this study, after twenty years of economic growth at the end of the twentieth century, the British people's private and collective well-being remained almost constant, while GDP grew by 300% in current national currency units.

The Human Development Indicator proposed since 1990 by the UNDP, proposes a more centered analysis on the man and its development. It includes several criteria, such as the health and longevity of men (measured by life expectancy at birth), knowledge or level of education (average length of schooling or decision-making capacity), standard of living (per capita gross income in purchasing power parity) and the satisfaction of basic material needs such as access to healthy food, clean water, decent housing, good hygiene and medical care. However, these indicators do not always lend themselves to rectilinear interpretation and they always omit values that are not part of an indisputable quantitative analysis. The Economic, Social and Environmental Council (CESE)⁵⁴ proposed the presentation of ten indicators in addition to the GDP to serve as a support annexed to the draft budget law.

The single or dominant reference to GDP is dangerous. GDP was better adapted to the reality of the period during which it was conceived the very idea of economic development, of indefinite growth and "catching up" for developing countries, is called into question with the concept of development " sustainable. "American-style" economic growth, consuming too much raw materials and too polluting, cannot be an objective for other national economies, without even highlighting the unresolved issues of today's climate, excessive social inequalities or the rapid appearance of new rarities. Economic actors must no longer be encouraged to go in the direction of a form of unsustainable growth. It is necessary to have indicators on democratic freedoms, citizen solidarity, cultural influence, the rise of the digital economy and artificial intelligence. It is also of primary importance to count the least, the "Bads" and their costs, such as the definitive disappearance of certain raw materials, the influence of pollution on the persons concerned and, in international relations, their effects on neighboring countries.

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⁵³ Lars Osberg et Andrew Sharpe, « [Une évaluation de l'indicateur de bien-être économique dans les pays de l'OCDE](#) », Séminaire de la DARES, 15 Octobre 2002. OCDE, *Du bien-être des nations, le rôle du capital humain et social*. Paris. 2001. Sharpe A., Méda. D, Jany-Catrice F. et Perret B (2003), "Débat sur l'indice de bien-être économique", *Travail et Emploi*, n° 93, Janvier 2003.

⁵⁴ CESE is an advisory body made up of social representatives (employers, unions, associations).

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9. The crisis of economics⁵⁵

Economic science has progressively succeeded political economy, which had replaced political economy. The concept of political economy refers to the analysis of the supply and demand of goods and services, in close connection with the laws of each nation and with public choices concerning national security and power, the control of exchanges, the management of public goods, and the (re)distribution of wealth. With the concept of economics, the economy is the object of scientific analyses of different economic systems, according to the role attributed to private property versus collective property, within the framework of a market economy or a planned economy, of capitalism or applied socialism. Reference is then made to coherent analyses, often mathematized, which allow the optimization of a preference function, on the hypothetical basis of the rational behavior of the decision-maker(s). Finally, economic science, based on market economics, studies the rational behavior of consumers and producers, who carry out their actions in accordance with their own individual interests. In this context, the market optimizes economic flows while ensuring distributive justice based on the productive efficiency of each economic agent.

Since the beginning of the 1990s, a controversy has developed concerning the evolution of the role of the state in international economic relations. For the proponents of the theory of globalization, growing economic interdependence tends to reduce the intervention of public authorities in the economy, all the more so since the generalization of market rules constitutes a factor of solidarity and peace. On the other hand, from a "neo-mercantilist" perspective, the international economy would be more and more marked by national strategies, with each state seeking to promote its own interests on the world stage. The exacerbated economic and technological competition would concern, directly or indirectly, not only national or multinational companies but also states and regions, or even private or public international organizations.

In 1989, Francis Fukuyama made famous the expression that the collapse of the Soviet Union marked "the end of history" (Fukuyama, 1989). In this context, democracy and liberalism seem to have definitively won over other economic analyses. There are no longer several economic sciences, but only one. As early as 1995, with a view to expanding world trade, free trade was celebrated with the establishment of the WTO (World Trade Organization) intended to expand world trade, administer a globalized system of international rules and settle trade disputes between member states (Fontanel, 1995)

For neoliberal analysis, self-interest is the basis for the proper functioning of the market economy. Adam Smith's idea of the "invisible hand", based on individual interest, is the key to economic development. However, it should be remembered that Adam Smith, in 1776, condemned, for purely economic reasons, slavery, colonization, monopolies and cartels, relations of domination, and customs duties, and he advocated respect for the laws enacted by a State with regalian functions. The neoclassicals implicitly took up this reference in the model of pure and perfect competition, insisting on the rationality of individual decisions. For liberal theory, the multiplication of economic interdependence based on market principles increases the economic prosperity of each nation participating in trade, while leading to a reduction in the economic role of the state. Economic imperatives impose themselves on political ambitions, which leads to the affirmation of an economic science as its own discipline, unpolluted by short-term political concerns. Two basic postulates accompanied the subsequent developments of the dominant theory: first, peace is the normal international situation; second, the development of international trade is a factor of peace. Power objectives and the possible use of the economy as a "weapon" are assumed to be obsolete, at least in the longer term.

⁵⁵ Economistes contre la course aux armements, ECCAR, Grenoble, 17 Janvier 2022

However, this economic perception is contradicted by analyses and facts. Since then, it has been demonstrated by game theory that this intuition was not justified, that in all cases, situations of consultation and cooperation were more efficient in the short and long term. First, it has been demonstrated by game theory that the intuition of the "invisible hand" was not justified, that in all cases, situations of concerted action and cooperation were more efficient in the short run and in the long run. Yet neoclassical economists continue to refer to the "invisible hand", an expression that was officially taken up by President Bush himself during his term of office. Secondly, present history teaches us that wars have not disappeared and that reasoning in terms of national power is still not obsolete. Finally, economic power often accompanies military power, even if the financial efforts made in the military field by States are not always indicative of a desire for war, but rather of a desire for national defense or dissuasion (Aben, Malizard, 2016); Fontanel, Malizard, 2017). The facts impose themselves in the face of theory, which in this case conveys above all an ideology and particular interests.

Today, accentuated first by Covid-19, then by the Ukrainian conflict, globalization is experiencing a crisis. The rules set by international institutions, normally mutually defined, are challenged by the economic sanctions imposed on Russia and by the shortages that arise from the war itself. Moreover, in a more general way, the imperialism of the economy or the growth of national production at any price (and at any cost) is increasingly challenged in the face of environmental issues, global warming, the depletion of natural resources and the rise of democratic countries in the face of economic-political forces (non-democratic countries or multinational firms) whose ideals and actions are no longer in line with sustainable development.

The protection of the individual interest is often confirmed in the constitutions of democratic countries, but it is still necessary to have common objectives and to protect citizens against abuses of all kinds. There can be no individual rights without collective obligations. When GAFAM (Google, Amazon, Facebook, Apple, Microsoft) and other multinational firms use national or international infrastructures by optimizing the divergence of the legal, fiscal and social frameworks of the States, they are then focused on maximizing their immediate profits, Without taking into account the fact that the community provides them with logistical support from which they are exempted, at least partially, from the real cost (Fontanel, Sushcheva, 2019), they behave like first-class tenants who are, in effect, stowaways. The "laissez-faire" principle presupposes that the state acts as a policeman called upon to enforce private property, the right to undertake and the freedom to act, all of which are rules that the tax optimizers who are the first to benefit seek to avoid paying. In a globalized market economy, the role of the State is limited by its membership in international economic organizations and is challenged by multinational firms, which reduces its regulatory action. Moreover, given the business secrecy and speculative behavior of the international financial system, it is very difficult to measure the importance of tax issues in the driving forces of social inequalities in the world (Saez and Zucman, 2020; Piketty, 2019).

The diversity of economic theories testifies to the real difficulties in the emergence of a unitary economic science, as the starting hypotheses and postulates adopted are unfortunately often far removed from the reality of the facts. The main question concerns the role of the state in the national and international economy.

In a market economy, the state's objective is to support the prosperity and growth of companies and to intervene when economic crises arise. However, the process of globalization has substantially reduced the links between the activity of companies and the nations that gave birth to them. With the rise of globalization, companies have delocalized their activities, they have engaged in just-in-time management processes and they have exercised their freedom within the framework of the specific laws of the countries where they operate on the central basis of the search for maximum profit. While the actions of national governments are regulated by rules set by the appropriate international organizations of which they are members, the large multinational firms have increased their powers of action by using the divergences in the regulations of states and by exercising a significant lobbying influence on all strata of national and world public action. Globalization is doing its work, reducing the economic interventions of public authorities on their territories, while maintaining the responsibility of the latter in international economic crises.

International economic organizations have lost their relative neutrality in the comparative interests of States and private interests. The World Trade Organization remains disarmed in the

face of the demands of the United States or China. Moreover, international finance is becoming a compass for the proper functioning of companies and an indicator of the quality of economic policies undertaken by States. Interested mainly in immediate profit and speculation, it leads to a fragmentation of value chains (Moati and Mouhoud, 2005) and to great volatility in financial flows. No reference is made to the social and societal consequences of financial operations, since the unfettered competitive system is always assumed to lead to the optimum. This capitalism was strongly contested by Keynes: "The international capitalism, now in decadence, in whose hands we found ourselves after the war, is not a success. It is devoid of intelligence, beauty, justice, virtue, and it does not keep its promises. In short, we dislike it and we begin to despise it. But when we ask ourselves what to replace it with, we are extremely perplexed" (Keynes, 1932, p. 203). After the rejection of the Keynesian system and all state intervention, and the empirical application of Milton Friedman's monetarism under Ronald Reagan, price stability, supply-side economics and free market forces became the unavoidable objectives of economic growth, without any reference to the conclusions of the Club of Rome's Meadows Report on the limits to growth.

The nation-state is no longer the main space for regulation, except in periods of great security insecurity and economic crisis. In this case, the state becomes the "warlord" who must ensure the survival of its citizens, at the risk of being rapidly weakened by the burden of debt and the violence of the economic crisis. However, because of growing social inequalities and the reluctance of the ultra-rich to participate in the financing of regalian actions and the redistribution of resources through taxation, the States have become indebted, especially when they had to intervene to finance the banking and financial system during the crisis of 2008-2009. The State has experienced a significant increase in its compulsory deductions, with a view to reducing the social and medical risks for its citizens.

States have set themselves statistical performance standards to govern, they have engaged in a management of calculations and models with often questionable assumptions. GDP growth has become the standard of excellence for economic policy, without questioning its content. Like money, GDP growth has become a general equivalent of the value of state management. However, GDP is a specific indicator that cannot measure, let alone represent, the collective economic efficiency of a country. It neglects wealth, environmental costs, the waste of natural resources, social inequalities or the violence of production (Guilhaudis, Fontanel, 2019). It can be fed by productions that are far removed from social demands and the real needs of populations. It relays the doctored information of multinational firms inclined to optimize their profits by disguising the real "value chains" in order to reduce their taxes. The increase of the GDP can be obtained with a reduction of the needs of the citizens in terms of precariousness, degraded working conditions or reduction of real (if not formal) liberties. International comparisons of figures concerning GDP per capita or working people are made without reference to differences in ethics, civilization, customs, or quality of life. A policy of figures has been put in place, concerning for example the norm of a public debt below 3% of GDP. The results obtained are not up to the objective, but they allow governments to conduct a restrictive policy that primarily concerns the financing of public services, to the detriment of the economic actors who need them the most. Material desires have increased and the frustration factory that has been set up promotes organized and even justified greed. "Two desires that converge on the same object mutually hinder each other. Any mimesis concerning desire automatically leads to conflict" (Girard, 2007, p 216).

With the pandemic and its production constraints, it is necessary to restart the stalled economic "machine", by a new "New Deal" of a political nature (Rifkin, 2019). At the end of World War II, social innovations were put in place to reduce precariousness in a competitive world. Today, with international openness, these benefits are being challenged. Moreover, most states have lost their former industrial competences. For reasons of national security, the relocation of certain essential economic activities seems necessary in order to avoid supply disruptions. In today's system, the job of a company director is to make as much money as possible for his shareholders, regardless of the social costs. We must therefore seek to reinvent the company and its management. Paul Krugman (1996) has reminded us that a country is not a company. The "recovery" of managerial vocabulary to evaluate the performance of a nation is one of the dangerous obsessions of our time. Growth has become the economic religion of the modern world. Financial capital is overabundant and predatory, the violent conquest of maximized profit becomes

dangerous for democracy, the market economy and productive justice. The question is then to know if the State can ensure its regalian functions in the face of firms that seek to avoid financing them.

Economic and social progress does not come from market mechanisms alone; State intervention is necessary.

- The State ensures and reassures, notably against terrorism or external covetousness. Indeed, the national defense of a country is not limited to the military domain alone. National dependence on the supply of goods and services such as raw materials and energy implies interstate agreements that can be called into question at any time, in the context of military conflicts or economic interests. Moreover, the dependence of Western countries on services produced by GAFAMs is not without concern considering that they are clearly used by both the armed forces and companies located on national territory (Fontanel and Sushcheva, 2019).

- Second, market forces claim respect for the right to property as defined by Roman law, with its three characteristics, "usus, fructus and abusus." However, the abuse of individual property poses specific problems for the community that it can no longer accept (pollution, climate change, monopoly situation, exploitation of labor, etc.). In this context, the State has the duty to protect its citizens.

- Finally, freedom without morality is a factor of economic crisis. The essence of the 2008 crisis is fundamentally speculative. Many banking and financial agents cynically bet on the collapse of the system to increase their fortunes. In this context, moral hazard plays its full disruptive role. Speculators have no respect for ethical standards and sometimes even for the law. The banks have therefore practically sold products of concealment, with derivatives. The Federal Reserve System (FED), the central bank of the United States, did not wish to intervene in the face of these unscrupulous financial arrangements. This system of generalized prevarication nevertheless highlights the objective complicity between public and private operators, with the policy of deregulation, disintermediation and decompartmentalization of national and international markets. The influence of the liberal precepts of the Washington Consensus (deregulation, macroeconomic stabilization, privatization, in particular) since the beginning of the 1990s has been considerable and has contributed to the impoverishment of countries that have thus been accompanied in their national economic actions.

In this context, banks have also helped speculators to escape national tax systems, thus increasing the difficulties of public authorities in collecting the resources expected from taxes. In this virtual space of free trade, tax optimization makes it possible to increase the profits of very large firms, and tax evasion now threatens the very stability of the resources of States. The State is stripped of a part of its legitimate revenues and yet the dominant idea remains that taxes are already too high and reduce growth. The discourse sticks in the minds of citizens like a slogan, far removed from the scientific claims it relays. Liberal governments justify this situation with the trickle-down theory, which considers that the income of the richest people contributes to national economic growth and job creation. This "fable" (Parienty, 2018) has been supported for four decades, but economic statistics on personal income show a growing gap between the two ends of the income spectrum, as Saez and Zucman (2020) were able to demonstrate. Strong national growth can be both inequitable and unequal. Finally, the time horizon of economic decision-makers is very heterogeneous. The market economy has a short-term perspective, in view of the rapid changes that are shaking up their field of competence, their profit constraints and their market shares. It only provides fragmented and partial information, which allows a company to make large profits, but sometimes to the detriment of the health and comfort of the population. On the contrary, public authorities must fight against the uncertainties of the long term. The problem of global warming induced by greenhouse gas emissions cannot be dealt with by the market economy.

The State's vocation is to take charge of these threats. However, to accompany its action, the State needs scientific and political reference points. But ideology gets involved, notably in the idea that the management of economies responds to indisputable scientific criteria within the framework of a market economy and a political (or simply electoral) democracy. The dominant economic thinking considers that the market produces an economic equilibrium of the globalized world, on the basis of hypotheses that are supposed not to modify the real present and future results. It is then necessary to start from the basic model, without which the very idea of science is refuted.

In this context, economics does not escape ideology and a certain conception of man and his social environment (Precht, 2010). When faced with an economic crisis, liberal economists never question the system itself, but the inadequacy of public policies and regulations. For example, the financial crisis of 2008 was predicted by several heterodox economists, but their analyses were then presented as simple political or ideological criticisms (Krugman, 2009). However, while the World Bank has observed a decline in extreme poverty in the recent period, situations of inequality (of income and wealth) have worsened considerably. Extreme poverty has been partially reduced only by the gradual downgrading of a large fringe of the middle and poor classes (Saez and Zucman, 2020).

In the minds of the most traditional analysts, it is not the modeling that should be challenged, but the inability of the real world to conform to the assumptions of the formalized system thus constructed. Moreover, the "black swan" theory highlights the unexpected existence of certain phenomena that cannot be predicted in time and space, even though we know that they can still occur, without understanding their trigger (Taleb, 2010). This is the case of financial crises based on speculative behavior. Similarly, the "long tail" theory considers that the distribution of errors follows the rules of the normal law, but it is difficult to determine their frequency and, above all, the moment when the instabilities of the system produce the crisis. In other words, unexpected events can appear and not prove neo-classical and monetarist economic theory right. However, these situations are inherently rare and mostly impossible to predict. If the economic result is cruel for some operators in a crisis situation, it is mostly the fault of "bad luck".

Yet economic models omit the power relations between states, political or armed conflicts, the silent and obscure game of multinational firms in the management and redistribution of their profits, the emergence of new community or international rules or the existence of tax havens (Fontanel, 2016). The purpose of any model is to construct a simplified representation of reality. However, when a formalized system is set up and produces results, it is necessary to question the influence of its assumptions and of the factors deliberately omitted on the model's results. However, this second step is too often neglected, because the assumptions have become "scientific" standards, which are self-sufficient and therefore difficult to question. For James Galbraith, "the essential purpose of these mathematical formulas is not to instruct, nor to please, but to intimidate" (Galbraith, 2014, page 79)

Today's capitalist accumulates profit and power. Thomas Piketty (2013) has shown that the tendency of fortunes to concentrate is inherent in the capitalist system, except during times of war. Democratic values are weakened by the powers of money that can covertly influence state policy. Multinational companies have considerable influence on public institutions, as they have the power to finance electoral campaigns, to control information (television, newspapers, internet, social networks, state data) and to lobby effectively in all national and international bodies. They can afford the best intelligence to defend their interests, thanks to the transfer of their affiliates from the public to the private sector and vice versa. The fact that differences in income and wealth are difficult to justify is a serious threat to democracy. The triumph of fiscal injustice is a denial of justice, international collaboration and democracy. A plutocracy seems to be taking hold everywhere in the world. Where public services have deserted, the "yellow vests" are born. We are witnessing a process of unbinding, of the disintegration of the social bond, of a real disruption of the democratic logic. However, at the time of the crisis, the State is judged responsible and all the economic actors ask it to find solutions that it will pay later with a growing debt that will obviously be reproached as the expression of a bad management of the national public goods.

In 1995, with the creation of the WTO, "peaceful" trade in complete freedom became the basis of the hoped-for global society (Fontanel, 1995). In fact, Washington, the world's main policeman, with military spending (including NATO) almost twice as high as that of the rest of the world, was the guarantor of the "end of history". The story was beautiful, a fairy tale. However, in the context of the Iranian nuclear affair, the White House imposed its unique law, with violence, despite appeals to a WTO that did not dare to condemn the country that was its sponsor under the baptismal font of free trade. With the policy of "benign neglect" still in effect, the application of extraterritorial American laws, military forces or the quasi-global control of information by GAFAM (Fontanel and Sushcheva, 2019), Washington imposes its power on companies and states. China deploys capitalism at the political behest of the central state, with no respect for

human rights, within the framework of a national economy controlled from within by Party members in power since 1949. Russia is seeking to become a great military and political power once again in order to protect itself from the advance of NATO and to maintain, by all means, including military, its influence over the countries that were formerly members of the USSR. Europe's weakness stems from its divisions, its history, different political and commercial objectives, nationalist ideologies and still narrow national conceptions. Economic warfare is clandestine, but it is expressed in order to maintain the dominant positions of states and firms. In the future, if it is not enough, weapons could once again directly concern the great powers, despite the existence of their nuclear deterrents.

In conclusion, the economy is fundamentally a political matter. Through the "endless and limitless" search for profit maximization and the primacy of individual interest, the dominant model of accumulation neglects the social fractures and the mutilation of environmental living conditions in the non-market world. The mathematical approach gives the impression of justifying this strategy, with regard to the hypothesis deemed indisputable about the necessity of economic growth. Political economy has left the field open to a humanly disembodied economic science, without any link with the diversity of civilizations or religious or philosophical beliefs, which justifies the constraints of work, social inequalities, global warming, the progressive depletion of natural resources, the disrespect of human and women's rights in many States or the return of precariousness as the basis of a new "reserve army". The Covid-19 pandemic highlights the importance of the links between people, their fragility and the need to build social links that are more supportive and convivial. It is a question of putting the human being back at the heart of the priorities of governance at the local, national and global levels. In this line, the ecological transition has become unavoidable (Fontanel, 1979). Moreover, the exacerbation of social fragmentation resulting from the Covid-19 pandemic highlights the need to prioritize the values of national and international solidarity and to reduce the addiction to the indefinite possession of market goods and services.

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10. Ten Contemporary Wounds of the Market Economy⁵⁶

Economics is a science affirmed by most economists in the world. However, if we can use scientific methods to reflect on our economic environment, it must be said and reiterated that economics is first and foremost political, it defends a conception of man in his social relations in terms of solidarity or exclusion, power relations, state actions to protect or control private initiatives. The idea of the "invisible hand" has crossed nearly two and a half centuries of liberal thought. It has nevertheless been contested mathematically, notably by game theory, but it is always implied in the analyses that prevail in the economic literature of the dominant current. Alongside this optimism, the great classics of the early nineteenth century, Ricardo, Malthus and Marx proved to be rather pessimistic, for them economics was a gloomy science. The rise of powerful industrial machines exerted negative pressure on the price of goods, it could possibly shorten the working hours of employees, but it created a "reserve army" (of the unemployed) that reduced the demands of those fortunate enough to have a job. Wages could not rise permanently above the subsistence minimum. As it was, this situation was fortunately not achieved, but perhaps the future may also prove them right.

At the end of the 19th century, economists were advocating the end of wars, in the midst of the consolidation of colonization. Only Engel, Marx's friend, had foreseen a great and very deadly war that would lead to the emergence of communism. He was right on the first point, half right on the second, because if socialism had settled in Russia, it had not imposed itself in the whole world. The First World War was to be "the der des der". Here again, the failure is obvious. How can the foundations of an economy be explained without taking into account the warlike balance of power, the question of the excessive and political exploitation of land and subsoil or the commercial rules defined by states with power-based leadership?

The twentieth century was a time of indisputable epistemological leaps and improvements in the living conditions and life expectancy of men and increased rights for women and children in developed countries. However, the twentieth century will experience both moments of extreme barbarism and wars, which economists have been quite incapable of predicting or even explaining, despite the complexity of their models. It will give birth to communism, it will suffer fascism and Nazism, so many political and economic forms that today are fortunately discredited, at least officially. He will secrete the nuclear bombs, Hiroshima, Nagasaki. Since Hiroshima, we have gone from a world dominated by nature⁵⁷ to a world dominated by man, without precise collective rules, randomly, driven by individual and commercial interests. The system, doctrinally considered optimal, has become restrictive, unequal, violent, and partially unmanageable despite the existence of international organizations and the weight of NGOs. Nature could soon take its revenge.

It took the contribution of the greatest scientists to create the weapon that could destroy humanity. Violence has become potentially extreme. However, economic analysis still reasons in terms of peace and insignificance in the face of human conflicts. Since Hiroshima, we have gone from a world dominated by nature to a world dominated by man, without precise collective rules, randomly, driven by individual and commercial interests. The system, doctrinally considered optimal, has become restrictive, unequal, violent, and partially unmanageable despite the existence of international organizations and the weight of NGOs. Nature could soon take its revenge.

⁵⁶ Cahiers de l'Espace Europe n°25. 2020.

⁵⁷ Rifkin, Jeremy (2019), *Le New Deal Vert Mondial. Pourquoi la civilisation fossile va s'effondrer d'ici 2028. Le plan économique pour sauver la vie sur Terre*, Editions « Les Liens qui libèrent ».

GIEC, Groupe d'experts intergouvernemental sur l'évolution du climat, GIEC (2018), *Résumé à l'intention des décideurs*, in « *Global Warning of 1.5°C ; An IPCC Special Report*, Organisation météorologique mondiale, Genève, <https://www.ipcc.ch/sr15/>). Fontanel, J. (1979), *Ecologie, économie et plurigestion*, Editions Entente, Paris.

- 1) Economic analysis sets rules in which man is mutilated in all his non-market activity. It has no state of mind and, except for certain historical analyses, it has no memory. It is true that if the past is a basis for the present, the facts never reproduce in themselves.
- 2) The unshakeable faith in the self-balancing of the markets is however contradicted by the facts, but its defenders always find in economic intervention the State the fundamental cause of crises.
- 3) The question of the state has separated the market economy from the planned economy, capitalism from socialism. What role should be assigned to the State in economic and social life? Answering this question is not simply an economic problem; it is also a philosophical, moral and of course political question⁵⁸.
- 4) In its generalization, a market economy system in a democratic system should lead to peace, according to Fukuyama, who had then boldly developed the idea of the "end of history". Since the end of the USSR, crises and wars have continued in different forms, against the backdrop of the definitive fear of the use of nuclear weapons. Globalisation is nor a panacea.⁵⁹
- 5) At the international level, American leadership is taking hold, but China is beginning to worry it, with its industrial system and its 1.3 billion inhabitants. The struggle will be fierce in the years to come, because both countries want to rule the world to their benefit, thanks to their domination effects on the most powerful technologies for the future, such as artificial intelligence, space and especially information management.
- 6) Europe is considerably with its divergences, the Brexit, the financial crises, divergent positions on fiscal invasion and optimization, international policies, the economic support of Brussels in the Covid-19 crisis.
- 7) The BRICS do seek to define common solidarity policies, but their internal divergences often do not allow them to impose their objectives.
- 8) The robotic and digital revolutions call into question the importance and content of human labour. In the framework of a market economy, choices are only made by those who have the financial means to invest, with the "labour" component of the factors of production definitively becoming the residual variable
- 9) Social inequalities have been growing for almost half a century. In the future, they will raise considerable economic problems that will undoubtedly lead to worrying social and societal conflicts.
- 10) Finally, the looming environmental crisis, especially with global warming, may lead to the progressive collapse of the human race.

An economic analysis without any hesitation and without memory

Today, economic analyses often place blind trust in competition and competition, in the capitalist system. However, competition is limited with the system of patents, trademarks and standards. Economic globalization has benefited multinational companies, which have established themselves in the countries where they paid the least taxes and in the territories where salaries were the lowest. However, most of these companies have benefited from the assistance of state agencies, particularly investment aid, they have benefited from legislation favourable to their establishment in situ or abroad, they have used public scientific research to innovate. Beyond their contributions to the daily life of everyone, they use tax havens to increase their income, their fortunes and their monopoly power on the market. Their influence on states and international organizations is considerable, enabling them to obtain laws that are favourable to them. Most economic models forget these considerations, under the pretext that complexity cannot be taken into account

⁵⁸ Fontanel, J., Arrow, K., Klein, L. and Sen, A., 2003. *Civilisations, globalisation et guerre*. PUG, Presses Universitaires de Grenoble, PUG, Grenoble. Dupuy, J-P. (2004), *Pour un catastrophisme éclairé*, Le Seuil.

⁵⁹ Galbraith, J.K. (2015), *La grande crise. Comment en sortir autrement ?*, Le Seuil, Paris. Fontanel, J. (2005), *La globalisation en « analyse »*. Géoéconomie et stratégie des acteurs, L'Harmattan, Paris,

mathematically. Man is nothing in himself, except what he possesses and intervenes in mercantile life interests the economist⁶⁰.

Thus, economic analyses ignore, in their reasoning, war, conflicts, armed threats or the investments necessary for the deterrence and defence of a territory. In this context, two hypotheses are present; on the one hand, peace is assumed to be a normal state, and on the other hand, economic development inevitably leads to lasting peace. Likewise, they too often neglect environmental or ecological considerations; they make the assumption that all growth is good for the economy, while the indicators are less and less significant. If primitive, slave-owning or colonialist predators have been progressively condemned, military, economic or cultural power relations remain very present in the modern world⁶¹.

History is on its way; it is often scornful to the experts. In 1979, with the crisis in Iran and the occupation of the American embassy, with the loss of value of the dollar and the invasion of Afghanistan by the USSR, the Annus Horribilis of the United States resulted in the recognition of the superior military power of the USSR. In 1983, with the revival of the IDS program (Strategic Defense Initiative), the United States considerably increased its military effort, going so far as to finance 50% of the research and development expenses of all American universities. For 40 years, the USSR had devoted almost 90% of its research and development to its military-industrial system. Like a poker table, it could no longer keep up economically and technologically. The end of the USSR was then programmed. In 1989, no one had foreseen the collapse of the Soviet Union. No socio-economic model had been able to show its emergence. How can we understand Germany's economic growth without imagining the reunification process? Economists reason *ceteris paribus*, all other things being equal. However, these famous things are never equal elsewhere.

At the end of the USSR, Fukuyama speaks of the end of history. With the advent of the globalized market economy and capitalism, peace was going to prevail all over the world. So markets were deregulated, diversified and deregulated. Speculation is supposed to rebalance the financial system. My colleagues Merton and Scholes had established a technique of risk protection that won them the Nobel Prize in Economics in 1996. Unfortunately, in 1997, their speculative LTCM hedge fund went bankrupt, leaving a collective debt of \$117 billion. Financial crises are thus at the root of many ills in all countries of the world, as a result of unfortunate speculation, which, according to economists, is supposed to be balancing, just as financial crises are rebalancing with their share of the unemployed. In addition, wars have resumed with a vengeance!

Today, in a world turned towards the market and individual interest, a "consumerist" society is developing, with a rise in materialistic frustrations caused by the importance of the choices offered by the markets and the reduced means in the face of declining relative wages. Extreme greed as a social form of performance is recognized and supported, as seen in Ruffin's film "Thank You Boss". This year, Bernard Arnaud was able to add Dior to its flagship, because it eliminates all competition, like a game of billions of dollars that never takes into account the suffering of the men who suffer the consequences. The materialistic hope, carried by democracies, of a continuous development favourable to the "mass" of the living is today combined with the rise of relative poverty and precariousness. The result is a growing production of "those forgotten by the system", a significant part of persons who are part of an ideological or religious struggle. Gradually a rejection of democratic values, the justification of growing income and wealth inequalities and a return to particularly worrying forms of intolerance are the poignant consequences. However, man's superiority seemed to stem historically from his ability to collaborate with his fellow men to develop common projects and to carry them out. Today, this lesson loses its acuteness day by day.

⁶⁰ Piketty, T. (2013), *Le Capital au XXIe siècle*, Seuil, Paris. Brunat, E., Fontanel, J. (2020), La science économique comme idéologie, la science de gestion comme viatique de l'actionnaire, *Marchés et organisations*, à paraître.

⁶¹ Fontanel, J., Corvaisier-Drouart, B., 2014. For a general concept of economic and human security. *The Evolving Boundaries of Defence: An Assessment of Recent Shifts in Defence Activities*, 75. Saby, B, Saby, D. (2016), *Compétitivité, mercantilisme et guerre économique*, l'Harmattan Paris.

With excessive respect for the principle of private property, humanity no longer knows how to force economic actors to respect planet Earth, while scientists are worried about the upheavals and tragedies to come. The so-called "After me, the flood" policy is inscribed in the behaviour of those who pollute and those who let them, those who exploit and those who forget their qualities as citizens. Donald Trump withdraws the United States from COP21, for small short-term financial interests. In this economic system without pity for the weak, those who do not respect the rules win every time. The U.S. government wants to regain some of the leadership that may have eluded it! It applies the two rules "America first" and "America great again".

The neoclassical faith in a market that balances itself to the death.

Neo-classical liberal theory believes that the less the state intervenes in the economic order, the more automatically economic equilibrium is achieved. However, economic crises are recurrent, to the point that my children once asked me how we lived before, before the early 1970s, without apparent economic crises?

- Let's take an example: The economic crisis of 2007-2008 has several "scientific" interpretations. There is no indisputable rational explanation, each one seeking first to find the arguments that absolve him of his responsibilities, through misinformation and political responsibilities. The "black swan" theory considers that the crisis is not due to the economic and financial system itself, but to unpredictable events that transform the normal order of things.

- However, this evolution is supposed to be temporary, while crises are recurrent. For several years, economists have been calling for the application of the 3D, deregulation, disintermediation and no compartmentalization of national markets. They then noticed, as if by surprise, that personal interests lead to negative effects on the entire global economy.

- Convinced that the "Too big to fail" rule, the financial players did not consider that at a certain level their activities were also too costly to be saved from collective wreckage. This system of generalized prevarication, this moral hazard, hardly allowed clear responsibilities to be defined, because all the public or private operators were accomplices and sometimes participated in this fool's bargain as insiders, abstaining from any moral or humanitarian considerations.

- Today, we talk about the financial bubble, cyclical defaults, or growing inequalities in income and wealth. States have nevertheless committed themselves to refinancing banks, they have promised to restructure their activities and to apply new laws to reduce systemic risks. On the other hand, the victims of subprime mortgages have not been the objects of any particular sympathy from the democratic authorities of the state. Speculation has been held responsible, but since it has not been controlled or punished, it is therefore not guilty.

- In theory, profit is what remains when everything has been sold and paid for and financed. Today, however, shareholders first demand to be paid, with a minimum depending on the firm's intense or soft activity. The adjustment variable becomes the personnel or, possibly, the investments, especially for pension funds, which own only to enrich their shareholders. No matter what the future of the company, in the short or long term, what matters is to constantly increase their income.

- However, a more relevant analysis underlines its importance, emphasizing the behaviours of banking and financial agents who bet on the collapse of the system to increase their fortunes. Can a catastrophic crisis for the average citizen, due to the behaviour of rich individuals who gamble against the community, in the name of economic science, remove all guilt? ». The moral hazard plays to the full, speculators never refer to any morality, they have no respect for ethical standards and sometimes even for the law. No banker was prosecuted in this operation. All this was therefore legal. Do you think that citizens are aware of this degree of moral hazard? Certainly not!

Today's crises are deeply political. Governments have lost the availability of instruments that could improve the situation. In the United States, Republicans are even calling for a reduction in the role of the state, the very state that defines and imposes the laws that allow the rich to become or remain "rich". Economic and social success is directly associated with the type of society in which it is expressed. In the market economy, irrepressible greed is the basis of wealth and is opposed to any fraternity or solidarity, unless the resilience of the "poor" or the "dominated" suddenly surrenders to revolt. This is why the very rich need economists who explain to the

plebeians that this is still the best or at least the "least worst" system to parody Churchill on democracy.

Laws change economic behaviour. For example, if we consider that the ownership of the basement belongs to the community, then the community manages the exploitation of raw materials and oil. If it belongs to the owner of the land, then the revenues from the exploitation of its subsoil are reserved for him. In other words, collective laws and rules are the basis of the owners' fortune; other laws would not allow them to benefit from this rent. What did the owner do to take advantage of this benefit? Nothing, since the reserves have built up themselves according to the geological evolution of the Earth. This is why fortunes have nothing to do with meritocracy or with intrinsic skills, but are the result of a system that allows the appropriation of a good without having produced it oneself.

Roman property law referred to "usus", "fructus" and "abusus". From the moment man can change the course of the planet, the "abusus" is unbearable. However, the abuse of individual property poses specific problems for the community that it cannot accept (pollution, climate change, monopoly situation, exploitation of labour, etc.). In this context, the State has a duty to protect citizens. It is necessary to know how to control these situations, unless there is no respect for future generations. Donald Trump does not have a time horizon of more than a week, which is why he changes his mind several times in a single month.

If the Persian Gulf is made up of multiple small states, next to an under-populated Saudi Arabia, Wahhabi and ultimately and paradoxically controlled by the United States, it is because if the unity of the countries of the region had been achieved, the state would have been uncontrollable by the other great powers, so much so that it would have had an economic strength essential to the economic development of Western countries. Wouldn't war and decisions on the division of territories therefore be factors in understanding the world economy? Then, how can we explain that the United States and France intervene in Kuwait, a religious and authoritarian country, in which the principles of human rights are not respected, to fight the only secular country in the region, even though it is under the dictatorship of Saddam Hussein, who believes that this small territory is only a part of Iraq that gained its independence during colonization? Military power is used for economic supremacy, which is not a neoclassical analysis but a mercantilist one⁶².

International law and national law define private property. However, it is the states that implement them. The links between the state and the market resemble a tango. One-step forward two steps back, two steps forward one-step back.

States are dominated by the richests

For liberalism or libertarians, the State must remain as weak as possible in the economic order, it must enforce the law of private property, the interest of individuals and individual initiative (more than that of groups). Moreover, according to Rostow's theory of stages of development, each country must follow stages of development that allow it to reach the "take off" necessary for cumulative economic development. This theory was developed during the period of colonialism and apartheid, which sometimes testifies to the blindness of economists who never want to perceive that manufactured scarcity and power relations are elements that influence all economic variables.

If the whole world had the standard of living of the United States and the degree of pollution of Beijing or Shanghai, natural resources would be depleted so rapidly that a stationary economy could be reached, the one feared by the Great Classics of the late 18th and early 19th centuries. It is likely that wars and economic and social conflicts would erupt to preserve the acquired advantages. The type of development that we are experiencing must change and evolve. It consumes the wealth of our Earth with senseless waste.

⁶² Saby, B., Saby, S. (2019), *La science économique, paravent de la guerre économique*, AFRI, *Annuaire Français des Relations Internationales*, Paris. Fontanel, J., Hebert, J.P. and Samson, I., 2008. *The Birth of the Political Economy or the Economy in the Heart of Politics: Mercantilism. Defence and Peace Economics*, 19(5), pp.331-338.

The State is not a homogenous economic agent; it is the result of other agents, from the citizen to the philosopher, from the consumer to the producer, from pressure groups and lobbyists to international organizations, from finance to NGOs. It is the evolutionary result of contradictory forces in a pattern of incomplete and unequal information. Understanding the ins and outs of laws is particularly difficult. However, the state's function is to safeguard the collective interest. At a time when politics occupies a large part of French people's lives, it must be said that there can be no market without a state (otherwise it is the Far West, each ensuring its own security).

- The State is the guarantor of the rules of this freedom of private initiative, which in France dates back to 1791. The market is never perfect and quasi-monopolies openly set up, according to hidden financial procedures, on private markets to reduce the effects of real competition. Antitrust laws are therefore necessary, but not always applied. The market values the winners of the profit, and these gradually eliminate all other competitors. It is therefore necessary to restore economic competition, without which capitalism changes its forms, its rules and thus its theoretical legitimacy⁶³.

