

Greece and Nuclear Weapons: An Assessment

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Abstract

This paper tries to answer the question on whether the acquisition of nuclear capabilities will serve the interest of the Greek state. The issue is approached by the exploration of Greek strategic constraints in correlation with the properties of nuclear weapons and the indexing and examination of the most important incentives and disincentives that influence a state's decision to develop nuclear capabilities. Then the Greek case is analyzed through the theoretical framework that was presented by Nuno P. Monteiro & Alexandre Debs in 2014, in order to examine if the process of developing weapons is a worthwhile endeavor for the Greek state based on its effects on Greek security. It is concluded that the development of nuclear weapons would serve the Greek interests, but there are practical reasons that render it nearly impossible for the foreseeable future.

Introduction

Turkish aggression since 1973 constitutes a constantly present challenge for Greek strategic thinkers. However, Turkey's great nuclear program coupled with the development of limited accuracy medium range missiles, only suitable for delivering WMD, create the fear of nuclear blackmail to Greece and thus advance the threat to an even higher level. This development of a Turkey with nuclear capabilities generates a great opportunity to discuss a possible Greek development of nuclear weapons as a reaction to Turkey or even as a remedy for the recurring Greek strategic problems.

The following paper tries to answer the question on whether the acquisition of nuclear capabilities will serve the interest of the Greek state.¹ In the first section some general observations on Greek strategic constraints are formulated; then, in the second section, the subject is approached based on the literature of international relations, by the examination of the most important incentives and disincentives that influence a state's decision to develop nuclear capabilities. In the final section the Greek case is researched through the method that was presented by Monteiro & Debs (2014).

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¹ The only plausible way of acquiring nuclear weapons is the development of nuclear warheads based on fusion (Tsipis 1986).

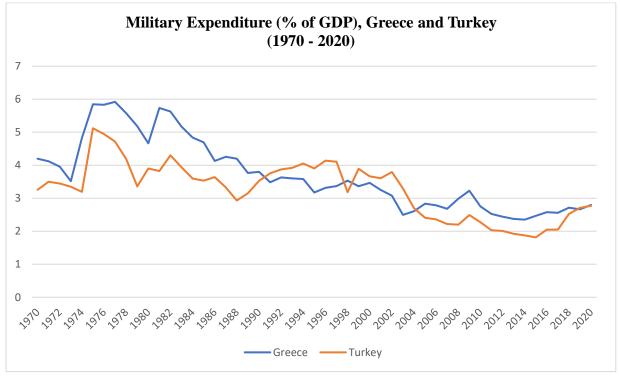
1. General observations on Greek strategy and its constraints in correlation with the Greco-Turkish balance of power

With Turkish revisionism unravelling constantly for decades, the Turkish aims to advance in a global power status through a strategy which contains the use of coercive diplomacy to challenge the status quo in land, air and sea the Greek state is facing two options of grand strategy: appearsement and balancing. The option of appearsement is rejected, since Turkey does not have limited aims and will interpret any concessions as weakness. When these concessions finally stop, war will follow. As a result, balancing is a one-way street (Platias, 1995). The basic component of this strategy is, as Platias (1995: 49) highlights, the "adoption of credible deterrence, that makes the cost of possible extension of Turkey against Greece higher than the expected benefit". The Turkish aspirations will not be bent overnight and success lies on the credible demonstration that Greece is capable of surviving a protracted exhaustive competition until Turkey realizes that the cost of its strategy surpasses the benefit and then cooperation will follow.

The balance of power between the two states is worrying for Greek strategic thinkers since they face important constraints. Some of these constraints concern the population, the geography and the economic resources.

Economic resources

Figure 1: Military Expenditure of Greece and Turkey as a percentage of GDP, 1970 - 2020



Source: Stockholm International Peace Research Institute (2021)

The Turkish economy belongs in the biggest 20 of the globe with a GDP 1.28 trillion dollars and Greece 231.21 billion dollars (World Bank, 2021; OECD, 2021). As a by-product of the Greek economic crisis the balance of power has worsened against Greece, reducing thus its deterrence capability since it refrained from armaments for almost a decade. The growing power gap between the two states is evident in the figures 1 and 2 below.

