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Fanny Coulomb, Jacques Fontanel

► **To cite this version:**

Fanny Coulomb, Jacques Fontanel. Economic analysis confronted with the study of militarism and foreign policy: Review of a complex relationship between exclusion and integration. Cahiers de l'Espace Europe, 2003, 18. hal-02193881

HAL Id: hal-02193881

<https://hal.univ-grenoble-alpes.fr/hal-02193881>

Submitted on 24 Jul 2019

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**Economic analysis confronted with the study
of militarism and foreign policy.
Review of a complex relationship between exclusion and integration**

Fanny COULOMB* and Jacques FONTANEL**

**Cahiers de l'Espace Europe
Université Pierre Mendès France
Décembre 2003**

* Maître de Conférences of Economics at the University Pierre Mendès France of Grenoble (France), C.E.D.S.I., Espace Europe.

** Professor of Economics at the University Pierre Mendès France of Grenoble (France), Scientific director of Espace Europe.

Keywords : economic analysis of war – economic thought - arms race - economic war – globalization - militarism and capitalism – economic impact of military expenditures - disarmament - peace economists market economy and war

Summary :

Since the origins of the economic science, economists have dealt with war and peace issues. But these thoughts have generally been spread all along their works and only few book have been entirely devoted to these themes. The great diversity of economists analyses of defense, war and peace therefore calls for a kind of classification. Now, it is possible to distinguish three main approaches in the history of the economic thought, which have lasted until today:

- Developments around the theme of the pacifying economy ;
- Theories studying the link between foreign policy and economic policy issues ;
- Analyses of capitalism as a specific system in which militarism exerts a specific role on social relations.

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III.1. War and the threat of war at the heart of the capitalist system functioning

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There is a wealth of literature on the subject of military conflict. Such conflicts have a crucial character for humanity, if only because of the human and economic losses they engender. Issues of war and peace have commanded attention of prominent and creative thinkers from a variety of perspectives: in literature, philosophy, sociology, political science, and international relations.. Curiously, there is no

recognized benchmark contribution on this subject from the field of economics¹. Perhaps the closest is "The Economic Consequences of the Peace" by J.M. Keynes, that deals exclusively with post-war economic policy issues rather than military conflict per se. When political economy became economics, it has rejected what it did not master. Moreover it did so with simplistic notions such as the non-economic character of wars or their irrationality. The orthodox economic analysis has been set up on the conviction that governments must withdraw and let individuals act according to their own rationality. Peace should then automatically follow. This ignores, of course, the collective action problem. Economists have constantly applied two fundamental hypotheses:

- Peace is a normal situation, and therefore wars can be excluded from analytical investigation; and
- Economic development is the fundamental condition required for an enduring peace.

However, dominant theoretical currents have always nourished theories of opposition and of the several heterodox theories developed, most of them have been influenced by philosophies recognizing the role of violence in history and integrating it in their study field. At the same time, while there is a scarcity of thorough economic analyses of conflict that specifically work on war and peace issues, virtually all great economists have dealt with these issues. Economic theories do not have the same conceptions of defense, war and peace same as each other. For the most part, the military is considered to be the source and sentinel for national security and defense. However, it is clear that the control of strategic goods or the use of economic weapons also present important obligations and opportunities for national security. In some respects, foreign economic policy measures aiming at promoting national interests (commercial barriers for example) may also concern the defense objectives. A clear distinction between war and peace situations may then appear problematic, because of the probability of warlike behaviors. Some economists even link security issues with problems of international commercial competition, as they present national security and economic power as interrelated², when other economists consider that security is a strictly political issue. Another difficulty for the delimitation of our subject is that the distinction between the state of peace and the one of war is not always clear, because of phenomenon such as the arms race.

This division may be linked to the one existing on the methodological level between two distinct currents. On the one hand, the "pure" economic theory presents peace as the normal situation and excludes defense from the analysis. This positivist and scientist analysis rests on the idea that some immutable laws are governing the economic system's functioning and that modern societies are built on science. But this dominant theory has been attacked on its non-operational concepts, some being not susceptible of verification. Some economists contesting the "scientism" have based their theories on the observation of economic facts and on economic history (List, the German historical school), therefore dealing with interstate power issues. Others have integrated the tools of other disciplines, such as sociology (Veblen), notably for explaining war in capitalist economies. This reject of scientism has also contributed to the development of a more "pragmatic" approach of applied economics with, among

¹ One exception could be "Guerre et Paix" written by J. Proudhon, but this book may as well be considered as dealing with politics rather than economics.

² An early important writing on this topic was Albert Hirschman's analysis of the foreign economic policy of the Third Reich as it was subjugated to the political goals of expanding the national power of Germany. (Hirschman, Albert O., *National Power and The Structure of Foreign Trade*, University of California Press, Berkeley, CA, 1945/1980).

other subjects, studies advising governments for the management of the war and after-war economy.