- At the beginning of the 20th century, economic concentrations based on clandestine agreements and violence against the world of work and small businesses. These immoral concentrations ("robber barons") favoured an abnormal concentration of wealth. Theodore Roosevelt was the first American President to apply a policy of public goods and to contain the power of financial elites. In a period of peace and growth, he was committed against this situation and against the abuses and "criminals of great wealth" (railways, banks, oil, in particular) who rose prices and had excessive political power. Thus, he was able to revive economic activity in the United States. Its action was more focused on improving the working conditions of the middle class than on reducing the burden on the working class or improving the power of the unions. It aimed to fight the "enemies of the people," those who today might be likened to the famous "1% group. The U.S. economy then became dominant throughout the world.

- In addition, it ensures national and international security and participates in international decisions and organizations.

- For Stiglitz, he so-called "trickle-down theory" of the effects of economic growth and development on the poor is wrong. In the absence of specific government action, income and wealth gaps only grow, causing dissatisfaction that can lead to social movements that can challenge the functioning of the market. The "trickle-down" theory, already evoked in its time and rejected by Joan Robinson, according to which the population would profit with a little delay from the wealth produced by the richest, is only a "mirror to the larks". On the contrary, the development of inequalities of income and wealth is an essential and determining cause of economic crises.

- The time horizon of economic decision-makers is heterogeneous. The market economy is part of a short-term space. Financial markets never constitute a compass, they are erratic, they never function in the framework of a common interest, but for those of the operators themselves. The State or public authorities must fight against the uncertainties of the long term. The problem of global warming due to greenhouse gas emissions cannot be dealt with by the market economy. The State's vocation is to protect future generations from a situation that is very dangerous for life on Earth⁶⁴.

- The State must promote the transfer of income to finance public goods. The predominant idea, especially among entrepreneurs, is the application of the "winner take all" rule. Yet, it is obvious to say it, the rich are rich only because the political and social system allows them to be rich. They are therefore accountable to a system that privileges them and to which they owe civic recognition.

- At the end of the Second World War, the American national economy was transformed. Franklin Roosevelt wanted the State to do its duty in the face of economic vagaries and constraints. He called for national solidarity, for greater social justice, he strengthened the unions, he controlled the financial market, he considerably increased the proportionality of income taxes, he reduced job insecurity, he took charge of the development of science and technology and he initiated a

⁶³ Galbraith, J.K (1993), *Le pouvoir économique autonome*, in « *Economistes de la paix* », J.Fontanel Ed. Presses Universitaires de Grenoble.

⁶⁴ Galbraith J.K. (1974). *La science économique et l'intérêt général*, Paris, Editions Gallimard,

substantial program of public investment. Today, the opposite policy is being called for in order to find a solution to the economic crisis. The United States has never had such a booming economy.

- The economic and social action of the state must be within the realm of democratic decision-making and must maintain social and societal solidarity. The basis of inequality is not in the evolution of technology or globalization. It lies in the monetary interests of a few people who get rich thanks to the laws that allow them to do so, often with complacency. It is necessary for an active government to raise taxes on the wealthiest, in order to invest in the development of schools and universities, but also to help the destitute. However, tax heavens demonstrate the moral hazard of the richest companies and persons⁶⁵.

A system that yearns for peace and produces great daily violence.

Several examples can testify to this violence.

Innovations are said to benefit humanity. So why are there so many restrictions on the use of new techniques whose owners aim to make the most of them? The patent and trademark system is 150 years old. Thus, patents recreate monopoly situations in favour of their depositaries. However, the excessive "royalties" demanded by patent owners, whose head offices are often located in "tax havens", are rarely contested, proof of excellent communication on their part. Let's give two types of examples. The price of an Apple smartphone costs more than 1,000 euros, while it costs, in terms of manufacturing, barely 250 euros. The company is valued today at nearly 1000 billion dollars (equivalent to the GDP of Indonesia, the 16th largest GDP in the world, with its 262 million inhabitants, the 4th largest population in the world after China, India and the United States) and it has 250 billion dollars in reserve in tax havens. Let's add that in recent years, this company paid almost no tax in Ireland (less than 1% of its added value) where it had installed its industrial property rights.

- Similarly, the Cancer League has launched a petition to mobilize public opinion to challenge the opaque pricing of drugs by big pharmaceutical companies. In France, the next melanoma drug is expected to cost 100,000 euros per patient per year. In 2016, the cure of Sofosbuvir, a drug against hepatitis C but also for Covid-19, was charged 67,000 euros in the United States, 41,000 euros in France, 4,000 euros in Thailand and 700 euros in Egypt, for a production cost of less than 150 euros. So where is the collective interest of the populations?

- The importance of these prices is explained by the cost of the research and the importance of the price risks by the laboratories over several years of study on a molecule. In fact, States are often led to support this type of innovation, particularly through universities, but also through the protection of their discoveries. The explanation based on the cost of research to impose such prices is not justified. Indeed, marketing represents nearly a third of the price of an anti-cancer drug when research and development represents only 15%.

- In its relations with other States, how can we explain that a country like France has admitted for so long the existence of tax havens that plunder its wealth, without understanding that those who wish to maintain this position are those who, at the top of the State, allow it for their benefit, for that of their parties, for those who finance their activities? States are put in competition. The question of taxes and duties to be paid by companies is an essential element in the attractiveness of national economies that are put into competition.

- Today, France seems surprised by corruption cases. For the moment, they are hiring people, from Fillon to Ferrand, via Marine Le Pen. But it is only the small river that hides the river from insider, lobbying interests. How can you understand, for example, that the cans of tomato concentrate you buy in your supermarkets never give you the exact indication of where the harvest was made?⁶⁶ How can it be explained that the European Union, although sometimes so meticulous, always admits a very loose control of consumer products, whereas it intervenes with force and violence

⁶⁵ Fontanel, J., (2016). *Paradis fiscaux, pays "filous": La fuite organisée des impôts vers les pays complices*. Editions L'Harmattan. Sénat (2015), Commission d'enquête sur l'évasion des capitaux et des actifs hors de France et ses incidences fiscales, Travaux parlementaires, Rapport n° 673.

⁶⁶ Malet, J-B. () *L'Empire rouge*, Fayard, Paris.

each time a State seeks to safeguard the interests of a region and a profession within the national territory? Has better service been obtained since some nationalized companies became private?

American leadership in question, or Thucydides paradox

Military power has always played a central role in the global economy, but it has lost its power of predation and ultimate domination. Empires have been built on violence, slavery, plunder and "efficient" public administration⁶⁷. Today, however, the American empire still seems capable of fighting global anarchy and enforcing the economic, financial and commercial order, it is now being challenged. The question is whether order can be imposed. Today, the military effort is not sufficient to impose law in a foreign country. All the conflicts of recent years highlight this relative impotence of the world's greatest military power, potentially capable of destruction⁶⁸. If international bodies are at the service of the great powers, the hypothesis of the American hyper power has been disproved during the conquests of occupation in Iraq and Afghanistan. However, there are no international efforts on disarmament process. Military expenditures are often analysed as "unproductive" by economists; that is a mistake. First, the international security needs of a country are neglected. Second, for USA, armament industries are often used as a system of national industrial policy. Third, in the short run, disarmament process seems to be costly and insecure for the great powers⁶⁹, because the conversion of activities from military quality to civilian one are scarcely possible and then it creates lost capital and unemployment⁷⁰. For Russia, in the short run, the disarmament process was a heavy burden⁷¹.

The apparent good health of the American economy is favoured by the dollar's primordial place in international trade and financial reserves. The United States, however, has the privilege of the dollar as an international reserve currency without cost. It must have a trade deficit for others to be able to afford Treasury bills in its reserves. This privileged situation allows it to benefit, at no cost, from large trade deficits, thanks to the issuance of Treasury bills. The American public debt is now close to 23 trillion dollars, or more than 60,000 dollars per capita compared to 30,000 dollars for the French. With Covid-19, the figures will increase further and, with the reduction in GDP due to the confinement, the ratio between debt and GDP will increase again to levels rarely seen in a peace situation.

Economists are not in a position to define the level of public debt that would shake faith in the solidity of the American economic system. However, this psychological, moral and economic advantage of the United States cannot be extended to other states and national economies. The piling up of debt points to a certain potential for economic crisis that the power of the US economy may not be sufficient to cure.

- The "America first" policy threatens the functioning of the World Trade Organization (WTO). The hard line inevitably leads to a questioning of the rules of international trade, according to rules that mix at the same time a form of liberalism, a desire for power and state action in the functioning of the market with multinational firms working in the United States. Donald Trump wants to adopt a firm policy to defend American interests in globalization. However, he does not understand the transfer of added value, because if the Chinese sell a lot to the United States, they need technology and engineering provided by American companies. The statistical analysis is therefore distorted,

⁶⁷ Fontanel, J., Bensahel, L. (2002), Guerre et économie. Les liaisons dangereuses, *Revue Géoéconomie*, fin 2002.

⁶⁸ Smith, R., Fontanel, J., 2008. International security, defence economics and the powers of nations. *War, peace and security*, 6

⁶⁹ Coulomb, F., Fontanel, J., 2003. Disarmament: A century of economic thought. *Defence and peace economics*, 14(3),

⁷⁰ Shkaratan ,O., Fontanel, J. (1998), Conversion and personnel in the Russian Military-Industrial Complex. *Defence and Peace Economics*, Vol. 9. 1998. Fontanel, J., Borissova, I, Ward, M. (1995), The principles of arms conversion in the case of Russia, *Defence and Peace Economics*,1995, 6.3. Fontanel, J., 2001. Economie du désarmement. *Ares, Défense et Sécurité*.

⁷¹ Fontanel, J. and Gaidar, E.T., 1998. *L'avenir de l'économie russe en question*. Presses universitaires de Grenoble.

because international companies in which American companies are shareholders engage many of its imports. It must be recognized that international trade has not always had only positive effects, particularly with regard to social protection systems (increasingly subject to the "lowest common denominator rule"), the appalling tax evasion it allows with the support of finance, and the growing inequalities between the very rich and the poor.

- New technologies make available resources that would otherwise be neither usable nor profitable. Economic instability has become a constant. The variability of natural resource prices makes long-term investment difficult. Today, scarce resources are directly concerned by the interest of finance system; their prices rise during periods of speculation and then fall when consumer demand is falling. The choice of renewable energy resources is not sufficiently asserted, as they are not yet sufficiently large and competitive. In addition, the question of "rare earths" will arise, especially when we know that today China is the main producer.

- Nuclear energy has short-term advantages, but it is a long-term investment whose military use poses a danger to all mankind. Similarly, hydraulic fracturing has not yet proven its value in a long-term perspective and it poses worrying environmental problems. Climate change itself has no real impact today on corporate decisions. Its effects are assumed to be long term, and therefore negligible today. In fact, the costs of natural raw materials are at the heart of the financial crisis, even if mainstream economics too rarely addresses this issue.

Trump's stance on the climate will weaken the US and its soft power. So far, not a single country has joined him, which is a demonstration of this.

The European institutional crisis

Europe has been at the centre of a great utopia, which is still not able to assume itself, despite or because of its territorial enlargement⁷². Europe, the world's largest market, is not a strong political entity. The Brexit constitutes an indelible task on the modern character of the monetary and political integration of the States.

With the exception of questions relating to international economic negotiations, it is constantly in a state of failure, especially with regard to defence (nuclear or not, with NATO or without), the fight against terrorism, the analysis of international political situations, questions of emigration, the protection of the Mediterranean, common taxation, the rejection of "beggar-thy-neighbour" type policies, estimates of the minimum living wage or the existence of a "minimum wage", social protection, etc.).

Each country has its difficulties. Greece has an overly heavy public sector and an unequal tax system, real estate speculation in Ireland has gotten out of hand, and Spain is suffering from its residential real estate, while Portuguese industry is not competitive. These analyses are often confirmed by observation, but they cover only part of the reality. The European Union is in crisis, as evidenced by the suffering of Greece, the Brexit, the euro crisis, the issue of public deficits and the difficulties of economic and social recovery in Europe. Brussels is accused, not always wrongly, of being technocratic, far from democratic authorities, excessively fussy in its respect for liberalism, not very attentive to the notion of public good, too subject to the pressures of multinational firms. Thus, the question of endocrine disruptors is always raised and the authorities that are concerned on them are often linked to industrialists. According to ecologists, workplace cancers are on the rise. Standards are insufficient. The experts are linked, sometimes employed, with polluting industrialists, such as BASF or Shell. About fifteen substances are concerned, from vinyl chloride to hexavalent chromium (25 times higher than French standards). These chemical substances disrupt the hormonal system and promote the appearance of new cancers, diabetes and obesity. The Commission's standards correspond to the wishes of manufacturers.

Europe cannot be just a confused set of rules or undifferentiated mechanisms; it must strengthen itself in the direction of better economic, social and political integration. The European institutions have weakened, democracy is reduced because parliaments, and even more so the

⁷² Fontanel, J. (2017), La crise européenne vue par un économiste. Annuaire français de relations internationales, La Documentation française, 2017, XVIII, pp.761-776.

people, are far removed from decision-making. They take pleasure in implementing regulations, without questioning themselves and acting more actively in the political field. The Europe of the States is not that of the citizens, it is only that of the almighty market, yet incapable of responding to economic crises with violent social effects.

If it is the guarantor of peace in a space that has suffered so much from wars, it must question its ability to mobilize citizens to protect the values and principles of cultures with a common base, particularly concerning the way of life, the social model, respect for human rights and, no doubt, the reduction of inequalities within the common territorial space.

The euro is a relatively stable currency, but it has major flaws, which have become increasingly gaping since the 2008 financial crisis. Germany has succeeded in imposing ordoliberalism on both the EU and the ECB. This economic doctrine is based on three principles:

- The market economy is the most efficient of economic systems
- This system does not work automatically. It needs the state to implement the laws of liberalism and to ensure that they are respected. However, the state budget balance for current operations must be respected and public debt is only allowed to finance productive investments.
- It is necessary to ensure the security of transactions, but also to develop a principle of social solidarity in favour of the most disadvantaged or those excluded from the system.

For the IMF, in 2015, the euro was too weak for Germany by 15% and too strong for France by 6%. The result was a loss of competitiveness for French companies and, on the contrary, an undervaluation that was favourable to euro exports for the German economy. In exchange for abandoning the mark, Germany asked for guarantees, including an independent central bank whose main purpose is to combat price rises, fiscal discipline applied to each country, and limited public debt, as it creates pressure on prices. On the other hand, the proposed criteria for controlling the euro were not economically justified (why a deficit of less than 3% rather than 2% or 5%?).

These rules partially called into question the question of the budgetary sovereignty of States. But budgetary discipline did not withstand the gloomy economic climate and public debt increased dangerously. Austerity policies were implemented, which reduced state revenues and deepened the recession. All countries are required to comply with rules that meet the criteria desired by Berlin. Germany is the great beneficiary of the single currency. The convergence criteria and the stability pact have had a strong impact on growth. The euro has not been a source of convergence for the partner national economies, the centre benefits from a domination effect that allows it to appropriate profits at the expense of the weakest. Germany imposed its industry thanks to a euro that it prohibited to devalue, but assured it of an undervalued currency. It has reduced to industrial wasteland whole sections of French, English and Italian industries. Today, these countries can no longer return to these markets without investing two or three times more than German industries, in reference to the costs of barriers to entry in an economic sector.

It is necessary to rebuild not only the monetary architecture of the euro, but also the democratic functioning of institutions is inefficient in order to solve the challenges of modernity. The proper functioning of the euro presupposes that the European Union constitutes a homogeneous economic zone. Monetary union is unlikely to be viable or effective without tighter political union, real economic governance, with a more coherent and inclusive fiscal policy, a symmetrical adjustment mechanism for both deficit and surplus countries in the euro zone, and a stronger democratic basis.

Today, the euro zone favours a massive trade imbalance in Germany's favour, with no possibility of adjustment for the debtor states due to the stability and rigidity of the euro. Germany's technological and organizational advance is supported by the existence of a population with relatively low wage costs, often of immigrant and European origin. The German model is often valued. However, inequalities are greater than in France (twice as many millionaires), minimum wages are much lower than in France, and average assets are much lower. In France, the poverty line has been set slightly below 960 euros, with 8 million people concerned. The cost of the RSA is in the order of 10 billion euros per year (for 1.8 million beneficiaries), although funding for all beneficiaries should normally be in the order of 30 billion euros (more than 5 million potential beneficiaries). Today, compulsory contributions in France amount to almost 1,000 billion euros, including nearly 680 billion euros (with more than 400 billion euros in contributions) for

miscellaneous social benefits. The increase in unemployment benefits is doubly handicapping the economic sector, with more payments to be made and less revenue.

The precariousness of the BRICS group

The BRICS countries (Brazil, Russia, India, China, South Africa) are important countries in the world history of the 20th century for their action with the non-aligned countries (India, Brazil), for their leadership on the socialist world (Russia, China) and for the struggle against Apartheid and the cultural decolonization of Africa. Today, they have adopted market globalization, after having undertaken major reforms by promoting foreign investment, the creation of private companies and the expansion of international trade, within the framework of the rules defined in consultation with the World Trade Organization.

The BRICS system has become a political reality, meeting annually in Summits that are increasingly organized as a political system of cooperation and demand⁷³. It represents respectively more than 42%, 20% and 50% of the world's population, GDP and participation in world growth. However, its components do not have a level of development comparable to that of Western countries (Table 1), whether one refers to the indicator of GDP per capita in purchasing power parities in current dollars or takes the Human Development Index as an indicator (Table 2). It can be seen, however, that with the exception of South Africa, compared with the performance of developed countries, all these countries have improved their performance, despite the significant problems that are piling up in their respective horizons.

India is an underdeveloped country, with a less unequal income distribution, a very large rural population, large urban centres specializing in industries and export-oriented service activities. It is the poorest country, with religious and philosophical problems that lend themselves to a certain violence or strong fatalism.

Finally, South Africa has a much lower GDP than China. Its link with the "BRICS system" is based on the superiority of its economy over all African countries and its reserves of raw materials. The economic destinies of these five countries are not "naturally" linked. South Africa suffers from high levels of crime, xenophobia and improbable management of public goods. Moreover, in comparison to the other BRICS countries, the cultural and civilizational differences are considerable. Only a political will to act in the international concert gives the BRICS coalition its coherence.

The digital and robotic revolutions

Technical progress and new technologies are always presented as factors of growth and economic development. Digital cameras have changed modern life and created many new needs. At the same time, growth has disappeared. Robert Gordon refutes the theories of "endogenous growth". None of the announced changes have occurred. Airplanes, cars don't go faster, beautiful things are produced that speed up information, but do not change people's productivity. It is not comparable to the electricity revolution. Productivity increases only very slightly, often to the detriment of employees deemed inefficient and put out of work.

However, according to Robert Gordon, today's cluster of "charming" innovations is not essential and will soon come to a halt. True, the smartphone offers undeniable comfort, but it is only a sophisticated model of the phone and information all around. It is not essential for human survival, it is not certain that it is without effect on human health and it does not strictly speaking offer collective comfort. If Twitter and Facebook allow the creation of a social link, it remains artificial and they open up access to debates as well as to the preparation of terrorist acts.

This type of progress also creates new constraints, the need to respond quickly and instantaneously to your employer or your interlocutors. The aim of this technical progress has not

⁷³ Echinard, Y, Fontanel, J., Fontanel, M. (2013), BRICS, un concept d'origine statistique devenu l'expression d'un puissant groupe de pression dans les relations internationales d'aujourd'hui, *Annuaire Français des Relations internationales*.

been to reduce the daily fatigue of individuals; it only aims to create new profit niches. Today, telework in developing countries limits the salary requirements or jobs of workers in developed countries. The new technologies of digital equipment systematically seek to save the costs of a workforce deemed insufficiently obedient. The new added value is then appropriated by shareholders, while at the same time the economies of developed countries are experiencing increased unemployment or downward pressure on labour costs.

Job destruction is rapid, but conversion to more skilled jobs is much slower. The vast majority of jobs are in sectors where machines are not (yet?) able to compete with humans. It is no longer a question of helping workers in their work to make it easier for them, but rather, as soon as possible, of replacing it with a machine that does not unionize and that costs less in terms of variable costs per unit of production. Basically, the civilization of communication suffers from the Pavarotti effect, "people always take the best". Under these conditions, Apple and Microsoft or Messi and Ricardo for football lead towards them all the desires of possession or spectacle, without worrying too much about the other competitors. In this context, the former take everything, they belong to that famous 1% that of the richest population, which is also getting richer and richer, while the others are experiencing almost no growth, except perhaps, in some territorial spaces, the 9% that run behind the elite in search of the fulfilment of comparable desires through possession.

Software normally has an infinite lifespan. Manufacturers make them obsolete by developing new standards or improving performance, the marginal interest of which is low for the consumer and high for the producer. The ratio of jobs created to jobs lost is well below 1. As digital prices are continually falling, unemployment is growing, especially for those with narrow skills, which are needed and quickly become unnecessary. Each generation has experienced these epistemological revolutions; the crisis is not reserved for the new generations. However, periods of economic crisis have often favoured armed conflicts. New technologies save labour and capital. In this chaotic civilization, mired in the production of goods and services for social differentiation, the middle class becomes a target with consequent social effects. In order to keep up with progress, they sought to buy socially "valorising" products, then had to go into debt to buy their houses, before declaring themselves insolvent in the face of diminishing remuneration or even temporary unemployment.

The digital revolution is reinforced by the revolution in robotics. Today, automation gives new power to capital owners. The "end" of human work is not yet on the agenda, but the question is rather whether democracies will be able to adapt to an unemployment rate of more than 50%. An effective redistribution of the advantages of this mode of production must therefore be conceived and developed legally and socially by the whole of a democratic society. However, against the power of GAFAM, governments must intervene⁷⁴.

What if indefinite growth had become vain? Keynes announced that in 2030, men would be able to work three hours a day and devote themselves to other more exhilarating activities.

Inequalities

It is now necessary to bring the income distribution system into line with changes in the way wealth is produced. The economic system of competition leads to an increase in production in less and less time; on the other hand, this success does not lead citizens to benefit from this success in terms of gaining emancipation, freedom and collective consultation to distribute the benefits⁷⁵. The universal income is not a social device that is added to the others, it is a potential vector of transformation of the wage system.

On the other hand, the disconnection between work and income, the universal allowance, poses both ethical and financial problems⁷⁶. Each setback in social struggles leads to reflection on

⁷⁴ Fontanel, J., Sushcheva, N. (2019), *La puissance des GAFAM : réalités, apports et dangers*, AFRI, Annuaire Français des Relations Internationales, Paris.

⁷⁵ Bourguignon, F. (2012), *La mondialisation de l'inégalité*, Coédition Seuil et République des Idées, Paris. Stiglitz (2010) *Le triomphe de la cupidité*, Actes Sud, Coll Babel. Fontanel, J. (2010), *Economie politique de la sécurité internationale*, L'Harmattan, Paris.

⁷⁶ Saez, E., Zucman, G. (2020), *Le triomphe de l'injustice. Richesse, évasion fiscale et démocratie*, Le Seuil,

new types of direct or indirect income to control the maintenance of the unity of citizens in the territorial space of public spending. In absolute terms, it is preferable for citizens to fight for access to employment and for the State to be the guarantor of the positive right to work. In principle, universal income creates a new choice, that of participating in the labour market according to one's will or ability. The idea of a collective management of socialized income is then supplanted by a form of private appropriation, the contribution of the public sector to the survival of its citizens.

The environmental crisis

According to a WWF report, nearly one-third of the world's natural heritage (including the Grand Canyon and the Great Barrier Reef) is directly threatened by oil, gas or mining exploration. In Africa, this threat is very worrying, in the face of mining companies seeking immediate profits and a continent in which misery, hunger and excessive exploitation of its resources are a cause for concern, despite the protection offered by a 1972 convention ratified by 191 states. The granting of concessions is at issue in 70 of the 229 protected areas. The extractive industry causes irreversible environmental damage. Sacred sites, which create jobs while providing water, food and energy to local populations, while limiting flooding and the effects of climate change, are no longer sufficiently protected. The "central role" of finance is still very much present, "far removed from all contingencies that are not those of their very short-term profits.

- The sustainability of the environment must be assumed, it is not an option, especially in view of the scarcity of resources and climate change.
- A balance between the State, the market and the citizens must be sought. Markets must be regulated, civil society must be developed and equity must be promoted.
- Balanced budgets should not be a dogma. Fiscal stimulus must not be refused on the altar of grand principles. It is necessary to ensure that public debt and inflationary pressures are controlled during good times.
- Capital has a comparative advantage over labour within the framework of new technological advances and the traditional rules of the market economy. The bargaining power of workers needs to be strengthened. It could be suggested that union membership should be both compulsory and free, which would change the balance of power between economic actors.
- Social norms and values influence economic performance. There is a need to resurrect collective trust, fight corruption and tax evasion, and uphold collective values.
- The international community must develop collective rules, taking into account externalities and giving a greater voice to developing countries. Without such objectives or rules of conduct, conflicts will always have violent, unequal and unjust outcomes⁷⁷.

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11. Scarcity as a cause and means of conflict and war⁷⁸

Originally, political economy was based on the concept of scarcity and its management, notably through the organisation of production, but also through the exercise of power and predation.

Today, the scarcity of a good is based both on an imbalance between supply and instantaneous demand, on the disappearance of natural resources necessary for certain productions, but also on political decisions that can prohibit certain forms of use of products for ecological, environmental, political or health reasons. Raw materials may run out, and oil will become a rare liquid in less than a century, unless it becomes abundant again if the fight against the greenhouse effect leads to its use being eliminated. Similarly, drinking water will become so scarce that people will be forced to reproduce it in increasingly commercial ways. Clean air may also become a commodity, if advanced technologies can reduce the deleterious health effects of polluting emissions.

The security of a country depends first and foremost on a collective feeling about the moral, economic and political weight to be given to threats to the state, its components and its citizens from potential enemies, whether internal or external. It is therefore not directly measurable. It depends on ontological, philosophical or religious perceptions of the collective systems and structures in place, and on a more or less justified need for security expressed by the citizens (in the case of democracy) or by the powers that be. It is therefore not limited to the military and civilian (police and justice) sectors of national security

Scarcity can also be the result of a mismatch between the productive system and consumer needs. It can then be short term, which leads to forms of inflationary pressure (for neoclassical analysis, scarcity is an essential element of price formation), or long term due to inappropriate production choices or physical constraints on the availability of production factors. Scarcity can be societal, based on an unbalanced distribution of income, on more or less violent and exacerbated conflicts between social actors and on a refusal of exchange. Scarcity is then dependent on the social organisation and the conflict relations between institutions, communities and individuals. In this context, it is the economic system that creates more or less important 'pockets' of relative scarcity. Finally, scarcity can be an expression of power. When a country imposes an embargo on another country, it creates scarcity in order to convince the victim to act in accordance with its demand.

In a less conflictual world, scarcity in the face of the satisfaction of human needs could lead to a spirit of solidarity, which the market economy, based on individual interest, hardly values. In fact, the history of humanity seems to highlight the struggle of humans against an endemic scarcity that could threaten them. The feeling of scarcity is therefore not shared in the same way between men and nations. In time and space, the security of people is achieved by reducing uncertainty about the survival of the species, by creating the goods necessary for it, through the instruments of law, power or arms. The first scarcity concerns human security, which includes the struggle to provide for oneself and avoid extreme precariousness, the protection of one's physical integrity and the guarantee of a societal organisation adapted to individual survival. As a result, man being a fundamentally social animal, an important part of security is provided by the social group of each individual, even if within this community problems of scarcity may also arise in inadequate social inequalities.

National and international security is therefore essential to combat relative scarcity.

To fight predation and protect its citizens, states organise national defence. The production of arms is then an instrument to fight against an essential scarcity, primordial according to Adam Smith, namely the defence of the country. "Hell is other people. In this context, the security of a country depends on the actions of other states, their propensity to seek power, their appetite for predation, their ability to exert domination effects.

⁷⁸ Conférence ILERI, Paris, 10 Février 2020.

To ensure this specific scarcity, it is necessary to devote significant resources, which could have been used for other purposes. The opportunity costs, *ceteris paribus*, are therefore significant. However, if these means make it possible to avoid a war, they will perhaps have made it possible to wage a war, with significant costs. When one compares the price of a tank to that of a school, one implicitly makes the assumption that the weapon itself does not meet a need. Such reasoning leads one to think that there is no need for security *per se*, or, more precisely, that this need is satisfied in a natural way, without any productive effort on the part of a defence instrument. For liberal and neo-classical theorists, the market creates the conditions for equity and the expression of conflicts is immersed in economic competition, provided that states throughout the world accept the functioning of the market economy. In this context, war and conflict are the exception, the norm being peace. The military effort is then analysed as a burden. The costs of preparing for and waging war are considerable and steadily increasing. Under these conditions, the state takes on a major importance in economic life.

Today, with the collapse of the Soviet Union, the globalisation of the market economy dominates all international trade, but power relations, domination effects, social conflicts and wars are still relevant. The military effort is supposed to produce a national and international security function. The expenditure of other countries is a potential threat, except in cases of military alliance. If, in the face of this effort, no national army is formed, confidence in the country's economy may be undermined. Under these conditions, investors turn away from the country, thus causing a situation of economic and social crisis. The military effort, if it is likely to increase confidence in the proper functioning of the national system, produces new investment opportunities that increase the economic potential of a country.

However, in certain situations, the use of power relations is a means of strengthening the coherence of states under construction. For the German historical school, military demand is an important stimulus for the development of capitalism; instead of asking whether war is an inevitable consequence of capitalism, it considers capitalism to be a positive consequence of war: for it, military demand exerts an increase in industrial production and has allowed the diffusion of the capitalist system in Western Europe.

The modern state is the provisional result of past wars and the organisational demands of armed conflict (Porter, 1994).

For Braudel (1993), artillery, printing and ocean navigation are at the heart of the great technical revolutions of the 15th to 18th centuries. Firearms brought about a tremendous transformation of warfare, states and economic life. Many sectors of national economies (iron and steel, aeronautics, electronics, shipbuilding, etc.) were also the vectors of new industrial developments. Armaments and warfare have played an important role in modern history as a driving force for the acceleration of industrialisation and the expansion of markets" (Mandel, 1972).

In addition, public investment was often driven by military demand: for example, state orders were a decisive instrument in the economic development of Japan, where several *zaibatsu* benefited from the transfer of industrial equipment created for the needs of armaments. Finally, the US government has always pursued a real industrial policy, especially in the field of research and development, through the military-industrial complex.

Keynes also questioned whether rearmament would help fight unemployment (1939). Indeed, an increase in military expenditure allows the stimulation of economic activities in the armament sector and its intermediate consumption, with a correlative increase in employment and wages. Such an effect would, however, have additional, longer-term effects if other public expenditures were involved. Military spending, while useful for national defence, is the most unproductive form of public spending. It is not a temporal transfer of purchasing power, but a definitive withdrawal of production factors from the economic circuit. National security has a cost. Its production lies in the absence of war for countries favourable to non-aggression through the effect of dissuasion. For the aggressor countries, it is then a question of expressing an overpowering attitude towards the declared enemy and/or a desire for predation. Under these conditions, in the short term, collective resources will be spent on military purposes, thus exerting a considerable opportunity

cost for all goods and services, increasing, at least momentarily, the overall scarcity of the citizens of the countries concerned.

Economic competition, often savage, is not the modern form of armed warfare and an extension of economic warfare conducted by one group of states against another state deemed guilty of actions detrimental to the citizens of the world. It is true that the victims of hunger or epidemics are often more numerous than those who die under the fire of bombs or machetes. The natural effect of trade is not peace, as Montesquieu pointed out in his time. Rivalry prevails over cooperation and the whole of the European Union is destabilised by this policy, which is applied within the framework of a common currency, the paradoxical result of cooperation and agreement between governments. The cosmopolitan economy to which the neo-classical and liberals refer in their analyses proposes to define rules that lead to universal well-being. Political economy is more concerned with the conditions of the relative power of a nation in relation to other nations in the globalised markets.

In the market economy, economic crises follow one another. With the process of globalisation, tensions are always present in time and space, far from the optimal and benevolent system proposed by liberal and neo-classical theories. The role of the state is always contested in a crisis situation, while the market, but perhaps in the financial field, is often spared from criticism. For a time, the market appeared to be the solution to all ills, but by appealing to unbridled individualism, it is gradually destroying the necessary solidarity. In 2020, the violence and instability of the markets are a cause for concern, with the continuous development of slugging that disfigures the objectives of the market world. Growing income and wealth inequalities, tax evasion and optimisation, unbridled contestation of public goods, public and private indebtedness, the dictatorship of an ever less precise and increasingly blinding GDP, global warming and growing pollution are all factors that testify to the explosive nature of the world's future societal life.

Is it that "capitalism carries war like the cloud carries the storm" (Jaurès, 1914)?

Competition constitutes an anarchic form of production regulation, which generates fundamental instability; military expenditure then makes it possible to reduce the growing and structural gap inherent in the capitalist system between supply and demand. Permanent armament has become the fundamental lever to solve the problem of surplus capital. Profit is not random in military production, so it is no longer justified by risk. Military equipment is a unique good with a unique specification, having no alternative use, which makes it difficult to refer to a market price to fix its value. It is difficult to enter the competitive process. Military companies can therefore benefit from excess profits, without having to bear the burden of competition and uncertainty.

According to Baran and P. Sweezy (1966) argue that military expenditure can destroy part of the surplus, thus counteracting the tendency of the capitalist mode of production to over-accumulate and to lower the rate of profit. However, military expenditure cannot remedy the contradictions of capitalism. The conditions for its maintenance are incompatible. In the end, it is a question of buying arms, arms and more arms. In this context, military expenditure is a major solution to the contradictions of capitalism. The analysis of the permanent arms economy does not allow us to understand the motivations of capitalists, nor the internal social conflicts.

This analysis has been criticised. Ron Smith (26) argues that other public expenditures are more effective in addressing the overproduction of the capitalist system and that military spending has other functions than ensuring demand. Defence industries offer capitalists the advantages of market mechanisms, without the disadvantages. The state finances research and development, and guarantees markets through long-term orders and export subsidies. In fact, capitalism is a factor of "permanent war at worst, armed peace at best". It creates scarcity to keep the working class impoverished. The fear of warlike action by other states allows capitalism to demand more and more effort from the poorest citizens, in order to allow the capitalists to increase their rate of surplus value, and thus their rate of exploitation of humans.

With the process of economic globalisation, international trade is presented as a process favourable to universal peace. However, the market economy is based on competition, which can sometimes amount to a permanent conflict between producers, consumers and citizens. The economy is taking over the life of humanity today. Public controls are weakened. The strategies of

economic agents consist in obtaining the most market advantages, independently of a collective interest often placed at the direct or indirect service of private interests. Globalisation does not call for global citizenship, let alone corporate citizenship. Above all, it defines the freedom of the owners of capital to settle wherever and whenever they want, with the fewest social or political constraints. Globalisation can only be affirmed by reducing social protection, by diminishing the spaces of the collective and of solidarity. In this context, scarcity is created both in space and between social strata. If capital has always been speculative, it also creates the conditions for economic war between nations. "Economic globalisation is an egalitarian sham" (Labarde, Marris, 1998). The existence of tax havens, tax evasion behaviours, is a strong sign of the system's inability to reduce the scarcity for the misfits of an increasingly unequal system, especially in terms of wealth and potential for action on all national and international economies (Fontanel, 2016a,b,2017, Zucman,2016). There is a quasi-irreversibility, towards ever greater fortunes and, for the plebs, recurrent difficulties in finishing the end of the month without the appearance of a lack of financial means, which is akin to artificial scarcity with regard to the world's capacity to produce wealth. The members of GAFAM (Google, Apple, Facebook, Amazon, Microsoft) have the capacity to generate huge profits, out of proportion to their size. They are primarily interested in "doing business", "making money", without any reference to the social consequences of their practices and innovations.

They are criticised for the commercial use of private information, the patenting of information technology, lobbying to avoid anti-trust laws, financial speculation, tax optimisation in tax havens and the creation of a control and surveillance society.

Market-driven globalisation creates inequalities and relative scarcities. Multinational companies are the beneficiaries of a globalisation whose laws they dictate. Political democracy is not accompanied by economic democracy. A plutocracy is being established, with less and less democratic control, as most sources of information belong to the ruling class (Fontanel, 2020b). The exercise of state power is also present.

The war in Iraq is based on the assumption of American power. The possible willingness of the Gulf States to use oil scarcity for economic purposes may have pushed the US government to intervene on the basis of implausible pretexts. Like war, competition benefits the generals and the gun merchants. For J.K. Galbraith (1968), the threat of war is an indispensable element in controlling social disagreements and anti-social tendencies. Negotiated disarmament processes are only wishful thinking. Hypotheses for the conversion of the arms industries are not always politically acceptable, as they do not take into account elections and vested interests. Above all, there are no valid substitutes for the military functions of conflict in American capitalism. The threat of war, as an instrument of government stability, provides the most effective means of controlling national economies. The subordination of citizens to the state and the control of social dissent are factors largely dependent on international security. The war-based system has proven its effectiveness since the beginning of history. It has provided the basis for the development of many civilisations.

The economy is sometimes itself an instrument of conflict by creating relative scarcity.

Economic warfare has always existed, from sieges to embargoes, in situations of war (scorched earth policy or economic terrorism) or peace (boycotts or embargoes, for example). It can also aim at weakening the military power of a state, either in a war situation (blockade) or in a situation of relative peace.

Several strategies (Fontanel, Bensahel, 1993) have been employed, which do not aim at the well-being of the national economy, nor its development, but rather at the weakening or subjugation of another economy. Sanctions to cause significant economic damage to a country to change its policy (apartheid, violation of minority rights, tyrannies or war) are a key instrument of economic power, used extensively during the Cold War. Economic factors become permanent weapons which, in order to regenerate, cannot be constantly diverted from their essential functions. The economy has become an instrument of power often applied to the conflictual relations of states. Insecurity depends on the arms race, inequality, international domination and even social exploitation.

