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ИССЛЕДОВАТЕЛЬСКИЕ СТАТЬИ

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Rationality and Rivalry: A Game-Theoretic Analysis of the Turkey-Greece Aegean Dispute

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Abstract: The Aegean dispute between Türkiye and Greece remains one of the most persistent interstate rivalries in the Eastern Mediterranean, structured around overlapping claims and recurrent frictions concerning maritime zones, national airspace, and the (de)militarised status of Aegean islands, islets, and rocks. While episodes of escalation – most notably the Kardak/Imia crisis–have periodically raised the risk of a wider confrontation, the conflict has largely been managed through controlled, low-intensity interaction rather than open warfare. This article explains that pattern through a game-theoretic model that formalises the strategic interdependence of the two actors and clarifies the logic of their observed behaviour.

The study models the dispute as a sequential game in which each side is assumed to act rationally and can choose among three stylised strategies–aggressive, passive-aggressive, and passive–depending on its assessment of the situation and the expected response of the other.

A decision tree specifies the structure of interaction and the associated payoffs, and the equilibrium logic is derived via backward induction.

The model yields a clear implication: under the specified preference ordering, both sides converge on passive-aggressive behaviour as the outcome that maximises attainable payoffs while limiting the risks of uncontrolled escalation. Substantively, the results account for the empirical regularity of reciprocal demonstrations of presence–naval manoeuvres, air and maritime incidents, and other forms of harassment or signalling–that allow each government to project resolve and defend reputational claims without crossing the threshold into direct military confrontation.

By providing a transparent strategic rationale for this "managed tension" equilibrium, the article contributes to a more precise understanding of why the Aegean dispute persists and why crisis dynamics often stabilise at the level of chronic, low-intensity rivalry rather than culminating in full escalation.

Keywords: Turkey, Greece, Aegean Dispute, Aegean Sea, Eastern Mediterranean, International Conflict, International Relations, Game Theory

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Game theory examines strategic interaction among agents in competitive (and, in many cases, mixed-motive) settings by modelling decision-making as interdependent choice. Its intellectual origins are commonly associated with work in the 1920s on probabilistic reasoning in gambling and strategic situations, and the field's formal foundations are typically traced to John von Neumann's proof of the minimax theorem (von Neumann 1928). A further landmark was von Neumann and Oskar Morgenstern's *Theory of Games and Economic Behavior* (1944), which consolidated key analytical principles and introduced canonical solution concepts for two-person zero-sum games, thereby providing a systematic toolkit for analysing strategic conflict. Since then, game theory has been widely adopted to model conflicts and decision problems across diverse domains, including military strategy, resource allocation, water management, insurance and contract design, marketing strategy, political bargaining, and–most relevant here–international relations.

Recent research over the past two decades illustrates the breadth of these applications. For example, Wang et al. developed a game-theoretic framework for water-resource allocation (Wang et al. 2003), while Hollander and Prashker applied game-theoretic methods to transportation systems (Hollander and Prashker 2006). Esmaeili et al. modelled seller–buyer interactions in supply chains using non-cooperative games (Esmaeili et al. 2009), and Brams offered a comprehensive discussion of game theory's contribution to political science (Brams 2011). Brown et al. employed game-theoretic models to study traffic patrolling (Brown et al. 2014), and Bjornskau used game theory to explain deviations from prescribed traffic rules (e.g., zebra crossings) and to analyse road-user interaction in Norway (Bjornskau 2017). Pakdaman et al. examined strategic interaction between insurance companies and health systems (Pakdaman et al. 2019), while Wang et al. analysed the Sino–Indian border dispute from a game-theoretic perspective (Wang et al. 2019). Abapour et al. applied game-theoretic reasoning to problems in power systems, and Abedian explored the selection of marketing-mix strategies using game-theoretic tools (Abedian 2022). Ho et al. provided an in-depth discussion of game theory in defence studies (Ho et al. 2022). Jamali et al. studied competition between renewable and non-renewable energy producers and applied game theory to energy pricing in Iran (Jamali et al. 2023), while Li et al. used game-theoretic approaches to assess risks in urban natural-gas pipelines and to identify optimal risk-management strategies through dynamic evaluation games (Li et al. 2023). More recently, Amuji et al. applied game theory to the Nigerian electoral system (Amuji et al. 2024); Zarreh et al. addressed drinking-water pricing (Zarreh et al. 2024); and Kalagy et al. considered waste separation in local authorities and analysed the associated Nash equilibria (Kalagy et al. 2025). Shahmohammdian and Ghafory-Ashtiany examined safety and resilience in natural disasters, highlighting how game-theoretic reasoning can support cooperative strategies for building more resilient systems (Shahmohammdian and Ghafory-Ashtiany 2025). Taken together, these studies underscore game theory's capacity to clarify strategic structure in complex decision environments.

