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THE SPIRIT OF DEFENCE AND ITS DETERMINANTS

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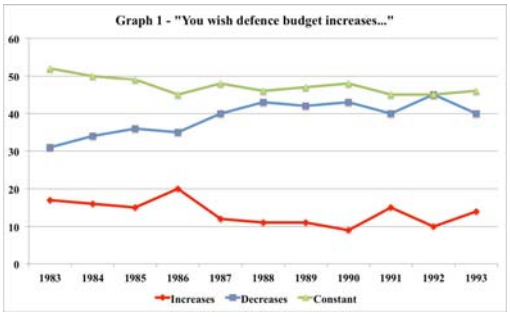
In the 1789 Declaration of the Rights of Man and of the Citizen, one can read: "For the maintenance of the public force (…) a common contribution is essential. All the citizens have a right to record by themselves, or by their representatives, the necessity of the public contribution, to consent to it, to follow its use" [1]. From a patriotic point of view, the necessity of the public contribution for the maintenance of the public force is not disputable, it is an axiom, for the nation's vital, or even fundamental, interests are priceless, so that the defence of their integrity may justify from any citizen a total engagement that is to the death. It is what general Joseph Joffre affirmed, one century ago, in his famous order of the day to an army of mobilized citizens, on the 6th of September 1914, at the beginning of the battle of the Marne: "At the moment when a battle begins of which the country's safety depends, it imports to recall to all that the moment is no longer to look at the rear. All the efforts have to be used to attack and repel the enemy. Any troop that cannot advance has to keep the conquered ground at all costs and be killed rather than draw back. In the present circumstances, no weakness can be tolerated" [2] This conception refers to the idea that the citizen, mentioned in the Declaration is the last wall of the city in the extreme situations and is related to the word: "patriotism". In this case it is better to quote Thucydides: "If we turn to our military policy, we differ also from our antagonists (…) trusting less in system and policy than to the native spirit of our citizens" [3]. The expression "native spirit" is ambiguous and the word "patriotism" has no longer, to day, the favour it had during the years of the Great War, especially because it is naturally associated with the war, because the war reveals the patriotism or because the patriotism causes the war, through the nationalism. In the current French political discourse, one prefers to use the expression "spirit of defence", by which the official language means the community's willingness to use the force, if necessary, to defend their interests. Knowing the violence that seems to haunt the mankind, this spirit of defence may appear natural, if it had not a return: to carry violence against others means to accept suffering their own violence. So the willingness to defend oneself is expressed by the consent to pay in "blood, toil, tears and sweat" [4]. But only the ordeal allows knowing if a spirit of defence animates people or not. It is easy to say a posteriori that in 1914 the French people showed more patriotism than their sons in 1940 [5]. It would have been more difficult a priori, even if the "blue line of the Vosges" ideology prepared better to the

sacrifices of the Marne, and the "war to end all wars" ideology to the "shame" [6] of Munich and to the debacle. But there are prices that are paid without any such ordeal: for preparing oneself to face up a potential ordeal or for organizing its deterrence [7]. In this case, "sweat" means "money" through the military expenditures or the defence effort. The first expression simply designates the funds allocated to the maintenance of the military services. It is useless as soon as one is interested in a comparison through time or space. The defence effort, which refers to the ratio of military expenditures to state's budget, or national income or gross domestic product, has no such weakness. And by its connotation of sacrifice, it is well adapted to the concept of spirit of defence [8]. Anyway, defence economists have tried for a long time to explain statistically the defence expenditures or effort accepted by one or several states. Among explanatory variables one finds: the gross national product; the population; the enemy's military expenditures; the allies' military expenditures; political ideologies; border length; communication lines length [9]… Economists have tried a lot of statistical relations between the defence effort or expenditures and different explanatory variables [10], ending up in contradictory conclusions because applied to different countries, in different periods and with different statistical methods. This disappointing statement shows perhaps that there is a missing link in the explanatory line. And this link could be the nation's spirit of defence. It would explain why, in front of a given threat, a given vulnerability, and with given resources, they may as well increase their effort as cut it or do nothing. But at a condition: this intermediary variable has to be constant or follow a known law of variation. The present paper will be dedicated to the study of this intermediation. The first part will present the "consent to pay" concept and give its measure in the French case. The second part will try to make a list of its potential determinants and to test them as explanatory variables.