Oblique strategies of dissuasion, economic retaliation, embargoes and boycotts are all powerful weapons, whose economic and political effects depend on defence measures, international solidarity and the potential for substitution. The economic weapon is often part of warfare. Today, direct (or military) strategy is made difficult by the power of nuclear forces. States are therefore led to exercise a strategy of "indirect manoeuvre". There are several types of economic weakening strategies:

- The state considers that it must control the sale of weapons that could be turned against it: this involves developing strategies to control the export of dual products, half-civilian, half-military, in order to prevent the adversary army from increasing its economic potential; in this context, the reduction of the military-economic strength of the potential enemy is sought and unequal exchange is claimed.

- The collapse of the Soviet economy was undoubtedly aided by the application of the strategy of impoverishment through the effort to prepare war. The arms race is a cost, which the richer countries can more easily take into account. The less developed countries are impoverished more rapidly, as they do not have enough 'discretionary income'. Under these conditions, the arms race leads to the weakening of the poorest state, with a view to destabilising it socially and economically first, and then politically.

- The strategy of disruption aims to create economic problems in the rival country in order to increase its political and social difficulties: the disruption of trade or financial flows destabilises the target country. The embargo is an instrument of retaliation intended to exert strong pressure on a sovereign decision of another state. It is a dangerous weapon for the one using it, unless there is sufficient international consensus. However, the "attacking" country always suffers from this policy, which is part of a "negative sum game" for the protagonists.

- The strategy of encirclement aims to develop economic interdependence that can guarantee peace. The new economic solidarities are the best deterrent to aggression. This strategy has not yet been used effectively.

- With the strategy of political violence, it is a matter of a state taking over the economic power of another country when the latter is hostile and weakening the dominant social strata. It is then necessary to control the political forces of the state apparatus and the trade unions, through nationalisation or privatisation, through strikes or riots.

- The strategy of domination leads the dominant countries to influence the dominated countries in their military-strategic decisions. The economic weapon allows a country or group of countries to dominate another country through the power conferred by the monopoly of the supply of goods and services vital to its survival. The White House has sometimes used the food weapon against developing countries.

The potential of economic conflict as an expression of a country's quest for power remains high.

The instruments of foreign economic policy (protectionism, economic sanctions or control of strategic products) serve the political objectives of a nation. The national interest must take into account the overlapping of national interests (Baldwin, 1985). According to Sun Zi's Article 14, of all the methods of waging war, safeguarding a country is better than destroying it, subduing the enemy without fighting is the best. Today's economic warfare is more insidious: it focuses on international rules deemed 'liberating' in the long run, while ensuring, in the short term, the violence of excessive inequalities. International economic relations (such as foreign aid, capital flows or trade negotiations) are instruments of political pressure (or reaction).

In this context, the distinction between war and the search for power is blurred. With the end of the Cold War, Washington has engaged in economic warfare, with military imperatives often an excuse to develop industrial policy, promote research and development, and subsidise domestic firms. The well-being of Americans depends on their ability to produce goods and services, to develop international trade laws, to promote democracy and human rights, to strengthen the national potential for competitiveness, but also to have a dominant military power for the benefit of American companies and citizens.

Economic factors often dominate the agenda of strategic considerations. Every nation competes with others in global markets. It is therefore a question of protecting high-tech sectors, indirectly supporting national companies, helping sectors with high added value and acting firmly in international forums to promote the development of the dominant economy. This time, the enemy is officially considered as a partner. The role of states is discussed in this respect.

While for K. Ohmae (1995) saw the end of nations as part of the peaceful and rather benevolent logic of the market economy, Reich (1993) sees the inevitable disintegration of national economies as increasing insecurity and impoverishment. Indeed, the events of 11 September 2001 have challenged these preconceptions, reminding us that there are many other factors than economic ones that lead to war and conflict.

Competitiveness is in the DNA of companies in a market economy system. However, competition is not necessarily fair, on the one hand because the search for the maximum rate of profit makes it possible to accommodate the legal rules that are most favourable to firms, and on the other because the economy is an essential element of national security. As a result, states can intervene to favour or disadvantage companies according to their relations with the countries from which they originate or according to political criteria expressing power relations exercised both directly between states and indirectly through international economic organisations. Finally, competition can also lead to social wars, with the application of "least-deficiency" policies.

With President Trump, who favours "positive economic nationalism" (Fontanel, 2018; 6, Saby & Saby, 2016, 2019) through an adapted industrial policy, the United States intends to become the sole arbiter of a now globalised economy, by maintaining its world hegemony and spiritual leadership of the planet. The aim is to combat the efforts of China, which itself wants to take over world leadership. The instruments of foreign economic policy (protectionism, economic sanctions or control of strategic products) serve Washington's political objectives.

Peace is a construction, not a natural state of affairs. People seek to appropriate production and they retain a predatory spirit. It is true that war is no longer praised, it is no longer socially "recognised" as a means of crisis management, even because of the existence of nuclear weapons. War is no longer a strategic means; it is a matter of conscience. However, the multiplication of the number of states, the absence of a supranational order and the inability to enforce the law everywhere open up a bright future for war, especially for the control of scarce resources.

The economy is a cause of war, but it is also a means to war. Disarmament is no longer relevant, because even if "war" is not the main concern of today's societies, it is a recurrent threat. Moreover, disarmament process creates, on the short run, some additional economic problems for the regional and national economies (Shkaratan, et al. 1998; Fontanel, Chatterji, 2008).

Conflicts changed in nature: it no longer places battalions on a battlefield; it becomes insidious, continuous, based on inequalities and relative scarcity. Economic warfare is terrorist. Scarcity and peace do not mix. When a society creates relative scarcity, it also produces conflict; and therefore war.

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12. The Alternative Report of Africa (AROA) An African project under construction⁷⁹.

The Alternative Report on Africa (RASA, 2018), promoted by several African and Third World non-governmental organisations, considers that the notion of economic development as it is presented today in global statistical analyses leads to perverse effects (poverty, immigration, excessive exploitation of the continent's people and available resources) that do not allow Africa to express its assets, while bearing an excessive share of the scourges that affect the very future of humanity. The methods of analysis adopted by international reports on Africa take into account standard of living factors that mainly concern developed countries, within the framework of a globalised world (Fontanel, Henriques, 2007), dominated by multinational firms that have a strong influence on the objectives of governments and international organisations (Fontanel, 1995). The analyses, indicators and ideological reflections of unbridled liberalism lead to a weakening of Africans' self-confidence, while they often no longer have control over their land and wealth. While not all indicators should be rejected, they should be cross-referenced with other measures concerning freedoms, solidarity, authentic living conditions, and the importance of religious or civilisation objectives pursued by groups of people. The priority search for GDP growth is only a delusion, given its calculation, the fragmentation of the added value of products and services, the quantitative estimation of global consumption, the unequal distribution of private property, the relative importance of material goods and the weight to be given to the present compared to possible futures.

RASA proposes a philosophical, ideological and methodological reversal of the usual economic and statistical analyses, an almost second stage of decolonisation, by establishing criteria that reflect real life, as it is lived and accepted by Africans in their natural environments. It is a desire to regain true sovereignty over the vital objectives specific to the inhabitants of a continent, through the application of relevant public policies in order to initiate autonomous and sovereign transformations of African societies.

RASA aims to determine a new concept of development for and by Africa, "to build a definition of progress for Africa and Africans that is closer to their cosmogonies and worldviews, their realities and practices; to account for societal, economic, cultural, religious, political, and environmental changes and transformations that give another idea of the Africa that is being built and that are beyond the reach of conventional indicators of development and well-being; to reflect the prospective vision of Africans and the evolution of their thinking on Africa and the world; to give a voice to African citizens and actors in the production of a report that innovates in its methodology of elaboration by setting up a platform for the production of knowledge and information combining scientific, community, citizen and popular sources" (RASA, 2018 page 13). The question arises as to whether, from an economic point of view, there might not also be a "clash of civilisations" (Sen, 2003). It would be paradoxical if Africa, a victim of excessive consumer development, did not seek to find other ways. If all the countries of the world spent the world's natural resources at the rate of the economically developed countries, they would disappear rapidly, but also permanently, for everyone. International experts still have knowledge based on the values they were taught in the past and which they constantly reproduce. Africa must develop its own authentic and sovereign thinking, which it can then project into the world.

The reproduction of international reports that do not meet Africa's needs

Reports on Africa develop a well-established vision of development on the basis of information founded on increasingly contested statistical concepts, often unable to take into account the

⁷⁹ ILERI (Institut Libre d'Etudes et Recherches internationales) Paris, 19 Janvier 2021,

organisational and civilisation specificities of the countries. According to figures from international bodies, for at least the past decade, African economies have been growing at an overall rate of 5% per year. "Africa thus seems to have become the world's normative "new frontier", the continent that is attracting attention, raising the planet's hope that it will instil new dynamics, new values" (RASA/AROA, 2018). In 2018, real GDP growth is broadly maintained, driven by public investment, strong domestic demand for goods and a robust services sector. However, according to the African Emergence Observatory, no African country can now be described as emerging (Gazibo, Mbabia, 2018), which does not help to sufficiently highlight Africa's progress by its own standards.

Today, the destruction of free goods and services (water, air, natural resources, etc.) allowed by a neo-liberal globalisation blinded by the quest for ever-increasing profits threatens the very existence of humanity. Africa is poorly measured, poorly qualified and poorly represented by instruments and measures that do not apply to its economic, social and political reality. Africa is not a land of power over the world. Large international companies plunder its natural resources and it is perceived as an eternally assisted space. It has been historically emptied of its human resources through slavery, it has suffered constant wars, the weight of tyrannies and ill-fated ideologies, it has been a place of conflict for the great economic powers, a domain of hunting and plundering of natural resources for multinational companies, it has hardly ever had a voice in the establishment of a new international economic order. Africa has not been the victim of an internalised refusal of development, simply because it has always been exploited to favour the economic development of the colonising countries or the rise of multinational companies that corrupt local powers (Fontanel, Touatam, 2018). The result is the notorious vicious circle of poverty whose psychological effects on the population are exacerbated by the rise of social networks. The system based on the infinite increase of a GDP of questionable content provides only fragmentary information on pollution conditions, global warming or the respect of working conditions. Technological progress is not in a position to prevent recurrent economic and societal crises caused, more often than not, by the unsustainable growth of social inequalities.

Africa is today in a situation of great dependence, it has only limited control over its own resources, its voice in the international concert is indistinct, often fractured, dispersed and inaudible, depending on the interests and economic policies of African governments influenced by the big developed brothers. Its military power is very limited, even negligible, and its place in the international cultural and scientific concert remains secondary (Smith, Fontanel, 2008). Are African countries in a position to insert them positively into the global economy, following major institutional and structural changes? Do they really want to? This strategy of specialisation is dangerous and non-pauperising exports are not so easy to conceive. There is no shortage of foreign investment. The Chinese government has decided to inject \$60 billion into development projects in Africa, with a view to improving agricultural productivity, developing infrastructure (roads, rail, ports) and reducing public debt.

That new dependence of African countries on China may raise questions. These investments are not aid to Africa, but a quest for economic control of indigenous labour forces and natural resources. These hopeful values have contradictory effects, with the effects of dependence on imports, production and exports, making any growth particularly precarious, in the face of a powerful country that will enforce its rights and even go far beyond them in the event of a dispute. With the other so-called Western partners, profits leave the country to settle in politically stronger and less taxing countries (Fontanel, 2016)

Under these conditions, Africa must build its own instruments to measure the progress of its national economies against the needs of its population and citizens. Is the type of development advocated by the great powers compatible with African societies, or should we always follow the same path as that of the so-called developed economies in terms of pollution and climate? Should we always question a country's productive capacity without looking at the interest of its consumption? Can we keep the concept of Gross Domestic Product as the main indicator of an economy's strength, even though it is so questionable? (Fontanel, Guilhaudis, 2019). GDP is a simplifying aggregate that does not take into account ecological, environmental and societal issues, nor the depletion of soil and subsoil, nor pollution, nor international and national security, nor

democratic freedoms, citizen solidarity or cultural influence. Its quasi-monopoly of use has caused heavy damage to the Earth's potential.

All countries are in a state of exacerbated dependence on markets and international economic rules. The catching up of development places the continent in a system of competition, the rules of which Africa knows little about. It is stigmatised for its lack of organisation, corruption, poor governance, inability to retain local financing and the permanence of internal conflicts. Without the currency, economic structures and strong instruments of power to participate in the global free trade system, Africa is doomed to be a constant loser. It is necessary to return to a domestic economy oriented towards the internal market and to question the real needs of the indigenous populations. It is not a question of promoting autarky, but rather of controlling international flows (monetary, financial or of goods and services) in order to democratically establish norms that protect the citizens of the countries concerned from the effects of domination by developed countries.

It is a question of challenging the crippling effects of domination and of evacuating the social violence of multinational firms and the plundering of Africa's natural resources for purely mercantile purposes. In other words, should the criteria of developed countries be used to define the human development of populations? Should we simply compare peoples in their capacity to produce market goods and services indefinitely without any negotiated reference to the usefulness of their social, philosophical and egalitarian content? How can we define the relative happiness of citizens? What are the guiding principles of economic and social progress?

Development indexes for Africa

The content of GDP is often contested. The UN has proposed adding the Human Development Index (HDI) to the economic and social analysis of a country. This includes not only economic variables, but also statistical values for health, public education and income indicators. It takes into account human health and longevity (measured by life expectancy at birth), knowledge or educational attainment (average length of schooling or decision-making ability), standard of living (gross income per capita in purchasing power parity) and the satisfaction of basic material needs such as access to safe food, clean water, decent housing or good sanitation and medical care. However, this indicator does not always lend itself to indisputable interpretation (Fontanel, Guilhaudis, 2019). Developing countries have an HDI that grew slightly between 1990 and 2016, with the exception of several African countries. What are the priority criteria for well-being and human development? Isn't the precariousness of social life a scourge that comes from wars, the absence of law enforcement, and all kinds of violence, whether military or police? All these indicators do not provide significant proof of one of the most serious scourges of the African continent.

While the content of GDP is strongly contested, the proposed Genuine Progress Indicator deserves, in a first analysis, to be used (Backshi, 2008, Gadrey, Jany-Catrice, 2012). Proposed by researchers from an NGO (Redefining Progress), it is also called the Green GDP. GDP defines the added value of the entire productive system, without considering the intermediate consumption of 'natural' goods, which are then assumed to be free, indefinite and inexhaustible. The LPI (Logistic Performance Index), on the other hand, takes into account all social constraints, the perverse effects of the production system, the future and the quality of life of individuals. It aims to measure the negative or positive impacts of growth on the environment and natural resources, which will be permanently withdrawn from the productive system when they are exhausted. It takes into account overall personal consumption, including income inequality, net external debt, the cost of durable goods, social adjustment (social fractures such as crime, accidents, time lost in transport, divorce, unemployment, leisure time, etc.), environmental adjustment (cost of pollution, depletion of agrarian land, destruction of forests and non-renewable resources, etc.) and beneficial adjustments (such as domestic work or volunteering).

The question is whether the LPI is an indicator of sustainability, or an indicator of "economic well-being". In the calculation of the LPI, the material standard of living still plays a key role, which excessively reduces the negative effects of the social, ecological and environmental variables taken into account, thus weakening the quality of the judgement on the sustainability of development. It

remains too sensitive to short-term issues of immediate well-being, considering furthermore that social and civic peace is not an economic issue in itself, and that it is often achieved in compliance with the rules of the liberal economy and the market. However, most African countries suffer from insecurity, daily violence, ethnic, political or inter-state conflicts. These are probably the fundamental reasons for Africa's low level of economic development.

GS (Genuine Saving) measures assets that directly or indirectly produce well-being, built capital (machines, buildings, telecommunication networks), natural ("gifts of nature"), such as non-renewable and renewable resources, and their production-related evolution in terms of short- and long-term climate) and intangible (social and human) necessary for the communities thus analysed (Hanlet, N., Dupuy, L., McLaughlin (2014). The fundamental assumption is that wealth is a fundamental basis for well-being. In this sense, it only has a simplistic and one-to-one projection of man, as if these elements were sufficient to define the fulfilment of citizens.

Finally, the Gross National Happiness Index proposes to determine the level necessary to achieve a sufficient sense of satisfaction of fellow citizens, based on the standard of living, the

feelings of well-being and the qualities of health, education, culture, peaceful community life and sustainable diversity of ecosystems. The calculation focuses on economic growth and development, cultural conservation and promotion, environmental sustainability, sustainable resource use, and responsible governance.

These indices are difficult to calculate, but they are interesting for understanding the diversity of societal developments, without relying solely on the market values promoted by the liberal economy.

The RASA proposals

The concept of "Development" aims to categorise states on the basis of economic criteria founded solely on immediate commercial grounds, thus ignoring the values of the future, the Earth's heritage, national and international inequalities, but also man and citizens. The idea that social progress goes through stages, which presuppose the development of innovation, the capacity to invest, but also the organisation of a productive system legally designed by the rich ruling classes with the help of the daily work of the other classes placed at their service. When countries do not produce as much as others, they are considered as backward. In these conditions, liberal rules are cruelly adapted to them by international organisations, without the progress made being commensurate with the human suffering suffered by the generations concerned by a very problematic "catching up".

Thus, the policy of structural adjustment was strongly contested for its violence and inefficiency, before it was abandoned for new projects such as the "Millennium Development Goals", the "Poverty Reduction Strategy Paper", and the "structural transformation of the economy", which embody the continuity of a master-pupil relationship that never allows the latter to pass their exams. The logic of domination and exploitation of Africa is never questioned.

For RASA, macroeconomic indicators are not sufficient to evaluate the well-being or development of the African man, who remains resistant to the cultural uniformity demanded by the great powers, by progressively suppressing all diversities. In this context, Africa does not have to catch up if it wants to be itself, with its values and their diversities. Africa suffers first of all from the financial flows that have evaporated from its production space, often illicitly or encouraged by corruption. Many public subsidies have been used to increase individual profit and

inequality; land has been taken over by multinational corporations; and the militarisation of African nations is an economic and social burden, leading more easily to wars than to human security.

The economic development claimed by the international order paradoxically emphasises the market economy of quasi-monopolistic oligopolies, individualism and power relations. This system that, in theory, should function on its own, does not fail to experience serious economic crises, unbearable inequalities and violent relations based on predation. Poverty is seen as the result of

chronic inefficiency on the part of those who experience it (Matteudi, Fontanel, 2015). Yet economic growth and interrupted possession of artificial goods and services are not unsurpassable human goals.

The world today is shaken by structural contradictions, by the perverse effects of economic and social domination, by an unalterable production process that is increasingly destructive of diversity, personal time and open thinking. Development models have undoubtedly made it possible to reduce famine and improve people's health, but today, with the existence of technology and science, another life could be opened up to the whole of humanity, through sharing. Although the hard sciences have developed considerably, the social sciences still refer to the philosophers of yesteryear and sociologists are unfortunately rarely listened to in the face of the demands of the dominant 'Friedmanian' economists, for whom the function of an entrepreneur is first and foremost to make a profit, regardless of the consequences for employees (Sen, 2012).

Today's global system leads to the oligarchic concentration of economic and political power; a real plutocracy has been established. Insecurity at work in developed countries is also a testimony of a society that moves forward without questioning the well-being of people. Africa's history has been confiscated by colonisation and slavery, all of which are scourges for which no international law has defined simple compensation. Furthermore, the statistical systems in place are discouraging because they only validate the productive process of a liberal system that is so constraining to human well-being.

In search of relevant indicators

The question is what are the relevant indicators, given the heterogeneous African values. Does Africa have nothing to teach the world, probably not in the area of mass production, but in the area of life skills? Is it necessary to disseminate information that is useful for the continent? For RASA, the African citizen must be placed at the centre of the objectives of a specific economic and social progress, which would make at least as much use of the richness of the diversity of Africa as of the global world that is now being proposed as a master.

It is necessary to move away from the development trajectory advocated by liberal thinking and to rethink a new project based on local knowledge and the heterogeneous cultures of the continent. Africa must decolonise its thinking and engage the foundations and structures of its own history. It is a question of taking into account the specifically African societal, economic, cultural, religious, political and environmental evolutions and transformations, of developing a prospective vision of Africa's place in the world and of reclaiming the voice at all levels of the communities, by defining new organisations for the production of scientific, community, citizen and popular knowledge. Five multidisciplinary themes are privileged by RASA.

- From conceptual abstraction to the diverse realities of Africans

Africa is far from the perceptions and analyses of international experts obsessed with figures that transform and even betray the reality of this continent. It still suffers from the stereotypes developed during the colonial period. 'Negritude' was then a weapon in the fight for decolonisation (Senghor, 1967). Africa does not correspond to this simplistic image, it is also a place of cultures that have spread throughout the world, and it is a disparate population and demography, proposing living, evolving and sometimes revolutionary political objectives. It is also a claim of belonging and an often common history, but dominated, in the modern era, by colonisation and slavery. Finally, there is a diaspora that could reinvest in the continent, bring new scientific and organisational skills, and help improve the image of an Africa in the making. What does it mean to be African today? It is necessary to reconstitute links between the peoples of Africa and to resume links with a diaspora whose African roots can constitute a powerful ferment for reinvesting in this continent which has not always been able to preserve its human forces, a victim of colonial, civil and economic wars.

- What are the specific African thoughts that could nourish the African man today?

Africa has known its own civilisations that must be recognised and rediscovered, if possible by erasing the gangue of ideas received by the armed invaders of territories and the masters of unduly appropriated wealth. This is a historical epistemological approach to classical African thought.

Is it possible to construct an African cultural model, with a view to defining, for the present and the future, specific paths to well-being and to the collective and personal fulfilment of its inhabitants? This raises the fundamental question of pan-Africanism and regional integration.

- What powers are installed in Africa today?

In the world, democracy has lost some of its main points of reference. A plutocracy seems to be imposing itself, with the control of information through the media and the self-interested orientation of the best informed or supported social networks. Is this mode of government appropriate for Africans? Democracy is no longer a decisive factor of political stability and does not respond satisfactorily to the values and history of Africans. Its exercise often seems to be a simple graft of a system applied by other civilisations. How can modern institutions be reinvented while retaining the legitimate principles of African societies? We need to build an alternative to a liberal globalisation that (RASA, 2018). African society has often been organised around a leader and his elites (Koulibaly, 2008). It is therefore a question of self-centred, endogenous development and governance that stimulates productivity while strengthening the collective sense of 'living together'. It is a question of defining the type of democracy applicable to Africa, with respect for the rule of law within the framework of the diversity of social dynamics, of developing the continent's natural resources for Africans, of finding a better link between the market economy and the underground economy, but also of strengthening the processes of regional politico-economic integration, of participating in the establishment of a model of sustainable and equitable globalisation, and of decolonising the mind. While maintaining and strengthening the basis of its African culture, Africa must also open up to the culture of the world.

- Popular sovereignty as an ideal alternative to liberal globalisation.

Capitalism is supported by the dominant states. Imperialism plays a devastating role, with the most powerful states supporting the large multinational firms in a system of exploitation and predation legalised by international organisations (Fontanel, 1995). The constitution of a great international of the exploited classes is particularly difficult to set in motion, as the means of security and communication between the opponents are clearly unequal.

The issue is all the more difficult to tackle because Africa's demographic challenge is considerable in terms of economic, social, philosophical and economic issues. The potential working population is expected to reach 1.25 billion by 2050. How to absorb this growing workforce into productive and rewarding jobs?

- What models and indicators of human performance should we adopt?

The colonisation of knowledge gives free rein to the centres of power in developed countries. On the other hand, any action initiated locally, based on the notion of belonging and contribution to global dynamics, can be positive. New measuring instruments must be put in place, not to make comparisons with other societies, but to measure the progress made over time in relation to the objectives set. Can we assess African well-being? How can we value family solidarity, the oral transmission of culture, but also social life skills, the pharmacopoeias of traditional medicine, regional food diversity and, above all, African traditions and mythologies which are creators of dreams and infinite hope? It is a question of fuelling debates on the aims of African societies, to help them take economic and political orientations that are closer to their societal and human aspirations. It is about defining the application of the principle of "thinking globally and acting locally". RASA is the initial basis for further systemic thinking. The methods of action are not really described, but the objectives are defined.

RASA sidesteps the fundamental issues of national and international security and the economic and religious heterogeneity of Africa.

The security of a nation and its inhabitants is not limited to the military protection of its borders and the respect of private and public rights by the judiciary and the police, but also concerns the living conditions of its citizens (Fontanel, 2010). This is an essential condition for its development. International bodies also initiated this concept when they undertook studies on the creation of an International Disarmament Fund for Development (IDFD), which could have benefited African countries (Fontanel, 1985).

However, apart from the difficulties in reversing the idea that a country's security depends on its military power, many political, economic and financial obstacles appeared strong enough to prevent the implementation of a procedure that was difficult to control and verify (Fontanel, Smith, 1987).

Table 1 - Coefficient of divergence in GDP per capita estimates according to the use of current purchasing power parity rates in relation to the current exchange rates of the States

Coefficient	Countries
> 3.5	South Sudan (6.4), Sudan (4.9), Egypt (4.8), Tunisia, Madagascar, Mauritania
> 3	Guinea, Malawi, Nigeria, Tanzania,
> 2,5	Algeria, Benin, Burkina Faso, Eritrea, Eswatini, Ethiopia, Lesotho, Libya, Mali, Morocco, Mozambique, Niger, Rwanda, Chad, Togo, Zambia
> 2	South Africa, Botswana, Cape Verde, Cameroon, Comoros, Congo Rep., Ivory Coast, Gabon, Gambia, Ghana, Equatorial Guinea, Guinea Bissau, Kenya, Liberia, Mauritius, Namibia, Senegal
> 1,5	Angola, Burundi, Central African Rep. Central African Republic, Democratic Republic of Congo, Seychelles,
> 1,3	Djibouti, Zimbabwe

Official statistics provided by international economic organisations highlight the disparities in comparisons of key economic outcomes, depending on whether currency conversion indicators are used, notably current or constant exchange rates and purchasing power parity rates, which significantly diminish the picture of the real relative poverty of African countries (Donsimoni, Fontanel, 2019). It is easy to see that the perception of the level of development is different depending on the statistical tools used. Many African countries are experiencing interesting economic growth, but it is mostly based on the exploitation of raw material and energy resources, managed by multinational companies, which invest their added value in developed countries or in tax havens (Fontanel, 2016).

In the context of an African desire to assert new values and indices to measure the evolution of the economic and social situation of citizens, one of the important questions is to determine the rules of intra-African trade. Will they be based on market rules, on multilateral or bilateral trade agreements or on a mutual assistance system?

What will be the relationship of African countries with the outside world, that of globalisation, what place should be given to multinationals and their dominant role in the African economy and what instruments of internal solidarity should be built? Today, Africa remains a continent divided into states, with interests that only appear to be complementary in order to fight collectively against the economic and political domination they suffer from the outside.

Similarly, the major actors of economic globalisation have opposing internal positions, between states, multinational firms that have a monopoly on many modern technologies, such as GAFAM (Fontanel, Sushcheva, 2019) or even the direct or indirect control of non-governmental organisations (Bensahel-Perrin et al., 2009). For RASA, Africa must refuse marginalisation and open up its political space to ensure its own original development. Finally, the issue of internal and inter-state security is hardly addressed. Like most economic theories, the RASA reporters assume that it does not affect the daily life of citizens. This analysis does not seem to be in line with the real life experience of Africans. African countries are often in conflict, with porous borders, and military power is often very present in the governing bodies. Military expenditure is not negligible

(Table 2). The share of African countries' GDP devoted to defence is not negligible; it is sometimes very high, as is the case in Eritrea, Libya and even Algeria. The report neglects these power relations and enmities between countries, as if these military expenditures were not intended for internal conflicts in Africa.

Table 2 - Military expenditure as a proportion of GDP in African countries in 2018.

Countries	% military expenditure/GDP
> 3%	Eritrea (20.9), Libya (15.5), Algeria (5.3), Djibouti (3.7), Namibia (3.3), Morocco (3.1), Mauritania (3)
> 2.5 %	Botswana, Congo (DR), Guinea, Mali, Niger
> 2 %	Burkina Faso, Sudan, Chad, Togo, Tunisia, Zimbabwe
> 1,5 %	Angola, Burundi, Eswatini, Gabon, Gambia, Guinea Bissau, Lesotho, Senegal, Somalia
> 1 %	Cameroon, Côte d'Ivoire, Egypt, Kenya, Mozambique, Central African Republic, South Africa, Rwanda, Seychelles, Tanzania, Zambia
< 1 %	Benin (0.9), Congo DRC (0.8), Malawi (0.8), Liberia (0.8), Sierra Leone (0.8), Madagascar (0.6), Cape Verde (0.6), Ethiopia (0.6), Nigeria (0.5), Ghana (0.4), Equatorial Guinea (0.2), Mauritius (0.2)

Civil war is even endemic in many countries on this continent. An "African" solution should be found to the conflict and warlike relationships in the vast uncontrolled territories of the Sahel, which suffer from a shortage of water and insufficiently productive arable land, a lack of jobs for young people, and religious, ethnic or mafia antagonisms. It is difficult to hope for a 'sustainable' or 'durable' African economic and social revival as long as the state is not in a position to recover all its State functions. RASA does not sufficiently take into account the power relations in the world and does not give any guidance on how to avoid them in the face of the multiple conflicts that could arise from the position of multinational firms supported by the most powerful countries in order to continue exploiting their raw materials. Cuba has had to suffer a violent economic war, which even today prevents its development. The history of humanity is marked by conflicts over the direct or indirect predation of wealth (Coulomb, Fontanel, 2008). Similarly, in order to safeguard interesting commercial positions, countries may engage in military operations that reduce the potential for state autonomy, not to mention the strategies put in place to create conditions of enmity within and outside African countries. History shows that economic interests are often a factor in wars.

The economic, political, social, environmental and human stagnation of today's world is a testament to the crisis of neo-liberal capitalism. The question then is whether capitalism should be fought for to resume a positive course towards development or whether, as a violent and maladaptive system, it should disappear so that people can emerge from this crisis (Amin, 2009). The modern mode of economic development is strongly contested for its destructive consequences for the environment, the climate and the violent inequalities it produces. RASA's reflection concerns the entire humanity and, in this context, Africa can become a voice that carries weight. This is the hope of the RASA participants. "Africa thus seems to have become the world's normative "new frontier", the continent that is attracting attention, raising the planet's hope that it will bring new dynamics and values" (RASA, 2018).

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13. Is Russia still a superpower?⁸⁰

The militarism of the Soviet Union was the main feature of the real autocratic system, with the organization of the permanent threat to its existence and the will to be organically aggressive against capitalism and market economies. For more than a decade after the collapse of the USSR in 1991, Russia's image as a dominant military power was clearly tarnished. Disarmament is often judged to be very favourable for economic development, but it brings with it a destruction of the old economic as well as social equilibrium. For an economy that is in transition as well as in recession, disarmament constitutes a political decision of considerable importance for the international community. Because economic development is certainly a condition for peace, it is important for the world community to realise that it is necessary to actually "purchase" disarmament, independent of economic conditions based on competition. However, for Russia, the enterprises were not adapted to market situation, their labour potential were inefficient and there was a quick process of disqualification. The famous and honoured USSR military industrial complex were not efficient at all to solve the crisis and the economic situation of Russia was clearly declining, with a reduction of the life level of the large majority of citizens.

At the beginning of the 21th century, Vladimir Putin considered the conceptualization of a policy of "soft power" and "hard power" active, at least in the environment of Russia's proximity, mainly with the former members of the USSR. The structural weaknesses of the Russian economy were not a sufficient reason to limit the defence effort. The threats of countries that were both revanchist and determined to dictate their worldviews were important. At the same time, the promotion of a new "vertical of power" aimed at restoring the credibility of the state and securing the integrity of the national territory. The return of "Greater Russia" was back in the discourses, with a particular goof conjuncture with new financial means derived from massive exports of fossil fuels, the improvement of national budget accounts, and the creation of a new political system, artificially similar at democracy. In this context, military spending and the military-industrial complex were once again perceived as effective fertilizer for the growth of research and development, new technologies and investments for the national economy. The military forces are not perceived a burden for the national economy, but as a new development of the political force on international relations of Russia, with the interests they produce on soft power and sometimes on "domination effects".

At the beginning of 2018, in principle, the forces in favour of rearmament and an increase in the budgets allocated to armies do not lack arguments and assets, in the face of an economic globalization that is not accompanied by better political, military, economic, and geostrategic relations between states. Russia wants to be once again a dominant actor on the international scene.

For Vladimir Putin, the United States and its allies want to reduce Moscow's international role, in order to direct, the affairs of a unipolar world, dominated by universal Western values, the market economy and the democracy of the "Enlightenment". They are referring to "an end of history" with no other potential states conflicts than the economic power relations in an international competitive process. In this framework, the "peaceful" relations between the states become the continual development of philosophical, religious, economic and social values of Western societies. For Putin, Russia has to assume its share of independence and respect for its own values.

Inter-state agreements with the United States, the European Union and NATO can only be based on the application of the principles of equality and mutual respect for the interests of each participant.

⁸⁰ en collaboration avec Eric Brunat), Conférence ILERI, Institut Libre d'Etudes de Recherche Internationale 28 Février 2018, Paris

However, the will of the countries is to develop economic and political power, as historically, they develop colonialism and wars against Russia and emerging countries. NATO and US military forces, in several places in the world develop their imperialist temptations. Traditional Russia must defend its values in order to resist the forces of homogenization and tropism of Western civilization. Vladimir Putin is critical of the functioning of the new world economic order inspired by Western values, has the firm intention of restoring the legitimacy of his international action even if he is more and more contested because of its inability to reform an economy based on the predation of the national economy by the opportunists in power (the oligarchs replacing the nomenklatura) and national institutions granting de facto excessive power to the executive.

The neo-imperialist forces of the West, especially with the expansion of NATO, are also seen as a threat to Russia's security. They carry out hostile political actions in the former Soviet Eurasian space in order to weaken the solidity of the Russian sphere of influence, such as in Georgia, Ukraine and Kyrgyzstan, but also with the Arab "spring", the support to regime changes in the Middle East (Syria, Libya or Iraq) and the political role of non-governmental organizations in order to destabilize Russian institutions. Russia's support for Syria is based, in large part, on the existence since 1971 of a logistical base of the Russian Navy in the port of Tartus, the only supply point in the Mediterranean Sea for its warships. Russia's return to the Middle East is part of a long-term policy, in favour of Arab nationalism. The new "cold war" is decentralized in the near and Middle East. It is the ambitions of Western powers that are deemed dangerous to the country's security, especially since the Crimea affair.

Russia is increasingly worried about the progressive "encirclement" of its territory, with the enlargement of NATO and the reduction of its field of influence.

In opposition, the European Union strongly contests the policy of the Russian state, it still does not recognize the illegal annexation, in the sense of international law, of the Crimea and it condemns the acts of destabilization of Ukraine by Moscow. In this context, Russia's relations with the European Union have been disrupted, more aggressive, and therefore less negotiated. Yet, this situation persists, it settles in time and relations between the two poles are bogged down, the EU waiting for a very unlikely surrender, the other side turning to new potential allies. Since 2014, as a result of these European reactions made of a spiral of sanctions prompting counter-sanctions, the Russian national security strategy has been refined, it defines its national strategic priorities and the measures to be taken to satisfy them within the framework of an economic and military development deemed sustainable.

Moscow claims a more equal sharing of international power, particularly in favour of the emerging economies. The use of force in Georgia, Ukraine and Syria supports this demand. To this end, Russia also exercises a more devious "soft power" (of which the suspicion of actions on elections in the United States, France and even Germany in particular is a troubling testimony) and a "hard power", whose real or virtual effectiveness is always discussed, but feared, by international actors. The strategy of nuclear terror, although artificially muted, is still firmly anchored in the minds of governments in negotiations with Russia. Moscow has still considerable nuclear weapon that gives it a special responsibility vis-à-vis the United States in the international concert of a new world with evolving polycentric overtones. A new international order in the making is becoming particularly dangerous and anarchic; the control of markets, raw materials and communications is the subject of intense, secret, underhanded struggles, likely to lead to new regional wars. Russia wants to maintain a pre-eminent global influence and a zone of influence in the former Soviet space, both to strengthen a Eurasian integration process and to have buffer states in case of conflict with other countries. Russian military forces can help in this construction.

The factor of military power remains central in the Russian ambition to maintain and develop an influence on the destiny of the world and more concretely on the "sphere of its privileged interests" of the space of the former Soviet Union. For Vladimir Putin, the military effort is never considered a cause of economic crisis, military technologies are at the heart of development, arms industries are competitive on international markets and Russia's prestige in international negotiations also depends on its military strength. Military force remains a parameter of global power and sovereignty, even if the massive and forced occupation of a given space and its inhabitants is no longer the breeding ground for political capitalization over the long term.

Established in 2002, the Collective Security Treaty Organization (CSTO) now includes Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Tajikistan (Uzbekistan suspended its participation in 2014). NATO being strengthened, the objective was therefore to ensure a common defence against all possible military aggression suffered by its members, under the high protection and coordination of Russia. In 2010, Dmitri Medvedev launched a ten-year program to modernize the armed forces, which has been continued and reinforced by Vladimir Putin. Military spending rose from 16 per cent in 2010 to nearly 26 per cent of the federal budget in 2015. In 2016, the defence budget was reduced by about 30% (between 41 and 43 billion euros, and 3.1% of GDP), but efforts to optimize forces have been significantly implemented. The government focus on re-equipping forces. Nevertheless, the military sector remains a priority for maintaining Russia's leadership and renewal on the international scene. Russian military expenditure conceived as a factor of real "hard power" converted into virtual "soft power. It is a question of finding a balance between the effort of arming a country and the need for its sustainable development, it being understood that the two objectives are not contradictory.

This modernization policy, which is the bearer of a new strategic approach, concerns all the armed forces and aims to transform the traditional mass mobilization of the "Russian-Soviet" armies into a more compact and operational professional force. Within this framework, rearmament has also been significant and brutal, encouraged by speculation on the price of energy resources.

This defence instrument is now presented as an asset for Russia in its search for power, even if the members of this organisation are not yet fully aware of their responsibilities organization are not always "fully grateful" to Moscow, on the crucial issues of South Ossetia and Abkhazia, and on the deceiving Collective Rapid Reaction against terrorism, transnational crime and drug trafficking.

By 2018, Russia suffered with its conventional forces suffered in comparison to the corresponding military power of NATO. However, it remains a major nuclear power, with a very strong destructive potential, but, for Moscow, in the today's globalized society, national security seemed clearly reduce compared with the real and virtual danger potentialities and its idea of a Great military power. The American withdrawal from the ABM Treaty reduced its international power. However, Moscow plays an international role, with its right of veto in the UN Security Council, its criticisms against military operations sponsored by Western countries, its campaigns of disinformation, notably during western elections, and its direct or indirect operations in "cyber attacks" against international actors.