Alongside these applications, the use of formal modelling to analyse international relations has become an established approach for examining conflicts of interest, bargaining, deterrence, and escalation. By representing strategic choice in a logically explicit and internally consistent form, game theory can illuminate how actors' expectations about each other's moves shape observable behaviour. In the study of international politics, this perspective has been used to improve analytical leverage on negotiation dynamics, crisis bargaining, and conflict management, complementing–rather than replacing–traditional diplomatic and historical approaches.

The literature applying game theory to international conflict is substantial. Early contributions include Haywood's analysis of military doctrines used during the Second World War (Haywood 1954). Lumsden applied the prisoner's dilemma to the Cyprus conflict and argued that peace constitutes a Pareto-superior outcome under the model's assumptions (Lumsden 1973). Perjes examined the Battle of Mohács using game-theoretic reasoning (Perjes 1981), while Brown analysed US–Soviet interaction and discussed how game-theoretic insights may improve negotiation outcomes (Brown 1986). O'Neill explored models of peace and war and discussed debates over game theory's relevance for realism, cooperation, deterrence, and nuclear strategy (O'Neill 1994). Langlois and Langlois constructed a model of rational behaviour consistent with the evolution of China–US relations from the early 1970s to the late 1980s (Langlois and Langlois 1996). Subsequent work has applied standard 2×2 games to nuclear deterrence, the Taiwan Strait, nuclear competition, and disputes over shared oil and gas resources (Kraig 1999; Frank and Melese 2003; Aydın 2009; Esmaeili et al. 2015). Zagare provided a broad overview of applications in diplomatic and security studies (Zagare 2019). More recent contributions have modelled a range of crises and conflicts–including cases comparable to Turkey–Syria (Özkaya and İzgi 2021), asymmetric conflicts such as Russia–Ukraine (Özkaya and Bakkaloğlu 2023), the Cuban Missile Crisis (Shaabai and Gorji 2023) –all through a game-theoretic lens. Collectively, this scholarship demonstrates the continued relevance of game theory for analysing the strategic logic of international disputes.

In the context of the Aegean dispute, the interaction between Turkey and Greece involves multiple, interlinked issues–maritime delimitation, territorial claims, and the status of islands–under conditions of enduring rivalry and high political salience. In such multidimensional settings, game theory can be useful for clarifying the strategic incentives, identifying potential equilibrium patterns of behaviour, and distinguishing between confrontational postures and escalation thresholds. The approach is particularly valuable insofar as both states must simultaneously protect perceived rights and reputations while managing the risks associated with crisis escalation.

Against this background, the present study employs game theory as an analytical framework to examine the Aegean dispute between Turkey and Greece. Specifically, it models the potential behaviour of both countries with respect to maritime boundaries and island-related issues in order to clarify the strategic structure of their interaction.

The article's contributions can be summarised as follows. First, it analyses the dynamics of the Aegean dispute in line with core principles of game theory, presenting stylised strategies and the associated solution space available to Turkey and Greece. Second, by modelling mutual strategic interdependence, it contributes to a clearer understanding of possible behavioural patterns and reciprocal responses. Third, it seeks to account for the rationality underlying observed positions and tactics adopted by both parties. Fourth, it considers the implications for de-escalation and strategy design, arguing that credible approaches to reducing tensions matter not only for national interests but also for regional peace and stability.

Turkey vs Greece: Conflict of Aegean Sea

Following the collapse of the Ottoman Empire, Greece's independence, and the establishment of the Republic of Turkey, a series of disputes emerged in the Aegean Sea and along the two states' adjacent coastal zones. Among the most enduring is the dispute over the Aegean Islands. The status of many islands was partially clarified by the 1923 Treaty of Lausanne (and, later, the 1947 Paris Peace Treaty), which provided, inter alia, that certain islands allocated to Greece were to remain disarmed and demilitarised. Against this background, disagreements over territorial waters and over the sovereignty and status of islands, islets, and rocks have for decades generated recurrent diplomatic tensions and episodic crises, creating a persistent risk of regional escalation. The dispute is multidimensional–implicating control over territory, the delimitation of maritime zones, and the interpretation and application of international law–and therefore bears not only on bilateral relations but also on regional security and the governance of international maritime space (Salapatas 2014).