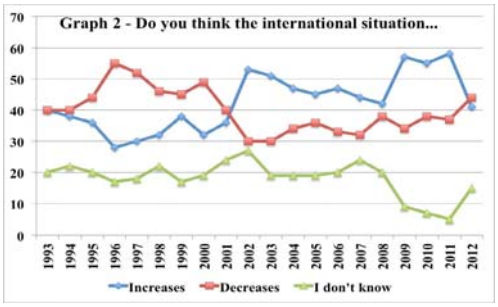
1 IN SEARCH OF THE FRENCH PEOPLE CONSENT TO PAY FOR DEFENCE

The word consent is rather absent of the economic language that prefers to use "propensity": "We will therefore define what we shall call the propensity to consume as the functional relationship χ between Yw a given level of income in terms of wage-units, and Cw the expenditure on consumption out of that level of income" [11]. So the reasoning shows a dependent variable, consumption, and an explanatory one, income, linked together by a proportionality coefficient. But the same reasoning adds that this coefficient could well be variable so that the consumption could vary non-proportionally to the income. So studying the propensity determinants becomes very useful when trying to forecast the effects of income variations on consumption, even if one decides that because of the length of the chosen period, these determinants have no effect, so that one can reason as if the propensity was constant: "For whilst the other factors are capable of varying (and this must not be forgotten), the aggregate income measured in terms of the wage-unit is, as a rule, the principal variable upon which the consumption-constituent of the aggregate demand function will depend" [12]. The propensity, because of the precedent definition, belongs to the macroeconomics world. On the contrary the expenditure for defence, introducing the idea of choice with other public expenditures, belongs rather to the microeconomics field. This idea of choice is one of the reasons having induced the professionals to adopt the word "willingness". So according to Paul Krugman and Robin Wells, "A consumer's willingness to pay is the maximum price at which he or she would buy that good" [13]. This definition seems perfectly suitable for the present question, because the willingness to pay for defence would be a good indicator of the people's spirit of defence. And from "willingness to pay" to "consent to pay" there is only one small step. If the propensity to consume was measured ex post because of its postulated stability, the willingness – or consent -to pay is only useful if measured ex ante, so that the

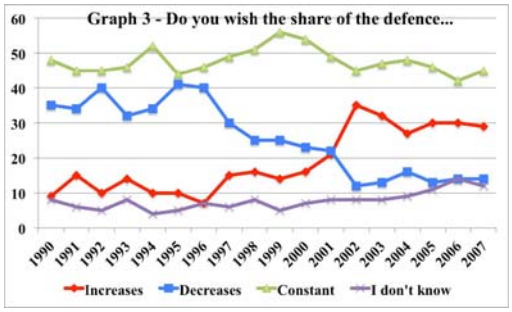
producer is able to build a production and marketing strategy. Consequently the question is to identify the applicable measurement methods. According to the specialists [14], there are two families of methods: "stated preferences" or "revealed preferences". "Preferences" because for a given purchasing power, the consumer has to choose among all the products offered by the market for satisfying their needs, and this choice is depending upon the relative prices and their preferences. The preferences are "stated" simply when the question is directly asked to a sample of consumers. If it appears impossible to ask the question for fear of insincerity principally, one has to rely upon what is "revealed" by the behaviour of consumers on a similar market or on a simulated one (experimental economics). Because the present case concerns a "public" [15] good rather than a "private" one and citizens rather than consumers, it seems logical to presume their sincerity and to ask directly the question of a preference for defence with or without mentioning the public goods to sacrifice consequently. This is apparently the conclusion drawn by the French ministry of defence through their communication policy followed for 30 years. Every year the ministry organizes a large opinion poll for knowing the perception of threats, the willingness to use the armed forces, the appreciation of their quality and the acceptability of the defence effort. The first question about the defence budget was administered during the period 1983-1993 and was very simple: "Do you wish the military budget to increase, decrease, remain constant?" But it is well known that it is not a good way to approach the idea of effort, or even of sacrifice: as it was said upper, there is only a meaning for the consent to pay if the decision is taken with a clear knowledge of what is to be renounced in consequence. To ignore the resources financing the defence budget is to ignore also that a decision to increase the budget may go hand in hand with a decrease as well as with an increase of the effort, according with the independent evolution of those resources.