Russia must find new allies, not only in the area of the former Soviet Union, in a context where the relative weakness of its economy. It contests this anarchic world order, which leaves too little room for emerging countries and in particular the BRICS (Brazil, Russia, India, China, South Africa). However, this last organization, although very active in having its rights to participate in the architecture of a new economic and financial order recognized, suffers from the political difficulties of its members and from divergent interests that are sometimes irreconcilable in practice. For Europe, Russia's actions in Crimea and Ukraine do not obey international laws and reduce European security. However, some countries, such as Hungary, a member of the European Union, or Moldova try to restore more privileged relations with Russia.

In 2014, the United States accused Moscow of deploying new cruise missiles, contrary to the INF Treaty, which Russia denied. The increase in Russian military capabilities raises questions and concerns in the Western world; it must also be assumed that public opinion and citizens are being manipulated to justify Washington's desire to maintain its own military spending at a very high level. When Barack Obama wanted to strengthen his involvement in Eastern Europe by installing heavy weapons there, Vladimir Putin retaliated by announcing plans to build 40 intercontinental missiles and modernize nuclear-powered ballistic missile submarines. The United States government, by denouncing the ABM Treaty, has directly encouraged Russia to embark on a new arms race, with incomparably reduced means. Instead of embarking on the dubious effectiveness of a nuclear umbrella, Moscow prefers to have weapons capable of piercing the nuclear shield, which should be much less costly and probably just as effective in terms of deterrence.

Since 1991, the United States and Russia have negotiated and established Strategic Offensive Reductions Treaties, which have often been challenged by either side. In 2002, the Strategic Offensive Reductions Treaty (SORT) called for both countries to have no more than 2,200 nuclear warheads. In 2010, the so-called New START treaty replaced the PSO treaty, with very little result in terms of effective disarmament. Russia was very reluctant to reduce its nuclear weapons, given its relative qualitative weakness and especially its technological backwardness in many other important military fields. Moreover, the 1987 Intermediate-Range Nuclear Forces (INF) control was challenged by the development of new missiles. Washington has repeatedly accused Russia of violating the treaty because of its tactical missile modernization. For its part, Russia accuses the United States of deploying universal launch systems for ABM systems in Central and Eastern Europe.

In the negotiations Russia wanted to include strategic non-nuclear weapons, space-based weapons, high-precision non-nuclear devices, missile defences and even conventional armies. However, Russia is now determined to challenge arms control agreements that it believes no longer correspond to its national security interests. In November 2017, Russia finalized the 2018-2027 State Armaments Program with a strengthened requirement regarding the reduction of unit costs of equipment, at constant quality. Vladimir Putin has set three priorities: first, the arms industries must modernize their production lines, increase mass production to reduce costs and strengthen the potential for "import substitution" as a priority objective; second, technological improvements to the weapons themselves and the creation of new weapons systems must be carried out; third, the modernization of the nuclear forces remains the top priority, with the acquisition of air defence systems, high-precision and long-range weapons and the introduction of new generation systems. This would mean re-launching a nuclear arms race, which Donald Trump is prepared to consider.

In 2018, for NATO, Russia is still perceived as the main geopolitical enemy, with China. There are three reasons for this fear.

- The former "allies" of the USSR, now members of the European Union, remain deeply suspicious of the power of the Russian army and the political and ideological ambition of its rulers.
- Moreover, the issue of Crimea and the nagging issue of Donbas suggest that Russia wishes to pursue an aggressive policy towards newly independent states that do not accept being in its zone of influence.
- Russia's major annual military exercise Zapad resembles a simulation of a major war.

Military force has lost its "aura" and daily violence today only questions terrorist states, claimed as such. The security of a state is no longer assured in the light of the new threats, such as cyberattacks and a strong economic and social development.

Economically, Russia has lost much ground to the United States, Europe and China. Its power exists mainly in the military field, for its nuclear arsenal. In this context, Moscow is not willing to engage in new agreements on national security issues, while it feels deeply threatened by NATO and its geostrategic encirclement.

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14. War and economy. Putin and Sun Tzu⁸¹

When countries have long been portrayed as antagonistic camp leaders, it is difficult for states to suppress the grievances arising from this confrontation. While Russia has now opted for a market economy adapted to its historical situation and has been admitted as a member of the World Trade Organization, it nevertheless remains partially obsessed with its past as a great ideological, political and military power. Washington, with its NATO allies, is gradually locking it into a position of active defence. Of course, Russia belongs to the famous BRICS, but this association of countries seeks to find coherence of action, while their immediate individual interests differ. The solution of an agreement with China is not easy today for the Kremlin, given the new strength of a state that stands up against the American all-powerful, to the point of becoming its main rival. Russia has engaged in a process of disarmament in its economy, including the military-industrial complex, which has made it more vulnerable. However, it remains a powerful nuclear force, the second in the world after the United States. However, the links between the national economy and national defence are complex, and often lead to the expression of long-term power relations between states that are not sufficiently taken into account by economists.

Russia's military strategy in the Crimea case was inspired by Sun Tse teachings of using cunning to lead the enemy to avoid direct combat, to lay down arms or to surrender even before having started to fight. You have to know how to win a war without fighting or do it at least gently, in relation to the importance of long-term issues. In 2019, Crimea is ruled by Russia. Major sanctions were taken against Moscow, but logistically Russia recovered the Crimea and thus protected the port of Sevastopol, their large military base turned directly to the "hot seas". No doubt Russia still suffers retaliatory measures from NATO allies, but the Crimea question seems set for the coming decade, it is an integral part of Russian territory. Overall, the situation is rather favourable for President Putin, both in terms of security and in economic terms. Today, in 2019, President Donald Trump talks about easing sanctions against Russia, while a few months ago, opposed to the North Stream, he had considered increasing pressure on Moscow by new economic measures.

In the long term, the annexation of Crimea seems today no longer to pose significant problems in international relations. The strategies advocated by Sun Tzu, 6 centuries before Christ, seem to have been retained by the master of the Kremlin.

- First lesson: "For the good strategist, the essential is in the victory and not in the prolonged operations". The Western camp wants Ukraine to join NATO. Such an eventuality is impossible to accept for Moscow, given the special situation of Sevastopol, its port of war, with almost direct access to the Mediterranean via the Black Sea, its only winter sea. In these circumstances, accepting that the Crimea surrounding the military port is now committed under NATO control, largely directed against Russia, is hardly acceptable to Moscow. If Ukraine wants to negotiate with Western countries, it cannot claim membership in an alliance against its big Russian neighbour, whose history is historically common. Western countries support the solution of a rapid accession of Ukraine to the European Union. In this context, the accession of Crimea to the European Union would become irreversible and Moscow would be strategically in a situation of great weakness in the face of the diplomatic, military and political advantage that the West would derive from this new situation. In these conditions, Russian action for the return of Crimea to the national fold is crucial. Faced with world public opinion, Vladimir Purine chose the only solution that allows him to maintain an international public authority, which of a masked military intervention, followed by a questionable application of an "ad hoc" referendum justifying his operation. Only the final result of all operations matters.

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- **Second lesson:** "Whoever pushes the enemy to move by making him glimmer an opportunity ensures superiority. It's about getting the opponent to attack you on the most seemingly sensitive point of your defence. It's about getting the opponent to act according to your strategic expectations. While Yanukovich's Ukraine, the legally elected president, was up to now faithful to the commitments with Moscow, the change of power becomes inevitable in Ukraine. The indirect intervention of Westerners is not necessarily in conformity with international law, especially since new elections are planned in one year. Russia has proof that the United States is financing and arming the Ukrainian opposition forces. Yet, in this context, direct Russian military action against Ukraine is unlikely.

- **Third lesson:** If the Western camp acts more and more openly for the change of a pro-Russian government, Moscow feigns a form of helplessness of action in the face of the potential conflict. He wants to avoid putting on a bellicose position. Moscow has left the field as helpless in the face of this display of interest to destabilize Ukraine and push it, even by elections, to choose a policy more favourable to the interests of Westerners. Moscow first chooses a strategy of invisibility and silence; the Kremlin seems obsessed with the international coverage of the Sochi Olympic Games. However, it did not go unchecked, but its actions were covertly and covertly supported by Russian-speaking Crimean citizens and disappointed by the political instability in Ukraine. Russia has had time to point out the errors and approximations of its opponents. The silence she imposed on herself suggested that she was reluctant to act, that she was not convinced by the legitimacy or effectiveness of her action.

- **Fourth lesson:** It is then to provoke the error of the adversary, in order to act where the opponent does not expect you. The violence and flight of Viktor Yanukovich are the occasion of the official awakening of Putin. The Western camp supported him when he was in favour of the agreement, but he abandoned it when he returned to the Russian fold. It does not matter who governs Ukraine provided that it engages in a policy favourable to NATO and the European Union. The West supported the popular revolution. While appealing to the notion of democracy (which will not, at least in the rule, respected), he has maintained and guided the wrath of the Maidan Square. While new elections would be held in one year, rioters no longer want to wait and install, with the help of Western countries, Arseniy Yatsenyuk as Prime Minister. A priori, for Washington, Moscow is trapped, it can no longer react and it will suffer the effect of encirclement that limit its ambitions deemed "imperialist". The answer is not then wait. Since the Crimean pro-Russians are fighting for the reunification of the peninsula with Russia, in the name of the principle still claimed internationally the right of peoples to self-determination, the Crimean Parliament, acquired to the Russian cause, organizes a referendum that is supposed to legitimize the action of Russia against its opponents and the writing of history. For the organization of the referendum, popular pressure justifies the first official, then official, presence of Russia in Crimea. Thus, Vladimir Putin reacts to the signing of the Association Agreement between Ukraine and the European Union, gateway to NATO membership, and at the end of the lease of the Sevastopol maritime base to the Russian Navy. For the Kremlin, the whole operation is "up" against Russia. There remained to him the referendum solution of the Crimea, which, in conditions undoubtedly little serene, gives him reason. The fact that Crimea prefers Russia to Europe legitimizes this annexation. In fact, this operation is less "legitimate" than that engaged with the Kiev rioters.

- **Fifth lesson.** The retention of information or its deliberately erroneous character allows giving "time to time". Despite the information provided by the Western camp, Vladimir Putin says that there are no Russian troops in Crimea. Surprised by the action of the Kremlin, Westerners raise the issue of economic sanctions against Russia, evidence if it is impossible to imagine a military action for the return of Crimea in the Republic of Ukraine. Moscow is speeding up operations, while allies are spending a lot of time working together. In this context, Russia continues its action with a consummate art of strategy. The Crimean Parliament unanimously asks for its attachment to Russia, which will then be validated by a plebiscitary referendum. Crimea then nationalises the

oil and gas sector, public companies become Russian companies. For Vladimir Putin, democracy has provided its verdict. The world is then faced with a *fait accompli*. Russia is then developing an information strategy, based on the right of peoples to self-determination, which justifies its action. In the face of Ukraine's political instability and growing corruption, Crimean citizens seem to prefer to become a member of the Russian Federation.

Lesson 6: Armed conflict must be engaged only if victory is offered to us. Officially, with the referendum, Russia justifies its action, which did not need serious military support. Russian military power was more present in the minds than in the facts. The art of war is precisely to reduce the collateral damage with regard to its own objectives. Victory is only true if its price does not exceed the benefits received in exchange. Today, it is a question of convincing the opponents of the irremediable character of the union between Russia and Crimea. Some of the opponents fled, the Tatars could be in trouble. However, the "real politic" is never interested in the cruelty of situations.

- Lesson 7: Russia has integrated the limits of the military instrument. European citizens do not wish to engage in armed conflict for a rather Russian-speaking Crimea. Every European citizen knows that military action against Russia is doomed to failure. The economic war is then recommended. Only those at the third level, the highest (banking transactions and budgetary revenue sources), would have a significant impact, with the energy issue, which for the moment is still not retained. Russia must now bear the effects of the economic weapon. In case of embargo or economic war against Russia, the cost to pay would be significant for all actors, including Europeans. However, the interests of the United States, rich in oil and gas, are not the same as those of Germany or France, dependent on oil and gas, especially from Russia. The United States and even several countries of the European Union do not agree on the establishment of the Nord Stream gas pipeline linking Russia directly to Germany. The divergent interests of the Allies give new diplomatic prospects to Russia in the years to come. When the interests of the alliance formed by your enemies are divergent, the resumption of negotiations becomes inevitable in the long run. Opposite, Russia strengthens its military apparatus, but this effort remains difficult to digest for the Russian economy.

Eighth lesson: No voice was expressed in Russia against its policy in Crimea, quite the contrary. The Crimea had once belonged to the Russian Federation, and it was a simple decision of the Ukrainian Khrushchev that the island had been attached to Kiev. History often soothes resentment when struggles have not been violent in time and space. Vladimir Putin obtained the agreement of his people, while strengthening his personal power. In view of the stakes, the price of blood has not been very high. Putin thus strengthened his position in the strategists able to defend the interests of his country, which allowed him to increase, undoubtedly to excess, his personal power. However, Russia's economy remains highly dependent on its natural and energy resources, which is a point of weakness that may ultimately have disastrous consequences.

Russia is going through a new period in its history that is putting it out of the way of western chancelleries. She does not care, convinced of her right. If it undergoes more or less severe sanctions from the West, India or China are less committed to the resolution of this conflict. Vladimir Putin seeks to get closer to these countries (especially in the framework of the BRICS group). She is nevertheless convinced that she will soon be allowed to return to the G8.

The annexation of Crimea to Russia has been the subject of economic retaliation measures mainly by NATO members. Putin has used the lessons of Sun Tzu to achieve a result that, on the side of Russia, is globally positive; since the question of the return of Crimea to Ukraine is hardly mentioned anymore. In this context, we realize that Russia has suffered some negative effects on its growth, but it has considerably improved the conditions of its national security and its patrimony and heritage.

Westerners have forgotten the principles enunciated by Sun Ste, so far-sighted about the desirability of wars and the rules to be respected in times of peace. Putin pursues his great goal of putting Russia back on the international scene and recreating a sphere of influence around it. He had not expected,

however, that his person and his national government would gradually begin to stir up internal opposition ... except in Crimea.

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15. Public debt as a political opportunity for national economy Pax Economica⁸²

The payment of one's debts is, in principle, the basis for the morality of liberal policies. Financial debt is quantifiable, time-bound and costly. It must be repaid, or else suffer a severe economic sanction from the financial markets. However, one should not compare the debt of an individual with that of a state. Private economic agents have a limited time horizon, unlike a state, which is not destined, to disappear and which can hardly go bankrupt. The latter can therefore repay its debt over long periods by rolling over its debt, i.e. by borrowing to repay its debts. Not all public debt is virtuous. It may be the result of wasteful spending by a corrupt and mismanaged political system. However, in democratic states, parliament controls excesses and checks expenditures against the concrete economic and social situation of the country. Debt based on the reconstruction of a national economy destroyed by war is recommended, especially because the infrastructure necessary for the development of a country has been destroyed, either totally or partially.

Moreover, public debt helps to regulate the economy in times of crisis. The state does not have to manage its affairs "as a good father", because public debt also has a political connotation. The state's vocation is to organise the political and economic life of its citizens. The choices are therefore political in terms of expenditure, resources and debt. Several methods of analysis should be put in place to reason about the advantages and disadvantages of public debt. What is the capital expenditure on roads, community facilities, and education? Who pays the taxes and how? Who should finance the debt, the financial markets or the citizens directly?

In 2020-2021, the European rules have been broken, because due to the Covid-19 pandemic, all economic agents have called for the public effort. However, when the pandemic clouds move away, the liberal economy will again call for wage moderation and debt repayment, especially in favour of private financial institutions. Rules and laws protecting their capital, however, accommodate the functioning of a globalised market economy. Thus, patent protection favours monopolistic behaviour, just as the international opening of financial markets limits the moral obligations of shareholders towards their countries of origin.

If the weight of debt is not to be neglected, it is advisable not to minimise the interest of the operations that it allows in the preparation of the future of future generations, which will benefit from perennial public investments and important public services, even if the policies inspired by the liberal "doxa" tend to reduce their impact.

How to analyse the advantages and disadvantages of public debt? First of all, it is necessary to highlight the 'perverse' character of certain indicators, and then to underline the advantages of public debt, particularly in times of economic crisis.

1) In 1992, the Maastricht Treaty established rules that the public debt and deficit must not exceed 60% and 3% of GDP respectively. These estimates have no scientific value. Moreover, the ratio of public debt, which expresses a stock, to GDP, which is a flow, does not produce meaningful information, at least for three reasons:

- First, GDP measures the sum of value added produced in a country in one year. This economic aggregate, particularly used by governments, has lost its relevance with the underestimation of the production of services and public goods, and the existence of international production chains that are particularly sensitive to the heterogeneous tax rates of the countries concerned⁸³. Tax

⁸² CESICE, Université Grenoble-Alpes, Mai 2021

⁸³ Guilhaudis, J.F. and Fontanel, J., 2019. Les effets «pervers» de l'usage du PIB pour la décision politique et les relations internationales. *Annuaire français de relations internationales*, 20.

optimisation and tax evasion have a significant impact on the calculation of a country's growth rate⁸⁴.

- Secondly, public debts represent a stock, the content of which must be analysed in order to measure its real weight on the national economy of today and tomorrow. Repayment requirements, the temporal structure of liabilities, the differentiated costs of operations or the nationality of creditors modify the impact of this public debt on all national activities and actors.

- Finally, to return to accounting reasoning, in the face of liabilities, we must analyse the assets. The French economy has positive net assets, estimated at 15,500 billion euros by INSEE in 2018, while its direct debt will probably reach 2,800 billion dollars by the end of 2021. The choice of these indicators, which have no theoretical basis, is political, based on a mistrust of public action and the crowding-out effects it could cause in private sector activities. However, when faced with a country's liabilities, it is preferable to compare it with its assets.

2) In France, public spending represents nearly 56% of GDP. This statistical observation is not very judicious, however, because it suggests that the private sector would ultimately receive only 44% of the wealth produced each year. This perception is obviously wrong. Public expenditure is not only a levy; it also finances household expenditure or supports private production, while providing a public service. Social benefits represent 20% of GDP, but are not spent by the state, but by the beneficiaries. Similarly, public services such as education, justice, police and national security are necessary for the overall economic system to function. If these services were not public, they would also have to be financed, with the addition of shareholders' dividends. The term compulsory levies does not emphasise the fact that the services provided are mostly not consumed directly by the state and that the state produces services that private activities are not able to finance.

3) The level of debt depends on the economic situation of a country. It is not on this basis alone that one can determine whether it is a good debt or a bad debt. The action of all states to combat the disastrous effects of Covid on national economies underlines this point, "whatever it takes". Without public debt, the economy would enter a recession, which would further reduce tax revenues. When the economy is not at full employment (which is definitely not the case today), the multiplier and accelerator effects of public spending make it possible to engage in counter-cyclical fiscal policy designed to revive or maintain national economic activity and avoid austerity policies that are both inefficient and socially unjust. Whenever austerity policies leading to debt repayment and privatisation of public enterprises have been implemented, the results have been catastrophic. The famous Washington Consensus, as applied to developing countries, is now being challenged by the IMF itself, which recognises the importance of public goods and services⁸⁵ and the need for fiscal stimulus in the event of an economic downturn. However, the idea of high indebtedness may lead potential investors to disengage as a new creditor. However, France's indebtedness, for example, is not "perverse". Admittedly, slightly more than half of the debt is located abroad, but this is also a sign of the confidence of operators. Moreover, all the debt is denominated in euros, which eliminates exchange rate risks. Finally, restructuring procedures would be open to it in case of major risks, linked to an unexpected international economic crisis.

4) When a state is in debt, the quality of government management is politically questioned⁸⁶. However, public indebtedness is not always the result of government imperialism. We need only recall the 2008 crisis, caused by the subprime system and abusive securitisation, to see that to avoid the collapse of the global banking system, states intervened by taking on debt. The result was a privatisation of gains, a cancellation of private debts and a socialisation of losses. Indebtedness

⁸⁴ Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris

⁸⁵ Fontanel, J. (2021), *Mondialisation privée et impasses du multilatéralisme intergouvernemental*, Question internationales, Janvier-Février.

⁸⁶ Piketty, T. (2019), *Capital et idéologie*, Le Seuil, Paris. Fontanel, J., (2004). *Evaluation des politiques publiques*. Université Pierre Mendès France, Grenoble.

can also come from tax giveaways to the public sector or economic support to private companies. In the case of the Tax Credit for Competitiveness and Employment (CICE) or the Research Tax Credit (CIR), the state has committed many credits that have ultimately proved to be of little employment value, while being subject to excessive advantages for large companies and fraud that has weakened the competitiveness of companies based in France⁸⁷. Finally, the fight against tax evasion could solve all or part of the public deficit, especially if international agreements could be put in place to avoid beggar-thy-neighbour policies⁸⁸. The LuxLeak affair and Panama's Papers have highlighted the ability of multinational companies, financial institutions and wealthy individuals to circumvent the laws of the citizenry in order to reduce their contribution to the financing of public services. The example of the GAFAMs is, in this respect, very significant, as is the behaviour of Luxembourg to enrich itself at the expense of its neighbours⁸⁹.

5) Today, the interest rates paid on France's public debt securities are close to zero, sometimes even negative. Under these conditions, the debt burden is low, and it allows for new investments useful for economic growth, and therefore for its repayment. The critical level of debt is not easily determined, as several criteria must be taken into account, notably the investors and the nationality of the creditors. In France, non-residents hold 52% of public debt. It should be remembered that today, public securities could no longer be held directly by households. Japan has a considerable public debt (250% of GDP), but Japanese citizens and residents hold the securities. In this case, when the government repays, the money stays within the national economy and can then be reinvested. The rates paid by the government will depend on the demand from private operators and the risk perceived by institutional investors and rating agencies. Thus, the trading community influences the economic policies of states, with the notion of risk and return. In the framework of the euro zone, the States do not control this currency and different interest rates are assigned to the member countries according to the policy undertaken by the States. For Europe, the question is more difficult to deal with, because the European Central Bank is independent and cannot buy public securities, except through the policy of "quantitative easing" undertaken during the pandemic, despite the recriminations of the famous countries of the North concerned with a stingy and minimal state. For France, the current situation is therefore the result of a political choice that favoured the economic "decision-makers", those who, through the "trickle-down theory", were supposed to be indirectly in charge of the positive evolution of the wealth of all citizens. In fact, the interests of a few were thus justified in the name of a very questionable collective interest, especially since the increase in economic inequalities in the world has been noted⁹⁰.

6) Public debt includes all the debts of all the administrations, the State, the municipalities, the regions or the social security system.) The State must take into account the structure of its debt, its dependence on the interest rate set by the markets and the life of the debt (almost 8 years for France, on average). The debt can be constantly renewed, so it is a question of "rolling over the debt". As soon as a debt has to be repaid, it is borrowed again. It is therefore a question of maintaining the confidence of creditors, in order to negotiate low but reassuring interest rates. It should be remembered that macroeconomic figures sometimes overwhelm the finesse of the analysis. It is clear that increased military spending in a country without a weapons industry will have a less attractive effect than investment in roads, urban development or communications. When Russia had to reduce its military spending and the size of its military-industrial complex, it sought external

⁸⁷ Berr, A., et al. (2021) *La dette publique. Précis d'économie citoyenne*, Le Seuil. Paris. Pp. 115-129.

⁸⁸ Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris. Fontanel, J., 2001. *L'action économique de l'Etat*. Editions L'Harmattan. Paris.

⁸⁹ Fontanel, J., Sushcheva, N. (2019), *La puissance des GAFAM : réalités, apports et dangers*, AFRI, Annuaire Français des Relations Internationales, Paris. Suscheva, N., Fontanel, J. (2019) *La puissance des GAFAM*, Editions Université d'Etat d'Economie de Saint-Petersbourg. [hal-02314440v1](https://hal.archives-ouvertes.fr/hal-02314440v1), Fontanel, J. (2019). *GAFAM, a progress and a danger for civilization*, Financial Architecture; Forced Economic Development in the Context of External Shocks and Internal Inconsistencies, State University of Economy of Saint-Petersbourg (UNECON), Apr 2019, Saint-Petersbourg, Russia

⁹⁰ Saez, E., Zucman, G. (2020), *Le triomphe de l'injustice. Richesse, évasion fiscale et démocratie*, Seuil, Paris.

funding from international institutions to cope with this new situation, which led it both to transform the production of its factories and to retrain personnel for other activities⁹¹.

7) Debts can be particularly useful and socially justified. In France, the public deficit is mainly explained by public investment (60% by local authorities). Operating expenses do not increase the state deficit. "Thus, the public debt appears for what it really is: a democratic issue"⁹². However, public debt is held by the richest economic entities. Public securities offer those who can afford it a security of money invested, as well as a comfortable return. In fact, the choice of the state (and it is a political choice) is to borrow from the rich, rather than tax them. In these conditions, to say that with the public debt the state is putting the burden on the next generations is at least partially inaccurate, since the heirs who own the resident public securities will always be remunerated. The debt finances public services, especially for very risky services whose profitability, at least in the short term, is not guaranteed. When the action of the state is contested under the pretext that its economic actions lead to "crowding out", at least in financial terms, the importance of public investments useful for private economic and financial activities are obviously minimised or more generally forgotten. This is the case for roads, public facilities, schools, hospitals, justice or police, all public services that favour the economic action of private entities. From an economic point of view, the debt will undoubtedly have enabled new investments to be made, which will directly or indirectly benefit future generations.

8) Public services make it possible to limit the effects of the growing inequalities made possible by an economic globalisation so favourable to the financial system, large companies and their owners. After taxes and social benefits, the gap between the disposable income of the poorest and the richest is halved⁹³, without taking into account the "equalising" potential of national education or national security for the present and future of the beneficiaries. However, the financing of the State is based on proportional rather than progressive taxes. Since 2016, the richest and the ultra-rich have seen their disposable incomes increase significantly, unlike the incomes of the middle classes. The historical periods of greatest national economic development have often been those with the highest marginal top taxes. It is necessary to question the tax niches that only serve those who can pay tax but are part of a "reduction" or "exemption" niche. When we attack the social security deficit and the need to reduce it, we are demanding a reduction in its action rather than an increase in taxes for the wealthiest populations. This reduces the strength of solidarity needed by a country and democracy itself is called into question.

9) In the face of the climate emergency, new infrastructures will have to be put in place to achieve the ecological transition. Only the State can, directly or indirectly, implement them, notably through debt. It is true that companies will be led to change their ecological behaviour through coercion or financial incentives, but firms in a market economy are too concerned about their returns from financial financing to commit themselves to an operation that is nonetheless crucial for the future of our children. Whatever people's opinions, if there is a burden to be feared for future generations, it is more the issue of global warming than that of debt, which is only a potential problem for creditors (who could be blamed for not having taken the right measures to avoid an ecological catastrophe in such a short time).

⁹¹ Shkaratan, O., Fontanel, J. (1998), Conversion and personnel in the Russian military-industrial-complex, *Defence and Peace economics* 9(4). Fontanel, J. Borissova, I, Ward, M. (1995), The principles of arms conversion in the case of Russia, *Defence and Peace Economics* 6(3). Brunat, E., Fontanel, J. (2015), *L'économie de la Russie, les grands défis à relever (avec Eric Brunat), Annuaire Français des Relations Internationales*, Paris, 2015.

⁹² Berr, E., Charles, L., Jatteau, A., Marie, J., Pellegris, A. (2021), *La dette publique. Précis d'économie citoyenne*, Le Seuil, Paris.

⁹³ Brunner, A., Maurin, L. (2018) ; *Impôts et prestations sociales réduisent les inégalités de revenus de moitié*, Observatoire des Inégalités, 16 janvier.

10) When debt becomes too high, it is time to renegotiate the debt with creditors, rather than designing a drastic cut in social spending. Some economists call for the cancellation of sovereign debt securities held by the Eurosystem⁹⁴. In this way, private operators would not be harmed, as the only securities removed would be those held by the central bank. Another proposal is to ask the central bank to issue money directly to all economic agents (a proposal known as "helicopter money")⁹⁵. This latter solution would have the effect of increasing the consumption of imported goods and services, without financing the investments necessary for the ecological transition.

For Josef Stiglitz⁹⁶, the so-called trickle-down theory of the effects of economic growth and development on the poor is wrong. In the absence of specific government action, income and wealth gaps only increase, creating dissatisfaction that can lead to social movements that can challenge the very functioning of the market and the rights and obligations of individuals and corporations. On the contrary, the development of income and wealth inequalities is an essential, even determining, cause of economic crises.

Public debt is neither condemnable nor desirable in itself⁹⁷. Everything depends on the reasons for its existence and its evolution. It is fundamentally a political choice, which the system of globalisation has made very difficult, by allowing the richest private agents to make choices that incite states to significantly modify their economic, budgetary, fiscal and sometimes even monetary policies, thus giving capital owners considerable power over the forms of financing and the distribution of income between capital and labour.

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⁹⁴ Bridonneau, B., Scialom, L. (2020), Annulation des dettes souveraines par la BCE. Soyons iconoclastes, Alternatives économiques, 21Avril.

⁹⁵ L'expression a été formulée par Milton Friedman dans *The Optimum Quantity of Money and other essays*, Aldine, Chicago.

⁹⁶ Stiglitz, J. (2002), *La grande désillusion*, Fayard, Paris.

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16. Tax havens, a huge cost for public and social activities⁹⁸

International finance has grown considerably in the last fifteen years worldwide, reaching more than \$ 165 trillion in 2017. If we include secure products, more than 200,000 billion dollars are in circulation. Finally, over-the-counter (OTC) derivatives markets had an estimated notional value of \$ 700 trillion in 2013 (Business Insider, 2015). The management of financial assets is becoming more and more dangerous, taking account of the increased risk aversion, historically low interest rates, the rise of emerging countries, the development of income and wealth inequalities and the indebtedness of states (70.000 billion dollars, 20,000 for the United States in 2018). However, the global GDP of 2018 probably does not exceed 75,000 billion current dollars. Economic world is organized by the rules and laws proposed and agreed by States members of international economic organizations such as WTO, IMF or World Bank⁹⁹, but States keep some controls about their policy and financial assets¹⁰⁰.

Economic globalization has favored the rise of tax havens and offshore centers, which allow powerful economic actors to escape at the new tax levies necessary to reduce public debt. At the same time, criminal activities benefit from money laundering. Money laundering circuits were so opaque that very few banks knew whether or not they had dirty or terrorist money in their books. Official statistics on funds available in tax havens refer only to estimates, which, depending on the definitions and extrapolations, range from \$ 8 trillion to \$ 30 trillion. Three factors explain this new situation:

- First, international financial transactions, favored by deregulation and disintermediation of national markets¹⁰¹, have grown considerably and they have been attracted by the advantages conferred on States by the most flexible and local regulations.
- Next, tax optimization policies became more widespread. Trade in multinationals accounts for two-thirds of trade by subsidiaries of international industry groups. In a production process involving two or more production units or services located in several countries, companies have used the channel of their subsidiaries to undervalue the value added of the countries of production to increase it fictitiously in the country the so-called "lower tax".
- Finally, social inequalities have exploded for two decades.

Tax havens do not concern only small exotic islands. Thus, European Union turned a blind eye to the fiscal policies of the "lowest" of its components. It thus favored the policies of "beggary-neighbor" with impunity for countries such as Ireland, Luxembourg or the Netherlands who did not hesitate to enrich themselves on the production of their neighbors and partners. Similarly, the City of London committed considerable transfers to protected British exotic areas, using voluntarily opaque financial channels. These operations have had a significant direct and indirect impact on global economic development, while profoundly altering the growth of income and wealth inequalities. French parliamentary reports (National Assembly, 2000, 2012) have even accused the British government of "serious complacency" with regard to a share of the "habits and customs" of the City of London presented as a preferred place of placement of terrorist organizations and British Norman Islands accused of being important places of money laundering crime. In response, London considered that the City had a very stringent legislative arsenal to combat this scourge. "Tax havens", home to 4,000 banks and 2 million shell companies, have become a key issue in global economic development. In 2011, for Attali, 55% of international trade or 35% of financial flows passed through tax havens.

⁹⁸ Conference, The 3rd Meeting of the International Advisory Board St. Petersburg State University of Economics (UNECON). September 11, 2019

⁹⁹ Fontanel, J. (1995), *Organisations économiques internationales*, Masson, Paris

¹⁰⁰ Fontanel, J. (2002), *L'action économique de l'Etat. Pour Comprendre*, L'Harmattan, Paris

¹⁰¹ Fontanel, J. ((2005), *La globalisation en analyse. Géoeconomie et stratégie des acteurs*. Coll. La Librairie des Humanités, l'Harmattan, Paris. Fontanel, J., Henriques, A. (2007, 2010), *A Globalizaçao em Análise: Geoeconomia e Estratégia dos Actores* Instituto Piageto, Lisboa. 2007, 2nd. Ed. 2010

After the serious crisis of 2007-2008, it appeared that these "offshore" centers were one of the problems concerning the fragility of the international financial system. It could then be shown that American banks had parallel or shadow banking systems in prudential havens. This situation has not substantially changed the regulations in force. The crisis has been partially fought by the public sector, with taxpayers' money, in favor of agents guilty of tax optimization and tax evasion, banks.

Definition and evolution of tax havens

There is no consensual definition of tax havens, judicial, financial and judicial. The term tax haven is often used to define all "non-cooperative territories", with resources of opaque origin. For the OECD, a tax haven includes several significant characteristics, found in different types of combinations in some countries. Tax havens have particularly interesting tax laws and banking secrecy is very strict, opposable to all foreign judges. Important legal and even constitutional provisions reinforce the confidentiality of financial transactions and professional secrecy. Taxes are generally very low and a very large freedom of capital movements is offered to residents and non-residents, with less burdensome bureaucratic and registration facilities. Business registration procedures are easy and fast, the information requested is minimal. The difficulty for the tax and penal administrations of the countries of origin is to identify the real beneficiaries. International judicial cooperation is limited, organized on the basis of bilateral agreements designed to avoid double taxation of business subsidiaries. To reassure investors, the political and economic stability of the country is also hoped, such as Switzerland, Singapore, the City of London or Luxembourg. Then, the financial sector is hypertrophied in relation to the size of the country and the size of its economy.

There are many forms of rogue countries, depending on the benefits they offer to their non-residents¹⁰².

- Tax havens *stricto sensu* offer both a weak or non-existent tax regime and the anonymity of monetary and financial transactions, which allows non-residents (companies or individuals) to escape taxation.

- Regulatory havens do not subject the financial sector to prudential rules in other countries (notably account transparency or capital ratios in relation to credit or speculation activities). The risk analysis is then treated much less rigorously. Individuals and companies can then create, in all discretion, multiple shell companies, in order to conceal certain revenues both from the tax authorities and all the economic actors concerned. It's about creating a voluntary system of opacity, through offshore subsidiaries. In the United States, FSC or Foreign Sales Corporations may be fictitiously domiciled in subsidiaries located in offshore centers, which are often controlled by US funds (Panama, Virgin Islands, Bermuda, Barbados, for example)¹⁰³.

- Banking havens reinforce the professional secrecy in favor of the foreign client with respect to the respect of the civil, financial and social regulations in force in his country of origin.

- Judicial havens are territories that escape the laws, including criminal laws, applied in other states. The justice of these countries is less interested in the source of funds, it often refuses to provide information necessary for the prosecution of doubtful commercial and financial matters and it refuses to cooperate with the States that make them the demand. Moreover, the trust system is a factor of considerable opacity.

. Finally, Offshore Financial Centers (OFC) allow non-residents to borrow from other non-residents in a third national currency (such as the dollar or the euro) in order to benefit from favorable tax conditions. The main OFCs are in London, New York, Tokyo, Hong Kong and Singapore. They offer much better tax and banking conditions than those offered by on-shore jurisdictions. The paradox is that some OFCs, like Delaware and the City of London, are actually

¹⁰² Fontanel, J. (2016), *Paradis fiscaux, pays « filous »*. La fuite organisée des impôts vers les pays complices, L'Harmattan, Paris.

¹⁰³ In fact, the US government is not fooled, it seeks to promote the activities of its domestic companies in obtaining major contracts, especially in commercial aviation or large public works. He thus agrees to offer them a disguised subsidy, normally prohibited by WTO rules.

"on shore". Based on this intensity ratio, the United Kingdom and the Commonwealth represent a large part of this funding, such as Cayman Islands, British Virgin Islands, Guernsey, Jersey or Bermuda.

The OECD (2014), which does not deal with tax issues, has classified countries into three categories, based on their willingness to cooperate, according to whether they comply with their commitments (such as France, Japan or India), mostly compliant (such as Germany, Russia, or the United States), partially non-compliant (such as Austria, Israel, Indonesia) or non-compliant (such as Switzerland, Lebanon, or Liberia). This typology is based on a limited commitment. There are also three lists of states (called black, gray or white) depending on the information provided by the banking system. The Brussels authorities are starting to think seriously about tax avoidance. In a situation of budgetary austerity, multinational firms pay barely 2% of taxes on their profits, while the average European citizen pays back 20 to 30% of his income. In the United States, "GAFAM" companies (Google, Apple, Facebook, Amazon, Microsoft) have been subject to the same criticism from senators of the Senate's permanent subcommittee of inquiry¹⁰⁴. There are at least 3,000 tax treaties worldwide to avoid double taxation. Thanks to this system, Apple in Ireland, Amazon in Luxembourg and Google nowhere thus escaped any taxation in Europe until 2015. Today, France decides a GAFAM tax, but the US government proposes a retaliation tax against French wine.

Transparency is at the heart of the problem, but the corporate world still claims a "business secret". The culture of secrecy favors speculation and predation. With the BEPS project (Base Erosion and Profit Shifting), the OECD wants to impose on multinational companies the transmission of detailed information (incomes, profits, assets, workforce and total taxes paid) to the tax administrations of the countries concerned. This initiative is based on three principles, the exchange on request of information considered relevant to the administration, the ability to access reliable information while respecting taxpayer right and, finally, the confidentiality of the information exchanged is always maintained.

The Tax Justice Network Association (2013, 2014) publishes annually a Financial Secrecy Index, highlighting an opacity index highlighting the degree of confidentiality of countries. Territories under jurisdiction United Kingdom, United Kingdom and Overseas Dependencies, Switzerland, Luxembourg, Singapore, USA, Lebanon, Germany and Japan take advantage of their regulations to impoverish neighboring countries. They are among the countries with the highest GDP per capita in the world. It must also be considered that the tax laws of Delaware, but also Wyoming and Nevada are legitimate, but certainly not morally in the eyes of US taxpayers¹⁰⁵. How is it explained that within Europe, such behavior has been accepted? A lot of small islands are also concerned¹⁰⁶.

