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Controlling the Skies: Leveraging Airspace as a Foreign Policy Tool

Samantha Costas
Loyola University of Chicago Graduate School

LOYOLA UNIVERSITY CHICAGO

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SAMANTHA COSTAS

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Dedicated to my late grandmother Angie Costas, who had dreamed of pursuing higher education.

The most difficult thing is the decision to act, the rest is merely tenacity. The fears are paper tigers. You can do anything you decide to do. You can act to change and control your life; and the procedure, the process is its own reward.

Amelia Earhart

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ABSTRACT

Open skies and deregulated airspace facilitate the seamless global transportation of people and property across borders. The closure of airspace to a particular country negatively impacts both the sender and target. The sender faces reduced revenue from loss of overflight fees and associated airline costs, while a target must reroute, increasing travel time and fuel requirements for the flight. Despite the substantial costs involved, airspace closures still occur because of their symbolic value in signaling preferences on salient issues. Using a three-case study analysis, this dissertation explores the factors that drive a country to close its airspace, as well as those that shape a target's behavior when confronted with a closure. This research has implications for scholars seeking to understand non-violent conflict and policymakers seeking to understand when and why states leverage airspace as a foreign policy tool.

CHAPTER ONE

INTRODUCTION

On February 27th, 2020, as a response to Russia's invasion of Ukraine, the European Union and Canada both decided to close their airspace to all aircraft registered to Russia. The ban prohibits aircraft from both landing at airports within the European Union, as well as overflying EU territory. Ursula von der Leyen, President of the European Commission, described the reasoning behind the ban by explaining that, "[a]s the war in Ukraine rages on, and Ukrainians fight bravely for their country, the European Union steps up once more its support for Ukraine and the sanctions against the aggressor – Putin's Russia" ("EU Ups the Ante" 2022). As a retaliatory response, Russia closed its airspace to the European Union, bringing the total of countries banned from Russia's airspace to 36 ("Russian Flight Bans" 2022). The European Union's closure of airspace is a clear signal denouncing Russia's invasion of Ukraine. As I will show below, the leveraging of airspace to signal foreign policy intentions or goals has become more prevalent as airspace has become increasingly utilized as a means to transport people or property.

Open airspace access benefits all states because of reduced travel time and operating costs, and increases revenue generated from overflight fees and general airport traffic. Yet, countries still close their airspace despite incurring costs. Why do states continue to enact a costly foreign policy if history has shown that airspace closures do not work in achieving foreign policy goals? My research investigates the following questions: what factors explain the use of airspace closures as a foreign policy tool, and under what conditions do they impact the behavior

of other states? From within the rational choice approach, I analyze the costs, benefits, and perceived probability of success to investigate airspace control as a foreign policy option that fits within a country's toolbox of possible responses. Success is understood as a change in the target's behavior. Accordingly, this research helps explain the conditions under which states close their airspace and the variables that affect their decision to do so. I use primary resources including news sources, government data, aviation data, public statements from officials, and information about public opinion. To understand what drives a state to close its airspace to another state, this dissertation considers the role of state characteristics, issue type and salience, and domestic and international dynamics.

This chapter first introduces the concept of airspace as a foreign policy tool, and the general importance of open access to airspace for international relations. It will then overview the relevant literature focusing on rational choice theory, sanctions, and previous research on airspace closures. Lastly, I establish the theoretical groundwork of the dissertation's arguments through the rational choice theory.

Airspace as a Foreign Policy Tool

Airspace is simply another tool that states can use to attain specific foreign policy goals and is substitutable with other foreign policy actions within a larger toolbox of foreign policy. While we have significant research on other foreign policies, such as sanctions, trade, alliances, and war, I offer an initial study of airspace as a foreign policy tool. Such a study is imperative if we are to have a holistic understanding of foreign policy decision making. Airspace closures can be seen as a signal to both the target state and international community about policy preferences. In response to the airspace closure, a target's reaction also signals foreign policy preferences. However, airspace closures are unique as a foreign policy option in that they are highly visible to

the international community and have an impact on more countries than just those involved. Closures complicate an already convoluted system of international flight paths and are an example of how states leverage control of their airspace for political reasons.

A country's airspace encompasses the area directly above the ground spanning up to the altitude at which planes can no longer fly. If an airspace is closed to a target country, all aircraft registered to that country are barred from the senders' airspace. The terms target and sender, used throughout this project, follow the sanctions literature in which a target is a country that is being sanctioned, or being shut out of an airspace, and the sender is enacting the sanction, or closing its airspace.[1]

Penetrating any country's airspace without explicit permission has historically had devastating consequences. One notable example is from September 1, 1983, when Soviet Union fighter jets shot down a passenger plane and killed 269 passengers (Foont 2007). The Boeing 747, operated by Korean Airline Flight 007, was traveling from New York to Seoul (Foont 2007). The Soviet Union, to justify its actions, "claimed that the aircraft had violated its airspace, speculated that it was on a spy mission, and denied any liability to the victims' families" (Foont 2007, 708).

As the example above indicates, all air traffic must respect a country's airspace; international air traffic must be cleared by the governing aviation agency to enter a particular country's airspace, or they must avoid it entirely. In addition to the safety issues associated with penetrating airspace without proper authorization, which may include being intercepted by the air force of the state controlling the airspace, closing an airspace has economic implications. As will be explained below, the economic aspect of a closed airspace creates economic losses for

[1] See for example Dashti-Gibson, Davis, and Radcliff (1997) and their discussion of sanctioning episodes

both sides. On the one hand, the banned country must divert around the closed airspace, increasing operation costs (e.g., fuel and time). On the other hand, the country that closed its airspace is not able to charge the overflight fees for allowing aircraft the use of its airspace. In this regard, airspace has become weaponized into a political tool to be used as a form of coercion, to create economic pressure, and to emphasize sovereignty over territory, even if that territory is not land.

Countries have specific interests leading them to keep another country's air traffic out of their airspace or allowing them to enter it. Unfortunately, there has not been much research that directly identifies which factors lead countries to close their airspace and what implications these strategic airspace closures have. This research will fill the gap in our understanding of state behavior, which is necessary because of the importance of airspace for travel, cargo shipments, business, diplomatic missions, humanitarian efforts, and other state interactions.

The impact of airspace closure is significant and requires the attention of both policymakers and political scientists alike. For individuals involved in foreign policy, airspace is important to consider within the broader framework of foreign policy options. Open skies and deregulated airspace benefit all parties involved, as indicated above. However, due to a country's sovereign control over its airspace, airspace has become more of a bargaining chip in foreign policy. Providing open access to airspace reduces airliners' travel time and, consequently, fuel costs, as flight paths can be more direct to their intended destination. Banning a country from an airspace requires more time, costs more, and complicates an already convoluted airspace system.

While there have been many initiatives to promote free and open airspace access, many times these have failed due to political and security-based issues. As outlined by the International Civil Aviation Organization (ICAO), "Under the Convention on International Civil

Aviation (the Chicago Convention), each State has complete and exclusive sovereignty over the airspace above its territory" (Civil Air Navigation Services Organization 2013, 1). Therefore, decisions regarding airspace fall in the hands of the controlling country, and these decisions regarding airspace must be respected by other countries. Put simply, nation states ultimately have the final say regarding which countries can use their airspace, even if both sides are negatively impacted by restricting access. This negative impact is evident in two ways: first, countries lose revenue from overflight fees collected when other states use their airspace, and second, targeted countries that have been barred from a particular airspace must divert flights, requiring additional fuel and travel time. Despite airspace closure having a cost to all countries involved, it still occurs. This dissertation will research how countries respond to other states' actions by closing their airspace in a way that promotes their own foreign policy goals and explore whether such closures create a change in target state behavior.

A study of airspace closure offers both a significant and relevant contribution to the field for three reasons. First, it will explain the puzzle of why states choose to engage in the costly behavior of airspace closures, which are costly to all countries involved, despite the significant expense associated with doing so. Second, airspace is both a timely and relevant topic due to the substantial impact of air transport in our globalized world. Lastly, this research contributes to the international peace and conflict literature, investigating a new area of state behavior and relationships with other states.

Airspace closures are costly to all countries involved. When Country A closes its airspace to Country B, Country A is not able to collect the overflight fees from aircraft registered to Country B, fees that it charges for the use of its airspace. The United States, for example, charges $61.75 per 100 nautical miles if an aircraft is passing over the US territory, while it

charges $26.51 per nautical mile for aircraft passing over the oceanic areas that it controls (Loh 2020). With the FAA dealing with roughly 15 million flights in 2016 alone, that is a significant amount of money that the United States is collecting from other countries just using their airspace. These overflight fees are not unique to the United States. Although every country differs in how they deal with international air traffic, most countries impose fees for using their airspace. These fees become significant particularly in areas where airlines seek the shortest routes, routes which may take them through multiple airspaces.[2] Afghanistan, for example, charges a flat rate of $400 per foreign aircraft utilizing Afghani airspace ("Overflight Fees" 2024). Furthermore, closing airspace means that countries may have to extend their flight paths to avoid closed airspace. These extended flight paths require more fuel and more billable crew hours.

Second, airspace is both a timely and relevant topic due to the substantial impact of air transport in our globalized world, whether the airspace is used for people or goods. Airspace connects different parts of the world, much like bridges, and closing airspace complicates transport both between the countries directly involved, and for surrounding nations. Open access to airspaces streamlines transportation in a way that facilitates interconnectedness of people, encourages humanitarian and diplomatic missions, and facilitates the exchange of goods and services.

Lastly, this research contributes to the international peace and conflict literature because it investigates a new area of state behavior and relationships. It also provides a less studied example of a sanction policy that countries are choosing to enact. Below, I will discuss

[2] Europe and the Middle East, for example, are two regions that are located along popular flight paths.

the literature relevant to this study of airspace closures and will conclude this chapter with a detailed description of the contributions to the literature.

Literature Review

As a whole, aviation, and more specifically airspace, has been largely neglected in the field of political science despite becoming increasingly fundamental since the mid-20th century. That said, there is some research of various other political dimensions of aviation. Below, I review the literature as it relates to the use of airspace closure as a foreign policy tool. The literature relevant to a study of airspace use as a foreign policy tool falls into three categories: aviation, cooperation, and conflict.

Aviation

Much of the research involving aviation come from fields unrelated to political science such as transportation and tourism, but "[c]ivil aviation has not yet become an established research subject" (Kobierecki 2020, 301). Jaffe (2015) is the only major work that specifically investigates airspace closures, which is geared toward airline managers and operations. He identifies different constraints that impact airlines, offering suggestions for best practices to mitigate airline impact. Constraints include geological, technological, regulatory, and political.[3] Detailing the political constraints, he describes several airspace closures but does not consider their use as a foreign policy tool.

[3] Geological constraints involve environmental concerns affecting aircraft, such as high temperatures or natural disasters, such as volcanic eruptions. Technological constraints include technological capabilities of aircraft, and special use airspace such as military operating areas (MOAs). Regulatory constraints include compliance with regulations, and political includes those related to hostilities between nations.

Research specifically pertaining to aviation has focused on the evolution of international aviation and international aviation organizations, international aviation organizations as political actors, and civil aviation as a state tool. Jönsson (1981) explores the development of international aviation and aviation regimes, noting how aviation has developed in line with complex interdependence. The author notes that increased conflict between states has resulted in more government intervention regarding policies related to aviation but suggests that further research might address various concerns (Jönsson 1981).

As the world has become increasingly interconnected, there has been an increase in international aviation organizations that have acted as stakeholders in the management of relations between states. The two dominant institutions involved in international aviation are the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) (Sochor 1991). ICAO is a United Nations agency that was developed during the Chicago Convention in 1944. Its goal is "to help States to achieve the highest possible degree of uniformity in civil aviation regulations, standards, procedures, and organization" (The History of ICAO 2024, para. 8). IATA, on the other hand, is a non-governmental organization formed in 1945 that is comprised of 290 airlines and focuses mostly on sustainability and safety. With a pluralization of aviation actors that impact international relations, as well as an increase in the usage of the sky for travel, airspace is increasingly important as a realm of political engagement. Although it cannot be tangibly seen, the politics of its usage are directly related to the status of international relations.

ICAO is specifically tasked with handling disputes between states when negotiation is not an option. However, ICAO does not have enforcement capabilities over signatory states

(Disimine 2021). Therefore, there is often a tension between state sovereignty and international airspace. Sochor (1991) highlights this tension:

> Conflicts of interest are inevitable when political claims take precedence over the principle of freedom of navigation and a state closes its airspace for reasons other than hostilities or national emergency, thereby denying rights previously enjoyed by other states. (107)

While it is mentioned in the literature that there is often conflict between state interest and international cooperation regarding airspace, there has not been a detailed investigation into the use of airspace that result from signaling state interests and preferences.

Lastly, the research explores civil aviation as a state tool. This includes the use of civil aviation in contributing to the overall image of a country (Raguraman 1997). This also includes aviation and diplomacy, which focuses mostly on bilateral trade agreements and historical uses of aviation as a diplomatic tool and aviation as a form of identity. Kobierecki (2000) outlines the general status of aviation within a diplomatic context. According to Bull (2012), diplomacy is the act of managing relations between states. More specific to aviation, "aviation diplomacy" is defined as the use of air assets in the context of foreign policy (Indriani 2021). Indriani (2021) investigates the use of aviation diplomacy as a soft power asset, particularly among Association of Southeast Asian Nations (ASEAN). The author finds that aviation can be used as a form of soft power in three ways: a way to promote regional identity, a way to build and manage political ties between nations, and a way to ensure the smooth travel across international borders (Indriani 2021). The author notes how nations can use airspace to build ties with other nations, particularly in how they establish bilateral air agreements and increase the number of flight paths between two nations. Lastly, the author emphasizes the importance of aviation for humanitarian efforts, which include intervention, evacuation, and peacekeeping.

There is research on the historical use of airspace to establish political dominance, particularly between the United States and Britain. Scott-Smith and Snyder (2013) note that "civil aviation was caught in interstate economic power struggles as nations sought to establish routes, markets, and commercial advantages in line with the expanding possibilities of postwar air transport" (Scott-Smith & Snyder 2013, 919). Much of this aviation history, and the policies regarding civil aviation, have developed from the historical friction that was evident between the United States and Britain.

As evident above, scholars acknowledge the connection between politics and aviation. What the existing literature fails to identify is how airspace itself can be viewed as a tool that states can leverage to promote their foreign policy goals. Although there is a plethora of policy options for states to use as a response to other states actions, airspace leverage is a very specific and understudied policy option that warrants a detailed investigation. Therefore, this research offers an initial attempt to understand why states open or close their airspace and the results of such closures.

Furthermore, the existing literature on aviation does not investigate the types of state relationships that lead to airspaces being closed or opened. Are there specific state characteristics that render them more likely to restrict airspace access? Since most of the agreements governing airspace are bilateral air agreements, is there something particular about country dyads that impact the likelihood that airspace will be leveraged as a foreign policy tool? For example, concerning air agreements between two democracies, are both states prone to solving foreign policy dilemmas through channels of international cooperation rather than closing an airspace to show a lack of support for a particular foreign policy? What happens when the country dyads

include a democracy and an autocracy, or two autocracies? These questions are all explored further below.

Existing research on aviation acknowledges that aviation is understudied in political science. The above works are the only useful takeaways in my study of airspace as a foreign policy tool. Given the lack of research on airspace closures, we must draw from findings on related topics and other explanations of state behavior and consider their implications for this work.

Cooperation

Research on cooperation and conflict can help to explain the mechanisms at play regarding airspace leverage. For example, literature on cooperation identifies relationships between states through international agreements and how these agreements influence state behavior. Cooperation can be simply described as the adjustment of behavior to suit the preferences of others through policy coordination (Milner 1992; Keohane 1984). When states adjust their behavior to suit the preferences of other states, its often achievable through repeated interactions, and repeated interactions are most often found in institutional arrangements between states (Dai, Snidal, & Sampson 2010).

As a result, literature on institutions contributes to our understanding on state cooperation. Stein (2008), for example, notes that "scholars have focused on the question of state compliance with international institutions and have found that states by and large comply with the agreements they make" (212). Research on institutions suggest that cooperation is possible, and that institutions can be useful to states (Oye 1986; Keohane 1984). Alliance and alliance formation also is relevant in the discussion of cooperation between states. Walt (1985) finds that

"states form alliances to balance against threats rather than bandwagon with them" (33). In this regard, states will cooperate if there is a common threat.

Additionally, trade agreements between states contribute to cooperation because "heightened interdependence inhibits conflict" (Mansfield & Pevehouse 2008, 490; Russett & Oneal 2001). Russett and Oneal (2001) link this to shared commercial interests, common goals, and decreased transaction costs, which creates an environment unfavorable to conflict. Trade policies create an environment that "commits each participating country to lower at least some trade barriers, and countries that violate their international commitments trip an alarm" that brings the violation to light by the supervising organization or other countries involved. (Mansfield, Milner, & Rosendorff 2002, 479-480). Mansfield, Milner, and Rosendorff (2002) find that regime type impacts the propensity to cooperate with trade policy. They find that "[l]eaders in democracies have a greater incentive to pursue international cooperation in trade than do their non-democratic counterparts" (503). In other words, the more democratic a state, the more likely they are to cooperate with trade agreements. In the case of democracies, it is largely understood that democracies are more apt to cooperate because democratic leaders are beholden to the voters that put them in power. Therefore, democratic transparency holds leaders accountable to international commitments and are subject to audience costs (Mansfield, Milner, & Rosendorff 2002).

Conflict

Various subfields within political science investigate the causes of conflict between states and aim to contribute a deeper understanding of why states behave the way that they do. The body of work on conflict discusses various dimensions, which includes the struggle for control over territory and natural resources, power distribution and accumulation, and ideological

differences (Waltz 1959; Galtung 1985; Walt 1985; Geller 1993; Gleditsch 1998). The literature concentrates around the state as a decision maker, acting in a particular way that affects the way the world works. Three general areas of conflict research pertain to the use of airspace as a tool used when there is conflict between states: international relations theory, literature on sanctions, and rational choice literature.

International Relations Theory The realist paradigm in international relations theory links conflict between states to the nature of the international system. Realism, in basic terms, maintains that states are the major actor in international relations, actors that are self-maximizing entities pursuing security and maximizing power under conditions of anarchy (Donnelly 2005). According to realism, the anarchic nature of the international system is to blame for conflictual behavior because with no supranational body that enforces rules, states are driven to maximize power in an effort to increase their security (Waltz 1959). The pursuit of more power often leads to conflict because one state increasing power reduces the security of another (Sorensen 2007)

A state's focus on maximizing power and ensuring security derives from assumptions that realism, as well as other paradigms in international relations literature such as neoliberal institutionalism, makes about the international system. The first assumption is that states in the international system are the most important actors, and they are functionally similar because they are autonomous actors that make decisions to ensure their survival as a state (Waltz 1979). States ensure their survival by increasing their economic or military power within the state or cultivate alliances outside of the state (Spindler 2013). They can strengthen their security by increasing military capabilities and economic power. Ultimately, a state is concerned about survival.

Second, the organizing principle of the international system is anarchy. Anarchy is the absence of a higher authority in the system. Wohlforth (2008) explains this condition of anarchy

being, "[w]hen no authority exists that can enforce agreements - "anarchy" - then any state can resort to force to get what it wants" (135). This system of anarchy requires a level of coordination of the units that comprise it (Waltz 1986). In other words, despite the international system being anarchic, states will "voluntarily cede some of their freedom of action in order to achieve better outcomes than nose arrived at in the state of nature… [and] may also create institutions in order to reduce the governance costs associated with autonomous decision-making" (Stein 2008, 209). Thus, we see international organizations form like ICAO and International Air Transport Association (IATA).

In an international system organized by anarchy, states exercise sovereign control over their borders. Sovereignty is the notion that states decide how to deal with problems both within their borders, as well as with issues concerning other states (Waltz 1986). As Waltz describes, sovereignty basically means that a state "decides for itself how it will cope with its internal and external problems, including whether or not to seek assistance from others and in doing so to limit its freedom by making commitments to them" (Waltz 1979, 96).

Airspace closures highlight the tension between state sovereignty and compliance with international agreements, arises from the absence of a centralized authority that has the capabilities to act as the "ultimate arbiter of force" (Ruggie 1986, 134). In other words, since there is no governing authority over the states to enforce rules, states will do what is in their best interest to survive. In relation to airspace, this alludes to international organizations like ICAO being unable to effectively enforce agreements or rules regarding airspace. State sovereignty will continue to be evident as states exist in a state of anarchy.

Sanctions As another type of conflictual foreign policy, research on sanctions can also provide insights on airspace closures and can shed light on the value of airspace as a foreign

policy tool. Additionally, airspace closures are typically paired with other sanctioning policies. Sanctions are a form of punishment that one country imposes on another. Wallensteen (2000) describes sanctions as "hav[ing] many names: blockades, boycotts, embargoes, sometimes even described as quarantine or economic coercion" (1). The literature on sanctions revolves around the problem of why countries threaten or enact sanctions, even though sanctions are often not successful in achieving the objective (Morgan & Schwebach 1997).

Economic sanctions have increasingly become a tool that countries use to attempt to impact the behavior of other states. In this regard, trying to change or manipulate a relationship is a goal of sanctions, as is also the case with airspace closures. Dashti-Gibson, Davis, and Radcliff (1997) note that during a sanction episode, the "[t]arget countries suffer disutilities that result from the […] sanctions. The resulting costs, or the fear of such costs, in turn cause target states to moderate their behavior in the direction demanded by the 'sending' nation(s)" (608-9). Other scholars describe sanctions as policy manipulations (Nye 2011), interventions in the open market in the name of political goals (Pala 2021), the methodical change in economic relations between states (Hufbauer et al. 2009), and a policy with the goal of either punishment or norm compliance (Galtung 1967). Put simply, economic sanctions are a tool that place pressure on the target to a point that the target country complies with the sending country by making a change in behavior. As the goal is the same with an airspace closure, it follows that airspace closures can be considered a new form of sanctions.

When enacting sanctions, the goal of the sender is two-fold: on the one hand, they impose sanctions with the goal of changing a target's policy, and on the other hand they impose them in a manner that is intended to punish the target country (Dashti-Gibson, Davis, & Radcliff 1997). Enacting sanctions is often appealing to states because sanctions are cheaper and less risky than

the use of military force (Jermano 2018). The literature on sanctions is divided, however, on whether sanctions are an effective foreign policy tool.

A key component of the literature on sanctions is the focus on economic pressure; the greater the cost to a country upon which sanctions are imposed, the more likely the sanctions are to succeed if the sanctioning country is a significant trading partner to the sanctioned country. While this can help explain aspects of airspace closure, this research falls short in explaining the lesser researched effects of airspace closure. As previously stated, airspace closures cause air traffic to have to reroute their flight plan to avoid restricted airspace, creating additional costs and increased travel time.

Conventional wisdom emphasizes that sanctions often do not work in changing the behavior of a target state (Biersteker & van Bergeijk 2015). Rosenberg et al. (2016) outline the major critiques of sanctions, identifying that they often do not change state behavior, they have been credited with being successful more often than they actual are, and they have considerable collateral costs. Even being optimistic about the effectiveness of sanctions, Hufbauer et al. (1985) in their seminal empirical study investigate 115 events involving sanctions and find that less than half of the sanctions (40 of 115) are successful. Pape's (1997) study, however, challenges the validity of the empirical data put forth by Hufbauer et al. (1985) and finds that only 5 of the 115 cases investigated in their study should be considered successful, thereby lowering the confidence in sanction success as a foreign policy tool. Other scholars find that sanctions are counterproductive, and often cause unintentional harm on the population (Onder 2019; Pape 1997; Hufbauer et al. 1990; Bienen & Gilpin 1980).

In response to Hufbauer et al.'s (1985) study, Pala (2021) notes that a lot of the disputes about the effectiveness of sanctions derives from conceptual definitions and differences in how

scholars measure a successful sanction. Not only are there issues with conceptual definitions, but Jiawen's (2017) study on North Korea identify the inadequate description of a sanction's goal is, which leads to measurement problems and, as a result, ineffective measurement of a sanctions effectiveness.

Not only does improper qualification of sanction "success" overestimate their effectiveness, Forrer (2017) describes that poorly aligned sanctions are to blame for sanction failure. Sanctions are poorly aligned when they do not meet the following criteria:

> Well-aligned economic sanctions inflict a prescribed amount of economic loss, for the necessary period of time and affecting specific constituencies in the sanctioned country, sufficient to achieve the identified foreign policy goal(s), with the least amount of unwanted harm on other constituencies. (Forrer 2017, para. 2)

Morgan and Schwebach (1997) find that while the data notes sanctions are largely ineffective, there are instances where specific uses of sanctions have the capacity to alter the behavior of another state, particularly when the cost to the target country increases" (28). Bapat et al. (2013) conducts an empirical study on sanctions success and a variety of factors that may have contributed to that success and find that international institutions and target costs (economic costs on the target) have a robust influence on the success of sanctions.

Other scholars argue that sanctions are, in fact, effective, Pala (2021) specifies that sanctions are more effective between countries with friendly relations than enemies. In other words, if two countries have had historical relations in the past, sanctions are more likely to work because there is a level of understanding between the two nations. However, if two countries have historically experienced hostile relations, sanctions are less likely to be effective. Biersteker and van Bergeijk (2015) note that failure to coerce another country does not necessarily mean that the sanction is unsuccessful. A sanction could have a constraining effect on the behavior of

another state or signal resolve about an issue, particularly if the purpose of the sanction is to signal a policy preference to another state.

The review of the sanctions literature shows that it is difficult to identify what "success" means in foreign policy, and the definition of success is often debated. While a commonly discussed goal of sanctions is to change a target's behavior, there could be other reasons why a sanction could be considered successful without a change in the target's behavior. For example, a state might want to send a signal about foreign policy preferences to the target state to make a public statement about a salient issue. In this regard, the act of sending a signal might be important enough to the sending state to be worth sending, regardless of whether changes the behavior of the target.

Rational Choice Literature Rational choice literature can also shed some light on other, related aspects of airspace closure. For example, James Fearon's (1995), in his *Rationalist Explanations for War,* investigates his central puzzle; if wars are costly, why do they still occur? Fearon argues that conflict occurs primarily because of private information, commitment problems, or issue indivisibilities. My investigation is rooted from a similar question; if closing an airspace is costly, why does airspace closure still occur? From a rationalist perspective, since airspace closure is costly to both sides and is never a preferred outcome, this research could help explain why rational states decide to close airspace. Fearon (1994) notes that war is costly, yet it still occurs. To explain the occurrence of war, he identifies three variables: commitment problems, incentives to misrepresent, and issue indivisibility (Fearon 1994). Of the three, the latter two are particularly useful in explaining airspace closure. States may have incentives to misrepresent to get the best outcome from a situation. In this regard, airspace closure could be a means to signal resolve and a willingness to get a better deal.

Additionally, there are issues in international relations between states that are not able to be divided or agreed upon, and thus cannot be bargained over. These variables can also help to explain the occurrence of airspace closure. In this regard, airspace closures can be seen as a way that states credibly reveal their preferences without resorting to war, a way to alleviate incomplete information about the other state's intentions or preferences. Due to the financial impact of airspace closure, as well as the disruption of the transportation of people and property, targeting another country sends a clear message about a state's preferences and thus becomes a foreign policy tool to signal intentions, and have the potential impact of preventing any sort of change to the status quo.

The literature on rational choice institutionalism can also shed light on how international airspace agreements within ICAO have compelled (or failed to compel) states to allow completely open access to their airspace. Rational choice institutionalism emphasizes the strategic behavior of actors, which is shaped by expectations of how other actors will behave (Hall & Taylor 1996). These interactions are shaped by institutions, which "reduce uncertainty about the corresponding behavior of others and allow 'gains from exchange,' thereby leading actors toward particular calculations and potentially better outcomes" (Hall & Taylor 1996, 12). Put simply, actors are rational, rank their preferences, and act according to their interests from within the structure of a set of rules (institutions) (Farrell 2018). In this regard, the rational choice institutionalism literature illustrates how institutions constrain behavior or compel states to behave a certain way. Furthermore, it supplements the notion that states' foreign policies are driven by goals. Therefore, closing airspace to other countries may have rational goals of maintaining the status quo, or maintaining the international equilibrium.

Smith (2017) outlines the central axioms of expected utility within the rational choice theory. First, actors are rational. Second, actors can rank their preferences. Third, actors place value on their actions and can measure the usefulness of these actions. Fourth, actors will weigh these actions against the probability of success. Lastly, after weighing the value of actions against the probability of success, actors will choose options with the highest expected utility. In line with the rational choice framework, this research assumes that states are rational actors. Many note, however, that rational actor model fails to adequately account for other factors that shape decision making, and point out that actors are not always rational, but instead are influenced by other factors, such as institutional or organizational constraints, bureaucratic politics, or standard operating procedures (Allison 1971; Quackenbush 2004). Allison's *Essence of Decision* (1971), for example, shows how different levels of analyzing foreign policy decision making can explain the Cuban Missile Crisis. More generally, Green and Shapiro (1996) criticize the rational choice literature as lacking empirical contribution to understanding political decision making.

Building from these criticisms, bounded rationality has been developed to attempt to better explain decision making. Prospect theory focuses on decision making behavior when the decision maker is in a position of gain or loss (McDermott 2004). States in a position of gain are likely to make more cautious decisions, whereas states in a position of loss are likely to make more risky decisions (McDermott 2004). Some scholars note that rationality is limited. Research on bounded rationality posits that rationality can be limited because actors have, for example, incomplete information or differences in personal goals (March 1978). In other words, there are factors that limit an actor's ability to make a completely rational decision.

Despite these criticisms, a rational choice approach, and more specifically the expected utility framework, is appropriate for an initial investigation into airspace closures. Quackenbush (2004) notes that rational choice theory is not just a singular theory but rather a "descriptive phrase used to describe any number of individual theories that use the rationality assumption" (92). As little to no research has been done on airspace closures as a foreign policy tool in particular, this research is an investigation into a new avenue of research. Future studies could examine in greater detail the intricacies of the rational choice approach as it relates to airspace closure.

My research will be organized according to these axioms and will seek to identify the value of airspace closure as a foreign policy option. Accordingly, I will use the rational choice theory to model the foreign policy behavior of states regarding airspace closure to form hypotheses. This approach allows me to analyze the factors contributing to state decision making by looking at the costs and benefits of different policy options that maximize utility, or a state's personal benefit.

The rest of the dissertation proceeds as follows. Chapter 2 forms the theoretical basis for expected utility of airspace closure, introduces the hypotheses of the study, and overviews the methodology and case selection. Chapter 3-5 contain the case studies and provide a detailed account of the hypotheses as they relate to each case. These chapters examine the costs associated with airspace closures, the benefits of the closures, and factors that contribute to the probability of closure success. It is important to note that the hypotheses are only being tested with the case studies. It will conclude in chapter 6 with a discussion of the findings from the case studies and provide areas for future research.

CHAPTER TWO

AIRSPACE CLOSURES AS A RATIONAL CHOICE APPROACH

As a foreign policy tool, the decision to close an airspace is a reaction to another state's action and is used to attempt to change state behavior of some kind. Sanctions, and more specifically airspace closures, are not the only source of change, but they have the capacity to challenge institutions and agreements. To study them, a "meaningful beginning point is required. In this situation, the crucial object is the factor that sets development along a particular path, the trigger event" (Hogan 2006, 660; Pierson 2004). Airspace closures, then, are a response option that can be used in reaction to a particular event.

Which events create the opportunity for airspace closure? To investigate political events, von Soest and Wahman (2015) note that "[a]s Western nations have become increasingly vocal in their advocacy for democracy, there has also been an increased expectation to react to human rights violations and autocratic tendencies globally" (20). The authors identify trigger events and distinguish between trigger events that are dramatic and those that are less dramatic. Dramatic events are more visible to the international community, and therefore there is more pressure for a country to authorize some foreign policy response (Soest & Wahman 2015). Such dramatic events could include violations of human rights or coup d'états, which might attract the attention of the international community. Less dramatic events could include violation of international agreements or other events that do not lead to a strong expectation that countries will react. The factors mentioned earlier contribute to the decision to close an airspace to a target country, including regime type, shared values, and ingroup/outgroup. These events are occurrences that

are important in the past that can help explain the use of airspace closure as a foreign policy tool in response to some sort of crisis event.

Airspace closures are just one foreign policy option within a state's toolbox. Other foreign policy response options include asset freezes, arms embargos, restrictions on imports or exports, or substantially more costly responses such as military action or intervention. This research explores the decision to respond to a crisis with airspace closure in lieu of, or in addition to, other foreign policy tools. What are the benefits of closing airspace and when do they outweigh the costs? How do foreign policy decision makers account for the likely outcomes of closing their airspace?

To understand the decision to close airspace, I will use an expected utility framework from the rational choice theory framework. As previously mentioned, states are rational actors that make decisions based on a cost and benefit analysis. Sending states reap certain benefits from closing airspace and are willing to incur the costs that results. In cases of airspace closures, the benefits of airspace closures need to outweigh the costs for it to be an attractive foreign policy option. As a result, rational actors will choose decisions that have the highest expected utility. This expected utility comes from the probability of success (success meaning a change in target's behavior) weighted by the benefits the sender receives from airspace closures, minus the costs.

While there is no literature specifically addressing this puzzle, I draw from the literatures on sanctions and international conflict and cooperation. Airspace closure can be considered a form of sanction because it is a restriction or action that is enforced to influence a particular outcome. In this sense, an airspace is closed to influence the behavior of the targeted state. The strategic behavior of states, especially regarding sanctions and international conflict, can be

explained as a rational choice, applying an expected utility framework, to explain decision making behavior (Baldwin 2000; Bueno de Mesquita 1988). Airspace closures, like sanctions, are a foreign policy that attempts to place pressure on a target state to change their behavior. Expected utility logic suggests that if the benefits of airspace closures outweigh the costs, countries may opt to use airspace closure as a response option to a particular crisis as opposed to leaving airspace open.

Rational choice theory is an appropriate approach because it looks at decision making under conditions of uncertainty. Since states can never know the full intentions of other states, it is likely that a state will weigh the pros and cons of various foreign policy options. It will then make a foreign policy decision that gives it the best expected outcome. The literature on sanctions also uses game theoretical approaches, which are rooted in rational choice theory. Since this dissertation is a preliminary investigation into airspace closures, it offers a general application of the expected utility logic to airspace closures. Further research should build off this dissertation in focusing on interactions between states using game theory and formal modeling.

The nature of the aviation system makes airspace closures easy to implement. Even within a state's own territorial border, permission must be obtained prior to entering certain controlled airspace, such as the airspace around large airports or military operating areas (MOAs). As it relates to international aviation, foreign aircraft must be cleared into another country's airspace. If a country decides to shut its airspace down to aircraft registered to another state, said aircraft must divert around the closed airspace or face consequences, such as being intercepted by military aircraft. Even non-manned aircraft entering an airspace without clearance is grounds for immediate interception. The recent event with the Chinese spy balloon shows how

rapidly the unauthorized aircraft was intercepted (Chotiner 2023). Given the ease and swiftness of leveraging airspace as a foreign policy action, it is often employed, yet this foreign policy tool is understudied and warrants more research. As previously noted, airspace closures are costly for both the sender and target, yet they still occur. By closing airspace, sender countries willingly incur costs that result from airspace closures, such as loss of revenue from overflight fees.

This dissertation focuses on the use of airspace as a foreign policy tool, which is a small subset of the larger population of airspace closures.[1] In this regard, airspace closures can happen as a response to another state's actions or policy. Therefore, this research investigates the following questions: what factors contribute to a country's decision to close its airspace, and under what conditions do they change the behavior of other states? The lack of research on the factors that contribute to a country's decision to close its airspace has implications for our understanding of foreign policy and the different policy options that can be used.

Given that airspace closures can be considered sanctioning policies, I build off the academic findings on economic sanctions. This is compatible with airspace closures because when used as a foreign policy tool, they are used as a response to another state's foreign policy action. However, the literature on sanctions does not fully explain airspace closures. While embargoes and sanctions are conventionally known to be "difficult to manage and arduous to implement" (Figuerola 2015, 5), airspace closures are easy to enact and have swift consequences if airspace is penetrated without permission. Thus, we must consider different payoffs structures when explaining the implementation and outcomes of airspace closures.

[1] Airspace closures have occurred as the result of war, terrorist threats, natural disasters, internal political instability, or diplomatic issues. Two examples include Sudan and Iran. Sudan's airspace has been closed since a military coup in 2023. Recently, Israel's attack on the western part of Iran in April 2024 caused Iran to temporarily close its airspace to all aircraft.

What factors contribute to countries closing their airspace when there are costs associated for the sender? There is a lack of research on the use of airspace closures as a foreign policy tool, and more specifically as a form of sanctions. Using rational choice approach, this dissertation places airspace closures within a state's "toolbox" of available foreign policy options alongside sanctions and embargoes. This study of airspace closures will draw from rational choice framework, which includes accounting for the costs associated with any action, the benefits of said action, and the probability of the policy action being successful. I also draw from the literature on sanctions because airspace closures closely align with sanctioning policies. Sanctions can be enacted in a variety of different forms, and there are numerous ways to change the economic relationship between two countries. Airspace closures, therefore, are a new avenue of research to study state decision making that impacts the economic relationship between two countries.