A second core issue concerns the demilitarised status of parts of the Aegean. The Paris Peace Treaty of 1947 assigned certain islands to Greece on the condition that they remain free of military presence, yet the extent of Greece's compliance and the legal scope of the relevant obligations remain contested[1]. In the literature and in official argumentation, demilitarisation is commonly linked to Turkey's security concerns, given the proximity of several islands to the Turkish mainland (Yumuşak 2024; Rizas 2009). For example, islands such as Kastellorizo and Kos lie close to Turkey's coast–approximately 2 km and 20 km away, respectively (Meinardus and Triantafyllou 2021)[2]. Turkey has repeatedly accused Greece of violating demilitarisation clauses

[1] Başlıca Ege Denizi Sorunları. 2025. *Ministry of Foreign Affairs of Türkiye.* URL: https://www.mfa.gov.tr/baslica-ege-denizi-sorunlari.tr.mfa (accessed 10.12.2025); Militarization of Eastern Aegean Islands Contrary tp the Provisions of International Agreements. 2025. *Ministry of Foreign Affairs of Türkiye.* URL: https://www.mfa.gov.tr/militarization-of-eastern-aegean-islands-contrary-to-the-provisions-of-international-agreements.en.mfa (accessed 10.12.2025)

[2] General Assambly, Letter dated 15 June 2021 from the Permanent Representative of Turkey to the United Nations addressed to the Secretary-General, A/75/929. 2021. *United Nations.* URL: https://docs.un.org/en/A/75/929 (accessed 10.12.2025)

by deploying military assets to these islands[3]. Greece, for its part, maintains that its measures conform to prevailing international norms and are justified by the right of self-defence, whereas Turkey argues that such deployments breach Greece's treaty obligations under international law. In this sense, the question of demilitarisation is directly connected to Turkey's threat perceptions, while for Greece the islands possess considerable strategic value in the Eastern Aegean. As a result, moves perceived as altering the demilitarised status tend to intensify bilateral tension.

In addition, Greek governments have periodically raised the possibility of extending Greece's territorial waters in the Aegean Sea. Turkish officials have long treated such proposals as coercive, arguing that Greece has threatened since 1995 to extend its territorial waters to 12 nautical miles[4] (Fodor 2023). This position was reiterated at the highest political level in 2021, when the Prime Minister of Greece publicly stated that Greece was "growing" through the extension of its territorial waters in the Aegean Sea[5]. Greek authorities have sought to legitimise this stance by framing it as an exercise of sovereign rights under international law and by articulating it in official policy documents, including statements published on the website of the Ministry of Foreign Affairs[6]. From Turkey's perspective, any such extension would directly affect its interests in the seabed and constrain access from the Turkish mainland (Kassimeris 2008). At times, these disputes have brought the two states close to confrontation. The most acute episode was the 1995/1996 Kardak (Imia) crisis, triggered when a Turkish cargo ship ran aground near one of the islets in the Aegean Sea. The incident escalated as both states asserted sovereignty and disputed whether the events occurred within their respective territorial waters (Pratt and Schofield 1996; Heraclides and Heraclides 2010; Şıhmantepe 2013; Bayar and Kotelis 2014).

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[3] Disputed Islands in the Aegean Sea: The Ongoing Conflict between Greece and Turkey. 2023. *The Foreign Policy Council.* URL: https://foreignpolicycouncilcom.wordpress.com/2023/01/16/disputed-islands-in-the-aegean-sea-the-ongoing-conflict-between-greece-and-turkey/ (accessed 10.12.2025); The Greco-Turkish Dispute over the Aegean Sea. 2022. *The Indian Council of World Affairs.* URL: https://www.icwa.in/show_content.php?lang=1&level=1&ls_id=8622&lid=5627 (accessed 10.12.2025); Militarization of Greek Islands with Non-Armed Status Violates Treaties. 2022. *Daily Sabah*. URL: https://www.dailysabah.com/politics/diplomacy/militarization-of-greek-islands-with-non-armed-status-violates-treaties (accessed 10.12.2025); How Greece's Militarisation of Aegean Islands Violates International Law. 2022. *TRT World.* URL: https://www.trtworld.com/magazine/how-greece-s-militarisation-of-aegean-islands-violates-international-law-58276 (accessed 10.12.2025)

