

Turkish Defense Expenditures in View of Ups And Downs in Turkish-Greek Relations: Is There A Reaction?

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RÉSUMÉ

Cet article tente d'établir le lien entre les dépenses militaires turques de 1983 à 2000 et les relations greco-turques pendant cette même période. Cette période a été choisie compte tenu de données détaillées disponibles sur les dépenses militaires turques. Il convient de souligner que les études empiriques récentes sur ce thème ne sont pas concluantes. L'auteur constate que certains facteurs révèlent que la prise de décision de débourser des sommes importantes pour la défense nationale turque provient d'un ensemble de menaces perçues, en rien attribuables à la Grèce. D'autres facteurs étudiés n'indiquent pas qu'il y a un lien direct entre les dépenses turques d'armement et les situations de conflit ou d'harmonie observées dans les relations entre la Grèce et la Turquie.

ABSTRACT

This article attempts to find out whether Turkish defense expenditures during 1983-2000 and relations with Greece in the same period have a common pattern. The choice of the period of analysis is based on availability of detailed data on Turkish defense expenditures. Recent empirical literature on a long-run arms race between Turkey and Greece is inconclusive. We find that with some indicators, Turkish defense spending decisions react to a continuum of perceived threats, not attributable at all to those from Greece. The patterns of other indicators of Turkish defense expenditures are far from providing supporting evidence for reactionary responses to whether conflict or harmony prevails in bilateral relations.

1. Introduction

The relationships between Greece and Turkey in the last two decades have swung between the extremes: from the brink of war to

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rushing to rescue each other's earthquake victims. The ups and downs of the bilateral relations do not follow a smooth pattern; a severe conflict might succeed a friendly act and *vice versa* in subsequent years or even in the same year. Notwithstanding this indeterminate state of affairs, the whole package of conflictual issues between the two countries would seem to justify arms race expectations between them. However, recent research with econometric modelling of the arms race between Turkey and Greece, using annual data, is inconclusive in identifying such a long-run relationship, when one single year, 1974, is left out.¹ Similarly, using a game-theory approach, Smith *et al.*² find that there is not a mutual dependence of military expenditures and therefore internal political or bureaucratic inertia rather than external factors might be shaping decisions. We should also add that structural changes in the external political and economic environments over the past 50 years and the arming decisions in response have been severe and therefore pose challenges to quantitative analysis.

This article attempts to find out whether Turkish defense expenditures during 1983-2000 and relations with Greece in the same period have a common pattern. The period of analysis is chosen on the basis of availability of detailed data on Turkish defense expenditures. Significant turning points in the bilateral relations are defined from an economist's perspective. The analysis is limited to the Turkish budget responses, if any, to conflict and harmony with Greece, therefore does not closely follow the established arms race approach. The rather short span of time restricts the analysis to descriptive tools. The main data sources are the publications of the Turkish Ministry of Finance.

The paper is organized as follows: the next section involves an analysis of trends in Turkish defense expenditures during 1980s and 1990s. Observations regarding the ups and downs of Greek-Turkish relations are outlined in the third section. The outcomes of preceding sections are combined in the fourth section to see if Turkish defense spending is reactionary. The final section involves an assessment of findings, challenges and prospects for future research.

2. An overview of Turkish defense expenditures during the 1980s and 1990s

Turkey's initiation of a modernization program in 1985 to update its arms base is a turning point in the country's long-standing arming strategy characterized by extended and strong dependence on US provisions. The major component of this modernization program is the establishment of a domestic arms industry. This long time aspiration was voiced loudly until 1978, following the US embargo triggered by Turkey's Cyprus operation of 1974, but was postponed due to economic bottlenecks until the military coup of 1980. One consensus issue between the military and the bureaucracy during military rule (September 1980-1983) was long-term planning to set up a domestic arms industry. This is ironic because the military government also served to maintain order and discipline during the implementation of a major change in Turkey's development strategy which may be considered another turning point: The import substitution strategy of the past three decades based on planning was abandoned and an outward-looking liberal strategy was introduced in the early 1980.