Rational Choice and Airspace Closures

All countries benefit from open access to airspace because shorter routes use less fuel and lower operating costs. Furthermore, when other countries fly through foreign airspace, the country whose airspace is being used can collect overflight fees. Why, then, do countries close their airspace? State decision making is rooted in logical decisions and maximizing benefits. Since they are rational, states will "select a strategy by choosing the most effective available means to achieve their ends, subject to constraints imposed by environmental uncertainty and incomplete information" (Legro & Moravcsik 1999, 12). The ends in this case would be a certain objective or outcome. Since actors do not have complete information and are uncertain about other states' actions, they will make choices that maximize the chances of achieving a certain objective or outcome. However, there are costs associated with decision making that states incur.

Accordingly, states weigh costs and benefits and make strategic, rational decisions about foreign policies.

This research also assumes actors are "purposive" and make decisions based on the rankings they have created. Decisions are related to the desired outcomes. Since there can be more than one outcome, actors are likely to rank their preferences. Riker (1995) suggests that "actors know what they want and can order their wants transitively" (24). According to Lake and Powell (1999), states as rational actors make calculated choices to reach certain foreign policy goals that are subjective based on state interest. This decision-making process is known as the strategic choice approach, which is broken down into preferences, beliefs about other states' preferences, and information and options available (Lake & Powell 1999). Put simply, foreign policy actions are the result of preferences and expected outcomes to reach certain foreign policy goals. Actors can rank those preferences from most preferred to least preferred. The expected utility framework, as a result, was developed to measure the propensity for decision makers to rank their preferences as well as to measure preference intensity, alternate options, and decisions to choose the best option (Bueno de Mesquita 1988).[2]

With a rational choice approach, the benefits of airspace closure must outweigh the costs. These costs can take many shapes, and most notably include the loss of overflight fees. Explained earlier, overflight fees are the revenue generated from countries using another country's airspace. Loss of overflight fees means a reduction in revenue. Other costs include the possibility of retaliatory response by the target state (in other words, the target country also

[2] Critics of rational choice theory would argue that the approach simplifies human behavior in a way that does not account for emotions, cultural factors, or actions that might be considered irrational. See Herfeld (2021) for a detailed account of the criticisms.

closing their airspace to the sending country) which could require rerouting aircraft, and the possibility of offending other countries that have diplomatic relations with a target country.

Since airspace closures financially impact both the target and the sender, there is no financial benefit to closing an airspace. What factors, then, contribute to a country's decision to close its airspace? Building off the rational choice approach, there are several factors that make airspace closures a more attractive foreign policy tool. The next section will identify these costs and benefits associated with airspace closures, as well as what contributes to the probability of a change in behavior of a target state.

The Expected Utility of Airspace Closures

Expected utility is part of the rational choice literature, and identifies that states are self-interested, utility maximizing actors. They weigh the costs and benefits of airspace closures as a policy to attempt to shape the behavior of another state. Particularly in complex decisions, this model allows us to hypothesize why states make foreign policy decisions when the outcome of their decisions may be uncertain, such as in the case of closing an airspace. The expected utility framework can explain a large range of state decisions and behavior, including peacekeeping (Melin 2021), revolution and rebellion (Weede & Muller 1998) international conflict between states (De Mesquita 1988), civil wars within states (Mason & Fett 1996), as well as conflict resolution as it relates to trade (Sayrs 1990).

Outcome 1 – Likelihood of Airspace Closure

The expected utility framework begins with two actors, the sender (identified by *s*) and the target (identified by *t)*. In this scenario, the sending state has two options in response to a crisis: keep airspace open or close airspace. For a state to close its airspace, the expected value of airspace closure must be greater than the expected value of keeping airspace open. To calculate

this, the expected value of airspace closure for the sender (EU_{ac}^{s}) is the benefits of the target state changing its behavior (u_{tb}^{s}) minus the costs associated with the closure (c_{ac}^{s}).

In a perfect world for the sending state, closing an airspace would ideally result in a change in the targets behavior. However, the expected utility framework is useful for predicting decision making under conditions of uncertainty. Since it is unknown whether the target state will change its behavior, the sending state must weigh the benefits by the probability of success, the probability that the target will change its behavior (p_{tb}^{s}). Therefore, the equation for this model is:

$$EU_{ac}^{s} = p_{tb}^{s} (u_{tb}^{s}) - c_{ac}^{s}$$

This model shows that the higher the expected probability that the target state will change its behavior (p_{tb}^{s}) weighted by the benefits of it doing so (u_{tb}^{s}), the greater the value there is in a state closing its airspace in relation to the sender's costs associated with airspace closure (c_{ac}^{s}). If it is possible to identify factors in this model that increase the value of airspace closures, we can predict when airspace closure is more likely, which is my first outcome of interest.

Outcome 2 – Success of Closure

The expected utility framework can also be used to explain the target's decision to change its behavior, which relates to my second outcome involving the success of closures. EU_{c}^{t} is the target's expected utility of compliance. The expected utility of compliance is equal to the benefits of compliance (u_{c}^{t}) minus the costs of non-compliance (c_{nc}^{t}). Therefore, the expected utility equation of a target's compliance is:

$$EU_{c}^{t} = u_{c}^{t} - c_{nc}^{t}$$

The expected utility of compliance will be higher as the utility of complying with the demands of the sending state becomes higher in relation to the costs of non-compliance.

Costs, Benefits, and the Probability of Successful Airspace Closure

An analysis of the probability of success of an airspace closure requires a discussion about the costs and benefits associated with the closures. This research focuses on two outcomes, as outlined above. The outcomes include the factors that contribute to closures and the success of the closure. The first outcome focuses on the actions of the sender and the factors that contribute to the sender's decision to close its airspace. Senders consider the probability of success of closures with each of these factors. The second outcome focuses on the target and what could lead a target to change its behavior. Sending states do not know if airspace closures will result in a change in the target's behavior. The expected utility framework, outlined above, indicates that states anticipate the probability of success of using airspace closures as a foreign policy option by noting the costs and benefits, and weighing these benefits with the probability of success.

Senders and targets both incur costs from airspace closures. What are the costs associated with airspace closures? Below, I will identify the costs impacting both the sender and target that result from closing an airspace. Below, the discussion on costs impacting the sender deals with the first outcome, while the discussion on costs impacting the target deals with the second. Furthermore, I will discuss the benefits of airspace closure for the sender, and the variables that impact the perceived probability of success for the sender.

Costs for Sender

Economic For a country to potentially close their airspace to a target country, the expected utility framework suggests that the costs must be less than the benefits weighted by the probability of success. By closing an airspace, senders may incur economic, diplomatic, and domestic costs. A discussion of the costs incurred by the sender contribute to the first outcome, the factors that contribute to a country's decision to close its airspace.

When a foreign airliner travels through an airspace, the country whose airspace it is traveling through likely charges a fee, no matter if that country takes off or lands or if it is just transitioning through the airspace. As a result, not only do airspace closures complicate an already convoluted system of flight paths, but the sending country no longer collects revenue from overflight fees. When Country A closes its airspace to Country B, Country A is not able to collect the overflight fees from aircraft registered to Country B, fees that it charges for the use of its airspace. As an example, the United States charges $61.75 per 100 nautical miles if an aircraft is passing over the US territory, and charges $26.51 per 100 nautical miles for aircraft passing over the oceanic areas that it controls, which is moderate in comparison to other overflight fees (Loh 2020). Afghanistan, by contrast, charges a flat rate of $950 for overflying foreign aircraft (Loh 2020). China, in addition to charging $500 for the overflight permit, was found to be charging $.44 per kilometer of overflight in 2012. More complicated is Canada's overflight fees, which are $.03 x √(MTOW) x distance (km), where MTOW is a state's maximum takeoff weight (Venckunas 2022). Canada's overflight fees can mean roughly $1100 for a Boeing 777 aircraft using its airspace to fly from the East Coast in the US to Europe, which doubles flying to Europe from the West Coast (Venckunas 2022). Overall, there is a massive amount of rented airspace that generates millions in revenue for the country that controls it. Most countries institute overflight fees, and it is different for each country.

When flying internationally, aircraft must be on a flight plan. This flight plan includes the tail number of the aircraft, which identifies the country of origin. These overflight fees are mandatory and will result in late fees if not paid. However, if aircraft registered to a particular country are banned from an airspace, the sender is not collecting these fees. Countries that have stronger economies presumably are less likely to be affected by the loss of overflight fees.

Conversely, countries that rely on overflight fees as a substantial source of revenue may be less likely to close their airspace to aircraft registered to a particular state. Russia, for example, earned nearly $1.7 billion from overflight fees prior to its invasion of Ukraine (Wood 2023). While the exact amount of money lost from reduced airline traffic is not available, Russia is reported to have dumped nearly $12 billion in state subsidies to support its aviation sector (Stolyarov 2023). This shows that Russia and its economy are equipped to handle the costs associated with its closure to 36 countries. Therefore, it is plausible that:

H1: *States facing lower economic costs associated with airspace closures are more inclined to close their airspace in times of crisis than those facing higher economic costs.*

If the economic costs are large for the sending state, the state is plausibly less likely to close their airspace. Conversely, if the economic costs are lower, it seems more likely that a state will close its airspace. Further below, I discuss the economic costs on the target and how these costs may contribute to the probability of a successful closure.

Diplomatic Enacting sanctions could lead sending states to incur certain diplomatic costs. As previously mentioned, sanctions are a way to try and coerce another state to change its foreign policy behavior. Preventing other states from using a particular airspace could invoke a reaction out of the target state. As a result, imposing an airspace closure could result in a retaliatory response. This is most evident in Russia's recent invasion of Ukraine. More than 30 countries including the European Union, the United States, and Canada closed their airspace to Russia, and as a retaliatory response, Russia closed its airspace to those countries as well. However, despite the retaliatory response, the diplomatic costs for the European Union, United States, and Canada were lowered because it was a multilateral closure.

Furthermore, airspace closures as a form of sanctions could damage the diplomatic relationship between states in other ways. This could include changes in the sharing of information and intelligence between the target and the sender (Maller 2010). With this loss of information, miscommunications between states are more likely due to incomplete information. As diplomatic costs rise, the likelihood of airspace closure is lowered. As an example, since the US and Canada are close allies, and are interconnected in terms of international agreements as well as geographical proximity. The likelihood that the US or Canada would close their airspace to the other is low. However, as described in the third case study, Pakistan and India have had a historically contentious relationship and limited diplomatic ties. Therefore, it can be hypothesized:

> H2: *States facing lower diplomatic costs associated with airspace closures are more inclined to close their airspace in times of crisis than those facing higher diplomatic costs.*

This hypothesis considers the history between states as well. Prior conditions impact probability of success. In terms of diplomatic relations between states, history between the two states is important. Diplomatic costs rise if the sender and target have had a working relationship in the past and are interconnected via trade and institutions. However, if the target and the sender have historically had less diplomatic ties, the diplomatic cost of airspace closure goes down.

Domestic Airspace closures also have domestic costs for the sending state. These are particularly evident in terms of audience costs but also increase travel disruptions. Travel disruptions are costs incurred from airspace closure. For one, airspace closures can require rerouted flight paths to fly around closed airspace. This not only impacts travel times, but also can increase the price of the ticket, making it costly for passengers. Furthermore, airspace

closures can prevent citizens from traveling to the target country as well, which is evident in the case of the US closing its airspace to Cuba. Not only did the US prevent Cuban aircraft from entering its airspace, but the US placed restrictions on its citizens until 2011, preventing them from traveling to the island. Not only are travel opportunities impacted, but reduction in the transportation of people and cargo could reduce access to certain goods and services.

Aside from travel disruptions, audience costs are a substantial domestic cost. What are audience costs, and how might they impact a country's decision to close its airspace? To attempt to answer these questions, I will briefly explain regime type and how it relates to audience costs. Regime time, which identifies the type of government of a state, is important not only for the foreign policy literature in general (as explained in the literature review), but it has been widely investigated in both the rational choice and sanctions literature. For the purposes of this dissertation, regime type will only be broken down into democracy and non-democracy, although non-democracy could be broken down further to distinguish between different types of non-democracies (Geddes 1999). Countries with similar regime types are constrained by similar political structures (Kato 1996). Both domestic and international political institutions shape state behavior, and "[a]ny institution survives culturally only as long as it can sustain its legitimacy in the face of challenges" (Kloppenberg 1995, 128). Therefore, it is in the best interests of states to defend the institutions that they are a part of. Below is an overview of how the literature on sanctions investigates regime type. This includes the propensity of different regime types to be either the sender or target, and the effect of sanctions on different regime types.

The conventional knowledge on the relationship between the sender of sanctions and their regime type is that democracies tend to be the sender (Lektzian & Souva 2003; Walldorf 2015). This could be due to the institutional structure of democracies, or the efforts to influence

non-democracies to democratize (Bueno de Mesquita et al. 1999; Lektzian & Souva 2003; Walldorf 2014). The impact of audience costs differs between democracies and non-democracies. Audience costs are the "costs leaders pay from backing down before their opponents in interstate disputes" (Crisman-Cox & Gibilisco 2018, 566). Gibler and Hutchison (2013) describe these as penalties and can include removal from office or failure to be reelected. As Fearon (1994) notes, audience costs make it harder for actors to back down in a dispute due to pressures placed on them by the domestic audience. In this regard, voters do play an important role in foreign policy (Tomz, Weeks, & Yarhi-Milo 2020). Therefore, it is in the best interest of a state to issue a public threat against another regime that it is likely to win. Democracies have more pressure placed on them by the public due to reelection threats. Since airspace closure is cheaper and less risky than more costly actions such as militarized conflict or war, it is a preferable foreign policy option in terms of the cost/benefit analysis. Moreover, democratic leaders often encounter domestic pressure to confront international aggression or norm violation, particularly violations involving human rights (Matthews 2019). If a domestic audience perceives airspace closures as a credible response, leaders can potentially gain domestic approval for taking a strong stance without bearing the high costs associated with war.

Regime type is particularly significant regarding the economic impact that sanctions can have on elites (Walldorf 2014). Harm done to a particular sector in a non-democratic regime could have a huge impact on the economic payouts that elites collect. Sanctions also can take away economic resources that allow non-democratic leaders to provide monetary incentives for support in ways that buys loyalty or suppresses the opposition (Kaempfer et al. 2004).

There are three conclusions that are important for this study on airspace closures. First, countries are more inclined to initiate disputes if they have high domestic audience costs.

Second, countries are less likely to initiate disputes when the adversary has higher audience costs. Third, if a sanction harms elites, it can lead to sanction success (Walldorf 2014). Airspace closures are more costly than economic sanctions but still less costly than resorting to a military conflict or war. Assuming democracies have higher audience costs than autocracies, the cost of airspace closure is lower than other foreign policy options. Therefore, for countries that want to minimize costs associated with foreign policy decision making, it can be hypothesized that:

> H3: *States facing higher domestic audience costs associated with airspace closures are more inclined to close their airspace in times of crisis than those facing lower domestic audience costs.*

In the case of democratic regimes closing their airspace to autocratic regimes, the support for democratic principles is evident. Non-democratic regimes closing their airspace to other non-democratic regimes could indicate symbolic support for other principles, such as differences in religious affiliation or autocratic regime type.

Furthermore, states promote their own interests. Particularly in the case of democratic countries, support for democratic principles and promoting democratic governance is an interest that a state may be particularly concerned with upholding. When the sender of sanctions is a democracy, they are likely to target non-democratic regimes (Wallace 2013). Following the democratic peace literature, Lektzian and Souva (2003) note that the targets of democratic sanctions are unlikely to be other democracies. The benefit of upholding and supporting the principles important to the sending country outweighs the cost associated with its closure. This hints at the potentially symbolic meaning behind airspace closures.

Regime type is evident in many instances of airspace closures. A notable example is US closing its airspace to Cuba between 1962 and 2011 following the Cuban Revolution. Due to the

communist-affiliated nature of the regime headed by Fidel Castro, the influence of regime type on this airspace closure is apparent. US airspace was closed shortly after the Cuban Revolution and remained closed until 2011 when former President Obama relaxed the existing sanctions on Cuba.

Above, I discussed how economic, diplomatic, and domestic costs contribute to the decision to close an airspace. According to the expected utility framework, with unexpected outcomes, rational states will weigh the costs and benefits of airspace closures to make a calculated foreign policy decision that results in the highest expected utility. For the sender, this means that all else equal, a country that has low economic costs, low diplomatic costs, and higher domestic audience costs will be more inclined to close their airspace in response to a crisis.

Benefit for Sender

Upholding Norms, Values, or Principles Signaling preferences requires adherence to and compliance with the norms built into the international system. Related to the linkages formed by international institutions and organizations, the current international system was largely built by democratic allies as a rules-based system that supports norms, values, and principles associated with democratic rule (Cimmino & Kroenig 2020). In the case of airspace closure, states benefit from supporting a particular norm, value, or principle because it signals support to the international community. If another state violates a norm, value, or principle that a sending state supports, airspace closure is a way to publicly show disapproval to the target state's actions. Therefore, the benefit of airspace closure would outweigh the costs associated with its implementation.

Jain et al. (2019) supplements this idea of a rules-based system by nothing that a "distinguishing feature of this system is a dense set of rules, norms, and institutions – both formal and informal – that governs relations among states" (11). This includes both informal and formal institutions, international agreements, and support for human rights, state sovereignty, and democratic rule of law, among other features. Furthermore, Grigorescu (2015) discusses normative pressures within intergovernmental organizations and how these normative pressures shape the rules and legitimize authority. Intergovernmental organizations have increasingly moved to integrate democratic norms within the institutional framework (Grigorescu 2015). By assuming the international system is a rules-based system, it follows that countries are likely to support other countries that follow the rules and punish those that violate them to reaffirm global agreements, norms, and values.

The rules-based system, which is democratic in nature, requires countries to defend the institutions and norms that it supports. Acting in a way that undermines these institutions and norms is threatening to the system, which has become the status quo. Sanctions literature often notes that sanctions result from decisions made by other states in a way that threatens the status quo. In this instance, the rules-based system is the status quo. Haass (1998) notes that "sanctions are a way to signal official displeasure with a certain behavior." Galtung (1967) describes sanctions as "something that at least serves as a clear signal to everyone that what the receiving nation has done is disapproved of" (412). Sanctions, then, can be a response to a target's policy decision that is undesirable to other states in the international system, a foreign policy decision that goes against the interests of the sending states.

States benefit from supporting and defending the norms, values, and principles reflected by the institutions of which they are a part and are likely to use sanctions in response to behavior

that is deemed unacceptable (Bolton & Nash 2010). Airspace closure, when used as a foreign policy tool, is a way to symbolically defend these norms, values, and principles. When the benefit of visibly upholding norms, values, and principles outweighs the costs of airspace closure, a country might close its airspace to a target country. This is particularly likely when flagrant violations of democratic norms such as human rights occur. Furthermore, airspace closures are likely to occur to prevent a challenge from reaching the level of crisis or, worse, militarized conflict. It can be hypothesized:

> H4: *States are more inclined to close their airspace to target states in times of crisis, particularly when a target state has violated a norm, value, or principle that the sending state supports.*

International challenges can include events that challenge the democratic status quo (that is, the norms, values, and principles that democratic regimes are likely to support) and could lead to conflict escalation.

States benefit from supporting the rules-based international system because it reemphasizes support for the community in which it is a part. Like the perceived likelihood of success indicated above, the sender's international network plays a big role in increasing the perception of likelihood of success. Therefore, if a target state violates a norm or somehow breaks a rule in the rules-based system, states benefit from closing their airspace because it signals to their in-group that they continue to uphold the rules-based system. As a result, this could lead to support of the airspace closure from allies, thus increasing the perception of the likelihood of success of the closure.

Allies There are benefits that states get from the closure despite incurred costs from the closures. For example, an airspace closure may be a way for a state to signal to the international

community that they support specific norms or values, or that they support another state's actions. As a result, airspace closures could be a symbolic way of supporting "friends" in the international community. These closures, then, bolster diplomatic relationships between other states with the same foreign policy preferences. An investigation into the benefits of airspace closure would show these symbolic benefits.

One important component of international relations is preference signaling in which states signal their preferences to other states. These preferences change between states and include support for norms that may be embraced by a community of states. When there are unexpected outcomes, particularly regarding incomplete information, signaling increases benefits to the sending state for several reasons, which marks how the cost benefit analysis of the rational actor model is appropriate for investigating airspace closures. Signaling, in this case through airspace closures, shows clear policy preferences to other states that a sender may have diplomatic relations with. Similarly, it can show support for other states who may have signaled their preferences previously. While state's benefit from signaling support for other community members, this network of states is something that a state can consider if the airspace closure is likely to have a desired outcome. For example, if a target state acts in a way that goes against the network's policy preference, a sending state can be more confident that members of this group are likely to support the decision to close an airspace. Therefore, the sending state benefits from signaling support to the international community but can also anticipate a higher likelihood of success with the support of a network of states.

Institutions that shape both the domestic structure as well as the international community constrain state decision making. When a state is connected to other states via formal or informal

institutions, this creates a perception of an ingroup versus an outgroup that share preferred policy preferences and similar perceptions of policies and their salience (Bueno de Mesquita 1988). Participation in various 'clubs' shape in groups and outgroups. These clubs range from regime type similarity, shared involvement in various international organizations, or being signatories of the same international agreements. The influences of international communities on state foreign policy decision are likely to have symbolic implications. In this regard, the rational choice approach suggests that the benefits of showing support for the ideologies or values upheld by a particular group outweighs the costs associated with airspace closures. These groups create international linkages of shared values, including those that are political, economic, and sociocultural (Geva & Hanson 1999).

Whereas states are separated by physical borders, the presence of networks reflect border-transcending boundaries. These boundaries are drawn along lines that, for example, politically divide democracies and nondemocracies, connect countries with trade agreements, and associate countries with cultural similarities including those that espouse norms or values (Filtenborg et al. 2002). The networks that form as a result are loosely organized, and participation in the network provides the right to access the policymaking of the network, as well as the benefits that are associated with being a participant. To give an example of this, Filtenborg et al. (2002) investigate the European Union's Northern Dimension Initiative as a means of including other European states in multilateral cooperation. The authors argue that the Northern Dimension Initiative modifies existing geopolitical, institutional, transactional, and cultural boundaries within Europe through the endeavor to include more states.

The connections that networks create both formally and informally institutionalize ingroups and outgroups. These ingroups and outgroups are apparent in all political, economic,

and sociocultural realms. States, like people, conceptualize themselves according to the states that they associate with, which creates an identity connecting them with similar states (Reese et al. 2012). The most obvious ingroup/outgroup distinction is democracy versus nondemocracy. Democratic regimes embrace an identity that supports norms and values that non-democratic regimes might not support. States can publicly show support for these norms and values by taking foreign policy actions, such as closing airspace.

Kertzer and Powers (2019) note the connection between various foreign policy beliefs on the individual level. In other words, there are consistencies between holding one foreign policy belief as well as related foreign policy beliefs (Kertzer & Powers 2019). This is important for the study of beliefs on the international level because it suggests that states that support specific foreign policies are likely to hold other similar foreign policy beliefs. Other states that share the same belief system are likely to share these interconnected foreign policy attitudes.

Ingroups and network cultivate similar belief systems, as they connect states through shared norms or values. If another country acts in a way that goes against these belief systems, states may enact sanctions against the offending country to symbolically show or signal to their ingroup or network that they support the norms and agreements supported by the club. In other words, sanctions can be a symbolic foreign policy tool that signals policy positions to group members, as well as international and domestic audiences (Galtung 1967). In addition to signaling policy support to members of their international network or ingroup, states, particularly democracies, face domestic costs for violating commitments (Whang 2011). The domestic institutions inherent in democratic regimes hold leaders accountable to following commitments on the international level (Bueno de Mesquita et. al 1999). Furthermore, international institutions that connect states constrain and shape state behavior. One example of this is a regional

organization. Regional organizations connect states with geographical proximity and can include political, military, and economic integration. Examples include the European Union, the North Atlantic Treaty Organization, and the Gulf Cooperation Council.

Airspace closures can also act as a means for a country to signal preferences to other countries (Hart 2000). Hart (2000) discusses the desire for politicians in power to stay in power, ultimately developing a framework showing how leaders in democracies enact sanctions to signal resolve. Elites in non-democracies may have a different set of preferences than those in democratic countries and therefore their reasons for enacting sanctions may differ (Onder 2019). However, even though preferences may differ, the idea is that countries can enact sanctions to signal these preferences. Therefore, democracies and autocracies might differ in their propensity to close their airspace, which may be due to different policy preferences. Regardless of these differences, countries benefit from adhering to their preferences and signaling those preferences to other countries.

In addition to international connections via institutions and organizations, states benefit from showing preferences because other states with similar foreign policy goals may be likely to follow suit, states that may or may not be a part of the same institutions or organizations. Foreign policy similarity has been operationalized by Signorino and Ritter (1999). The authors develop an S-score algorithm, which conceptualizes a spatial dimension of foreign policy similarity (Signorino & Ritter 1999). States with similar S-scores have similar policy positions, and states that have dissimilar S-scores have dissimilar foreign policy positions. Related to ingroups, the authors explain that "two states' alliance portfolios are similar to the extent they share the same alliance commitments with each of the members of the international system" (Signorino & Ritter 1999, 118). Using Signorino and Ritter's (1999) conception of S-scores and alliance portfolio

similarity, it can be assumed that states might close their airspace if other states that have stronger alliance commitments with close their airspace.

The Gulf Blockade from 2017 to 2021 is one notable instance of airspace closure involving states connected by a regional alliance. Saudi Arabia, Bahrain, Egypt, and the United Arab Emirates closed their airspace to Qatar due to Qatar's apparent support for terrorism and close ties to Iran. All countries but Egypt are a part of the Gulf Cooperation Council, however, Qatar seemingly violated agreements with its ties to Iran and terrorist organizations. The Gulf Cooperation Council aims to coordinate defense planning and encourage military cooperation (Saidy 2014). Saudi Arabia, Egypt, Bahrain, and UAE, threatened by the connection between Qatar and Iran, closed their airspace to Qatar. For the purposes of this research, states that are connected by international agreements or alliances are considered allies. Therefore, based on the research connecting states through international institutions and commitments, it can be hypothesized that:

H5: States are more inclined to close their airspace to a target country in times of crisis when allies close their airspace.

To reiterate, states benefit from signaling support for norms or values shared by other states in their ingroup. States also can evaluate their international networks to determine whether a state thinks an airspace closure is likely to have the desired outcome.

Issue Salience for Sender Issue salience has a large influence on leaders' decision making, whether the issue is over a tangible issue such as territory or an intangible issue such as ideology or influence (Gent & Shannon 2011; Hensel et al. 2008; Holsti 1991). Diehl (1992) defines issue salience as "the degree of importance attached to that issue by the actors involved" (334). Different issues, therefore, have different levels of salience for both a sending and target

state. The more important an issue to a sending country, the more likely they are to try and maintain some level of control over a dispute to have ability to make unilateral decisions that shape how a dispute unfolds (Thibaut & Walker 1978; Gent & Shannon 2011). Maintaining control ensures favorable outcomes. Therefore, it can be hypothesized:

H6: States involved in disputes over higher salient issues are more inclined to close their airspace in times of crisis than disputes over lower salient issues.

Issue salience is influenced by a few factors, including territorial disputes, historic rivalries, resource disputes, or religious affiliation. These factors involve both the international and domestic communities. Putnam (1988) modeled these interactions in his two-level game theory, in which policymakers balance both negotiations with other countries and the pressures placed on policymakers by the domestic audience. Therefore, policymakers in democracies are likely to support foreign policy decisions if the domestic audience supports the decisions (Tomz, Weeks, & Yarhi-Milo 2020). Gent and Shannon (2011) note that different issues have either domestic or international impacts depending on whether the issue is tangible or intangible. For example, tangible disputes over resources might have more international costs because an unfavorable outcome might result in a target state obtaining more resources or territory (Gent & Shannon 2011). However, and as it relates to a few of the case studies identified later in the project, territorial issues involving ethnic ties might have more domestic impact than international because ethnic ties are intangible (Gent & Shannon 2011). Issue salience could also be impacted by a history of negotiations between the two parties. If a similar issue has arisen in the past and it was not resolved, it seems plausible that such an issue will grow in salience if it arises again because it was not properly resolved earlier on.

Perceived Probability of Success of Airspace Closure

Issue Salience for Target Following the discussion of issue salience above, issue salience also affects the target state's decision making and foreign policy behavior. A salient issue is a "subject of a conflict or controversy" (Atkinson 2021; Diehl 1992). Generally, it is an issue that is high in importance for either the target or sender, or both. If a target state is shut of an airspace over an issue that it deems salient, the target's reaction to the closure sends a signal to the sending state over its policy preference. By maintaining its behavior, a target state is making a statement about its preferences on the issue that it considers salient However, if a target state was to change its behavior, it could be that the issue is not as salient to the target as it is to the sender. Research on sanctions and issue salience finds that perception matters when it comes to sanction outcome. Ang and Peksen (2007) find that when the importance of an issue is asymmetric between the sender and target, such as when the target does not hold the issue to be as salient as the sender does, sanctions are more likely to succeed. In terms of airspace closures, this suggests that airspace closures are less apt to result in a change in the target's behavior if the issue is salient to both the target and sender. Therefore:

H7: States are less inclined to change their behavior when confronted with an airspace closure if the issue is high in salience

A target state is more likely to remain steadfast in its behavior if the issue is high in salience, because it signals to the sender, in addition to the international community, where it stands on certain issues.

Participation in International Aviation Rational choice theory, explained earlier, posits that actors will make decisions based on weighing costs and benefits of different foreign policy options to maximize national interest. National interest comprises the "welfare goals of national governments on the international level, such as preservation of political independence and

territorial integrity" (Oppenheim 1987, 370). If the costs of continuing their present behavior outweigh the benefits, then it is likely that the state will change their behavior. Therefore, airspace closures are a way to increase the costs for a target to maintain it behavior. Factors that could potentially influence this change in behavior are economic impacts on the target state as well as international dimensions. Airspace closures also place economic pressure on the target state. If this is in addition to other sanctioning policies, target countries are more inclined to change their behavior. By measuring costs imposed on the target, this study measures the second outcome.

The economic pressure on the target state is likely to be stronger when the target country has a more active aviation sector, as measured by World Bank data. When the economic costs incurred by the target are high enough in relation to its level of economic development, a change in behavior is more likely. This is key in the rational actor model because if the costs on the target are high enough, they are more inclined to change their behavior. Hufbauer et al. (2009), in their study on the economic costs of sanctions, find that the economic costs imposed on a target is a strong predictor of whether the sanctions will coincide with a change in foreign policy behavior. Connecting this to airspace closures, if the costs of being shut out of one or several airspaces have a large enough financial impact, a target is more likely to change behavior.

Several factors contribute to the relationship between airspace and economic costs. First, if the target state has a strong economy, then presumably it can withstand the costs of rerouting flights around closed airspace. Secondly, if the closed airspace is not close in proximity to the target country, it is less likely to have a substantial impact. Both factors are components within the strength of the aviation sector in that country. If the strength of the aviation sector in a target country is greater, airspace closures are more likely to have a substantial impact because it has

both an economic impact as well as complicates flight paths. A relationship between these factors, all of which can be operationalized, is likely to predict the success of an airspace closure resulting in a change in behavior. Therefore:

H8: *States that have a higher level of participation in international aviation are more inclined to change their behavior in response to an airspace closure.*

The number of scheduled air carrier departures is a good indication of the strength of the aviation sector in that country. If the level of departures is higher, it suggests that an airspace closure would likely impact more flights. However, if there are not many flights, it is unlikely that an airspace closure will result in a change in behavior. Airspace closures in this regard are a higher cost to a target that has more scheduled departures and a higher amount of international flights because of the financial impact of rerouting around closed airspace, which requires higher operating costs.

Sending states can view the strength of the aviation sector in a target state to anticipate the likelihood of success of a closure. If a target country has less scheduled international flights, it is likely to be impacted less from the closure than if it has more scheduled international flights. Therefore, sending states can evaluate how many flights will be impacted from a closure to anticipate the level of economic costs that will be placed on the target. As a result, this will change the perceived likelihood of success.

Airspace closures impact all aircraft registered to the target country. Airspace closures, for this reason, are comprehensive in nature. Gordon (2011) identifies a few different types of sanctions, which include arms embargoes, travel restrictions, certain trade restrictions, and financial restrictions that target specific companies. On the topic of airspace, Gordon (2011) notes that regarding travel bans, restrictions on the visas of individuals are more effective than

total airspace closures. However, states still signal foreign policy preferences by opting for total airspace closures as opposed to targeted travel restrictions. This could be because the costs of airspace closure are lower for countries that have a stronger economy, and the benefit of the signal being sent outweighs the costs. If a country has a stronger economy, it has additional sources of income and is less likely to be affected by the costs of airspace closure. Additionally, the impact of airspace closure on a target could raise the costs associated with maintaining its behavior. If this is the case, they are more inclined to change their behavior to lessen the costs. This is particularly the case if the size of the sanctioned country's economy is lower in relation to the sender.

Unilateral versus Multilateral Closures Various international dimensions can prompt a change in a target's behavior. The literature on sanctions discusses the impact of multilateral versus unilateral policies. A sending country may enact an airspace closure if other countries with which it has associations (whether through trade agreements or joint participation in international institutions and organizations) close their airspace to a target.

The benefits of a multilateral closure can also be linked to a cost to the target. A target country is likely to feel more international pressure if more than one country is closing its airspace to the target, particularly if the target is geographically close to those countries that are closing airspaces. Geographic proximity to countries that have closed their airspace complicates the now constrained flight paths for the target that must reroute flights to not penetrate the closed airspace. If the number of flights departing from a target state is large, this has a substantial impact on operating costs and presents more logistical challenges. More countries closing their airspace to a target means less options for the target to conduct international flights. Therefore, an increase in the number of countries closing their airspace to a target would increase the

probability of success of the closure, particularly if the countries are located near the target. It is important to note that while multilateral sanctions are a cost to the target, they are a benefit to the sender (explained in further detail below).

When more states close their airspace to one target state, it lowers the costs of airspace closure for the sender and raises the cost of non-compliance for the target. The literature on sanctions notes the impact of the number of countries imposing sanctions on a sanction's success. In other words, the literature focuses on the impact of unilateral versus multilateral sanctions. Unilateral and multilateral sanctions have been a point of interest to many scholars in international relations (Kaempfer & Lowenberg 1999; Bapat & Morgan 2009). Kaempfer and Lowenberg (1999) find that unilateral sanctions are more effective than multilateral sanctions because of the inability of coalitions to cooperate at times. Bapat and Morgan (2009), however, find the opposite – multilateral sanctions are more often effective in obtaining policy changes, but also find that the success of sanctions depends on the existence of institutions or the number of issues at stake. Many scholars argue that when the international community supports sanctions, they are more likely to be effective (Drezner 2000; Kaempfer & Lowenberg 1999). Drezner (2000) finds, however, that this argument does not hold up empirically and unilateral sanctions from a strong state are more effective under some circumstances. Hufbauer et al. (1990) find that international cooperation does not impact the success of sanctions.

Multilateral sanctions can be effective when they place enough costs on the target, particularly if these costs are economic. However, despite sanctions increasing economic pressure (such as reductions in trade), economic costs are circumvented by relying on other avenues for economic exchange (Drezner 2000). The same can be said about airspace closures. If one country closes its airspace to another, the target country needs to just avoid the closed

airspace, which could create larger economic costs for the target due to longer trips and increased fuel requirements.

The literature on sanctions notes that sanctions are more likely to coincide with a change in foreign policy behavior when the target is a democracy; historically, however, most of the sanction targets have been non-democratic regimes (Onder 2019; Escribà-Folch & Wright 2010; Kaempfer et al. 2004). Although sanctioned democracies comprise a smaller portion of the overall sanction episodes, sanctions are more likely to be successful when democracies are the target. This is linked to the ability of non-democracies to reallocate wealth toward themselves and those who support them (Onder 2019). Sanctions are also more effective when enacted against democratic regimes because of the ability of the opposition to influence political outcomes in democratic states (Nossal 1999).

When states cooperate in enacting sanctions on a target state, it pressures other states to cooperate and join the sanctioning group (Drezner 2000). However, the opposite occurs when states start deflecting from the sanctioning group; in this case, states are unlikely to follow suit in sanctioning a target (Drezner 2000). In cases like this, finding organizational support is key for the success of multilateral sanctions. Regardless, sanctions are a cheap foreign policy option to use to seek policy change. It can be expected that wealthy countries are more inclined to use them, and be less economically impacted by them, than countries that are not wealthy. A key component of the sanctions literature is the focus on economic pressure; the greater the cost to a country upon which sanctions are imposed, the more likely the sanctions are to succeed if the sanctioning country is a significant trading partner to the sanctioned country.

When a coalition of states places pressure on a target state, it lessens the cost of airspace closure in relation to the benefits for the sender. Furthermore, while this is a cost to the target,

the multilateral nature of the closure is a factor that also increases the sender's perceived probability of success of the airspace closure because of the support from other states that are part of the same network or ingroup. The higher success rates associated with multilateral sanctions lessens the costs, and greater international support increases benefits because, as identified earlier, it signals policy preferences to other members of the in group. The lowered cost and raised benefit of airspace closure means it is more likely to be a foreign policy option. In addition to this, the costs are raised for the target state, because the costs are raised as more countries participate in an airspace closure and there is heightened international pressure, which is likely to lead to a change in foreign policy behavior. Therefore, I hypothesize:

H9: *States facing airspace closures from more than one country are more inclined to change their behavior in response to the closures.*

This hypothesis indicates an interactive relationship with the strength of the aviation sector in the target country as identified in H8. If the status of international aviation in the target country is weak, as identified by a low number of scheduled air carrier departures, then coalitions are unlikely to matter. However, if there is a larger number of scheduled air carrier departures, this could indicate that airspace closures supported by a coalition of states is more likely to have an impact on foreign policy behavior.