Military Expenditure (current US\$), Greece and Turkey (1970 - 2020)

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Figure 2: Military Expenditure of Greece and Turkey in constant (2019) million US \$, 1970-2020

Source: Stockholm International Peace Research Institute (2021)

Turkev

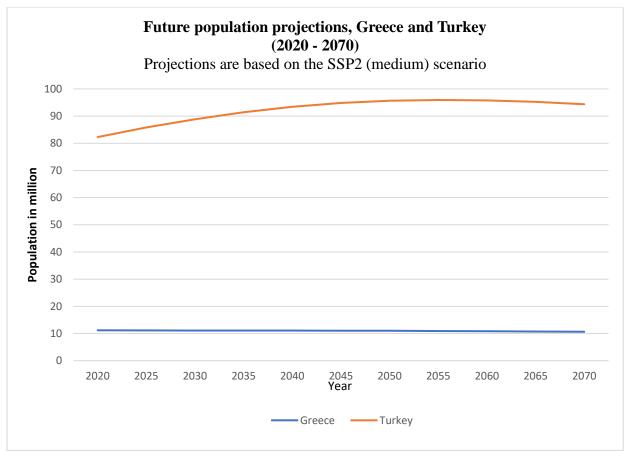
-Greece -

Population

In addition, in the distribution of power one should take into consideration the demographic data where Turkey prevails over Greece with a 1:8 ratio which is projected to deteriorate even more considering the ageing Greek population, the low birth rate in Greece in contrast with the younger Turkish population and its rising birth rate.

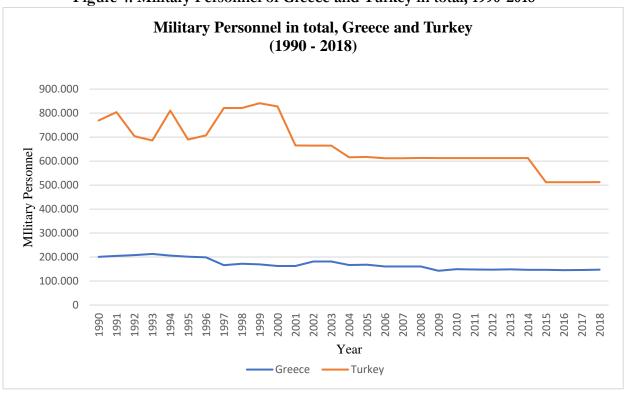
The above picture is reflected clearly in the armed forces. The almost 1:5 ratio in armed forces personnel (excluding the Turkish paramilitary forces) makes Greece vulnerable to surprise attacks and extended strategies of attrition (Platias, 1991).

Figure 3: Future population projections of Greece and Turkey, 2020-2070



Source: Lutz et al. (2018)

Figure 4: Military Personnel of Greece and Turkey in total, 1990-2018



Source: International Institute for Strategic Studies (in World Bank)

Geography

The Hellenic space (Greece and Cyprus) is a hard one to defend and creates a problem in all theaters of war with Turkey (Platias, 1991: 96). The Aegean islands are located very close to Turkey. As Platias states clearly "in short, the geography of the Greek-Turkish land and sea borders does not give Greece the advantage of interior lines, that does not provide it with the capacity rapidly to concentrate forces in one front and then to shift them to another." As a result, dissuasion only by defense is clearly a strategy incompatible to the Greek objective conditions. The absence of strategic depth leaves dissuasion by deterrence as the dominant strategy.

Let us imagine what would happen if tomorrow Greece had reached nuclear capabilities. First, the demographic and the geographical parameters would have been solved since the success of deterrence strategy is based neither on conventional capabilities nor the territorial extent with defense in depth becoming irrelevant (Waltz:31, 2002). Now as far as the economic resources are concerned, from the point that the enemy state cannot successfully launch a disarming attack relative strength becomes irrelevant. In the nuclear framework strategic and conventional arm races become meaningless. Strategic arm races lose their point because after a minimum destructive ability is obtained extra warheads make no difference. Conventional arm races because a conventional victory is irrelevant when nuclear forces are in play (Waltz 2002).