Historically, a first rupture has opposed the mercantilist analyses to the classical ones. The economy was an instrument of power in the hands of politicians. Indeed it was thought that the development of economic interdependencies through the market, emerging from the actions of the states, should ineluctably lead to an international peace. Following this logic, Neo-classical economists of the end of the 19th century have been preoccupied to construct a pure economic theory, that is, exclusively centered on the explanation of the economic mechanisms, without any political consideration. With these two corpuses of doctrine, the support or the contesting of the theme of the international peace through the economic development has constituted the main angle of economists' study of international relations.

The dichotomy between the two conceptions of the warlike or pacifying character of economy is based on an original perspective of international relations that is still valid today. Nevertheless, the separation has been softened by several theoretical gaps beyond frontiers, even leading to the forming of true heterodoxies. In each theoretical side, the basic position on the links between national power and economic development, and their respective prerogatives, has been qualified. F. List's theory even directly criticized the cosmopolitan liberal optimism. Another perspective appeared during the 19th century, coming from a thought on capitalism as a specific economic system, liable to be challenged or replaced by other alternative systems. The debate started at the end of the 18th century has then been partially obscured by the analysis of the militarism's role in capitalism's survival, notably with the Marxist analyses and their contesting by heterodox economists such as Veblen or Schumpeter, who introduced a sociological perspective in their economic analysis. Other economists defending the market system, such as Keynes, have also tried to develop a political economy interested both in the scientific process and in the practical considerations of the governments of that time. A third interpretation of defense economics has developed since World War I: the theoretical analysis of the concrete economic problems raised by war and postwar situations on the one hand and by the high level of military expenditures in Western countries on the other. Indeed, the debate on the warlike or pacifying character of economy is not closed yet, with the ideas of globalization or economic war.

Three main economic approaches of defense and security issues may be distinguished:

1) In a normative relation, some economists have based their analysis of international relations on the idea that economy is a factor of peace. It was the perspective of the Physiocrats, then of the Classical and Liberal economists, that have widely used the argument of the international peace to justify free trade and condemn military expenditures. The exclusion of defense and security issues out of the field of the "pure" economic analysis is a preliminary condition of revealing the "true" laws governing the economy.

2) Other economists have criticized the liberal "dogmas" and insisted on the interrelation between foreign policy's considerations and the economic policy's ones. The links between power and economy have been underlined, first by the Mercantilists, then by List, the Historical School and after World War II by some heterodox economic analyses. The formulation of mathematical models using the economic methods to explain State strategies has also contributed to the acknowledgment by the economists of the close links between economic and strategic considerations within governments.

Like this, the economic analysis was able to integrate interstate power relations in its field of analysis.

3) A third approach has consisted in totally integrating defense and militarism's issues in its analysis of the market economic system. The foreign policy and military expenditures were then presented as very important to determine the state of the social relations. This perspective has been used whether to contest the capitalist system (Marxist current), whether to better defend it (institutionalism, socio-economy, Keynesianism...).

Each of these three approaches has its origins in the great founder currents of economic thought and can be found all along its development. They will be successively presented here.

I - The theme of the pacifying economy

One theme always reappearing since the 18th century in economic works is the one of economy as a factor of peace, that is, that the free functioning of its laws should normally lead to suppress all cause of international conflict. This idea has had two versions in the course of history:

- The respect of free trade is the only foreign economic policy that is justified by the theory since it uniquely allows the enrichment of all nations through exchange and the maintenance of a peaceful international political context, favoring the development of trade and the prosperity of national economies.

- The progressive revealing of the "true" laws governing the economy should durably influence the concrete political orientations, therefore decisively contributing to the march towards societies' progress, of which the crowning achievement should be a universal and lasting peace.

I.1. Economy's free functioning, guarantee of the world peace

It is first by underlying the fact that the national power depends from economic prosperity that the economic reasoning has been undertaken. The spreading of arguments of war as a waste and of peace as necessary for economic development has allowed the constituting of an autonomous economic science.

I.1.1. Economy as a condition of the state power

In opposition to the original Mercantilist conception of economy as an instrument in the service of politics, the Physiocrats have considered that the nation would be all the more powerful that no political action, of an economic or military nature, would impede the good functioning of the Nation's order, issued from the divine Providence. The economic analysis only progressively became autonomous from political considerations. Like this, forerunner of the Physiocrat thought, P. de Boisguilbert advocated for measures favoring agriculture, notably the taxes' decrease and the free circulation of corn. This should restore prosperity, which was an essential condition of the maintenance of a powerful army. Considering industry and trade as "sterile", F. Quesnay did not insist on the benefits of free trade. But implicitly, his system needed the peace to function. He denounced the costs (waste and State indebtedness) of the useless wars led to conquer markets or colonies that are illusory richness, as only agriculture creates a surplus. The maintenance of France's power on

the world scene however remained one of his preoccupations, but it implied first the return of the agricultural prosperity. Even if they did not give up the idea of trade's "sterility", the disciples of Quesnay (Dupont de Nemours, Mercier de la Rivière, and Mirabeau) developed more "cosmopolite" ideas, with concepts such as the "society of nations" or the "world family". Later, Turgot's thought has marked an evolution, while considering that it was as important to sustain industry and trade than agriculture.