Other Punitive Policies There are various things a potential sender can observe to make airspace closures seem more likely to shape a target state's behavior. Airspace closures often do not exist in a vacuum and instead tend to be paired with other punitive policies. If a state chooses to use economic sanctions against a target, airspace closures are more likely to aid in changing the behavior of the target state. Airspace closures could be utilized in addition to trade sanctions, diplomatic sanctions, asset freezes, or others. By placing sanctions on a state that are

multidimensional or mixed, it is more likely to influence the behavior of the target state. This data would best be gathered through research on each case study to identify whether airspace closures occurred with or without other sanctioning policies. The probability of success in these cases increases if airspace closures are paired with other sanctioning policies, as discussed below.

Governments have the option to impose either comprehensive or limited (sometimes called selective) sanctions on another country. Limited sanctions include policies that have a specific focus, which could include, for example, an industry within a country (Eichengreen 2022). As it relates to airspace closure, a sanction only focusing on banning aircraft registered to a target state would be an example of a limited sanction. Comprehensive sanctions, on the other hand, include a blanket sanction, such as an embargo on all trade. The United States Government Accountability Office, in their research on economic sanctions, find that the "impact [of sanctions] has generally been higher when the sanctions were more comprehensive in scope or severity" (Gianopoulos 2019, 19). When there are more policies that are included to make sanctions more effective, the impact on the target state is higher and thus more likely to result in desired outcomes. Therefore, it can be hypothesized:

H10: *States facing airspace closure in conjunction with other punitive policies are more inclined to change their behavior in response to a closure.*

More punitive policies theoretically place more pressure on the target state to change its behavior. In addition to increasing the costs on the target state, the increase in the number of punitive policies can contribute to a sending state's perception that the airspace closure is more likely to result in a change in foreign policy behavior. If sending states know that comprehensive sanctions are more likely to result in a change in the target's behavior, then the level of

comprehensiveness of punitive policies is likely to impact the perceived probability of success of an airspace closure.

Considering the rational actor model, airspace closures can be an attractive foreign policy tool if there are benefits that outweigh the costs. As previously noted, sanctions are a relatively low-cost foreign policy action that allows a state to signal policy preferences without resorting to military intervention or war, both of which are significantly more costly. They are a way of signaling foreign policy preferences to show support for other members of an ingroup or states with similar foreign policy belief systems. If the value of airspace closure, most noticeably if the reason behind the airspace closure is more important than the loss of overflight fees from the target country, a country is more likely to use it as a foreign policy tool alongside other policy.

Closure Duration For a closure to be successful, it results in a change in behavior. However, over time it is possible that a target state may adapt to an airspace being closed. In this regard, there are diminishing returns for closed airspace, as the target state can adapt to the closure. The law of diminishing returns shows that continuation over time of an investment (or, in the case of political science, a policy) yields incrementally fewer benefits (Feaver & Lorber 2015). As this relates to airspace closure, the benefits and potential for success of the closure might be reduced over time. This is particularly the case if the target state has the means to divert commercial flights around the closed airspace. While at first the closure might be logistically difficult to circumvent, the target state may be able to adapt to the closure over time. Duration of an airspace policy needs to be considered in explaining the outcome of closures. Therefore, it can be hypothesized:

H11: *States targeted by airspace closures less inclined to change their behavior as the duration of a closure increases.*

I expect this hypothesis to be curvilinear because initially, an airspace closure might present more of a challenge for target countries. This challenge is both financial and logistic due to the need to reroute flights. Therefore, airspace closures are more likely to be effective early on. However, as time passes, targets may adapt to these new flight paths that circumvent closed airspaces. Thus, the immediate costs and challenges associated with a closed airspace become less of a concern.

Table 1, below, lists each one of the hypotheses. Each hypothesis falls under the question that they seek to answer. Hypotheses 1-6 focus on the costs and benefits of the sending state, which contribute to a country's decision to close its airspace. Hypotheses 7-11 focus on the perceived probability of success, which relate to the factors that shape a target state's behavior.

Table 1. List of Hypotheses

What Factors Contribute to a State's Decision to Close its Airspace?	**What Impacts Target State Behavior?**
H1 – States are more inclined to close airspace with lower economic costs.	H7 – States are less inclined to change behavior when issue is higher in salience.
H2 – States are more inclined to close airspace with lower diplomatic costs.	H8 – States involved in international aviation are more inclined to change behavior.
H3 – States are more inclined to close airspace with higher domestic audience costs.	H9 – States are more inclined to change behavior with multilateral vs. unilateral closure.
H4 – States are more inclined to close airspace in response to norm/value/principle violation.	H10 – States are more inclined to change behavior when closure is enacted with other punitive policies.
H5 – States are more inclined to close airspace when allies do.	H11 – States are less inclined to change behavior the longer the airspace is closed.
H6 – States are more inclined to close airspace when issue is higher in salience.	

The expected utility framework, explained above, provides a means for us to understand what factors contribute to a country's decision to close its airspace in times of crisis and to what effect. The discussion of costs and benefits, the perceived probability of success, and the hypotheses that relate to each, allow us to get a general idea of when countries are more inclined to use this as a foreign policy tool in response to a crisis. Certain circumstances increase the sender's

assumption that an airspace closure will be successful, such as multilateral airspace closures and norm violation. If various factors can increase the utility of airspace closure, airspace closure is more likely to be chosen as a substitutable foreign policy that is within a state's toolbox of foreign policy options. If the costs are high enough for the target, a change in behavior is more likely. Conversely, however, the benefit of a target maintaining its behavior may outweigh the costs it incurs from the airspace closure. Therefore, certain circumstances impact the likelihood that a target state will change behavior.

Having outlined the theoretical framework, I will now discuss the methodology and the selection technique for the cases to be analyze in the dissertation.

Methodology

Who is closing their airspace, and to whom? A study of using airspace as a foreign policy tool would benefit from a comprehensive dataset identifying instances when a country ("sender") closed its airspace to another country ("target"). However, the absence of any publicly available comprehensive airline data leads me to use case study analysis to understand the factors contributing to a state's decision to close its airspace, as well as the factors shaping the target behavior. While there potentially is comprehensive data on flight information available for purchase through ICAO and IATA, to the best of my knowledge such data is designed to help airlines and is not readily available for researchers. I plan to develop a comprehensive dataset of airspace closures for future research.

Case Study Selection

To study the factors contributing to a state's decision to close its airspace, as well as what shapes the response of the target state, it is important to take a close look at individual cases of airspace closures. Case studies are a useful complement to research in that they can provide

detail and historical context behind each of the airspace closures, rather than simply using the indicators in the data. A case study analysis is particularly useful for a study of airspace closure because it illustrates specific details involved in the decision to close an airspace. For this research, the case study approach provides a qualitative complement to the quantitative part of the study. Particularly when using case studies, it is crucial to choose case studies in a systematic way. To determine which cases are most appropriate for a case study analysis of airspace closures and properly investigate the causal relationship between variables, I will be using the spatial comparison approach to a diverse set of cases.

Gerring and McDermott (2007) explain the different means of case study selection. One of the forms of selection that they outline is the spatial comparison of case studies. This is applicable to my research on airspace closures because there is spatial variation between the variables that are outlined earlier in the paper. Spatial variation in this sense refers to, for example, "variation across space (i.e., across regions) [and can] provide ample ground for drawing inferences about probable causes" (Gerring & McDermott 2007, 695). Gerring (2008) in another work discusses the diverse cases method. The author specifies that the diverse cases method is used to identify the maximum amount of variation among the population of cases (Gerring 2008).

The diverse cases approach will allow me to conduct a full and varied investigation into airspace closure, and spatial comparison will allow me to identify any other spatial variables that might have an impact on airspace closure, the dependent variable. The key independent variables of interest are regime type and economic development. I will choose cases based on whether the country is a democracy or non-democracy as identified by the Varieties of Democracy (V-Dem)

dataset. Furthermore, I will choose cases based on variety of economic development (measured by GDP in US$).

Accordingly, I will analyze three cases. The three cases to be analyzed include: 1) the Arab Quartet's closure to Qatar from 2017 to 2021; 2) Pakistan's airspace closure to India in 2019; and 3) Algeria's closure to Morocco from 2021 to present. The first case is multilateral and involves non-democratic, rich nations. In this case, Saudi Arabia, Bahrain, the UAE and Egypt closed their airspace to Qatar. The second case was chosen because it includes two democracies with a large disparity in economic strength. Pakistan has a substantially lower GDP than India. The third unilateral case, Algeria closing its airspace to Morocco, includes two countries with relatively comparable economic strength. Both countries are non-democracies. Selection of all three cases show variety on the independent variables of interest. For a dataset with a relatively small number of cases, this variety promotes the most comprehensive assessment of airspace closures.

The next three chapters focus on the three chosen case studies. Following the rational choice theory, they investigate the costs, benefits, and perceived probability of success behind a sending state's decision to close its airspace.

CHAPTER THREE

SEVERED TIES IN THE ARAB SKY

The Gulf Blockade, also known as the Qatar Diplomatic Crisis, is a recent instance of airspace closure that lasted over three years (2017-2021) and did not result in a change in behavior, as the crisis ended in a stalemate. Saudi Arabia, the United Arab Emirates (UAE), Bahrain, and Egypt closed their airspace to Qatar in June 2017, reopening the airspaces again in January 2021. The airspace closure to Qatar is the only airspace closure that has completely isolated the target country on all sides. The isolation had two important implications. First, it compromised the ability for Qatar to sustain its population because it relies heavily on food imports due to geographical constraints, explained below. Second, it isolated Doha, a global aviation hub, and restricted both its national carrier, Qatar Airways, and international airlines traffic to and from Doha. Qatar's airspace is very small, yet the Qatari presence in international aviation is immense.

It is puzzling that sending states connected to the target state through international institutions and shared cultural, political, and economic factors, who benefit from Qatar's open access to their airspace would completely shut Qatar out. It is also puzzling that the airspace closure did not result in a change in Qatar's behavior due to geography; the airspace closure caused Qatar to be nearly isolated. Through examining the costs and benefits associated with the Arab Quartet's airspace closure to Qatar from within the rational choice framework, this section will investigate this puzzle by exploring factors that contribute to the sending states' decision to

close their airspace as well as those leading to Qatar maintaining its behavior. As described in chapter 2, the hypotheses were chosen to investigate the costs, benefits, and perceived probability of success of airspace closures.

In addition to the disruption in Qatar's trade and airline activity, this case is important for a few reasons. First, it shows the breakdown in foreign policy relations between countries that are connected via economic, political, and cultural factors. Both the sending states and target state are wealthy nations with similar cultures and history. Understanding the reasons behind this closure and the subsequent diplomatic rift can shed light on regional dynamics, alliances, and conflicts. The multilateral airspace closure to Qatar is a harbinger for future events and their outcome, such as the multilateral airspace closure to Russia in 2022.

Second, this is not the first time that the sanctioning countries have severed diplomatic relations with Qatar, which will be discussed further below. However, this was the first time the sending states used airspace as a tool, which was seen as central to the sanctions. The sending states, particularly Saudi Arabia, publicly noted the airspace closure as "their strongest negotiating point" which highlights the criticality of the closure to the sanctions ("US Pressing Saudi" 2020). It was central to the sanctions because of both the importance of airline and aviation to Qatar as well as the reputation of both Hamad International Airport in Doha and Qatar Airways, which reflect the reputation of Qatar. Doha is consistently one of the top busiest airports in the world both in terms of cargo and passengers (Airports Council International 2024), and it was ranked #1 in 2024 for best airport in the world (Skytrax 2024). Furthermore, Qatar Airways is consistently ranked at the top for international airlines. Since 2012, it has won "World's Best Airline" seven times ("Qatar Airways Named" 2024).

Additionally, airspace closures have a huge impact on aviation, and the closure of airspace to Qatar had an immediate effect on flight paths, fuel consumption, flight duration, and commercial flight planning. In this case, Qatar was nearly isolated due to its geographical location. However, as explained later, Qatar was still able to withstand the impact of airspace closures. Studying the factors leading to the airspace closure to Qatar can provide insight into the outcome of this foreign policy tool. From complicated and costly revised flight paths to loss of overflight fees, both the sender(s) and target of airspace closures are negatively impacted from the closure itself. As this closure did not result in a change in behavior, it is important to understand why.

Lastly, this case is important to consider when understanding regional security concerns. The blockade against Qatar magnified existing security concerns and contentions in the Gulf region, as well as the broader Middle East. Understanding this dynamic is essential for assessing regional stability and potential conflict escalation.

This all highlights the basic questions being asked, when do airspace closures occur, and what contributes to the outcome? This first case study shows the significance of the signal being sent to both the target and international community about a sender's policy preference, as well as the signal being returned showing the target's unwillingness to change its behavior.

Multilateral closures have the potential to complicate the international aviation system more substantially than unilateral airspace closure, which makes cases like this paramount to investigate. Commercial airlines are scheduled air carriers, which means they operate regularly on pre-scheduled flight paths that are repetitive. Disruptions to these flight paths put stress on the passengers, airline employees that plan and schedule the flight routes, air traffic controllers, and the airports. With more than one sender, this magnifies the complications. Therefore, since this

case is multilateral, it has important implications for ongoing or future airspace closures made by a collective against a target state, such as the recent mass of countries that closed their airspace to Russia.

In the decades leading up to the crisis, rifts have developed between Qatar and its Arab neighbors that culminated in sanctions against Qatar, which included an airspace closure. The airspace closure imposed on Qatar by the sending states was intended to pressure Qatar into changing its behavior, particularly its alleged support for terrorism and its friendly relations with Iran. However, the closure did not induce a change in behavior, which could be due to the limited impact on Qatar's economy and the salience of the issues at the center of the closure. Below, I will provide a brief history of the engagement between the states involved in the crisis. I will then discuss the airspace closure that occurred in 2017 and will place my hypotheses in the contest of the airspace closure to Qatar.

Close Neighbors, Escalating Tensions

The Arabian Peninsula is a land mass in the Middle East that is surrounded on three sides by the Persian Gulf, the Red Sea, and the Arabian Sea. It comprises Saudi Arabia, Bahrain, the UAE, Qatar, Kuwait, Oman, and Yemen. Figure 1 shows the geographical location of the countries in the closure. As is evident, Qatar, Saudi Arabia, the UAE, and Bahrain all fall within the Arabian Peninsula, while Egypt is close by to the West in North Africa. Qatar is located on a small peninsula on the Arabian Gulf coast of Saudi Arabia, the only land border that Qatar has. Countries in the peninsula largely generate revenue through petroleum and natural gas. Roughly 60% of Qatar's GDP, for example, is generated from oil and gas (Gonzales et al. 2008). The countries involved in the crisis share a similar culture and history, and Islam is the dominant religion.

Figure 1. Map of Arabian Gulf Region

Source: Google Maps

The peninsula was under the control of the Ottoman Empire from the 1500s until closer to the end of World War I in 1918 (Samee-ul-Hasan 2010). The empire was divided into provinces, which a revolution in 1908 attempted to dissolve the empire into autonomous states but was unsuccessful (Aziz 2009). Following this, Britain, having geostrategic interests in the Middle East, began developing a closer relationship with the Arab people (Aziz 2009). The quest for autonomy continued through the 20th century, when each of the states gained independence.

All the sending states are signatories on the Chicago Convention, explained earlier. Of the sending states in this case, the UAE, Bahrain, and Egypt are signatories on the Transit Agreement while Saudi Arabia is not. The Transit Agreement is a multilateral agreement that

built off the Chicago Convention established on January 30th, 1945, that ensures the protection of overflights and landings under certain operational circumstances (CAPA 2017).

The Gulf Cooperation Council (GCC) formed in 1981, joining six states (Saudi Arabia, UAE, Kuwait, Bahrain, Qatar, and Oman) that share a similar history, affiliation with Islam, and cultures that are akin to one another (Gengler & Al-Khelaifi 2019; Arab States of the Gulf, Secretariat General 2024). Although having many cultural and historical similarities, the relationship between Qatar and the other members of the GCC, particularly Saudi Arabia, has ebbed and flowed since the 1990s. A border dispute in 1992 resulted in tensions between Saudi Arabia and Qatar, with a border demarcation finally signed in 1996 ("Timeline of Qatar" 2017). In 1997, Saudi Arabia refused to attend the North Africa Economic Conference in Qatar due to Qatar's relationship with Israel, who planned to attend the conference (United Press International 1997). In 2002, Saudi Arabia withdrew its ambassador in Qatar in response to anti-Saudi comments broadcast on Al Jazeera, but the underlying reason was to "try to pressure Qatar to curb its individualistic tendencies [which] broadly failed "(Roberts 2017). These individualist tendencies, particularly evident during Emir Hamad bin Khalifa al-Thani's tenure, Qatar had "sought to carve out a unique niche for itself and its policies, such as augmenting relations with Israel or Iran, and rejecting the wider consensus of the regional group of the monarchies, the Gulf Co-operation Council (GCC)" (Roberts 2017). The GCC, while symbolically uniting the Arab states, has not prevented Qatar from pursuing more independent policies.

To aggravate the issue further, during the Arab Spring Qatar was at odds with Saudi Arabia in backing the Islamists, illustrating the individualistic focus of Qatar's foreign policy. Qatar adopted a more partisan stance in support of the Muslim Brotherhood, in contrast to the other states, and were also evident with support for Syria and Libya (Gordon, Yadlin, & Heistein

2017). Contention was fueled due to the fall of long-term rulers in Egypt and Tunisia and the widespread protests that changed the political landscape in the region (United States Institute of Peace 2012). Polarization between Sunni and Shi'a magnified as the Arab Spring persisted and while traditional news sources and political leadership in different countries contributed to the factionalizing between the religious sects, online forms of news media helped to magnify this divide (United States Institute of Peace 2012).

Finally, Qatar has historically pursued an independent foreign policy approach, which has diverged from foreign policy positions of other Gulf nations. For example, since the revolution in Iran, Qatar and Iran have maintained diplomatic relations. Furthermore, Qatar has supported Islamist groups such as the Muslim Brotherhood and, along with Turkey, various Islamist groups in the civil wars that took place in Syria and Libya (Gordon, Yadlin, & Heistein 2017; Nephew 2020). This has caused a rift to grow between Qatar and Saudi Arabia, the UAE, Bahrain, and Egypt.

Qatar's Isolation

On June 5, 2017, several Arab countries in the Gulf region imposed economic and diplomatic sanctions on Qatar. This followed the Riyadh Summit in 2017, which "declared goal of which was to confront terrorism and contain Iran and was attended by the US president along with representatives of about 50 Arab and Islamic countries" (Arab Center for Research and Policy Studies 2021, 1). This period is referred to both as the Gulf Blockade and the Qatar Crisis. The sanctioning countries involved in the airspace closure include Saudi Arabia, the United Arab Emirates (UAE), Bahrain, and Egypt. Each countries severed diplomatic relations with Qatar after they accused Qatar of supporting terrorism and developing a closer relationship with Iran, who the sanctioning states consider a regional rival (Gordon, Yadlin, & Heistein 2017). These

severed diplomatic relations included the closure of its only land border, shared with Saudi Arabia, and the closure of three air borders with Saudi Arabia, the UAE, and Bahrain.

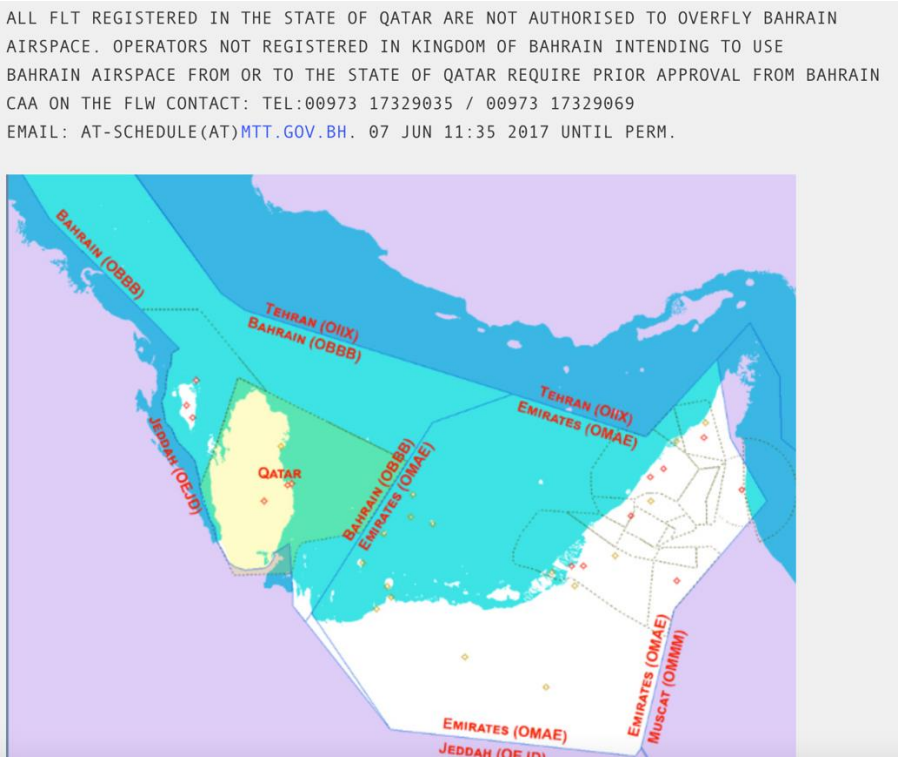
The airspace closure resulted from two things: lingering tensions from Arab Spring, and the Emir of Qatar's purported inflammatory comments about Trump and Iran (Mohyeldin 2017). The first of these, Arab Spring, revealed a division between Arab states that were open to change and those that were against it: the sending states, more resistant to change, took issue with Qatar's willingness to embrace the rise of Islamist parties and populism (Mohyeldin (2017). Second, on May 24th, 2017, there was a cybersecurity incident in which hackers allegedly hacked Qatar News Agency and made it seem as though the Emir of Qatar made supportive comments on Iran and denounced Trump (Gordon, Yadlin, & Heistein 2017; Mohyeldin 2017). Given the mixed opinion on Iran between Qatar and its neighbors, this was the catalyst that resulted in total sanctions on Qatar (Gambrell 2020).

The airspace closure effectively cut off Qatar from the rest of the world. Aside from its terminal area, which is the area around the Doha airport, Qatar does not have an airspace of its own. It sits within the Bahrain airspace and has historically used the airspace of its neighbors. Consequently, when Bahrain issued a Notice to Airman (NOTAMs, explained earlier) closing its airspace to Qatar (as seen in Figure 2), it effectively cut off Qatar from the rest of the world. The NOTAM in Figure 2 states that Qatar is "not authorized to overfly Bahrain airspace [… but also] operators not registered in Kingdom of Bahrain intending to use Bahrain airspace from or to the state of Qatar require prior approval from Bahrain CAA" (see Figure 2).[1] In other words, if using Bahrain's airspace, any airline destined to Qatar is restricted based on whether they are

[1] CAA stands for Civil Aviation Authority. Most countries that have an aviation sector have a CAA, which is often under a Department of Transportation or other similar governing body.

approved. The only other route is through Saudi Arabia to the east, but Saudi Arabia has a similar requirement.

Figure 2. Bahrain NOTAM A0210/17 from June 7th and Map of Airspace Closed (Teal)



Source: Selleck (2017) with OPSGROUP

Figure 3, below, shows a real flight path of a Qatari flight after the airspace closure. As is evident in Figure 3, the flight path to travel south initially flies northeast. This is to stay in the Terminal Control Area of Doha's airspace, which is the airspace directly surrounding an airport. Remaining in this airspace allows aircraft to reach Iran's airspace, and then continue to its destination. Thus, for a Qatari flight headed to the south or southwest, Qatar's airlines were required to avoid the airspace of Saudi Arabia and the UAE by diverting around the airspace. This adds time to the flight, which increases fuel consumption and operational costs.

Figure 3. Qatari Flight Route Following Closure

Source: FlightRadar24

The airspace closure made travel to and from Qatar more complicated both for Qatar's airline as well as international airlines traveling to Qatar.

As a reaction to the closure, Qatar sued the sending states, claiming that it violated sovereignty. For the airspace closure to be lifted, the sanctioning countries outlined 13 demands from Qatar, which largely focused on reducing Qatar's diplomatic engagement with Iran, eliminating interactions with terrorists and terrorist organizations and anyone in opposition to the sanctioning countries, shutting down Al-Jazeera news outlet, and aligning its foreign policy with the sanctioning states, among other conditions (Wintour 2017). The United States, having diplomatic relations with all the countries involved, attempted to mediate the situation to sway the sending states to reopen their airspace to Qatar with little success (van den Berg 2020). Eventually, however, the International Court of Justice ruled in favor of Qatar, allowing Qatar to challenge the airspace closures.

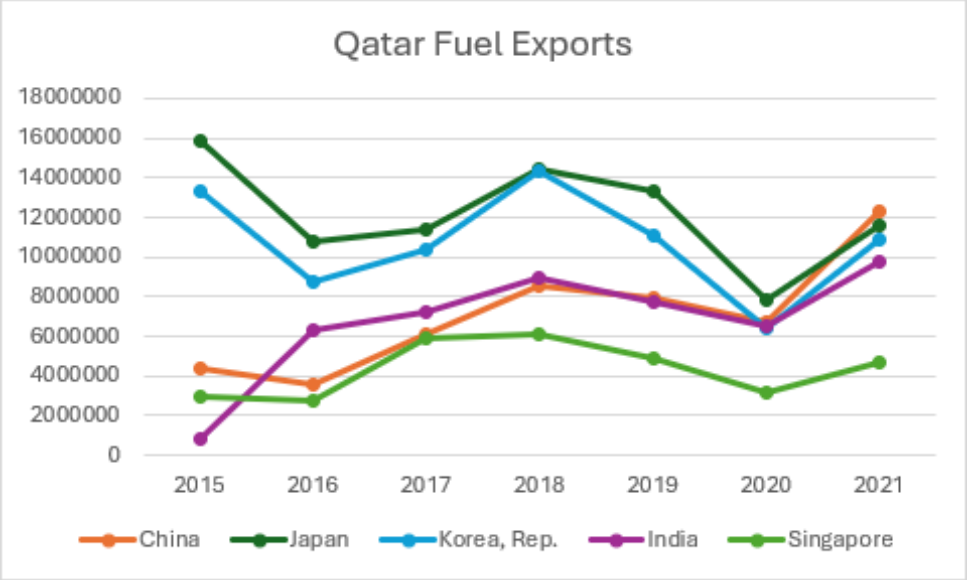
After a 3-year airspace closure, on January 5, 2021, the sanctioning countries reopened their airspace to Qatar at the GCC summit in al-Ula (Heistein & Guzansky 2021). None of the

countries involved made significant foreign policy gains from the airspace closure. The major developments included Qatar dropping the charges levied against the sanctioning country for the $5B in damages, Riyadh dropping the 13 conditions required of Qatar to lift the airspace closure, and the countries involved agreed on mutual media campaigns (Arab Center for Research and Policy Studies 2021).

Economic Costs of Closure

I anticipate that states facing lower economic costs due to airspace closures are more inclined to close their airspace in times of crisis than those facing higher costs. This hypothesis stems from the fact that countries that are less sensitive to the economic impact of an airspace closure can weather its effects. Members of the GCC heavily rely on oil and gas exports, and therefore there is limited trade between the GCC members ("Qatar-Gulf Crisis" 2020). For example, Figure 4 shows the top 5 importers of Qatar's fuel. None of the countries on the graph fall within the Arab Peninsula region.

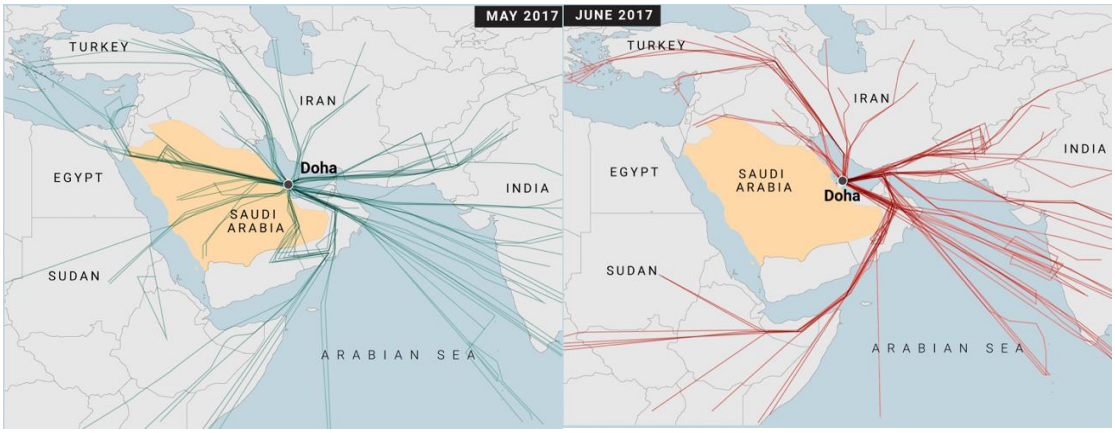
Figure 4. Qatar's Top 5 Fuel Exports (US$ Thousand)



Source: World Integrated Trade Solutions 2024

Due to the large amounts of revenue generated from oil and natural gas and the limited trade connectivity, an airspace closure in this instance fits my expectations because the costs of the closure are offset by the revenue generated by oil and gas exports. Put simply, if sending states are more likely to be financially impacted by the closure, they are less inclined to use airspace closure as a foreign policy tool. Although Qatar's flight paths were impacted by the closure, as seen in figure 5, the economic costs for the sending states were offset by the oil and gas revenue.

Figure 5. Flight Paths Before and After Airspace Closure to Qatar



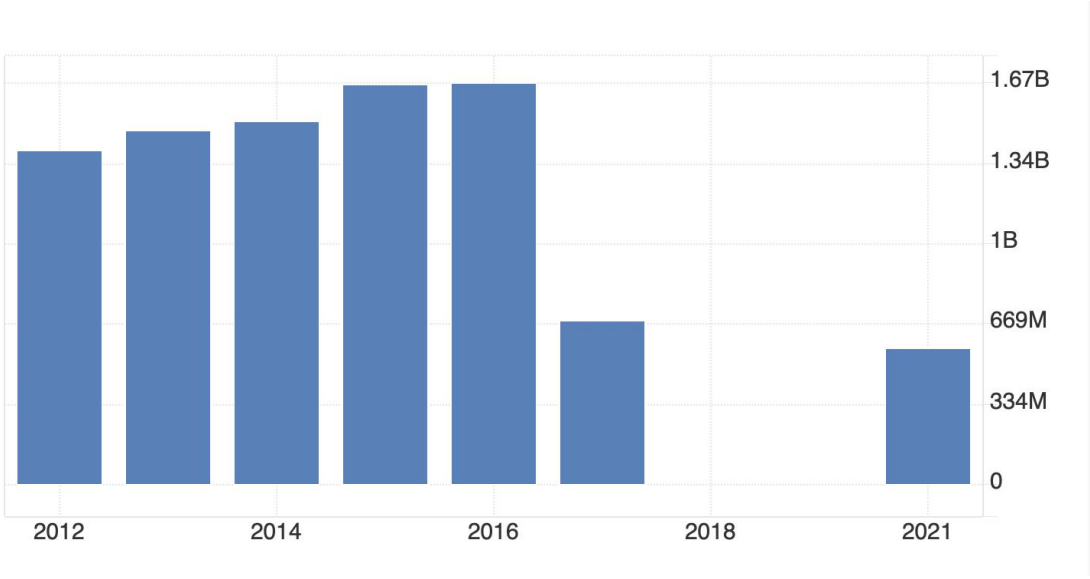
Source: Flightradar24

In terms of costs and benefits, if the benefit of the closure weighted by the probability of success outweighs the economic costs associated, then a state would be more likely to close its airspace. The primary economic loss for Saudi Arabia, Bahrain, the UAE, and Egypt came from overflight fees. The sending states did, in fact, lose overflight fees with the loss of Qatar-registered aircraft transitioning through their airspace. Jetex Flight Support, a global organization that aids in various aviation services, reports the overflight fees of all the sending states charge overflight fees based on the weight of the aircraft, with Saudi Arabia also basing their fees off distance traveled in addition to aircraft weight. Although the sending states all collect overflight

fees, the loss of these overflight fees is not substantial enough to have any impact on their robust economies.

Figure 6 shows Saudi Arabia's exports to Qatar around the time of the crisis (Trading Economics 2024). As the figure shows, since the closure occurred in 2017, there is an evident loss of revenue between 2016 and 2018. In 2016, total exports were 1.67 billion. Up until the crisis in 2017, exports reached 669 million and subsequently dropped to zero in 2018. While this seems like a large loss, Saudi Arabia's GDP at the time of the closure were 715 billion, indicating that the loss of trade with Qatar was not substantial enough to have a significant impact (World Bank, World Development Indicators 2024h).

Figure 6. Saudi Arabia Exports to Qatar (USD)



Source: Trading Economics 2024

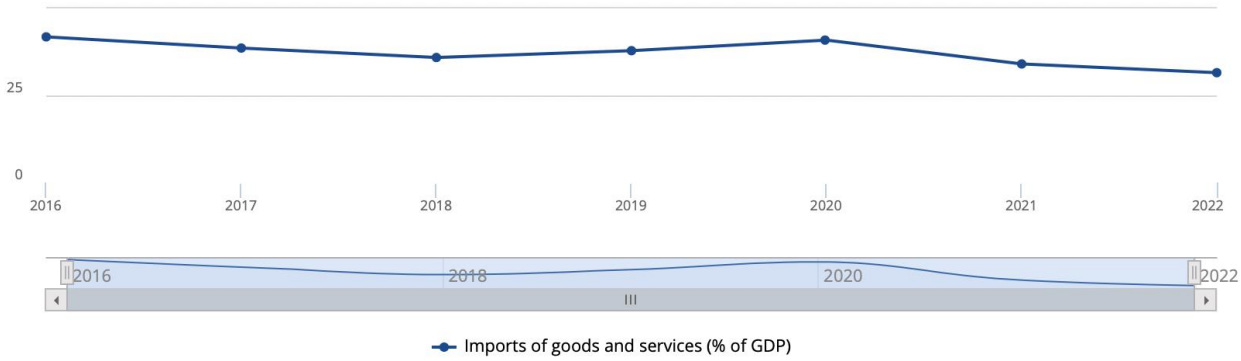
In addition to the trade disruption, the airspace closure minimally disrupted the sending states' existing flight paths aside from those connecting it with Qatar. This is because, as previously mentioned, the only airspace controlled by Qatar is the airspace directly surrounding Doha. This airspace falls underneath Bahrain's airspace and is small enough that it has no impact

on other international flights to and from the sending states. The only flights that were cancelled were flights from the sending states to Qatar. However, all other international flights continued as normal.

Although the hypothesis focuses on the sender, it is important to note also that Qatar's major source of revenue is from energy exports. Its gas reserves are the third largest in the world behind Russia and Iran (Kinninmont 2019). Therefore, any economic impact that reduced trade has on Qatar's economy is lessened. In fact, imports reduced by 40% from the year before (Feldman & Guzansky 2017). In terms of trading partners, Qatar has worked to increase diplomatic relations with countries both the West and countries in Asia, diversifying its network (Kinninmont 2019). Most notably is the expansion of trade with Turkey, as Qatar's imports from Turkey increased roughly 30% (Feldman & Guzansky 2017; Kinninmont 2019).

Figure 7 shows the level of imports by year in Qatar. As is evident in the graph, there is a slight drop in imports from 2016 to 2017, the year of the closure. This drop continued until 2018, where it began to increase again. The blockade was comprehensive and involved land, air, and sea closures. Since the landscape of Qatar is predominantly desert, it is hard to grow food. As a result, Qatar relies mostly on imports. With Saudi Arabia's closure of its land border to Qatar, it had to begin relying on air and sea transport and following the airspace closure, there was even more pressure placed on Qatar (Nephew 2020). Turkey stepped in to help alleviate the lack of food imports, providing dairy products and juice among other goods ("Turkey's Erdogan Decries" 2017). Additionally, Morocco vowed it "would also send planeloads of food to prevent shortages" despite maintaining its neutral stance between Qatar and the Arab Quartet ("Turkey's Erdogan Decries" 2017). Both the support from countries outside of the conflict and Qatar's wealth allowed it to bounce back after the initial shock of the airspace closure.