When begun, the modernization program involved a 10-year horizon and a \$10-12 billion budget. In 1996, the scope was revised to involve a 30-year horizon until roughly 2025, with a total budget of \$150 billion. A further revision in light of economic bottlenecks in early 2000 involved a 10-year and \$20 billion bill as the first phase of the program. This program along with ready purchases is partially financed by the defense budget and partially by extra-budget sources, the Defense Industry Support Fund (DISF) being their main body.³

The defense budget of Turkey in monetary terms (in constant prices) stagnated in 1980s but increased steadily from 1989 onwards. The amount spent on defense in 2000 was 2.7 times that spent in 1983. This steady trend could be interpreted as Turkey's determination to improve its military capabilities, given the continuity of perceived threats from all directions, not only Greece. Alternatively, possible reflections of the Turkish defense policy on the government budget in the last decades can be tracked by means of several indicators:

shares in the general budget, shares in the primary budget, growth rates, performance of budget forecasts of defense expenditures and growth of DISF expenditures.

We observe an almost a continuously declining trend for percentage shares of defense (D) expenditures in the general budget (B). As shown in Figure 1, the share was highest, around 15 % until 1986, but then decreased as far as 9 % in 2000.

It would be misleading and contradictory to conclude that defense is losing significance in favour of other budget functions, because another characteristic of the last two decades is the expansion of the overall budget due to the increasing burden of interest payments on debt, in turn due to huge budget deficits. Percentage shares in the primary budget, (PB); i.e., budget netted of interest payments tells a different story. In fact, defense has retained its position in time, varying in range 14%-18%. Its share was around 17% in 1983 and also in 2000.⁴ Once again these figures support a continuum of perceived threats hence concern in the last two decades.

On the other hand, growth rates of the Turkish defense budget in time as depicted in Figure 1 follow a rather fluctuating pattern. The contractions basically coincide with the bottlenecks in the economy, when the primary budget also had to contract. However, the rates of increase in 1989-1990, 1992, 1996-97 and 1999-2000 are out standing, hence call for a check in the Turkish-Greek relations context. The rates, especially in 1989, 1992 and 2000, deserve attention, as they were exceptionally above the growth rates of the primary budget in these years. It should be noted that during 1987 and 1989-1993, personnel expenditures contributed almost totally to the growth of the defense budget, whereas spending on equipment became the major cause from 1994 onwards.⁵

The routine of the budgeting process in Turkey involves putting into effect the budget allocations for year t , in terms of forecasted values in the fall of year $t-1$. Though magnitudes differ, for all the budget items, deviations from these forecasts in the subsequent year are typical, not attributable to a specific cause like unexpected inflation or

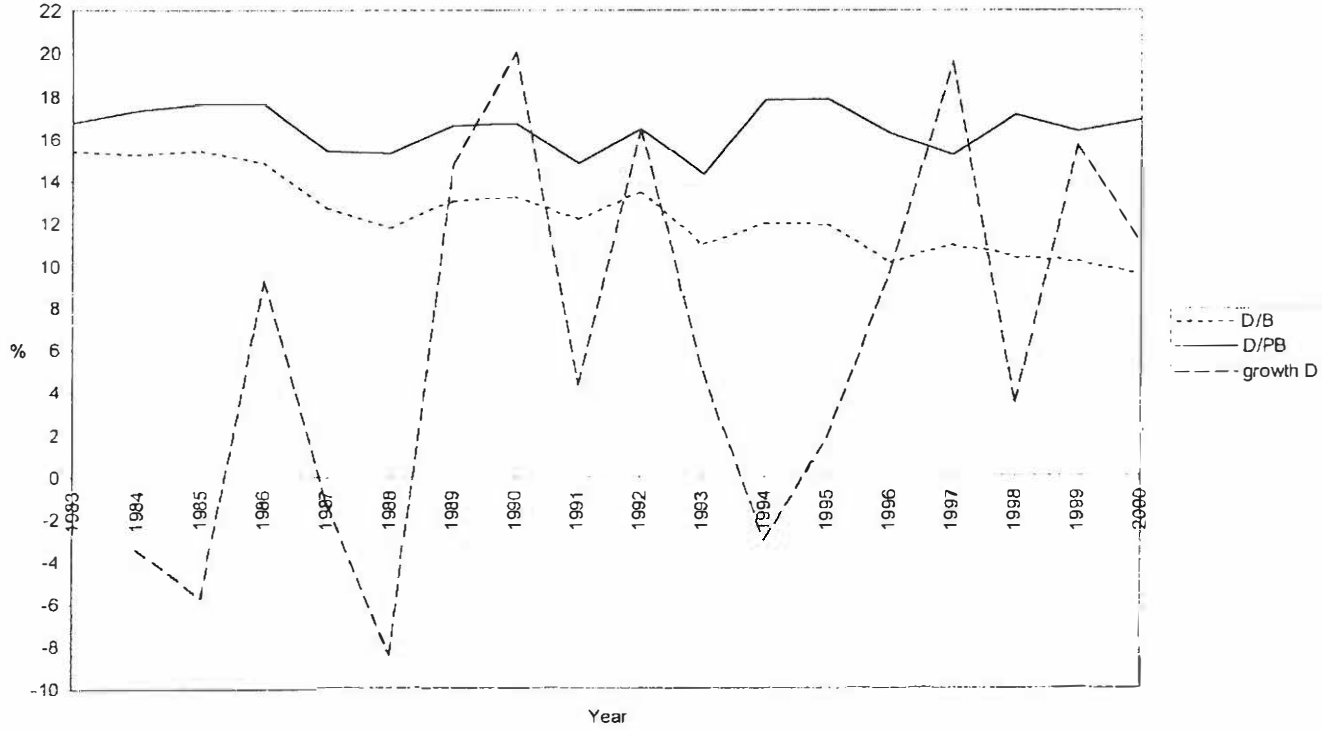
elections.⁶ At this stage, one might introduce the Greece-Turkey relations factor and focus on the forecasting errors for defense expenditures and equipment expenditures in the defense budget.⁷ Related data will be presented subsequently, here we will only draw attention to certain features.