I.1.2. Free trade as a factor of peace

The Classical thought presented economy as being necessarily pacifying. The normal functioning of economy should lead to an optimal situation, characterized notably by the end of wars and a decrease of military expenditures. Wars were then due to drawbacks of the existing system, notably coming from the State's intervention. The Classical theory born in England at the end of the 18th century has therefore asserted the necessity to give up wars and commercial conflicts, when advocating for State non-intervention in foreign economic affairs. Adam Smith has proposed an optimistic vision of the automatic realization of peace through the respect of free trade and free concurrence laws. He was directly opposed to the Mercantilist principles and he has defended the conception of an economic body naturally ruled by an invisible hand. Wars were denounced as constituting a waste, military expenditures should serve only for deterrence, and the burden of the colonies was also criticized. However, this discourse reflected the will to construct a realist theory; the national power being considered as more important than opulence, the principle of free trade might be bent, like with the Acts of Navigation. The relatively optimistic vision of Smith about the future achievement of international peace has been systematized in France in the works of J.B. Say. In the long term, the progress of the political economy, and first of all the "Loi des débouchés", should definitively convince the governments of the superiority of free trade. Governments should become more dependent of the class of the producers, who would tend to work together to influence the governmental decisions, therefore guaranteeing a lasting international peace.

But a pessimistic current of the Classical school has tended to develop analyses free from all prognostic of the long-term evolution of international relations. David Ricardo is often presented as having defined the main rules or laws of the liberal paradigm of the international peace through the respect of free trade. But he made only few general provisions concerning the international relations evolution. In the long run, the economy should attain a stationary state, the international trade being only a palliative, efficient in the short and mid-run, to the ineluctable decrease of the profit rate. Some parts of his texts concerning power issues reveal that they remained very important for him, though they disappeared with the theoretical abstraction. More optimistic, J.S. Mill has announced that the military spirit should definitively disappear. But he also considered that when the stationary state is attained, to the aim of economic progress would be substituted the one of humanity spiritual potentialities' development. Openly pessimistic, T.R. Malthus has predicted that, humanity being threatened by over-population; the insufficiency of outlets and territories should in the long run provoke some wars. Human action being sometimes determined by passions, out of all economic rationality, the government had to take some measures so as to ensure the national security, even if it was to the detriment of free trade.

With their pessimism concerning the unlimited potentialities of economic development, the theoreticians of the stationary state have tempered all prognostic on the achievement of a lasting international peace, therefore implicitly recognizing a limit

to the economic explanation of international relations, whose evolution remains undetermined in the long-term.

I.1.3. Economy as a society's guide

In spite of the diverse theoretical oppositions, the liberal thought reassessed at the end of the 19th century its faith in the pacifying character of economy, continuing a kind of classical tradition, notably in France, with works following J.B. Say's ones. Their style of thought was more preoccupied with concrete considerations of economic policy than with the abstract theoretical reasoning. One argument, notably that of F. Bastiat, was the denunciation of the tax system, which allowed to finance foreign policies that went beyond State's prerogatives (order, security, justice) and the assertion of the superiority of the free plan of market mechanisms. War was presented as useless, since the civilized nations possessed a productive industry and were able to defend themselves against barbarous invasions. The policy of European nations "over armament" had an economic but also strategic cost, because of the subsequent insecurity. War was counterproductive, it induced human and material losses, capital destruction, an interruption of exchanges. In his texts of economic policy, Pareto has also denounced the militaristic derives of the European parliamentary regimes, and their subsequent indebtedness.

Neo-classical economists of the end of the 19th century have been preoccupied to construct a pure economic theory that is, exclusively centered on the explanation of the economic mechanisms, apart from all political consideration. They wished to build a "scientific" theoretical system that should definitively ensure humanity's happiness. Their methods of microeconomic reasoning were not adapted to the analysis of wars. Two great economists of this current, Léon Walras and Vilfredo Pareto, have however sought to construct applied economics, complementary to pure economics, which notably considered defense or economic policy questions. For Walras, the State intervention was justified in the few great fields (defense, education, monopolies) where the law of demand and supply did not work. His conception therefore did not differ from the Classical one. Defense imperatives might sometimes justify to stretch free trade principles, but the issues of foreign economic and strategic policies had to be left to the politicians and did not concern the economist. Neither trade treaties nor protectionist measures could be scientifically justified, even in the cases where defense and economic security were concerned. These issues did not concern the pure science, neither the applied science, but only politics. In this way, Walras aimed at suppressing the ambiguity of the liberal economists on this point, for example the position of A. Smith on the Act of navigation.

I.1.4. Economy as an ultimo determinant of international relations

Events such as the end of the Cold war, or the development of new technologies of information and communication, have recently contributed to the creation of a new international order, that may appear to be less dependent on political factors than the former one, the economic logic being dominant. In this point of view, political institutions would become less influent in a context of economic globalization, characterized by growing economic interdependencies and a rising power of internationalized institutions, such as multinational firms. In a way, one can recognize in these ideas the old liberal ideal of a world that is pacified thanks to the free play of economic mechanisms, in a general context of economic liberalization and economies' opening.