Figure 7. Qatar Imports of Goods and Services (% of GDP)



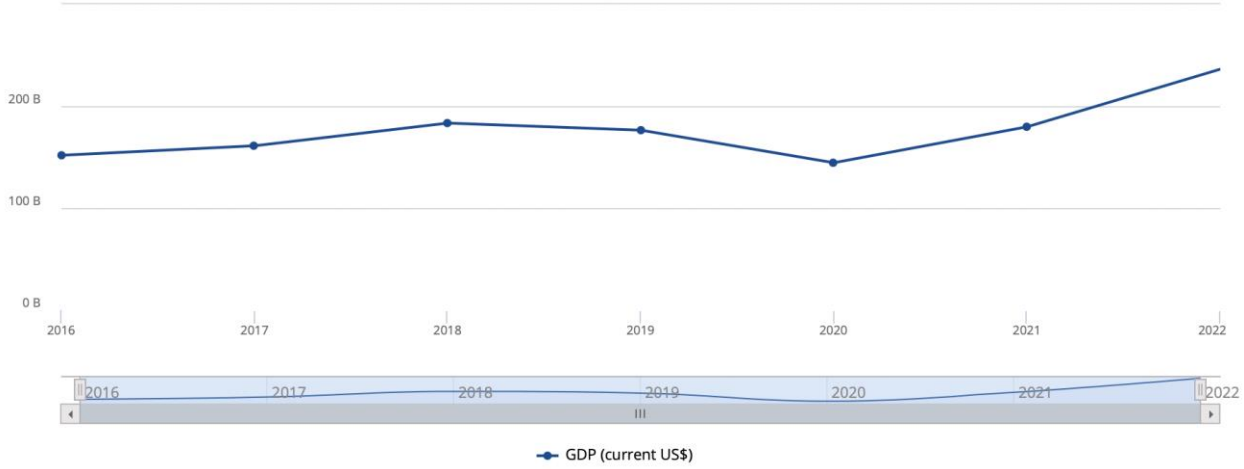
Source: World Bank, World Development Indicators (2024e)

The closure affected 52 to 70 flights per day connecting Qatar and its neighbors (Negroni 2017; Kabbani 2017). Qatar has publicly conveyed the image that they are able to withstand the sanctions due to having "the world's highest per capita GDP in terms of purchasing power, a government debt that is under control, regular income from oil and liquefied natural gas exports, and hefty foreign currency reserves" (Feldman & Guzansky 2017, 1). Behind the scenes, however, there has been a flight of foreign capital from the banks in Qatar, causing policy makers to utilize some of the $300B capital controlled by the Qatar Investment Authority (Feldman & Guzansky 2017). In fact, the Qatari banking system was impacted by heavy withdrawals that amounted to $22B (Magno & Garrido 2018). While this was a concern at first, "inflows from the government and the Qatar Central Bank more than offset the withdrawals" in the fourth quarter, which is an indication that the government was financially able to buffer the economic impact of the airspace closure (Magno & Garrido 2018).

In total, there was a 9% decline in passenger numbers in 2018 (Casey 2021). Aside from the impact on the aviation sector, prior to the closure, the Qatar's GDP was largely unaffected.

Prior to the closure, it was $166 billion (Nephew 2020). As you can see in Figure 8, there was a slight rise in Qatar's GDP after the closure.

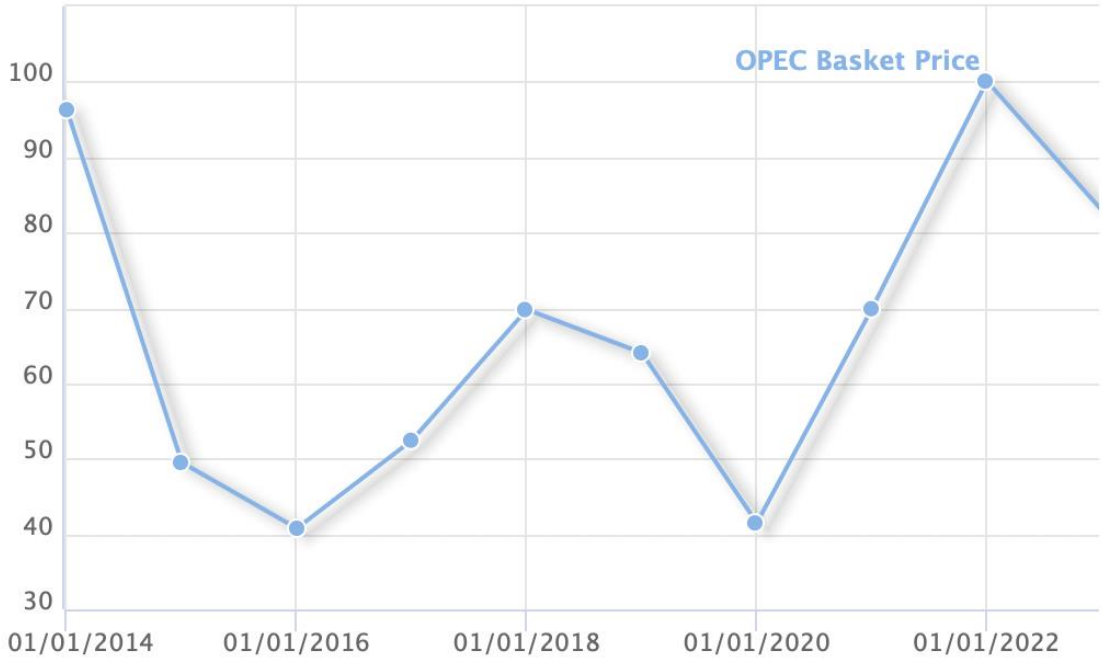
Figure 8. Qatar's GDP (USD)



Source: World Bank, World Development Indicators (2024g)

Figure 8 can be compared with Figure 9, which shows trends in the basket price of oil from the Organization of the Petroleum Exporting Countries (OPEC). Figure 8 and 9 both show a slight increase from 2016 to 2018, and then a decrease to 2020. The similar trends in the graphs show that the economy is tied to the price of oil. As noted by Kabbani (2017), Qatar's liquid natural gas exports were not affected by the closure, which is its primary revenue source. Therefore, the airspace closure did not have a substantial impact on Qatar's economy when measuring GDP or exports.

Figure 9. OPEC Basket Price



Source: OPEC 2024

Qatar alleged that the economic impact was nearly $5 billion (Casey 2021). In fact, as mentioned earlier, and will be discussed further below, Qatar contested the sanctions imposed on it by bringing the issue to ICAO and alleging that the airspace closure specifically violated the Convention on Civil Aviation that was signed in 1944, the basis for the formation of ICAO (van Beek 2020). In appealing to ICAO, Qatar filed lawsuit for reparations for the airspace closure, claiming that the closures were unlawful. After the sending states appealed to the International Court of Justice (ICJ), the ICJ determined that ICAO had jurisdiction over the matter and that the case would be dismissed ("World Court Hands Qatar" 2020). Despite the alleged $5 billion loss from the closure, it is important to note that Qatar's economy, although initially impacted by the airspace closure, was able to weather the economic pressure placed on it.

To recap, while the sending states were impacted economically from the airspace closure, it was mainly in terms of loss of overflight fees and other fees associated with landing. The

economic costs of this closure, however, were less than the perceived benefit of the closure, making a point about terrorism and Qatar developing closer ties with Iran. The takeaway for the Qatar Diplomatic Crisis is that the costs of airspace closures are felt substantially less when a nation is wealthy. It is likely that the wealth of a nation impacts both the senders' ability to withstand the economic effects of an airspace closure, as well as whether a target state will change their behavior. For example, Qatar has vast amounts of wealth that comes from a large supply of natural resources. When a country is the target of airspace closures and they can withstand the economic impacts of a closure, this could make them immune to any potential impact that an airspace closure may have.

Associated Diplomatic Costs of Closure

As Hypothesis 2 in chapter 2 predicts, lower diplomatic costs from airspace closures are more inclined to close their airspace in times of crisis than those with higher diplomatic costs. As noted in chapter 2, diplomatic costs are directly related to the reputation of the sender(s). What we see with the closure to Qatar is that three members in the Gulf Cooperation Council and Egypt all agreed to the airspace closure against a common threat, which included both Qatar's ongoing relationship with Iran as well as it allegedly supporting terrorist organizations. This closure is surprising because of the diplomatic relationship between Qatar and the sending states. Since they have been interconnected via trade and institutions, the diplomatic costs are higher. However, it is plausible that this is the case only for unilateral airspace closures. In this case, since it was a multilateral airspace closure, the costs for the sending states are lessened because a small group of states, all connected by trade and institutions, are supporting each other in the closure. This implies that the diplomatic costs are lowered as the number of sending states increases. Airspace closures are attractive foreign policy tools because they are easy and, while

costly, are cheaper to implement than resorting to war, so the benefit of the closure is more than the costs in this case. The symbolic meaning behind the closure and what it signals to both the target state and the international community becomes more impactful with four sending states, too. With four states closing their airspace to Qatar, it shows unity behind the airspace closure and the message that it is sending to the target state and international community.

Scholars have acknowledged that significant threats against the GCC states lead to a more cohesive foreign policy response, whereas in the absence of significant threats, the states are likely to focus on smaller issues that divide them (Martini et al. 2016). In other words, common threats have historically pushed GCC cohesion and cooperation. Perhaps the greatest of these common threats has been Iran. The sending states' diplomatic relations with Iran have been historically volatile, and the "shared threat perception of Iran and the impetus it provides for most of the GCC states to cooperate in containing that threat is one of the strongest unifying factors within the GCC" (Martini et al. 2016, 37). However, as Martini et al. (2016) also notes, Iran is a greater threat to Saudi Arabia, Bahrain, and the UAE for individual reasons, such as Saudi Arabia's claim to being the regional leader, the UAE's territorial dispute with Iran over the Greater and Lesser Tunbs as well as Abu Musa islands, and Bahrain's issue with Iran's support of its Shi'a majority. In addition, Egypt has had uneasy relations with Iran and no diplomatic ties since 1980 (Al-Anani 2023).

Another common threat for the sending states is terrorism. Qatar's purported support of terrorist organizations is noted as one of the reasons behind the closure. Particularly after the Arab Spring, support for organizations like the Muslim Brotherhood in Egypt have caused a rift between the sanctioning states and Qatar, with the latter being more willing to engage with the organization (Martini et al. 2016).

This shared perception of threat evident in both Qatar's enduring relationship with Iran as well as Qatar's alleged support of terrorist organization lowers the individual diplomatic costs of closing airspace amongst the senders. An airspace closure in this case has low diplomatic costs particularly because of the participation of regional partners in the closure. Had it been one state in the region closing its airspace to Qatar without the support of other states, the diplomatic costs might be higher due to the single sender going alone. In this case, though, the concept of a unified foreign policy approach amongst the senders supports my hypothesis. Furthermore, since a major emphasis in the Chicago Convention was maintaining sovereign state control over airspace, the sending states claimed that closing their airspace was within their sovereign rights to maintain safety (Lampert 2017).

In response to the closure, however, Qatar filed a lawsuit seeking compensation for the financial loss that it incurred because of the closure, which purportedly totaled $5B ("Qatar Airways Threatens" 2020). This lawsuit appealed to ICAO over the legality of the Arab Quartet "blocking its flights from their airspace and their markets" (Gambrell 2020). Akbar al-Baker, the CEO of Qatar Airways, called on the principles outlined in the Chicago Convention, of which all the parties involved had signed:

> The decision by the blockading states to prevent Qatar Airways from operating in their countries and flying over their airspace is a clear breach of civil aviation conventions and several binding agreements they are signatories to […] The blockading states must be held accountable for their illegal actions in the aviation sector, which includes a failure to comply with their obligations under bilateral agreements, multilateral agreements and international law. (Gambrell 2020)

Appealing to the international community through structure of the International Civil Aviation Organization highlights the centrality of airspace to the dispute, as the litigation only concerned the legality of the airspace closure, not other facets of the blockade such as stopping trade by

closing ports and expelling Qatari nationals that resided in the sending states. In short, Qatar appealed to ICAO because it alleged that the sending states violated the principles of the Chicago Convention that allowed for free travel between countries.

Not only was the airspace closure a major concern for the Qatari government, but also for the airline industry operating within Qatar. Qatar Airways, for example, released a public statement emphasizing its disdain for the closure:

> The arbitrary and abusive measures that these four states have taken against us have devastated our carefully planned, decades-long programme for investment and growth in those countries. They have arbitrarily prevented us from serving hundreds of thousands of passengers, and transporting tens of thousands of tons of cargo to and from each of these countries annually. ("Qatar Airways Threatens" 2020, para. 4)

Qatar Airways, which is highly reputable and consistently ranked one of the best airlines in the world, felt the impact from the closure through the disruption in the ability to transport people and property to the sending states.

In fact, the sanctioning states' decision to close their airspaces was surprising to the international community, and they failed to secure the complete support of the US, which at the time was going through its own internal turmoil following the presidential election (Nephew 2020). The closure was heavily denounced by Turkey, who likened the complete isolation of Qatar to the "death penalty" and called it "inhumane" ("Turkey's Erdogan Decries" 2017).

Airspace has become important to the Gulf states as both a political and military tool, as well to assert state sovereignty. Gulf Cooperation Council showed its increasing willingness to use airspace for political and military means following the crisis in Libya in 2011 (Gaub & Boswinkel 2021). In fact, as the airspace closure to Qatar demonstrates, "…in the absence of other measures, the political antagonism between Doha and its neighbours was being expressed almost exclusively in airspace" (Gaub & Boswinkel 2021, 1000). Airspace control was at the

center of the closure to Qatar, which shows the importance of airspace as a foreign policy tool. Since the sanctioning states acted in unison and closed their airspace simultaneously, the diplomatic costs were lower. However, the response by other nations leaned more in support of Qatar and their lawsuit against the sending states, which likely empowered Qatar to maintain its behavior. Regardless, this case follows what I expected that states would be more likely to close their airspace with lower diplomatic costs, which in this case were associated with the multilateral component of the closure.

Domestic Audience Costs of Closure

As discussed in chapter 2, Hypothesis 3 states that states with higher domestic audience costs are more inclined to close their airspace in times of crisis than those facing lower domestic audience costs. This is because airspace closures are less costly than other more costly measures, like war or militarized conflict. When a state takes a foreign policy stance against another state, thereby pledging their commitment to a particular policy or principle, domestic audience costs help to compel the leaders to keep their commitments (Tomz 2007). If the audience costs are high, it is reasonable to think that a state would prefer a foreign policy that is also less costly to implement that they less inclined to back down from. The domestic audience values when leaders are credible in their commitments but have a preference against going to war (Walt 1999). Airspace closures are easy to implement and by comparison to military action are less costly, yet they still send a message to the target about the sender's policy preferences. Airspace closures as a policy preference, then, have lower costs than other foreign policy options, and if the symbolic benefit of a closure outweighs the costs, states are more inclined to implement an airspace closure.

Credible commitments translate into the domestic audience's approval or disproval of the leader, which has implications for their reelection (Tomz 2007). Therefore, domestic audience costs are also impacted by regime type because of the centrality of elections in democracies versus non-democracies. As we saw in the case of Pakistan's airspace closure to India as well as the literature review, since it is a democratic regime, it has higher domestic audience costs than a non-democracy (Fearon 1994; Tomz 2007; Crisman-Cox & Gibilisco 2018). However, Weeks (2008) notes that some autocratic regimes can still generate substantial audience costs. Variation across different types of non-democracies (such as personalist, military, single-party, dynastic monarchy, or non-dynastic monarchy) lead to lower or higher domestic audience costs, and domestic pressure differ based on whether elites can coordinate the removal of a leader (Weeks 2008). All the sending states are monarchical non-democracies and "make credible threats against other states because of domestic audience costs their leaders would otherwise incur from backing down" (Weeks 2008, 56). Therefore, despite being autocracies, monarchies still generate higher domestic audience costs compared to other forms of non-democratic regimes because monarchical states still have a vested interest in the survival of their state.

Domestic audience preferences have shown themselves in this crisis, too, which could impact the level of domestic support for the closure as a foreign policy. This is outside of the scope of the project and would have to be studied further using interviews or survey research. However, it is important to note that the domestic audience is impacted from the closure. On the one hand, country lines have magnified nationalist divisions between the people. The New York Times reported that "people flock to a giant billboard in a Doha suburb to sign their names on a sketched image of the emir, Sheikh Tamim bin Hamad al-Thani [… and the image] has become an icon of Qatari resistance" (Walsh 2017, para. 21). Despite the increased nationalism, the rift

between Qatar and the sanctioning states has also divided families, who are unable to cross the close borders to attend, for example, funerals or other family gatherings (Walsh 2017). Families who are physically distance as well as those who may be mixed in terms of nationality experienced new hardships because of the closure, which likely play out in how the citizens view the closure itself (Walsh 2017).

All the states involved in the airspace closure are non-democracies. Since the sending states are monarchical non-democracies, there are higher domestic audience costs present relative to other types of non-democracies such as personalist regimes. This case follows my expectations due to increased audience costs from being monarchies. Generally, airspace closures are foreign policy tools that are to inexpensive implement relative to war. Since they are an effective way to signal foreign policy preferences without resorting to war and while still being credible, leaders are more likely to keep their commitments and less likely to be punished by the domestic audience.

Closure due to Norm, Value, or Principle Violation

Many foreign policies are rooted in support for norms, values, or principles. If a state places a high importance on a norm, for example, they are likely to enact a foreign policy to make a public show of support for the norm. As discussed in chapter 2, Hypothesis 4 suggests that states are more inclined to close their airspace to a target when said target has violated a norm, value, or principle that the senders support. While in the case of Pakistan's closure to India where the principle of sovereignty and territorial integrity was violated, the airspace closure to Qatar was due to the alleged support for terrorist organizations, an international norm.[2] The

[2] The United Nations has codified legal instruments dealing with support for and financing of terrorism. See: 1997 International Convention for the Suppression of Terrorist Bombings, and 1999 International Convention for the Suppression of the Financing of Terrorism. For more information, see the UN Office of Counter-Terrorism website.

countries closing their airspace to Qatar were not happy with the diplomatic relations between Qatar and Iran and alleged that Qatar supported terrorist organizations. The sending states closed their airspace after a norm was violated.

Public statements support the idea that norms are important for foreign policy decision making. For the airspace closure to Qatar, the sending states have publicly stressed the norms that they support. For example, in 2017, Saudi Arabia's Foreign Minister Adel bin Ahmed Al-Jubeir made the Saudi stance on Qatar's alleged support for terrorism clear:

> This idea that you can fund extremist groups, that you can pay ransom to terrorist groups like Al-Qaeda and ISIS, that you can send $300 million to the Shi'ite militias in Iraq with most of it ending up with the Quds Force in Iran, is not acceptable […] You cannot fight against ISIS, you cannot commit to participate in the global center against extremism, you cannot commit to participate in a financial center to combat terror financing and at the same time allow these things to go on. (The Embassy of the Kingdom of Saudi Arabia 2017).

This statement emphasizes the tension between participation in international norms, such as committing to anti-extremism and anti-terrorism, yet at the same time provide funding to those groups of people. Similarly, the UAE's ambassador to the Netherlands, Hissa Abdullah al-Otaiba, offered an official statement about the closure, insisting:

> This was in response to Qatar's longstanding support for terrorist and extremist groups and its active steps to promote unrest in the region. […] This crisis will not be resolved in ICAO or in any other international organization. Relations will only improve when Qatar implements the Riyadh Agreements and is willing to demonstrate that it will play a constructive role in the region. (Khalid 2020)

This statement by al-Otaiba not only emphasizes the importance of the anti-terrorist and anti-extremist norms that it supports, but it also stresses the support for international cooperation with the mention of the Riyadh Agreements. Bahrain has also publicly stated that it was "media incitement, support for armed terrorist activities, and funding linked to Iranian groups to carry

out sabotage and spreading chaos in Bahrain" that led it to close its airspace (Dorsey 2017, para. 3).

Furthermore, Mohyeldin (2017) reports that the closures followed former President Trump's visit to Saudi Arabia, where he "called for Arab and Muslim unity to 'drive out' extremists and terrorists" (para. 1). With the tacit approval of the United States, who overtly denounces extremists and terrorists, the sanctioning countries were probably encouraged to use airspace closure as a public stance against terrorism and extremism because it is easy and cheap to implement. Leaders of the sending states in the airspace closure to Qatar publicly stated the reasons for the closure, all of which are rooted in support for specific norms. This supports my expectations that airspace closures are more likely to occur when a target has violated a norm that the sending state supports. This also is related to issue salience, discussed below.

Allies and Airspace Closure

Hypothesis 5 in chapter 2 posits that if a state's allies close their airspace, a state is more likely to do so as well. When more than one country closes its airspace to a target state, the costs are lessened for the sending states. As explained by Morgan and Palmer (2003), "[a]lliances allow states to do more: the alliance provides capability on which the state can draw, thereby providing greater opportunity to pursue both maintenance and change" (200). In other words, alliances provide support that each state can draw from in pursuit of its foreign policy goals. As a result, countries that are a part of alliances are more likely to pursue different policies that they might not have without an alliance, one of which being conflict initiation (Morgan & Palmer 2003). I anticipate that countries are more inclined to close their airspace when allies close their airspace. In the case of the airspace closure to Qatar, three of countries (Saudi Arabia, the UAE, and Bahrain) are all members of the Gulf Cooperation Council (GCC). Egypt, the fourth country

to close its airspace to Qatar, is a major trading partner with the members of the GCC. The sending states are allies that are connected via political and economic links who initiated the conflict with Qatar, which follows my expectations.

The Gulf Cooperation Council has had both successes and challenges since its establishment in 1981. The member states of the GCC are connected via shared cultural, historical, and social ties, and the organization builds off these shared factors to create policy coordination and strengthen relations. Although the GCC developed from political and security elements, it has been most successful with economic integration. The member states have achieved significant economic cooperation, including the establishment of a common market, customs union, and efforts to establish a monetary union (Baabood 2023). Furthermore, the GCC has also fostered cooperation among member states to address security threats in the Gulf region, including joint military exercises and intelligence sharing. One such example is in wake of the ousted president in Yemen, the other GCC member states (except Oman) and a few other nations joined forces to restore the government (Baabood 2023).

While members of the GCC have showed unity in dealing with foreign policy issues, there have been challenges between the member states regarding differing foreign policy preferences and desire for regional influence (Baabood 2023). Qatar has historically backed more Islamist-leaning groups. The UAE, Saudi Arabia, and Bahrain, for example, backed the opposite side from Qatar in the Libyan Civil War in 2011, which Fakhro (2021) notes contributed to the duration of the war (Nephew 2020). So, while the countries on the Arabian Peninsula have been linked via cultural, political, and economic ties, there have been instances where Qatar has been on the opposite side of foreign policy opinions in relation to its neighbors,

which explains the decision for multiple states to close their airspace to a state that acted in a way that was against the preferences of the other allies.

Issue Salience for Target and Sender

In chapter 2, Hypothesis 6 proposes that states are more inclined to close their airspace over highly salient issues than lower salient issues. Similarly, Hypothesis 7 proposes that states less inclined to change their behavior when issues are more salient. In both cases, this fits what I expected. Saudi Arabia, the largest and most influential member of the GCC, has had historical tensions with Iran. Shortly following the Iranian revolution, Ayatollah Khomeini, the revolutionary who took power after the removal of the Shah, announced that the monarchy in Saudi Arabia was un-Islamic (van den Berg 2017). Additionally, both Saudi Arabia and Iran vie for regional influence, both due to size, history, and religious affiliation (Litvak 2017).

There is also an existing territorial dispute between the two countries regarding oil fields and islands within the region (Litvak 2017). Furthermore, oil reserves have driven the two states into an economic competition over oil prices (Litvak 2017). These instances have resulted in a rivalry between the two nations and is perhaps one of the most salient issues for the GCC because of Qatar's ongoing diplomatic relations with Iran. Thus, this rivalry is at the core of the Qatar blockade, particularly because of Saudi Arabia's leadership in the GCC.

Regarding the second expectation, Gengler and Al-Khelaifi (2019) emphasize the role of the public in their support of the ruling Thani family in Qatar. The authors note that while other members of the GCC portrayed the ruling family as being sympathetic to Iran and accused the family of attempting to divide the support base, Qataris generally maintained their support of the ruling party (Gengler & Al-Khelaifi 2019). This popular support of a non-democracy could act as a measure that emboldened the target state to not comply for a longer period. For Qatar, the

issue of Iran and the charge that Qatar supported terrorist organizations also became a salient issue. It is important for Qatar to maintain diplomatic relations with Iran because of the shared South Pars/ North Dome gas field, which is the largest in the world. Furthermore, it has been important for Qatar to internationally maintain its assertion that it does not support terrorism or terrorist organizations.

Another factor that might contribute to Qatar's resistance to a change in behavior is that airspace access is a highly visible issue to the international community. Qatar, having filed a lawsuit against the sanctioning states, showed its support for ICAO principles surrounding airspace access and sovereignty. It filed a complaint with international governing bodies to protest what it deemed an unlawful airspace closure. This highlights the salience of airspace access to Qatar.

Level of Target's Participation in International Aviation

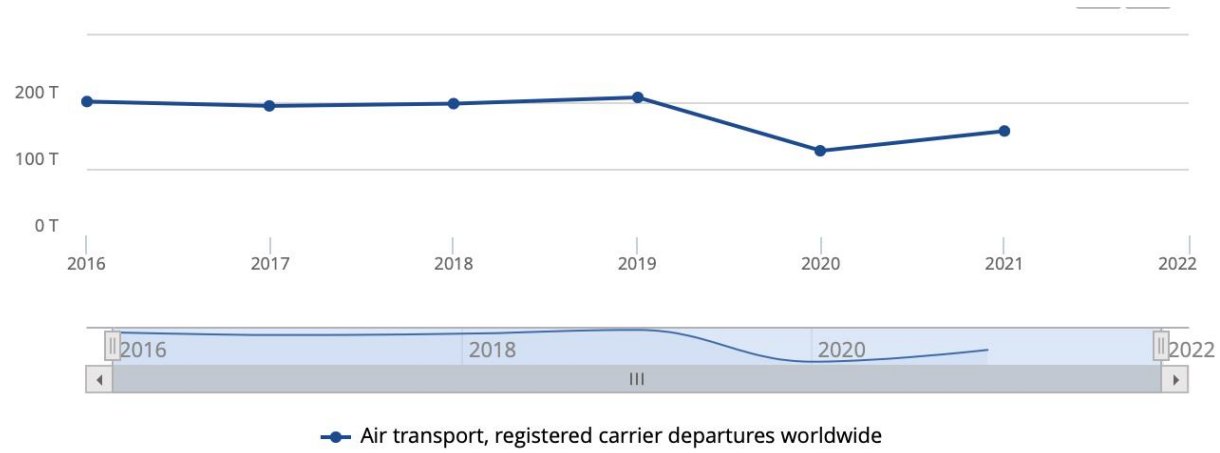
Following the logic of Hypothesis 7 in chapter 2, I theorize that states who participate more in international aviation are more inclined to change their behavior when confronted with an airspace closure because airspace closures are a way to increase the costs for the target to maintain its behavior. These costs are predominantly economic. In the case of this closure, Qatar was nearly isolated from the rest of the world by way of air travel, causing Qatar to incur significant operating costs due to the extended flight routes that avoided the closed airspaces. Furthermore, over the past few years Qatar has had an increasingly active role in international aviation, which has led to an increased amount of scheduled flights to and from Qatar. Additionally, Qatar has played an increasingly active role in international aviation due to the importance of Hamad International Airport in Doha as a hub of international travel, one of the busiest and highest ranked airports in the world, discussed earlier.

Despite the increased costs for Qatar, it did not change its behavior due to the airspace closure. Thus, this did not fit my initial expectation, which presumed Qatar may have changed is behavior because of the impact the closure had on Qatar's airline activities. This is likely because Qatar's vast wealth was able to reduce the economic costs incurred. Furthermore, as previously noted, the International Court of Justice ruled in favor of Qatar's case being heard by ICAO in the dispute between Qatar and the sending states ("Qatar Airways Threatens" 2020). Not only did this empower Qatar to remain steadfast in their resistance to the closure, but it signals to the sending state that the international community is in support of Qatar. The resistance to a change in behavior could also be due to Qatar's independent foreign policy approach in which it has retained diplomatic relations with other countries outside of the sanctioning four.

In the 2010s, Qatar began to increase its role in international aviation, particularly with its involvement in the International Civil Aviation Organization (ICAO) (Al-Malki 2019). In recent years, Qatar has sought to become part of ICAO's governing body and has been explicit about supporting the principles that ICAO supports, most notably regarding safety and security (Al-Malki 2019). In fact, Al-Malki (2019) also reports that Qatar has the highest score in the world for ICAO's safety audit.

As Figure 10 shows, there was not a substantial decrease in the registered carrier departures in Qatar worldwide during the time of the closure. From 2016 to 2018, the numbers remained largely the same. This is likely due to the vast amount of oil-related wealth in Qatar that allowed it to withstand any economic pressure imposed on it by the diplomatic crisis.

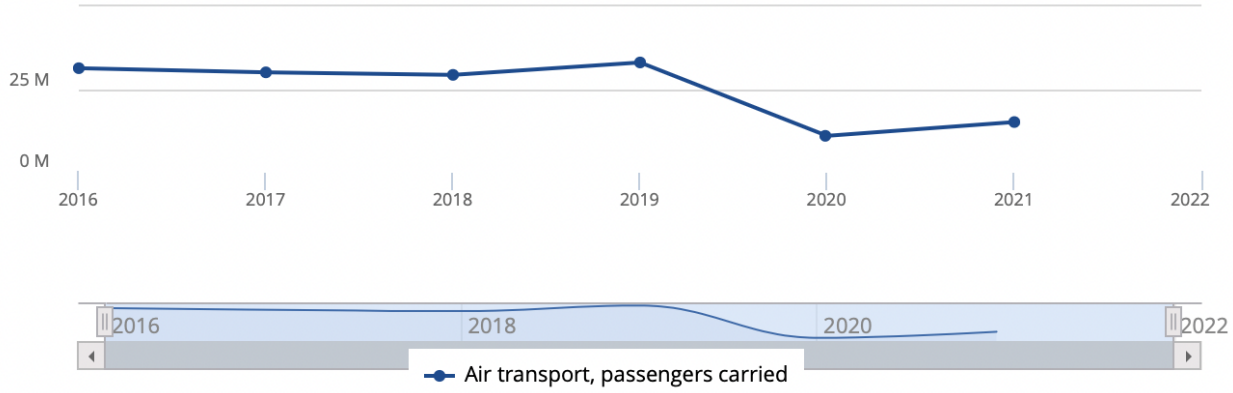
Figure 10. Qatar Registered Air Carrier Departures Worldwide



Source: World Bank, World Development Indicators (2024f)

In Figure 11, while there was a slight decline in the number of passengers carried between 2016 and 2018, the amount is minimal. This could be due to external factors outside of the airspace closure.

Figure 11. Qatar Air Transport, Passengers Carried



Source: World Bank, World Development Indicators (2024d)

Figures 10 and 11 show that despite being an active member in the aviation community in terms of pursuing a more active leadership role, the airspace closure did not affect the number of passengers carried nor the number of departures out of Qatar. The number of departures out of Qatar reflects the number of flights from year to year, and that was not impacted.

Furthermore, as part of Qatar's objection to the sanctions, it argued to the international community that the airspace closure went against both the International Air Services Transit Agreement and the Chicago Convention of 1944 and claimed that the air blockade was illegal ("United Nations Welcomes" 2021). This shows Qatar's commitment to upholding the regulations governing the international aviation community.

Despite incurring the costs of the closure, it's likely that both Qatar's wealth as a nation as well as follow commitments agreed upon alongside others in the international aviation community emboldened Qatar to not change its behavior when confronted with an airspace closure.

Unilateral Versus Multilateral Closures and Behavior Change

According to Hypothesis 8, described in chapter 2, target states are more inclined to change their behavior in response to an airspace closure when more than one country has closed their airspace to the target. Qatar was hit with a multilateral airspace closure that nearly isolated it, save for its existing relationship with Iran. Since the closure is coming from more than one state, multilateral airspace closures magnify the target's costs resulting from the closure. When faced with a multilateral airspace closure, Qatar still did not change its behavior because of the pressure placed on it. As previously noted, the incident essentially ended in a stalemate, in which neither side benefitted greater than the other. This does not fit my expectations because even though Qatar was isolated in the way it was, it was able to withstand the economic pressure placed on it by the sanctions.

To recap, despite this case being multilateral, the airspace closure to Qatar did not result in a change in behavior and therefore did not work. It could be that had the rest of the region joined the Arab Quartet in closing their airspace, the closure might have resulted in a change in

behavior. Regardless, although Qatar was isolated by the closure, its economic wealth provided a buffer for the costs incurred due to the vast economic reserves, which allowed Qatar to provide for its citizens. Additionally, the multilateral closure did not work because Qatar was able to adapt its import strategy. Nephew (2020) notes that Turkey backed Qatar and their relationship strengthened because of the closure, with Turkey pledging to provide aid to Qatar through the remaining trade corridor through Iran. In fact, the United Nations and international community in general, aside from those involved in sanctioning Qatar, was in support of reducing or removing sanctions ("United Nations Welcomes" 2021).

As previously noted, Qatar and the sanctioning states reached a stalemate that resulted in the opening of the airspace. This does not count as a change in behavior because while Qatar dropped the $5 billion lawsuit after the signing of the Al-Ula Declaration, it did not comply with any of the 13 demands set out by the sanctioning countries. Despite the inconvenient complication to airline routes through the multilateral airspace closure, the closure was not enough to substantially affect Qatar and change its behavior.

Closed Airspace Alongside Other Punitive Policies

Hypothesis 9, described in chapter 2, proposes that states are more inclined to change their behavior when the airspace closure is imposed in conjunction with other sanctioning policies. The airspace closure to Qatar was alongside other sanctioning policies, most notably closure of land and sea corridors (Siddel et al. 2021). Saudi Arabia, the UAE, Bahrain, and Egypt were the four countries that closed their airspace to Qatar, but countries also either cut or scaled back diplomatic ties with Qatar while keeping airspace access open (Nephew 2020).[3] As a

[3] Nephew (2020) notes that other countries including Yemen, Jordan, Maldives, Chad, Comoros, Djibouti, Niger, and Mauritania lessened or altogether cut off diplomatic relations with Qatar due to pressure placed on them by the four sending states.

response to the sanctions imposed on Qatar by the four sending states, there was pressure from the international community to lift the restrictions. The US, for example, was in support of lifting the airspace ban. This was in part due to Qatar's use of Iran's airspace following the closure, which was providing a source of revenue for Iran. More specifically, during the rift between Qatar and its neighbors, the "Trump administration [was] particularly concerned over so-called "overfly fees" that Qatar pays to Iran to use the airspace [… and …] is concerned airspace restrictions often force Qatari planes to fly over Iran" ("US pressing Saudi" 2020). In other words, the US, concerned that Iran was generating revenue from Qatar's flights through Iranian airspace, supported an end to the closure because "Washington was keen to deprive Tehran of the hundreds of millions of dollars in "overflight" fees the Qataris were paying" (Tadros 2021).

While I expected there to be other sanctioning policies in conjunction with the airspace closure, it did not result in a change in behavior. This is likely to be both due to Qatar's vast amount of wealth generated by its oil and gas reserves, which allowed Qatar to operate despite the sanctions, as well as the international community that supported an end to the crisis.

Closure Duration Influencing Behavior Change

As described in chapter 2, Hypothesis 10 suggests the longer an airspace is closed, the less likely a target state will change its behavior. The logic is that if a state can withstand the initial impact of the closure, then subsequent months or years give the target state time to work around the closure and as a result, the bearing of the closure becomes less impactful on the target state. Furthermore, duration of a closure interacts with the economic strength. In other words, the effect of duration is dependent on the level of economic strength. In the case of the airspace closure to Qatar, it is acknowledged that the duration of the sanctions on Qatar, which lasted 3 years, did not have an impact on Qatar's behavior because its economy was able to withstand the

initial impact. This could be due to vast amounts of oil wealth in Qatar, which allowed it to survive despite the closure. In addition to Qatar's wealth helping to buffer any economic impact from the closure, Qatar also developed new trade routes or increased existing ones and improved relations with other countries abroad. As explained by Wellesley (2019):

> In addition to investment in domestic food production, the blockade also provoked a rapid recalibration of Qatar's trade relationships. Allies in the region – most notably Turkey and Iran – were quick to come to Qatar's assistance, delivering fresh produce by air. Since then, Qatar has scaled up its trading relationship with both countries.

Trade routes are extremely important to Qatar, who imports 90% of its food, 40% of which came through Saudi Arabia prior to the closure (Wellesley 2019). Located in an area that is extremely difficult to grow food, as noted earlier, Qatar was not suited to be self-sufficient in terms of providing for its population. However, the closure forced Qatar to increase self-sufficiency. Currently, Qatar is self-sufficient in fresh poultry and dairy production, and grows nearly half of its vegetables (Ibrahim 2022).

Unyielding Resolve: Qatar's Defiance in the Face of Closed Airspace

The airspace closure for the sending states was key to the sanctions against Qatar. The cost of the airspace closure for the sending states was less than the benefit of signaling their dissatisfaction with Qatar's supposed support for terrorist organizations and its relationship with Iran. Furthermore, the perceived probability of success was high because the airspace closure nearly isolated Qatar. However, for Qatar, the cost of the closure in terms of higher travel costs and loss of access to airspace was not high enough to offset the benefit of supporting open access to airspace and sovereignty.

Qatar viewed the blockade as an unfair infringement on its sovereignty and independence. By filing a lawsuit against the sanctioning states, Qatar disputed the reasons

provided by the other Gulf states that alleged Qatar's support for terrorism. Since Qatar viewed these allegations as unfounded, it did not change its behavior. Furthermore, Qatar's leadership also garnered significant public support in response to the blockade. Domestic support bolstered the government's stance on the closure.

As this isn't the first time that the sending states had severed diplomatic relations to Qatar, denying Qatar access to airspace sent an important signal about the Arab Quartet's foreign policy preferences regarding Qatar's alleged support for terrorism. It was assumed to work because Qatar does not have an airspace of its own aside from the terminal area around Doha. The sending states thought this would pressure Qatar into changing its behavior, yet it did not result in the intended outcome, primarily due to Qatar's wealth and reliance on oil and gas. Despite the near isolation of Qatar via sea, land, and air due to its lack of airspace, the wealthy of the nation is a major reason it was able to withstand the sanctions. Since Qatar does not have an extensive trade network with other states on the Arabian Peninsula, any trade disruption did not place economic pressure on the country, despite being denied access to four countries' airspaces in the immediate vicinity. While there was an economic loss, it was not enough to cause a change in behavior. Had the economic circumstances been different, the outcome of the airspace closure might have been different.