Because of its special status, its neutrality and the advantages conferred on foreign companies, Switzerland ranks first in the world for commodities trading, especially Russian oil. 35% of oil trading, 60% of metals and 35% of cereals are concentrated there. It is then easy to see that the Swiss laws so favorable to foreign companies are at the base of the economic development of this country. The free port of Geneva does not charge any tax on transactions, without any control of payments and their origin. The "rogue" countries still have a future. Similarly, the City of London is undoubtedly indirectly at least one of the largest tax havens in the world (half of the international "trading" of equities, international public issues and OTC derivative trades, a third currency exchange), since it is not restricted to UK regulatory and supervisory authorities. It

¹⁰⁴ For example, until 2015, using the labyrinth of tax laws, a subsidiary of Amazon held 15,000 employees in the United Kingdom for a zero profit, and 500 employees in Luxembourg, with a considerable profit (National Assembly, 2013).

¹⁰⁵ In 2009, for Forbes magazine, the best tax havens for business were Delaware, followed by Luxembourg, Switzerland, the Cayman Islands, the City of London, Ireland and Bermuda. Singapore, Belgium and Hong Kong.

¹⁰⁶ In small islands, the Tax Justice Network Association insists on the specific role of these small states on the development of tax havens: Andorra, Anguilla, Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Hong Kong, Macao, Cyprus, Gibraltar, Guernsey, Cayman Islands, Marshall Islands, British Virgin Islands, Jersey, Liechtenstein, Luxembourg, Malta, Mauritius, Panama, Seychelles, St Martin, St Kitt & Nevis, St Lucia, St Vincent & the Grenadines, Switzerland and Turks & Caicos.

benefits from the capital of the Caribbean islands, former colonies, the Channel Islands and even Cyprus. The bulk of hedge funds, hedge funds, are located in the Cayman Islands. The tax evasion does not seem to be amoral, when it is not unlawful¹⁰⁷. The sovereignty of each state does not make it possible to fight effectively against the scourges of tax evasion, acts of corruption, dirty money or secret agreements, often organized or suggested by the public authorities of the countries concerned.

The information on the sums hidden under true or false names is secret and protected, the investments have existed in these territories for at least two generations and it is difficult to know how these securities were or were not reinvested in other productive investments, real estate or precious metals. When countries grant tax amnesties, sums legally reintegrated into national economies are not the subject of accurate information, tax secrecy well understood. In 2016, according to the CCFD-Terre Solidaire report, the British Virgin Islands invests four times more than Japan in China. Each resident theoretically invests nearly \$ 700,000 a year in the ten most powerful economies in the world. The Virgin Islands, the Cayman Islands, Luxembourg, Mauritius and the Netherlands have cumulative direct investment abroad 70% higher than United States and three times more than Japan, Germany and Australia. France united. Luxembourg is the second largest investment fund after the United States; it is the first international wealth management center in the euro zone, thanks to the advantages granted to holding companies (more than 15,000 holding companies holding nearly 2.3 billion euros). The Offshore Leaks files revealed the existence of 120,000 trusts and corporate names in the Cayman Islands and the Virgin Islands. The activity of tax havens is considerable, accounting for 20% of the world's private wealth, with illicit activities estimated at a quarter of these amounts. Thanks to this competitive situation, multinational corporation taxes have decreased, from 33% in 1999 to 20% in 2018. Large companies pay fewer taxes than SMEs, which gives them an indisputable competitive advantage

For UNCTAD, developing countries are losing about \$ 100 billion in revenue from tax avoidance and at least \$ 300 billion in lost development finance. While not all investments to or from tax havens are related to corruption or other criminal activity, they account for more than 20% of the global total of cross-border investments, which is out of proportion to the weight of these tax havens in the real economy.

The modalities of action of tax havens

The explanations given by the establishments in the tax havens concern the respect for the famous "business secret", their professional abilities to solve insurance problems (Bermuda), to develop trusts (Jersey) and to manage hedge funds (Cayman Islands). These considerations are justified, except for the "in situ" competences of the operators, because the reality of the acts is realized in the big financial places (London, New York or Paris). Tax haven users (in the broadest sense) are companies and banks that install subsidiaries, hedge funds, investment companies, but also wealthy individuals and criminal networks. This is to avoid paying taxes or laundering money. Any individual may legally hold an account abroad, but must declare it to the tax authorities of his country.

Today, because of these interstices in the tax jurisdictions of the States, more than half of the international trade and the third of the financial flows transit in the tax havens. Enterprises try to conceal their added value at the shelter of banking secrecy. They organize, with the help of banks or consulting companies, complex financial arrangements or operations on the value chain that favor the drastic reduction of their taxation. Then, they avoid participating to in the financing of public services; they benefit from a public service without paying for it.

Tax evasion now threatens the stability of states, but also of groupings of states. The business restructuring process involves charging all costs in the country of origin and generating the benefits in low tax countries. In this case, the prices have no connection with the economic reality. Even French companies whose state is partly a shareholder use these procedures without reaction from the executive. Thus, EADS, a Franco-German company, is a public limited company

¹⁰⁷ Fontanel, J. (2007), Questions d'éthique, L'Harmattan, Paris.

under Dutch law, which it justifies by the competition with Boeing. In the case of insurance financial products, if the related premiums and risks are located in a country and the compensation received in a tax haven, the losses are then to be borne by the country of origin, for the benefit of the "offshore" territory.

Similarly, the under-capitalization of subsidiaries is interesting when the interest is deductible from the taxable income in the State where the subsidiary is established. This procedure is mainly used by the digital economy, which locates its industrial property rights (license box) and its services in tax havens. In the European context, the multinational firms use the "treaty shopping" so as to obtain the best solution for their results net of taxes. Two Member States of the European Union (Ireland and the Netherlands) give rise to a financial transaction commonly known as a sandwich in the fiscal sense of the term. It is a question of admitting the existence of legal societies whose sums passing through them give rise to no taxation. The "Irish sandwich" consists of creating a non-fiscally resident Irish company, which is therefore uncontrolled. It allows a simple passage to Bermuda or the Cayman Islands. The Netherlands offers a network of important bilateral tax treaties to reduce the withholding tax on dividend payments as well as taxes on royalties and interest paid or received. With the agreements with the Netherlands Antilles, sums related to interest paid, royalties or services are exempt from withholding tax. It is then a matter of setting up a system whereby most of the added value created will be declared in the country with the lowest taxes. This policy significantly modifies the rules of global and European competition. According to the accounts of multinational firms, applying transfer price optimization, their tax haven employees are exceptionally productive and profitable in comparison with their other subsidiaries. These results are obviously fictitious. The declared establishment of fair and normal competition between all members of international organizations to regulate free trade (WTO), the financial system (IMF) or support for specific operations in developing countries (World Bank) is intentionally diverted.

Statistical analyzes of financial and commercial transactions do not fail to challenge specialists. Russia seems to favor agreements and economic exchanges with Cyprus, a state belonging to the European Union. Mauritius is the largest investor in India. Multinational companies create subsidiaries in these tax havens, which invest worldwide and often develop their own subsidiaries. The complexity of financial networks makes all financial operations even more opaque. With the tax benefits of Delaware, a federated state contiguous to New Jersey, the shortfall for the US government is estimated at more than \$ 300 billion a year. In other words, the US federal state accepts this situation in order to favor US exports and imports, with "special" assistance not raised by the WTO of \$ 300 billion for the competitiveness of US companies and subsidiaries. 60% of US imports are intra-company trade, without knowing the importance of financial networks that belong to US economic actors in the complex set-ups of trusts and holding companies.

Transfer prices for companies in the same group are supposed to be governed by well-defined regulations, established by each country or at the multilateral level. The general principle assumes that the prices of trade between two companies in the same group should not differ from those defined by two independent firms. Transfer pricing strategies are central to the tax optimization of financial groups and multinationals. More than two-thirds of multinational companies use transfer pricing manipulation to reduce their final costs, thereby increasing their overall profit. Legal tax optimization study services have become recognized profit centers, designed to create net worth for the company. Lastly, large audit firms receive a remuneration based mainly on the results thus obtained in terms of tax avoidance.

United States law encourages complex arrangements designed to increase the commercial competitiveness of multinational enterprises established on its territory. It accepts the forms of tax exemption constituted by the domiciliation of the profits of international contracts in subsidiaries located in "offshore" places. Thus, thanks to these "mounts, most US companies facing competition in international markets no longer pay corporate tax, which is detrimental to middle-class taxpayers whose purchasing power is has not been increased in the United States for 35 years. In this context, it is difficult to know the value added of each country, and therefore the real GDP. Indeed, a company based in France has an interest in underestimating its added value of its products exported to its subsidiaries abroad, in order to pay the least amount of tax possible. The next step is to move part of the production chain to the lowest tax country to make the most important added value

official and public. This behavior highlights the great problem of legibility of statistics and their interpretation. In reality, it is only an accounting manipulation whose social consequences on wages and employment are considerable.

Article 238 A of the French General Tax Code establishes a presumption of "abnormality" of certain financial transfers or payments made to areas with reduced taxation. Article 209 B of the French General Tax Code provides for the possibility of taxing French parent companies on the basis of profits earned in subsidiaries located in countries with preferential tax treatment. However, this rule can easily be circumvented. Thus, a company can sell the milk produced in France almost at a loss; it exports it to Germany for a simple operation, always with low added value. The finished product is then sold in Luxembourg, where, without any industrial operation, the highest added value is declared with a very low tax rate. The product can then return to France to be sold at a price that has increased significantly compared to its original cost. In this case, Luxembourg uses the policy of impoverishment of its neighbors, without any restriction, which can explain the importance of its per capita income that its real activities in the chain of values make very difficult to justify.

Finally, the complicity of politicians and economic leaders in some forms of corruption, especially tax fraud, seems normal to many people of influence. Legal proceedings are often politically sensitive and technically complex to conduct on an international scale. The lack of harmonization of national legal systems and the absence or insufficiency of communication between countries normally belonging to the same networks can explain it. The procedures are very long; they are constantly bent on technical or legislative details, which, ultimately, promote the practice of money laundering. Requests for information from magistrates are often and usually completely ignored by their counterparts, the importance of fraud in the activities of rogue countries is considerable. If we look at the figures, Ireland and Switzerland have an average ratio of value added per employee 5 times higher than that of other European countries, Bermuda more than 50 times. In addition, the ratio of profit after tax to the payroll is also unusual in tax havens, about 7 times more in Ireland and 35 times more in Bermuda. Which, of course, is unlikely, this result depends first of all on the manipulation of figures and transfers to tax havens.

Criminal activities use tax havens. The secrecy of these transactions that lead to money laundering is particularly high, and international laws are unable to control them. The estimates are random, they often only show the visible side of the iceberg¹⁰⁸.

Consequences of tax havens

Tax havens have important consequences for the functioning of market economies: For the country victim of it, it results in a triple downward pressure; first the reduction of the resources collected by taxation on high incomes and on capital, at the benefit of multinational enterprises; then the profits of small and medium-sized enterprises are reduced by an unfair international trade; finally wage incomes receive a negative trend with an apparent but artificial loss of international competitiveness of employees.

- First, they degrade public budget, the loss of profits for the States is then considerable and growing. The very global estimates of these tax revenue losses place them at over \$ 300 billion a year in the world. The figure must be improved as countries are forced to limit tax rates on their own to stay in the race for investment attractiveness of their territories. Governments are under pressure because of the threat of fiscal relocation. A race to lower corporate taxes has even begun (12,5 %

¹⁰⁸ If analysts are familiar with the organization of these criminal activities, the estimation of their importance remains questionable. It is necessary to calculate the importance of drug trafficking (with the difficulty of highlighting whether, at the international level, certain substances are well recognized as drugs, such as hashish or marijuana), the growing trafficking in human beings (human smuggling, sex industry, forms of slavery), the destruction of the animal world, smuggling (concerning price divergences due to heterogeneous taxes from country to country), counterfeiting, or the arms trade. It should also be reported corruption, false invoices, clandestine work, insurance fraud, computer manipulation (impossible to estimate), financial delinquency, VAT fraud by the so-called system. "Carousel TVA"), but also the special effects of balance sheets (Enron, Andersen) which benefit, at least partly, to tax havens.

for Ireland, for instance). The companies with 2.5 billion euros in turnover pay between 15 and 20% of the corporate tax, while they realize between at least 60% of the turnover of the national business. The state of Delaware, with its particularly attractive tax system, saves tens trillions of dollars a year for the companies. Without the existence of tax havens, no doubt its tax requirements would increase, particularly with regard to public debt and the collective services to be developed.

- Secondly, the low coherence of partner states on public budget issues allows business leaders and shareholders to increase their personal income. Banks have supported their wealthy clients in this process. The states are now heavily indebted, and the banks are putting up a lot of pressure to be reimbursed¹⁰⁹. This system increases the injustice, for the benefit of the richest and the most mobile taxpayers. The first victims of capital flight are the middle and poor classes. To avoid an excessive reduction of their purchasing power, the States then come to get into debt.
- Due to the opacity of financial operations, dominant financial players are likely to take significant risks, thus beyond the control of regulators, shareholders or rating agencies. This situation produces financial instability and a particularly high systemic risk.
- Statistics on the value added of countries are undervalued in countries that are victims of tax havens, which do not improve their attractiveness and the level of wages. The national statistics of GDP¹¹⁰, a concept that is otherwise questionable, influence the economic optimism of citizens and businesses.
- Natural or legal persons engaged in illegal activities may escape the control of national courts, as tax havens allow them to hide the origin of funds. The ratification of the December 1999 UN Convention on the Suppression of the Financing of Terrorism includes the immediate freezing of all funds and assets of terrorists, in accordance with UN Resolution 1373, the declaration of suspicion of financial institutions, the monitoring of parallel money transfer systems or the transparency of non-financial entities such as charities. The fight against terrorism has been one of the factors strengthening the anti-money laundering rules. Terrorist groups know how to use the financial techniques proposed by rogue states.
- UNCTAD highlighted the effects of tax avoidance in developing countries. In 2014, the contribution of multinational firms to the state budget in these countries represented only 10% of total government revenue (14% in Africa), i.e. about \$ 100 billion of tax revenues at the profit of "offshore hubs". The estimated loss in terms of tax revenue is one-third of the potential total. 30% of direct investments from abroad went through tax havens¹¹¹. According to the FAO, the fiscal deficit of the southern states caused by tax evasion alone is 5 times the amount needed to eradicate hunger in the world. If the investments made by multinationals in Africa pass through tax havens, the same goes for the assets of the heads of state of the least democratic countries, which favor investments in Switzerland. Despite the international desire to limit these harmful effects on the reputation of the "rogue" countries, the use of screen structures constituted by trusts and non-resident companies favors the maintenance of a large opacity.
- Lack of financial resources for public education and research, health and protection of the weakest, normal remuneration of civil servants, assistance to farmers and financial support to young companies reduce the potential achievement of human security for citizens of a lot of countries¹¹². The state is stolen on the one hand from its income and the dominant idea is that taxes are already too high. The flight of savings to tax havens also causes a rise in interest rates of national and local banks that lack liquidity.

¹⁰⁹ In May 2013, the European Parliament estimated the public money lost each year in Europe to 1,000 billion euros, as a result of tax evasion. This sum corresponds to an annual loss of 2000 euros per European citizen.

¹¹⁰ Fontanel, J., Guilhaudis, J-F. (2019), *Les effets pervers de l'usage du PIB pour la décision politique et les relations internationales. Comment en sortir ?* PSEI, Paix et Sécurité européenne et Internationale, Nice.

¹¹¹ By applying a rate of reinvestment of profits of the order of 50%, 165 to 225 billion dollars could be available every year for the financing of the national economy of developing countries. By adding tax losses and profits that are not reinvested on the spot, the loss of financing for growth in developing countries is estimated at between \$ 250 billion and \$ 300 billion a year.

¹¹² Fontanel, J. (2016), *La sécurité économique et sociétale. Pour une conception humaniste multidimensionnelle.* PSEI ; Paix et Sécurité Européenne et Internationale, n°3.

What actions to take?

We must distinguish three types of fraud, those companies that intend to optimize their tax situation, that of individuals who do not want to respect the democratic rules of the state budget and that of organized crime. Large companies, under the pretext of fierce competition, do not seek to respect their tax obligations, they prevent States from effectively fighting inequalities, especially in developing countries. Their relations with state officials give them considerable weight in political choices. The tax rules are more and more dependent on the influence of the multinational firms, who exert all their powers on the nation of territorial attractiveness. The G20's new approach to tax reform is likely to be under pressure from many private sector lobbyists.

At the initiative of the French presidency, a first international action against money laundering was decided in 1989, at the same time as the creation of the Financial Action Task Force (FATF), which, in April 1990, presented forty recommendations. In 1990, France set up the Tracfin aimed at fighting against clandestine financial circuits. The European Union has also been interested since 1998 in the issue, proposing, in particular, unsuccessful harmonization of taxation of savings (withholding tax of 15% on interest paid), but Luxembourg and United Kingdom then affixed their rights in a legal context requiring unanimity for all matters relating to the taxation of member countries. In 1989, at the initiative of the G7, the FATF (Financial Action Task Force) was created to combat money laundering and terrorist financing. Inter-governmental multidisciplinary body to develop and promote national and international anti-money laundering policies, it proposes to create non-imperative standards, which constitute guidelines that governments should respect in order to avoid opacity of certain financial transactions. It brings together economic, legal and financial experts, delegated by its members, to guide the action of the public authorities. It sets the standards for combating money laundering, monitors the progress of its members in the implementation of the recommended measures, and conducts specific studies to better understand the workings of this system. Today, FATF includes 34 countries and territories (with Luxembourg, the United Kingdom, Switzerland, Singapore, Ireland and the United States) and 2 regional organizations.

The FATF classifies countries according to their degree of opacity perceived by foreign governments. The Financial Stability Forum (FSF), followed by the Financial Stability Board (FSB) in 2009, offers international cooperation in the area of supervision and supervision of financial institutions. They concern Ireland, Luxembourg, Switzerland, Andorra, San Marino, Barbados, Bermuda, Gibraltar, Aruba, Hong Kong, Isle of Man, Bahamas, Anguilla, Nauru, Netherlands Antilles, Turks Islands and Caicos. However, if the situation improves slowly with the creation of specialized judges, States reluctant to transparency of information are not subject to international retaliation. More than ten years after this first text, the automatic exchange of information is not still realized between the European countries. Banks established in tax havens dedicate considerable resources to their cells responsible for drawing up tax optimization schemes. The real names of real operators remain are often unknown, the automatic exchange of information offers no difficulty. The role of the FATF, in the absence of an executive power, remains limited because the scale of the phenomenon is still poorly controlled. United States has obtained the lifting of Swiss banking secrecy in the context of certain operations considered important by his government, without renouncing himself the operations initiated in Delaware.

It is rooted that these "offshore" centers are necessary for the functioning of capitalism and the market economy. Financial crime has no visible or understandable effect on citizens. Corruption is secret, "doubtful" funds escape the vigilance of national jurisdictions. This "white-collar" crime is located in the rich strata of society, surrounded by legal and economic advisers who are in charge of finding all the interstices of the laws in order to valorize their patrimonies, to the detriment of the already unfair rules of the distribution of the income produced by the 'market economy.

The harmonization of tax regimes at the international level would be the most radical way to remove the comparative advantages of rogue states. It seems at this stage of development very difficult to implement and it does not suppress the banking and legal haven. However, the European Commission recently obtained the support of the 27 EU member countries for large

companies to publish their profits and taxes country by country. At the moment, the statistical data are very insufficient on this subject and the control of their effectiveness remains questionable. Today, the exchange of information between tax administrations is still mainly on a voluntary basis. However, the European Commission's initiative is likely to improve transparency regarding the location of profits, particularly in countries with favorable taxation. The fight against tax fraud suffers from the retention of information between states, even those belonging to an already well-organized regional group such as the European Union. The establishment of a list of tax havens can have a deterrent effect, that called "name and shame" in the Anglo-Saxon countries. It proposes to put States on lists made public, which gives a negative image of the country. The KYC rule (Know Your Customer) is sometimes necessary, the management of private fortunes being overexposed to the risk of money laundering.

Since 2014, the United States has enacted a Foreign Account Tax Compliance Act (FATCA), which requires financial institutions around the world to disclose the transactions of US nationals, even if the text is not sufficiently restrictive. The income tax is based on a residence criterion, but also on a nationality criterion. Every US citizen declares and pays tax in the United States, except if there are changes in tax treaties with the country of residence. It provides for retaliatory measures against banks that refuse to cooperate (notably by a strong taxation of transactions on the US territory), but small establishments or territories may wish to give up working in the United States to continue to manage profits from tax evasion. For Switzerland, banks are obliged to inform the US tax authorities on the assets available on accounts in the Swiss Confederation. With France, Italy, the United Kingdom or Germany, the two tax administrations provide the necessary information automatically. However, there remains an asymmetry because if the information given by the European countries concerned will be automatic, it is not yet the case for the United States under its laws. However, it is the US government that requires a change in legislation to all other countries, without itself being able to comply with this rule. Today, the will for a European FATCA exists, between the United Kingdom and its dependencies, as well as with Germany, France, Italy or Spain. A multilateral convention is under discussion regarding the exchange of tax information. Europe comprises almost half of tax havens, which is not the least of the paradoxes. The European Commission could declare the non-respect of the rules of competition, with regard to the heterogeneous fiscal commitments of the countries of the Union.

The underground finance is dangerous for the stability of the international financial system. If the conditions concerning the weakening of tax competition are not yet met, we must already fight against areas that refuse the application of banking habits and customs, as well as any cooperation or information to the victim states. Several measures could be taken such as the refusal to access rescue and guarantee plans of banks domiciled, all or part, in tax havens, the prohibition of "hedge funds" (hedge funds) to opaque management, the creation of an international register of offshore companies, the requirement for banks and multinational companies listed with information on their subsidiaries based in tax havens to end the shell companies, and the enlargement of the European directive on the savings of non-residents to legal persons.

Tax havens attract one-third of foreign direct investment by multinationals, but their usefulness has never been demonstrated. In fact, they favor corruption and tax avoidance, even if they were not necessarily the source of hedge funds. With the LTCM (Long Term Capital Management) case, new financial transactions sometimes present a systemic risk that endangers the solvency and liquidity of the entire international financial system. Financial innovation controlled by simple mathematical algorithms, controlled by the insiders alone, poses a considerable problem to the whole functioning of the current system of the market economy, which is too liberalized and monopolized by the powers of money. At a time when the European Union is only beginning to be alarmed at the widespread tax evasion, it is still asking citizens for important sacrifices to repay debts partly due to the tax optimization of the richest or the least honest with regard to their collective responsibilities. On the questions of tax evasion, the States are generally very magnanimous and do not apply the penal rules with severity.

However, the UBS affair has highlighted a first revolt of states, mainly because the US government is heavily committed to a proven situation of organized tax evasion. It confirmed that a whole system of tax evasion was set up by Swiss bankers, in application of illegal practices of the

program "Qualified Intermediary" (QI) in the United States¹¹³. The HSBC case has also highlighted the importance of fraud allowed by bankers¹¹⁴. Sanctions have been provided for recalcitrant countries and territories to protect the public finances of the larger countries and to strengthen the normal functioning of the international financial system. However, the business world of the United States is clearly opposed to any idea of control of tax havens, which offer to international exchanges at the same time inexpensive adapted services, freedom, flexibility, innovation and competitiveness. France wants a harmonization of taxation within the European Union, but fiscal sovereignty remains a freedom that no country wants to give up. The United States is determined to act on bank accounts, because it is then to thwart the Swiss and European competition. However, on the issue of trusts that conceal considerable sums in complex banking procedures to maintain the anonymity of beneficial owners of capital, the US government is less enthusiastic to conduct checks. Tax havens still cultivate the secret, they protect all their operations, and they distract most activities to make more complex reading from outside. Capitalism has become difficult to control, politicians no longer control the economic situation, and worst solutions are possible because greed and foolishness of men have no limit.

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¹¹³ UBS solicited clients and provided them with the means to escape the IQ program, mainly through the use of screen structures, assistance with the use of undeclared assets and even training to customs controls. The Bank had to pay a fine of \$ 780 million in the United States. UBS has reached a financial agreement with Germany, in the order of 300 million euros, avoiding any conviction. France was also a victim of this system, but the procedures were inexplicably very long to set up. The Prudential Supervisory Authority (ACP) imposed a fine of 10 million euros for "laxity" in the control of commercial practices that may be laundered tax fraud.

¹¹⁴ It was found that on Bouvet Island, uninhabited, in Geneva there were more than 121,000 accounts. Hidden assets represented about \$ 5 billion. Because of the conditions for obtaining information, the State could not directly oppose the information available to taxpayers, who sometimes denied possession of these undeclared assets. The same bank was prosecuted by the United States for money laundering from drugs, terrorist organizations and trade with Iran (a rogue state). It paid a fine of nearly \$ 2 billion. dollars to stop the prosecution.

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17. European Union and Tax Havens¹¹⁵

With the market globalization of the economy, the State has lost some of its prerogatives and is itself competing with other States and multinational firms in the expression of its strategic, political and economic choices. In fact, large companies have become increasingly powerful, both by increasing the size and diversity of their production, but also by actively participating in international and national public bodies in order to promote their economic and societal interests. The direct economic interventionism of the States is no longer in the odor of sanctity, except to define economic and social rules intended to improve the competitiveness of companies. If citizens legitimately maintain their pressure on public authorities to reduce precariousness or to improve their income, governments are often forced to grant significant tax advantages to the headquarters of multinational companies and to respect, by treaty, the conditions for the functioning of the market economy, with some exceptions. States are asked to intervene to develop infrastructures and national solidarity (such as schools, universities, health, pensions, etc.), while companies seek to reduce their contribution to public resources, by cheerfully practicing, often legally, tax avoidance and optimization, and sometimes, illegally, tax evasion or opportunity tax arrangements.

Due to economic globalization, tax havens allow owners to place their capital, even virtually, in financial centers that are particularly undemanding in terms of taxation and control over the origin of the funds thus placed. They are often referred to as "tax havens" and are associated with small countries, whereas a more detailed analysis shows the intervention of the great powers in these "fictitious" constructions that partially escape the usual economic and financial statistics. There is no consensual definition of the concept of tax haven, notably because this notion covers heterogeneous operations that overlap in these territories or states. Since the so-called "Panama's and Paradise's papers" affairs, the issue has finally been publicly debated thanks to the intervention of a group of media. The companies and personalities involved demonstrate the extent of the phenomenon. Bernard Arnaud uses six tax havens to optimize his own wealth. According to some estimates, multinationals move at least 40% of their profits to tax havens. The UBS bank, the largest private bank in the Swiss Confederation, is accused of illegal canvassing of clients and aggravated tax fraud by France, which is demanding a fine of 3.7 billion euros.

Faced with the importance of these revelations, it is possible to understand that too many companies and personalities are involved in these scandals for the revelations not to be made in dribs and drabs and for the operations to remedy them to be delayed in order to find the means of a general amnesty in the future, so as not to despair the people and the citizens. In a world of heterogeneous national interests, it is difficult to face optimization and tax avoidance without solidarity between the States. Within the United States itself, Delaware has such low taxes on corporate profits that it attracts corporate investment. Within the European Union, several partner states, arguing their sovereignty in matters of public finance, take advantage of this state of affairs to attract capital. In Europe, Switzerland, the City of London, Eire, the Netherlands or Luxembourg have a financial sector that is as hypertrophied as it is opaque. In 2019, Luxembourg was the world's third largest manager of financial assets under management, after the United Kingdom and the United States, and second largest market for mutual funds. The European Union is therefore not exemplary.

What is a tax haven?

The term "tax haven" is often used to define the set of "non-cooperative territories" with resources of opaque origin, not linked to concrete "physical" or "material" operations. For the

¹¹⁵ Conference, St. Petersburg State University of Economics and Finance, September 12, 2019

OECD, a tax haven includes several significant characteristics, notably the implementation of strict banking secrecy, low taxes levied, great freedom of capital movements for residents and non-residents, low formalism concerning the establishment of a foreign company, limited international judicial cooperation and a proven economic and political stability known to limit risks. The United Kingdom, for example, has small, sometimes unincorporated, territories whose fundamental basis of national or territorial product depends primarily on their highly competitive financial, legal, banking and accounting activities. Their main activity consists in promoting tax evasion or optimization, thanks to high-tech digital infrastructures.

A distinction must be made between tax havens "stricto sensu", regulatory havens, judicial havens and offshore financial centers (OFC).

- Tax havens stricto sensu have a simple tax system, at very low cost, often characterized by the anonymity of monetary and financial operations, allowing "insiders" to optimize their taxation. The member states of the European Union are trying to improve their "attractiveness" for the investments of non-residents, without any common consultation, which allows some countries to get rich at the expense of their partners.

- Regulatory havens do not respect the prudential rules of the financial system of other countries, particularly as regards the transparency of accounts or compliance with specialized international ratios. In this context, the setting up of trusts or shell companies protected by the anonymity of the real principals and the beneficiaries of the assets is supported. A voluntary system of opacity, through offshore subsidiaries, is thus put in place to modify the reality of added value transfers. For example, American exporting companies (FSC or Foreign Sales Corporations) are domiciled in their subsidiaries located in offshore centers controlled, in fact, by American capital. In 2017, in order to reduce its debt and bring financial flows back to the United States, Washington proposed the tax-free return of American companies' capital placed abroad and a light transition tax on the profits of firms "relocated" to the United States. This new pressure on public resources is characterized in the United States by the proposed reduction of the corporate income tax from 30% to 15%.

- Banking havens provide both a greater degree of secrecy for commercial and financial operations for their foreign clients and business secrecy for multinational companies, financial institutions and trusts. Banks in "offshore" centers offer very complex financial arrangements to reduce the legibility and availability of accounts. In Switzerland, tax evasion committed by foreigners to the detriment of their country of origin is not opposable to Swiss jurisdictions. Washington has put all its financial power to obtain the communication of information on the deposits and other banking operations of American nationals. In addition, the OECD calls for the development of bipartite agreements between states concerning the provision of precise economic information between countries. However, the reflexes and habits of the banks' relations with their clients often take precedence over the pressure exerted by international organizations.

- Judicial havens do not always apply the laws or rules, especially criminal ones, claimed or applied at the international level. They do not really care about the origin of their depositors' funds, they refuse or are reluctant to communicate the information necessary for another country's legal proceedings, and they are unwilling to cooperate with their foreign counterparts. London has long been considered a judicial haven because of its refusal to respond to financial investigations by public or private agencies in foreign countries. With the click of a computer mouse, criminal activities can easily be concealed from the tax and legal authorities.

Tax optimization and fraud in Europe

In 2009, Forbes magazine ranked Delaware, Luxembourg, Switzerland, the Cayman Islands, the City of London, Ireland, Bermuda, Singapore, Belgium and Hong Kong as the best tax havens for business activities. The policy of "beggar thy neighbor" policy of taking measures for one's own development at the expense of neighboring countries, has often been applied unscrupulously by member states, especially towards partner countries. However, in 2014, the

European Commission listed 30 tax havens, but none of them were members of the European Union or even the European continent, Switzerland included. Therefore, no action or sanctions were taken.

In 2014, a study by the Tax Justice Network, a non-governmental organization that brings together several NGOs around the world, calculated a Financial Secrecy Index (FSI) that measures the rate of opacity of countries' financial operations (with maximum opacity at 100 and maximum transparency at 0). It is a tool to compare the degree of secrecy of international financial transactions country by country. The maximum opacity of a small country may be less important than the lesser opacity of a large country that is heavily involved in international financial markets. Even if the secrecy of financial transactions is more strongly protected in Andorra than in the United States, the weight of its overall influence on global flows will be much less important than that of American financial institutions.

In this context, given its influence over many territories under its direct or indirect control, the United Kingdom has the greatest weight in the world, ahead of Switzerland, Luxembourg, Hong Kong, the Cayman Islands, Singapore and the United States. Luxembourg and Singapore have experienced considerable economic development, partly due to their financial regulations, which have often allowed them to benefit from significant economic advantages obtained at the expense of their neighboring countries, through a secret system of predation, which is similar to "parasiting". These two countries are actually ranked among the countries with one of the highest GDP per capita in the world, thanks in part to this financial strategy.

In December 2017, the list of tax havens proposed by the finance ministers of the 28 states 17 countries that do not meet international standards, namely Bahrain, Barbados, South Korea, United Arab Emirates, Macau, Marshall Islands, Mongolia, Namibia, Palau, Panama, St. Lucia, Samoa Islands, American Samoa, Trinidad and Tobago, Tunisia. It has been widely criticized for its bias. For Oxfam, at least 35 countries should be included, including Switzerland, Ireland, Luxembourg or the Netherlands.

Since 2014, following the Panama's Papers (2015) and the Paradise's Papers (2017) highlighting the importance of investments in countries with a well-supported business secrecy, many speeches and a few decision proposals have been held, but the effects of inertia seem to outweigh the effects of opportunity regarding the reduction of the public debt of States. An international reform concerning the compliance of jurisdictions with regard to tax evasion has been underway for several years, but it comes up against the relative inaction of the "victims" and the firmness of the "beneficiary" national banking systems. There are still privileged relationships between large multinational firms and the authorities of their home and host countries, as in the case of Apple and Ireland, which allow the firm to obtain tax advantages that are often undue.

The OECD proposes that a state that feels it is a victim of tax evasion can request information from the tax authorities of another country, which will then judge the relevance and appropriateness of a response. As the OECD proposes to move forward gradually in this area, the States most attached to banking secrecy are conducting bilateral cooperation with countries with which they have little financial exchange, which however obviously takes them a long time. For example, the agreement between France and Switzerland was still not effective at the end of 2018. Berne probably needs some time to groom the stables of tax and financial fraud of French nationals.

Paradoxically in view of the declarations of the leaders of these countries, the United Kingdom (with all its dependent territories) and the United States have increased their financial secrecy index, which was already very high. Washington obliges the financial institutions of all the countries in the world to provide it with banking and financial information concerning its nationals under penalty of heavy fines to continue their activities in the USA. On the other hand, this obligation does not arise for Washington for reasons related to the respect of the American Constitution. Washington fights firmly against tax havens abroad, but not at home.

The unanimity rule that exists in the European Union is an obvious brake, particularly because of the countries that benefit from this system and apply both their lobbying and their vetoes. In the Netherlands, Shell was virtually exempt from taxes on the 13 billion in profits it made in 2017 (just like Ikea or Starbucks). The company has set up a tax entity that allows it to accumulate the profits and losses of its subsidiaries. It has a specific status, made secret by the public authorities. This "tax ruling" agreement was decided at the time of the establishment of the company's headquarters in The Hague. The European Competition Services have only recently, in 2018, questioned this indirect aid from the Dutch state to a large company, thus distorting the rules of competition within the European Union.

The criteria and characteristics of the "rogue" countries or territories are opaque. Switzerland is the world's leading commodities trader, with 35% of oil trading, 60% of metals and 35% of cereals concentrated there. It benefits from its neutrality status, maintained during all the wars on European territory, which limits the risks of investments or placements in Geneva banks in the event of conflict. It is therefore easy to see that the Swiss laws, which are so favorable to foreign companies, are the basis for the economic development of this country. It is now competing with Singapore and Dubai (without corporate taxes). For Moodys, "in fine", the twelve "most lucrative tax havens" in 2017 were Bermuda, the Netherlands, Luxembourg, the Cayman Islands, Singapore, Jersey, Guernsey, the Isle of Man, Ireland, Mauritius, Switzerland and the Bahamas. Europe can no longer consider that "tax havens" are located far from its borders (de Pietro).

The City of London is an important tax haven because it is not obliged to respect the rules defined by the British regulatory authorities. However, it accounts for one third of foreign exchange trading, half of international equity trading, international public offerings and over-the-counter derivatives trading. It manages the "offshore" capital of a British empire partially reconstituted for the occasion. Most of the hedge funds are based in the Cayman Islands, which are under British control. The City is the place where Russian oligarchs do business and where Indian and Chinese entrepreneurs carry out financial operations.

There is even a certain specialization of "tax havens". Until 2010, the United Kingdom or Switzerland were highly recommended by banks, but today investments in Europe are increasingly risky for Europeans themselves.

What operations to undertake?

The GAFAMs (Google, Apple, Facebook, Amazon and Microsoft) have taken advantage of the public's lack of understanding of the digital economy to artificially locate their activities in countries with accommodating tax regimes in order to pay on average less than 5 to 10% corporate tax in Europe (compared to 23% corporate tax on average in the EU). Because of their financial strength, these firms have a monopoly or very limited oligopoly position in their segments and can prevent other innovations or competitors from joining their ranks. These firms hire tax experts to repatriate profits to tax-friendly countries. Several conflicts have marred GAFAM's relations with the European Union.

At the initiative of France, a tax of 3% of the turnover (and not the profits) generated by the exploitation of digital activities has been proposed on these companies. This tax would only apply to companies with annual revenues of more than 750 million euros and profits in Europe of more than 50 million euros. However, this indirect tax is still prohibited by the budgetary rules of the European Union. The calculation of the tax base and the techniques for taxing the profits of multinational companies must be changed. The tax proposed by France should eventually disappear and be absorbed by a corporate tax defined by the European Union. This would involve defining a consolidated corporate tax base (CCB), with a view to standardizing the calculation of the standardized corporate tax at the European level. In this context, multinational companies would be able to file a single consolidated tax return for all operations carried out on EU territory;

they would no longer benefit from the disparities in the treatment of member countries' tax systems. However, to undertake such a reform, a political unanimity of the members of the European Union is required, which is not yet the case. However, each European state is worried about Washington's reactions in the event of a specific decision to tax GAFAM.