[4] Greece to Extend Territorial Waters South, West of Crete: Local Media. 2022. *Daily Sabah.* URL: https://www.dailysabah.com/politics/greece-to-extend-territorial-waters-south-west-of-crete-local-media/news (accessed 10.12.2025); Turkey Issues New Threat against Greece over Aegean Islands. 2022. *Politico*. URL: https://www.politico.eu/article/border-greece-turkey-issues-new-threat-over-aegean-islands/ (accessed 10.12.2025)

[5] Greece Expands its Territorial Boundaries in Ionian Sea. 2021. *The Maritime Executive.* URL: https://maritime-executive.com/index.php/article/greece-expands-territorial-seas-claim-in-ionian-sea (accessed 10.12.2025); Greek MPs Approve Extension of Territorial Waters in Ionian Sea. 2021. *Aljazeera*. URL: https://www.aljazeera.com/news/2021/1/20/greek-mps-approve-extension-of-territorial-waters-in-ionian-sea (accessed 10.12.2025); Greece to Extend Territorial Waters to 12 miles; Turkey Threatens with War. 2022. *The Greek City Time.* URL: https://greekcitytimes.com/2022/10/11/greece-waters-12-miles-turkey/ (accessed 10.12.2025)

[6] Territorial Sea – Casus Belli. 2025. *Ministry of Foreign Affairs of Greece.* URL: https://www.mfa.gr/en/foreign-policy/foreign-policy-issues/issues-of-greek-turkish-relations/territorial-sea-casus-belli/ (accessed 10.12.2025).

A further, closely related dimension concerns national airspace. Since national airspace is generally understood to extend over a state's territory and adjacent territorial waters, disputes over maritime boundaries translate directly into disputes over airspace. Greece claims an airspace breadth of 10 nautical miles, a position that Turkey does not recognise[7]. In support of their respective claims, Turkish and Greek military aircraft frequently operate in contested areas, leading to repeated interceptions and, at times, aerial confrontations[8]. The frequency of alleged airspace violations has increased over time (Tetik 2007; Choulis 2022). These incidents not only heighten military friction but also impede progress towards negotiated solutions. More broadly, the recurrent cycle of territorial-water disputes, airspace incidents, and controversy over the militarisation of Aegean islands sustains high levels of distrust and periodically destabilises bilateral relations.

These issues have been analysed from multiple perspectives in Turkish, Greek, and international scholarship, producing a wide range of interpretations and explanatory accounts (Yücel 2010; Çelikkol and Karabel 2017; Athanasopulos 2017; Papadakis 2018; Heraclides 2019; Grigoriadis 2023; Yumuşak 2024). Yet the dispute remains unresolved. This study approaches the Aegean conflict through the lens of game theory, examining the strategic interaction between Turkey and Greece and the logic underpinning their observed patterns of behaviour.

Game Model for Behavior of Turkey and Greece to the Conflict of Aegean Sea

In this section, we analyse the behaviour of Turkey and Greece in the Aegean dispute through the lens of game theory. We begin by developing a game-theoretic model in order to clarify the strategic decisions available to both countries and to show how particular choices may contribute to the persistence of regional tensions. In line with basic game-theoretic assumptions, the model treats both actors as rational and represents their interaction as a sequential game. In practice, Turkey and Greece can adopt aggressive, passive-aggressive, or passive behaviour in response to a given episode of contestation as they seek to protect national interests. For analytical clarity, we refer to the two actors as Country 1 and Country 2, since either side may initiate a crisis.

Assume that Country 1 initiates the interaction. Country 1 can open the dispute in one of three ways: aggressive, passive-aggressive, or passive. These strategic behaviours are defined as follows.

[7] The Outstanding Aegean Issues. 2025. *Ministry of Foreign Affairs of Türkiye.* URL: https://www.mfa.gov.tr/maritime-issues---aegean-sea---the-outstanding-aegean-issues.en.mfa (accessed 10.12.2025)

[8] Greece and Turkey Accuse each Other's Military of Airspace Violations. 2022. *Euronews*. URL: https://www.euronews.com/2022/04/29/greece-and-turkey-accuse-each-other-s-military-of-airspace-violations. (accessed 10.12.2025)

Aggressive action. Country 1 may undertake direct and forceful steps that visibly escalate tensions. Examples include deploying troops to disputed islands and establishing a military presence there (i.e., militarisation), or seeking formal authorisation to extend territorial waters or national airspace–for instance, extending territorial waters from 6 to 12 nautical miles or extending national airspace to 10 nautical miles (as claimed by Greece). Such moves are classified as aggressive because they alter the status quo in an explicit and confrontational manner.