Of course, there exists a majority of French people satisfied with the present level of expenditures, but it is a relative one, in front of the strong minority of those preferring a decrease. Not only these ones are 2 to 2.5 times more numerous than those wanting an increase, but also the gap is increasing along the decade. Anyway, when examining these data it appears that the consent of French people to pay for defence has not ceased to crumble. Maybe it is the effect of a growing perception of the economic crisis, making the defence budget less and less bearable in a context of declining threats due to Cold War end. This first question was replaced in 1993 by a new one, a bit more explicit: "Do you think that the international situation justifies a progressive reduction of our military expenditures or that it makes an additional effort of France necessary?"



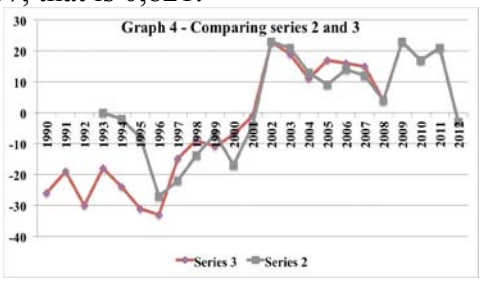
The substitution of "military expenditures" to "military budget" has surely no consequence, because, for the sample, these two words are certainly synonymous. But a confusion becomes possible because two different words, not synonymous, are used for treating on one part a "reduction of military expenditures" and on the other one "an additional effort". The comparison with the precedent graph is surprising by the difference appearing on the year 1993: a gap of 25 points between plus and minus in the first case, nil in the second one. The appearance of "the international situation" in the question is certainly unimportant for the result, so that the principal difference between the two questions is in the possibility to answer: "remains constant" in the first one, and only "I don't know" in the second one. And there are only 15% of answers "I don't know" against 45% "constant", the answer "additional" catching the difference. Does this mean that the answer "constant" had a positive connotation for the persons asked? And if it is the case, what is the consequence for the rest of the study? The precedent criticism upon the ambiguity of a question with absolute terms was certainly understood also by the persons in charge of the poll, because since 1990 and until 2007, a new question is asked: "Do you wish that the share of the military budget in the state budget increases, decreases or remain grossly the same as today?" This means that the persons polled are supposed to have in mind a preference scale of the different functions of the state before answering the questions: they are supposed to know what they would accept to renounce for increasing the share given to defence and reciprocally.



The impression given by this new graph breaks with what was mentioned above. From 1996, the tendency of the consent to decrease is reversed, so that after 2001 the opinions for the increase outclass those for the decrease, thanks also to a reduction of the share of the opinions for the stability. Unhappily in 2007 this question disappeared of the polls without any explanation. At this moment, the presented material has two weaknesses. First there are 4 series of data though only one expression of the consent is necessary. The second weakness is that none of the statistical series studied reaches the threshold of 30 observations, necessary for using mighty statistical tools. Therefore it is desirable to see how it is possible to synthetize all the information given by the polls in a unique indicator carried without bias by the same series all along the period 1983-2007. A number of researchers have already encountered this problem and solutions exist like the one suggested by Higgs and Kilduff [16]: "*Many of those who express a preference for the existing level of spending surely do so because they have little information or interest in the matter; hence in reality they do not differ from those who explicitly respond with "no opinion." In any event, whether a respondent actively prefers the existing level of spending or has no opinion, the effect on policy decisions (if any) is the same -preservation of the status quo"*.

This proposition allows mingling two series in one and reducing the total number of series from four to three. Even, it is possible to descend to one by drawing all the consequences of the precedent reflection: the only opinions able to influence the defence policy – if any – are those demanding a change. Consequently, by calculating a balance or a ratio between the respective numbers of opinions for the increase and the decrease allows to get a unique indicator of the consent to pay. This method is quite common