I.2. Peace through the spreading of economic knowledge

While aspiring to become a science, the economic analysis has underlined the necessity to spread its precepts to governments and populations, therefore aiming at leading the world towards a lasting peace.

I.2.1. Defense out of the economic law

Boisguilbert has considered that economy was functioning according to laws that are similar to the ones of physics. Its mechanisms may be perverted by policy. In the same way, Quesnay has compared the national economy to a living organism, a “circuit”, which laid on its own laws, without requiring state intervention. Moreover, the divine Providence raised some limits to a nation’s power, so as to guarantee the world harmony (principle of balance). In the continuation of the ideas of the Lumières, Turgot has stated that humanity is progressing and that the universal peace should be its crowning achievement, even if it was impossible to avoid wars that were necessary steps in its evolution. Later, liberal economists have expressed the ideas that economists should advise government about the superiority of free trade, therefore contributing to the instauration of a better society. Like this, J.B. Say has asserted that his “Loi des débouchés” should have a great impact on society's evolution, as it should definitively convince European governments of the necessity to give up armed and commercial conflicts and to limit their action to a restricted field. In the same way, Walras shared the conviction that his own theory should contribute to save the capitalism, as it consisted a valuable alternative to the opposition between individualism and communism or liberalism and socialism. The economist should reveal the true laws governing economy, and governments should progressively be gained to the idea that free trade and free competition should lead to a general economic equilibrium. Like this, the achievement of a state of universal peace should represent the crowning of the economic science. He links this aim with the one of land collectivization that should allow the state to suppress all taxes and to settle an absolute free competition system. The theme of the universal peace was central in his “applied economics”, that he considered as the most essential part of his works.

I.2.2. The obsolescence of war and the “pacific education”

Another dominant idea of the liberal thought concerning security issues is that the institution of war had become obsolete. F. Bastiat has presented the progress of sciences, industry and fine arts as contributing to the popular consciousness of the peace benefits. He has recognized, like other authors (Chevalier, Leroy-Beaulieu...) that war was inherent to human nature. But society being ruled by “harmonic laws”, the logic of Spoliation should be replaced by the one of Production, the armed conflict by the economic competition, and the aggressive defense policy by a defensive one. Bastiat has called for the total and immediate disarmament of France. This should generate the decrease of the taxes and therefore of the means of war. If it were carried at the European level, this measure would mark the beginning of an era of a lasting world peace. For Gustave de Molinari, war was no more useful for the development of civilization. He has proposed the constitution of an international organization for the maintenance of world peace.

Economists' pacifist ideals have been developed in other countries, notably in Great Britain. For example, in 1910, while criticizing the European arms race, N. Angell has presented the civilization's progress as generating a reduction of the psychological influence of the physical force, human forces more and more to be transferred at the intellectual level, including within the army, of which the efficiency depended on engineers and technicians. The psychological progresses should equally favor a collective responsibility, an awareness of the necessity to give up wars between states. In Italy, adopting an evolutionist point of view, Pareto has asserted that the social selection through the economic conditions reinforces the society's defense capacities and that the institution of war is now obsolete.

Some economists have actively participated to the diffusion of these peaceful ideas. Like this, in France, F. Passy has received the Nobel Prize in 1901 with H. Dunant, for having founded the International League for the Peace and the Society for International Conciliation. Favorable to a European economic union, he has denounced the cost of wars but also of the "armed peace". He considered that the "pacific education" must be spread in the public opinion, in a perpetual action to convince of the necessity of peace. Since the end of World War II, the economists' peace movement has kept on growing. Several organisms have been constituted, to promote research on peace, notably UNIDIR and ECAAR. Famous economists, such as J. Tinbergen, A. Sen, K. Arrow, J.K. Galbraith, R. Eisner, developed such initiative L. Klein, W. Isard, K. Boulding.... Even if economists alone cannot solve the questions of pacific conflicts' resolution or arms race, they both contribute to a better understanding of war or international tensions and, as citizens, denounce the excessive long-term cost of the arms race. These thoughts have also dealt with disarmament issues. The idea of the central role of the economist to guide societies towards a progress notably characterized by a permanent state of international peace has then been maintained since the origins of the political economy.

II - Interrelations between foreign policy and economic policy issues

In rupture with the liberal logic linking peace and economy, another economic perspective has often prevailed, around the idea that economy is an instrument of power, developing analyses of power policies, whether military or economic. These arguments were essential to legitimate these theories contesting the liberal point of view.

II.1. Power concerns at the heart of the economic analysis

Since the origins of the economic reasoning, many economic analyses have stated the impossibility to understand economic issues without considering the international power relations.

