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World Economic and Strategic Security

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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 alliances¹. 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 war².

¹ 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.

² 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.

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 Perroux³ 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 capacity⁴. Economic security conceived as the need for optimal growth of a GNP of questionable construction and content is complicit in violence at work, the lack of satisfaction of basic material needs for everyone, care for all, lack of respect for human rights and the violence of injustice⁵.

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),

³ Perroux F. (1952), « Note sur les coûts de l'homme », *Economie appliquée*,

⁴ 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.

⁵ 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.

strategic (the continuation of armed conflicts in the world) and political (such as terrorism or excessive nationalism)⁶. There is no optimal level of security per se, because "economics and politics each have distinct approaches with different dynamics operating at different speeds"⁷. 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 order⁸. 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 respected⁹. 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 worrisome¹⁰, 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,

⁶ OCDE (2003), *Les risques émergents au XXI^e siècle*, OCDE, Paris.

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

⁷ 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.

⁸ Fontanel, J., Suscheva, N. (2019). *L'arme économique du droit extraterritorial américain*, CESICE, UPMF, Grenoble & UNECON, Saint-Petersbourg, 2019,

⁹ 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.

¹⁰ Natural Resources Defense Council (2006), *Global Nuclear Stockpiles, 1945-2006*, Bulletin of the Atomic Scientists.

but chronological and international comparisons are subject to assumptions that can change the understanding of strategic issues¹¹.

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

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 warfare¹².

¹¹ 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).

¹² 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 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.

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 us¹³. 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, 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.

(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>,

¹³ 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.

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 societies¹⁴. 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

¹⁴ Saez, E., Zucman, G. (2019), *The triumph of Injustice*, W.W.Norton & Company Inc. New York.
Fontanel, J. (2016), Fontanel, J. (2016), *Paradis fiscaux, paus filous. La fuite organisée ndes impôts vers les pays complices*, L'Harmattan, Paris.

settled in terms of national security for countries that depend on their monopoly¹⁵.

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 security¹⁶. "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"¹⁷. There is a drain of wealth from the South to the North and a standardization of cultures. So far, 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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¹⁶ Fontanel, J. (2019), *Différends, conflits et guerres économiques*. PSEI, Unice, 2019, n° 11 - <http://revel.unice.fr/psei/index.html>.

¹⁷ PNUD (1999), *Rapport mondial sur le développement humain*, De Boeck & Larcier s.a., Paris, Bruxelles, p.7 et 8.

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 developed countries against the growing threats of the South in terms of terrorism, civil war, production of weapons of mass destruction (including nuclear weapons) and international conflicts caused by "rogue states". Political insecurity and economic crisis increase with the development of nationalism and religious fundamentalism, the collapse of state governance, illegal migration, ethnic conflicts and economic underdevelopment.

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 punishable¹⁸. Global consumption of raw materials has increased by twenty since 1900¹⁹. 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

¹⁸ 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.

¹⁹ 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.

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 Sen²⁰, 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 Sandler²¹, prevention and protection have different externalities. Security equipment aimed at reducing the likelihood of a 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

²⁰ 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.

²¹ Sandler, T. (2003), «Collective Action and Transnational Terrorism», *The World Economy*, 26(6), pp.779-802.

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 benefits²². 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 these 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,

²² Kauffmann, M. (2006), *Gouvernance économique mondiale et conflits armés*. Banque mondiale, FMI et GATT-OMC, Collection La Librairie des Humanités, L'Harmattan, Paris.

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.

Bibliography

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

Brück, T. (2004), Économie de la sécurité: arbitrages économiques, In OCDE, *L'économie de la sécurité*, OCDE, Paris. P.115.

Brück, T. (2004), «The Economic Consequences of Terror: Guest Editor's Introduction», *European Journal of Political Economy*.

Buzan, Barry, Ole Waever and Jaap de Wilde (1998) *Security: a new framework for analysis*. London: Rienne Liener

Cars, H.C. and Fontanel, J., 1987. Military expenditure comparisons. In *Peace, defence and economic analysis* (pp. 250-265). Palgrave Macmillan, London.

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).

Fisher, D. (1993), Nonmilitary aspects of security. A systems approach, United Nation Institute for Disarmament research UNIDIR, Geneva.

Fontanel, J., 1979. *Ecologie, économie et plurigestion*. Éditions Entente.

Fontanel, J. (1980) Le concept de dépenses militaires, *Revue Défense Nationale*, Décembre.