The Greek state would have solved its greatest security problem, since it would have achieved to cancel the Turkish strategy whether this is war against Greece or as Ifestos (1992: 122) puts it "the fulfillment of interim aims, the total cumulative result of which will be equivalent to Greece losing the war." In the first case war is out of the picture since any benefit obtained from a Turkish attack would not be enough to outweigh the cost of the nuclear destruction. In the second case one might argue that the low-level threats cannot be countered with nuclear weapons and a conventional and more flexible response is needed and as result big conventional expenditure should be maintained. Such a policy is harmful because it shifts the reliance from deterrence to conventional forces making war more possible. On the contrary the more credible a picture of annihilation is, the more the attacker gets deterred from executing its plans. This includes also the low-level threats because the opposing side will be convinced that after such action escalation will follow which of course leads us to the first case mechanism (Ifestos, 1992).

As Waktz (1981: 4-5) puts it "dissuasion by deterrence operates by frightening a state out of attacking, not because of the difficulty of launching an attack and carrying it home, but because the expected reaction of the attacked will result in one's own severe punishment". In this way the whole Turkish strategy would be canceled and all differences would be solved on the basis of international law and not by bilateral political

negotiations with Ankara finding itself in a position of power. In this event the Greek interest would have been served. However, returning to reality one can observe that Greece does not have the capability to proceed in the most favorable for its interests, since Turkey knows that time is on its side, is convinced that it will not act (Ifestos, 1992) and feels comfortable with its superiority in the conventional setting. In other words, the cost that Greek threats bear is not dissuasive enough. The process of developing nuclear weapons is a difficult one and in the next two sections the existence or absence of the incentives and disincentives that influence a decision of nuclearization will be examined.

2. Incentives and Disincentives for Nuclearization

2.1 Encouraging Factors – Incentives

The literature of International Relations contains a series of incentives that positively affect the decision of a state to proceed in the development of nuclear weapons.² The most significant, in order of importance are the following:

1. Nuclear Threat from rival country

Theoretically, Greece - like every other member of NATO - finds itself facing the possibility of involvement in a nuclear war between the alliance and Russia. The above does not constitute an excuse for the creation of independent nuclear deterrence since Greece finds itself under the American "nuclear umbrella".

2. Developing nuclear threat

There is a consensus that Turkey holds a medium nuclear predisposition and that it creates an option for the future in case of a change in the security environment (Dokos, 2001; Platias, 1986; Kibaroglu, 2014). Although Kibaroglu (2014) claims that unless Iran proliferates nuclearization could come in the next generation, the Turkish nuclear program worries the United States with clauses in the agreements signed by Turkey enabling Uranium enrichment and Plutonium production through reprocessing coupled with the development of medium range missiles of low accuracy only suitable for WMD (Oikonomou, 2017). Such a development would make Greece hostage to Turkish nuclear blackmail.

² See for example Chan (1980); Betts (1977); Bloomfeld (1977); Betts (1975); Dowty (1976); Beaton & Maddox (1982); Potter (1982); Rosecrance (1964); Scheinman (1973); Quester (1973); Dunn & Kahn (1976); Waltz (1981); Dokos (2001); Platias (1986).

3. Overwhelming conventional superiority of rival country

Since 1985, Turkey has maintained a conventional superiority against Greece (Platias, 1986). As mentioned in the first section of this paper there is a dynamic that broadens this chasm in the long term.

4. Important regional power status aspirations

It is estimated that there is no such aspiration from the Greek side. The aims of Greece are only limited to protection from Turkish revisionism and the protection of the security of the Hellenic population.

5. Pursuit of military superiority and 6. Blackmail of (non-nuclear) rival country

The military superiority deriving from nuclear weapons would armor Greece and allow for the exercise of all rights deriving from international law leaving only the dispute regarding the delimitation of EEZ and continental shelf to be pending. Probably a blackmail for military solution of the Cyprus issue could be feasible but we do not think that Greece would opt for it.