Table 2 lists the hypotheses identified in chapter 2 and indicates whether there was support for each hypothesis. It is important to note that regarding the first research question, the hypotheses with the greatest support in the Arab Quartet's closure to Qatar dealt with lowered economic costs, lowered diplomatic costs, issue salience, norm/value/principle violation, and allies. The norm violation in this instance was the salient issue, and the closure in conjunction with ally behavior is due to the multilateral nature of the closure. Furthermore, regarding the

second research question, the hypothesis with the most support for influencing Qatar's behavior was the salient issue at the root of the crisis.

Table 2. Results of Hypotheses for Arab Quartet Closure to Qatar

What Factors Contribute to a State's Decision to Close its Airspace?	**Arab Quartet vs. Qatar**	**What Influences a Target State's Behavior?**	**Arab Quartet vs. Qatar**
H1 – States are more inclined to close airspace with lower economic costs.	Support	H7 – States are less inclined to change behavior when issue is higher in salience.	Support
H2 – States are more inclined to close airspace with lower diplomatic costs.	Support	H8 – States involved in international aviation more likely to change behavior.	No
H3 – States are more inclined to close airspace with higher domestic audience costs.	No	H9 – States are more inclined to change behavior with multilateral vs. unilateral closure.	No
H4 – States are more inclined to close airspace in response to norm/value/principle violation.	Support	H10 – States are more inclined to change behavior when closure is enacted with other punitive policies.	No
H5 – States are more inclined to close airspace when allies do.	Support	H11 – States are less inclined to change behavior the longer the airspace is closed.	No
H6 – States are more inclined to close airspace when issue is higher in salience.	Support		

CHAPTER FOUR

BORDER TENSION IN THE MAGHREB

In 2021, Algeria closed its airspace to Morocco, related to the territory dispute over Western Saraha that compromised the self-determination of the Sahrawi people. As a response to both Morocco's normalization of relations with Israel and what Algeria alleged were "provocations and hostile practices on the Moroccan side" of Western Sahara, Algeria shut its airspace, and it is still closed to this day ("Algeria Closes Airspace" 2021). So far, it is similar in duration to the Arab Quartet's closure to Qatar, lasting 3 years. However, Algeria's closure to Morocco is different in that it is a unilateral closure and to date it is still ongoing and has not resulted in a change in behavior.

Algeria's decision to close its airspace to Morocco is puzzling because unlike the Arab Quartet's closure to Qatar, it did not isolate Morocco and only affected 15 flights per week, which were primary flights between Morocco and Egypt, Turkey, and Tunisia (Ahmed et al. 2021). If the closure would not substantially impact Morocco, why did Algeria choose this foreign policy tool as a response to the provocations between the two countries?

Following the rational choice framework, I investigate the costs, benefits, and perceived probability of success of Algeria's airspace closure to Morocco to pinpoint the factors that contribute to Algeria's decision to close its airspace, as well as what has influenced Morocco to continue to maintain its behavior. The Algeria airspace closure is important to consider for a few reasons. First, like the Arab Quartet's closure to Qatar, Algeria's decision to close its airspace to

Morocco reflects the ongoing political tensions between the two countries, and it underscores the signal being sent by Morocco while serving as evidence of strained diplomatic relations stemming from historical disputes and territorial claims. The closure was purely to signal disapproval of Morocco's foreign policy actions and was enacted nearly a month after Algeria severed diplomatic relations with Morocco. This delay shows that airspace closure was not simply lumped in with the severing of diplomatic relations, but rather was a deliberate choice made by Algeria to send a signal to both Morocco and the rest of the international community.

Additionally, the airspace closure can have broader regional implications and could potentially contribute to instability or exacerbate existing conflicts within North Africa and the greater Arab world, as well as the diplomatic connections of both countries, for a few reasons. First, Algeria, which is a military dominated authoritarian regime that has historically supported Palestine, disproves of Morocco, a monarchic authoritarian regime, having diplomatic relations with Israel (Fakir 2023). The connection between Israel and Morocco threatens Algeria's quest for military supremacy due to the potential for Morocco to build its air defense (Fakir 2023). Similarly, Morocco's sovereignty and territorial claims in the disputed Western Sahara region, explained below, is bolstered by increasing international recognition and support. An airspace closure in this sense could tip support in the direction of Morocco, which could make relations deteriorate.

An airspace closure could also contribute to instability due to environmental concerns, particularly where Algeria and Morocco are situated because it experiences a high impact from climate change (Fakir 2023). Airspace closures complicate aid distribution and rescue missions. However, what's interesting about this case is that Algeria opened its airspace to Morocco for medical flights and humanitarian aid only following the recent 6.8 magnitude earthquake on

September 8th, 2023. This illustrates the use of airspace as a foreign policy tool for the sole means of signaling a foreign policy preference, because despite the dispute, Algeria was willing to facilitate necessary medical assistance to Morocco in its time of need while keeping its airspace closed for commercial flights. Although disruptions to medical assistance and aid were not the case with Morocco's recent earthquake, that does not preclude airspace closure from impacting other natural disasters in the future.

A study on Algeria's airspace closure to Morocco helps us to understand what factors contribute to airspace closures, and what effects their outcome. As with the other case studies, this case study highlights the importance of the signal being sent by the sender to both the target and the international community about their policy preference, as well as the resolve of the sender. Furthermore, it investigates Morocco's signal that is a response identifying its unwillingness to change its behavior, as this case is still ongoing.

Amirah-Fernandez (2023) points out that between Algeria and Morocco, "tension, not conflict, has become the norm, arguing that the cost of military conflict – both for the regimes in place and for societies at large – continue to make hostilities unlikely, even on a reduced scale" (para. 16). Since airspace closures are foreign policy tools that can effectively signal policy preferences, they are attractive foreign policy options because they are not as costly as engaging in military conflict.

A Fractious History

This section charts the environment in which Algeria and Morocco's relationship was situated during the time of the airspace closure. It is important to note the key issues at the center of the conflict that exacerbated the contentious relationship, which help shed light on the discussion of hypotheses later in this chapter. Algeria and Morocco are two non-democracies in northwest

Africa, known as the Maghreb, that have had volatile relations since their respective independence in 1956 and 1962 (Ouhemmou 2023). Morocco occupies the northwest corner of Africa, with Algeria comprising most of Morocco's land border to the east and southeast, roughly 900 miles (see Figure 1). Both countries are Muslim nations and have a shared history through their French colonization. They have relatively similar economic strength (with Algeria being slightly more powerful due to its natural resources) and are both members of various organizations that seek to promote regional integration between member states.

In the decades following Algeria's and Morocco's independence from France, there have been several conflicts between the nations. In 1963 following Algeria's independence, the Sand War occurred because of a territory dispute in which Morocco claimed the Tindouf and Béchar regions (Pavia et al. 2022). The two countries signed a two-phase pact in 1969 and 1972 that marked the end of the dispute. However, Morocco subsequently severed diplomatic ties in 1976 because of the formation of the Polisario Front (explained below), an organization whose goal is to promote and establish Western Sahara's independence (Pavia et al. 2022). In 1988, relations between Morocco and Algeria began to normalize. However, a few years later in 1994, Algeria closed its land border after Morocco accused Algeria of being behind a hotel bombing in Marrakesh (Rachidi 2022). In 2005, relations between Morocco and Algeria started to relax again. However, the land border remained closed.

The relationship between Algeria and Morocco must be understood in relation to both past and current events at the local, regional, and international levels. I will begin by explaining how Algeria's support the Sahrawi people, as well as Morocco's support for the Kabyle population, have contributed to the contention between the two states. I will also explain how

these local struggles contribute to regional disputes. Finally, I will outline international factors that have impacted the current conflict between Algeria and Morocco.

Most of the contention between Algeria and Morocco is rooted in two groups of people, the Sahrawi people in Western Sahara, and the Kabyle population located in Algeria. Algeria has historically supported the self-determination of the Sahrawi people, who are represented by a group called the Polisario Front. The Polisario's main goal is independence from Morocco, yet Morocco has claimed sovereignty over the entire region that the Sahrawi people inhabit (Pavia et al. 2022). Algeria's support for the Polisario in its attempt to gain independence from Morocco would diminish Morocco's territorial control as well as its general influence in the region.

The Polisario Front is recognized by the United Nations as the legitimate representation of the Sahrawi people (Pavia et al. 2022). The Sahrawi have been displaced since an armed conflict occurred between Polisario Front, a Sahrawi rebel group that seeks independence for Western Sahara, and Morocco between 1975 and 1991 (Akrimi 2021). Displacement of the Sahrawi people have led estimates of between 90,000 and 165,000 Sahrawi refugees on the 'hamada,' which is an uninhabitable part of the Algerian desert known for its extreme weather (Akrimi 2021). In 1973, the anti-colonial Polisario Front was formed to fight for the liberation and independence of Western Sahara (Farah 2010). After the International Court of Justice denied Morocco and Mauritania's claims over Western Sahara, both of whom were occupying parts of the territory, Mauritania eventually pulled out and established a peace treaty with the Polisario (Farah 2010). This prompted Morocco to grab for the now uncontrolled parts of Western Sahara, which culminated with Morocco controlling two thirds of Western Sahara and the Polisario controlling the other third (Farah 2010). There has been a lingering struggle between the Polisario and Morocco, with protests intensifying since May 2005.

Algeria has always maintained support for the Polisario while Morocco lays territorial claim to the Western Sahara territory that the Sahrawi people occupy. This is one key factor in the contentious relationship between Morocco and Algeria. Algeria's support continues to sustain the Polisario. Furthermore, as Farah (2010) notes, this support from Algeria has prompted the "establishment of self-determination as a marker of collective identity" (65). The self-determination identity of the Sahrawi people has become one that is separate and distinct, which demands Sahrawi input and participation in the creation of its own statehood. Morocco's violation of the Sahrawi peoples' self-determination, one of the key principles that Algeria supports, is one of the factors contributing to the decision for Algeria to close its airspace, explained below.

While Algeria continues to support the Sahrawi people, Morocco purportedly supports another stateless nation of people occupying territory in Algeria, the Kabyle population. This group of people within Algeria's territory is noticeably distinct from the rest of Algeria in terms of culture and shared history. Unlike Algeria, they speak a dialect of one of the Amazigh languages (Roberts 1982). Adding to the perceived separateness from Algeria via language and culture, there is a mountain between the part of Algeria that the Kabyle occupy and the rest of Algeria.

Since 2019, the Algerian government has internally confronted a wave of anti-government demonstrations known as the Hirak Movement, occurring predominantly in the Kabylia region but having also extended into other parts of the country (Ouaissa & Naceur 2021). These demonstrations have been countered with repression tactics by the Algerian government (Ouaissa & Naceur 2021). While this is occurring within the borders of Algeria, the Algerian government claims that Morocco supports the Movement for the Self-Determination of

Kabylia. This accusation was rooted in the open support coming from Morocco's United Nations Ambassador, which came as a response to Algeria's support for the Polisario.

These local struggles involving the Kabyle and Sahrawi groups contribute to the contention between Algeria and Morocco in their attempt to amass more power within the region. At the same time, regional dynamics have shaped the relationship between the two countries. Morocco has sought to expand its diplomatic network in an effort to emphasize its sovereignty over Western Sahara, which has resulted in fifteen African countries opening consulates in the contested area and others, like Bahrain and the UAE, following suit (Tanchum 2021). Regionally, the consulates represent a general acceptance of Morocco's territorial control over Western Sahara, which effectively increases Morocco's regional power. This all culminated with the US' recognition of Morocco's autonomy that occurred in exchange for Morocco normalizing relations with Israel (Rachidi 2022). Not only was Morocco's sovereignty over Western Sahara acknowledged by other states in the region, but also powerful countries like the United States.

To make things worse, while the tensions between Morocco and Algeria were escalating, the COVID-19 pandemic occurred. Algeria was severely impacted by the pandemic because of lack of adequate care in the hospitals for those affected by the virus (Tanchum 2021). Furthermore, the pandemic magnified issues for Algeria, which lacks a diverse export portfolio. Oil and gas exports comprise about 93% of Algeria's exports (Tanchum 2021). As Morocco was not as affected by COVID-19, the government's reaction was swift, and the pandemic did not have as bad of an impact.

The regional and international acceptance of Morocco's control over Western Sahara contributed to Algeria's feeling of diminished security. As more countries recognized Morocco's

role in Western Sahara, Algeria's oppositional platform diminished. When Morocco built military barracks close to Algeria's border, Algeria treated this as an escalatory move and promised to build bases in response (Tanchum 2021). This move was a symbol in support of autonomy, which Algeria places a high priority on. At the same time as Morocco reported the new barracks, the Polisario Front ended its ceasefire in 2020, which brought about overt confrontations between the Polisario and Moroccan forces (Tanchum 2021). In 2021, there was heightened disagreement between Morocco and Algeria concerning Morocco's alleged escalatory language about the Kabyle population in northern Algeria, which Algeria claimed was supporting and inspiring separatist movements (Africa Defense Forum 2023).

With Morocco's provocation and escalation of the situation between both Algeria and the Polisario, Algeria was left with two options. On the one hand, more support for Polisario Front means ostracizing European partners and requiring deeper diplomatic relations with other countries like Turkey and Russia. On the other, not increasing support for Polisario Front means Morocco will gain greater control over Western Sahara. The tensions came to a head with Algeria's severing of diplomatic relations on August 21st, 2021, and, a month later, a full airspace closure.

Denying Overflights to Morocco

On September 22nd, 2021, a full month after the severing of diplomatic relations, Algeria enacted a complete airspace closure to all aircraft registered to Morocco (Akrimi 2021; Pavia et al. 2022). The airspace closure is still ongoing, aside from Algeria temporarily opening its airspace in September 2023 to aid in earthquake relief following the earthquakes in Morocco (Chikhi & Amara 2021). Ramtane Lamamra, Foreign Minister of Algeria, publicly emphasized that the airspace closure was "a civilized way of putting an end to a situation that could not last anymore

without running the risk of costing more casualties and taking the two countries into a path that would not be desirable" (Deutsche Welle 2021).

The escalation of conflict and subsequent airspace closure came because of shifting power dynamics between Algeria and Morocco and other members of the international community. In 2020, the diplomatic relationship between Morocco and Israel had begun to improve. This was a move to secure the United States' recognition of Morocco's control over western Sahara, much to the chagrin of Algeria (Al-Fawiris 2022). Subsequently, a power shift occurred alongside former US President Donald Trump public recognition of Morocco's sovereign control over Western Sahara, effectively placing the United States behind Morocco.

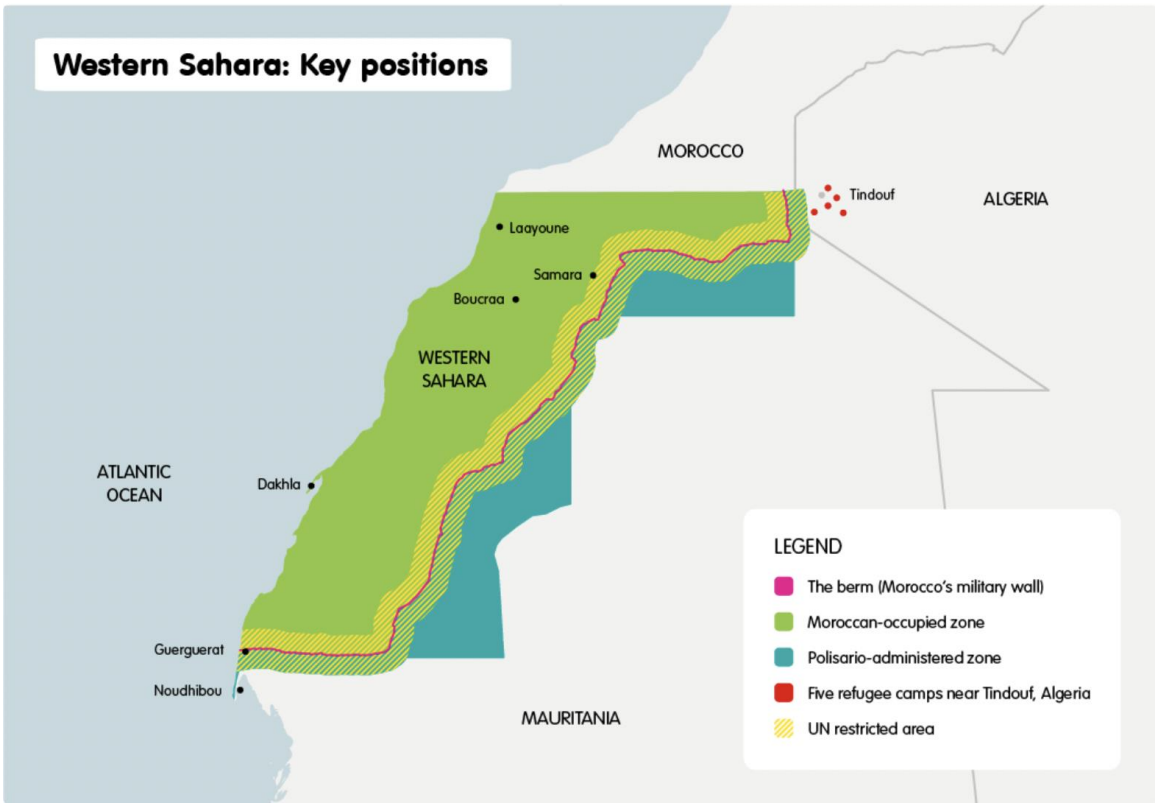
Since the airspace closure came separately a month after the severing of diplomatic relations between Algeria and Morocco, it was a decisive move by Algeria. In response to the closure, an anonymous source for the Royal Air Maroc explained that the impact of the closure would be insignificant due to the opportunity for flights to reroute through the Mediterranean (MENA Affairs 2021). Figure 12 shows the geographical relationship between Algeria and Morocco. As is evident, the closure did not fully isolate Morocco, as in the case with the Arab Quartet's closure to Qatar.

Figure 12. Map of Algeria and Morocco

Source: The Economist 2021

The airspace closure was used by Algeria as a foreign policy response to Morocco's diplomatic initiatives, which was seen by Algeria as undermining the Western Saharan cause. Algeria has been an unwavering supporter of the Polisario Front. This dispute about who rightfully controls Western Sahara caused the relations between Morocco and Algeria to worsen after the Polisario Front declared war against Morocco after a 30-year ceasefire, claiming Moroccan forces breached the ceasefire (Pavia et al. 2022). Figure 13 shows a map of the disputed Western Sahara territory. Resulting from the dispute, and as previously noted, the airspace is still closed, save for the opening of airspace for medical aid flights following the 2023 earthquake that hit Morocco.

Figure 13. Disputed Territory of Western Sahara, Including Key Positions



Source: Dworkin 2022

Economic Costs of Closure

As noted in Chapter 2, Hypothesis 1 states that countries with low economic costs associated with airspace closures tend to close their airspace than those facing higher costs in times of crisis. As previously noted, this is because states with a stronger economy are less likely to be sensitive to the economic impact of the closures. In the case of Algeria's closure to Morocco, this case does support my hypothesis because airspace closure is a foreign policy tool that is easy to implement and less costly relative to war, and the economic impact for Algeria is minimal because it only affects 15 flights weekly. In terms of overflight fees, which are costs gathered by a country when aircraft registered to other countries transition through their airspace, 15 flights per week does not generate a significant source of revenue. This is explained further

below. States that are more financially affected by airspace closures, then, would be less likely to use airspace as a foreign policy tool if the airspace closures have a substantial economic impact.

Algeria and Morocco have relatively comparable GDPs, with Algeria's at $195 billion (US$) and Morocco's at $140 billion (US$) (World Bank, World Development Indicators 2024c). Trade relations between the two are also very low. Algerian exports to Morocco "include only a few items whose total value does not exceed $200 million" which includes dates, ammonia, glass, and carob and Moroccan exports to Algeria are around $150 million, including iron, clothing, and derivatives of phosphate ("Algeria Closes" 2021).

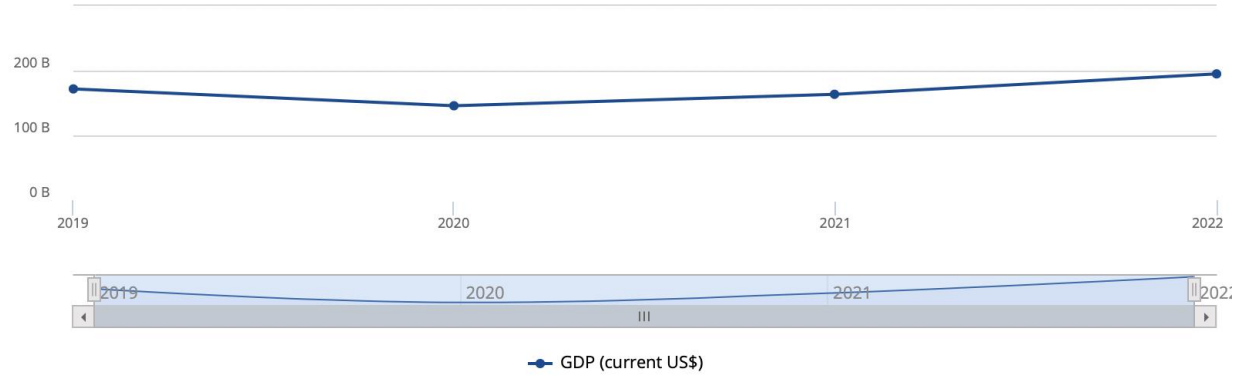
Moroccan airlines did face increased operating costs due to slightly longer flight routes and delays. However, the closure affected only 15 Moroccan flights daily and the reroutes were easy over the Mediterranean Sea (Ahmed et al. 2021). These flights transitioning through Algeria's airspace does not generate a large amount of overflight fees. Three countries in northern Africa (Algeria, Morocco, and Egypt) calculate overflight fees through a formula.[1] Per the example given by Irie (2020), a Boeing 737 that weighs 70 tons traveling 100 nautical miles through Algeria's airspace (where R=36.15) would be charged $70.58 USD. Given that the airspace closure impacted only 15 flights weekly and assuming other aircraft traveling through are going roughly the same distance with a similar MTOW, Algeria would be gathering only $1058.70 USD weekly.

Building from the minimal loss of overflight fees, Figure 14 shows Algeria's GDP at the time of the closure. As is evident in the yearly data, Algeria's GDP grew slightly from 2021 to 2022. This is an indication that there was no substantial economic effect on Algeria's GDP from

[1] The formula is C = R x ((D-20)/100) x (MTOW/50)1/2, where C is the overflight cost, R is a set value that varies between the three states, D is the distance traveled through the airspace, and MTOW is maximum takeoff weight of the aircraft being charged.

the closure. Algeria has a large quantity of natural resources that they can draw revenue. Like the Gulf States, it could be that Algeria has enough wealth that any economic impact from the closure would have been offset by existing wealth (Ouhemmou 2023).

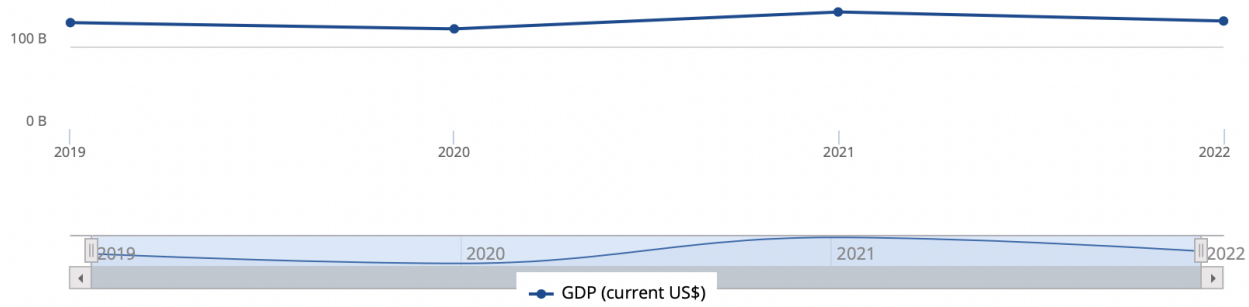
Figure 14. Algeria's GDP (Current USD)



Source: World Bank, World Development Indicators (2024c)

Similarly, Figure 15 shows Morocco's GDP at the time of the closure. The graph shows a decline from 2021 to 2022. However, this could be due to other reasons aside from the closure, given the low connectivity between Morocco and Algeria in terms of both trade and flight paths. Furthermore, the World Integrated Trade Solution (WITS) most recent data shows that Algeria received only .57% of its total imports from Morocco and exported 1.28% of its total exports to Morocco (2023). This indicates that both countries are not substantial trading partners for each other, and therefore do not have a substantial economic connection via trade.

Figure 15. Morocco's GDP (Current USD)

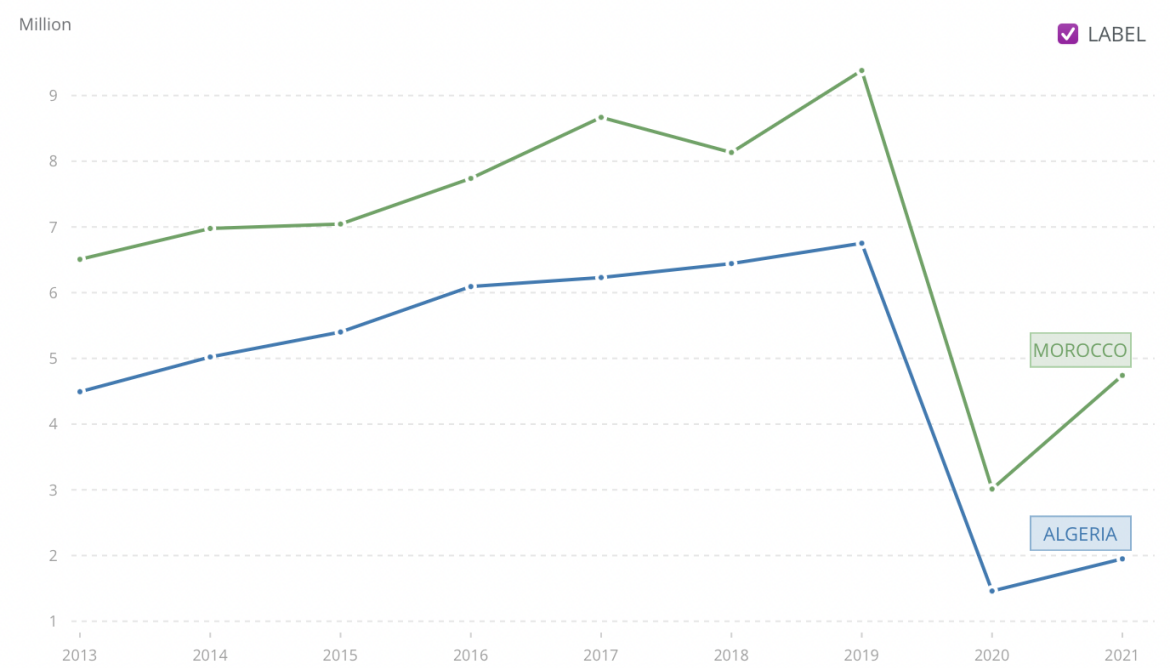


Source: World Bank, World Development Indicators (2024c)

Global ranking in aviation is also a good way to measure the health of the aviation sector, which has economic implications. Algeria's aviation global ranking remained relatively the same when comparing 2019 and 2022, according to International Air Transport Association (Quarterly Air Transport Chartbook 2023). This is important to note because if an airspace closure had a substantial impact on the aviation sector, this would be reflected in the global ranking. However, Algeria's global ranking in 2019 was 68th, while 2022's ranking was 71st. The ranking in 2019 was prior to the Covid-19 pandemic, and since the airspace closure occurred at the end of 2021, Algeria's global connectivity score bounced back after both the pandemic and the airspace closure (Quarterly Air Transport Chartbook 2023). This could mean that the airspace closure had no serious impact on the aviation industry in 2021.

Figure 16 shows the trends in the number of passengers carried in both Algeria and Morocco, which is one indication of the strength of the aviation sector in both countries. As the graph shows, both Morocco and Algeria were impacted by the Covid-19 pandemic from 2019 to 2020, as there is a large downturn in the number of passengers carried. Both Algeria and Morocco experienced an increase in passengers in 2021. Despite Algeria's airspace closure, both countries' aviation sectors were bouncing back from the pandemic, and the airspace closure did not have enough of an impact to severely hinder the recovery of the aviation sectors.

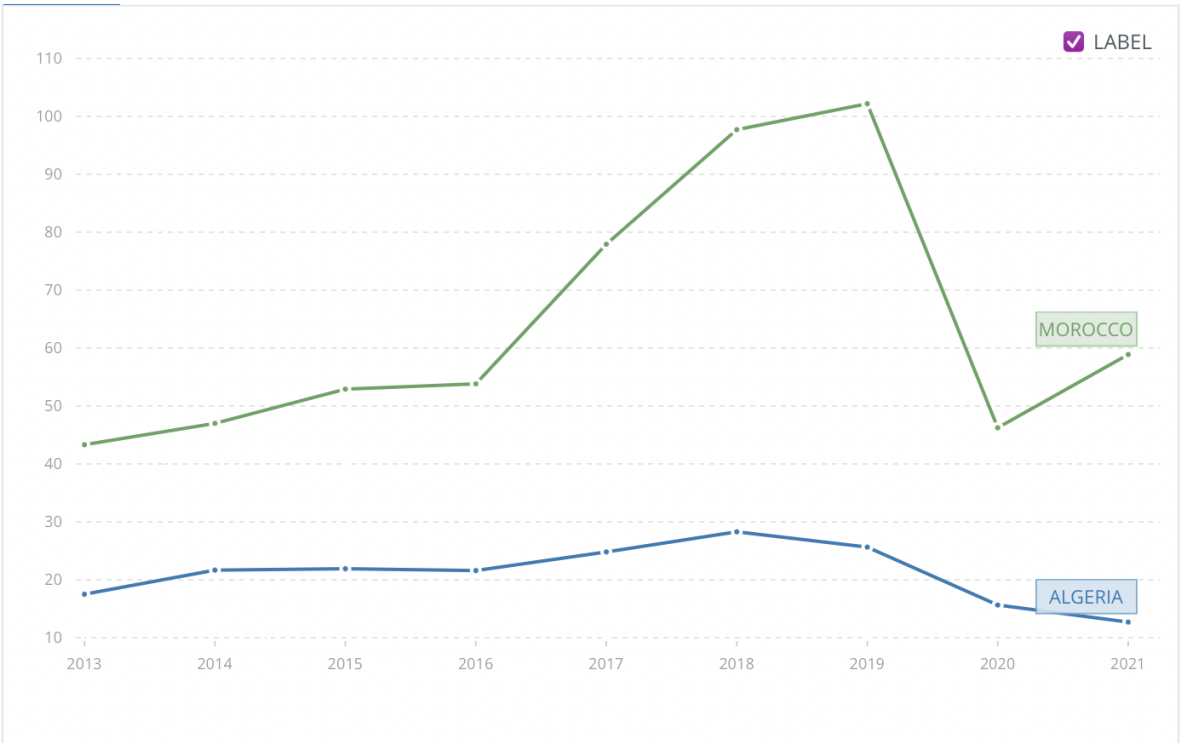
Figure 20. Air Transport, Passengers Carried (millions), Algeria and Morocco



Source: World Bank, World Development Indicators (2024b)

Figure 17 shows the trends in the amount of freight carried by aircraft. The graph shows a downturn in both Morocco's and Algeria's freight transport due to the pandemic from 2019 to 2020. Morocco's freight transport experienced a rise from 2020 to 2021, while Algeria's continued to decline. Since Morocco is not a significant trading partner for Algeria, this is likely due to other factors not related to relations between the two countries.

Figure 17. Air Transport, Freight (million ton-km), Algeria and Morocco



Source: World Bank, World Development Indicators (2024a)

I expected that states facing lower economic costs associated with airspace closures are more inclined to close their airspace than those facing higher economic costs. In this case, this fits my expectations. Due to the already volatile relations between Algeria and Morocco as well as the fact that they are not significant trading partners, this case fits my expectation. The above information is all to emphasize the minimal economic impact that the closure had for Algeria. The cost of the airspace closure in this case is minimal for Algeria, and therefore increases Algeria's ability to withstand the economic effects of the closure. With the cost being low for Algeria, the perceived benefit of success from the closure outweighs the costs.

Associated Diplomatic Cost of Closure

Hypothesis 2 in chapter 2 indicates that states facing lower diplomatic costs of airspace closures are more to close their airspace than those with higher diplomatic costs. This closure is

not surprising because of the lack of a diplomatic relationship between Algeria and Morocco, and although Algeria has diverse diplomatic relations, it has historically grown closer to Russia and China while Morocco aligns itself more with Western nations (ADF 2023). As previously acknowledged, diplomatic costs are closely related with the reputation of the sending state. Diplomatic relationships rely on the expectation that states will act in a predictable way because the benefits of compliance outweigh the costs. Therefore, the fact that Algeria has overtly aligned itself with Russia and China in addition to the West could contribute to its lowered diplomatic costs, as having diverse diplomatic relations could imply the "possibility of opportunistic defection" (Brewster 2009, 237).

The lowered reputation of Algeria is noticeable in Russia's recent invasion of Ukraine. Algeria failed to condemn Russia's invasion of Ukraine, despite historically supporting state sovereignty (Farrand 2022). Farrand (2022) explains that this is due to Algeria's drive to develop relationships with a diverse group of countries, including the West, Russia, and China. However, in this ongoing conflict between Algeria and Morocco, Algeria is supporting the Polisario Front and the Sahrawi people that the Front represents. As previously mentioned, the Front is formally recognized by the West as the official representation of the Sahrawi people. However, former President Donald Trump's assertion of Morocco's sovereignty claims over Western Sahara seemingly put the United States behind Morocco in the ongoing conflict. Shortly after, Algeria participated in military exercises alongside Russia in South Ossetia (Dworkin 2022).

Despite deepening its relationship with Russia, however, Algeria still has extensive relations with other countries that are also connected with Morocco, which is described as a "robust position in relation to Morocco […] with a more pragmatic approach with other partners, while always preserving a degree of autonomy" (Dworkin 2022). On the one hand, in relation to

Morocco, Algeria has very specific policy preferences that are the result of territorial disputes and historical legacies. On the other, Algeria seeks to maintain sensible trade and diplomatic relations with other countries. This includes the European Union, who comprises nearly 46.7% of Algeria's exports (Dworkin 2022). However, all these diplomatic relationships must be seen alongside Algeria's commitment to autonomy in both its foreign policy decision making as well as its commitments abroad.

It was my expectation that states with lower diplomatic costs are more inclined to close their airspace to another country in times of crisis than states with higher diplomatic costs. In this case, Algeria has developed a reputation of potential defection because it has close relations with both the West, and Russia and China, which fits my expectation because Algeria's diplomatic costs are lower.

Domestic Audience Costs of Closure

My expectation, described in Hypothesis 3 within chapter 2, is that states with higher audience costs are more inclined to close their airspace in times of crisis than those facing lower domestic audience costs. This is because airspace closures are less costly and easier to implement than war or militarized conflict, yet the closures still reveal policy preferences. Backing down from a closure is less costly than backing down from threats of military action. What we see in the case of Algeria's closure to Morocco is that despite regime type being an important predictor of domestic audience costs, explained below, Algeria is a non-democracy and still resorted to an airspace closure as a foreign policy tool, choosing to enact it a full month after the severing of diplomatic ties with Morocco.

As regime type is an important predictor of domestic audience costs, as previously noted, both Morocco and Algeria seemingly have lower audience costs since both are non-democracies

and thus political leaders are not dependent on voters to stay in office. However, there are micro-level costs that are present because of the closure. Morocco and Algeria share a long border. Both Moroccans and Algerians prefer improved relations between the states. Reuters reports that "[m]any Algerians voiced solidarity with Morocco on social media, some saying they hoped the bad political ties would not get in the way of helping their neighbour [sic]" referring to them as "brothers and neighbors" (Chikhi & Amara 2021, para. 8) Airspace closures, and volatile relations in general, make it more difficult for Algerians to see their family and friends in Morocco and vice versa ("Algeria Closes" 2021).

In contrast to the democracy-democracy dyad in Pakistan's airspace closure to India, which will be discussed in the next chapter, the audience costs that result from the domestic audience in Algeria are low for a few reasons, stemming from the fact that it is an authoritarian regime (Fearon 1994; Tomz 2007; Crisman-Cox & Gibilisco 2018). The rationale behind lower audience costs and authoritarian regimes is that without elections, citizens' political preferences are not always represented. Furthermore, Maboudi (2018) notes that while checks and balances on decision makers are assumed to matter more in democratic regimes, there are times when checks and balances also constrain decision makers in non-democratic regimes. Analyzing the constitution in Algeria among other North African nations, the author finds that despite revisions to the Algerian constitution, it:

> did not make any changes in the head-of-state's absolute power over foreign policy issues, confirming the statistical findings that authoritarian constitutions empower the executive with more foreign policy powers than democratic constitutions. (Maboudi 2018, 11)

As a non-democracy with a constitution that gives the executive more decision-making power enact its preferred foreign policies, the domestic audience costs are lowered. While this is not the

same across all non-democratic regimes, Algeria's constitution strengthens executive authority over foreign policy issues (Maboudi 2018).