Defense expenditures (personnel, equipment, investment, transfers) were systematically overestimated during 1983-1988, as were defense equipment expenditures during 1983-1991. In other words, in these years the initial allocations were not spent fully in the year assigned. However, both items demanded systematically more funds than initially allocated later on, defense expenditures from 1989 onwards and

Figure 1

Year	% D/B	% D/PB	% growth D
1983	15	17	
1984	15	17	-3
1985	15	18	-6
1986	15	18	9
1987	13	15	-1
1988	12	15	-8
1989	13	17	15
1990	13	17	20
1991	12	15	4
1992	14	16	16
1993	11	14	5
1994	12	18	-3
1995	12	18	2
1996	10	16	10
1997	11	15	20
1998	10	17	3
1999	10	16	16
2000	9	17	11

Figure 1. Turkish Defense Expenditures: Shares and Growth rates, %



equipment spending from 1992 onwards, that is forecasting errors became positive. Both items had again negative forecasting errors in 1998.

Finally, the growth rates of DISF expenditures on both direct purchases and modernization projects might be considered as an indicator of Turkey's reactions to perceived threats. The pattern is far from being systematic, can be better characterized as unstable in directions and dramatic in magnitudes. To cite an example, the growth rate was 221% in 1988, but - 36 % (contraction) in 1997.

It should also be noted that the indicators we have discussed do not have a common pattern or correlation among themselves. The only exception is the statistically significant correlation coefficient of 0.72 between forecasting errors of the Defense Budget and Defense equipment, which would not be surprising. Having highlighted the defense budget-related trends in time, we now turn to the pattern of relationships between Turkey and Greece.

3. An Overview of Turkish-Greek Relations during the 1980s and 1990s

Turkey's relations with Greece more than any other neighbour have been leading in the international agenda most of the time. We will neither discuss the reasons, nor the issues but attempt to assess significant turning points in the bilateral relations from an economist's perspective, in the context of their possible reflections on Turkey's defense expenditures. Table 1, obviously not comprehensive, and not in perfect chronological order within a year, is organized to serve this purpose only.⁸ We denote those events which improve relations or reduce tensions by the *plus* sign, therefore expect a reverse effect on Turkish defense expenditures in the year of the event and/or in the subsequent years⁹. On the other hand, deterioration of relations, indicated by the *minus* sign, might be expected to induce increases in the Turkish defense expenditures.

Table 1. List of recent events reflecting ups (+) and downs (—) of relations between Turkey and Greece.