II.1.1. Economy in the service of the Prince power

The mercantilist thought assembles a body of principles more or less well defined (and sometimes divergent between countries) which have been defended during more than three centuries by statesmen, advisors, businessmen, all very concerned by the defense of national economic interests. As a nascent field of analysis, economy has first been thought with respect to the political sphere. The question was to enlighten the

action of the Sovereign, in a context of the forming of European nations and with the will of internal political unification. Today, after several debates, analysts agree that the mercantilists through their economic reasoning jointly pursued the two aims of power and wealth. Mercantilists estimated that only the production that leads to an export surplus was really productive and created riches (doctrine of the balance of trade). This conviction had an immediate corollary embodying a conflicting and competitive conception of international relations: justifying the use of aggressive commercial policy measures (import limitation, export promotion, impoverishment strategy, arms race, embargoes...). It has later been emphasized that the conviction according to which a country could only increase its market at the detriment of its neighbor was based on an erroneous static conception of international economy. Nevertheless, the economists of the German Historical School, as well as J.M. Keynes and J. Schumpeter, have defended the validity of the mercantilist reasoning, in the specific context of the international economy at that time.

Great divergences separate the mercantilist currents, some authors being rather favorable to trade liberalism. Progressively, as if the thought on the economic mechanisms was inducing some desires of independence of the discipline, the primacy of the economic development for the national interest has been underlined by some mercantilists, mainly in England at the end of the 17th century. Many works have indeed celebrated the essential character of trade and production and denounced wars of conquest that were led for unjustified reasons (Mun), advocating notably for the reject of taxes (Bodin and Mun). Moreover, the idea of a civilizing trade, generating the peace, began to develop, with accents that were portent of the future liberal theory.

II.1.2. The pragmatic and historical justification of war. The production of defense.

Politics have been isolated from the liberal theories whether because of an enthusiastic confidence in the pacifying character of the market or because of the implicit recognizing of the partially autonomous character of international relations' evolution. However, they return into the economic analysis in the middle of the 19th century, with the German economist F. List, who has wished to show the close links between politics and economics. In his "National system of political economy", List has developed a surprisingly modern conception of defense, larger at least than the one applied by the British Classical. He has been the first economist (though in many aspects his theory was close to the one of the American politician Hamilton) to integrate economy as a central element of security and to present this one as an element of the national economy functioning and of its place in the international hierarchy. The theoretical system elaborated by A. Smith was only fitted to the particular case of England. The emerging industrial powers like Germany could only develop their industries shielded by protectionist barriers, destined to disappear once they are ready to face international competition. The increase of military power was necessary to save national independence, and the German empire should be increased through territorial annexation and colonization. In the very long-term, all nations would have reached the same level of development and would be able to unite into a universal confederation, which would guarantee the perpetual peace.

The German historical school sought to create a theory that would constitute an alternative to the liberal theory. Wars were analyzed as necessary steps for economic development. A new political community could only survive with the adhesion of the population. The search for self-sufficiency and independence, as well as conflicts with foreign states, helped gathering individual interests around the collective one. These

theoreticians have defended the State economic intervention and sometimes promoted war as an essential mean of the national power, notably because it exacerbated the feeling of patriotism. G. Schmoller has indeed presented the political economy as having to study two determinant causes of the economic organization: the “natural and technical causes”, and the “causes coming from the psychological and moral life of the people”, this latter being generally forgotten by economic theory. Moreover, the economic role of armies and military expenditures has been largely studied. The nation had to always consider the eventuality of a foreign invasion, even more probable that the nation got richer. The idea of disarmament was therefore utopian. However, some theoreticians of the German historical school, and especially the most famous ones (Schmoller, Roscher), have greatly insisted on the pacifying virtues of trade, and have rejected the maintenance of an excessive level of military expenditures.

II.1.3. The integration of interstate power relations in economic analysis

While formalized and empirical analyses of arms race, alliances or military expenditures have remained "a-political", since the 1980's, a growing attention has been put on the strategic dimension of economic policy and to the concept of "economic war". Those studies are generally distinct from the orthodox liberal theory, even if new concepts have contributed to the development of a new theory of international relations, modeling the protectionism and "strategic commercial policies" (cf. P. Krugman). There seems today to be a renewal of international political economy, besides economic science. A.O. Hirschman and T. Schelling have developed in the 1950's some pioneer analyses in this field, in studying the vulnerability of national economies to initiatives of economic war or attempts of political influence by the great powers. Other studies have then been engaged, notably on the use of the "economic weapon" (K. Knorr, R. Gilpin). Several formalized models have also analyzed the link between the conflicts and the intensity of trade relations between nations (S.W. Polachek, J.E. Roemer). Moreover, a part of the contemporary economic literature in the field of "international relations" deals both with their commercial and strategic aspects. These studies can sometimes be linked to a "neo-mercantilist" current that has developed since the 1980's in opposition to the liberal theory and therefore to the idea of globalization. The neo-mercantilist analysis is not based on precise theoretical foundations, though it must be related to the neo-realist current in political science, neither on reference works. It is characterized by the study of the strategic dimension of economy and by an enlarged definition of defense and economic war, the national industrial competitiveness being a determining factor of the national security.