in the literature upon the political opinions: it is interesting by giving the relative value of an opinion. For instance, knowing that 40% of the persons polled think desirable to increase the defence budget is certainly interesting per se, but it takes its full meaning only by comparison – while by difference or by ratio – to the percentage of persons polled who think that a decrease is necessary. This being given, the building of this type of indicator leaves a new indetermination, because without a reference to raw data, one doesn't know why the difference or the ratio grows or diminishes. It could be tempting to weight the result with the number of answers "I don't know" and "constant" but this would be meaningful only by giving this data an "increase" or "decrease" connotation, which is not the case. When it comes to the building of a unique series 1983-2007, the simplest is to tempt joining the three observed series, maybe after adaptation. It appears that the more ancient series overlaps the second one during one year and the third during three years. It is therefore necessary to see what happens during the overlapping periods. First it appears that in 1993, there is only one common point between series 1 and 2, concerning the answers "decrease". On the contrary, between the series 1 and 3 the coincidences are simultaneously important and surprising. On one part, there is a perfect similarity about the answers "increase" and "constant", on the period 1990-1993, and the answer "decrease" of the third series is the perfect sum of the answers "decrease" and "I don't know" of the third series. Such a statement is evidently troubling, giving the impression that an error was committed on the series 1 in the document published by the ministry of defence in 1993. At the same time, the perfect similarity of the numbers after correction gives to think that it is possible to link both series. This imposes to correct the data of series 1, following what the ministry did – without telling – for the years 1990-1993, by extracting from the answers "decrease" an estimation of the answers "I don't know". There does not exist a perfectly correct method to do that, because it is impossible with the existing data, to know if the rate of non-answer is determined and how, by the explicit answers of the poll. So one will have to satisfy oneself with taking the average of the percentages observed on the period 1990-1993 and deducting it from the percentages of answers "decrease" on the period 1983-1989 [17]. It remains the question to know if it is possible to prolong the series 1+3 so constituted, from 2007 to 2012, by using the series 2 as a guide. One answer to this question may be found by comparing the balance curves of both series. As it is shown on the graph below, both curves are clearly coherent, especially since 1993, at the exception of 2000. This impression is strongly supported by the value of the correlation coefficient during the common period 1993-2007, that is 0,821.



2 LIST AND TEST OF THE CONSENT TO PAY FOR DEFENCE DETERMINANTS

In a famous study, the meteorologist Lewis F. Richardson [18] puts that the armaments race is linked to three explanatory variables. The "grievance" is in some sort the degree of

hatred for the "other one", it is a structural determinant inciting to get armaments in any circumstance; "defence" is a positive cause linking the armament expenditures of the country to those of the adversary country, by a proportionality coefficient; on the contrary, "fatigue" is a negative determinant linking the armament expenditures to the armament stock already built, that is to the expenditures already made. If one dismisses the "grievance", which would oblige to designate particular states, the two other ones give good criteria to list all the determinants of the consent to pay, even if the consent itself does not determine the actual expenditures. So, in what follows the variables able to be classified as "defence" or "fatigue" will be listed and for each of them the existence of a relation of cause and effect with the consent to pay will be tested. There are two ways for considering this question, by using either opinions or objective indicators referring to risks, threats and aggressions.

21 – VARIABLES

A – "DEFENCE" VARIABLES

The threat perception seems to be the first positive determinant to be considered. Indeed in the definition of defence by the official texts, it is a mean for "*assuring the territory integrity and the people protection against the armed aggressions*" [19]. So it was logical that such a question was asked. In fact the question asked is not "*do you feel more or less safe*" but "*what sort of attack do you fear most: terrorist, nuclear, classical, chemical*?" Simply, the results exist only between 1991 and 2006, that is only 15 data, against 30 for the consent. If one goes back to Richardson and the relation between his two "playing" [20] states, it appears that the world military expenditures can be a good threat indicator. And it happens that the data about world military expenditures are regularly advertised so that they can influence the people perception of threats. The best-known data in this field are those published by the Stockholm Peace Research Institute (SIPRI) especially on their web site [21]. The only weakness is that the long series of world expenditures is only published since 1988, that is 5 years after the series of consent. But that means 25