1982	— Conflict in the Aegean over seismic exploration by GR (Jan.)
	+ Agreement by GR & TR to refrain from provocations (June)
1983	— Independence of the Turkish Republic of Northern Cyprus declared
1984	— Conflict over NATO military operations in the Aegean
	— Conflict over arming of Lemnos by GR
1985	— TR initiated modernisation program for the TR Armed Forces
	— GR officially declared new defence doctrine: principal threat from TR; moved forces to TR borders
1986	— frontier incident between border patrols
1987	— Conflict over oil exploration in the Aegean .
1992	— Bosnian war, GR supports Belgrade, TR supports Sarajevo
	+ The Black Sea Economic Cooperation launched
1993	— GR declared GR-Cyprus Joint Defense Doctrine
1994	— extension of territorial waters to 12 miles: UNCLOS in effect
1995	— GR Parliament approved UNCLOS
	— TR Parliament declared warning on TR rights in the Aegean
	— GR decided to populate remote Aegean islands
	— GR initiated "strategic partnership" with Damascus
	+ GR lifted its veto against TR's accession to the Customs Union
1996	— Imia/Karadag crisis
	— Greece-Armenia defense cooperation
	— TR-Israel military cooperation agreement
	— GR announced modernization program for the GR Armed Forces
	— Clashes on the Greenline between TRNC and Republic of Cyprus
1997	— GR vetoed TR's bid for eligibility for EU membership
	— Conflict on intended procurement of S-300 missiles in Rep. of Cyprus
1998	— Conflict on intended procurement of S-300 missiles in Rep. of Cyprus
	— EU began accession talks with the Republic of Cyprus.
	+ US ended foreign aid programl. to both GR and TR (end of 7:10 disputes).
	+ Madrid Declaration on peaceful solutions for UNCLOS issues
1999	— Ocalan sheltered in GR embassy in Kenya (Jan.-Feb.)
	+ Simitis affirmed GR's opposition to terrorism (March)
	+ GR ended official restrictions on assertions of Turkish ethnicity in western Thrace (July)
	+ Earthquakes in TR (Aug.) and GR (Sept.)
	+ GR lifted veto on Turkey's candidacy for EU membership
	+ S-300 project cancelled (transferred to Crete)

Obviously, all the events listed would not have equal weight in influencing Turkish defense spending. In fact, there are only four to five severe incidences which can be associated with a risk of war.¹⁰ We expand our context to major climate changes in search of reflections in both directions, if any.

Several features are revealed in Table 1: First, ups and downs are observed in the same year, like 1982 and 1992, as a sort of neutralizing effect on the relation. Of course the best example is the year 1999, the big negative was cancelled out by even bigger pluses, conveying the positive winds to the present days.¹¹ Second, there are times when no significant incident is observed, like 1988-1991, although succeeding a troubled year, 1987. Finally, 1983-1987, 1993-1994 and 1996-1997 sub-periods are clearly one of troubles (downs); the rest, 1992, 1995, 1998-2000 are weak in downs, with more weight of the improvements (ups) in the relations, except the Ocalan issue in 1999. An assessment of whether this pattern is reflected on the Turkish defense budgeting behaviour is made in the next section.

4. Is there a reaction?

The obvious expectation or hypothesis is that in response to conflicts with Greece, Turkey increased its defense expenditures in the last two decades. In the case of a long-term concept like defense, it would not be realistic to expect a contraction when the waters are still, however there would be less significant increases, as other priorities in the budget would overtake.

The findings and indicators of the previous two sections are summarized in Table 2. In the light of the developed hypothesis, one would expect a consistently increasing defense budget for Turkey during 1983-1987, which corresponds to dominance of conflicts with Greece. This expectation is contradicted with Table 2. Forecasting errors are negative. Besides, the defense budget, contracted quite significantly in this period, until it recovered the 1983 level only in 1989, with outstandingly high increases in public wages, defense inclusive.

Table 2. Turkish-Greek Relations and Turkish Defence Spending Policy Indicators

Year	TR-GR relations	Growth of Defence Budget %	Forecasting Error for Defence %	Forecasting Error for Defence equipment %	Growth of DISF Expendit %
1983	—		-17.9	-20.7	
1984	—	-3.5	-10.4	-15.8	
1985	—	-5.7	-13.0	-18.1	
1986	—	9.3	-14.9	-19.2	
1987	—	-1.3	-14.5	-20.9	28.2
1988		-8.4	-6.1	-10.7	221.4
1989		14.8	17.6	-3.0	-7.2
1990		20.1	3.6	-6.4	132.8
1991		4.3	16.9	-3.2	-29.3
1992		16.5	9.6	0.2	78.8
1993	—	4.9	8.1	3.5	-22.3
1994	—	-3.0	15.3	9.3	-17.8
1995	— +	1.7	11.3	15.7	41.7
1996	—	9.7	3.6	3.1	29.1
1997	—	19.6	14.7	12.5	-36.1
1998	— +	3.4	-0.5	-1.0	-15.9
1999	— +	15.6			
2000	+ +	11.0			

The second phase with Turkey-Greece relations is 1988-1992, during which no significant incidence is observed. Again, contrary to the expectations, Turkish defense budget increased, but note basically due to personnel expenditures in this period. Forecasting errors for the defense budget are positive and large, indeed more was spent than intended, however not due to defense equipment spending, as those forecasting errors are negative. Expenditures of the DISF increased remarkably in 1988, however gradually they either grew at a slower rate or contracted.