In France, it would be necessary to modify the rules and criteria applicable to corporate income tax, notably concerning the concept of permanent physical establishment, and to add the significant adjective of "virtual" when platforms sell services from servers located outside the political territory. Some states are opposed to this solution. The BEPS (Base Erosion and Profit Shifting) proposed by the OECD, requires the transmission of the necessary financial information to multinational firms in the countries concerned by detailed data, country by country, concerning in particular their assets, their workforce, their profits and the taxes paid. The aim is to put in place a standardized tax convention concerning the exchange of information relevant to tax administrations, access to certain information in the context of taxpayer compliance and the confidentiality of the information thus exchanged, particularly with regard to the media. For example, Ireland is to end the "Irish sandwich" in 2020. This is a tax arrangement for the creation of a company with a hybrid status that allows it to carry out its economic activities under Irish commercial law, while locating its tax residence in a tax haven, thus avoiding any tax. This operation is taken over by Apple in Jersey, under specific terms and conditions. Finally, tax treaties could change the distribution of profits. However, there is still no international agreement, as each country has different interests to defend against the very active lobbying of GAFAM. On the European side, the will is now to tax the added value coming from the data collected and used for advertising purposes.

On the other hand, Washington considers that GAFAM's profits should be taxed in the United States. If it seems legitimate that GAFAM pay taxes where these companies create value, it is nevertheless necessary to convince all countries to respect the European agreements. However, Ireland, the Netherlands and Luxembourg are pleading for an agreement coordinated by the OECD, notably because this tax risks reducing the competitiveness of the European Union. Germany is now in favour of a worldwide minimum tax on the profits of multinationals. However, Berlin would like to commit itself in two stages, first seeking an international agreement with the OECD and, if negotiations fail, introducing a European tax from 2021. Washington is opposed to this tax, and could initiate coercive measures in the event of its application.

On June 7, 2017, 17 countries met at the OECD headquarters, without the presence of the United States, to fight against tax evasion by multinationals. Four key measures were agreed upon:

- The refusal of tax shopping by large groups, when they set up in a country only to benefit from tax advantages,
- A pragmatic definition of the notion of "permanent establishment" which allows to identify the taxable income in a given country,
- Protection against hybrid arrangements, financial products constructed in such a way that they cannot be taxed anywhere,
- The inclusion in new tax treaties of procedures for the amicable settlement of tax disputes relating to double taxation. An arbitration commission could be set up if the amicable procedure is not settled after two years.

Tax havens" are still very present in the world of financial markets. Most multinational companies use tax havens to optimize their profits. When analyzing the background of the problem, we can see that the United States or the United Kingdom have often supported these practices. Since September 2015, several countries have cut corporate taxes (China, Australia, UK, Italy, Japan, Israel, Norway, Namibia, etc.) and the US and France are proposing to follow suit. There is no limit to the creativity of tax experts, with tax incentives for investment and R&D, support for SMEs, the creation of special economic zones or well-defined tax havens. Differences in labor costs are no longer enough to attract multinationals. Democracy is clearly in danger

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18. Tax havens

The perverse effects of globalization on national economies¹¹⁶

Despite the actions of a few international and non-governmental organizations, and the warnings of researchers, tax havens are settling in the landscape of an economic globalization that is particularly carrying national and social inequalities. It is particularly difficult to obtain precise figures on its importance, in a banking and financial sector wishing to keep forms of secrecy which also make a significant part of their added value at the expense of other economic actors. Tax evasion and optimization are part of a proactive approach to reducing the burden of public effort, decided by themselves, companies or individuals. Often investments have existed in these territories sometimes for two generations and it is unclear whether, where and how they have been reinvested in other productive, real estate or precious metal investments. When countries grant tax amnesties, sums legally reintegrated into national economies are not the subject of any specific information on offenders, including tax secrecy¹¹⁷. The economic effects of tax heavens are very important, more important than what is usually analysed, because they produce a serious problem of international confidence. A lot of economic partners do not hesitate to use the famous "beggar thy neighbour"¹¹⁸. The main problem is the real and not political definition of tax heavens¹¹⁹.

Tax havens contribute to the degradation of available statistical information, they aggravate the public debt of many States, they participate in the plunder of developing countries and they call into question the principle of equality of citizens and businesses before the tax. In addition, by their action and the cover-up they allow on the "reality" of financial funds, they sometimes prevent developing countries from benefiting from the funds generated by the activities carried out on their territory.

Deterioration in public finances

The indebtedness of the States is growing every year, and tax havens actively participate in this development. At the same time, the sums illegally diverted benefit first of all those who apply it to the detriment of the financing of public goods and services, but also a form of fiscal competition is set up between the States in order to attract the investments of the richest societies and individuals, through a significant reduction in taxes and miscellaneous taxes. Tax havens exert downward pressure on all states. The shortfall in tax evasion (legal or illegal) is both large and growing. It is therefore very difficult to estimate the size of these transfers, with estimates varying between \$ 200 billion and almost \$ 2,000 billion. To avoid too great a reduction in their capacity to finance public goods, States then come into debt, because their governments are led to limit tax rates themselves to avoid the threat of outsourcing of activities to maintain the attractiveness of investments in their territories. Large multinational firms are taking full advantage of this situation¹²⁰. The National Assembly of France noted in 2011 that the implicit tax rate for SMEs was 39.5% compared to 18.6% for multinational companies (only 15 to 20% of corporate tax in France, with a total turnover

¹¹⁶ CESICE, Université Grenoble-Alpes

¹¹⁷ Chavagneux, C. (2006), Les paradis fiscaux, piliers du capitalisme, Alternatives Economiques, n° 252

¹¹⁸ Fontanel, J. (2016), Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices, L'Harmattan, Paris.

¹¹⁹ Fontanel, J. (2019), Tax heavens, a huge cost for public and social activities", The 3th meeting of the International Advisory Board, St. Petersburg State University of Economy (UNECON), September 11.

¹²⁰ Fontanel, J. (2019), GAFAM, a progress and a danger for civilization, X Jubilee International Scientific and Practical Conference « Financial Architecture : Forced Economic Development in the Context of External Shocks and Internal Inconsistencies, State University of Economics of Saint-Petersburg, Hotel Ambassador, Saint-Petersbourg, 12 April 2019. hal-02102188. Fontanel, J, Sushcheva, N. (2019), La puissance des GAFAM : Réalités, apports et dangers, AFRI, Annuaire Français des Relations Internationales, Paris.

estimated on average at 60% of the whole country)¹²¹. At the same time, the non-resident subsidiaries of French groups were the main international investors in France¹²².

Large companies pay proportionately less tax than SMEs, which gives them an undeniable additional competitive advantage¹²³. A study published in 2015¹²⁴, carried out on 20 member countries of the European Union shows that on average, multinationals have an effective tax rate lower than 3.5 points to national companies. The fight against tax evasion would significantly improve the competitiveness of small and medium-sized enterprises. Table 1 gives interesting information on this gap, but it provides an estimate that is particularly difficult to verify, because the information is incomplete and often protected by the secrecy of negotiations.

Table 1. Nominal and real tax rates of multinational corporations in 2011¹²⁵

Countries	Nominal rate (in%)	Real rate (in%)
Belgium	39	10
Germany	37	4
Danemark	34	11
Spain	35	4
France	33	7
Italy	36	8

At the end of May 2013, the European Parliament estimated that public money lost in Europe each year is lost due to tax evasion¹²⁶. He indicates that this sum corresponds to an annual shortfall of 2000 euros per European citizen. Direct taxes reduce personal income, indirect taxes raise commodity prices, and payroll taxes increase the cost of labour¹²⁷. This highlights the importance of optimal tax reduction strategies. This system increases injustice, for the benefit of the wealthy and the most mobile taxpayers. SMEs are clearly disadvantaged, as are employees who cannot avoid all or part of the tax. In the United States, the state of Delaware, with its particularly attractive tax system, saves American companies nearly \$ 300 billion a year.

Public indebtedness has increased considerably in two decades and the tax avoidance systems of large taxpayers have participated in it (Table 2). Note the differences in statistics between the International Monetary Fund and the OECD, based on different definitions. The differences are considerable, as must be the estimates concerning tax evasion and optimization that often escape

¹²¹ Assemblée Nationale (2011), L'application des mesures fiscales contenues dans les lois de finance, Rapport présenté par Gilles Carrez, n° 3631, Paris.

¹²² Chavagneux, C. (2011), A quoi servent les paradis fiscaux ?, Les Amis de l'Ecole de Paris, séance 1 juillet 2011,

¹²³ Sénat (2015), Commission d'enquête sur l'évasion des capitaux et des actifs hors de France et ses incidences fiscales, Travaux parlementaires, Rapport n° 673, de M. Éric BOCQUET, fait au nom de la Commission d'enquête Evasion des capitaux, déposé le 17 juillet 2012, http://www.senat.fr/rap/r11-673-1/r11-673-1_mono.html

¹²⁴ VVA & ZEW. (2015). SME taxation in Europe – An empirical study of applied corporate income taxation for SMEs compared to large enterprises. European Commission CIP Programme 186/PP/CIP/12/F/S01C24, p.111: <http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=11838&no=3>

¹²⁵ Figures obtained from publish graph, page 41, par CCFD-Terre solidaire, L'économie déboussolée, 2011, http://www.leparisien.fr/event/pdf/RAPPORT_CCFD_101206_BD.pdf

¹²⁶ Parlement européen (2013), Sur la lutte contre la fraude fiscale, l'évasion fiscale et les paradis fiscaux, Commission des affaires économiques et monétaires, 3 Mai, <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A7-2013-0162+0+DOC+XML+V0//FR>

¹²⁷ However, if the government of France could charge all the tax revenues voted in Parliament, it could thus reduce by more than 60 billion a year the weight of the tax borne by all taxpayers. There are 36 million tax households, but only 19 million pay income tax. On average, tax fraud steals 3000 euros per year from taxpayers and probably more than 6000 euros for households taxed in the 30% bracket.

any official information, especially when they are illegal on the substance and even more on the form.

The lack of financial resources is one of the leitmotifs of all the political speeches of all governments. In this context, public education and research, the health and welfare system for the weakest, the satisfactory remuneration of civil servants, aid to farmers and financial support for young companies, all these essential activities for a country suffer of credit cuts that prevent the achievement of their collective objectives.

The state is stolen from part of its income while the prevailing idea among the population is the excessive importance of compulsory taxes. It should be noted that countries that are accused of being tax havens, such as Luxembourg, the Netherlands (47.3%), Ireland or the United Kingdom have low public debt relative to the other countries of the world. 'European Union and that these are rather decreasing.

Table n ° 2 - Percentage public debt/GDP in 2015 and 2018, for OECD and IMF.¹²⁸

Country	% Public debt/GDP in 2019, OECD ¹²⁹	Country in IMF ¹³⁰	% public debt GDP in 2015 IMF ¹³⁰	% public debt / GDP in 2018 IMF ¹³¹
Germany	81		80	55,7
Brazil	ND		59	93,9
China	ND		22	60,9
Spain	117		94	95,2
France	121		93	99,2
Greece	183		175	171,4
India	ND		52	68,5
Ireland	88		124	57,7
Italy	157		133	133,7
Japan	237		226	237,6
Luxembourg	31		23	21,1
Portugal	148		128	114,8
United Kingdom	108		91	84,8
Russia	ND		8	17,7
USA	136		72	108,0

Questionable macroeconomic statistics

¹²⁸ The figures provided are relatively random, according to sources from the OECD, the IMF, the European Union and the World Bank. In addition, it is also necessary to take into account the related interest rates (higher in Greece compared to the United States, for example), the reimbursements to be committed each year, the length of contracts, the size of the economy national in view of the wealth produced worldwide. In short, this table provides only an interesting indication which should of course be refined to make a more rigorous analysis. Economics help (2014) List of National Debt by countries, <http://www.economicshelp.org/blog/774/economics/list-of-national-debt-by-country/>

¹²⁹ Dupray, La dette publique s'envole, <http://www.centralcharts.com/fr/forums/133-analyse-economique-fondamentale/139-la-dette-publique-mondiale-s-envole>.

¹³⁰ OECD Data. <https://data.oecd.org/gga/general-government-debt.htm>

¹³¹ IMF (2019), General government gross debts

https://www.imf.org/external/datamapper/GGXWDG_NGDP@WEO/EURO/EU/USA/JPN/CHN/

National GDP statistics, an otherwise questionable concept, influence the more or less optimistic economic behaviour of citizens and businesses¹³². With the transfer price system, the overall added value of countries is questionable today, they are notoriously undervalued in countries victims of tax havens that do not improve their attractiveness and weighs on wages. Thus, multinationals can demonstrate that workers in tax havens are producers of wealth in a different way than those who bring in products that are subject to price transfers.

It should also be remembered that the underground economy represents between 5 and 20% of the European Union's GDP¹³³, this gap clearly indicating that the statistical information provided is inaccurate. If the GDP calculated by the official bodies of the States seeks to determine the total production of the underground economy, they are nonetheless confronted with trade secrets or illegal actions. With globalization and the evolution of digital techniques, controls are becoming more and more difficult to implement with sufficient reliability. In the definition of underground production, along with illegal activities, the "underreporting" of real turnover constitutes the most important source of loss of public revenues. In this context, multinational companies are masters of controlling in great detail their declarations in relation to those of all their subsidiaries. Non Governmental Organizations, for political reasons, produce some general data on tax heavens¹³⁴.

The request by governments to obtain all the information concerning the declarations of subsidiaries located abroad should provide significant means of determining the need for possible tax adjustments, but it is nonetheless difficult to oppose the prices offered by the parent company, which can rely on the interests of the governments of tax havens to challenge the estimates of the tax administration. Thus, according to the CCFD-Terre solidaire report¹³⁵, in 2011, the British Virgin Islands invested four times more than Japan in China. Each inhabitant theoretically invested nearly 700,000 dollars per year in the ten most powerful world economies. Luxembourg is still the second largest investment fund after the United States; it is the first international wealth management centre in the euro zone, thanks to the advantages granted to holding companies (more than 15,000 holding companies holding nearly 2,300 billion euros). The activity of tax havens is considerable; it represents 20% of private global wealth, illicit activities, on the basis of very empirical reasoning, being estimated at a quarter of these amounts¹³⁶.

The "tax havens" are particularly suited to the implementation of purely financial strategies that escape the control of the States and even of certain owners. The result is financial instability, producing a particularly high systemic risk, the consequences for growth and employment of which can be particularly dangerous. Natural or legal persons carrying out illegal activities may escape the control of national courts, because tax havens allow them to conceal the origin of the funds. Terrorist groups know how to use the financial techniques proposed by "rogue" states. Piracy cases sometimes benefit certain tax havens such as London, Dubai or Kenya. Few countries fully meet the standards defined by the organization in the fight against the financing of terrorism.

A non-united sovereign fiscal policy

Partner states of the European Union are reluctant to enter into negotiations on the content of their budgets because it is an essential economic policy instrument that each government wishes to

¹³² Fontanel, J., Guilhaudis, J-F. (2019), Les effets pervers de l'usage du PIB pour la décision politique et les relations internationales. Comment en sortir ? , AFRI, Annuaire Français des Relations Internationales , Paris.

¹³³ Lequiller, F. (2014), L'économie souterraine dans le PIB : avancées et limites, OCDE. http://www.economie.gouv.fr/files/francois_lequiller_ocde.pdf

¹³⁴ Bensahel-Perrin, L., Fontanel, J., Corvaisier-Drouart, B. (2009), Les organisations non gouvernementales, ou l'homme au cœur d'une mondialisation solidaire, L'Harmattan, Paris.

¹³⁵ CCFD-Terre solidaire, L'économie déboussolée, 2011, http://www.leparisien.fr/event/pdf/RAPPORT_CCFD_101206_BD.pdf

¹³⁶ Assemblée Nationale (2013), Lutte contre les paradis fiscaux : si l'on passait aux actes, Rapport n° 1423, présenté par Alain Bocquet et Nicolas Dupont-Aignan, <http://www.assemblee-nationale.fr/14/rap-info/i1423.asp>

maintain. It is on this sticking point that the large multinational corporations intervene to benefit from optimal advantages in view of the differences in legislation of the partner countries. They intervene at several levels in the process of resources collected for the funding of public services. First, they compete for the location of their economic activities. Then, they act on electoral processes by supporting candidates in order to recover the influence of elected officials on collective choices. Finally, they exercise considerable lobbying action, in particular by directly or indirectly controlling the information provided by the newspapers or media which belong to them and by walking the corridors of public decisions in Brussels, Berlin, London, New York, Washington, Geneva or Paris. . The big firms support the states practicing "fiscal dumping"; they exercise their veto for any proposal for negotiated collective control. By the very fact of the different nature of the economic structures of the countries, the policy of "every man for himself" has enabled the big companies to make play the competition between the States on the question of the contents and legislations relating to the compulsory deductions.

Thanks to this collective situation of "benign neglect" of each partner, legal or physical entities were thus able to escape fully or partially from tax. The result is a form of wealth predation, which allows business leaders and shareholders to increase their personal income. The banks supported their wealthy customers in this process, even though, in a crisis, they were bailed out with public money. States are today in great debt, and banks are organizing strong pressure to be reimbursed "ruby on the nail". Moral hazard is widely exercised, at the expense of responsible collective ethics¹³⁷.

The equality of citizens and businesses before taxes is not effective

The rules of democracy concerning the fair contribution of each citizen or company to the financing of collective goods are no longer really respected Banks and financial law firms support their wealthy clients in optimizing their wealth, looking for any loopholes existing in the system of compulsory levies of all the countries thus put in competition¹³⁸. Tax evasion, when exposed, is then the subject of negotiations with the state, which will recover, most of the time, at most, the amount that should have been paid.

After the financial crisis of 2008-2009, multinational corporations obtained great financial advantages regarding the difference between the nominal rate and the effective tax rate, which, in turn, weakened the purchasing power of consumers and middle classes, especially employees. We can then see the differences in tax treatment between multinational companies capable of using all the arguments to set up profitably in a territory, with the support of the State, with regard to the obligations to which small and medium-sized enterprises are subject. . In addition, beyond negotiating with state authorities, multinational companies are able to reduce their effective tax rate by transferring part of their profits to subsidiaries located in "tricky" or less tax-demanding countries.

The least mobile economic players and the middle classes bear most of the tax and therefore the funding of public services, often offered almost free of charge to large multinational companies. The first victims of capital flight are the middle classes and the poor. The flight of savings to tax havens also increases the interest rates of national and local banks, which then run out of cash.

In France, the Commissions aux Infractions Fiscales (CIF) itself chooses the files, which will ultimately be handed over to the judicial authorities. Out of the 50,000 in-depth checks, 16,000 give rise to financial sanctions for intentional fraud. A total of 1,000 of them will be presented to the CIF, which will only examine nine out of ten, without having to justify its decisions¹³⁹. In addition, the Minister of Finance has a kind of "pardon right" which has been applied in the cases of Bernard

¹³⁷ Fontanel, J. (2009), Questions d'éthique, L'Harmattan ; Paris.

¹³⁸ Joly, E. (2016), Pour en finir avec l'impunité fiscale, Le Monde Diplomatique, Juin.

¹³⁹ The number of examining magistrates increased from 27 in 2001 to 8 in 2012. Most European countries have reduced the number of inspectors' posts. Regarding the list of fraudsters submitted by Hervé Falciani (nearly 3000 files), 3) only 4% were prosecuted before a judge, despite the overwhelming evidence. The 150,000 largest taxpayers in France are part of a separate service (National Directorate of Verification of Tax Situations), which in 2010 ordered 900 adjustments and only 17 complaints.

Tapie or Karl Lagerfeld. Sanctions before judges remain weak, as if the theft of state legal resources were less severe than that affecting the private sector. The number of controllers has decreased since 2008; the fault seems to be of public debt, which is deepened by tax fraud¹⁴⁰. Banks play a very ambiguous role in this context; they do not always respect the rules concerning the reporting of financial movements that could result from money laundering or crimes.

Developing countries, new victims

UNCTAD¹⁴¹ has highlighted the effects of tax avoidance in developing countries. In 2014, the contribution of multinational firms to the budgets of the States in these countries was around 730 billion dollars, i.e. 23% of the contributions of all the companies concerned and 10% of the government's total revenues (14% in Africa). In this context, around 30% of foreign direct investment goes through tax havens.

The report considers that this results in a loss of around \$ 100 billion in tax revenue that goes to “offshore hubs” due to the “artificial” absence of profits from these investments, which would have as a consequence a loss of production of at least 300 billion dollars, which thus reduces the potential for economic development of the poorest states¹⁴². The estimated loss in terms of tax revenue represents a third of this amount. By applying a profit reinvestment rate of around 50%, \$ 165-225 billion could be made available each year to finance the national economies of developing countries. By adding tax losses and profits that do not reinvest locally, the loss of financing for growth in developing countries is estimated between 250 to 300 billion dollars per year¹⁴³.

In sub-Saharan Africa, the illicit or uncontrollable flight of capital considerably limits the budget allocated to agriculture, while 30% of the population suffers from undernourishment. According to the FAO, the deficit in public finances of the southern states caused by tax evasion alone represents 5 times the amount necessary to eradicate hunger in the world¹⁴⁴. If the investments made by multinationals in Africa pass through tax havens, the same goes for the assets of the heads of state of the least democratic countries, who favour investments in Switzerland. Despite the international will to limit these harmful effects on the reputation of “rogue” countries, the use of screen structures constituted by trusts and non-resident companies promotes the maintenance of a certain maintained opacity (sometimes by corruption measures) and protected (by “oriented” laws).

If investments from or to tax havens are not all linked to corruption or other criminal activities, they represent more than 20% of the world total of cross-border investments, which is out of proportion in light of the weight economic realities of these states¹⁴⁵. Such figures should prompt governments to study the size, origin and destination of these flows.

Globalization has favoured entities capable of mobility and enjoying the interstices between the laws. Because of their national economic importance, multinational firms use all the financial and political means at their disposal to improve their private incomes, by asking countries to improve the fiscal conditions that are made for them in a situation of competition between national

¹⁴⁰ While France no longer replaces one in two civil servants in the Tax Department, the American administration has just hired nearly 1,000 people to fight against tax evasion by individuals and businesses.

¹⁴¹ UNCTAD, Investment and Enterprise Division (2015) FDI, Tax and Development. The fiscal rôle of multinational enterprises : towards guidelines for coherent international tax and investment policies, <http://investmentpolicyhub.unctad.org/Upload/Documents/FDI,%20Tax%20and%20Development.pdf>

International Centre for Tax and Development (2015), New UNCTAD Paper on Corporate Tax in Developing Countries, April, A working paper for review and feedback 3/26/2015. <http://www.home.walsingham.com/en/new-unctad-paper-corporate-tax-developing-countries-0>

¹⁴² UNCTAD (2015), FDI, Tax and development, The fiscal role of multinational enterprises: towards guidelines for Coherent International Tax and Investment Policies, <http://investmentpolicyhub.unctad.org/Blog/Index/42>

¹⁴³ Cobham, A. (2015), UNCTAD Study on corporate tax in developing countries », 26/03/15, <http://uncounted.org/2015/03/26/unctad-study-on-corporate-tax-in-developing-countries/>

¹⁴⁴ CCFD-Terre solidaire (2011) L ‘économie déboussolée, http://ccfd-terresolidaire.org/ewb_pages/i/info_2378.php

¹⁴⁵ http://www.transparency-france.org/ewb_pages/div/Projet_de_mesure_des_investissements.php

economies. The action taken by the European Union on the GAFAM highlights the power of these firms, protected by the White House and US laws that often require international laws.

The developing countries are often impoverished by tax and capital evasion, without the international authorities, however well informed, being given the means to intervene¹⁴⁶. States often condemned speculation, but it is also a profit factor for some national economies¹⁴⁷. Morality is not respected when thieves sometimes become judges for enforcing unsuitable or partisan rules and laws. Financial crime has no visible effect and is therefore not very well understood by citizens. There is rooted in the collective information the idea that these centres "offshore" are necessary for the functioning of capitalism and the market economy under the premise that a little "manure" enriches the earth. Multinational companies have a field to use the country to transfer to maximize their profits. This "white collar" crime is located in the wealthy strata of society, surrounded by legal and economic advisers responsible for finding all the interstices of the laws to enhance their heritage, to the detriment of the already unfair rules of income distribution produced by the 'market economy.

The states primarily contest the "tax havens" that are not in their spheres of influence. The United States accuses the Cayman Islands carrying no look at many Wall Street companies registered in Delaware. Washington has managed to appropriate new rights to Switzerland's banking secrecy policy, without proposing such openness to other countries concerning Delaware or the Bahamas. Countries "thieves" often undertake similar procedures to those of a State in war. They secretive, they protect all of their operations, they have multiple launchers alert, they most distracting activities to make more complex their reading by external elements and controls. They find the interstices of national laws to generate new activities or profits. Capitalism "maximalist" has become difficult to control, politicians do not master more the economic situation, the worst is possible, because of greed, as the folly of men, has no limit. War or threat of civil or international wars often invite the international negotiating table, especially when poverty fell more and the social capillary action becomes a requirement for all citizens¹⁴⁸. Economic globalization has enabled the development of all excesses for the wealthy, for which economic life is casino game, with speculation that enriches or impoverishes, without ever leaving you in the class of the wealthy and privileged.

¹⁴⁶ Coulomb, F., Fontanel, J. (2006), Spéculation et instabilité financière internationale, in « Des flux et des territoires. Vers un monde sans Etats ? ». Sous la direction de Bernard Jouve et Yann Roche, Presses de l'Université du Québec, Montréal, 2006. Fontanel, J. (2006), Spéculation internationale et géopolitique, Annuaire Français des Relations Internationales, Vol. VI. 2006. Coulomb, F., Bensahel, L., Fontanel, J. (2007), The concepts of economic war and economic conflicts in a global market economy, in « Arms, War, and Terrorism in the global economy today, Ed. Wolfram Elsner, Ed. LIT Verlag, Bremen Schriften zur Konverzion, Band 13, Hamburg. Fontanel, J. (2016), La science économique en débats et en défaut face à la crise, Document de Travail, Université Grenoble-Alpes, EDDEN, Grenoble, à paraître. Fontanel, J. (2016), La Finance, prédatrice des richesses, Document de Travail, Université Grenoble-Alpes, EDDEN, Grenoble, à paraître.

¹⁴⁷ Fontanel, J. (2007), Ethique, démocratie et économie mondialisée. Quelle éthique ? in « Questions d'éthique », Coll. « Les idées et les théories à l'épreuve des faits, J. Fontanel, (Ed). L'Harmattan, Paris. Fontanel, J. (2007), Questions d'éthique, Coll. « Les idées et les théories à l'épreuve des faits, L'Harmattan, Paris.

¹⁴⁸ Smith, R., Fontanel, J. (2010). International security. Politics, Policy, Prospects. Prospects. Smith, R., Fontanel, J. (2008), International security, defence economics and the powers of nations, in « War, Peace and Security », Contributions to Conflict Management, Peace Economics, and Development, Volume 6, edited by Jacques Fontanel and Manas Chatterji, London, Emerald, London, 2008. Fontanel, J., Corvaisier-Drouart, B. (2014), For a General Concept of Economic and Human Security, in R. Bellais (Ed.), The Evolving Boundaries of Defence : An Assessment of Recent Shifys in Defence Activities, Emerald, Bingley. Fontanel, J. (2016) La sécurité économique et sociétale : pour une conceptualisation humaniste multidimensionnelle, PSEI, Politique de Sécurité Européenne et Internationale, n° 3. 2016-<http://revel.unice.fr/psei/index.html?id=822>

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¹ VVA & ZEW. (2015). SME taxation in Europe – An empirical study of applied corporate income taxation for SMEs compared to large enterprises. European Commission CIP Programme 186/PP/CIP/12/F/S01C24, p.111:
<http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=11838&no=3>

19. The lessons of the Covid-19 pandemic for National security¹⁴⁹

In the usual dictionaries, peace is defined as "the absence of war", which is presented as "the use of armed force" to resolve a conflict situation. This definition highlights the endemic permanence of wars, but also the historical force of recourse to armed conflict. War has always been an instrument of predation and power. If Heraclitus affirmed that "war is the father of all things", for Thomas Hobbes, men are naturally in conflict with each other. Internally, states have the vocation to regulate the conflicts of their citizens through laws and, externally, to protect them by developing armed forces intended to dissuade their potential enemies, thus taking up the old principle "Si vis pacem para bellum".

After the collapse of the Soviet Union, the process of economic globalization seemed inevitable, encouraged by most states and supported by liberal economists who insisted on deregulating, deregulating, and decompartmentalizing national economies and international finance. An optimal economic growth was to result which would benefit all countries through the "trickle down" effect of income from the rich to the poor, thus reducing famine and hunger, at least in the long term. Wars would become increasingly unlikely as economic interdependence would reduce the opportunities for armed conflict. The fear of nuclear war would fade, and American power and capitalism could organize, if not impose, world peace. In 1995, the international organizations set up by the West in 1944 were reinforced by the creation of the WTO, the World Trade Organization, intended to develop free trade. Peaceful trade in complete freedom became the basis of world society. Multinational companies, free from the demands of each state, could then impose their positive trade laws and increase the world's GDP for the benefit of the ecumene. In terms of defense, Washington became the world's main policeman, with military spending (including NATO) nearly twice as high as that of the rest of the world. The story was beautiful, a fairy tale. Yet wars, terrorism and economic warfare have never ceased to exist.

Civil, military or economic war violence has not disappeared (Iraq, Afghanistan, Libya, Yemen, Syria, Iran, etc.) and the threats of "rogue states" and terrorism have not disappeared. States have been increasingly challenged in their role, especially in the economic order. Their actions concerning ecology, climate or air pollution have been strongly inspired by the decisions of specialized international organizations, too often advised by dominant commercial and financial interests. In this context, states have no longer been able to assume all the components of national security. Military power still plays an important role, even if no state is currently threatening armed conflict. If you want peace, prepare for war.

National and international security of states

Although the United States has a considerable military force, with a financial commitment greater than that of China, Russia, France, Germany or the United Kingdom combined, the nuclear weapons of the first two countries do not allow for strategic domination commensurate with the ambitions of an indisputable leadership. Donald Trump has decided to unilaterally withdraw from the Intermediate-Range Nuclear Forces (INF) Treaty signed with the USSR in 1987. This was not a direct attack on Russia, but intermediate-range nuclear forces are necessary to contain China's attempts to expand into the waters of the China Sea. Under these conditions, the United States continues to arm Taiwan, because Washington feels that, in the face of China's arsenal, it is partially powerless to defend its regional allies against China's territorial claims. On the other hand, while China does not really have allies in the region, Beijing is now capable of acting quickly in a theater of operations, given the vulnerability of American bases in the Pacific and large American warships to long-range Chinese missiles.

¹⁴⁹ Conference ECCAR, February 17, 2022, Tele-working with documents

Space is also a priority sector for the United States. By creating a military space command, Washington is implementing the "Space Control" and "Space Dominance" doctrines of power research to improve its national security conditions. However, China was the first to land on the dark side of the moon, and Russia still has the technology to conquer space.

Economic globalization implies the growing interconnection of economic actors through the opening of political borders to trade relations, foreign investment and international finance. The sovereign state cedes part of its functions and privileges to international economic organizations (IOs) whose objective is to set the rules of free trade in order to protect multinational firms from undue national state intervention. Globalization is supposed to offer a better worldwide allocation of resources. In 2020, international public organizations still recommend respecting the neoclassical triptych (deregulation, de-regulation, decompartmentalization) applied mainly to international finance but also to national economies, except during periods of pandemic crisis. The result is a growth in financial and economic variables, notably GDP, but at the same time this purely market optimum (Fontanel, Guilhaudis, 2019) leads to worrying results for the future of humanity. GDP or GDP per capita, presented as the alpha and omega of an economy's strength, are aggregates that highlight the capacity to produce, without any reference to global warming, pollution issues, tax evasion, non-market production, programmed obsolescence and territorial or intertemporal inequalities. They become concepts that do not lead to sustainable development (Fontanel, 2022).

In principle, the private sector of the market economy operates within the framework of rules set by national or international public authorities. However, the large production and financial firms exert considerable influence on the decisions of a state and of intergovernmental multilateralism. Having dominant information organs, they value the efficiency of liberalism, they propose technological or legal norms that are favourable to them, they take advantage of the oppositions between national and international public actors to maintain or even increase their advantages and they apply a policy of all-out lobbying, under cover of scientific analyses. The private sector of oligopolistic production is able to influence national governments and parliaments. It apparently defends the belief in a "trickle-down theory", according to which the enrichment of the "first in line" (the richest) would eventually benefit everyone. This is obviously not borne out by modern history. The groups and shareholders of large multinational companies and banks have appropriated most of the growth, thanks to their financial power and their political and ideological connections (Saez, Zucman, 2020, Fontanel, 2020).

International organizations are addicted to liberalism. For the UN, the World Trade Organization (WTO), the International Monetary Fund (IMF), the World Bank and the World Intellectual Property Organization (WIPO), the globalization of markets and the freedom of world finance are the objective foundations of a world economic development capable of eradicating poverty and wars. The state has only a subsidiary role in the economic field, despite some exceptions. The WTO of the powerful has prevailed over the UNCTAD of the developing countries. The IMF and the World Bank have long defended the "Washington consensus", which supported the privatization of public enterprises, the deregulation of markets, the respect of industrial property rules, the refusal of public debt, the application of weakly progressive tax reforms or the liberalization of national financial markets and foreign trade. These principles imposed the pre-eminence of the private sector in the economic field.

Indeed, after the collapse of the Soviet Union, Washington sought to strengthen their power through the multilateralism of the WTO. For Bill Clinton (2000), "to realize the full opportunities of our economy, we must reach beyond our borders and shape the revolution that breaks down barriers and builds new networks... We must be at the center of any global network" (Clinton, 2000). We must be at the center of any global network" (Clinton, 2000). The idea was to extend international trade to all markets, on the basis of the health, environmental and technological codes of conduct defined by the United States.

In these times of pandemic Covid-19, the WHO could have become a major health center available to the whole world, but it is forced to respect international norms concerning freedom of trade, industrial property and the values of the commercial world. Patents are protected under a claimed monopoly. In the context of the pandemic, the vaccine-related fortunes of large multinational firms explain at least part of the movement away from collective protection.

With the control of the media and social networks, the information oligopolies convey the idea that their particular interests are in line with the collective interest. Before the crisis of 2008, private banking organizations in the United States were given the opportunity to "self-monitor" on the basis of banking and financial statistics. After the crisis, it was found that the banks, in order to maximize their profits, had taken foolish risks by making decisions that the application of the self-control system should have prevented. Even today, in order to avoid any new financial regulation measures that the G20 would like to impose on them, the big international banks have grouped their lobbying interests by defining the international accounting standards, applied worldwide (International Financial Reporting Standards, IFRS). One of their main activities is to ensure the tax optimization and evasion of their clients. For several years, the OECD has proposed to limit the exercise of the policy of impoverishing neighboring countries ("beggar thy neighbor"), but on the issue of tax havens, private interests have still managed to delay the control of such lucrative operations (Fontanel, 2016). The OECD has been working to find a solution acceptable to all states, but the timidity of the measures taken will not, in the long run, improve the gravity of the situation.

Globalization has not eliminated international economic sanctions against several countries, including Russia. Sanctions can be either unilateral when a single country applies them, or multilateral when two or more countries are involved. They do not necessarily imply future military action, they are a warning and sometimes a punishment that the citizens of the country will have to bear. Natural or organized scarcity is a factor in future conflicts. For example, rare earths have exceptional natural qualities for making clean electricity and for producing new information and communication technologies. However, they have three disadvantages: firstly, they are available or listed in limited quantities compared to the potential demand; secondly, their extraction is both costly and highly polluting. Finally, most of these metals are poorly distributed in the world, to the great advantage of China, which is taking advantage of this monopoly to attract many high value-added activities dependent on rare metals. Economic, political and military conflicts can arise from this scarcity and from the balance of power between states. The control of technologies also poses a problem. In military terms, the production of most sophisticated weapons depends on the purchase of rare earths from China. This dependence is undoubtedly an opportunity for military conflict, since all modern technology is based on these rare materials, which put security and economic equilibrium at great risk.

An international blockade against a state forces the victim country to live in autarky. It is the equivalent of an act of war, especially when the country does not have natural and energy resources. The freezing of assets and foreign investments directly affects national property and financial assets invested or saved in the country or countries that initiated the action. This policy is not always effective, as secret accounts in tax havens have multiplied in recent years, even in democratic countries (Fontanel, 2016). States can act by applying several coercive measures against rogue states, as is the case today with Iran, Russia, Cuba, Venezuela, North Korea or Syria, for example. Several economic weapons are then made available to the most powerful states, provided that other countries do not disrupt these actions by, for example, replacing the embargo or boycott. In this context, the United States engages in secondary sanctions. The extraterritoriality of economic and trade sanctions has been an American exception since the adoption of the Helms-Burton and Amato-Kennedy Acts of 1996. U.S. law often prevails in the expression of international law, particularly on issues relating to the application of international sanctions decided by Washington, cases of corruption of public officials abroad and taxation of non-resident American citizens (FATCA). All companies or banks, American or not, which do not respect the sanctions decided by the United States, are liable to heavy financial penalties if they want to continue to operate on American territory.

A cyberattack is triggered by a computer device whose purpose is to carry out a malicious act against the economic, political or military components of a country, in order to weaken its defense system, to intervene in the expression of its democratic choices or to disrupt the normal functioning of the country's businesses. It is mainly about harming a country by stealing data (military, industrial or political secrets, for example) or damaging or destroying the functioning of information systems. It is an effective weapon of the future.

The strategies of economic conflicts in military threat concern the implementation of retaliatory customs duties, the "monetary" conflicts leading to a policy of beggar thy neighbor or the refusal of membership or the recourse to the Office of Dispute Resolution (ORD) of the World Trade Organization (WTO). The state can also protect certain strategic sectors from exacerbated competition that could jeopardize national independence or the strength of an alliance, such as Germany's choice of the North Stream project to supply gas from Russia to Germany, which could make Berlin dependent on pressure from Moscow for all its political and strategic decisions. In Washington's view, companies, especially European ones, that would participate in this project would be sanctioned for participating in a project that undermines the security of NATO members. They will find themselves under threat from the United States because of the sanctions voted against Moscow last July, as part of the Countering America's Adversaries Through Sanctions Act (CAATSA) of June 15, 2017, which aims to sanction Russia's activities in the energy field. The just war of St. Thomas Aquinas has been evoked by Washington as a justification for its warlike interventions, especially against international terrorism, but also the UN Charter establishes that peace at all costs is not viable without justice and security. Peace is not only perceived as the absence of war, it depends on a political will to eliminate the fundamental causes of war, namely poverty, underdevelopment, respect for human rights, but also the effects of domination. Several strategies can be put in place, from impoverishment through the effort of preparation to a violent war, through the strategies of rupture or international punishment or those of external domination and internal control (Fontanel, 2019). In this framework, cyber attacks have a future. They can corrupt the normal functioning of national economies, but also obtain strategic military secrets of the utmost importance. The effects of malware are not always perceived as destructive, at least in the short term. States must protect critical infrastructures (energy installations, water supply, transport networks, telecommunications).