Passive-aggressive action. Alternatively, Country 1 may choose actions that stop short of a formal change in legal status yet are intended to signal resolve, pressure the other side, or create faits accomplis. This can include military harassment–for example, dispatching naval vessels into waters claimed by Country 2 or operating near islands with a demilitarised status–or intimidating fishermen in contested areas. Episodes involving seismic research vessels (e.g., the Oruç Reis incidents[9]) are often interpreted in this category: they are less overt than outright militarisation, but they can nonetheless provoke reactions and intensify the dispute.

Passive action. Finally, Country 1 may escalate in a relatively indirect manner, for example by making public statements about extending territorial waters, engaging in diplomatic signalling or symbolic gestures related to contested islands, or issuing demands concerning control over particular islets or rocks in the Aegean. These moves do not immediately involve the use of force, but they may still increase tensions by hardening positions and generating domestic or international pressure.

Given these action sets, a decision tree can be constructed to represent the potential outcomes associated with different combinations of moves by Country 1 and Country 2. The tree maps Country 1's initial choice (aggressive, passive-aggressive, or passive) and Country 2's subsequent response (aggressive, passive-aggressive, or passive), thereby formalising the sequential structure of interaction and the strategic options available at each stage. The proposed decision tree for the Aegean dispute between Turkey and Greece is presented in Figure 1.

[9] Greek, Turkish Warships in 'Mini Collision' Ankara Calls Provocative. 2020. *Reuters*. URL: https://www.reuters.com/article/world/greek-turkish-warships-in-mini-collision-ankara-calls-provocative-idUSKCN25A160/ (accessed 10.12.2025).

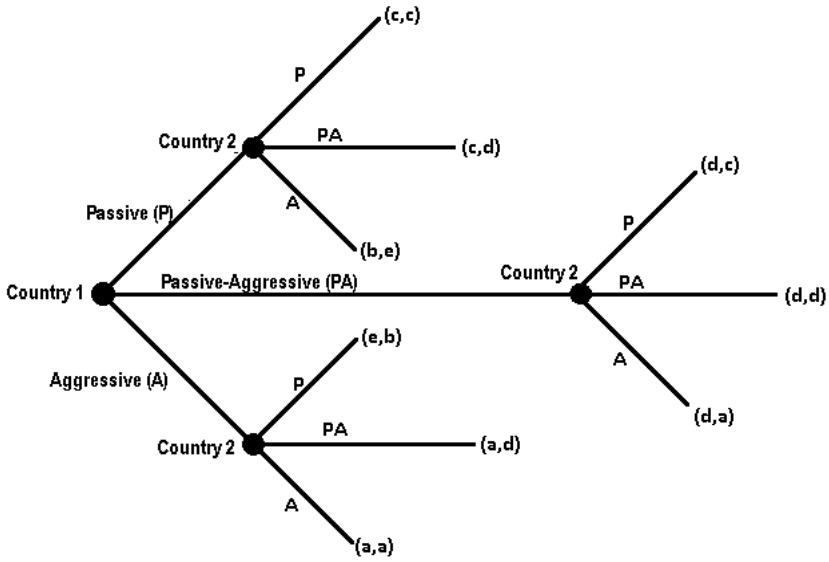

Figure 1. Decision Tree for the Aegean Dispute between Turkey and Greece

The outcomes are ranked to reflect each country's preference ordering, inferred from observed patterns of behaviour in previous episodes of the dispute. We assume the following strict ordering of payoffs:

$$a < b < c < d < e.$$

In other words, each country prefers outcome bto outcome a, outcome cto outcome *b*, and so on.

To illustrate, suppose Country 1 initiates the interaction with a passive move. Country 2 then has three possible responses – aggressive, passive-aggressive, or passive. If Country 2 also responds passively, the interaction yields outcome cfor both sides. For convenience, we normalise this benchmark outcome as *c*=0, indicating that both countries obtain the same intermediate payoff.