The pattern of Greek-Turkish relations during 1993-1998, as a sub-period, might be perceived as a troubled one if the downs in 1995 and 1998 are perceived as dominating the ups. Alternatively, if ups are thought to be dominating in these years, the pattern becomes rather indeterminate, and thus a reactionary response of the Turkish defense budget would be an overstatement.

Let us take the first route and also ignore the year 1994 (a serious economic crisis year). The conflicts during 1993-1998 then correspond with Turkish defense budget increases, speculatively reactionary. Forecasting errors for both the defense budget and equipment are positive and large, except in 1998. As mentioned above, defense equipment spending contributed dominantly to the growth of the budget growth in this period. A contradictory evidence, however, is that the DISF spending contracted most of the time in this period, so that the 1998 level in monetary terms is only 63 % of the level in 1992. Even if 1998 is interpreted as a troubled year with Greece, it is obvious that no reaction is observed in this year, in terms of Turkish budget defense indicators: they are either low or negative. Then, only the sub period of 1995-1997 stand out for a possible reactionary Turkish defense spending. There are reservations, however. One cannot argue, on the basis of Table 1 that the conflicts during 1995-1997 were much more serious than those encountered in the rest of the last two decades.

We have limited data for 1999-2000, and what we have is contradictory to the reaction expectations, that is, the growth rate of the defense budget was high at a time when relations with Greece improved a lot. The remarks above do not change direction if one presumes that the Turkish budget responds with a time lag due to redefinition of the security concept focusing only on Greece. Considering also one-, two-, three- and four-year lags, we again find that deterioration and improvement in the relationship in year t is not reflected on the Turkish budget indicators in years $t+1$, $t+2$, $t+3$ and $t+4$.¹²

5. Concluding remarks

Advanced empirical work on the long-run bi-directional arms race between Turkey and Greece and our budget indicators analysis on one directional reaction of Turkey against Greece during 1980's and 1990's can be reconciled in their very final conclusion that the issue is inconclusive. We might take this as a final statement, thus conclude that there is not any reaction from Turkey's perspective. This is quite plausible, in view of the fact that Turkey's security concept in this period is not limited to perceived threats from Greece only. A continuum of perceived threats, both internal and external, along with the state of the economy, might be shaping Turkey's arming and therefore defense spending decisions, while Greece's main concern might be perceived threats from Turkey and thus arms races in reaction.¹⁵ It would be interesting to test whether this statement is supported on the basis of reactions of the Greek defense budget.

In fact, there is a need to consider the capacity of the measures used so far. The production of security has speedily become more technological and thus more capital intensive. Arms procurement remains the crucial issue in decision-making in defense policy. Therefore defense expenditures, regardless of country, are incurred partly to upgrade the arms base. In this respect, more insight into arms racing, in literal terms, would be gained if the patterns in arms imports, arms transfers and arms modernization programs of both Greece and Turkey are analyzed in a comparative context. Here are several related, but contradictory points:

1. Both Turkey and Greece have benefited from the "cascading" process, which began with the signing of the treaty on Conventional Forces in Europe. As excess equipment in the inventories of northern Allies has been transferred south to replace older equipment in service there, both countries have acquired e.g. the same type of tanks.¹⁶
2. Symmetry is also observed in the equipment modernization programs of both countries in 1990's, involving most notably main battle tanks, helicopters and aircraft. Noting the case of Lockheed

Martin, which helped both countries build aircraft overhaul and production capability,¹⁵ one would speculate that both countries compete for identical or very similar arms, hence there is an arms race. Alternatively, “The modernization activities underway in Turkey and Greece underscore both nations’ resolve to remain military significant members of the NATO alliance.”¹⁶ These two points do not leave much space for expecting an arms race.

3. “Greece and Turkey have increased their equipment expenditure strongly in the post-cold war period”.¹⁷ This observation, however, arouses suspicions for an arms race.

Notwithstanding problems with consistency of comparable data, even for the last decade, a future agenda arises for both countries for empirical and analytical research. There is a need to focus more on a broader rather than a bilateral context, that is on the international context in general and on links with the international arms market in particular, as arming decisions, regarding both costs and types, are hardly purely national.