Even if there were more checks and balances on Algeria's executive branch regarding foreign policy decision making, Dworkin (2022) notes that the domestic audience and the government tend to diverge in terms of their policy preferences. While Algeria's government has historically taken an anti-Moroccan stance that stems from an attempt to build pro-Algeria nationalist sentiments, distrust of the government and economic concerns make the anti-Moroccan message less effective (Dworkin 2022). The disconnect between the governing officials in Algeria with the domestic audience also contributes to low domestic audience costs.

My initial expectation was that states with higher domestic audience costs are more inclined to close their airspace in times of crisis. In this case, Algeria is a non-democracy that still chose to close its airspace. It could be that since airspace closures are inexpensive and easy to implement rather than resorting to military force, yet they still signal policy preferences. Therefore, it was a more appealing foreign policy action to make a credible statement or signal to Morocco.

Closure due to Norm, Value, or Principle Violation

I expect that states will be more likely to close their airspace to a target state in times of crisis when a state violates a norm, value, or principle that the sending state supports, which is indicated by Hypothesis 4 in chapter 2. Algeria has publicly and consistency emphasized the importance of autonomy, which is a principle that is rooted in many of its foreign policy decisions. As a result, where governing officials see violation of autonomy through threats to territorial integrity, they are likely to make foreign policy decisions that symbolically show their commitment to the principle. As noted previously, Algerian officials publicly acknowledged that

the airspace closure was due to continued provocations that largely stemmed from sovereignty and autonomy concerns. Morocco's claim to the territory that the Sahrawi people occupy is in direct violation of the principles that Algeria has historically been committed to (Farrand 2022; Ahmed et al. 2021). The symbolic meaning of the closure is evident with the Algeria's connections to other states. Not wanting to escalate the crises to include military actions and potentially tip the international scales further in favor of Morocco, the closure was a symbolic reaction to the violation used to signal its foreign policy preferences.

This case fits my expectation because of the centrality of autonomy to the crisis. Algeria has consistently supported the self-determination of the Sahrawi people in the Kabylia region. Morocco, on the other hand, supports the Movement for the Self-Determination of Kabylia (MAK), a group that Algeria deems a terrorist organization, is blamed for wildfires that resulted in the death of 65 people in the Kabylia region (Ahmed et al. 2021). Algeria alleges that this group is supported by Morocco ("Algeria Closes" 2021). In terms of Algeria's support for sovereignty, former President Trump's acknowledgement of Morocco's sovereignty over Western Sahara was a huge blow to Algeria's support for the principle.

Allies and Airspace Closure

Hypothesis 5 proposes that countries are more inclined to close their airspace in times of crisis when allies close their airspace, identified in chapter 2. In this instance, Algeria unilaterally closed its airspace to Morocco. There were no allies of Algeria that closed their airspace. However, what is interesting is that a few key countries that Algeria is linked to in terms of political and economic ties have spoken out in favor of Morocco, which challenges this hypothesis. The United States, as previously noted, recognized Morocco's sovereignty over Western Sahara. In addition to the United States, Spain also sided with Morocco in the Western

Sahara dispute, which ended a 20-year diplomatic relationship between Algeria and Spain (Al-Fawiris 2022). Similarly, Germany acknowledged Morocco's role in Western Sahara, which was largely to improve relations with Morocco (Al-Fawiris 2022).

There have been various efforts to integrate states in the region that both Algeria and Morocco are a part of. The first one, the Arab League, was founded in 1945 to foster peace and coordination between the 22 Arab nations that are members, which include Morocco and Algeria. The two nations are also involved in the Arab Maghreb Union (AMU), founded in 1989 to facilitate greater regional integration and policy coordination between Algeria, Morocco, Libya, Mauritania, and Tunisia (United Nations Economic Commission for Africa 2023). Both countries are also members of the Greater Arab Free Trade Area (GAFTA) formed in 1997, the purpose of which being to remove tariffs between the member states. These efforts at regional integration will be discussed in more detail later.

However, while there has been integration between the states, such efforts have failed to yield lasting productive policy coordination. For example, Amirah-Fernandez (2023) describes the Arab Maghreb Union as "long-dormant," explaining that "the idea of advancing regional integration in the Maghreb seems completely obsolete and out of touch with reality" despite it being of utmost importance today. They are connected via several free trade agreements that, alongside the Arab Maghreb Union, attempt to increase economic integration in the region (Kireyev et al. 2018). However, many of these attempts at policy coordination between states in the region have resulted in shallow integration that is largely due to disparities between the states, particularly Morocco and Algeria.

The shallow integration particularly between Algeria and other states in the region is one symptom of Algeria's tendency to act more autonomously regarding foreign policy issues, and

the unilateral airspace closure to Morocco is a result of that. No other state connected with Algeria closed its airspace, and as explained earlier, many other states have in some way established support for Morocco's claims for autonomy in Western Sahara. Perhaps if any of Algeria's allies had closed their airspace, it would have another factor solidifying Algeria's decision to close its airspace. However, the lack of well-established economic and political ties particularly with other countries in the region explains Algeria's tendency to act autonomously on foreign policy issues.

Issue Salience for Target and Sender

In chapter 2, I outline two hypotheses that deal with issue salience. Hypothesis 6 proposes that senders of airspace closure are more inclined to close their airspace with higher salient issues, and Hypothesis 7 the target of airspace closures is less likely to change their behavior with higher salient issues. In the case of Algeria's closure to Morocco, the disputed Kabylia region is a highly salient issue for both countries. On the one hand, Algeria supports the independence of the Sahrawi people, and therefore disagrees with Morocco's claim to the territory. On the other hand, Moroccan officials have emphasized that "Moroccan sovereignty over Western Sahara would never be subject to negotiation, describing it as a 'truth as perennial as it is immutable'" (Dworkin 2022). Morocco has had ongoing tensions with the Polisario Front due to its claim of the territory. Algeria's airspace closure, and Morocco's resistance to the airspace closure, both follow my expectations.

Even in describing the airspace closure, there is an emphasis on it as a symbolic move. For example, one news source described that the "decision [to close the airspace], even though a significant symbolic move, will not affect many flights" (Peoples Dispatch 2021). Others note the salience of self-determination in explaining Algeria's behavior, claiming that the

"steadfastness of Algeria [toward Morocco] was equally, if not further explained by Algeria's support for the principle of self-determination, which had long been the mainstay of its foreign policy, dating back to its own struggle for independence" (Willis 2023, 365). Despite it being known that the closure only affected a minimal number of flights, there was still an emphasis on the closure as a symbol, and how this symbol points to issue salience because Algeria still closed its airspace to Morocco despite it not having much of an impact.

The tension between Algeria and Morocco regarding the self-determination of the Sahrawi people fits into the bigger territorial dispute over the Kabylia region, which has been a longtime salient issue between the two countries. The Sahrawi people are faced with a health crisis while residing in the refugee camps. Since the area that they reside in is desert, they rely on foreign aid. This has resulted in malnutrition, diseases, growth deficiencies (Akrimi 2021). Furthermore, those that are living in the Moroccan-controlled part of the territory are separated from family and have lost traditional culture (Akrimi 2021). Despite the impacts on the Sahrawi people, neither Morocco nor Algeria is willing to compromise on their stance on the Kabylia region.

Level of Target's Participation in International Aviation

Hypothesis 8 in chapter 2 states that have a higher involvement in international aviation are more inclined to change their behavior when they are banned from another country's airspace because of the increased costs for the target state to maintain its behavior. In the case of Algeria's closure to Morocco, Morocco still has not changed its behavior in response to the closure. Even though geographically Algeria has a large airspace, and its closure partially isolates Morocco from many parts of Africa, the impact of the closure was minimal, as it only affected 15 flight paths and airlines were able to reroute easily around the closure. Morocco's

level of participation in international aviation has been growing in recent years. Moroccan airlines fly to 30 other countries in Africa alone, in addition to many more international destinations (Mahon 2018). The growth in Morocco's aviation sector resulted from the 2008 financial crisis, after which Moroccan policy makers focused on improving a handful of key industries, including aviation (Fauska 2016).

With Morocco's attempts to grow its aviation sector, it would make sense that an airspace closure would influence a behavior change, particularly if Morocco was isolated (like in the case of the closure against Qatar). However, Morocco did not change its behavior in response to Algeria's closure. Therefore, this does not follow my expectation. It is likely that since the closure had little impact on Morocco's flight paths, there was no pressure to change foreign policy behavior. there are a few reasons why Morocco wasn't influenced to change its behavior. For one, the number of flights affected was not enough for Morocco to experience a substantial impact, as explained earlier. Had there been larger number of flights affected, this may have led to a change in Morocco's behavior. Similarly, Morocco was not impacted from total isolation because of the airspace closure. Since the closure was easy to navigate around, Morocco might not have felt the need to change its behavior. Lastly, Morocco's resistance to change its behavior could be due to the salience of the issue at stake. Changing its behavior would have sent a critical signal to Algeria about the disputed territory and other points of contention between the nations.

Unilateral Versus Multilateral Airspace Closures and Behavior Change

I expect that states facing airspace closures from more than one country are more inclined to change their behavior when confronted with an airspace closure, as seen in Hypothesis 9 of chapter 2. States facing closures from one country less inclined to change their behavior in response to the closures. In the case of Algeria and Morocco, Algeria was the only country to

close its airspace to Morocco, unlike the multilateral closure to Qatar discussed in the previous chapter. The airspace closure to Morocco is still ongoing, and thus has not resulted in a change in behavior. If more countries close their airspace to Morocco, it is possible that the pressure from multiple states could encouraged a change in behavior. If enough countries had closed their airspace to Morocco, it may have isolated it enough to also encourage a change in behavior, although this is less likely because of the potential to reroute over the ocean. This follows what I expected because it is possible that a closure from one state did not put enough pressure on the target state. In fact, as previously noted, Algeria's closure to Morocco only impacted 15 flight paths and the closure was easy to bypass.

Closed Airspace Alongside Other Punitive Policies

Hypothesis 10 proposes that states facing an airspace closure in conjunction with other sanctioning policies are more inclined to change their behavior, as identified in chapter 2. In the case of Algeria's airspace closure, Algeria also ended its supply of natural gas to Morocco by closing the Maghreb-Europe pipeline on November 1st, 2021 (Ghilès 2021). The pipeline links Algeria to Morocco, Spain, and Portugal. Instead, Algeria uses other means of supplying Spain and Portugal with natural gas, bypassing this pipeline that connects Morocco (Ghilès 2021).

Despite this sanction that was imposed in conjunction with the airspace closure, Morocco still has not changed its behavior. This goes against my expectations that a state is more likely to change its behavior if there are other sanctioning policies imposed alongside the airspace closure. This could be because the reduction in natural gas provision did not have enough of an impact to encourage Morocco to change its behavior. Furthermore, it could be that the issues at the heart of the closure are salient enough for Morocco to resist the pressure placed on it by Algeria's airspace closure. Lastly, despite the reduction in natural gas provision, powerful countries like

the United States and France seemingly sided with Morocco. This potentially empowered Morocco to maintain its behavior to signal its policy preferences to Algeria.

Change in Behavior due to Duration of Airspace Closures

Lastly, Hypothesis 11 in chapter 2 proposes that as the duration of an airspace closure increases, the likelihood that a target state will change its behavior decreases. Algeria's airspace closure has been ongoing since the end of 2021, and it has not resulted in a change in behavior. As the duration increases, my expectation is that the likelihood of Morocco changing its foreign policy stance diminishes. If Morocco was able to withstand the effects of Algeria's initial airspace closure, it is unlikely that a longer airspace closure will cause the country to modify its behavior, which fits my expectation.

As previously noted, the impact of the airspace closure is minimal and therefore was not enough to encourage a change in Morocco's behavior. Therefore, as the duration of the closure increases, it is likely that Morocco will continue to find satisfactory reroutes around Algeria's airspace.

Unaffected by the Closure: Morocco's Resilience

The airspace closure for Algeria was a key decision that occurred a month after the severing of diplomatic relations with Morocco. In this case, the costs associated with the closure for Algeria did not surpass the benefit of signaling to both Morocco and the international community its dissatisfaction regarding the self-determination of the Sahrawi people as well as the territorial control in general of Western Africa. Similarly, for Morocco the cost of maintaining its behavior did not surpass the benefit of maintaining its territorial claim over the disputed region. Both have been able to withstand any impact from the closure due to the loose integration between them as well as minimal economic impact from the closure, as a limited number of flights were affected.

Figure 3 lists the hypotheses for both questions that this dissertation investigates. It is important to highlight that lowered economic costs, lowered diplomatic costs, norm violation, and salient issues are the hypotheses that had support as factors involved in Algeria's closure to Morocco. The results for this case are like the Arab Quartet's closure to Qatar. However, there is a difference in the results of Hypothesis 5. With the Arab Quartet's closure to Qatar, there was support for Hypothesis 5 because the closure was multilateral. Being that Algeria's closure to Morocco was unilateral, there was not support for Hypothesis 5.

Table 3. Results of Hypotheses for Algeria's Closure to Morocco

What Factors Contribute to a State's Decision to Close its Airspace?	**Algeria vs. Morocco**	**What Influences a Target State's Behavior?**	**Algeria vs. Morocco**
H1 – States are more inclined to close airspace with lower economic costs.	Support	H7 – States are less inclined to change behavior when issue is higher in salience.	Support
H2 – States are more inclined to close airspace with lower diplomatic costs.	Support	H8 – States involved in international aviation more inclined to change behavior.	No
H3 – States are more inclined to close airspace with higher domestic audience costs.	No	H9 – States are more inclined to change behavior with multilateral vs. unilateral closure.	No
H4 – States are more inclined to close airspace in response to norm/value/principle violation.	Support	H10 – States are more inclined to change behavior when closure is enacted with other punitive policies.	No
H5 – States are more inclined to close airspace when allies do.	No	H11 – States are less inclined to change behavior the longer the airspace is closed.	No
H6 – States are more inclined to close airspace when issue is higher in salience.	Support		

CHAPTER FIVE

TUMULTUOUS RELATIONS IN SOUTH ASIA

In 2019, Pakistan closed its airspace to India in response to an air strike carried out by India in Pakistan-controlled Kashmir, which India claimed was to target a terrorist training camp (Hashim 2019). Tensions between the two nations have historically vacillated, particularly due to the disputed Kashmir territory and general support for the population within that region. Due to the increase in military airstrikes occurring in the disputed region, explained below, the rising tensions between Pakistan and India led to the downgrading of diplomatic ties and Pakistan's complete airspace closure.

Pakistan's closure to India is puzzling because it is the only case in which the sending state (Pakistan in this case) had to reopen its airspace due to the economic costs incurred from the closure. Pakistan lost a substantial amount of revenue from overflight fees and other fees associated with airline traffic and could not withstand its own airspace closure. As this project investigates the use of airspace as a foreign policy tool through the rational choice framework, what were the costs and benefits that led to Pakistan's decision to close its airspace, despite the economic costs that it expected to incur? This investigation delves into the unsuccessful five-month closure of Pakistani airspace, focusing on the factors that precipitated both Pakistan's decision to enact the closure and India's persistence in its actions. Notably, the closure did not achieve its intended outcome of altering Indian behavior.

The case of Pakistan and India is significant for a few reasons. First, it shows the economic impact of the airspace closure on the sending state from the loss of overflight fees and airport revenue from the banned aircraft registered to the target state. Indian aircraft generate a lot of revenue for Pakistan, detailed below, and Pakistan was unable to withstand the economic impact that resulted from the closure. Second, it reinforces the fact that airspace closure is not only a foreign policy tool used by non-democracies. In this case, both the sender and the target are democracies. Lastly, the hostile relationship between India and Pakistan has implications for the rest of the region and warrant further study.

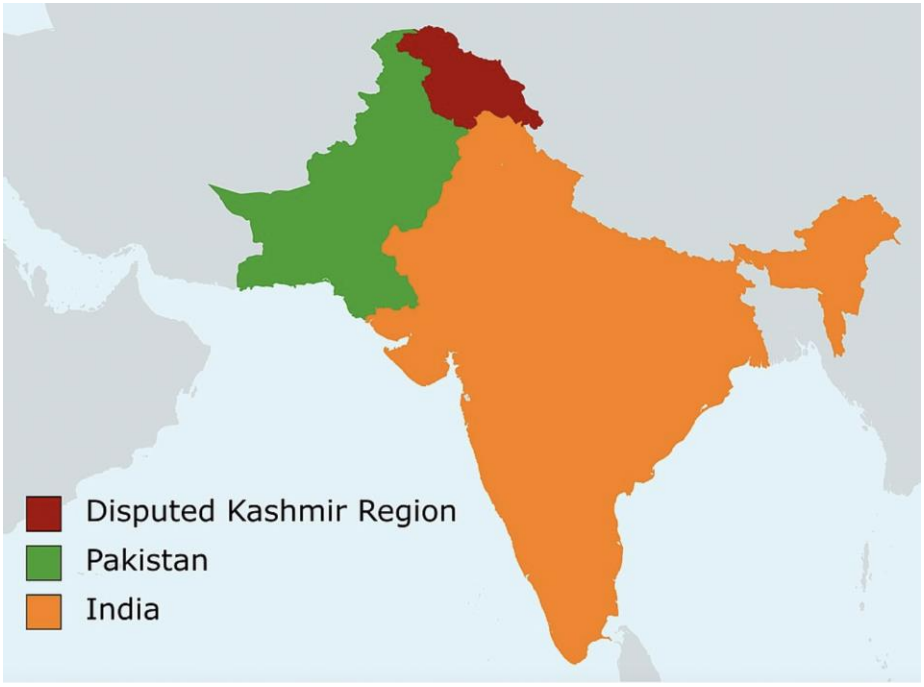
Historical Animosities Between Pakistan and India

This section provides an overview of the historical environment surrounding India and Pakistan's relationship leading up to the airspace closure. By delving into the regional and international environment shaping the relationship between the two states, it sheds light on the factors that may or may not have contributed to the closure and the outcome of the airspace closure. In this instance, the airspace closure implemented by Pakistan endured for a period of nearly five months before being unilaterally terminated. This termination signifies the absence of a demonstrable shift in Indian behavior, which constituted the primary objective of the closure strategy. The following section will briefly run through the history of foreign policy relations between the two states, which is often classified as an international rivalry (Diehl 1992). Following, it will note the regional and global environment in which the Pakistan/India rivalry is situated.

Pakistan and India are both democratic nations that have had a historically contentious relationship. This contentious relationship is rooted in a long dispute between the nations after British India was partitioned into its respective states (Malik 2019). The partitioning of the

Indian continent, as a result, divided ethnic and religious groups. The partition led to the creation of a long border between the two nations, in which India controls a large space to Pakistan's southeast (see Figure 18) (Wagner 2010).

Figure 18. Map of India and Pakistan (With Disputed Kashmir Region)



Source: The Organization for World Peace

In the decades since the development of the Indian and Pakistani states, the two nations have experienced a handful of conflicts. After British India was partitioned into different states in 1947, Pakistan and India became fully independent states. In 1948, a war between the newly formed states over the Kashmir region, a region that has been disputed even prior to Pakistan and India gaining their independence from Britain during the partition of states (Hashim 2019; Fair 2005). Different areas of the Kashmir region are currently controlled in part by India, Pakistan, and China. During this dispute, the king of the Kashmir region, called Maharaja Hari Singh, announced that Kashmir would join India, much to the dismay of the general population (Malik

2019; Fair 2005). The result was an armed struggle within Kashmir with the help of the Pakistani, and subsequently a war between Pakistan and India that ended with UN intervention. A second war occurred in 1965 after Pakistan attempted to foment rebellion against India during Pakistan's Operation Gibraltar (Wagner 2010).

A third war occurred in 1971 when Pakistan lost control of the eastern part of Pakistan after failing to transfer power to the Awami League Party, which had received an overwhelming majority in the region (Malik 2019). This resulted a civil war in east Pakistan in which India intervened, and a war ensued. The 1980s were a decade full of a series of power escalations. In the early 1980s, Pakistan was accused of supporting a Sikh insurgency (Wagner 2010, Malik 2019). The conflict over Kashmir was escalated again in 1984, with both states occupying the Siachen glacier (Wagner 2010, Malik 2019). Lastly in 1987-1987, a large Indian military exercise close to the Pakistani border labeled Brasstacks increased tensions again between the two states (Wagner 2010, Malik 2019). In the late 1980s and into the 1990s, Kashmir was once again a dominant issue in Pakistan and Indian relations, resulting in peace interventions by the US. In the late 1990s, the lingering tensions surrounding Kashmir resulted in the Kargil War in 1999 (Malik 2019).

Following the Kargil War, an attack was made on the Indian parliament on December 13, 2001, that further damaged relations between the two states. India was enraged and blamed two Pakistanis, Lashkar-e-Taiba and Jaish-e-Mohammed, of orchestrating the incident, who were both killed in the attack along with five other attackers (Stolar 2008). As a result of the attack on the Indian parliament, there was a military standoff in 2002, in which Indian troops crossed the Line of Control (Stolar 2008). This incident was de-escalated a few months later. On November 26, 2008, insurgents traveled to Mumbai to initiate disorder, which resulted in the death of 166

individuals and further damaged relations between the states (Malik 2019). Lastly, there have been cross border military fire exchanges throughout the mid 2010s.

Kashmir and the dispute over control of the territory is just one outcome of shifting power dynamics that has exacerbated the conflict between Pakistan and India. These power dynamics occur both at the dyad level between India and Pakistan as well as the broader international level between states like the US, Russia, and China, discussed further on. Between Pakistan and India, Kashmir represents a struggle over both territorial control and the general support for foreign policies that uphold the norm of anti-terrorism. Pakistan has repeatedly provided military support for militant groups in Indian-administered Kashmir that India and others in the international community deem terrorist groups (European Foundation for South Asian Studies 2017). The part of Kashmir controlled by Pakistan houses such groups.

Terrorism is a salient issue for India and undergirds many of its foreign policy initiatives. As the Defense Minister Rajnath Singh publicly conveyed:

> Peace and prosperity cannot coexist with terrorism. Terrorism is the most serious threat to international peace and security. Any act of terror and support to such acts, including cross border terrorism, committed by whomsoever, wherever and for whatever motives, is a crime against humanity. India reaffirms its resolve to fight terrorism in all its forms and manifestations. (Express News Service 2021)

In this regard, control of Kashmir has become just as symbolic as it is a territorial dispute (Kuszewska 2022). Control over Kashmir is directly related to power and reflects the broader power struggle that Pakistan feels toward India.

In addition to analyzing the direct relationship between Pakistan and India, the atmosphere leading to the airspace closure needs to be placed within the regional and international context. As noted by Kuszewska (2022), “the Kashmir situation is not only a territorial bone of contention between India and Pakistan. It is a complex set of diverse power

rivalries and discourses on regional, bilateral, and sublocal levels" (199). Stated simply, other countries have exploited the dispute between India and Pakistan for their own geostrategic interests and accumulation of power. In a similar vein, Pakistan has persistently endeavored to cultivate international backing for its territorial claims in Kashmir. Furthermore, the historical trajectories of both Pakistan and India's diplomatic relations with various influential states, such as the United States, Russia, and China in particular, have been characterized by periods of both cooperation and discord.

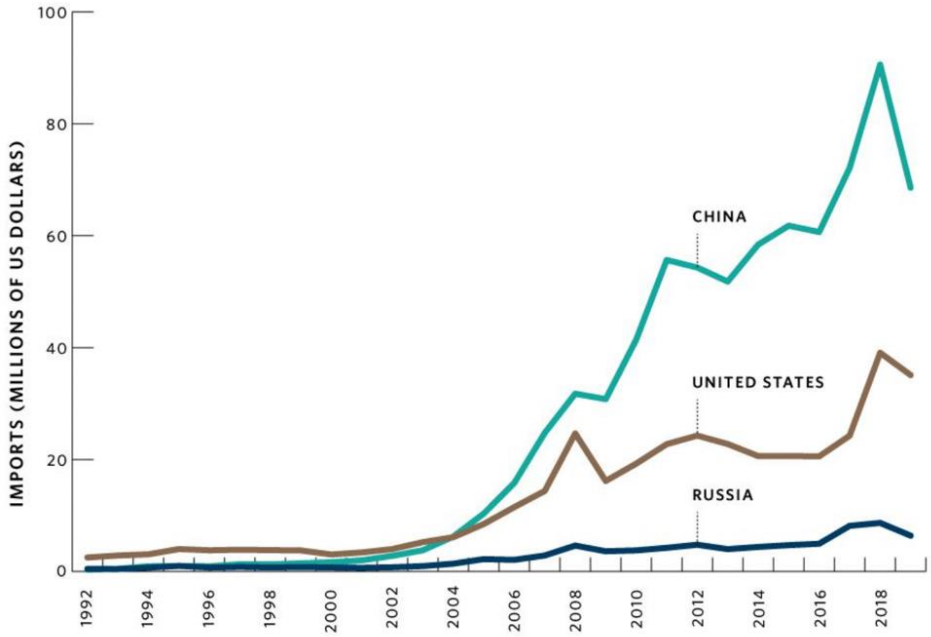
Pakistan's and India's relationship with the United States has vacillated over the past 20 years depending on the role of China and Russia, presence of terrorism, and general political instability in the region. For example, Pakistan's relationship with the US has been impacted by its support for the Taliban in Afghanistan, as well as China's growing role with the regime over the past few decades (Hassan 2022; Zhou, Su & Yuan 2022). After it was announced in 2014 that the Obama Administration would end its military engagement in Afghanistan, China became more involved with the Taliban by supplying military resources and increasing its security presence along the 57-mile shared border (Zhou, Su & Yuan 2022). In addition to the increased military aid, China also provided finances for development in Afghanistan, totaling over $500M between 2002 and 2017 (Zhou, Su & Yuan 2022). As recently as 2018 the US discontinued its military support for Pakistan because of its favorable ties to the Taliban (Ward 2018). Pakistan had supported the Taliban takeover of Afghanistan, and along with China, refused to participate in India's 2021 initiative to help internally stabilize Taliban-led Afghanistan (Kuszewska 2022).

India historically has had a contentious relationship with China for several reasons including a disputed border with China as well as China's exponential rise as a global power in comparison to India (Rajagopalan 2024). The tensions between China and India have encouraged

more positive relations between India and the US (Hassan 2022). However, despite the at times contentious relationship between China and India, trade between the two countries has grown exponentially since 2004 (see Figure 19). India has also maintained a long working relationship with Russia and the which has partially aided in growing relationship with Russia has also encouraged the US-Pakistan relations to thaw.

No doubt, Pakistan has been obsessed with limiting India's power in the region, and feelings of insecurity about India's growth as a global power have hampered its ability to focus on anything but its own security. As India has gained a more prominent role in global affairs, which has been marked by substantial economic growth and an increase in military capabilities, Pakistan becomes more focused on India and its increasingly powerful role in the region (Reuters 2010).

Figure 19. Indian Imports from Russia, China, and US, 1992-2019



Sources: World Bank World Integrated Trade Solutions, Carnegie Endowment for International Peace

Pakistan's Airspace Response

In 2019, India and Pakistan were once again clashing in the Kashmir region. On February 14, 2019, a suicide bombing incident in the India-controlled portion of Kashmir claimed 40 lives (BBC 2019). As a response, on February 26th India launched an air strike in the Pakistan-controlled region of Kashmir, claiming that the airstrike was targeting a terrorist training camp (Mackenzie & Varadhan 2019; Times of India 2019). Pakistan then closed its airspace to India, threatening to maintain the closure until India removes the fighter jets that were placed at the forward Indian Air Force bases (Dutta 2019). India never removed the fighter jets from the forward Indian Air Force bases, and the Pakistan Civil Aviation Authority (CAA) lost a huge amount of revenue generated by overflight fees, landing fees, maintenance, and refueling of aircraft at Pakistani airports, totaling $50 million (Hassan 2019). International carrier Pakistan International Airlines (PIA) lost nearly $450,000 a day due to the closure. Combined losses for both CAA and PIA were around $100 million (Yaqoob 2019).

Economic Costs of Closure

As noted in chapter 2, Hypothesis 1 proposes that states facing lower economic cost associated with airspace closures are more inclined to close their airspace in times of crisis than those facing higher economic costs. This is due to the fact that the countries are less sensitive to the economic impact of airspace closures if they have a stronger GDP, which reduces the economic cost of the closure overall for the sending state. With lowered economic costs, the benefit increases relative to the costs.

Pakistan has the 24th highest GDP ($1.6 trillion) but overall has weak economic performance due to volatile economic policies and failure to enact structural reforms that

strengthen the economy and make it more resilient to economic challenges (Richmond 2022). According to an International Monetary Fund (IMF) staff report, Pakistan falls behind in development goals, which include both economic and human indicators (Richmond 2022). Also described in the IMF report is Pakistan's position in relation to other developing nations. This report describes Pakistan's export product mix as stagnating growth and are much lower of a percent of Pakistan's GDP by comparison to other countries on a similar development level. The report describes further in detail:

> Pakistan is a very closed economy compared to other emerging and developing economies, with net exports often acting as a drag on growth. Complicating the outlook is that only a small number of firms export, primarily of low value-added textile products, while the country has also relied heavily on import tariffs to boost tax revenue, undermining trade integration and further weakening export competitiveness. Comprehensive reforms will be needed to boost competitiveness and support exports. (Richmond 2022)

The low export competitiveness and lack of high value-added exports explained above is further evidence of a weaker economy, particularly because it causes Pakistan to be less likely to successfully handle economic disruptions such as airspace closures.

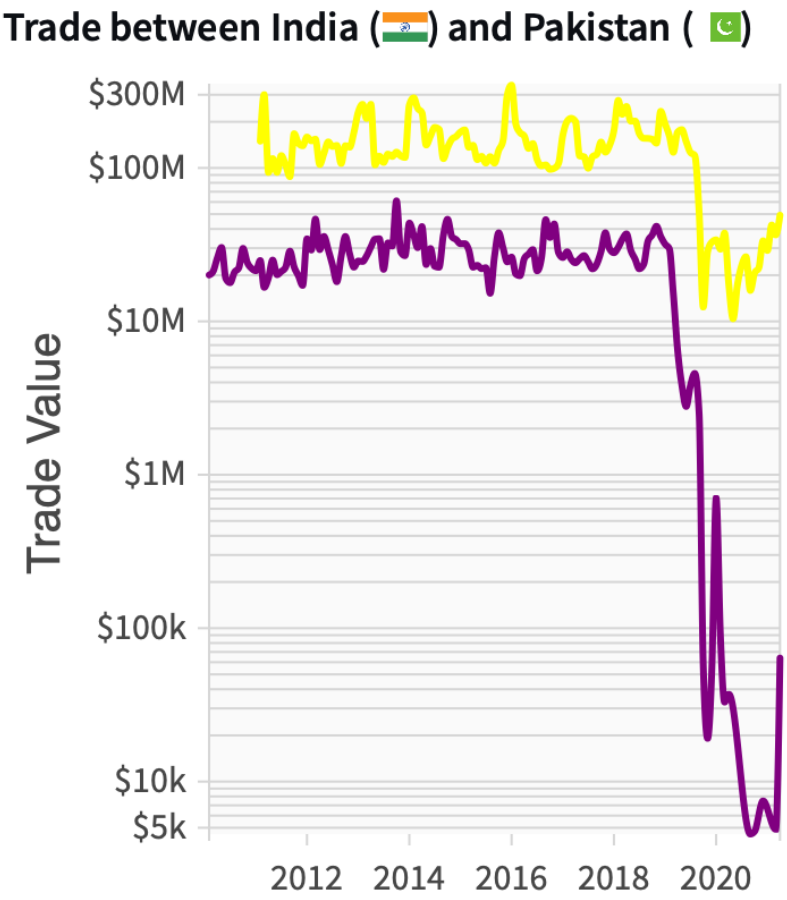
A 2020 report by the International Air Transport Association (IATA) describes that international aviation "supports the local and national economy by improving competitiveness and enhancing employment and economic growth opportunities" (93). Accordingly, aviation is a substantial source of revenue in Pakistan, and it contributes over $3.3 billion to the economy ("The Importance of Air Transport" 2020). Therefore, a reduction in international aviation activities impacts both the local and national economy. In total, CAA and its major international airline PIA lost around $100 million from the airspace closure and affected over 400 daily flights ("Pakistan Airspace Closure" 2019). For perspective, prior to the closure in 2019 there were about 800 flights per day that use Pakistan's airspace ("India-Pakistan Crisis Disrupts" 2019), so

the closure affect around half of the flights using Pakistani airspace. While the loss of $100 million in revenue might not be detrimental to a country with a strong economy, for a country with a weaker econmony this has a substantial impact on both the revenue collected by the government as well as the airline industry in Pakistan. In this case, we see that Pakistan had a higher economic cost to closing its airspace. This is surprising and goes against what I expected because the economic costs of an airspace closure for Pakistan were high.

The loss of overflight fees from Pakistan's airspace closure contributed to Pakistan's economic loss due to the closure. As explained earlier, overflight fees are charges both for using the airspace and taking off or landing within the country. These fees depend on the size of the aircraft as well. As Laskar (2019) reports, a Boeing 737 using Pakistani airspace is charged around $580 and more for larger aircraft, estimated to be about $232,000 a day (2019). Fees collected by Pakistan also increase when aircraft land and have to park at an airport. With 400 flights a day affected by the closure, the loss of overflight fees has a huge financial impact, estimated to be nearly $300,000 per day ("Pakistan Airspace Closure" 2019). Other international airlines, which included Emirates, Qatar Airways, and Air Canada, chose to avoid Pakistani and Indian airspace, which contributed to the loss of overflight fees.

Trade between Pakistan and India was also impacted. Data gathered from the United Nations International Trade Statistics Database by the Observatory of Economic Complexity visually depicts the rapid decline in trade in 2019.

Figure 20. Trade Between India and Pakistan 2010-2022



Source: Observatory of Economic Complexity 2024

In Figure 20, the purple indicates Pakistan's trade values with India, and the yellow indicates India's. The airspace closure had a negative impact on trade, not only between Pakistan and India but across the wider region. Trade between India and Afghanistan, for example, fell 30% (Zabihullah 2023).

According to World Bank data, Pakistan experienced a reduction in overall air transport of cargo from 217.5 million ton-km in 2018 to 193 million ton-km in 2019 (World Bank 2024). By comparison, using the same World Bank database, in 2018 exports that were transported via railway were 8080.0 million ton-km. There was no data reported for 2019. Although air transport

is a smaller proportion of the overall export transit in comparison to the railways, it still is a substantial number, and the decline from 2018 to 2019 is noticeable.

Although this hypothesis focuses on the sender, it is important to note that India also lost a substantial amount from the airspace closure. In total, the airspace closure cost Indian airlines over $80.1M ("India-Pakistan Crisis Disrupts" 2019). Air India was hit the worst by the closure, whose losses made up about $71M of the total. The loss from the closure shows that there was an economic cost for the target due to the closure, yet the closure did not result in a change in behavior.

The case of Pakistan's closure to India does not support my hypothesis because Pakistan closed its airspace to India despite facing significant economic costs. It is surprising that this case does not support my hypothesis because it seems less plausible that states with weaker economies, or with economies that rely on revenue that is not generated domestically (such as revenue collected through overflight fees or a reliance on foreign aid, for example) would not be willing to give up those financial gains. While I expected that states experiencing lower economic costs from airspace closures are more inclined to close their airspace in times of crisis than those facing higher economic costs, the Pakistan-India case does not support this argument was ultimately unsuccessful. There is a long history of rivalry and violence between the two nations, which may change the costs and benefits of airspace closure, particularly with its impact on issue salience (discussed below). It could be that the signal being sent by the airspace closure was worth more to Pakistan than the economic costs incurred.

Associated Diplomatic Costs of Closure

Hypothesis 2 proposes that states facing lower diplomatic costs associated with airspace closures are more inclined to close their airspace in times of crisis than those facing higher

diplomatic costs, which is outlined in chapter 2. In the case of Pakistan's closure to India, Pakistan faced lower diplomatic costs from severing ties with India and therefore less pressure to abide by efforts to ensure open access to airspace or improve relations with India. Given that the cost of airspace closure is lower than military action, it is unsurprising that this foreign policy action was chosen alongside Pakistan severing diplomatic ties. Furthermore, Pakistan's vacillating relationship with other major countries like the US lowers the diplomatic costs. For example, since Pakistan's relationship with the US has changed in strength over time depending on the geostrategic interests of the US, identified earlier, there is less pressure on Pakistan to conform and comply with what the US wants. In this case, benefits of compliance outweigh the costs.

Pakistan has, however, maintained good diplomatic relations with China since 1951, which has grown to include a defense and economic partnership. Pakistan's Ministry of Foreign Affairs website describes its relationship with China as one "characterized by feelings of mutual trust, respect, and goodwill towards each other" with China being "one of its closest friends and partners" ("China" 2024, para. 1). In 2015, China instituted the Belt and Road Initiative, a 15-year program in which China invested $62 billion into infrastructurally connecting Pakistan and China (Hillman 2018). Over the past few decades, China's relationship with India has also been damaged, while China's relationship with Pakistan has blossomed. Markey and Scobell (2023) describe that China has "doubled down on its long-standing 'all weather relationship' with India's South Asian nemesis Pakistan." China's contentious relationship with India has resulted from both the disputed border between the two nations and, more importantly, the struggle to be the dominant Asian power in the region through increasing military capabilities, partnerships with other global powers, and regional and global influence (Markey & Scobell 2023).