However, in terms of health, the States have almost all failed in the face of the Covid-19 pandemic.

The security of citizens. The European lessons of the Covid-19 pandemic

The Covid-19 pandemic shock highlights the flaws of the globalized economic system, it further weakens the already creaking cogs of social consensus. Its violence throws a raw light on the inability of international markets to self-regulate, the permanence of inter-state conflicts, the degradation of essential public services and the societal inequalities of income, wealth and power of citizens. Confinement has revealed the other side of liberal globalization, with its share of unemployed, the rise of precariousness and misery. With the rise of telework, the world's dependence on GAFAM is becoming particularly worrying. The globalist doxa which advocates the perfect circulation of people and products in the world is clearly challenged.

- First, as soon as the first alerts were issued, countries sought to close their borders, despite international agreements. Globalization was no longer happy. The world as an entity no longer had citizens, each state sought not only to free itself from tourism and exiles, but sometimes established barriers within a country itself, even according to the age pyramid. Each individual is attached to a country, to a region, perhaps later to his age, to assert his rights and his space of action in a pandemic situation.

- Secondly, international solidarity has not been clearly present, with each State engaging in its own strategies, without excessive coordination. Inter-state aid has not been a priority, to say the least, even though the spread of the virus is international.

- For Graham Allison (2019), in their quest for global political and economic leadership, the risk of war between China and the United States is becoming significant. The dangerous dynamic that is triggered when an ascendant power seeks to overtake the leadership of another power leads to the famous "Thucydides trap". Neither protagonist in this duopoly wants the conflict between them to become a war, but unexpected events and third parties often lead to increased tensions. "It was the fear inspired in Sparta by the rise of Athens that made war inevitable. In this context, Europe is perceived as a buffer zone, one that can reduce or aggravate the risk of war, while being progressively vassalized economically, politically and strategically.

- Finally, it is time for Europe to reindustrialize for the essential products of its citizens' lives. Without a strategy to return to a true independence of choice for its citizens in a democratic space, Europe will be dependent on investments from Chinese firms, it will be monitored and controlled by Sino-American technologies and its political, social and medical choices will be limited by a form of autarky insufficient for essential products.

Under these conditions, it is necessary to question free trade as practiced by the World Trade Organization and to focus on the domestic market, the circular economy, the production of essential goods and services and the mastery of modern technologies and production. If a more balanced dialogue with Washington is to be resumed. European nations also do not sufficiently emphasize the own shortcomings of their democracy, which today gives voice to citizens solely on the basis of information provided by media owned by a few people. Such a system is more akin to a plutocracy than a true democracy.

National security cannot be limited to the military, it also includes health, education, industrial risks, protection of heritage, natural resources and the collective quality of life of citizens. The public authorities have forgotten that the products and services essential to human survival must always be available within the country, either in stock or in immediate production capacity. This is the case for food products, medicines, collective and individual protection instruments, sanitary equipment, and rules concerning air and water quality set "a minima" by international organizations. The same applies to the control of vital technologies (especially digital). In the event of a threat of cyberattacks, how can the European Union protect itself from the power of the Gafam in the service of the United States or from malware coming from Russia or China? Friendship between peoples often vanishes in conflicts of economic interests and power relations. However, a pandemic requires disinterested collective action and solidarity that states, dominated by private interests, have difficulty promoting. When a pandemic occurs, the State finds itself accountable for a greed linked to a debt owed or increased by resources lost in tax optimization and evasion systems.

In the context of the Iranian nuclear affair, the White House has imposed its law on the rest of the world, with violence, despite appeals to a WTO that still does not dare to condemn the country that was its sponsor under the baptismal font of free trade. China deploys a capitalism at the orders of the State, without respect for human rights, within the framework of a national economy controlled from within by members of the Communist Party. Europe's weakness stems from its divisions, different political and commercial objectives, nationalist ideologies and narrow national conceptions. The governments of the member countries still do not have a common benevolent solidarity.

Democracy remains, but the power belongs to those who control the financial means, the information, and even the administrative and political cenacles. Multinational companies have a considerable influence on public institutions, because they have the power to finance electoral campaigns, to control information (television, newspapers, internet, government data) and to lobby effectively in all national and international bodies. They can afford the best intelligence to defend their interests, thanks to the transfer of their affiliates from the public to the private sector and vice versa. The new digital technologies create daily dependency and are able to actively participate in the decision and election processes all over the world, according to the interests of their producers and the Nation that hosts them.

Under these conditions, democracy is in crisis, and a plutocracy seems to be taking hold all over the world. In the 21st century, the wealthy are paying proportionally less and less tax. Inequality has increased over the last two decades. The "tax haven" states are commercializing their sovereignty. They offer multinational companies significant tax advantages. Moreover, these are sometimes the same States that, in the name of financial rigor, do not wish to support the countries that they have sometimes relieved of their biggest taxpayers.

The ecological catastrophe is underway, close to the tipping point. The liberal economic system is incapable of taking the radical measures that are needed. "The terrible thing about catastrophe is that not only do we not believe it will happen [...], but once it has happened it appears to be part of the normal order of things" (Dupuy, 2014). Basically, in the face of climate change, ocean pollution, and the hazards of nuclear power, genetic engineering, or pandemics, humanity

anticipates potential disasters, but prevention fails because the procedures that allow us to avoid the worst project us into a possible, but distant and unactualized world.

The "enlightened catastrophism" assumes that man is in the worst cases scenarios as if it were certain. It is a question of anticipating the retroactivity of the judgment in order to find a resilient link between the present and the future and to escape the recurrent tendency of state policies to reproduce identically the choices guided by the dominant economic interests. All states and all humans are concerned. This is perhaps a decisive moment in which political, economic and societal cleavages must quickly find negotiated solutions, before the world is set ablaze by the power of the sun or by virulent attacks from firearms or against networks permanently suffering from uncontrollable malware.

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20. Public debt and Covid-19¹⁵⁰

Before the pandemic, world's public debt was considered excessive, mainly by the standards set by IMF, the European Union and the euro zone. Today, with the pandemic Covid-19, world economy is facing an economic crisis that only the public authorities can contain, at least in the short term. In France, the Arthuis Commission is proposing to control public debt and return to debt reduction by the end of this decade. However, the economic stakes go beyond the crisis caused by the pandemic. It is also a question of preparing a different society, one that is less unequal and capable of engaging in sustainable economic development in the face of global warming. The concern is more about the excesses of international financial speculation, growing social inequalities and living conditions on Earth, which threaten the economic and social future of new generations much more than public debt.

The morality defined by the political system of the market economy is based on the respect of debt repayment. It is about managing public affairs as a good "father of the family", this is the liberal doxa. When the debt increases, a restrictive policy must be implemented because a high level of public debt is dangerous and harmful for the following generations. Public debt would be a form of betrayal of future generations by today's generation. Public debt can be illegitimate when it is contracted by an undemocratic country or for questionable purposes, notably because of the expensive lifestyle of the state or if it leads to crowding out effects to the detriment of the private sector. The financial debt of the state is quantifiable, time-bound and costly. It has to be repaid, or else suffer a penalty from creditors, especially the financial markets. Even when the country is in crisis, when a high level of unemployment persists, it is necessary to return as quickly as possible to a balanced budget.

Talking about public debt without highlighting the specific role of public actions in relation to private activities and without analysing the reasons for its appearance or its development leads to counterproductive and often absurd economic policy proposals. Firstly, it must be noted that private economic agents have a limited time horizon, unlike a state, which is not destined, to disappear and which can hardly go bankrupt. The latter can therefore repay its debt over long periods by "rolling over its debt", i.e. by borrowing to repay its debts. Moreover, public debt helps to regulate the economy in times of crisis. Finally, financial capitalism encourages the growth of inequality and injustice. It is often this type of operation that impoverishes all citizens for the benefit of the privileged few. When unemployment rises, the liberal doxa continues to advocate a restrictive policy under the pretext that a high level of public debt is dangerous and harmful for the following generations.

The state does not have to manage its affairs "as a good father", because public debt also has a political connotation, one that makes it possible to define what the national life of citizens should be. The choices are political in terms of expenditure, resources and debt. Several methods of analysis should be put in place to reason about the advantages and disadvantages of public debt. What is the capital expenditure on roads, community facilities, and education? Who pays the taxes and how? Who should finance the debt, the financial markets or the citizens directly? In 1992, the Maastricht Treaty established the rules: the public debt and deficit cannot exceed 60% and 3% of GDP respectively. This is a political choice, which has no theoretical basis.

¹⁵⁰ CESICE, Université Grenoble-Alpes.

In 2021, these European rules have been shattered, because due to the Covid-19 pandemic, all economic agents call for the public effort. The same has been true for the United States since the election of Joe Biden to the White House. However, when the pandemic clouds move away, the liberal economy will again call for wage moderation and debt repayment, particularly in favour of private financial institutions, which today dominate the functioning of a market economy that is also accommodating rules and laws that protect capital (such as patent regulations or the uncompromising maintenance of monopolistic competition, increasingly monopolistic and less and less competition, such as GAFAM), often to the detriment of labour.

I. The ambiguous, sometimes perverse, but always political nature of public debt indicators

To measure the importance of public spending, the European Union measures its ratio to GDP. This indicator provides information whose interpretation is often ambiguous. The same applies to public debt, which is always compared to GDP, but the interpretation of this ratio encompasses very different realities in different countries. Accounting analyses of the relationship between a country's debt and its assets would be more meaningful and judicious. The emphasis on public debt by international institutions, through the so-called Washington Consensus, has been catastrophic for the national economies of many developing countries. Finally, government debt is not an indicator of government imperialism.

The ratio of public spending to Gross Domestic Product (GDP)

In France, public spending represents nearly 56% of GDP. This statistical observation is not very judicious, however, because it suggests that the private sector ultimately receives only 44% of the wealth produced each year. Family benefits account for 20% of GDP, but are not spent by the state, but by the recipients. Similarly, public services such as education, justice, police and national security are necessary for the overall economic system to function. Public revenues are not just levies for the "lifestyle" of the state. They are sometimes used directly to finance household expenditure or to support private production, while providing a public service. The financing of schools or hospitals does not constitute an amputation of private sector production, as is too often thought and said. Non-market production comes from a political decision whose cost is socialised by ex post payment through taxation. The service is thus distributed almost free of charge to citizens, according to the needs expressed by Parliament, which represents the citizens. It is on this basis that the state will then levy the tax. There is therefore a pre-financing of the production of the service, and then the recovery of the costs incurred. With market production, the profit of the owners and shareholders is added to the real cost for the buyer.

In fact, the state plays a role as a binding prescriber, but above all as an intermediary in the redistribution of its resources. In addition, the state produces non-market services (e.g. health care, education, justice), which are productive and increase the wealth of a country without being priced on a market. It represents nearly 17% of GDP in France, but this sum is largely undervalued, since the State does not pay itself dividends. The difference with market goods and services is that the resources to finance non-market goods and services are financed by compulsory levies. The content of public spending is a societal choice, based on collective security, the fight against poverty and inequality and the education and training of citizens.

The idea of high debt may indeed lead potential investors to disengage as new creditors. However, France's indebtedness, for example, is not "perverse". It is true that slightly more than half of the debt is located abroad, but this is also a sign of the confidence of operators. Moreover, all the debt is denominated in euros, which eliminates exchange rate risks. Finally, restructuring procedures would be open to it in case of major risks, linked to an unexpected international economic crisis.

The same commonly used ratio of public debt to GDP covers very different national economic realities

It is not very meaningful to link public debt (a stock) to GDP (a flow), unlike the use of the debt burden, even if this order of magnitude gives a general indication of the potential of future debt in

its evolution. In a situation of underemployment, a public spending policy increases economic growth and if its effects are clearly positive, despite the increase in the public deficit (PD), it is more bearable in the long run if the resulting rate of growth of GDP is higher than the rate of growth of the debt. It should be remembered that macroeconomic figures sometimes overwhelm the finesse of the analysis. It is obvious that increasing military spending in a country without a weapons industry will have clearly less interesting effects than investing in roads, urban planning or means of communication. Depending on the level of effective demand, a positive development of public spending can lead to an increasing inflation rate, which then limits the cost of debt. The richest people do not want inflation, because it reduces the real value of their claims.

France's public debt can be compared to that of other countries, but this does not prejudice the quality of the economic policy conducted. The notion of low or high debt depends on the history of a country and the behaviour of its citizens towards this situation. There is no per se maximum level of public debt and studies by some of the leading economists in this field often show the effects of manipulation of governments and public opinion¹⁵¹. The conclusions of Reinhart and Rogoff's paper showing declining growth rates with debt above 90% influenced the policies of governments and international organisations, until audits showed complacent omissions of figures and statistical errors. Indeed, the critical level of debt is not easily determined, as several criteria must be taken into account, including the qualities of the investors and the nationality of the creditors.

For the 2600 billion of French public debt expected in 2021, slightly more than half of this aggregate is held by foreign creditors, a quarter by institutional investors, the rest by French credit institutions and insurance companies. When domestic bodies finance public debt, when the State repays domestic residents receive the sums due and reinvest them in the national economy. If Japan has a public debt of 240% of its GDP, Japanese citizens and residents mainly hold the securities, which do not raise any difficulty as to the effects of repayments on the national economy¹⁵². The situation is different if this debt is denominated in foreign currencies on the financial markets, in view of the changes in the value of the currencies and the flight of capital on repayment. In France, the majority of Treasury bills are negotiable, denominated in euros, so the interest rate paid by the State depends on the financial markets.

The European Central Bank (ECB) is independent of governments, with the primary objective of price stability (standard 2% price increase per year). Its independence is guaranteed by the European Treaties, which prevent it from directly financing governments, although the ECB can buy public debt indirectly through quantitative easing. Although Mario Draghi has agreed to engage in a policy of quantitative easing in the face of the pandemic, he is nevertheless strongly criticised within the Eurozone itself. The government auctions its treasury bills to primary dealers. The debt is then traded on the second-hand market. The markets anticipate and take risks according to the expected returns. The rates paid by the State will depend on the demand from private operators and the risk perceived by institutional investors and rating agencies.

Thus, the community of traders influences the economic policies of states, with the notion of risk and return. In the framework of the euro zone, the States do not control this currency and different interest rates are assigned to the member countries according to the policy undertaken by the States. There is therefore a political and ideological constraint in the European treaties that makes the policies of the states particularly controlled and rigid. In fact, a state's ability to repay depends on the potential of its economy, the strength of its tax system, its annual debt burden, its financial and non-financial assets, its ability to borrow from its citizens and from the financial markets and to "roll over its debt".

Public debt should be compared to national assets

In 1992, the Maastricht Treaty established the rules that public debt and deficit must not exceed 60% and 3% of GDP respectively. This is a political choice, which has no theoretical basis.

¹⁵¹ Reinhart, C., Rogoff, K. (2010), Growth in a time of Debt, *American Economic Review*, n°100.

¹⁵² Today, in Europe, government debt securities can no longer be held directly by individuals.

Moreover, the ratio of this debt to GDP doubly emphasises a concept that has progressively lost its accuracy in measuring real national market production and its capacity to "estimate" the real "monetary" value of non-market services¹⁵³. To come back to the accounting reasoning, in front of the liabilities, we must analyse the assets. The French economy has a positive net wealth, established at 15,500 billion euros (Table 1).

Table 1 - France's net wealth (in billion euros)¹⁵⁴

Assets	Non-financial companies	Financial companies	Public administration	Households	Wealth France
Non-financial assets	4998,6	318,4	2116,4	7968,9	15.474,65
Financial Assets	9546,3	15292,0	1379,1	5290,2	31.592,5
Total Assets	14544,9	15610,4	3495,5	13259,1	47.067,1
Financial liabilities	11823,4	14888,2	3192,5	1651,5	31.585,0
Net Worth	2721,5	722,2	303,0	11607,6	15.482,1

The share of public assets is certainly declining, notably because 'profitable' services have been privatised, often to the detriment of the community, but it is 4 to 5 times greater than the debt. Moreover, the weight of the debt is not to be neglected, but often the operations it engages in prepare the future of future generations. As it is, future generations will benefit from sustainable public investments and important public services, even if the policies inspired by the liberal doxa tend to diminish their impact. Greece, which was forced by the Troika (IMF, ECB and European Commission) to repay a significant part of its debts, has experienced an economic and social crisis of great violence.

The focus on public debt has been catastrophic for developing countries

It was because countries were heavily indebted that international organizations imposed neo-liberal policies on developing countries to open up their economies to globalization and to privatize public enterprises in order to clean up their economies¹⁵⁵. The famous Washington Consensus has placed the poorest countries in a situation of guilt, while the responsibility of creditors is also strongly engaged. Today, countries are still obliged to repay debts for operations that have not benefited the local population¹⁵⁶. "The IMF and the World Bank have long defended the "Washington Consensus", inspired by the Chicago school, based on the principle of "Trade, not aid". It included ten commandments among which the states receiving IMF financing had to privatize public enterprises, deregulate markets, accept industrial property rules, have a balanced budget without public debt, apply a weakly progressive and extended tax reform (favorable to the richest) or free up national financial markets and foreign trade. These principles imposed the pre-eminence of the private sector in the economic sphere. However, the concept of the private sector amalgamates very heterogeneous situations.

This policy has had catastrophic effects for the least developed countries and the imposed privatization process has allowed multinational firms to appropriate national public goods, notably

¹⁵³ Guilhaudis, J.F. and Fontanel, J., 2019. Les effets «pervers» de l'usage du PIB pour la décision politique et les relations internationales. *Annuaire français de relations internationales*, 20.

¹⁵⁴ Insee (2018), Comptes de la Nation 2018 (base 2014), Insee

¹⁵⁵ Fontanel, J. (1995), Organisations économiques internationales, Masson, Paris.

¹⁵⁶ Stiglitz, J. (2002), La grande désillusion, Fayard, Paris.

raw materials, at lower prices. After the 2008 crisis, the IMF abandoned this policy, recognizing the importance of public goods for the economic development of a nation. However, the interests of the strongest are still defended primarily by intergovernmental multilateralism¹⁵⁷.

For Africa, the effects of the pandemic are likely to be catastrophic, with the threat of disease, the danger of containment, the collapse of commodity prices and the tourism industry, and the collapse of financial flows and the rise of an informal economy of day-to-day survival. Unlike developed countries, African countries have little access to financial markets, even for Nigeria, Angola or South Africa, the three countries that are important economic engines of the continent. On 15 April 2020, the G20 agreed to suspend the repayments of 77 low-income countries, but the temporary nature of this agreement was underlined, for the equivalent of 14 billion dollars.

The European Court of Justice now considers that an issuing state may be tempted to renegotiate a principle if unforeseen circumstances limit the state's financial capacity, which could ultimately affect the human rights of its citizens. Thus, under certain conditions, private creditors cannot invoke the Vienna Convention against a state that imposes losses on them. It is therefore possible to rely on this case law to help citizens in serious difficulty. Creditors also have a responsibility in the loans they offer.

Public debt is not a reliable indicator of government incompetence

When the subprime system (variable-rate mortgages granted to customers with low creditworthiness) and the boom in securitization and derivatives led private operators to take on more and more risk, a simple 1% interest rate increase decided by the US central bank led to the collapse of the housing bubble in 2007. This was followed by the banking crisis in 2008, the effects of which spread throughout the globalized world. This private debt based on the famous "too big to fail" principle led to massive state intervention to prevent the system from collapsing. The result was the privatization of gains and the socialization of losses. States could have asked financial managers to take measures to limit the risks to all national economies. In 2008, the private sector appealed massively to the state in the subprime crisis and then shifted the financing of the economic recovery to public budgets and debt. Instead, private debt became sovereign debt and it is the citizens who have borne the cost of the crisis with austerity policies, reduced public spending and increased precariousness. The example of the Greek debt is indicative of this evolution, with creditors remaining firm on repayments, with the help of the Troika (European Central Bank, European Union and International Monetary Fund). Greece was put under trusteeship in July 2015, which led to large budget cuts in public hospitals, national education or civil servants' salaries. In Greece's case, it was not so much the size of public spending that was responsible as the high interest rates charged in previous 'bailouts'. The money lent was mainly used to repay private creditors (French and German banks), which were partly responsible for the debacle.

Debt can also come from gifts to the private sector in the area of taxation or public spending. Since 2018, the single flat-rate tax (PFU) on capital income has been taxed at 30%, which hardly corresponds to the progressiveness of the tax. The same applies to the abolition of the solidarity tax on wealth, which benefits the richest. Similarly, the effort to support private activity has not always been rewarded with the best intentions of companies. The aim of the Tax Credit for Competitiveness and Employment (CICE) was to give companies room to operate in order to invest, prospect for new markets, innovate, promote research and innovation, recruit, restore their working capital or support the ecological and energy transition by lowering labor costs. 20 billion per year, over the period 2013-2015, 110,000 jobs would have been preserved, i.e. an annual cost of 150,000 euros in favor of the private sector, whereas an average civil servant job costs 58,000 euros per year¹⁵⁸. The same applies to the Research Tax Credit (CIR), whose possible fraud and the Senate highlights excessive advantages granted to large companies¹⁵⁹. Finally, the fight against tax

¹⁵⁷ Fontanel, J. (2021), *Mondialisation privée et impasses du multilatéralisme intergouvernemental*, Question internationales, Janvier-Février.

¹⁵⁸ Fontanel, J. (2021), *Mondialisation privée et impasses du multilatéralisme intergouvernemental*, Question internationales, Janvier-Février.

¹⁵⁹ Berr, A., et al. (2021) *La dette publique. Précis d'économie citoyenne*, Le Seuil. Paris. Pp. 115-129.

evasion would make it possible to solve all or part of the public deficit, especially if international agreements could be put in place to avoid beggar-thy-neighbor policies¹⁶⁰.

II. Public debt, an instrument of economic policy and social choice

All public debt is not good for a country's economy, especially when it concerns corrupt governments, dictatorships that use these funds to set up or maintain an autocratic or despotic system, or politicians who are reluctant to manage public funds rigorously, favoring national or international private interests and demonstration effects. In this deleterious context, creditors have an important responsibility in offering credits to the governance of a state that is unconcerned with the use of its finances by the citizens. In the event of a change of regime towards a democratic and non-corrupt state, the contestation of debt repayment becomes legitimate.

Economic growth has become a norm, an implacable necessity. It is supposed to be spread over the whole population, with the "trickle down" theory. However, the commitments of the State encourage liberals to question the rules and social clauses of national economies. When attacking the social security deficit and the need to reduce it, they demand a reduction of its action rather than an increase in taxes for the wealthiest populations. This reduces the strength of solidarity needed by a country and democracy itself is called into question. In fact, social policies are put under the control of the financial markets, while the overall salaries of civil servants are still being progressively reduced with index point increases below the rate of inflation for almost 10 years. The state has a duty to exercise counter-cyclical action when the national economy is in crisis.

The political interpretation of the debt, a societal choice

Three major solutions envisaged by heterodox economists are not recognized by the liberal doxa. However, these proposals are not accepted by the capitalism rules.

- The cancellation of the debt held by the ECB would mortgage the future; it would make France lose credit with international investors and would call into question the credibility of the ECB, generating a major political crisis with the countries of the European Union.

- Perpetual debt makes it possible to issue debt without a time horizon, in order to protect against the risks of rising interest rates. However, the demand for this type of investment is too low; instead, it would be better to retain the extension of repayments over time.

- The government has considered "ring-fencing" the part of the public debt linked to the pandemic crisis by allocating a dedicated tax resource to its repayment. This solution echoes Germany's adoption in July of a plan to repay its Covid debt over twenty years, but in essence it does not resolve the issue of the sustainability of public debt in the medium and long term.

However, the rules of the liberal economy, namely the impossibility of an increase in public debt, are still advisable. It is therefore a question of controlling (reducing) expenditure, targeting its evolution at a lower level than that of public revenue. This reduction in debt is difficult to envisage in the short term, but the budget for 2030 should lead to an intensification of efforts to return to a balanced public finance.

The public debt includes all the debts of all the administrations, the State, the municipalities, the regions or the social security system. Of course, one must take into account the structure of the debt, its dependence on the interest rates set by the markets and the life of the debt (almost 8 years for France, on average). The debt can be constantly renewed, which is called "rolling the debt". As soon as a debt has to be repaid, it is borrowed again. It is therefore a question of maintaining the confidence of creditors, in order to negotiate low but reassuring interest rates. Nevertheless, this dependence on international financial markets is a cause for concern. Until 1980, interest rates were much lower in real terms than economic growth.

Since the Reagan revolution and the application of the Friedmanian monetarist policy, interest rates have become much higher than growth rates, thanks to the anti-inflation policy, the

¹⁶⁰ Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris. Fontanel, J., 2001. *L'action économique de l'Etat*. Editions L'Harmattan. Paris.

drastic reduction of controlled interest rates and the requirements of the Maastricht Treaty that enshrines the independence of the "Banque de France" and the dislocation of the Treasury circuit. Citizens no longer have the right to borrow directly from the state, which is a considerable advantage for the financial markets, which obviously charge for their services. The central bank can still influence the interest rate on commercial bank loans. When French politicians wanted Paris to become a major financial center attracting foreign capital, the Treasury circuit was dismantled and the fight against inflation became the 'unquestionable' rule.

The government could have chosen to fight unemployment first and for stronger state support for public services. The current situation is therefore the result of a political choice that favours the economic "decision-makers", those who, through the "trickle-down" theory, were indirectly in charge of the wealth of all citizens. In fact, the interests of a few were thus justified in the name of a very questionable collective interest, especially when the incomes of the middle classes in France, but especially in the United States, have grown very little over the past forty years, unlike those of the highest incomes (the famous wealthiest 1% in 2000, the 0.01% in 2021).

Debt is only a burden on the national economy if it is managed according to the liberal doxa. Debt finances public services, especially for high-risk services whose profitability, at least in the short term, is not guaranteed. When the action of the state is contested under the pretext that its economic actions lead to 'crowding out', at least in financial terms, the importance of public investments that are useful for private economic and financial activities are obviously minimized or more generally forgotten. This is the case for roads, public facilities, schools, hospitals, justice or police, all public services that favour the economic action of private entities. Moreover, to consider that without public debt interest rates would be lower and would allow many companies to invest is today an untruth, since the very low level of private investment is rather based on the weakness of demand anticipated by companies, at a time when interest rates are particularly low, even negative in constant rates.

The exogenous public expenditure multiplier and accelerator

The level of debt depends on the economic situation of a country. This is not the only basis for determining whether it is good or bad debt. The action of all states to combat the disastrous effects of Covid on national economies underlines this point, "whatever it takes". If spending is cut, there is less economic growth and therefore less tax revenue, which makes it even more difficult in a "snowball" situation that leads to economic crisis. We should not forget the important role of the multiplier and the accelerator. The higher is the multiplier, the more effective the state's action. Today it is lower in France than in 2000 and even lower than in 1960, but it is clearly higher than 1. Moreover, it is always preferable to reduce expenditure rather than resort to tax cuts for the richest that are able to save.

Fiscal policy is counter-cyclical if there are agreements between states, especially European ones. In economic history, increases in public spending are often closely linked to periods of recession. The policies advocated by the IMF to reduce spending are now being challenged within the organization itself. The accelerator effect of investment can also be deployed if companies believe that the increase in activity will be sustainable and that it is therefore appropriate to invest. Economic activity must be supported until full employment is achieved. Finally, we must take into account the stabilizers that mitigate the effects of an economic policy to the downside or to growth. Austerity is socially unjust and often ineffective. Reducing hospital funding is not good for those who cannot afford private clinics. With the policies of governments in recent years, public hospital beds have decreased and private beds have increased. Austerity is bad, especially when full employment is not achieved.

Finally, if the interest rate on public debt securities is lower than the rate of growth, the holders lose comparatively less money than the growth of the country's wealth. Since the beginning of the 21st century, interest rates have always been higher than the growth rate, but at relatively low levels, but it is a safe investment, offering power over governments.

Debt has sometimes been used to reduce social inequalities

Debt can be particularly useful and socially justified. In France, the public deficit is mainly explained by public investment (60% by local authorities). Operating expenses do not increase the

state deficit. "Thus, the public debt appears for what it really is: a democratic issue"¹⁶¹. However, public debt is held by the richest economic entities. Public securities offer those who can afford it a security of money invested, as well as a comfortable return. The French generally invest little in financial assets, 88% of their value is held by the wealthiest 10%. In the US, the richest 1% owns half of the US public debt. Public debt is therefore not so difficult to live with for the richest people who get income from it. In fact, the state's choice (and it is a political choice) is to borrow from the rich, rather than tax them. In these conditions, to say that with the public debt the state puts the burden on the next generations is at least partially inaccurate, since the heirs who own the resident public securities will always be remunerated. From a financial point of view, the question that arises is also to know the foreign public debt held by French citizens or residents. From an economic point of view, the debt will undoubtedly have enabled new investments to be made from which future generations will benefit directly or indirectly.

Public services make it possible to limit the effects of the growing inequalities made possible by an economic globalization so favorable to the financial system, large companies and their owners. After taxes and social benefits, the gap between the disposable income of the poorest and the richest is halved¹⁶², without taking into account the "equalizing" potential of national education or national security for the present and future of the beneficiaries. The financing of the state is based on proportional rather than progressive taxes. It is clear that there is a growing need to restructure the tax system, which today is retrograde in relation to post-war social commitments. Since 2016, the richest and the ultra-rich have seen their disposable incomes increase significantly, unlike the incomes of the middle classes. Yet the historical periods that marked the strongest national economic development were often those with the highest marginal top taxation. It is necessary to call into question the tax niches that only serve those who can pay tax but are part of a "reduction" or "exemption" niche. Finally, it is necessary to introduce an environmental and ecological tax system.

Public debt as an instrument for societal change

In the face of the climate emergency, new infrastructures will have to be put in place to achieve the ecological transition. Only the State can, directly or indirectly, implement them, notably through debt. It is true that companies will be led to change their ecological behavior through coercion or financial incentives, but firms in a market economy are too concerned about their returns from financial financing to commit themselves to an operation that is nonetheless crucial for the future of our children. Whatever people's opinions, if there is a burden to be feared for future generations, it is more the issue of global warming than that of debt, which is only a potential problem for creditors (who could be blamed for not having taken the right measures to avoid an ecological catastrophe in such a short time). Certainly, the idea of high debt may lead potential investors to disengage as a new creditor. However, France's indebtedness, for example, is not "perverse". Admittedly, slightly more than half of the debt is located abroad, but this is also a sign of the confidence of operators. Moreover, all the debt is denominated in euros, which eliminates exchange rate risks. Finally, restructuring procedures would be open to it in case of major risks, linked to an unexpected international economic crisis.

In this context, it is preferable to renegotiate with creditors and maintain the citizen force of social spending. The issues of cancelling sovereign debt securities held by the ECB (Germany obtained a 50% reduction in its public debt in 1953, with a rescheduling of payments) or the "monetary helicopter" were raised. The first solution provides the state with additional resources to undertake a new ecological restructuring of the economy, whereas the second proposal, which leads to a monetary issue intended to support demand, hardly makes it possible to imagine a future other than that proposed by global warming. To get out of the debt crisis, fiscal policy is necessary; it must direct major investments and the social and societal responsibilities of all economic actors

¹⁶¹ Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris. Fontanel, J., 2001. *L'action économique de l'Etat*. Editions L'Harmattan. Paris.

¹⁶² Brunner, A., Maurin, L. (2018); Impôts et prestations sociales réduisent les inégalités de revenus de moitié, Observatoire des Inégalités, 16 janvier.

towards the end of an economic development that calls into question the sustainable living conditions of humanity.

In some cases, debt and its burden could be considered illegitimate when the debt becomes unsustainable and the creditors are also responsible. For a state, it is first of all a question of getting out of dependence on the financial markets, which are then in a position to sanction the economic policy of a state and ignore its democratic functioning. However, the European treaties remove a great deal of flexibility from state action by prohibiting direct financing by the ECB, with a view to prohibiting a state's access to ECB payment facilities. It took the commitment of Mario Draghi to guarantee public debts at the time of the pandemic. The promotion of deficit monetization by the central bank is recommended by Modern Monetary Theory, which considers that a state is monetarily sovereign when it issues its currency, determines its unit of account, sets its legal obligations and incurs debt in that currency. This only applies to the United States, which has the exorbitant privilege, despite the policy of benign neglect, of being the basic international currency. We should probably also rely on the targeting of savings and their remuneration, in order to avoid the erratic shocks of speculation whose individual greed leads to unsustainable collective economic and social crises. It is therefore necessary to renegotiate the treaties, which may have been useful in a specific situation, but now their content creates more problems than solutions to resolve the crises.

“For Josef Stiglitz¹⁶³, the so-called trickle-down theory of the effects of economic growth and development on the poor is wrong. In the absence of specific government action, income and wealth gaps only increase, creating dissatisfaction that can lead to social movements that challenge the very functioning of the market and the respect of the rights and obligations of individuals and corporations. On the contrary, the development of income and wealth inequalities is an essential, even determining cause of economic crises”¹⁶⁴.

For Deleuze and Guattari, capitalism is schizophrenic¹⁶⁵. "Lack is arranged and organized in social production. It is produced by the instance of anti-production that falls back on the productive forces and appropriates them. It is never primary. Production is never organized according to an anterior emptiness, it is the lack that comes to lodge itself, (...) to propagate itself, according to the organization of a prior production. This is the art of a dominant class, this practice of emptiness as a market economy: to organize lack in the abundance of production, to make all desire fall into the great fear of lack, to make the object depend on a real production that is supposed to be external to desire (the demands of rationality), while the production of desire passes into fantasy (nothing but fantasy)¹⁶⁶. Scarcity is organized as a condition for maintaining the system and its privileges. Economic science camouflages the political character of the economy¹⁶⁷. The capitalist accumulates for profit and power, he never has the idea of serving the general interest¹⁶⁸.

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¹⁶⁴ Fontanel, J. (2021) ; Public debt as a political opportunity for national economy ; Pax Economica, Université Grenoble-Alpes, March 2021.

¹⁶⁵ Deleuze, G., Guattari, F. (1975), *Capitalisme et schizophrénie ? L'anti-Œdipe*, Les Editions de Minuit. .

¹⁶⁶ Idem. P. 35.

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21. Success, threats and potential dangers of GAFAMs¹⁶⁹

GAFAM (Google, Apple, Facebook, Amazon, Microsoft) develop and use operating systems, computer equipment, telecommunication networks and data centers. They work on the Internet, with great creativity, but they do not have the paternity of the modern Internet, which was originally a public good, managed, for strategic military purposes, by ARPA's ARPANET (Advanced Research Projects Agency), part of the US Department of Defense. These technologies, based on a decentralized architecture, packet switching in networks, time-sharing and autonomous work, called into question the centralization of information and its dissemination. At the time, IBM and AT&T were mastodons that refused to invest in this IT sector at their own expense. At the beginning of 1980, ARPA withdrew from the project, which was taken over by the National Science Foundation (NSF), which took over this new technology by creating a "republic of computer scientists" financed by the American taxpayer (Smyrniaios, 2017). The idea was to apply these systems in the world of academic research, but also in the corporate world, in order to innovate and impose American standards on the world. The basic idea was to offer innovations free of charge and to prohibit the filing of patents. Private appropriation was not the choice of this community of ingenious computer scientists, which led to the design and implementation of the World Wide Web (www).

However, President Reagan embarked on a path of deregulation and privatization, convinced by his advisors of the famous "trickle-down" theory, according to which the rich eventually allow other citizens to improve their standard of living. This policy quickly fuelled hopes and market opportunism, especially from private firms in the digital economy. The growing demand for the Internet was of considerable economic interest. Digital goods and services are unrivalled, they lend themselves easily to storage, they process large amounts of data in a short period of time, they produce large and increasing returns to scale, they offer positive externalities and rapidly declining transaction costs. Firms will implement a centralization of strategic functions and a matrix organization. The aim is then to satisfy the instantaneous desires of their potential customers, which has facilitated the implementation of processes of concentration and vertical and horizontal integration, a globalized production strategy, calling on the best "potential inventors" for software, but also on "low cost" workers for hardware, and the financialization of operations (Fontanel, Suscheva, 2018). Information "pools" lead to the concentration of activities. Thanks to their financial power, which enables them to invest in research and development and to buy up all the "start ups" likely to produce new services that are technologically and economically efficient, the GAFA, sometimes in internal competition, impose their standards and control over all digital products, services and software, and are thus one step ahead of the competition.

The GAFAMs have become examples of economic success in a liberal capitalism. However, their methods and services are beginning to be challenged. Snowden's revelations have highlighted their links with the NSA (National Security Agency) and US government intelligence agencies. The theft of strategic data by states allows the implementation of cyber warfare instruments (Fontanel, 2010; Delesse, 2016). In addition, they use private information on a large scale for profit, and the system could resemble or develop towards the establishment of a mass surveillance society. Today, few governments are in a position to develop safeguards against these forms of intrusion into people's private and public lives. Finally, they are setting up a selfish system, with little regard for its own public responsibilities, based on sophisticated forms of financial speculation and tax evasion and optimization, which states are only beginning to challenge. Some non-governmental organizations have seen in these actions a desire to control the movements of people's thinking (Bensahel, Fontanel, Corvaisier-Drouart, 2009).

¹⁶⁹ ILERI, Ecole des Relations Internationales, Paris, 27 Janvier 2020

However, in order to avoid antitrust laws, the GAFAMs need the legislative support of states, which highlights their capacity to convince governments of their public service function.

Digital technologies are part of the new transnational space for the circulation of capital. While democratic institutions have never debated its privatization, the Internet has become a source of profit; it is no longer a public good. The GAFAMs have taken the current of the digital revolution and are shaping it more and more according to their own interests. However, criticisms and pockets of resistance are beginning to emerge.

GAFAM, the heirs and leaders of the digital revolution

The economic and financial power of the GAFAM is considerable. In terms of the financial capitalization of multinational firms, the GAFAMs occupy the top four places in the world, with Tencent Holdings Limited (China) narrowly surpassing Facebook in fifth place. They have a cumulative cash flow of \$550 billion and generate \$100 billion in annual profits. In 2018, Apple and Amazon have reached a financial valuation exceeding \$1 trillion. This wealth has only been made possible by the rise of network systems, the free acquisition of a considerable mass of information provided by Internet users and the development of commercial strategies on the Net, the economies of scale that have expanded with the globalization of economic activities (Fontanel, 2005) and above all the protection of patents, about which multiple questions could be asked.