More interesting on the ground of availability is the Upsala Conflict Data Progam (UCDP) base [22]. It lists all the conflicts during the period 1946-2013 [23]. It is unlikely that the people know this database and even its content, because of the slight coverage offered by the media to this enormous collection and classification work. But what is said by these data about global safety cannot differ much of what is said by the sources commonly used by the people. There exists a third possibility, through the US military expenditures. They are very sensitive to the strategic context because of the role of international gendarme assumed by the USA. For example, during the Cold War times, the United States expended a lot of energy to have a trustable measure of Soviet military expenditures for adapting their own military policy [24]. And these expenditures, at least as a tendency, are very probably known by a significant part of the people. Besides they are available for the whole period covered by the polls. From another point of view, it is possible to think that the French people are well informed about the number of French losses in operation. It is not guaranteed that they remember this number when they answer the questions of the poll, but it is possible. These data are accessible but less easily that those of SIPRI or UCDP, because they have to be asked with a responsibility engagement to the Veterans ministry [25]. This variable is also statistically interesting because it largely covers the period under examination, then because it is as reliable as possible. Indeed it is almost impossible that a French soldier is lost without their disappearance is immediately known by their hierarchy and consequently by their family. The result is that this database gives the possibility to rebuild the totals, name-by-name, date-by-date and place-by-place, that is with a tiny risk of inaccuracy. All these indicators of global security give only one part of the consent to pay causal chain. The risk, threat and aggressions perception ought only to run into a demand of military expenditures and a consent to pay, if moreover the people trusted the military capabilities. And this is exactly one of the first questions that have been asked by the ministry: "*have you a very good, rather good, rather bad, very*

bad opinion on the armed services?". The answers have been almost immediately very positive but have remained at this high level without varying. So they cannot statistically explain the significant variations of the consent to pay. It is the same thing with the question "For each of the following missions, do you think that the use of the French armed forces is priority?" The score of the less quoted mission, "to destroy a terrorism centre [26]", increases from 74% in 1991 to 86% in 2006, without variations not exceeding 5 points.

B – "FATIGUE" VARIABLES

For Richardson, the "fatigue" is the result of a preceding accumulation of armaments: the more there are, the less the state is induced to buy new ones. Said otherwise, the more the state possesses "guns", the more it wants to buy "butter". Of course the people do not know the value of the armament stock, and the calculus has not been made. Nevertheless, there exists a mean to reason in terms of stock. It must be postulated that there exists a relation between the armament stock and the public debt, by a dared syllogism: borrowing traditionally finances equipment, armament is equipment, and therefore borrowing finances armament. Perhaps it is dared, but it is not incredible that the people set spontaneously a link between the stock of armament and the public debt. In that case, the well-known Debt-GDP could be the searched for "fatigue" indicator. Nevertheless, from another point of view, the consent is not only about the equipment expenditures but also about the day-to-day expenditures of the military forces. In these conditions, the good indicator has to be the military expenditures without pensions. Without pensions, because they are quite independent of the military policy and it is unthinkable that the people refuse to honour their debt to the retired soldiers. And in this case a first observation seems to confirm the hypothesis about the "fatigue" variable, because if the nonmilitary expenditures tend to grow on the same path as the debt, the military expenditures, for their part, stagnate. But if the military expenditures are truly a "burden" for the nation, it is in comparison with the available resources, so that they have to be considered through a relative measure.

Traditionally, the references concurring for that are the total expenditures of the state budget or the GDP. The first one was used in the French political discourse grossly until the end of the 70s, before being replaced by the GDP, as in the other countries [27]. In both cases the objective is to show that, within a given budget any variation of the military expenditures has for counterpart a reverse variation of the non-military expenditures of the state. So Josselin Droff and Julien Malizard [28] have shown that during the last 30 years the state budget has been under constraint and that consequently the ministry of defence paid the greater price. The equipment budget being more malleable, it has been the principal one to suffer from this constraint. On the contrary, both references could be used alone alternatively, because the people know them alone: the GDP as the measure of the possible and the state expenditures as the result of a sacrifice. When this is admitted, it is logical to consider that all the economic variables, because they influence the people's mood, are likely to determine more or less their disposition to pay for a kingly expenditure. So the inflation rate, factor of euphoria, could play positively, the unemployment rate negatively, the GDP growth rate positively and the ratio of the public debt to GDP negatively.

And finally, if the mood, the state of mind of the French people has to be considered as a determinant of their consent to pay, it is better to consider directly their opinion on this subject. In fact, this will not be the whole French people, but only this part of it who is asked by the Institut national de la statistique et des études économiques (INSEE) when preparing the forecasts for the French economy, that is the company directors of the main production sectors. The result is the series "business climate" [29], available since 1977.