7. Geographical proximity with a region characterized by nuclear proliferation tendencies

Greece is neighboring with the Middle East where nuclear proliferation is present (Israel, Pakistan, Iran intention). It constitutes an incentive because alliances are not stable in the international system and the proliferation and the proliferation may affect the structure of the regional strategic environment (Platias, 1986).

8. Improvement of bargaining position in a defensive alliance

The Greek state does not aspire to affect the grand strategy of NATO since it only wishes to protect the security of the Greek nation.

9. Pursuit of independence

A state that relies upon its own power (internal balancing) rather than that of its allies (external balancing) (Waltz,1981) becomes politically and militarily more independent. The limitation of dependence is a constant aim for Greek foreign policy (Platias, 1991). The self-help principle is desired since it provides security from a possible shift to alliance architecture or to the interest of the allies during which Greece might be left alone and helpless and thus vulnerable. Being self-reliant Greece becomes more resilient against allied pressure that concerns the handling of issues related to national security and sovereignty.

10. Pursuit of international recognition

Greece already possesses enough due to its contribution to global civilization. Nuclearization would not offer anything more.

11. and 12. Morale boosting and modernization demonstration

Nuclearization could boost Greeks' morale but this does not constitute a serious reason for entanglement in such a demanding endeavor.

13. Reduction of (conventional) defense expenditures

Given the condition of the Greek economy a reduction in the defense budget would be desirable. However, until nuclear weapons become operationally ready not only the conventional expenditure should remain in the current levels, but they must rise because when the Greek nuclear aspiration would be revealed the threat of possible sudden preventive strike must be deterred (Platias, 1986). In essence it is about an investment that dictates a large short-term expenditure over a future drastic reduction. Regardless of the economic feasibility there is a great desirability.

Table 1: Greek nuclearization incentives

No.	INCENTIVE	IMPORTANCE	EXISTENCE	NON EXISTENCE
1	NUCLEAR DANGER	Н		*
2	DEVELOPING NUCLEAR DANGER	Н	*	
3	CONVENTIONAL SUPERIORITY OF RIVAL	Н	*	
4	REGIONAL POWER ASPIRATIONS	Н		*
5	PURSUIT OF MILITARY SUPERIORITY	M	*	
6	BLACKMAIL OF NON-NUCLEAR RIVAL	М		*
7	GEOGRAPHICAL PROXIMITY WITH NUCLEAR STATES	М	*	
8	IMPROVEMENT OF BARGAINING POSITION	M		*
9	PURSUIT OF INDEPENDENCE	M	*	
10	INTERNATIONAL RECOGNITION	L		*

11	DEMONSTRATION OF MODERNIZATION	L		*
12	MORAL BOOSTING	L		*
13	CONVENTIONAL DEFENSE EXPENDITURE REDUCTION	L	*	

H = The literature of international relations attributes *high* importance to this nuclearization incentive

M = The literature of international relations attributes *medium* importance to this nuclearization incentive

L = The literature of international relations attributes *low* importance to this nuclearization incentive

In table 1 it is observed that the Greek state has the second and third - in order of importance - nuclearization incentives in addition to three of medium importance and one of low. Based on the above it can be said that Greece has a high nuclearization predisposition.

2.2 Discouraging Factors - Disincentives

There are, of course, important disincentives that have to also be considered. Theoretical and empirical studies have referred to the following deterring factors in order of importance:³

1. Alliance with a nuclear power

The Greek state is allied to the USA and France. This alliance operates as a deterrent for two reasons. Given the intention of the nuclear club members to prevent horizontal proliferation, the obstacle that Greece (as well as Turkey) should overcome is important. There are two possibilities: increase of the political, military and economic cost of nuclearization (Platias, 1986) and withdrawal of the nuclear and any conventional coverage from Greece (Platias, 1986; Monteiro & Debs, 2014).