Consider next the case in which Country 1 acts aggressively. Country 2 again faces the same three response options. Assume, for example, that Country 2 responds passively. The resulting outcome is denoted (*e*',b), where the first component is Country 1's payoff and the second component is Country 2's payoff. The preference ordering implies that Country 1 obtains its most favourable outcome–consistent, for instance, with gaining control over islands/islets/rocks or securing formal approval to extend territorial waters–whereas Country 2 incurs a comparatively poor outcome. Substantively, this reflects reputational and political costs (domestically and internationally) associated with not responding to an action perceived as violating existing arrangements and affecting sovereignty. The remaining cases are interpreted analogously: each combination of initial moves and responses produces a distinct outcome pair, with corresponding payoffs for both countries.

For analytical simplicity–without loss of generality–we map the ordinal ranking onto a symmetric numerical scale:

$$a = -2,\ b = -1,\ c = 0,\ d = 1,\ \text{and}\ e = 2.$$

These payoff values are then assigned to the relevant terminal nodes of the decision tree. Figure 2 presents the decision tree for the Aegean dispute between Turkey and Greece with the corresponding payoff values.

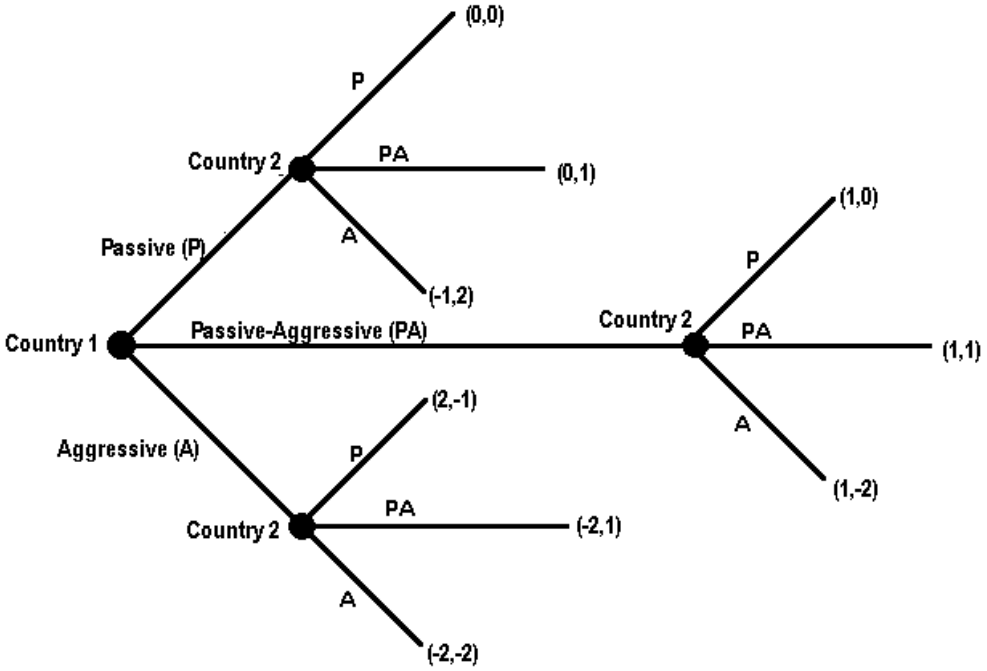

Figure 2. Decision Tree with Values for the Aegean Dispute between Turkey and Greece

We solve the game using backward induction. At each decision node, Country 2 selects the response that maximises its payoff, conditional on Country 1's preceding move. If Country 1 adopts a passive-aggressive strategy, Country 2's most preferred response is also passive-aggressive, yielding d=1for Country 2 (the highest payoff available in that subgame). If Country 1 behaves passively, Country 2's optimal response is aggressive, as this produces Country 2's maximum payoff of e=2(while Country 1 receives b=-1). Finally, if Country 1 initiates an aggressive move (associated in the model with an unfavourable payoff for Country 1, a=-2), Country 2's best available outcome is again achieved by choosing passive-aggressive behaviour, which yields d=1for Country 2.

The resulting action–response combinations and the corresponding payoff pairs are summarised in Table 1.