II.2. The economic analysis of defense policy

Economists' interest for a technical and empirical thought on defense related issues, aroused with World War I, was amplified after 1945, opening the way to an apprehension of defense as a specific field of economic analysis. In the second half of the 20th century, the use of modeling and statistics became widespread, inducing a splitting up and a specialization of the economic science on particular subjects. Studies on defense issues notably multiplied and “defense economics” therefore became a recognized field of economic analysis. It mainly regroups works on military expenditures' determinants and consequences, and models of defense strategies and conflicts. The use of modeling and econometrics has served economists to debate on the economic consequences of national and international militarization, as it has been shown in 1).

The Neo-classical theory had induced an eviction of defense out of economic analysis field. In the 1960's, arms race models have allowed a reintegration of economic variables influence on strategic decisions about national and international security. The development of game theory has also contributed to the modeling of strategic interactions but one may question whether the economic aspect of conflicts is not forgotten. The arms race models were for the most part derived from the Richardson's model (1960). They more or less explicitly described "Cold war" and "pacific coexistence" situations of post World War II. But the Richardson model did not clarify the conflict starting process and it only implied a limited number of behaviors, a linearity hypothesis and perfect information, which might not support reality. Internal determinants (like bureaucratic inertia, the role of pressure groups, of political balance...) were not studied; moreover, the "stabilizing effects" of economic variables were not sufficiently clarified, notably, the problem was raised of the arms race limit, i.e. of the cost constraint.

Since the 1970's, the hypothesis of maximization under constraints of social utility is made in the almost all arms race models. This adding allows to make "normative" analyses, based on the postulates of rationality and maximizing behavior, and then to transcend the "mechanical" character of the Richardson's model, introducing the actors' behaviors. Duopoly and game theories are then used. The "sub-optimality paradox" of the arms race may then be explained. But, even developed by economists, these analyses, and notably the ones of Brito and Intriligator (1995), in which war is above all explained by the lack of information and the strategic implications of an arms race between two nuclear superpowers, tended to separate from economic considerations, to the benefit of strategic ones. Economy is not a significant conflict explanatory determinant; it only appears in the expression of population preferences for civil consumption rather than security. There has been an over-development of the strategic analysis to the detriment of economic considerations, which may have prevented economists from predicting international environment changes, notably concerning USSR, and therefore to underline the opportunity of an international disarmament. The economic dimension has been reintroduced in some arms race models, through a better taking into account of the resources allocation to military sector process. But the main lack of these studies is the non-integration of the ideas of economic war (i.e. the expression of the possibility to use economy as a "weapon") or of the globalization process (with the development of economic interdependence).

III - Capitalism and militarism: the question of the social relations

During the 19th century, some analysts have presented the market economy as a specific system, liable to be challenged by other kind of society's organizations. Different economic analyses have been raised for the contesting or the defense of the capitalist system, studying its internal functioning, and often presenting militarism as a central cause of its maintenance or, on the contrary, of its fragility.

III.1. War and the threat of war at the heart of the capitalist system functioning

While the marginalist revolution has renewed the liberal thought, a radical contesting of the capitalist system developed, first with the Utopians economists, then with Marx and Engels, and with the theoreticians directly inspired by his theory. War and military expenditures were presented as issued from the capitalist economic system's contradictions. Confronted with those critics and the reality of international conflicts, economists concerned with the market system's preservation have then given heterodox explanations of war and economic conflicts between capitalist countries.

III.1.1. The Utopians' pacific reforms versus Marx's revolutionary war : two opposed solutions to end capitalism prone to war

During the 19th century, several economic theories have been developed, which were generally little rigorous, carrying a pacific project so as to lead society towards peace. Marx called them the Utopians and opposed them to scientific socialists defending dialectic materialism. These Utopian economists (socialists, but also anarchists or communists) were generally fighting against the capitalist mode of production, especially against private property or competition rules, and above all against the big misery of the labor class. Defenders of the French revolution ideas, they were convinced that France had a historical role to play in the society's reorganization. Nevertheless, their works were more concerned with the description of the ideal society to come than with the analysis of contemporaneous international relations. Advocating for social reforms, they were opposed to all kind of violent action to change social structures. Besides, they developed some very modern principles of economic policy, notably concerning the building of a Europe of defense and of great public works, as well as the productive use of armies.