With more than \$60-70 billion in cumulative R&D in 2018 (current R&D spending of \$52 billion for France as a whole), the GAFAMs have considerable innovative power that is transforming the daily lives of citizens and consumers. They have an excellent technological reputation, they benefit from numerous monopolistic niches, they are the world's leading advertising salesmen, and they use all their expertise in information processing and relations with political powers to engage in lobbying actions (more than \$100 million per year) aimed at avoiding the normal exercise of antitrust laws.

The GAFAMs have an undeniable influence on today's civilizations. "They extend their markets and their politico-cultural power throughout the world when territories do not regulate digital markets. In countries that want to maintain their capacity to manage information highways, Internet companies have been created (Yandex in Russia, Baidu for China). In China, Apple, Microsoft and Google are present by accepting the application of censorship procedures for certain negotiated information or applications" (Fontanel, Suscheva, 2018). The economic activities and revenues of the GAFAMs are very satisfactory, in great expansion for a decade, from 139 to 649 billion dollars in 2008, with real profits in the order of 10 to 20% of their turnover. They receive various revenues, but in the end quite low, advertising (86% for Google and 98% for Facebook), hardware (81% for Apple), online sales (82% for Amazon) and software (62% for Microsoft). The GAFAMs control the operating systems and data centers. Apple dominates smartphones, Amazon dominates readers (Kindle), Microsoft dominates PC operating systems, Google dominates the Cloud (ahead of Microsoft and Amazon). Regarding computer equipment, they are still dominated by Samsung, Huawei, Lenovo, Sony or Dell, despite the productions of Microsoft and especially Apple. Similarly, if the telecommunications companies dominate the sector, the GAFAM are interested in the mobile access of their offers and in the computer connection. Microsoft has taken control of Skype and Amazon of Whispernet. Google, already owner of Fiber, has obtained an MVNO (Mobile Virtual Network Operator) license. In addition, Microsoft and Facebook are building Marea a new transatlantic communication cable that is more powerful and efficient than those in existence today.

The GAFAMs have their specialties, their strengths, even their monopolies, even if they also seek to cut into the markets of their counterparts. They are sometimes in competition, especially in new areas of innovation, such as electronic cars or artificial intelligence. However, each company in GAFAM has its own history, often characterized by extreme economic situations, with disappointing results that can lead to bankruptcy and fabulous profits earned in a short space of time.

- Microsoft (whose companies are today grouped together under the name "Azure") was founded in 1975 by Bill Gates and Paul Allen with the aim of developing operating systems and software for computers. The company did not belong to the GAFAM at the beginning of 2010, but its turnaround has been spectacular, Microsoft operating systems are present on 90% of the world's microcomputers. Microsoft's capitalization (\$760 billion) has tripled since 2012. It has abandoned Windows Phone, bought several companies and sites (Nokia, LinkedIn, Github and Skype), invested in the technologies

of the future (artificial intelligence), developed connected music services (Groove), created new tools and video games (Minecraft) and designed "cloud computing", which has become the world leader in the sector.

- Steve Job and Steve Wozniak founded Apple in 1975 in Cupertino. The company has gone through all the stages of development and crisis that have shaken the entire global digital economy. In 1997, Apple went through a very serious crisis, which resulted in the dismissal of a third of its employees and a \$150 million contribution from Microsoft, its main competitor. The return of Steve Job and the willingness to work on fewer products will contribute to the firm's recovery. Technological evolutions and revolutions will then multiply at a high rate, with the modern design of the iMac, then the iPod (which transforms the music market), the iPhone (which revolutionizes the telephony market), the iPad tablet (which brings simplicity and comfort in the use of digital applications) or the rise of Apple Stores. For the past two decades, focused on the implementation of complete computer hardware, it has strongly participated (for good or ill) in the professional and intimate relationships of consumers and citizens. Its competitors remain powerful, notably Huawei (second largest in the sector) and Samsung. Apple also offers other goods and services, such as interconnected watches or a music offering (Shazam). Each year, in the face of competition and its greed for profits, Apple halts production and marketing of recent models deemed insufficiently competitive compared to other products, and programmed obsolescence is always considered from a financial point of view. It also protects its innovations by fighting against industrial espionage and protecting its patents. Finally, the company fights against industrial espionage and for the protection of its patents (it obtained, from the American justice system, 539 million dollars from Samsung, which copied the design of its iPhone

3) Created in 1994, Amazon's initial objective was to sell books by mail order. It experienced a crisis in 2000, then another one in 2008. Since then, its price on Wall Street has been multiplied by a factor of 20. The recent acquisition of the Whole Food chain further strengthens its product range and financial importance. With annual revenues of \$178 billion at the beginning of July and a gross margin of \$66 billion, Amazon demonstrates its dynamism. Amazon is present in the cloud computing, pharmaceutical, media and food industries, it employs 550,000 people worldwide, often low-skilled, low-paying, applying simple tasks, with a monitored pace. In the United States, it employs poor, often part-time employees, a third of whom receive food aid in Arizona. Wage earners are paid \$15 per hour, with seasonal workers, prisoners, and retirees. The Stakhanovism of the 'Amazonians' is recommended, especially as Christmas approaches (Malet, 2013). Amazon engages in strong lobbying operations (3.5 million dollars) to counteract an image altered by its ability to avoid taxes, according to ethically questionable and strongly contested modalities. Until 2015, by playing on patent and trademark royalties, a subsidiary of the Amazon company employed 15,000 employees in the United Kingdom for zero profit, while 500 employees in Luxembourg made a considerable profit (National Assembly, 2013).

4) Google was born in 1998, offering an algorithm (PageRank) designed to facilitate Internet searches. It has developed an efficient advertising model, which has enabled it to carry out important commercial and financial operations. It has taken control of the web browser market thanks to its continuous innovation and its ability to buy the most promising start-ups. In 2018, Alphabet (a company that brings together all of Google's economic, financial and technological activities) will have nearly two-thirds of the desktop market share. Chrome serves as the software basis for the Chrome OS operating system for computers, but it has also become a platform accessible on Windows, MacOS, Linux, Android, and even iOS. In addition, the takeovers of Waze, DoubleClick, You Tube and Android have enabled exceptional financial growth for the firm. It also proposes to integrate the Android operating system in vehicles (notably Renault), as part of the autonomous car. It is therefore committed to the field of artificial intelligence, which requires major investments from fundamental research to the realization of new profitable products. Google is working on it. Google's business strategy based on selling a package of several products in one has been legally challenged, but it still forms the basis of its commercial success, thanks to effective lobbying. The firm has often been sued for "dominance" and "monopoly".

5) Facebook is the latest of the "Big Five". This orderly system of social networks operates on the basis of personal data provided by its users. The business model works through the sale of advertising space, through the sale of targeted messages, based on the information provided to it and which it synthesizes for commercial purposes. Facebook did not implement the protection of citizens' privacy (Powers, 2018). The companies of disinformation and supposed political manipulation with Russia (in favour of the Trump candidate) have created polemics that have called into question Facebook's image and reduced its potential for attraction as an advertising medium. The firm has been condemned by the European Commission to a fine of \$5 billion in 2017 for abuse of dominant position. The "fake news" that Facebook spreads (against its will) spreads a deleterious atmosphere in social networks that can lead to inappropriate reactions. The "Cambridge Analytica" case highlighted the recovery of information concerning 87 million social network users made available, in particular, to Donald Trump's team during the last US presidential elections. To bounce back, Facebook is now seeking partnerships with major U.S. banks to implement the sharing of financial data of their subscriber customers as a new Messenger product. A vast lobbying operation is underway, notably with the national representations of the democracies.

II. The dangers of GAFAMs

The overly powerful GAFAMs are the subject of much criticism, particularly concerning their quasi-monopoly, treatment, copyrights, conflicts with staff and governments, and for ethical reasons in their international activities.

The monopolistic dangers of GAFAM activities

Amazon has become a giant in consumer e-commerce, but also in cloud computing, an activity in which it is the world leader even before Microsoft. Google has a virtual monopoly in the field of search engines, but it also has other activities within the framework of Alphabet, including the famous YouTube. Apple offers computers, telephones, tablets, but also connected watches. GAFAM is also very present in the sectors of finance, artificial intelligence and in the production and distribution of information. They buy the most innovative start-ups and competing companies. For example, Google now owns DoubleClick and WhatsApp's Facebook. While antitrust laws may be implemented in some countries, at the international level their application does not have the same value as law. Firms have more and more hybrid activities, with a widening of production lines, to make it even more difficult to apply the laws that control quasi-monopoly situations. This is why the organization of lobbying is so important from a legislative and judicial point of view for GAFAM.

Today, the competition is mainly born out of the Chinese economy. "It will be difficult in the short term for Europe to rise to the level of the Chinese "BATX" for Baidu (internet, technologies, artificial intelligence), Alibaba (e-commerce, artificial intelligence, internet, technologies, retail), Tencent (internet services, entertainment products, artificial intelligence and electronic technologies) and Xiaomi (smartphone, applications for mobiles, electronic products) and even more to hope to challenge the American leaders" (Fontanel, Suscheva, 2018)". However, in the face of GAFAM, media and information groups are concentrating, which is neither good for democracy nor for true freedom of expression.

Copyright

The digital world plays an essential role in modern society, but its functioning and its consequences are not lacking in questions. The print media in particular is concerned both about the gradual loss of advertising revenue and about the use by the GAFAMs of the information published in their newspapers. This is an unjustified appropriation of the distribution of works, analyses and journalistic information without any compensation. The European Parliament wants to amend the 2001 European directive on copyrights in order to achieve a fairer sharing of advertising messages. This measure has been much discussed and contested, in the name of freedom of expression and cultural pluralism. Proposed by the Brussels Commission in September 2016, MEPs, influenced by Edima (an association that brings together the members of GAFAM), rejected the copyright directive concerning

the pure and simple presentation of articles published in newspapers by digital platforms, which is dangerous for democracy.

On September 13, 2018, the European Parliament voted on the draft directive on the protection of copyright in the face of the digital invasion, with a view to ensuring real remuneration for creators and publishers in the Internet world. The text is still criticized by the major Web firms and defenders of digital freedoms. For the rights holders the text is not sufficient in terms of protection. The fight of the lobbies is therefore not yet over on this issue, at least in Europe.

Taxation and non-compliance for public goods

The actual prices and costs of transfers of goods and services within the value chains of multinational companies are protected by "business secrecy". The GAFAMs make significant profits by recruiting experts in comparative taxation, which enables them to reduce to the optimum the tax or social charges imposed by the States. Within this framework, the States must position themselves on their tax system and in their value chain to grant tax advantages to companies, which has the effect of increasing profits in favour of shareholders and managers of companies. The fragmentation of production transforms the reality of national comparative advantages. GAFAMs show the maximum added value in the most fiscally attractive countries (notably Luxembourg, Ireland or the Netherlands for Europe). In 2017, they would pay less than 10% corporate tax in Europe, compared with an average of 23% for small businesses, thus improving their own relative competitiveness. They take advantage of this to invest their money in tax havens, allowing them to buy all the new companies and innovations in their fields of excellence at any time.

The interests of the European partners are often divergent. Some are reluctant to make GAFA pay taxes in exchange for jobs and important activities within their countries. However, the GAFAM have often been prosecuted in court for tax fraud, for nearly \$26 billion, including \$13 billion in tax aid to be repaid to an Ireland that did not want it (Fontanel, Sushcheva, 2019). Note also the 36 billion dollars returned to the United States as a result of the US law on the repatriation of cash from GAFAM members. A solution should be found to reduce their potential to avoid the financing of public goods of which they are rarely assumed beneficiaries. The European executive recommends taxing at 3% the revenues generated by the operation of digital activities, for the largest digital companies, thus sparing SMEs. This tax will undoubtedly be passed on to consumers.

The EU seeks to reduce the potential for anarchic tax competition between member states through efficient and fair taxation of the digital economy. Multinational firms would be required to make a single consolidated tax return within the EU. However, such a procedure would require political unanimity among EU members with an update of the operating conditions of the digital economy. Several European states are opposed to this solution, despite the existence of the BEPS (Base Erosion and Profit Shifting) of the OECD (Fontanel, 2016b). Tax treaties could modify the distribution of profits. However, it seems legitimate for firms to pay their taxes where they create their added value. Yet, Washington considers that the profits of GAFAM should be taxed in the United States, and in this context it could take coercive measures in the event of European taxation of the profits of excess American companies. An "economic war" cannot be ruled out between these two traditional allies (Fontanel, Bensahel, 1993). The GAFAM are primarily concerned with their shareholders and very little with the financing of public infrastructures, free education or the fight against poverty.

Internal criticisms of the GAFAM

The employees of the GAFA have an influence on the management of the GAFAM; they hold their management accountable. In particular, they denounce the dissemination of private information to commercial agencies, contrary to the ethical and moral principles publicly defended by their employers, especially when the technologies are used for military or police purposes (Tech Workers Coalition). In 2018, some GitHub programmers (Microsoft) decided to stop using the Azure development management platform (Cloud services) if Microsoft continued its collaboration with the federal immigration agency, with the provision of facial recognition software (Rekognition) to the United States police forces. At Google, several engineers do not want to get involved in contracts concerning artificial intelligence, cloud computing or cloud computing. They refused to participate in a software project to build the U.S. Army's drones. The same was true of artificial intelligence for Alphabet for a contract for drones for the US Department of Defense. Seven principles have been adopted in the opening up of

new technologies (Sterling, 2018), namely the interest for society, the inclusion of a responsibility for the company, the need to take into account the needs of the company's customers, and the need for the company to be able to take the lead in the development of new technologies.

Freedom of expression

The GAFAMs have not escaped criticism for their relative disrespect for freedom of expression and respect for the privacy of subscribers. Economic conflicts exert a considerable influence on civilizations (Fontanel, Arrow, Klein, Sen, 2003). Today's digital economy and technologies are not lacking in danger in the face of the clash of robotics, "fake news" and insufficient control over the respect of freedoms and human rights. The real relations between the GAFAM and the US government administration remain important and often secret, especially with the National Security Agency and US intelligence institutions (Delesse, 2016). Strategic information is often transferred to American intelligence agencies.

At the World Economic Forum in Davos, George Soros strongly criticized the practices of Facebook and Google, accused of being obstacles to innovation and an immediate threat to today's society (Solon, 2018). They exploit the social environment, seeking to orient the thinking of men, preferably young people. In this context, information is filtered, transformed and polluted by commercial and advertising messages that reduce the readers' ability to concentrate and encourage addiction to information provided in a continuous flow. Providing "genetically modified" information then endangers democracy. Power is concentrated in the hands of fewer and fewer people or commercial interests. By maintaining their strategies to their term, the commercial giants sometimes constitute an obstacle to any innovation that is not theirs, which also constitutes a brake, a danger, for freedom of expression and human liberation. It is freedom of thought that is in danger.

Political conflicts

Surprisingly, Donald Trump, although eager to provide information on his political decisions on Twitter, feels unloved by the giants of Silicon Valley and especially by the GAFAM, whose channels would have been used to promote his election. He publicly asked Bill Gates (Microsoft) to shut down the Internet on terrorism issues. He demanded that Tim Cook repatriate his factories in China and, before his election, he called for a boycott of Apple products reluctant to provide his access codes in a terrorism case. He harshly criticized Jeff Bezos (Amazon) for taking advantage of overly favourable rates from the U.S. Post Office, for not paying taxes, for harming small business and for not respecting antitrust laws. He called on Google to shut down certain Internet networks on the issue of terrorism. As for the GAFAMs, they are reluctant to oppose US immigration policy, they contest trade disputes initiated by the White House and they oppose taxes imposed on Chinese or Western imports (Fontanel, Suscheva, 2019). The problems with Europe and China are beginning to highlight their dominant role in the dissemination and use of information, which constitutes a danger for all countries and people who do not share the same ideas.

Without sufficient collective control, because of their international character, the support in fact (if not in words) of the federal and federated American administrations, their influence and lobbying on state powers, their capacity to generate considerable financial results and their popularity, the GAFAMs have considerable and growing societal power. They benefit at the same time from quasi-monopolies of numerous industrial and intellectual properties, reinforced by free trade agreements. They thus receive "rents" thanks to patent and trademark protection. On the other hand, their sub-contracting companies, their employees and the territories that host them receive a decreasing share of the value generated.

The power of the GAFAMs is in line with the continued leadership of the United States (Fontanel, 2017) in a context of economic conflicts that point to the danger of wider economic wars (Smith, Fontanel, 2008). Challenges are clashing with US private and public interests. The "Big Five" must then defend today's products and prepare for other innovations that will escape control. Yet, like China and Russia, states should react to this fascination with the technological dynamism of the GAFAM, whose power justifies inequalities, injustices, environmental crises, dependence and even submission (Fontanel, 2019b).

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22. The Economics of Climate Change¹⁷⁰

National security is not limited to the potential of military conflicts alone. It encompasses issues of citizen security as a whole, such as the potential for food self-sufficiency, the capacity for independence in health matters or the technological potential of the digital economy. Today, the three biggest carbon polluters in the world are the biggest powers, the USA¹⁷¹, China and Europe. Environmental issues are also essential to human life and could even be at the heart of future inter-state conflicts, given the international nature of pollution and its transmission to neighbouring countries. Global warming¹⁷² is a global problem that states cannot solve alone. It is therefore necessary to find collective solutions, to radically modify our fossil and consumerist production and consumption processes. However, when it comes to ecology and the environment, borders do not exist and the minor and greedy interests of others can thwart the efforts of some nations. A global industrial plan should be put in place, but no international authority can commit to it without the voluntary agreement of states. To avoid a frightening future, our fossil fuel and consumerist production and consumption processes should be radically changed.

During the Davos Forum, many participants considered that a tax on carbon dioxide emissions is the most effective way to reduce CO₂ emissions and to force private or public economic actors to prefer new energies. Under these conditions, technological innovation in favour of a green economy would be encouraged, by increasing the price of carbon production, provided that an appropriate social policy is implemented at the same time. According to Jeremy Rifkin, the discounted energy cost of large-scale solar and wind power¹⁷³ is lower than that of gas refineries, coal plants or nuclear reactors. Technological progress in decarbonising fossil fuels would be needed to limit the stranded assets of oil or coal reserves. In this context, the economic interest struggles of the powerful lobbies of the polluting sectors seem to reduce the potential for transformation of an economic system driven by the search for short-term profit, all the more so as many economic activities are directly affected by these activities, notably the financial, metallurgical or steel sectors. Despite its obstacles, it is a question of launching a third industrial revolution, abandoning those of coal and oil.

However, today's digital economy presents undeniable risks, regarding its neutrality, data security, cybercrime, cyber terrorism and cyber warfare¹⁷⁴. Without government intervention, the Internet giants have exceptional economic, political and social power that they could continue to use for commercial, but also other political or ideological purposes¹⁷⁵. Regulatory bodies at each level of operation must be put in place, controlled by democratically established bodies.

¹⁷⁰ CESICE, Université Grenoble-Alpes

¹⁷¹ A "New Green Deal" was proposed in February 2019 in the US Senate. It would aim to generate 100% of the US's electricity from clean, renewable sources and increase national energy efficiency, particularly in transport and buildings

¹⁷² According to the IPCC, human activity has caused temperatures to rise by 1 degree Celsius compared to pre-industrial times. However, it seems that if it goes beyond 1.5 degrees, a cascade of unprecedentedly violent climatic events would decimate ecosystems and change human living conditions.

¹⁷³ The LCOE (Levelized Cost of Energy) assesses the average total cost of building, operating and destroying an energy source, based on its lifetime and the total energy yield over the period.

¹⁷⁴ Fontanel, J., Corvaisier-Drouart, B. (2014), For a general concept of economic and human security, in *The evolving boundaries of defence : an assessment of recent shifts in defence activities*, (Bellais, R. Ed.), Emerald, Bingley, U.K., 2014.

¹⁷⁵ Fontanel, J., Sushcheva, N. (2019), *La puissance des GAFAM : réalités, apports et dangers*, AFRI, Annuaire Français des Relations Internationales, Paris.

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Finally, resources remain scarce, especially the so-called "rare earths" that are so necessary for the development of modern technologies, especially digital ones.

The technological platform of the third industrial revolution

In any revolution, a technological platform, consisting of a communication medium (Internet), an energy source (wind and sun) and a means of transport (automated cars) is necessary. The Internet is a powerful communication medium that supports autonomous electric vehicles and renewable electricity. Sensors will link each individual to a global digital network. The IDO (Internet of Things) allows us to connect easily with our work environment, our homes, our business activities, our social relationships and our supply chains. The transaction of services and goods takes place instantaneously, at any time. The marginal cost of goods and services becomes almost zero and profit margins will be very low. In this case, the market can no longer be the dominant instance of choice. Ownership gives way to access; suppliers and users replace buyers and sellers. Smart grids operate continuously, at very low cost, but with continuous traffic. There is a growing demand for collective facilities, from car sharing to co-location. Many activities are non-profit or cooperative, with non-market exchanges, such as Wikipedia, which is completely free to access. This circular economy saves carbon emissions. The sun and wind never send their bill. The collaborative economy will grow.

On the other hand, as a first step, it is necessary to disable and dismantle the blocked infrastructure, to transform the electricity networks (replaced by a high voltage smart grid)¹⁷⁶, to change the logic of transport, logistics, traffic flows, to renovate buildings (by equipping them with devices capable of capturing renewable energy and storing energy) with the implementation of a smart infrastructure. This could lead to a change in skills, with non-profitable, collective sharing activities. This was the objective of the first creators of the Internet, financed by public funds, which private companies have managed to privatise, at least in part. With IDO, we can hope to improve this productivity, with a resilient and carbon-free circular economy. The first two industrial revolutions improved living conditions on Earth, but even today more than 46% of the world's population survives on \$5.5 a day.

The third revolution must be more democratic and egalitarian, given the importance of public services that are almost free, thanks to technological progress in digital technology and renewable energy. The tipping point will also depend on the price of oil and gas, two fuels that still largely dominate the market. However, as in all financial matters, as long as these sectors are making large profits, they will continue to speculate on keeping their businesses. The US (the world's largest producer) and Canada (4th largest) are still exploiting natural gas, with heavy investment. Pipeline investments risk becoming stranded assets in less than a decade. At this rate, there could be \$1 trillion of stranded capital by 2030¹⁷⁷. In 2018, the World Bank published a report highlighting its concerns about what lies ahead for carbon-rich countries¹⁷⁸.

Barriers to the rapid emergence of the third industrial revolution

The issue is above all the sustainability and stability of such a system compared to the old process which, in any case, leads to natural disasters with considerable costs. However, the cost of the operation will undoubtedly be considerable and the problem is to know who will bear it. The transition arises from the convergence of the infrastructure sectors of the "second industrial revolution", telecommunications, fossil fuels, mobility, logistics and housing stock. The change in technology will completely depreciate the value of existing assets. According to Citygroup, it is

¹⁷⁶ On average, 86% of the energy of the second industrial revolution was lost in transmission in the US.

¹⁷⁷ Dyson, M., Engel, A., Farbes, J. (2018), The Economics of Clean Energy Portfolios : How renewable and Distributed Energy Resources Are Outcompeting and Can Strand Investment in Natural Gas-Fired Génération, Rocky LMounstain Institute, mai 2018. https://www.rmi.org/wp-content/uploads/2018/05/RMI_Rxecutive_Summary_Economics_of_Clean_Energy_Portfolios.Pdf

¹⁷⁸ Lange, G-M, Wodon, Q., _Carey, K. (2018) The Changing Wealth of Nations 2018 ; Building a Sustainable Future », World Bank, Washington.

expected to lead to the tying up of \$100 trillion in stranded assets, if the Paris Conference target of a 2°C temperature increase on Earth is not exceeded¹⁷⁹. In this context, given the enormous revenues of carbon energy producers and the power of lobbies that are often directly or indirectly enriched by fossil fuel reserves, we can expect strong reactions from owners to delay a process that, given current knowledge, should eventually be definitively established.

China, the world leader in renewable energy, is now expressing its desire in the thirteenth five-year plan to develop an "ecological civilisation"¹⁸⁰. Green infrastructure offers the same possibilities as fossil fuels, while protecting the Earth from excess carbon production, which is triggering a deadly upheaval of the Earth's climate. This energy internet is one of China's key programmes, and it already employs nearly 4 million people in the renewable energy sector. In the US, companies would like to privatise infrastructure, but it is not possible to hand over the daily lives of citizens to the private sector, without control. Privatisation of all intelligent infrastructures is not conceivable, given the collective responsibilities that the state must assume. For Jacobson (et al) of the University of Berkeley¹⁸¹, the United States can provide for its needs with renewable energy (notably with 57% sun and 38% wind). Buildings need to be renewed on the basis of a smart infrastructure that allows consumers to become active managers of their own electricity. Governments can help with the installation of this equipment, through subsidies or tax reductions, particularly for households and businesses, for residential and industrial premises. In 2007, Europe appeared to be ahead of the US in proposing the 20-20-20 plan. Member States were to increase energy efficiency, reduce greenhouse gas emissions and increase renewable energy production by 20% by 2020, but the results have not matched this proposal. Through the Energy Performance of Buildings Directive, the European Union encourages parties involved in the renovation of buildings to install on-site renewable energy and to create an intelligent energy infrastructure with adequate energy storage, with an energy performance certificate. Without support for this type of operation, the results are almost non-existent. The United Nations Environment Programme (UNEP) has also proposed a new "green deal" to revive the global economy in the wake of the 2008 economic and financial crisis.

The automobile is beginning to convert to the electric system and shared mobility is expected to increase the life span of vehicles by 10 times (more than 800,000 kilometres and double that in 10 years). According to Jeremy Rifkin, autonomous vehicle transport, operating at almost zero marginal cost, powered by solar or wind electricity, should develop in the coming decade. While GDP will fall, household welfare should improve¹⁸². On the other hand, public debt, at least in the short term, should increase due to the new public investments in indispensable infrastructures, concerning ICT, but also real estate, a quasi-blocked asset¹⁸³, to be renovated, which only changes by 2% per year. Buildings will no longer be private, passive and walled-in spaces, but active entities committed to sharing renewable energy.

Finally, we must prepare the workforce for the "green era" and develop intelligent ecological agriculture. Livestock farming is a major contributor to the production of greenhouse gases and uses 26% of the world's land area. It must be completely rethought in the context of

¹⁷⁹ Channel, J. and al (2015) Energy DarwinismII : Why a low Carbon future doent have to cost the Earth, Citi GPS Report.

¹⁸⁰ As part of the 13th Five-Year Plan, the People's Bank of China's strategy is to raise \$1.5 trillion in "green" projects.

¹⁸¹ Jacobson, M.Z., Delucci, M.A., Bauer, Z., Wang, J., Weiner, E., Yachanin, A. (2017), 100% Clean and Renewable Wind, Water and Sunlight All-Sector Energy Roadmaps for 139 Countries in the World, *Joule*, vol. 1, 6 Septembre. <https://doi.org/10.1016/j.joule.2017.07.005>.

Deutch, J. (2017) Decoupling Economic Growth and Carbon Emissions, *Joule*, vol. 1, 6 Septembre. <https://doi.org/10.1016/j.joule.2017.07.005>.

¹⁸² Guilhaudis, J-F., Fontanel, J. (2019), Les effets « pervers » de l'usage du PIB pour la décision politique et les relations internationales. Comment en sortir ?, AFRI, Annuaire Français des Relations Internationales, Paris.

¹⁸³ With investments in insulation, solar panels, micro power plants, charging equipment for electric vehicles and objects and storage technologies.

human survival¹⁸⁴. Ecological and organic agriculture is having great difficulty in developing (6.7% in Europe, 0.6% in the USA). We need to rethink the very concept of sustainable food.

International finance is being questioned. Banks believe that climate change threatens a wide range of assets in almost all sectors, but few banks see this as a matter of corporate social responsibility. Pension funds (20% of equity and 40% of US companies' shares), with their highly speculative actions, should start valuing oil companies downwards, but the taste for privatised profits is stronger than the immediate collective interest (the capitalist will sell the rope to hang him, said Lenin). Trade unions and states have ceded control to financial institutions.

Socially responsible investment (SRI) is going to be at the centre of the economic and financial concerns of economic actors. Today, the principle should be that of Benjamin Franklin: Doing Well by Doing Good. The boundary between productive and commercial practices and morally and socially correct financial performance must be removed. Younger generations are interested in SRI and infrastructure modernisation. Today, fossil fuels have had their day; we should no longer invest in them. We need a smart national grid that feeds the flow of green electricity, but many elements will be completely decentralised such as solar panels, wind power, charging stations, electric vehicles, implemented through tax credits. However, this third industrial revolution has two main dangers: the weight of GAFAMs and scarce earth.

The GAFAMs

ICTs (telecommunications, Internet, data centres) are major consumers of energy. If left unchecked, this emission of greenhouse gases could represent 14% of total emissions in 2040. However, this estimate does not include the manufacture of these electrical products, their short lifespan¹⁸⁵ due to double planned obsolescence (change of more efficient devices and reduced use of the same device over time), or the extraction of rare earths, nor the storage of waste. ICT infrastructure is very electricity intensive (70% of the total ICT carbon footprint). Moreover, the GAFAMs seem to want to reinvest in this sector, Google uses 100% renewable energy in its data centres in green energy and Microsoft wants to achieve this result in 2023 (50% is already used on the basis of renewable energy). The GAFAMs want to secure their data centres and control their energy networks, particularly in the face of the risks of natural disasters and cyberattacks.

Initially, the Internet was a public good, managed by the state technocracy of the American military-industrial complex and fed by university research. At the end of the 20th century, the GAFAMs (Google, Apple, Facebook, Amazon, Microsoft) benefited from the process of commodification of the Internet. Today, the financial, technological, economic and security power of GAFAM over modern society is immense, perhaps excessive. The massive use of the Internet has allowed the emergence of a digital economy with increasing returns, drastically reduced transaction costs, permanent processes of financial concentration and active support for deregulation, thus favouring vertical and horizontal integration operations¹⁸⁶.

The GAFAMs are developing technologies that are changing the way we think. Today, their power is of concern and is being criticised for, among other things, their commercial use of normally private information, their patent-protected application of domineering technology, their lobbying to avoid anti-trust laws, their use of financial speculation, their penchant for tax trading

¹⁸⁴ According to Rifkin, with 1.4 billion cows emitting methane, a gas 25 times more potent than CO₂ for its warming potential, and nitrous oxide in their excrement, with a warming potential 288 times that of carbon dioxide, the question arises as to the value of livestock farming to the future of humanity. Beef requires 20 times more land and generates 20 times more greenhouse gases than vegetables per unit of protein consumed. It is also a cause of deforestation, which means that fewer trees absorb the gas emissions.

¹⁸⁵ The energy consumed to manufacture these appliances accounts for 85-95% of their annual lifetime carbon footprint.

¹⁸⁶ Fontanel, J. (2016), *Paradis fiscaux, Etats filous, La fuite organisée des impôts vers les pays complices*. L'Harmattan, Paris,

Fontanel, J., Sushcheva, N. (2019), *La puissance des GAFAM : réalités, apports et dangers*, AFRI, *Annuaire Français des Relations Internationales*, Paris.

and optimisation in tax havens, and the creation of a society of control and surveillance of consumers and citizens.

Google cannot be allowed to settle in public governance, even if it proposes the creation of smart cities (Toronto). Controlled by private interests, the sources of profit are gigantic. However, the decisions of these private interests raise many questions concerning human rights, individual freedom and the democratic control of these monopolistic oligopolies. Google's proposed Smart City for Privacy in Toronto would have turned the city into a Smart City for Surveillance. Only local governments can initiate equivalent procedures. In this context, Lander Germany is better equipped than Jacobin France.

GAFAM are companies that do business first. Therefore, despite their public denials, they have little regard for the protection of democratic societies and do not feel responsible for the societal consequences of their actions. These commercial monopolies will not change on their own without a political will to regulate their activities.

Rare earths

Rare earths¹⁸⁷ are characterised by their exceptional properties, which are necessary for "green tech"; in particular, they enable the production of clean electricity and are essential for new information and communication technologies. However, they are often expensive and their extraction, which often causes pollution, is difficult in the context of a separation operation with the abundant materials in the earth's crust that cover them. Small quantities are produced each year, in territories that are both small in number and sparsely urbanised, under difficult social conditions. Finally, China is the producer of two-thirds of the mineral resources essential to the modern economy. It pays a price for this¹⁸⁸, but economic development takes precedence over any negative external effects. The thirst for power and the race to catch up economically is leading China to the greatest excesses, especially in the less touristy regions. The demand for germanium, tantalum, palladium, scandium and cobalt will accelerate in the coming years. Consumption of the main metals is growing at a rate of 3% per year, which will quickly lead to increased scarcity, higher prices, reduced environmental constraints and cross-conflicts between firms and states. It even raises the question of economic and military power. The violence of the high-tech boom, combined with the accompanying scarcity of metals, raises the question of the "sustainability" of "green" development and the balance of power between the superpowers. Some metals could quickly become endangered, such as vanadium, terbium, europium, neodymium, titanium, indium, dysprosium and cobalt¹⁸⁹. The shortage of metals is an obstacle to the so-called green revolution. Waste will have to be reprocessed, but for the time being the cost of reprocessing is not yet profitable for many rare earths.

The idea that digital technology can help us reduce energy costs is an assumption. Certainly, the digital economy can a priori design smart electricity grids that can optimise expenditure, depending on the permanence and intermittency of energy sources. It also reduces the carbon impact of human activities, with the third industrial revolution proposed by Rifkin¹⁹⁰. Dematerialisation leads to teleworking and data storage, which reduces energy expenditure.

However, this picture remains incomplete. This reflection works "ceteris paribus", all other things being equal. Upstream, new rarities are appearing that are likely to create 'bottlenecks', which will inevitably lead to an increase in the price of raw materials and to a slowing down, or even a partial halt, to the widespread application of new technologies. Rare earths" are the first

¹⁸⁷ Guillaume Pitron (2019), *La guerre des métaux*, LLL, Les liens qui Libèrent.

¹⁸⁸ 80% of underground wells in the "Middle Kingdom" are unfit for consumption according to European health standards.

¹⁸⁹ Marscheider-Weidemann, F., Langkau, S., Hummen, T., Erdmann, L., Tercero Espinoza, L. (2016), *Raw materials for Emerging Technologies 2016*, German Mineral Resources Agency (DERA), March.

¹⁹⁰ Rifkin, Jeremy (2019), *Le New Deal Vert Mondial. Pourquoi la civilisation fossile va s'effondrer d'ici 2028. Le plan économique pour sauver la vie sur Terre*, Editions « Les Liens qui libèrent ».

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supplies concerned. The digital industry uses metals (22% mercury, but also silver, gold, lead, etc.). A single chip weighing two grams requires the disposal of 1,000 times more material¹⁹¹.

The idea, often mentioned, of exporting polluting industries to poor countries, then materialised in China, under the direction of an authoritarian state, which was not very concerned about environmental constraints at the time, and was in the process of regaining its economic power. The European REACH regulation also protects European citizens by requiring the development of good ecological practices. Under these conditions, industrialists are in collusion, buying cheaply, having a cheap workforce and little regard for working conditions. Consumers have not taken any action to discourage this movement, which is dangerous for their safety. As long as pollution does not affect them, polluting importers from distant lands can easily dominate the markets.

China, because of its reserves, its protection policy and its ability to attract companies in the sector, can become master of the geo-economic game, with all the dangers that such a position could have for world peace and the maintenance of today's international institutions¹⁹². In 2020, the conflict with Huawei highlights the violence of the relationship for global technological power. The US is at risk of losing Chinese supplies of rare earths. Will Washington announce the reopening of the mines to limit Chinese imports, especially Mountain Pass? It needs to strengthen the resistance of the supply chains for the basic products needed by the US army, but also for dual production. The Americans are thinking of introducing a "Buy American Clause" in military contracts. Faced with the threat of a Chinese embargo, it was eventually planned to develop the production of vital materials, without any significant achievement by 2020. The Pentagon is questioning whether malicious viruses are being planted on Chinese imports to prevent the equipment from functioning properly. Even today, the F-35 carries rare earths from China in its cockpit. The economic war could soon take on a worrying aspect in the event of a conflict between the two great powers¹⁹³.

Today, the US is setting its own policy of independence by engaging in a process of reducing vulnerabilities of "critical" minerals, developing recycling technologies, analysing alternative possibilities (and their costs), prioritising access to these metals through exchange with allies and partners, initiating exploration of available domestic resources, implementing recommendations to streamline permitting and lease review processes, and providing financial incentives to increase the discovery, production and domestic refining of critical minerals. Strategies to strengthen and support supply chains for these materials are needed to avoid vulnerability to disruption. It will even be possible to change laws and rules according to the urgency of specific demand¹⁹⁴.

Conclusions

Dominated by liberal ideas, economic globalization¹⁹⁵ led people to believe that the interdependence of states was a factor of peace. However, power relations become more apparent when a country becomes dependent on products necessary for its own development. Mercantilist reasoning reminds us that the future of a country also depends on its ability to resist the power relations that states that do not share its values want to impose on it by force in the supply of goods

¹⁹¹ Flipo, F., Dobré, Lichot, M. (2013), La face cachée du numérique. L'impact environnemental des nouvelles technologies, L'Echappée.

¹⁹² Fontanel, J. (2016), La sécurité économique et sociétale : pour une conceptualisation humanistes multidimensionnelle, PSEI, Paix et Sécurité Européenne et Internationale.

¹⁹³ President USA (2017), Presidential Executive Order on Assessing and Strengthening the manufacturing and defense industrial base and supply chain resiliency of the United States, White House, 21 July.

¹⁹⁴ USGS (2018), Interior Releases 2018's Final List of 35 Minerals Deemed Critical to National Security and the Economy., USGS (Ministère de l'Intérieur), mai 2018

¹⁹⁵ Fontanel, J., (2005) *La globalisation en analyse. Géoeconomie et stratégie des acteurs*, L'Harmattan, Paris

and services essential to its survival. The clash of civilisations is not always a fable, when a country that recommends itself to communism asks for openness to international competition¹⁹⁶.

Significant progress has yet to be made. Without human action, the evolution of the planet will become uncontrollable because no technology on a global scale is capable of protecting humanity from this situation. However, the aversion to loss is greater than the aversion to gain. Those who have power do not want to risk losing it either. Man has established institutions that could improve his condition, but they have now become obstacles to his own liberation. We must think as a species. But in the long run, we will all be dead. And the long term is increasingly in the short term.

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