After this survey, it remains to test the existence of cause and effect between each of those variables and the French people consent to pay for defence. In these conditions, the evolution of the consent of French people to pay for defence may be represented by the graph below. Three periods appear clearly: a slow decline from 1983 to 1996; strong recovery between 1996 and 2002; and new but hesitating erosion period. The events copied out on the curve allow having an idea of the strategic environment of the French people, when they answered the questions. Apparently the dissolution of the ancient Yugoslavia is not for nothing in their first change of mind, maybe because these conflicts happened "two hours away from Paris", because it was at the same place the Great War began eighty years before and because the European union was threatened by an explosion, during the Maastricht negotiations, by the differing sympathies of their members. Anyway, this graph is a good transition towards the second part of this paper, where it will be question of making a list and a statistical test of the determinants of French people's consent to pay for defence.

22 – TEST
A – CONSTRUCTION OF THE VARIABLES

The objective is to define a method for designing the variables that, among all those presented above, statistically explain the variations of the French people consent to pay for defence. Certainly, an effort was made for getting the longest possible series of the dependent variable "consent", for being able to use powerful statistical methods. The graph number 4 above presents the result. Nevertheless because of the empirical character of this work, it is desirable to have some control references. For that, both originals and longest series: 1993-2012 and 1990-2007 have known the same tests as the synthetic series; the series corresponding to the question "Do you think that the international situation implies an increase, a decrease or a maintain of the defence effort" (1993-2012) is named "opinion 1" and that constructed with the question "Do you think desirable that the part of the budget devoted to military expenditures increases or decreases" (1990-2007) takes the label "opinion 2". For increasing the control efficiency, both series have been constructed by using ratios, while the "consent" synthetic one has been constructed with differences.

The explanatory variables studied above are classified as "defence" and "fatigue", logically indicating a tendency to increase and respectfully decrease the consent to pay for defence subject to the form of the variable: a ratio is easily reversed. So the statistical tests have to verify these hypotheses.

As already seen above, "defence" will be represented first by the evolution of the SIPRI world and United States military expenditures. In fact SIPRI does not account the expenditures themselves but content with compiling the data given by the different states, even if a control exists upon the most questionable cases. But there is no real risk of a significant falsification introducing a bias. In fact if that sort of falsification happened, it could affect the level but not the tendency of the variable, which is acceptable in the present case. There are other explanatory variables belonging to the "defence" class: the number of conflicts on one part and the number of French soldiers killed in operation on the other part.

As for the "fatigue" it will be represented on one side by the unemployment rate and the business climate which can produce an economic policy competing with the military expenditures; on the other side there is the public debt, limited by the European Pact of stability, able to justify budget restrictions to the detriment of defence budget.

The different explanatory variables are calculated as growth rates. There are two reasons to that. First, in terms of theory, it is intuitively sensible to set that the public opinion knows the indicator variations better than their level. Second, in terms of econometrics, the data suffer from their non-stationarity [30], that is their structure is time depending. On the contrary, the data calculated as first differences are stationary so they have the "good" statistic properties. Since the Granger and Newbold [31] pioneer works, one knows that the use of non-stationary variable lead to "spurious regressions" with erroneous conclusions in relation with the real nature of the variables.

B – RESULTS AND COMMENTARIES

The reasoning has two steps. First the relation between each explanatory variable and each independent variable is tested individually. The objective is to verify the robustness of a result on the three "consent to pay" indicators; the fact that the longest series is obtained by bringing together several sources imposes such a strategy. In a second time, the identification of the best explanatory variables of the opinions gives a "demand of military expenditures" function associating a "defence" variable and a "fatigue" one. Because of the small number of observations for the series that cannot be reconstructed, it is not possible to go beyond two variables, otherwise the degrees of freedom number associated to each estimated model would be too small and would reduce the statistic significance of the exercise. The following table presents the results of the empirical analysis first step. The estimated models include a constant, which is not indicated here. The NS initials mean "statistically non significant". For practical reasons, the signification threshold is set at 10% and the coefficient signs alone are presented.

		Independent variable		
		Opinion 1	Opinion 2	Consent
Explanatory variable	Deaths in operation	NS	NS	NS
	SIPRI world exp.	Positive	Positive	Positive
	UCDP	NS	NS	NS
	SIPRI USA exp.	Positive	Positive	Positive
	Debt	NS	Negative	NS
	Unemployment	NS	NS	Negative
	Business climate	NS	NS	NS

Table: econometric results

The table shows the pre-eminence of the "defence" variables on those of "fatigue": the military expenditures, either world or American, determine significantly the opinion evolution. In this case, the coefficient is always positive: so there is really a positive connection between the perceived threats, as conveyed by expenditures, and the consent to pay for defence, what is consonant with logic. The fact that the results are good for both series has not to be overestimated, because they are correlated together, as it is logical also. On the contrary the deaths in operation and the conflicts frequency have no significant influence upon the opinions. The conclusion has to be that, contrary to the intuition, the public opinion does not precisely know those figures. In fact this is not surprising when one knows how it is difficult to get them.