In spite of their interest in conflict issues, whether military or economic, external or internal, Marx and Engels did not really apply the historical materialism theory to this field. Marx had however expressed the wish to write a book notably dealing with the subjects of the State, of international relations and of the relations between military and civil industries, but this project was never realized. However many texts of Marx or Engels have been more or less directly devoted to those questions. In Marx's theory, only little doubts remain concerning the fundamentally conflicting character of capitalism and then of capitalist interstate relations. Political conflicts were directly determined by production's relations, which were characterized by important contradictions, leading to a progressive decrease of the profit rate and to the class war. The international economic competition, first progressive in comparison with capitalism, has itself become retrograde, deserving the bourgeois class to perpetuate its economic domination, which would be contested by the proletariat. The competition on foreign markets was harsher and harsher, rising up nations against nations. The whole free trade analysis came then down to transpose the class war to relations between nations. However, the interpretations of international conflicts raised up other problems. Little indications were given as for the nature of the events that would give impulse to the passage from one mode of production to another, even if revolutions or wars seemed to be the most evident explanations. But all international conflicts were not equally positive because some might be retrograde. From this perspective, from 1883, Engels predicted the outbreak of a total world war, but at the end of his life, he expresses the fear that this would engender an outburst of chauvinism. Similarly, Marx and Engels have never applied their determinist economic theory to a systematized analysis of international conflicts. The passage from economic theory to political analysis proved to be complex, notably on the question of the identification of the true factors of social progress.

III.1.2. Divergences of Marxist theories on the consequences of national economies' militarization on the maintenance of the capitalist system

This aspect of Marx's theory has been subject to many continuations and interpretations, all along the 20th century, notably concerning the conditions of the socialist revolution and the role of military expenditures on the long-term capitalism's durability.

The theoreticians of imperialism, as for them, have gone beyond the separation between economic analysis and predictions concerning the long-term evolution of international relations. Their analyses were based on Marx's conclusions concerning the capitalist decline, caused by the law of the fall trend of the profit rate. To thwart this law and delay its ineluctable collapse, capitalism had to adapt itself: industrial concentration and increased international competition for foreign markets characterized advanced capitalist economies that led imperialist policies. Nevertheless, all theoreticians did not agree about the ultimate result of capitalist economies' evolution or about the necessary collapse of capitalism, favored by inter-imperialist conflicts. Wars might indeed be prevented thanks to agreements between capitalist interests, or the resistance of the proletariat and middle-classes (Hilferding), or an agreement between "ultra-imperialist" powers, creating a big world trust (Kautsky). The orthodox current remained however confident in the idea that capitalism was at the eve of its collapse, whether because it had reached the ultimate state of imperialism (Lenin) or because there was no more outlets in non capitalist zones (R. Luxemburg), or because the military struggle should be the obliged conclusion of international economic wars, at the stage of "State capitalism" (Bukharin). With these theoreticians, the economic theory was in the service of the political action, even of the ideology. On the other side of the theoretical and political scene, the neo-classical and liberals have reasserted their faith in the fundamentally peaceful character of the market, until the eve of World War I.

At the same time of the domination of the economic science, the Marxist theory has contributed all along the 20th century to perpetuate the tradition of political economy. After World War II, the theories of imperialism have been renewed, with theoreticians of the Third World, using the concepts of domination and dependence. Some specific studies have also been developed about the role of the military sector in the functioning of the capitalist system, especially its influence on the profit rate.

III.2. "Turbulence " inherent to capitalism

The two world conflicts have eroded the Liberal/Neo-classical optimism concerning the superiority of the market economy, therefore favoring some heterodox theoretical movements. These have appropriated the Marxist characterization in terms of systems. War and military expenditures were important to explain the nature of the capitalist system and to anticipate its chances of survival.

III.2.1. The heterodoxies of the inter-war period: economists confronted and in touch with war

World War I has induced both series of new thoughts about the militaristic character of capitalism, and a renewal of the economists' apprehension of the State's role in economy.

1- The future of capitalism in question

World War I had relatively weakened the liberal theory, which did not propose any real explanation of international conflicts. Like this, this conflict could be considered as the ultimate inter-imperialist confrontation announced by the Marxist theoreticians. But some economists have tried to refute the arguments of the Leninist theory of war or to give alternative explanations. Three "heterodox" economists have presented some similitude on this subject, as their explanation of international conflicts was integrated in an analysis of the social structures' evolution: Sombart, Veblen and Schumpeter. Those authors analyzed the "military spirit" as a characteristic that was essential for the capitalist development, but tending to be weakened, what constituted a danger for the system's survival. For Sombart, the increased bureaucratization of the society reduced the initiative spirit. For Schumpeter, even if the geographical outlets (militarily conquered for most of them) have had an historical role in the capitalism development, other types of outlets might have a greater impact on the long-term economic dynamic, notably those procured by the technical progress. But the increased power of the bourgeoisie, to the detriment of the military class, might cause its end, because this class was fundamentally rationalist and "anti-heroic", and then unable to lead its foreign policy. Warlike charismatic leaders might then take the power, what was all the more probable that there was a lack of democratic representation of the economic interests within the society. Veblen also considered that the military spirit remained underlying in modern societies, though they were fundamentally peaceful, and that "dynastic" tendencies might reappear at each conflict. He therefore pleaded for an economic and military disarmament. His texts on war, peace and defense issues are numerous, but they have often been neglected, because of a supposed insufficient scientific rigor, mainly due to the "multidisciplinary" orientation of this analysis, which links economic, political, sociological and juridical thoughts. Such a critic is unjustified if one considers that Veblen shared the ambition to reform the whole social science and that he rejected the orthodox theory considered as too static and unable to take into account institutional changes, that were however essential to explain societies' evolution. His theory on war and peace is both simple and complex. Simple, because it represents a theory of the evolution from the dynastic (warlike) State towards the modern (pacific) state, and of the probable return to the dynastic State, through a series of arguments that are easily identifiable, but complex, because determinism is absent from his works. Unlike Marx, he did not propose any "law" of society's evolution. This depends on the permanent adjustment between instincts and institutions. It is therefore impossible to predict their future orientation. His position on peace is especially representative of this non-determinism. While warning against the danger of the exacerbation of militarism in developed countries, Veblen also recognizes the progresses of the world peace that may last.