2. Possible nuclearization of the opponent

It is almost certain that if Greece manages to nuclearize first, Turkey will follow. This does not constitute a problem since the present situation finds Turkey in a position of power with a prospect of that deviation broadening in the long term. With the nuclearization of the two states, war will bring about mutually unacceptable costs and the need for a modus operandi will arise with international law becoming the primary tool since balance of power will be present.

³ As above.

3. International legal obligations

Greece is a member of the Non Proliferation Treaty. On the one hand, each member state can legally withdraw from the treaty, under the "supreme national interest" clause, if it gives three months' notice (Sagan, 1996). On the other hand, this does not stop other nuclear states from delivering an embargo on goods, arms and on nuclear fuel and technology. The arms embargo will deteriorate the Greek conventional capabilities. This embargo could also be paralyzingly costly for the nuclear program unless Greece possesses uranium under its soil (Tsipis, 1986). However, Greece can temporarily avoid being affected by simply developing 'a latent nuclear capability' that brings the state closer to nuclear weapons without having to bear the cost of full nuclearization (Platias, 1986). In case of change in the security environment (Turkey's nuclearization), Greece might be more willing to bear that cost. It must be also noted that sanctions rarely have a deterring importance and usually do not restore the status quo ante (Platias, 1986; Doxey, 1971; Galtung, 1967; Wallensteen, 1968; Adler-Karlsson, 1968).

4. Possibility of sudden preemptive strike

The possibility of such an attack on Greek nuclear facilities from Turkey is of course very high, since Greek nuclearization eliminates Turkey's conventional superiority and cancels its revisionist strategy. As a result, the decision must be taken considering the capabilities of the country to deter or even withstand such an attack. Due to the growing imbalance of power between the two states this factor has crucial influence.

5. Reputation of peaceful country

Greece seeks such a reputation and the possession of nukes is incompatible with this reputation. (Platias ,1986)

6. Internal opposition

In Greece opposition by some parties and actors shall be expected. If those come from pressure groups with strong reach on the government they might lead to a negative decision (Platias, 1986). However public discussion about nuclear weapons and not energy could cause dangerous international reactions. (Tsipis,1986). It must be considered that in Greece albeit the political divisions, parties tend to formulate a consensus over issues regarding national security.

7. Economic and technological incapability

Tsipis (1986) claims that if Greece decided to create a nuclear arsenal would be in a position to do so. The economic cost would indeed be high with the direct cost for human resources and

infrastructure and development of weapons nearing 1 billion dollars and the opportunity cost for the Greek conventional capabilities will be much higher. Greece is a country in large debt and under fiscal scrutiny. The ideal scenario would be to spend enough on conventional forces to deter a Turkish preventive war while devoting the required resources to the nuclear program. However, resources are limited and conventional deterrence capability is a prerequisite. The opportunity cost corresponds to the deprivation of resources from the defense industry which is needed to limit the dependence on foreign suppliers (Platias, 1992) and thus preserving the conventional deterrence capability by providing resilience to an arms embargo. The defense industry will also enhance the conventional deterrence capability by mobilising all the available war material, by producing armaments based on the Greek operational needs and by saving generous amounts that would otherwise go to imports of expired spare parts (Platias, 1992).

Table 2: Deterring factors of a possible Greek nuclearization

NUMBER	DETERRING FACTOR	IMPORTANCE	EXISTENCE	NON- EXISTENCE
1	ALLIANCE WITH NUCLEAR POWER	Н	*	
2	POSSIBLE NUCLEARIZATION OF OPPONENT	Н		*
3	INTERNATIONAL LEGAL OBLIGATIONS	M	*	
4	POSSIBILITY OF PREEMPTIVE STRIKE	M	*	
5	PEACEFUL COUNTRY REPUTATION	L	*	
6	INTERNAL OPPOSITION	L	*	
7	ECONOMIC AND TECHNOLOGICAL INCAPABILITY	L		*

H = The literature of international relations attributes *high* importance to this factor's deterring capability

M = The literature of international relations attributes *medium* importance to this factor's deterring capability

L = The literature of international relations attributes *low* importance to this factor's deterring capability

As shown by table 2 and the above analysis, a factor of high and two factors of medium importance exist. The issue here is the sanctions of the allies will destroy the network of external balancing

that Greece has built, will stop the supply of nuclear fuel (Tsipis 1986) and the access to armaments of which Greece is almost totally dependent since it has a weak defense industry making thus the Greek state vulnerable to a preemptive strike or even war which Turkey does not hesitate to declare that will wage for the issue of the territorial waters which is of a relatively less importance. Albeit the great nuclear predisposition that Greece presents the today's balance of incentives and disincentives shows that the development of nuclear weapons would not benefit Greece. For the endeavor to be fruitful the cost of factor 1,3 and 4 should be mitigated.