As for the fatigue variables, there is only two statistically significant coefficients: between the public debt and "opinion 2" on one part, between the unemployment rate and "consent" on the other one. In both cases the sign is minus, as logic commands. It is

certainly not fortuitous that the public opinion associates public debt and unemployment as cause and consequence of the crisis suffered by the French economy, because it is the substance of the prevailing discourse. A knowing the role of adjustment variable given to the military expenditures, it is not surprising to find this negative relation between them and the crisis indicators. For confirming these it would be useful to know what would be the consent to pay for other public expenditures during the same period.

This first results being given, it is possible to proceed to the test of a consent function with two variables: one of "defence" and one of "fatigue", so that the robustness of the preceding estimations is verified when the opinions are analysed within the logic of the Richardson model. The preceding table identifies clearly the military expenditures as "defence" variables. On the other hand the "fatigue" variable choice depends on the "consent" indicator choice. The latter has to be dictated by the search of the greatest number of freedom degrees, so that it will fall upon the series "consent", despite the doubts generated by its "fabrication". The desired function has to be of the type:

consent = f(SIPRI, unemployment rate).

As it is estimated upon the available data, it becomes:

$$\underset{(2.44)}{-5.63}\,constant + \underset{(0.49)}{2.95}\,SIPRI - \underset{(0.41)}{0.96}\,unemployment$$

In parenthesis are the coefficients standard deviations. They all are significant at a threshold of 5%. The model is of a rather good quality because the correlation coefficient is superior to 0,807 ($R^2 > 0{,}65$); applying a generalized least squares method solves the residual autocorrelation problems. A posteriori, the pertinence of choosing the "consent" series, that is the explanatory variable "unemployment", is verified because the alternative choice "opinion 2"-"debt" would give a non significant coefficient. Perhaps it is the result of the precedence of the unemployment problem on the debt problem, the debt being understood for a long time as a consequence of a Keynesian treatment of unemployment. The results are consonant with the preceding conclusions: the threats reinforce the consent to pay, while the economic constraints weaken it. What is right with the coefficients signs can be extended to their value for studying the consent variable sensitivity to the different parameters? In absolute value the coefficient of military expenditures is significantly superior to the one associated with the unemployment rate, what is consistent with the lessons drawn from the table above. Moreover, this result would be robust in case of a possible period partition around the Cold War end, suggested by some authors 32] who consider that it is a structural break.

As a conclusion, all the preceding results show that the French people consent to pay is firstly sensitive to the threats, as they can be perceived through largely spread indicators. In a second time this consent may suffer reluctance when the economic constraints become heavy. And it is not because a result confirms the intuition that it is not interesting.

REFERENCES

1.http://www.legifrance.gouv.fr/Droit-francais/Constitution/Declaration-des-Droits-de-l-Homme-et-du-Citoyen-

2. Engraved on the pedestal of his equestrian statue on the Champ de Mars in Paris.

3. Translation by Richard Crawley, book 2, chapter 6, http://classics.mit.edu/Thucydides/pelopwar.2.second.html.

4. According to the expression very beautiful and very famous of Winston Churchill in his inaugural speech to the House of Common on the 13th of may 1940: « I have nothing to offer but blood, toil, tears and sweat », http://www.youtube.com/watch?v=8TlkN-dcDCk and for the official transcription: http://hansard.millbanksystems.com/commons/1940/may/13/his-majestys-government-1.

5. Easy and even too easy, for the losses suffered during the campaign of France in may 1940 are at the same level as those accounted during the "offensive à outrance" of august 1914.

6. To pick up another expression of Winston Churchill: "We seem to be very near the bleak choice between War and Shame. My

feeling is that we shall choose Shame, and then have War thrown in, a little later, on even more adverse terms than at present", quoted from a letter to his friend Lord Moyne, by Martin Gilbert, Winston S. Churchill, Companion Volume V Part 3, The Coming of War 1936-1939, London, Heinemann, 1982, page 1117.