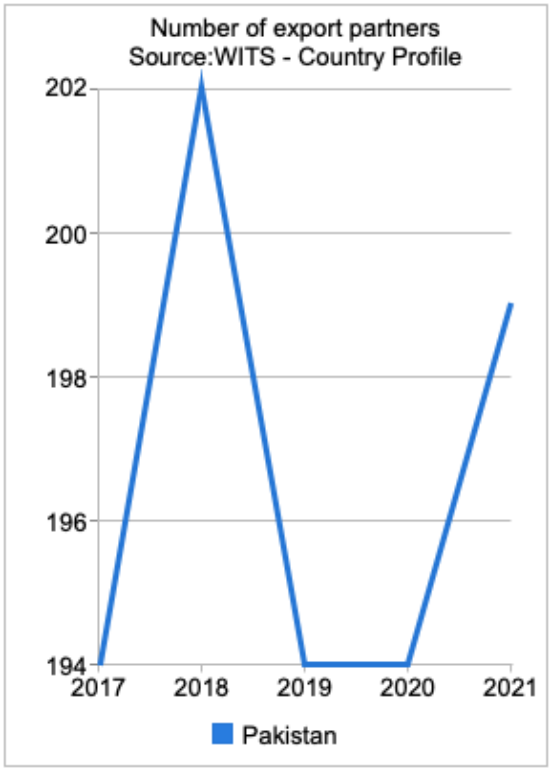
China's relationship with both Pakistan and India are important to note because they relate to the diplomatic costs of Pakistan. With China seemingly siding more with Pakistan in the Pakistan/India dispute, Pakistan's actions toward India do not risk losing the special relationship that it has with China. As India grows closer to the West, it is unlikely that Pakistan and China's relationship will be compromised by Pakistan's relationship with India.

The special relationship is also evident with the ongoing presence of the Jaish-e-Mohammed (JeM) militant group, which remains in Pakistan without penalty despite it being banned (Roy-Chaudhury 2019). Efforts by the United States, United Kingdom, and France have sought to have the Security Council label JeM as a terrorist group, but China has been repeatedly blocked this (Roy-Chaudhury 2019).

Pakistan's actions toward JeM can have reputation costs for the offending state. A state's reputation can help other states anticipate their future actions based on the past. Brewster (2009) notes that "[w]ithout a good reputation, other states will not want to enter into cooperative agreements that provide joint gains because of the possibility of opportunistic defection" (237). As explained above, Pakistan's unwillingness to act against JeM after denouncing it impacts its reputation in the view of other states. This lowers its diplomatic costs, as international cooperation and diplomacy are influenced by the reputation of states. Brewster (2009) discusses states' reputation in terms of the rationalist model, in which states make decisions to comply based on a cost-benefit analysis. A state's reputation is developed when their future actions can be anticipated by past actions (Brewster 2009). Therefore, many times it is in the states interest to comply or engage with other states in a way that fosters a positive relationship. State's benefit from international cooperation because the benefits of compliance outweigh the costs.

Reputation is key when states consider the benefits to cooperation because failure to cooperate could result in the development of a bad reputation, "which leads other states to exclude that state from future opportunities to cooperate" (Brewster 2009, 232). It is in the best interest for a state to cooperate internationally to reap future gains. Furthermore, between 2018 and 2019, we can see a reduction in Pakistan's trade partners from over 202 in 2018 to 194 in 2019 (See Figure 21) (World Integrated Trade Solutions 2023). While this reduction in trade partners could be due to other international factors that may be unrelated to the conflict, it coincides with Pakistan's foreign policy actions surrounding the closure.

Figure 21. Number of Pakistan's Export Partners



Source: World Integrated Trade Solutions 2023

My hypothesis posited a positive relationship between lower anticipated diplomatic repercussions and a state's propensity to enact airspace closures during periods of heightened tension. In the instance of Pakistan's airspace closure towards India, this hypothesis guided my

expectations. As previously established, Pakistan's eventual reopening of its airspace stemmed primarily from economic pressures. Notably, the decision to close airspace did not appear to be significantly influenced by concerns over potential diplomatic costs, suggesting such costs were not a material deterrent.

Domestic Audience Costs of Closure

I expect that states facing higher domestic audience costs associated with airspace closure are more inclined to close their airspace in times of crisis than those facing lower domestic audience costs, as Hypothesis 3 highlights in chapter 2. This is because airspace closures are less costly and easier to implement than war or militarized conflict yet still send a message about policy preference. When a foreign policy is enacted, a state is effectively showing how committed they are to something and, as Tomz (2007) notes, the audience costs from the domestic population helps to compel leaders to keep commitments. If a leader backs down from implementing an airspace closure, it is less costly than other foreign policy actions such as militarized conflicts. If a sending state reopens its airspace without the target changing its behavior, it incurs lower audience costs than if a sending state were to back down after threatening military force.

Scholars argue about that regime type is an important predictor of domestic audience costs (Fearon 1994; Tomz 2007; Crisman-Cox & Gibilisco 2018). With democracies, the domestic audiences' approval or disapproval leaders have implications for their reelection and therefore it is important that commitments are credible. As Pakistan is a democracy, it indicates that it has higher domestic audience costs than if it were not a democracy. Since the basis of democratic governance is the presence of free and fair elections, democracies have higher audience costs than non-democracies. This is since in democracies, citizens elect officials to

represent and defend their political preferences. Once an elected official is no longer serving the interests of the public, they can be removed from office by failing to obtain enough votes to stay in office.

Public opinion can have an impact on decision making in foreign policy (Foyle 1997; Tomz, Weeks, & Yarhi-Milo 2020). Voters place weight on the foreign policy positions of the leaders they are voting for (Tomz, Weeks, & Yarhi-Milo 2020). Furthermore, the public limits the number of foreign policy options that can be chosen by policymakers (Kusnitz 1984). Democracies, though, are at risk of affective polarization, in which partisan divisions weaken the potential for a country to be unified in their support for a particular foreign policy (Maxey 2021). These partisan divides and affective polarization vary by situation, such as in humanitarian versus military interventions but regardless "leaders are most likely to face challenges in mobilizing domestic support when negative partisanship is both high and closely linked to the relevant intervention" (Maxey 2021, 822)

In the case of Pakistan, the domestic population is split on their opinion about the India conflict. On the one hand, 49% support normalizing relations between India and Pakistan, which would include reestablishing air and land linkages ("Pakistanis 'Fed Up'" 2024). This "reflect[s] a trend that despite the traditional hostilities shared by the governments of the two nations since 1947, this is not necessarily what the people on both sides of the border want" ("Pakistanis 'Fed Up'" 2024, para.1).

On the other hand, however, half the population denounces India's actions and sides with Pakistan's grievances. Several groups within Pakistan demonstrated support for the government around India's airstrikes on February 27th, 2019, which included the Pakistan Workers Confederation, Transport Employees Federation, National Bank of Pakistan Employees Union,

journalists, lawyers, students, among others (Raleigh et al. 2023). These demonstrations reveal the domestic audiences' support for Pakistan while at the same time denouncing Indian aggression across the line of control. According to the Armed Conflict Location & Event Data, the protests occurred for days following the airstrikes (Raleigh et al. 2023). Having a population that is nearly split on its opinions lessens the domestic pressure placed on the government, as the population does not have a majority regarding its policy preferences.

As described earlier, airspace closure is a cheap foreign policy tool that is easy to implement and is therefore a preferable option to more costly actions like militarized disputes and war, making it an attractive foreign policy option considering public opinion. This would suggest that democracies are more inclined to choose airspace closure as a foreign policy response because it has fewer electoral consequences for democratic officials seeking office. My expectation was that states facing higher domestic audience costs are more inclined to close their airspace in times of crisis than those facing lower domestic audience costs, and the Pakistan case follows what I expected. Democracies adjust their approach to foreign policy based on what the public supports. Foreign policy decision making, then, is shaped by opinions about what the public supports. Therefore, the literature would suggest that as a democracy, Pakistan has higher audience costs and therefore is shaped by what the public supports. Airspace closure, a cheap foreign policy tool that is easy to implement, incurs less costs from backing down than other more costly threats such as threats of military intervention or war.

Closure due to Norm, Value, or Principle Violation

As proposed by Hypothesis 4 outlined in chapter 2, I expect that states will be more likely to close their airspace to a target state in times of crisis when a target state violates a norm, value, or principle that the sending state supports. In this case, India did in fact violate norms of

sovereignty and territorial integrity that Pakistan supports. As I outlined earlier, control of Kashmir has become more symbolic than just simply about territorial control. According to the guiding principles the Pakistan government, the country promotes "respect for sovereignty and territorial integrity of all States, non-interference in the internal affairs of other State; non-aggression and peaceful settlement of disputes" as well as protecting Pakistani diasporas and geostrategic interests with specific reference to Kashmir ("Guiding Principles" 2024). India's military action against Pakistan, which included airstrikes against the alleged terrorist camps, violated Pakistan's norm of maintaining territorial integrity, autonomy, and protecting Kashmir. The foreign policy decision to enact an airspace closure was a more desirable foreign policy action than resorting to military conflict because it do not carry as many costs, and it sends a clear signal about foreign policy preferences.

A month after the closure, Pakistan released a statement about India's actions, stating that it, alongside the Organization of Islamic Cooperation:

> reaffirmed its unwavering support for the Kashmiri people in their just cause [… and…] also condemned in the strongest terms recent wave of Indian terrorism in Occupied Jammu and Kashmir and expressed deep concern over the atrocities and human rights violations" ("OIC Reaffirms" 2019, para. 1)

The public response by Pakistan's Ministry of Foreign Affairs shows that norms, values, and principles were at the heart of the closure to India.

The violation of respect for sovereignty and territorial integrity is evident with India's revocation of Article 370 which was "a clause in the constitution which gave it significant autonomy, including its own constitution, a separate flag, and independence over all matters except foreign affairs, defence[sic] and communications" ("Kashmir: Why India" 2019, para. 13). With the removal of the clause, it took away protections for Kashmir and contributed to

general feelings of disenfranchisement within the region and was seen by Pakistan as a "grave injustice" (Center for Preventive Action 2024). As a result, the removal of Article 370 exacerbated the conflict between India and Pakistan even further. In fact, the website of the government of Pakistan emphasizes that the Kashmir dispute is a human issue "concerning the right of self-determination of the people […of] Kashmir, as enshrined in the resolutions of the United Nations on Kashmir as well as other international declarations" and is not an issue over territory ("The Kashmir Issue" 2024, para. 2).

Territorial sovereignty is of key importance to Pakistan, and two years after the closure, Pakistan's Ministry of Foreign Affairs released a press statement in remembrance of the 2019 dispute between Pakistan and India. The press release noted that in response to India's airstrikes, the "whole world witnessed that Pakistan, once again, not only resolutely safeguarded its territorial sovereignty, but also acted with tremendous restraint and responsibility" ("Remembering Pakistan's Befitting Response" 2021, para. 1).

The above violations of norms, values, and principles also relates to issue salience, which will be discussed below. Not only is the norm of autonomy and self-determination important for Pakistan, but it is also a part of a longer list of issues related to Kashmir that are highly salient to Pakistan. This case fits my expectations, particularly because of the signal the closure sends to India and the rest of the international community about Pakistan's claim over Kashmir. I expected that states are more inclined to close their airspace to another state if the target state violates a norm, value, or principle that the sending state supports. India's airstrike on territory that is controlled by Pakistan was a violation of the self-determination and autonomy that Pakistan consistently supports.

Allies and Airspace Closures

Hypothesis 5 suggests that countries are more inclined to close their airspace in times of crisis when allies close their airspace, as described in chapter 2. In the case of Pakistan's closure to India, Pakistan unilaterally closed its airspace to India. Since Pakistan was the only country that closed its airspace, this does not support my hypothesis. However, the unilateral closure could be explained by the historically contentious relationship between India and Pakistan, a diplomatic history that is not necessarily shared between Pakistan's allies and India (Pardesi & Ganguly 2007). Had an ally of Pakistan closed its airspace to India, I expect that Pakistan would have eagerly closed its airspace as well.

Both India and Pakistan are members of the South Asian Association for Regional Cooperation (SAARC) which also includes Sri Lanka, Nepal, Bangladesh, Afghanistan, Bhutan, and the Maldives. This organization, like other regional organizations of its type, promotes cooperation and peace amongst states. However, in contrast to other international organizations in which the member states are much more integrated via trade linkages and diplomatic ties, SAARC has proven to be an unsuccessful gesture of cooperation. SAARC has been all but functional since 2014, which is largely due to India's disinterest in the organization because of its dispute with Pakistan (Poudel 2022).

Due to both its contention with Pakistan and subsequent failure of SAARC, India has engaged with other organizations that do not include Pakistan (Bhattacharjee 2018). As Poudel (2022) explains, "South Asia is among the least integrated regions in the world. Intra-regional trade accounts for 5 percent of total trade […and there] is hardly any trade of note among the SAARC members other than with India" (para. 6). Since India has such a big influence on the region, the organization's success relies on India's participation. India, however, has moved its

focus and participation to BBIN (Bangladesh, Bhutan, India, Nepal Network) and BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation), both of which Pakistan is not a part of (Poudel 2022). India and Pakistan are also members of the Shanghai Cooperation Organization (SCO) alongside China and Russia. China and Russia were both supportive of using the SCO to ease escalations between the two nations (Bhaya 2019). However, tensions remain.

Given the lack of a cohesive regional organization in Pakistan and India's geographical area, as well as the shifting diplomatic relationship between Pakistan and the US, China, and Russia, it is evident that there is less international influence from allies on Pakistan's foreign policy behavior. Pakistan's focus on India is enough to preclude attempts by allies from shaping its foreign policy behavior, especially since Pakistan's diplomatic relationships have changed over time.

An argument could be made that the Kashmir issue is too controversial for allies to become deeply involved in, for example, by closing their airspace too. Both China and Turkey have publicly supported Pakistan in the Kashmir conflict, but vocalizing support and offering to mediate the dispute are the extent of their involvement ("China's Xi Voices Support" 2019; "Erdogan Assures Support" 2019). While China and Turkey side with Pakistan over the Kashmir issue, they also have long-term incentives to expand their international influence. As a result, they might pursue more of a leadership role in the dispute between India and Pakistan. By refraining from serious involvement in the bilateral relations between India and Pakistan, Turkey and China may be instead focusing on diplomacy and mediation between the conflicting states. By approaching the conflict as a mediator, it may be a tactic to prioritize regional stability, preserve alliances, and strengthen their regional influence overall.

Issue Salience for Target and Sender

Chapter 2 presents two hypotheses that investigate the influence of issue salience on airspace closure decisions. Hypothesis 6 posits a direct relationship between issue salience and the likelihood of airspace closure by a state. In simpler terms, states are theorized to be more likely to enact airspace closures in response to issues of high salience compared to those of lesser salience. In the case study of Pakistan's closure towards India, the Pulwama Attack constituted a singular event within the context of the protracted and contentious relationship between the two nations. As previously established, a core tenet of Pakistan's foreign policy revolves around curbing India's emergence as a dominant regional power. The conflict between the two countries is also the result of a territorial dispute, the Kashmir region. The Pulwama Attack happened during one of the many fights over the region that has occurred since Pakistan and India's independence from Britain. The ongoing importance of the Kashmir region to both countries signifies the salience of the issue, which is what I expected. At the root of the conflict is Kashmir, and even the airspace closure can be traced back to the disagreement over the Kashmir region.

Second, Hypothesis 7 suggests that states less inclined to change their behavior with more salient issues than lower salient issues. Territory is one of the most salient issues between states and has been the source of many international conflicts that have occurred (Fredrick, Hensel, & Macaulay 2017; Mitchell & Hensel 2007). In this case, the issue is based on a territorial dispute of Kashmir that is highly salient to both India and Pakistan. It has been the root of the contentious relationship since their independence, and therefore India's unwillingness to change its behavior fits my expectation. Had it been a lesser salient issue, when confronted with an airspace closure, India might have complied with Pakistan's interests. However, the highly

salient issue leading to the closure shows India's willingness to incur costs rather than change its behavior. Similarly, as identified earlier, terrorism is a highly salient issue for India. The dispute over Kashmir for India is not only a territorial dispute, but also a stance against terrorism. Since Pakistan provides military support for groups that India and the international community deem terrorist groups, India's unwillingness to cater to Pakistan's foreign policy interests are a symbol against terrorism just as much as they are about territory (European Foundation for South Asian Studies 2017).

In sum, the high salience of Kashmir and the military engagement that has resulted because of the disputed region has defined the relationship between Pakistan and India throughout the 20th and 21st century following both of their independence. Furthermore, as noted earlier, Pakistan's foreign policy behavior has been largely focused on trying to limit India's economic, military, and political power. This preoccupation with India magnifies the salience of the Kashmir region because at its core, India's control of Kashmir is a threat to Pakistan.

Airspace closures are highly visible and have both a regional and international impact. Therefore, when confronted with issues of high salience, an airspace closure is an effective way of signaling foreign policy preferences to both a target and the international community. Additionally, if the issue is salient enough to the target state, their unwillingness to cater to the demands of the sending state also sends a signal of foreign policy preference. In sum, both India's unwillingness to change its behavior as well as Pakistan's decision to close its airspace follow my expectations for state behavior when confronted with highly salient issues.

Level of Target's Participation in International Aviation

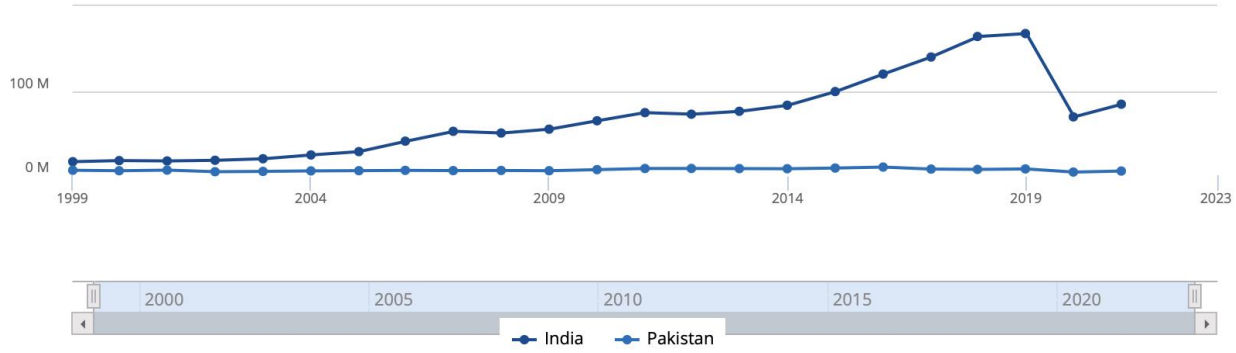
Hypothesis 8 in chapter 2 suggests that states with a higher level of participation in international aviation are more inclined to change their behavior in response to an airspace

closure because they are potentially more impacted by a closure both politically and economically. Participation can be understood as a strong aviation sector with multiple international destinations, high numbers of flight paths and passengers carried, and general plans to increase airline services worldwide. In the case of Pakistan's airspace closure to India, India did not change its behavior because of the closure despite having a high level of participation in aviation, explained below. Thus, this did not follow my expectations. This is surprising, because Pakistan's airspace closure not only required India to reroute its flights, but also it cost India's main airlines millions of dollars. However, it could be that the salience of the lasting dispute between the two nations is high enough that India was willing to weather the impacts of the closure to send a signal about its foreign policy intensions.

India has a rising level of participation in international aviation in terms of growth and connectivity. The 2020 IATA Air Connectivity report shows that India ranks 4th in terms of global air connectivity, ahead of countries like the United Kingdom and Germany. Between the years 2009 and 2019, India's air connectivity measured by the number of destination-weighted seats increased by 237%, from over 35,000 to over 1.2 million ("Air Connectivity" 2020).

In this case, we see that India did not change its behavior because of Pakistan's airspace closure. In fact, Pakistan reopened its airspace due to the loss of revenue from the air traffic, as noted earlier. Figure 22 shows the increase over time of total passengers carried in both India and Pakistan. As you can see from the graph, there is a substantial increase in the number of passengers carried in India, one indication of a growth in the aviation sector. As the graph shows, Pakistan carried roughly 7.42 million passengers while in India there were around 167.5 million passengers carried in 2019.

Figure 22. India and Pakistan's Air Transport, Passengers Carried



Source: World Bank 2023

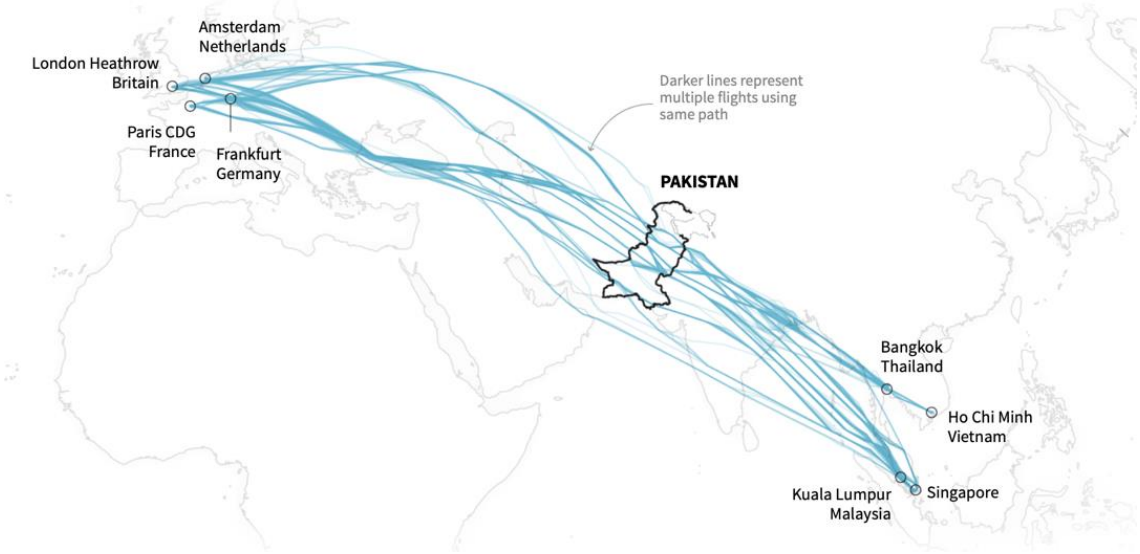
Figure 23 shows a snapshot of India's passenger routes prior to the airspace closure. As you can see from the map, there has historically been a substantial number of flights that fly over Pakistan, which shows the disruption in the ability for India to operate.

Figure 23. India's Passenger Routes

Source: World Bank, Global Aviation Dashboard 2023

Figure 24 also shows India's flight paths prior to Pakistan's closure, but only those flight paths that operate through Pakistan's airspace. From both Figure 23 and 24, it is evident that Pakistan's airspace falls within a vital flight path area for India.

Figure 24. India's Flight Paths over Pakistan



Source: Scarr and Hernandez 2019

To conclude, with the case of Pakistan's closure to India, India did not change its behavior despite having many flight paths that typically overfly the airspace. It could be that after the initial airspace closure, airlines in India were able to still operate on other routes that avoided Pakistan's airspace, particularly because Pakistan's airspace is so small. The ability to reroute around Pakistan's airspace would indicate increases in operating costs. Air India alone lost $71.6 million during the 5-month duration of the closure (Hassan 2019). However, these costs were not enough to cause a change in India's behavior.

Unilateral Versus Multilateral Airspace Closures and Behavior Change

As described with Hypothesis 9 in chapter 2, I hypothesize that states facing airspace closures from more than one country are more inclined to change their behavior in response to the closures. By contrast, states facing closures from only one country less inclined to change

their behavior. In the case of Pakistan's airspace closure to India, it was a unilateral airspace closure that did not result in a change in India's behavior. This could be because the impact of one state's airspace closure was not substantial enough to influence a change in behavior. This is what I expected because I anticipate that airspace closures from more than one country places more pressure on the target nation and therefore cause the target to be more likely to change their behavior. A closure from one state might present an annoying complication to airline routes but is not enough to substantially affect the target state and change behavior.

It is likely that other states did not want to get involved in the conflict because of how politically charge the issue of Kashmir is between Pakistan and India. Regarding the disputed territory, India has expressed opposition to the involvement of third parties in the Kashmir crisis (Kronstadt 2020). Third parties, most notably China and Turkey as mentioned earlier, might not benefit from intensifying the issue by closing their airspace and instead may be opting for more of a regional mediator role. It is likely that the deep-rooted and longstanding conflict between the two nations was enough to encourage India to maintain its foreign policy behavior in response to the salient Kashmir issue. Thus, it could be that the salience of maintaining control over Kashmir outweighed the economic and political costs of the closure.

Closed Airspace Alongside Other Punitive Policies

Hypothesis 10 supposes that states facing an airspace closure that is imposed in conjunction with other punitive policies are more inclined to change their behavior, described in chapter 2. In the case of Pakistan's airspace closure, Pakistan did impose other punitive policies prior to the closure of airspace (Mackenzie & Varadhan 2019). In addition to the closure, Pakistan also suspended trade and mail services (Khanna 2020). This is what I expected because additional punitive policies place even greater pressure on the target state than simply airspace

closures alone, therefore increasing the likelihood of a change in a target's behavior. In addition to the additional punitive policies, increases in airstrikes and border skirmishes introduced a threat of violence. In one such instance, the Pakistani military carried out airstrikes on targets that did not cause any harm to civilians, military personal, or incidental damage but instead was intended to send a message to India ("Pakistani Bombs Fell" 2019).

However, despite an increase in pressure on the target state, there was no change in behavior, which could be due to a few reasons. First, the level of trade between Pakistan and India nations is relatively small. Between 2018 and 2019, for example Indian exports to Pakistan only comprised about 1% of total exports (Singh 2019). The low level of economic interconnectedness between the two nations means that the impact of any disruption in economic exchange remains small. The low economic pressure imposed on India is also unlikely to overshadow the fact that the two countries have been at odds for decades with little diplomatic resolution. Similarly, the issue of Kashmir is salient enough such that the countries continue to be at odds with each other.

While the airspace closure was a way for Pakistan to signal its foreign policy preferences and symbolically make a point to India without resorting to more costly measures, it failed in changing India's behavior even though there were other punitive policies alongside the airspace closure. The costs imposed on India were not enough to outweigh the benefits of withstanding the impact of the closure.

Change in Behavior due to Duration of Airspace Closures

My expectation with Hypothesis 11 is that the longer an airspace is closed, the less likely a target state is to change its behavior, described in chapter 2. In the case of Pakistan's airspace closure to India, the duration of the closure was 5 months which, by comparison to other

closures, is not a long duration. For example, the Gulf Blockade lasted just over three years. Algeria's airspace closure to Morocco is ongoing but has lasted for over three years. Pakistan's closure to India did not result in a change in behavior, and the outcome of the closure was not what I expected for a few reasons. First, I was not expecting the sending state to be unable to withstand the economic costs of the closure and reopen the airspace. As identified earlier, it is publicly understood that the economic costs incurred by Pakistan caused them to reopen their airspace. Dutta (2019) explained that Pakistan reopened its airspace due to the "harsh economic realities" of the closure. India did not change its behavior in the short time frame, and I would expect that since India was able to withstand the initial economic impact of the closure, it would not have changed its behavior had the closure lasted longer. In fact, as shown between Figure 3 and 4, air travel suffered in 2021 from the closure but then was able to bounce back.

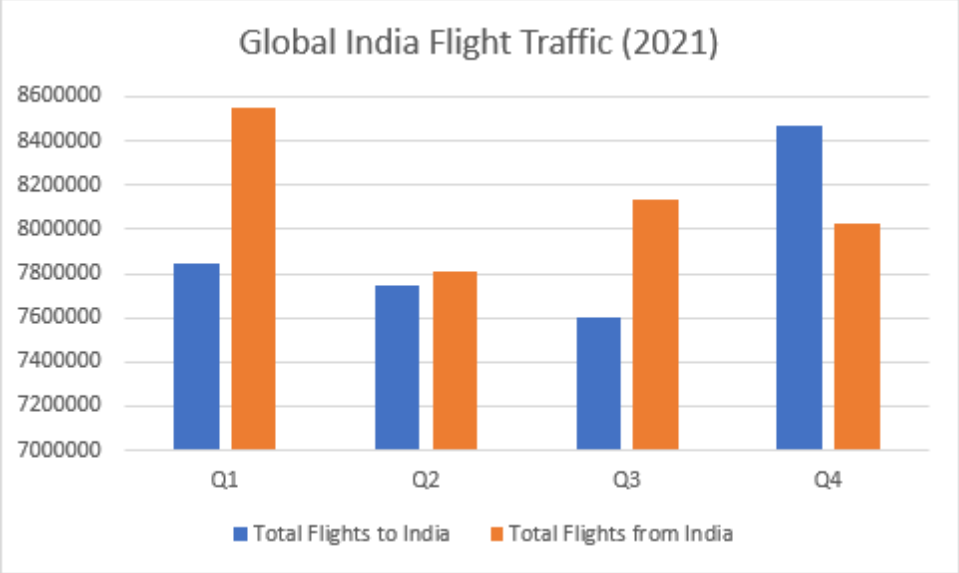
Furthermore, Mackenzie and Varadhan (2019) note the economic impact of the closures on both Indian and Pakistani airlines. As previously noted, Air India lost $71.6 million during the closure, which means losses overall were much higher (Hassan 2019). Pakistan and PIA lost a combined $100 million (Hassan 2019). Despite these losses of revenue, India did not change its behavior over the duration of the closure. This follows what I expected because as time goes on, airlines are likely to find ways around close airspace and the impact of the closure lessens over time.

Figures 25 and 26 show flight data to and from India. Figure 28 shows all the international traffic to and from India, while Figure 29 shows the specific international travel to and from India that was affected by Pakistan's airspace closure. Both report the number of passengers carried and are divided by quarter in 2021. Q1 covers January through March, Q2 covers April through June, Q3 covers July through September, and Q4 covers October through

December. Pakistan's 5-month airspace closure spanned the last part of Q1, all Q2, and the first part of Q3. This allows me to see how the closure affected passengers carried throughout the year.

Figure 25 shows that the total global flights from India drop between Q1 and Q2 and raise again in Q3. This could indicate that it was tougher navigating around Pakistan's closed airspace for the duration that the closure was in effect. By contrast, total global flights to India only partially dropped each quarter until Q4, where there is a substantial rise again.

Figure 25. Global India Flight Traffic in 2021

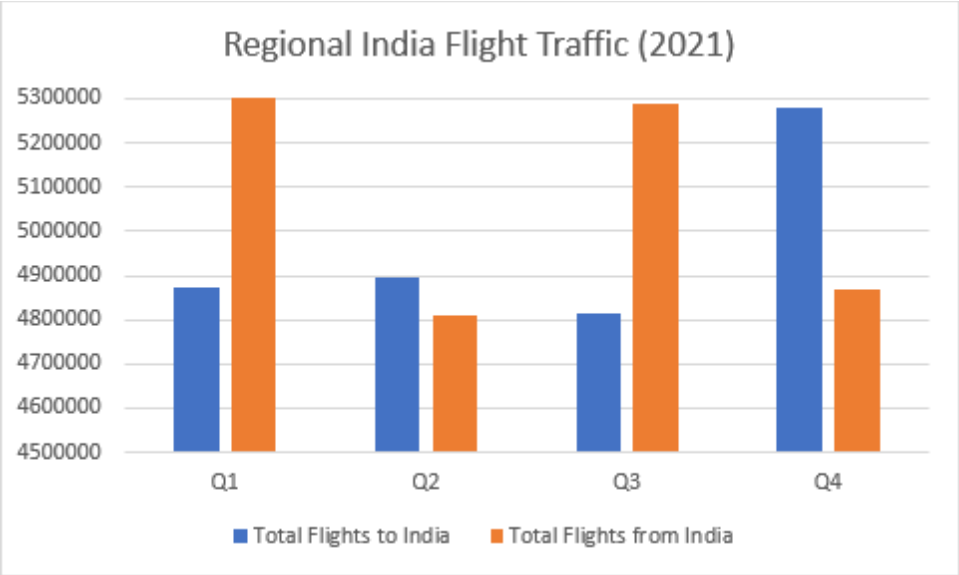


Source: Directorate General of Civil Aviation, Government of India

Figure 26, below, shows the total passengers carried per quarter in 2021 between India and the regional countries that Pakistan's airspace falls near or between. By isolating these flight paths from global flight paths, it gives a more targeted assessment of how Pakistan's airspace disrupted India's travel. Figure 29 shows a drop from Q1 to Q2, and then a rise again in Q3 followed by another drop in Q4. Part of this decline in Q4 can be attributed to seasonal flight numbers declining in the winter months. However, the lower numbers reported in Q2 occurs

during a time when passenger numbers should not be dropping, which can be attributed to the airspace closure.

Figure 26. Regional India Flight Traffic in 2021



Source: Directorate General of Civil Aviation, Government of India

Unsustainable Closure: Pakistan's Policy Reversal

The airspace closure for Pakistan was a way to signal foreign policy preferences concerning Kashmir and, more generally, India's power in the region. Initially, Pakistan's decision to close its airspace to signal its foreign policy preferences outweighed the costs that Pakistan would incur. However, the costs associated with the closure became too much for Pakistan, resulting in a reopening of the airspace. Despite the costs outweighing the benefit of the closure, Pakistan's choice to close its airspace was still less costly other types of foreign policy actions. As airstrikes from both Pakistan and India had already been utilized against each other, further military escalation could have caused the crisis to develop into war.

The policy reversal shows that the costs of the closure for Pakistan ended up surpassing the benefits of the signal being sent. For India, the cost of maintaining its behavior did not

surpass the benefit of maintaining control over part of the Kashmir region. The target was able to weather the costs of the closure, while the sender was unable to and had to reverse the foreign policy action. However, the signal that Pakistan initially sent to India indicating its foreign policy preferences over the salient Kashmir issue was important enough to enact an airspace closure, despite the relative brevity of the action. By imposing an airspace closure on India, Pakistan was making a highly visible signal.

This case is important because it shows how economic factors related to an airspace closure can impact the behavior of a state. This case has a different outcome than the Qatar Diplomatic Crisis, in which all the countries involved are wealthy and were able to withstand the economic costs, both for the sending states and target state. Similarly, Algeria and Morocco have both been able to withstand the economic impact of the closure. To conclude, the initial impact of the closure on India was not enough to cause India to change its behavior. The initial impact on Pakistan was, however, enough to cause them to reopen their airspace.

Table 4. Results of Hypotheses for Pakistan's Closure to India

What Factors Contribute to a State's Decision to Close its Airspace?	**Pakistan vs. India**	**What Influences a Target State's Behavior?**	**Pakistan vs. India**
H1 – States are more inclined to close airspace with lower economic costs.	Support	H7 – States are less inclined to change behavior when issue is higher in salience.	Support
H2 – States are more inclined to close airspace with lower diplomatic costs.	Support	H8 – States involved in international aviation more inclined to change behavior.	No
H3 – States are more inclined to close airspace with higher domestic audience costs.	Support	H9 – States are more inclined to change behavior with multilateral vs. unilateral closure.	No
H4 – States are more inclined to close airspace in response to norm/value/principle violation.	Support	H10 – States are more inclined to change behavior when closure is enacted with other punitive policies.	No
H5 – States are more inclined to close airspace when allies do.	No	H11 – States are less inclined to change behavior the longer the airspace is closed.	No
H6 – States are more inclined to close airspace when issue is higher in salience.	Support		

CHAPTER SIX

UNDERSTANDING AIRSPACE CLOSURES AS STRATEGIC SIGNALS

The multilateral airspace closure to Russia, described in the introduction, has remained in effect throughout the process of conducting this research. The airspace closure itself is a part of the West's larger foreign policy towards Russia to pressure Russia to change its behavior toward Ukraine. However, as Dagaeva (2024, para. 10) reports, "the main message from Russian officials is that Western sanctions have not achieved the goal they were aiming for." Although the airspace closure did disrupt the Russian airline industry, it was able to withstand the resulting economic pressures "thanks to strong financial injections from the government and the resources of the market players themselves" (Dagaeva 2024).

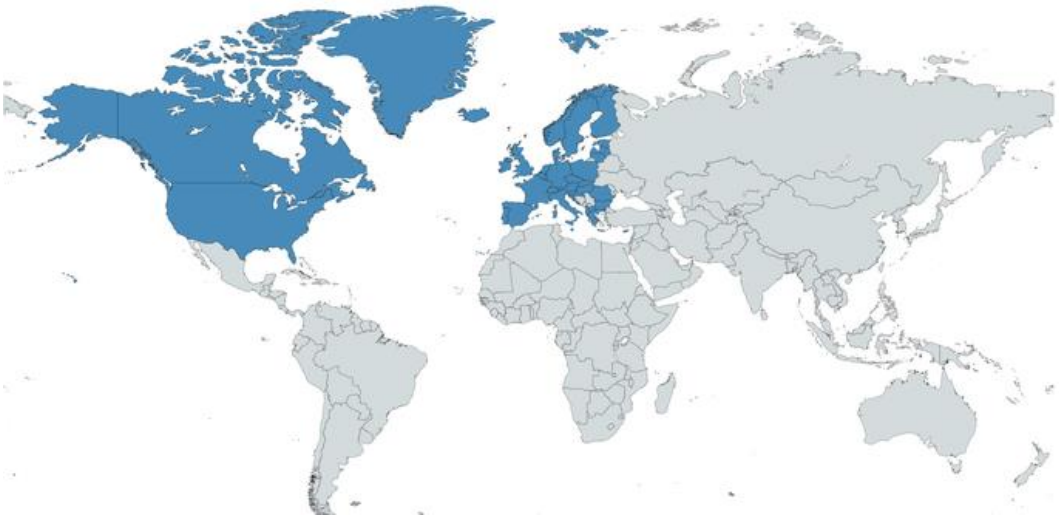
While airspace closures are acknowledged to be a high-cost foreign policy tool and a suboptimal mode of interstate interaction, they persist as a response to perceived transgressions in the foreign policy of other states. Why do countries continue to close their airspace when it is costly and is shown to not be an effective foreign policy tool? Figure 27 shows the countries that closed their airspace to Russia in response to the invasion of Ukraine, and it indicates that the factors investigated in this dissertation are also at play in the multilateral closure to Russia.