3. Research of the Greek nuclear tendency through the theoretical framework of Monteiro and Debs

Table 3: The variables of the theoretical framework of Monteiro & Debs (2014)

NUMBERS	INDEPENDENT VARIABLES	INTERVENING VARIABLES	DEPENDENT VARIABLE
1	Level of security threat: is the likelihood of future conflict between a country and its adversaries, as evaluated by a country's decision makers.	Security benefit of proliferation: refers to the magnitude of the shift in the distribution of capabilities that nuclear acquisition would produce vis-à-vis the state's adversaries.	Nuclear status
2	Proliferator's relative power reflects the balance of military power vis-à-vis its adversaries.	Cost of preventive war corresponds to the value of the total resources destroyed by both sides in a preventive war.	
3	Cost of a nuclear program corresponds to the value of the material resources necessary to develop nuclear weapons		
4	Level of an ally's commitment to the state's defense: first measures whether a powerful state is allied to the potential proliferator (either formally or informally) and, if such an alliance exists, tries. to capture the reliability of its commitment to the defense of the proliferator.		

Starting with the independent variables (1) the level of security threat is extremely high taking into consideration that (2) Greece has relatively less power than Turkey. (3) The economic cost, as presented in the previous section, is very heavy but not unaffordable in comparison with the expected benefit for Greece's security through the acquisition of nuclear weapons. (4) As

mentioned above and also claimed by the writers of the theory that when the protected ally, Greece in particular, is less powerful than its adversaries then it will suffer the threat of the withdrawal of any support for his nuclearization to be prevented (Monteiro & Debs, 2014). Moving to the intervening variables, for nuclearization to be achieved the security benefits of proliferation must exceed the cost of preventive war. At the moment this does not happen as it was foretold. The bigger the imbalance of power the larger the threat to the security and consequently the benefit of nuclearization. However, a greater imbalance of power reduces the cost of preventive war for the adversary. As Monteiro & Debs (2014: 26) state "Nuclear weapons are the weapons of the weak but the weak cannot get them". Through this theoretical framework the results of our first analysis are confirmed. Greece cannot develop nuclear weapons unless it first makes the cost of preventive war unbearable and thus dissuasive for Turkey.

Conclusions

Based on the above analysis it can be concluded that the acquisition of nuclear weapons would serve the Greek interests, since it would provide the undisputed and utmost deterrence capability thus resolving the security problems that Turkish revisionism with its coercive strategy creates. Despite this fact, Greek nuclearization is hindered by the opposition of its allies and the cost of a Turkish preventive war. To overcome this obstacle the cost of preventive war must be made unacceptable for Turkey using only conventional means and after their development, nuclear weapons will seal the Greek deterrence capability. This poses a great challenge since an enormous investment is needed in advance both for conventional armaments and the nuclear program before one can enjoy the fruits of nuclearization. The Greek state operates in an environment of limited resources and a nuclear program corresponds to a great opportunity cost for the Greek defence industry. The path towards nuclearization runs through the Greek defence industry, which when developed will enhance the conventional deterrence by making it independent of allied support, providing systems based on Greek operational needs and save resources that allow for the secure nuclearization. In conclusion Turkey seems to be developing a latent nuclear capability. Greece should follow suit in order to avoid becoming hostage to the Turkish nuclear threat, in case of a change in the environment regarding the horizontal proliferation of nuclear weapons. The creation of latent nuclear capability would make the benefits more tangible without the consequences of full nuclearization (Platias, 1986).

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