Table 1. The Best Strategies for Each Country in the First Step of Backward Induction

Action of Country 1/Country 2	Rewards
(Passive, Aggressive)	(*b, e*)=(-1,2)
(Passive-Aggressive, Passive-Aggressive)	(*d, d*)=(1,1)
(Aggressive, Passive-Aggressive)	(*a, d*)=(-2,1)

Even if Country 2's **aggressive** response yields the highest payoff in Table 1, Country 2 anticipates that Country 1 is unlikely to choose an initial move that would leave it strictly worse off. Country 1 therefore has an incentive to avoid strategies that predictably produce losses and, instead, to select a **passive-aggressive** course of action. More generally, because both actors seek to avoid a clear defeat in an enduring rivalry, they are inclined to sustain the conflict at a controlled level–signalling resolve and testing the other side–while stopping short of full escalation. In this logic, **passive-aggressive** behaviour becomes a convenient equilibrium-like pattern: it allows each side to demonstrate firmness without accepting the political and strategic risks associated with overt military confrontation.

If other action profiles are considered, the underlying strategic intuition becomes clearer. For example, if Country 1 escalates only **passively**–through limited provocations or indirect signalling–Country 2 may find it optimal to respond **aggressively**, for instance by deploying forces to the area of contestation (e.g., to islands or disputed maritime zones). Such a response may yield domestic reputational benefits by demonstrating resolve and, at the same time, may facilitate the internationalisation of the dispute, allowing Country 2 to frame its actions as enforcement of rights or defence of the status quo. In contrast, the pair of strategies in which Country 1 acts **aggressively** while Country 2 responds **passive-aggressively**–for example, by deploying air and naval assets without engaging in direct combat–can impose disproportionate reputational and diplomatic costs on Country 1, potentially strengthening Country 2's leverage in subsequent interactions. From the standpoint of both actors, this is therefore a relatively unattractive outcome.

By comparison, when both countries adopt **passive-aggressive** tactics–such as naval manoeuvres in contested areas, close monitoring or harassment of fishing activity, and reciprocal demonstrations of presence–neither side incurs the immediate costs associated with either backing down or initiating open hostilities. At the same time, each government can frame its conduct domestically as the defence of national rights and interests, potentially strengthening its political standing at home. This combination of limited risk, signalling value, and domestic political payoff helps explain why passive-aggressive behaviour is repeatedly observed in the Aegean context.

Consistent with Table 1 and the final step of backward induction, the model's optimal strategy profile is for both countries to select passive-aggressive actions in order to secure the highest attainable payoffs. Empirically, this prediction is broadly consistent with recurring episodes of low-level friction between Greece and Turkey. For instance, on 11 July 2024, Turkish Coast Guard sources reported that the Turkish-flagged fish-

ing vessel *Kızılelma-1*, operating off the coast of Zürafa Feneri near Gökçeada, was harassed when a Greek Coast Guard asset passed at close range and caused material damage to the vessel; Turkish Coast Guard units were subsequently dispatched to the area[10]. Similar incidents are regularly reported in the media[11]. In addition, public statements by the Greek Prime Minister on the potential extension of territorial waters have periodically reinforced the signalling dimension of the dispute (The Maritime Executive, 2021; Al Jazeera, 2021; The Greek City Times, 2022). Taken together, these examples illustrate a pattern in which both Greece and Turkey predominantly rely on passive-aggressive tactics – thereby sustaining a persistent level of tension in the Aegean Sea.

Conclusions

This study examined the Aegean Sea dispute between Türkiye and Greece–two states engaged in a protracted contestation over sovereignty and jurisdictional claims involving islands, islets, rocks, and maritime zones. Although tensions have periodically escalated as a result of competing actions in the Aegean, and despite several acute episodes–including the Kardak (Imia) crisis–bilateral relations have not deteriorated to the point of complete rupture. To capture the strategic logic of this pattern, the article developed a game-theoretic model of interaction between the two countries. Within the model, each actor can sequentially choose among three types of actions–aggressive, passive-aggressive, and passive–and the analysis considers alternative scenarios in which one side initiates the episode using one of these strategies and the other responds accordingly. Under the model's assumptions, passive-aggressive behaviour emerges as the optimal strategy for both actors, as it yields the highest attainable payoff. The implication is that, while this equilibrium-like pattern reduces the likelihood of major crises, it also sustains a chronic level of tension that can be politically instrumentalised by governments seeking to consolidate domestic support.