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9. Nicholas Fiorenza, "Southern Flank Focus", *Armed Forces Journal International*, October 2000, pp.66-70.

10. *SIPRI Yearbook 2001: Armaments, Disarmament and International Security* (OUP, 2001).

NOTES

1. See Dunne *et al.* "An Econometric Analysis of the Arms Race..." in "The Econometrics of Arms Races".

Smith *et al.* "The Econometrics of Arms Races".

2. Smith *et al.* "The Prisoner's Dilemma".

3. Gunluk-Senesen, "Turkey's Globalisation in Arms".

Gunluk-Senesen, "Turkey: The Arms Industry Modernization".

4. Gunluk-Senesen, "Budgetary Tradeoffs"

Gunluk-Senesen, "Measuring the Extent" shows that defense has used up funds in an increasing trend if expenditures of the Defense Industry Support Fund for the modernization program is also accounted for.

5. Gunluk-Senesen , "Budgetary Tradeoffs".

6. Gunluk-Senesen, "Butce Baslangic Odemelerinin" Related data are available for 1983-1998.

7. Forecasting error = $100 * (\text{Realised spending} - \text{Initial Allocation}) / \text{Initial Allocation}$. A positive forecasting error implies more was spent in year t than was allocated for *year t*, in *year t-1*. Therefore, the expen-

diture in year t was underestimated in *year $t-1$* . Similarly, a negative forecasting error implies less was spent in *year t* than was allocated for *year t* , in *year $t-1$* . Therefore, the expenditure in *year t* was overestimated in *year $t-1$* .

8. Major diplomacy contacts (e.g. Davos meetings) are left out of the list, due to their high frequency and less significant outcomes.

9. The table was compiled from various sources:

Athanassiou and Kollias, "Military Tension".

Bahcheli, "Turkish Policy toward Greece".

Kollias and Makrydakis, "Is there a Greek-Turkish Arms Race?"

Kollias, "The Greek-Turkish Conflict".

Sonmezoglu, *Türkiye ve Yunanistan İlişkileri*, pp. 245-350.

Thanks are due to G. Ayman and F. Sonmezoglu for guidance. All errors are mine.

10. Athanassiou and Kollias, "Military Tension", p.99, lists 1986, 1987, 1994, 1996-1998 as serious tension periods. See also Athanassiou and Kollias, "The Effects of Greek-Turkish Rivalry", p.8.

11. Many similar incidences can be quoted, we will suffice here with one of them: In spring 1999, the Istanbul University Senate banned bilateral academic relations with Greece, due to the Ocalan crisis. In fall 1999, the Minister of Foreign Affairs of Greece Mr. George Papandreou delivered the honorary opening speech on the occasion of the new academic year in Istanbul University.

12. The rather short time span limits statistical tools to be used. However, for each of the 4 indicators, using the data in Table 2, arithmetic means were compared using t tests, for both routes and for none as well as several lagged responses, to see if average behaviour on the Turkish side differed with respect to conflict and harmony. All of the results were statistically insignificant, indicating no alternation in response to ups and downs. For example, consider the case that 1995, 1998 and 1999 are taken as harmony years. The reader would be puzzled to find that, for 1 year lag response, average growth rate (12.1 %) of the defence budget following harmony times is actually much larg-

er than that (1.3 %) for conflict times. A similar outcome will be found if 1995, 1998 and 1999 are taken as conflict years, also if similar exercise is carried for forecasting errors of the defence budget or equipment. The differences in means are almost negligible for all variables for longer lags. All these of course contradict the a priori expectation that the opposite should hold true.

13. Andreou and Zombanakis, "Financial versus Human Resources" Christos Kollias, "The Greek-Turkish Conflict" p.225.

14. Fiorenza, "Southern Flank Focus" p.68
Bahcheli, "Turkish Policy toward Greece", p.149.

15. Fiorenza, "Southern Flank Focus" p.68.

16. Fiorenza, "Southern Flank Focus" p.70.

17. *SIPRI Yearbook 2001*, p.230. Data on p.326 show that Turkish total arms imports for 1996-2000 exceed that of Greece by 55 %. This is lower than one would expect. The ratio is similar for average military expenditures during 1991-2000. However, it increases to 67% for 2000 (data on pp.277-282). Finally, in terms of SIPRI classification of defence equipment, the average ratio for the same period is 200% (data on pp.292-294). The ratio is surprisingly higher for 2000: Turkey's expenditure is three (3) times that of Greece.