Fontanel, J. (1982), La comparaison des dépenses militaires, *Revue Défense Nationale* Novembre 1982.

Fontanel, J. (1986), A note on the International Comparison of Military Expenditures in *The economics of military expenditures*. Mac Millan, London, 1986 (15 pages).

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.

Fontanel, J., Bensahel, L. (2002), Les stratégies de la guerre économique, in «*Globalisation économique et sécurité internationale*. Introduction à la géoéconomie, Collection. Coté cours, UPMF, Grenoble, pp. 29-50.

Fontanel, J., Arrow, K., Klein, L. and Sen, A., 2003. *Civilisations, globalisation et guerre*. PUG, Presses Universitaires de Grenoble, PUG, Grenoble.

Fontanel, J., 2005. La globalisation en analyse. *Géoéconomie et stratégie des acteurs*, L'Harmattan, Paris

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., Chatterji, M. (2008), *War, peace and security*, Emerald Publishing, London.

Fontanel, J. (2010), Un concept élargi de la sécurité économique, in "*Economie politique de la sécurité internationale*, L'Harmattan, La Librairie des Humanités, Paris.

Fontanel, J. (2010), *Economie de la sécurité internationale*, L'Harmattan, La Librairie des Humanités, Paris.

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.

Fontanel, J. (2016), La sécurité économique et sociétale, *PSEI, Paix et Sécurité Européenne et Internationale*, Nice.

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

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

Fontanel, J., Sushcheva, N.. "La puissance des GAFAM." *Annuaire français de relations internationales* 20 (2019).

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

Galbraith, J.K. (2015), *La grande crise. Comment en sortir autrement*, Le Seuil, Paris.

Global Peace Index, *Vision of Humanity* (2009), Global Peace Index Rankings, http://www.miradaglobal.com/index.php?option=com_content&task=view&id=1061&Itemid=9§ion=-16&lang=en

http://www.miradaglobal.com/index.php?option=com_content&task=view&id=1061&Itemid=9§ion=-16&lang=en

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.

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

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.

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

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

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

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).

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

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

Richard, T. (2011), Démocratie, économie de marché et paix, in *Economie politique de la sécurité internationale* (Fontanel, J. Ed.), La Librairie des Humanités, L'Harmattan, Paris.

Rutherford, M. (2009, Congressional commission focuses on China's cyberwar capability, *Military Tech*. October 22, 2009.

Saez, E., Zucman, G. (2019), *The triumph of Injustice*, W.W.Norton & Company Inc. New York.

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

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.

Sheehan, Michael (2005), *International Security. An analytical Survey*, Boulder, CO, Lynne Rienner Publishers, 201 p.

Sheehan, N. (2003), Le maintien de la paix pour le développement, in Jacques Fontanel (Direction), *Civilisations, globalisation, guerre. Discours d'économistes*, Collection Débats, Presses Universitaires de Grenoble, Grenoble.

Sheehan, N. (2010), Gendarme mondial de la paix. Vers un nouveau rôle pour l'OTAN. in *Economie politique de la sécurité internationale* (Jacques Fontanel Ed.), Collection Librairie des Humanités, L'Harmattan, Paris.

SIPRI yearbook (2009), *Armaments, disarmament, and International Security*, Oxford University Press, Oxford, Stockholm.

Skharatan, O., Fontanel, J. (1998), Conversion and personnel in the Russian military-industrial complex, *Defence and Peace Economics*, 9(4), 367-379.

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.

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.

Stevens, B. (2004), *L'économie de la sécurité émergente. Une introduction*, in «L'économie de la sécurité», OCDE, Paris.

Udovic, B. (2011), *Economic security: Large and Small states in enlarged European Union*, <http://www.attac.org/en/groups/center-and-periphery-abolition-neocolonialism-working-groupcpwg/bostjan-udovic-economic>. Assessed on October 31, 2011.

United Nations Development Programme's 1994, *Human Development Report*, UNO. New York.

UNEP (2009) « *Evaluation environnementale de la bande Gaza après l'escalade des hostilités en décembre 2008-janvier 2009* », Rapport PNUE, septembre 2009.

Walkenhorst, P., Dihel, N. (2004), «Trade Impacts of Increased Border Security Concerns», *International Trade Journal*.

World Bank (2003), *Global Economic Prospects 2004*, Washington, DC.

World Bank (2003), «*Reducing Trading Costs in a New Era of Security*», *Global Economic Prospects 2004: Realizing the Development Promise of the Doha Agenda*, World Bank.