The recurrent reliance on passive-aggressive tactics reflects the dispute's underlying complexity: both states aim to assert claims and signal resolve while avoiding actions that would trigger open confrontation. Direct military engagement would risk escalation into a broader international crisis, particularly given that both Türkiye and Greece are NATO members, which adds an additional layer of geopolitical sensitivity. In practice, alliance dynamics create incentives and channels for crisis management,

[10] Turkish Coast Guard Alleges Harassment of Fishing Vessel by Greek Asset. 2024. *The Greek City Time*. URL: https://greekcitytimes.com/2024/07/12/turkish-coast-guard-alleges-harassment-of-fishing-vessel-by-greek-asset/ (accessed 10.12.2025)

[11] Turkish Fisherman, Crew Harassed by Greek Coast Guard in International Waters. 2022. *AA*. URL: https://www.aa.com.tr/en/europe/turkish-fisherman-crew-harassed-by-greek-coast-guard-in-international-waters/2493603 (accessed 10.12.2025); Türk balıkçı teknesini taciz eden Yunanistan Sahil Güvenlik unsuru bölgeden uzaklaştırıldı. 2024. *AA*. URL: https://www.aa.com.tr/tr/gundem/turk-balikci-teknesini-taciz-eden-yunanistan-sahil-guvenlik-unsuru-bolgeden-uzaklastirildi/3341548 (accessed 10.12.2025)

reducing the probability that disputes in the Aegean will be allowed to develop into full-scale war, not least because both countries are important to the security architecture of the Eastern Mediterranean and the Black Sea.

Against this background, the model helps to explain the persistence of a low-intensity conflict in which reciprocal, controlled escalation becomes the default mode of interaction. At the same time, the findings underscore that a transition from chronic tension to more durable stability would require both sides to reduce provocative actions and to invest in confidence-building measures. Relevant steps may include joint de-escalation protocols, enhanced bilateral cooperation on maritime safety, and institutionalised communication channels at the political and military levels. A sustainable pathway towards conflict management also presupposes continued adherence to existing international agreements and legal commitments, alongside a willingness to use high-level diplomatic mechanisms to address points of contention.

Finally, the analytical framework advanced here can be extended to analogous disputes in other regions. Future research could enrich the model by incorporating additional determinants of state behaviour–such as domestic political incentives, third-party mediation, or economic interdependence–and by allowing for repeated interaction, asymmetric information, and the involvement of external actors. Such extensions would better capture the full complexity of international disputes while preserving the explanatory advantages of a formal, strategic approach.

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Рациональность и соперничество в международных конфликтах: теоретико-игровое моделирование турецко-греческого спора в Эгейском море

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Конфликт между Турцией и Грецией в Эгейском море относится к числу наиболее продолжительных и политически чувствительных противоречий в Восточном Средиземноморье. Его ключевые параметры связаны с притязаниями сторон в отношении разграничения морских пространств, режима национального воздушного пространства, а также статуса (де)милитаризации отдельных островов, островков и скальных образований. Несмотря на наличие кризисных эпизодов, включая инцидент Кардак/Имия, противостояние, как правило, не перерастает в открытую вооружённую конфронтацию и развивается в логике ограниченного соперничества и управляемой эскалации.

В статье предлагается теоретико-игровая интерпретация указанной динамики. Конфликт моделируется как последовательная игра, в рамках которой обе стороны рассматриваются как рациональные акторы, выбирающие между тремя типовыми стратегиями поведения – агрессивной, пассивно-агрессивной и пассивной – в зависимости от оценки ситуации и ожидаемой реакции оппонента. Структура взаимодействия задаётся в виде дерева решений, а равновесные исходы определяются методом обратной индукции. Показано, что при принятой в модели иерархии предпочтений наилучшим достижимым исходом для обеих сторон оказывается пассивно-агрессивная линия поведения, позволяющая сочетать демонстрацию решимости с ограничением рисков неконтролируемой эскалации.

Полученные результаты соотносятся с наблюдаемой практикой повторяющихся эпизодов взаимной демонстрации присутствия (морские и воздушные инциденты, манёвры), которые, с одной стороны, поддерживают конфликт, а с другой – удерживают стороны ниже порога прямого военного столкновения. Предложенная модель объясняет механизм устойчивости конфликта в Эгейском море и позволяет более строго описать причины, по которым кризисная динамика как правило стабилизируется на уровне противостояния низкой интенсивности, не перерастая в полномасштабную эскалацию.

Ключевые слова: Турция, Греция, Эгейский спор, Эгейское море, восточное Средиземноморье, международный конфликт, международные отношения, теория игр

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