7. «Igitur qui desiderat pacem, praeparet bellum », by which Publius Flavius Vegetius shows that deterrence existed before nuclear weapons, even if those weapons were able to give a new dimension to it (Epitoma rei militaris, B. G. Tevbneri, Leipzig, 1885, p65, https://archive.org/stream/epitomareimilit00renagoog#page/n12/mode/2up).
8. The Anglo-Saxon do it spontaneously by speaking of military burden or burden sharing.
9. Ron Smith, "Models of military expenditure", Journal of Applied Econometrics, 4, 1989, pp. 345-359
10. For a detailed study, see J. Aben: Économie politique de la défense, Cujas, Paris, 1992; Julien Malizard, Effort de défense et croissance, Phd in economics, university of Montpellier, 2011.
11. The General Theory of Employment, Interest and Money, Palgrave McMillan, London, 1936, ch. 8, https://ebooks.adelaide.edu.au/k/keynes/john_maynard/k44g/contents.html
12. Idem, ibidem.
13. Microeconomics, Palgrave McMillan, New York, 2012, p 102.
14. Christoph Breidert, Michael Hahsler, Thomas Reutterer, "A review of methods for measuring willingness-to-pay", Innovative marketing, vol.2, n°4, 2006, pp.8-32; C. Desjeux, C. Colin, R. Launois, « La mesure de la disposition à payer: la méthode des choix discrets », Revue d'économie médicale, vol.23, n°6, 2005, pp.364-370.
15. Even if the "publicness" of defence is discussed: Gates W.R. and K.L. Terasawa, "Reconsidering publicness in alliance defence expenditures: NATO expansion and burden sharing", Defence and Peace Economics, 14(5), 2003, pp. 369-383.
16. Higgs (R) et Kilduff (A): "Public opinion: a powerful prediction of US defense spending", Defence Economics, vol 4, 1993, pp.227-238. (quotation 1, p.228). See also Bishop, G. F. "Experiments with the middle response alternative in survey questions", Public Opinion Quarterly, 51 (2), 1987, 220-232, p.229, and Hartley, T. and Russett, B. "Public opinion and the common defense: Who governs military spending in the United States?", American Political Science Review, 86(4), 1992, 905-915, p907.
17. The instinct would push towards a proportional correction rather than a fixed one, but beyond an "aesthetical" gain, there would be no qualitative improvement observations, which is not negligible.
18. Lewis F. Richardson, Arms and Insecurity, A Mathematical Study of the Causes and Origins of Wars, Boxwood, Pittsburgh, 1960
19. Article 1111-1 of the defence code.
20. A used in game theory.
21. http://www.sipri.org/research/armaments/milex/milex_database
22. http://www.pcr.uu.se/research/ucdp/datasets/ et Themnér, Lotta & Peter Wallensteen, "Armed Conflict, 19462013." Journal of Peace Research 51(4) 2014.
23. A conflict is defined there as a battle between two parts involving at least 25 deaths.

24. C. W. Orstrom, « A reactive Linkage Model of the US Defense Expenditure Policymaking Process », American Political Science Review, 72, 1978, pp. 941-957 ; C.W. Orstrom, R.F. Marra, «US Spending and the Soviet Estmate», American Political Science Review, september 1986, pp 819-842.
25. But the department servants have answered with goodwill and efficiency to our request.
27. In fact, it was a market GDP between the beginning of the 80s and the 1994 white paper, then the total GDP.
28. J. Droff et J. Malizard (2014), « Cohérence entre politique budgétaire et budget de la défense », Revue Défense Nationale, avril, pp. 116-121
29. http://www.bdm.insee.fr/bdm2/affichageSeries.action?idbank=001565530&codeGroupe=1007
30. This result is obtained with several tests of standard unitary root (Dickey Fuller Augmenté, Philipps-Perron)
    and one considering the possibility of «structural breakdown» within the data (Zivot-Andrews). Moreover the variables of opinions are stationary, which makes impossible a co-integration approach.
31. C. Granger et P. Newbold, « Spurious regressions in econometrics », Journal of Econometrics, 2, 1974,
    pp.111-120
32. See for example the survey by Paul Dunne and Ron Smith, in op. cit., pp. 913-940