Besides those sociologic-economic analyses, other studies have been developed, notably with the use of statistical techniques so as to show the recurrence of "war cycles" corresponding to "long economic cycles". But the current of the economic science has not built any systematic theory of international conflicts.

2- The economic study of the two world wars and their theoretical repercussions

Another answer of the liberal theory has been to develop some precepts for the governmental management of the war economy, especially in the field of war finance, in a permanent will to allow a rapid retreat of the State interventionism after the conflict. A.C. Pigou but also J.M. Keynes contributed to this work. Besides, Keynes has reconciled in a complete theoretical system the two sides of the economic analysis, while remaining a defender of the market economy. He wanted to build a theoretical

system able to explain all economic mechanisms, while answering to governments' practical problems, such as the monetary policy. He has also analyzed the economic consequences of World War I, developing the conviction according to which international peace could only last in a context of economic prosperity. He therefore advocated for measures of international economic policy: cancellation of inter-Allied debts, decrease of the reparations imposed to Germany by the Treaty of Versailles, use by each nation of a temporary protectionism so as to restructure its economy in a time of economic crisis, but refusal of an international economic war that could only lead to an armed conflict, use of economic sanctions towards non democratic and aggressive regimes... Keynes has then widened the concepts of defense and security, they were not only limited to the questions of war's preparedness and management but they were also concerned by economic security, ensured by national economic independence as well as the good functioning of the national economy.

3 - The economic analysis of military expenditures

Since the end of World War II, the rise of military expenditures has induced the multiplying of studies on their economic consequences, in the continuation of Neo-classical (on the supply side, they study in the model of B. Biswas and R. Ram the size effects and externalities induced by the military sector on the rest of the economy) and Keynesian (on the demand side, they study, notably in the model of R. Smith, the crowding-out effect of military expenditures on investment) theories. Results of these different studies were heterogeneous and they opened an important field of debates between economists (concerning principally the hypothesis of Emile Benoit on the positive relation between the militarization and the economic development of developing countries). The validity of macroeconomic models have often been questioned: problems of international selection, international comparisons, of the choice of the studied variables and of the econometric method used, or of the non-consideration of the long-term structural effects of the military expenditures reduction. Several well-known economists have also analyzed the economic consequences of disarmament with great national macroeconomic models (World Model of W. Leontief and F. Duchin for the analyses of industrialized countries disarmament consequences, with transfers of the spared resources towards developing countries; MULTIMOD model of the IMF, LINK model of Lawrence Klein...).

III.2.2. Heterodoxies of past World War II: the continuation of traditional analyses

After World War II, other heterodox analyses have been developed. The current of the "military keynesianism" has considered that if the aggregated demand was weak relatively to the productive potential, the rise of military expenditures would lead to an increase of demand, profits and economic growth. However economists such as J. Robinson to show that military expenditures exert a negative effect on the economic growth, other public investments being more efficient, have also used the "Keynesian" reasoning. Other analyses have been widespread: like this, Rostow has presented war as a crucial step in the national economic development; for F. Perroux, the peaceful coexistence and the systems convergence lead to the reduction of military tensions and mark the beginning of the "end of the war". In 1967, an anonymous report prefaced by J.K. Galbraith analyzed war as one pillar of the capitalist system. Defense would then be only an apparent function of the war, this one having other non-military functions, especially economic, political, and sociological ones. War's disappearance was then unlikely, even if war's substitutes could be promoted.

CONCLUSION

Throughout the history of the economic thought, militarism, defense issues, as well as war and peace have been obliquely analyzed. For each current, there is an inherent conceptualization that grows out of the substantive issue area, not out of economic theory. Each of these conceptions raises a broader question about conformity with the standard bearers of economic thought: the market economy and free trade. The analysis of militarism has even been inherent in much economic advice in regard to social reforms in western societies. This is true in large part because great wars have always generated statist incursions in economy that have contributed to the growing importance of its economic role. But at the beginning of the 21st century, one can question the true progress of the economic analysis of war, peace and defense issues. Indeed, though several mathematical and statistical studies have been developed on these subjects, the old debate of economy as a factor of peace or war endures, with the contemporary confrontation between the idea of a pacifying economic globalization and the maintenance of economic wars, as another aspect of a permanent international struggle for national economies' expansion.

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Acknowledgments to Professor Michael D. Ward, at the University of Washington, Seattle.