As the map indicates, the airspaces being closed to Russia are concentrated in Europe and North America, and it is a multilateral closure. The widespread closure has impeded Russian airline travel, but it has not completely isolated Russia because of the presence of countries

outside of North America and Europe that have expressed support for Russia, such as Iran, Belarus, and North Korea ("EU Sanctions" 2024).

At the heart of the sanctions is a salient issue, the invasion of Ukraine. The invasion unveils Russia's violation of norms, values, and principles that the senders support, which include sovereignty, just cause for war and proper war conduct, and allegations of genocide in Ukraine (Howard 2022). Leading up to the invasion of Ukraine, Russia was one of the major trading partners of the European Union, but the EU has since adopted widespread sanctions against Russia in addition to the closure ("EU Sanctions" 2024). This multilateral airspace closure has not worked and there are no signs that Russia will change its behavior in the foreseeable future, despite the multiple forms of pressure the sanctioning countries are using.

Figure 27. Countries that Closed Airspace to Russia Since 2022



Source: Jankowicz 2022

Open access to airspace is a benefit to all states because of reduced travel time and operating costs, as well as revenue generated from overflight fees. Yet, countries continue to close their airspace despite the guarantee that both senders and targets will incur costs. Why do

states continue to engage in a financially costly foreign policy if history has shown that airspace closures do not work in changing a target's behavior? My research investigated the following questions: what factors explain the use of airspace closures as a foreign policy tool, and under what conditions do they change the behavior of other states?

This dissertation has been an exploratory study on the use of airspace as a foreign policy tool from within the framework of the rational choice theory. The logic of my theory is that if the benefit of the signal being sent by an airspace closure outweighs the costs associated with the closure, a country is more likely to close its airspace. The project looked at a variety of factors in three case studies to pinpoint the costs and benefits of both enacting an airspace closure, and what shapes a target's behavior.

I have argued that issue salience, economic strength, and low diplomatic costs are the main factors that can explain airspace closures and contribute to the cost/benefit analysis of the rational choice approach. The primary benefit of the closure is derived from signaling a foreign policy preference over a salient issue, which tend to be rooted in norm violation or territorial disputes. The primary costs to the sender come from loss of revenue generated from overflight fees, and the costs to the target include increased travel time and operating costs. According to the theoretical framework, if the benefit of a sender closing its airspace to make a statement about a salient issue outweighs the costs incurred, this theoretically leads to the decision to close airspace. For the target, if the benefit of maintaining behavior to make a statement about a salient issue outweighs the costs incurred, this theoretically leads to a state's resistance to behavior change.

This chapter discusses the three cases more broadly and offers general conclusions. The cases explored in this dissertation include the Arab Quartet's closure to Qatar, Algeria's closure

to Morocco, and Pakistan's closure to India. Although each case has unique details, the major takeaway overall from the case studies is that issue salience, whether it is through norm violation or territorial control, is the major factor in a country's decision to close its airspace when it is facilitated by a country's economic resilience and low diplomatic costs. Interestingly, none of the three cases resulted in a change in the target's behavior, which shows that airspace closures are not an effective tool for a sending state to try and get another state to do what it wants.

If the airspace closures did not result in a change in behavior, what, if anything, did they accomplish? The major accomplishment of the three case study airspace closures was sending a signal about the sending state's perspective on the target state's behavior. The airspace closure represents the sending state's disproval of the target's action. Since the leveraging of airspace as a foreign policy tool is a quick and easy tool to implement when compared with other foreign policy actions such as military action, it appears as though airspace closures are an attractive but costly choice to send a signal revealing foreign policy preferences to the target. Airspace closures disturb the day-to-day operations of the target state and force the target to figure out a way to still conduct daily operations with more limited airspace access.

Open skies and liberalized air travel can serve as a tool for states to enhance political relationships, promote economic growth, and increase influence on the global stage because it fosters connectivity and collaboration. In this regard, analyzing airspace as a foreign policy tool demonstrates another method of state engagement in cooperation and conflict. On the one hand, open access to other states' airspace shows a willingness to engage diplomatically because it opens a physical channel of exchange for people, goods, and services. An example of this is when Saudi Arabia opened its airspace to "all carriers" in July 2022, which was a tacit "gesture of openness toward Israel" (Le Monde 2022). The two countries have historically had no

diplomatic engagement and Saudi Arabia's airspace was previously closed to Israel. On the other hand, however, the choice to close an airspace gives states the ability to emphasize sovereign control over territory while at the same time sending a clear signal about foreign policy preferences. Studying the factors that contribute to the sending states' decision to close an airspace, as well as the factors that could result in a change in a target state's behavior, allows us to gain insight into how states signal foreign policy preferences to engage in cooperation or conflict. Therefore, understanding the significance of airspace closure is essential for creating and implementing effective foreign policies and promoting global cooperation.

The remainder of this chapter concludes the project by overviewing the theoretical argument and the findings of the research. It will then reconnect it with the literature, discuss the contributions to the literature, and finish with areas of future research.

Airspace Closures Through the Lens of Rational Choice Theory

I use the rational choice theory to understand a sending state's decision to close its airspace and the motivation for a target state to maintain its behavior when confronted with a closure. Rational choice theory proposes that states make rational decisions that maximize the benefits and minimize the costs. From this framework, states seek the most preferred outcome based on their preferences by weighing the costs and benefits to maximize their interests.

Rational choice literature provides insights into airspace closures, paralleling James Fearon's (1995) exploration of why wars occur despite being costly. Fearon attributes conflicts to private information, commitment problems, or issue indivisibilities. Although airspace closures are not wars, they occur as a response to a crisis to signal preferences over indivisible issues and have costs for all countries involved. These indivisible issues result largely from values that are both tangible, such as territorial disputes (Holsti 1991; Vasquez 1995), or

intangible such as culture, norms or values (Hensel et al. 2008). Despite the costs, states are still willing to close their airspace to signal their foreign policy preferences. These closures serve as a strategic tool for states to signal preferences without resorting to war, and they send a clear message regarding another state's actions. Below, I overview the costs and benefits of airspace closures for the sender. By identifying the costs and benefits from within the rational choice framework, this dissertation creates a general prediction of state behavior towards airspace.

What factors contribute to a state's decision to close its airspace? According to the rational choice framework, the decision to close its airspace is through weighing the costs and benefits, as well as how likely the closure is to be successful in changing a state's behavior. A country is more likely to enact a policy if the benefits of enacting the policy outweigh the costs. As described in the case studies, there are multiple costs that could be at play when a state is making the cost/benefit analysis. The costs include economic costs, diplomatic costs, and domestic audience costs. Economic costs come from loss of overflight fees and other sources of revenue associated with aviation such as reduced revenue generated from airports, loss of tourism, and potential trade disruptions. As described in the case of Pakistan's airspace closure to India, initially the benefit of enacting the airspace closure to India outweighed the costs. However, over time, the loss of revenue generated by airline traffic and overflight fees was too much for Pakistan to maintain the closure, and the airspace was reopened.

When the costs described above are lower in relation to the benefit of a closure, it creates an opportunity for a country to close its airspace. States derive benefits from multiple factors, which ultimately creates the willingness for a state to close its airspace. Such benefits result from signaling support for a salient issue, which could include supporting a norm, value, or principle that the target state has violated. States also benefit from reinforcing alliances by enacting

coinciding airspace closures in response to a salient issue because it shows multilateral support for a particular foreign policy issue. As evident in the Arab Quartet's closure to Qatar, the support for norms of anti-terrorism as well as their disdain for Qatar's relationship with Iran was supplemented by the multilateral aspect of the closure. Qatar's actions and a multilateral response created a willingness to use airspace as a foreign policy tool because it signals policy preferences to both the target state and international community. Table 1 (below) provides an overview of the hypotheses regarding the factors contributing to a state's decision to close its airspace.

What causes target states to maintain foreign policy behavior despite the costs of airspace closures? The rational choice framework also can help to understand the decision making of the target state. There are multiple factors that embolden a target state to stay firm in its foreign policy behavior, which include issue salience, participation in international aviation, unilateral versus multilateral closures, inclusion of other sanctioning policies, and duration of a closure. Target states may place high value on the signal being sent by maintaining foreign policy behavior, and therefore taking a more resolute stance on salient issues could be seen as beneficial to the target. By contrast a target has a robust aviation sector, an airspace closure might place enough pressure from associated costs to urge a change in behavior. Similarly, the costs from a multilateral closure as well as those from closures that are enacted alongside other sanctioning policies, and therefore might outweigh the benefit of maintaining foreign policy behavior. Lastly, if a target country can withstand the initial impact of a closure, it is likely that they are unwilling to change their behavior the longer that the closure is in place.

My research fills the gap our understanding of airspace closures by providing qualitative evidence of the factors that contribute to airspace closure and target behavior. The three case

studies explored in this research in Chapter 3, 4, and 5 – the Arab Quartet's closure to Qatar, Algeria's closure to Morocco, and Pakistan's closure to India - present a detailed narrative that connects the costs and benefits of closing an airspace to a state's decision to enact a closure and consider explanations of the target's response to the closure. These cases were chosen using a spatial method of case selection (Gerring & McDermott 2007) to vary by independent variables that are seen as key predictors of foreign policy behavior in the literature: regime type (Bueno De Mesquita et al. 1999; Owen 1994) and economic strength (Dent 2001; Hussain 2006). The case studies help to explain the factors that contribute a state's decision to use airspace closures as a foreign policy tool, and show that in all three cases, the outcome of the closure is the same; none of the cases resulted in a change in the target's behavior.

Economic strength is an important predictor for a few reasons. First, states with more wealth have access to more economic and soft power resources that they can leverage to influence international relations (Nye 1990; Dent 2001). Second, wealth translates to security in that allows states to be less vulnerable to external factors (Dent 2001). Lastly, economic strength can transfer into soft power (Nye 1990). The Arab Quartet's closure to Qatar involved all autocracies that have strong economies. Both the senders (Saudi Arabia, the UAE, Bahrain, and Egypt) and target (Qatar) are oil rich and have a vast amount of wealth.

Regime type is also understood as an important predictor of foreign policy behavior. Some scholars note that democratic regimes have more domestic constraints and therefore have trouble implementing policies, while non-democratic regimes do not (Bas 2012; Gartzke & Gleditsch 2004). Democratic peace literature predicts foreign policy behavior by showing the relationship between democracy and peace. In other words, there is a noticeable absence of war between democracies (Bueno De Mesquita et al. 1999). Regime type being a predictor of foreign

policy behavior, however, is less significant when it comes to airspace closure. Pakistan's closure to India involved two democracies, and therefore shows that while there may be an absence of war between democracies, there are still other costly foreign policies being used to signal policy preferences in response to conflicts. Both democracies and non-democracies are using airspace closures to signal these preferences, and it remains an understudied response to conflict situations that threaten a state's interests and security.

What Factors Contribute to a State's Decision to Close its Airspace?

My dissertation investigates the factors that create the opportunity and increase the willingness to close an airspace. I argue that high issue salience, economic strength, and low diplomatic costs increase the propensity for a state to close its airspace. States defend the norms, values, and principles that they support, and an airspace closure is a way for a country to signal their foreign policy preferences. If the foreign policy issue is more salient, they are more inclined to use a tool such as an airspace closure to signal these preferences. A state's propensity to use airspace as a foreign policy tool is dependent on the ability of the sending state to withstand the economic costs imposed by the closure as well as the diplomatic costs that may be incurred. Table 2 (below) summarizes each of the hypotheses across the three cases and their findings regarding the factors that contribute to a state's decision to close its airspace.

Finding 1: Issue Salience Prompts Airspace Closures

I argued that states are more inclined to close their airspace when the issue is salient. When a state views an issue as salient, it is placing high value on the issue for both tangible and intangible reasons (Hensel et al. 2008; Diehl 1992; Holsti 1991). Tangible issues involve matters that have tangible worth (Atkinson 2021). A tangible issue might include control over territory because it is concrete and specific, although there can be intangible components attached the

matter that cannot be measured, such as power gained from the territorial control. Since salient issues are "not easily negotiated or compromised," a country may then make foreign policy decisions to signal their preference for that issue (Hensel et al. 2008). As a result, a sending state is likely to be more steadfast in seeing a foreign policy succeed when it concerns the salient issue (Ang & Peksen 2007). This is particularly true when the salient issue is intangible. Atkinson (2021) notes that when intangibility of an issue increases it is harder to resolve the conflict, which states may use to their advantage as a signal of resolve that they are unwilling to compromise on. In all three cases, signaling norm preference was at the center of the conflict, which increases the intangibility of the salient issue.

Diehl (1992) makes the connection between greater issue salience and higher likelihood of conflictual behavior. As a result, its reasonable that "policy makers should be willing to pursue costlier or riskier options to achieve their goals over issues that are considered highly salient than over less important issues" (Hensel et al. 2008, 124). In all three cases, the issue at the heart of the closure was highly salient, and they pursued a costly foreign policy that still sent a signal about policy preference. Salient issues can also fall in the realm of norms, values, or principles. Therefore, I also argue that if a target state violates a norm, value, or principle a sending state supports, a state is more likely to close its airspace. While there may be cases in which issue salience is low with the presence of a crisis, theoretically a sending state may choose a less costly foreign policy option rather than airspace closures, such as economic sanctions.

All three of the cases had a highly salient issue at the heart of the airspace closure with an underlying norm, value, or principle that had been violated by the target state, resulting in increased intangibility. These salient issues were broadcasted across news sources and mentioned in public statements in all three cases. For the Arab Quartet, the salient issue at the heart of the

closure was terrorism and Qatar's growing relationship with Iran. For Algeria, it was control over the disputed Western Sahara region and broader support for autonomy and self-determination. In fact, Algeria's approach to these norms has been consistent since the 1970s (Boukhars 2013). For Pakistan, it was control over the Kashmir region and the issue of sovereignty and territorial integrity. The sending states all publicly acknowledged the reason for their closures, citing the norm that had been violated. For the Arab Quartet and Algeria, the benefit of signaling foreign policy preferences concerning the salient issue outweighed the costs associated with the closure. For Pakistan, the benefit of signaling its preferences initially outweighed the costs, but then the costs became too high, and the airspace had to be reopened.

This finding is generalizable across other instances of airspace closures because other closures are also rooted in salient issues for both the target and sender. One prominent example is the dispute between Turkey and Cyprus. The island Cyprus, located in the Mediterranean, is split into two parts. The northern part of Cyprus is claimed by Turkey and inhabited by Turkish Cypriots. To the south, the Republic of Cyprus (RoC) is an internationally recognized, sovereign state controlled by Greek Cypriots. A report by International Crisis Group (2023) outlines the dispute and how it has resulted in contestation over which controlling agency has authority in the airspace over the northern part of Cyprus. Turkey bans aircraft registered to the RoC from flying in its airspace, although the RoC is not affected because they have no national airline (International Crisis Group 2023). The closure, although it does not have an impact on RoC, highlights the territorial dispute and how it is central to the diplomatic issues between Turkey and the RoC. The Ercan International Airport, located in the Turkish Cypriot territory, only has flights between Ercan and Turkey. While there has been an initiative to reopen Ercan to international flights outside of Turkey, Turkey does not benefit from its reopening if it is under

RoC control because that tacitly recognizes RoC's sovereignty, which is the primary salient issue for Turkey.

Finding 2: Economic Strength Buffers the Costs of Airspace Closures

I hypothesize that states are more inclined to close their airspace when the economic costs of closures are lower. Economic costs are lowered when the sending state has a high level of economic strength. The costs are also lowered when the closure has a minimal effect on the sending state's airline industry. Airspace closures are costly, but economic strength gives states an opportunity to buffer the costs of a closure. By contrast, a state may not risk losing overflight fees and other revenue generated from airline traffic if it cannot withstand the economic costs of the closure. However, if the issue is salient enough and the state can manage to withstand the costs, these conditions create the opportunity to close airspace.

The best example of the economic strength of the sending state(s) is seen in the Arab Quartet's closure to Qatar, in which all countries involved are extremely wealthy. During the Arab Quartet's closure to Qatar, the economic costs of the closure were low because the oil wealth of the sending states cushioned any economic losses that the closure caused. Despite economic losses and a near isolation of Qatar, the economic impact on the sending states from the loss of Qatar's traffic was not substantial enough. As a result, the foreign policy preference that the airspace closure signaled (the benefit) outweighed the costs, because the wealth of the sending states buffered the costs.

With Algeria's closure to Morocco, Algeria was able to withstand the economic impact of the closure because the aviation sector is not a substantial component of Algeria's economy. Therefore, the loss of Morocco's traffic through Algeria's airspace was minimal. In this case, the benefits still outweighed the costs because the economic costs were not very high. As the case is

still ongoing after a few years, it suggests that the benefit of signaling foreign policy preferences over Western Sahara remains greater than the economic costs associated with the closure. Pakistan's airspace closure to India showed what happens when economic strength can no longer provide a buffer for the economic impact of a closure. Initially, Pakistan was able to withstand the economic impact that the airspace closure caused. When Pakistan enacted the closure, the benefit of Pakistan signaling its policy preferences regarding the highly salient Kashmir issue was higher than the costs of the closure. However, Pakistan was unable to maintain the closure due to the economic costs resulting from loss of overflight fees. So, while initially the benefits of the closure outweighed the costs, after a few months the costs began to outweigh the benefit of the closure. This led Pakistan to reopen its airspace to India.

Russia's retaliatory airspace closure to 36 countries following the invasion of Ukraine offers a more recent example. Russia collected roughly $1.7 billion from revenue generated by overflight fees before the invasion of Ukraine (Wood 2023). Many of the countries that Russia closed out of its airspace are European and frequently used the airspace prior to the closure. The total reduction in overflight fees has not been reported. However, Russia has spent $12 billion to supplement its financially impacted aviation sector (Stolyarov 2023).

Clearly, economic strength provides the opportunity for a country to close its airspace. As a result of economic strength, countries that can afford losses from a closure and are more inclined to enact a closure. In this regard, it is important to consider both the wealth of a nation but also the level of revenue generated by overflight fees and other associated costs.

Finding 3: Low Diplomatic Costs Create Willingness to Close Airspace

States with diplomatic ties have more to lose if one were to sanction the other with an airspace closure. A sanctioning country also risks breaking diplomatic ties with those countries

that do not support the sanction. Furthermore, the use of sanctions is constrained by institutional ties between countries with diplomatic relations (Cox & Drury 2006). By imposing sanctions, country risks breaking the institutional ties and the shared gains that come from them. Sanctions could also result in a retaliatory response, particularly if a country has high diplomatic costs. I hypothesize that states facing lower diplomatic costs are more inclined to close their airspace.

The recent multilateral closure to Russia reflects the power of low diplomatic costs in enacting an airspace closure. However, it is not the first instance of a multilateral closure to a target country. One of the first instances of a multilateral closure occurred in 1963, when neighboring African nations created an air blockade to South African aircraft during the Apartheid. This created "an air curtain [that] had closed the skies to South African Airways […] forcing its planes into a torturous detour" (Time 1963). The collaboration of a majority of the African continent lowered the diplomatic costs by increasing the level of policy unification and support between the sending states, as well as ensured a collective approach to sanctioning South Africa. When states with diplomatic relations work together for a common foreign policy goal, the diplomatic costs are lowered.

The results from the case studies also show that low diplomatic costs increase the likelihood that a state will be willing to close its airspace. The Arab Quartet's diplomatic costs were low because the closure was multilateral. Like in the Russian and South African examples provided in this dissertation, multilateral closures entail coordination between multiple states, thus reducing the costs. Joshi and Mahmud (2020) discuss how the propensity to enact sanctions is increased when the sending states has a lot of allies to rely on in their network. Larger networks boost the value of the reason behind the sanction and helps isolate the target due to pooling of resources and support (Hufbauer et al. 1990). In this regard, sending states benefit

from ‘strength in numbers’ when it comes to enacting sanctions. When more than one state participates in the airspace closure, it reduces the diplomatic costs by providing a network of support. This finding has implications for other multilateral airspace closures, most notably the ongoing airspace closure to Russia in which 36 countries have joined together to make a statement about Russia’s foreign policy by closing their airspaces.

The case of Algeria also offers evidence that diplomatic costs are an important consideration in understanding airspace closures. Algeria’s diplomatic costs were low due to Algeria’s autonomous foreign policy decision making. This is a result of shifting relations between Algeria and the US, Russia, and China, but at the core, Algeria has historically pursued a neutral and non-aligned foreign policy (Petropoulos 2022). Following the fall of the Soviet Union, Algeria developed closer ties with the West. However, this relationship was strained when former President Trump recognized Morocco’s authority over Western Sahara (Petropoulos 2022). In sum, Algeria has maintained relations with the US, Russia, and China, yet has made foreign policy decisions based on its own interests. Without substantial pressure to conform to other states’ foreign policy preferences, the diplomatic costs are low.

The case of Pakistan also provides support that diplomatic costs of airspace closures are an important factor for states to consider. Pakistan’s diplomatic costs were low also due to shifting diplomatic relationships between the US and West, Russia, and China. Pakistan and the US have historically had a close relationship. However, more recently, Pakistan’s growing relationship with Russia and China have shown that the country’s priorities are not fully in line with the US. At the same time, China has increased its investment in Pakistan’s infrastructure and military capabilities, and Russia has increased its involvement with Pakistan, including arms sales and joint military exercises (Zenko 2015). At the heart of this is Pakistan’s obsession with

India, which has led to it increasing its own security by boosting its military capabilities but also becoming increasingly more aggressive toward India. Those variable and inconstant relationships over time placed less pressure on Pakistan to conform with one side's foreign policy preferences, leading to Pakistan's approach to foreign policy. Therefore, like Algeria, Pakistan's diplomatic costs were low. This was magnified by Russia and China investing in Pakistan in ways that supported its anti-India preferences.

Each of the three cases reveal different circumstances that have contributed to lowered diplomatic costs. Diplomatic costs were lowered because of the Arab Quartet's multilateral closure, Algeria's autonomous foreign policy approach, and Pakistan's variable diplomatic relationship with the US, China, and Russia. The low diplomatic costs create the opportunity to close airspace, as we see in all three of the cases.

Finding 4: Behavior of Allies Has No Substantial Impact

Unlike in the previous finding, where states with low diplomatic costs are more inclined to enact an airspace closure, I hypothesized that states are more inclined to close their airspace if allies also close their airspace. The logic is like what is described in Finding 3 and was the case with the Arab Quartet. However, Algeria and Pakistan both closed their airspace unilaterally without the influence of any allies. Although the salience of the issue that was behind the closures was important enough for both Algeria and Pakistan, it might not be salient for allies of the two sending states. Additionally, both Algeria and Pakistan tend to act autonomously with their foreign policy decision making, particularly because of their changing relationships with the US, Russia, and China. Considering the three case studies, the findings suggest that allies do not have an impact on a state's decision to close its airspace.

It could be that if an ally closes its airspace to a target state, the issue behind the closure is not as important to other states. Furthermore, other states may have different diplomatic relations with the target state that would deter them from closing their airspace in solidarity with an ally. One of the most notable instances of a country closing its airspace without considering the behavior of its allies is with the conflict between Turkey and Cyprus, explained earlier. While the international community (which includes many of Turkey's allies) recognizes RoC and its control over the overlying airspace, Turkey does not recognize Cyprus as a state, and currently bans aircraft registered to the RoC (International Crisis Group 2023). Turkey's refusal to recognize the Republic of Cyprus as well as their control over the airspace has led to confusion about which controlling agency to talk to when flying through the disputed airspace (International Crisis Group 2023).

Finding 5: Domestic Audience Costs Have No Substantial Impact

Audience costs result from leaders backing down in disputes with opponents (Crisman-Cox & Gibilisco 2018). These costs differ according to different regime types due to the differing propensity for leaders to be removed from office (Fearon 1994). Democracies have higher audience costs than non-democracies because it is easier to be removed from office with a failure to be reelected. Since the decision to close airspace is much cheaper and less risky than other foreign policy options like militarized conflict or war, it is a preferable foreign policy option in terms of the cost/benefit analysis. Therefore, I hypothesize that states with higher domestic audience costs are more inclined to use airspace closures as foreign policy tool.

Support for this hypothesis was not consistent across the three cases, with the Arab Quartet and Algeria having low domestic audience costs compared to the high audience costs of Pakistan. Regardless of the variation in domestic audience costs, airspace closures were still

enacted so it unlikely that audience costs are linked to the decisions to close airspace. First, the Arab Quartet is non-democratic, and even though Algeria promotes itself as democratic, the decision-making process is insulated from the domestic audience. Pakistan is democratic, so it has higher audience costs. An explanation for this is that the issue in each case is highly salient and perceived as vital to national security, so leaders may prioritize these interests over any potential domestic backlash. This could offer further support for the centrality of issue salience to airspace closures.

One example of the domestic audience costs having no impact is with the current situation in Russia. Caryl (2024) notes that "[p]olling has gotten harder as autocracy [in Russia] has tightened," however, the domestic audience does not seem to have an impact in Russia's retaliatory airspace closure to the West's multilateral closure against it. As a non-democracy, Russia's audience costs are already lower than in democratic regimes. It is clear, however, that Russian citizens are feeling the effects of their country's invasion of Ukraine. They are "feeling the pain of […] flight bans" as well as the increase in prices and shortages in medical goods among other things (Stewart 2022, 1). Valery Fyodorov, who is the head of the Russian Public Opinion Research Center (VCIOM), noted that 15% of citizens supports the invasion, while 16-18% are in opposition to it (Caryl 2024). Fyodorov further explained, however, that the "overwhelming majority of the population is essentially apathetic and will tell pollsters and officials whatever they want to hear" (Caryl 2024). Even though the validity of the polling data is questioned, it falls in stark contrast to Putin's claim in 2023 that the Russian leaders and public are united in their foreign policy opinions and goals (Caryl 2024). This example highlights the difference in foreign policy preferences between Russia's government and its citizens and shows

that the actions of Russia continue despite a lack of general support for the government's foreign policy actions.

Finding 6: Geography can be a Factor in Airspace Closures

Although the hypotheses in this study did not focus on target and sender location in relation to one another, the case studies all show that geography can play a role in airspace closures. In all three of the cases investigated in this dissertation, the target state was geographically proximate to the sending states in that they share a border. The airspace closures were a way to assert power and control over a disputed territory between the states, enhance the senders' security through protection against military incursions, prevent conflict escalation, and generally place political pressure on the target.

Two of the cases, Algeria's closure to Morocco and Pakistan's closure to India, involved politically sensitive areas that have been disputed for an extensive period of time. These closures were used in a way that not only signaled foreign policy preferences to the sending state, but also were a way to assert power and control over the disputed region in an effort to limit or undermine the power of the adversary. The airspace closures reinforce claims to the disputed area.

In the case of Pakistan's closure to India, the airspace closure can also be understood as a way to increase security, as airstrikes had been occurring between the two countries prior to the closure. In this regard, an airspace closure prevents conflict escalation, and is a useful reaction in cases where security is threatened that both enhances security while still sending a clear signal of foreign policy preferences.

The third case, the Arab Quartet's closure to Qatar, shows how countries used their geographical proximity to place political and economic pressure on the target. The coordinated

airspace closure shows a collective approach that leverages geographical proximity to both enhance the effects of a sanction package as well as magnify the signal being sent to the target and international community.

While territorial proximity might not be a factor in every instance of an airspace closure, it is worth mentioning particularly when the conflict is related to a territorial dispute, when security is compromised or there is a potential for crisis escalation, or when the sending states are able to use territory to place greater pressure political and economic pressure on a target state.

Table 4. Case Study Results – "What Factors Contribute to a State's Decision to Close its Airspace?"

	Arab Quartet vs Qatar	Algeria vs Morocco	Pakistan vs India
Economic Costs H1 – States more likely to close airspace with lower economic costs	Supports Hypothesis Reason: Fuel rich countries Economic cost < benefit	Supports Hypothesis Reason: Not a robust aviation sector Economic cost < benefit	Supports Hypothesis* Economic cost < benefit * The initial cost of the closure was less than benefit, but Pakistan was unable to maintain over time
Diplomatic Costs H2 – States more likely to close airspace with lower diplomatic costs	Supports Hypothesis Reason: Multilateral lessens diplomatic costs	Supports Hypothesis Reason: Autonomous foreign policy	Supports Hypothesis Reason: Changing relationship with other countries
Domestic Audience Costs H3 – states more likely to close airspace with higher domestic audience costs	No Support Reason: Lower domestic audience costs	No Support Reason: Lower domestic audience costs	Supports Hypothesis Reason: Higher domestic audience costs
Norm, Value, Principle Violation H4 – states more likely to close airspace in response to violation	Supports Hypothesis Reason: Anti-terrorism and anti-extremism	Supports Hypothesis Reason: Autonomy and self-determination	Supports Hypothesis Reason: Sovereignty and territorial integrity, Kashmir
Allies H5 – states more likely to close airspace when allies do	Supports Hypothesis Reason: Allies closed	No Support	No Support
Issue Salience H6 – States more likely to close airspace when issue is higher in salience	Supports Hypothesis Reason: Terrorism, growing relationship with Iran	Supports Hypothesis Reason: Western Sahara	Supports Hypothesis Reason: Kashmir

What Impacts Target States' Foreign Policy Behavior?

Airspace closures do not work as an effective foreign policy tool to get another state to change its behavior on a particularly salient issue. I explore what factors contribute to this outcome and

find that issue salience is the most important factor in a target state's decision to maintain its foreign policy behavior. Table 2 (below) summarizes each of the hypotheses across the three cases and their findings regarding the factors that encourage a target state to maintain its behavior.

Finding 1: Issue Salience Urges Target States to Maintain Foreign Policy Behavior

Like sending states, highly salient issues create more of a willingness for a target state to maintain its behavior because it is placing high value on the issue at stake. A country is more likely to take a decisive position on salient issues to highlight their willingness to obtain a particular foreign policy outcome, especially when the issue at stake is intangible. Therefore, I hypothesize that a target state is less likely to change its behavior in response to an airspace closure when the issue is highly salient.

None of the three cases resulted in a change in behavior, and the issues that were described earlier as highly salient to the sending states were also highly salient to the target state. Had the issues been lower salience for the target state, these may have resulted in a change in behavior because a target would have been less committed to maintaining its stance on an issue. The benefit of making a statement on foreign policy preference for Qatar, Morocco, and India outweighed any costs that were associated with the closures.

Finding 2: Strength of Aviation Sector does not Impact Foreign Policy Behavior

I hypothesized that the robustness of a country's aviation sector means that a target state is more likely to change its behavior when faced with an airspace closure. A country with a robust aviation sector being shut out of an airspace creates an incentive to change its behavior because it has a greater impact on flight paths and a greater increase in operating costs. A country that has a higher participation in aviation might also be influenced to change its behavior

to protect its reputation, particularly if it has a successful airline that might be impacted from negative press surrounding a closure. The results from the case studies show, however, that a country's level of participation in aviation does not affect its behavior when confronted with an airspace closure. The target states in my case studies have varying levels of participation in aviation, but none of the target states changed behavior.

Each of the case studies vary in terms of strength of the aviation sector. Qatar can be seen as having the highest level of participation in aviation. Qatar has perhaps the most developed aviation sector and, as a result, was most affected by the airspace closure due to the complete isolation that the closure caused. Qatar Airways is consistently ranked one of the best airlines in the world, and it is a leader in the airline industry (Skytrax 2024). Furthermore, Doha Hamad Airport in Qatar is consistently ranked as one of the best airports in the world. As previously noted, Qatar was seeking $5 billion in compensation. Qatar's resistance to changing its behavior can be explained by its vast amount of wealth. If Qatar did not have the wealth from oil to buffer its losses, it may have resulted in a change in behavior. Despite a high participation in aviation, Qatar did not change its behavior because of the closure.

India has a fast-growing aviation sector, and in terms of quantity, India is one of the highest ranked in global connectivity worldwide as well as is home to several top ranked airlines in south Asia (Skytrax 2024). There are many hubs within India that connect international travel and facilitate millions of passengers per year. It also, by comparison to Pakistan, is a wealthy country and is large in terms of territory. As shown earlier, Pakistan's closure to India did disrupt India's flight paths and resulted in a $71.6 million loss in revenue, but this was not substantial enough of an impact to elicit a behavior change. The closure, however, did not result in a change

in behavior because it was easy for India to reroute around Pakistan's airspace, and the closure only lasted a few months.

Lastly, Morocco's aviation sector is smaller in terms of volume and quality. While Morocco's aviation sector is not as large as Qatar's or India's, it is a growing element of the country's economy and infrastructure. Morocco Royal Air Maroc (RAM) is 53rd in the world for the global top 100 airlines but is voted one of the top airlines in Africa (Skytrax 2024). Morocco also is a middle-income country but was not affected by the closure because reroutes around Algeria's closed airspace was easy and as previously noted only affected about 15 flights per day. Although it does not have as developed of an aviation sector compared to Qatar and India, it is still highly ranked. Had the closure isolated Morocco more, it could have led to a change in behavior.

No matter the level of participation in aviation, when faced with an airspace closure, the target states in all three cases did not change its behavior. This suggests that the strength of the aviation sector does not influence a target's behavior. In sum, the level of participation in aviation did not seem to explain the behavior of the target state.

Finding 3: Multilateral Closures do not Impact Foreign Policy Behavior

If more countries close their airspace to a target state, it makes airline operations even more complicated and costly because the airlines must reroute around a greater number of airspaces. I hypothesized that countries are more inclined to modify their behavior in response to multilateral airspace closures compared to unilateral ones. However, that the cases do not support this expectation. Even with the Arab Quartet's multilateral closure that completely isolated Qatar, Qatar still did not change its behavior. This hypothesis has important implications

for the ongoing airspace closure to Russia. If more countries close their airspace to a target state, there is not a lot of support to suggest that the target state will change its behavior.

Finding 4: A Multi-Pronged Approach does not Impact Foreign Policy Behavior

I hypothesized that countries are more inclined to alter their behavior when airspace closures are implemented alongside additional punitive measures. In every case, airspace closures were enacted alongside other sanctioning policies, but there was no change in behavior. Issue salience helps to explain why states are unwilling to change their foreign policy, as states are more inclined to remain steadfast in their policy preference despite rising costs of doing so if the issue is highly salient. This finding follows the literature in suggesting that sanctions often fail (Biersteker & van Bergeijk 2015).

This is most evident with the Arab Quartet's closure to Qatar. The near isolation of Qatar, who relies on imports and exports to sustain its population, was not enough to incite a change in behavior. It is also evident in the current multilateral closure to Russia, which is backed up by numerous other sanctioning policies on individuals and firms. The closure and other punitive policies have lasted more than a year, yet Russia is finding ways buffer the costs of the closure. For example, as noted earlier, Russia injected $12 billion into the airline industry to buffer the negative effects of the closure.

Finding 5: Prolonged Closures do not Impact Foreign Policy Behavior

I theorized that airspace closures with longer durations decrease the likelihood of a country altering its behavior. The three cases do not offer much support for this hypothesis. On the one hand, the short duration of Pakistan's airspace closure to India did not result in a change in behavior. On the other hand, the longer duration of the closure to Qatar and Algeria's ongoing closure to Morocco have also not resulted in a change in behavior. This highlights the

adaptability of target countries when confronted with the costs incurred by airspace closures. If the target state is initially able to withstand the impact from the closure, it seems as though they can adapt to a "new normal" under an airspace closure.

Additionally, target states benefit by signaling their foreign policy preferences in response to a closure, particularly if the issue is salient. If a state can withstand the initial impact of the closure, states are willing to incur costs when it comes to salient issues regardless of the duration. Pakistan was the only case where a sender country was unable to withstand the costs of the closure, but the target state remained firm.

Table 5. Case Study Results – "What Impacts Target States' Foreign Policy Behavior?"

	Arab Quartet vs. Qatar	Algeria vs. Morocco	Pakistan vs. India
H7 – States less likely to change behavior when issue is higher in salience	Supports Hypothesis Reason: Relationship with Iran, anti-terrorism	Supports Hypothesis Reason: Western Sahara	Supports Hypothesis Reason: Kashmir
Participation in International Aviation H8 – States involved in international aviation more likely to change behavior	No Support Reason: High participation	No Support Reason: Morocco has growing participation	No Support Reason: High participation
Unilateral vs. Multilateral H9 – States more likely to change behavior with multilateral vs. unilateral closure	No Support No behavior change, multilateral	No Support No behavior change, unilateral	No Support No behavior change, unilateral
Other Punitive Policies H10 – States more likely to change behavior when closure is enacted with other punitive policies	No Support Reason: Complete severing of diplomatic ties	No Support Reason: Pipeline	No Support Reason: Mail services
Duration H11 – States less likely to change behavior the longer the airspace is closed	No Support Reason: No change in Qatar's behavior	No Support Reason: Ongoing	No Support Reason: Pakistan reopened airspace

Key Takeaway: Issue Salience is Primary Driver of Closures when Wealth is High and Diplomatic Costs are Low

The key takeaway from this dissertation is that airspace closures are not effective at changing a target state's behavior. And yet, they have become an important foreign policy signal that is highly visible to the international community. It is a costly interaction that has not historically led to the stated foreign policy goals. In fact, states are willing to incur substantial economic costs for enacting airspace closures, which suggests that there are deeper, underlying reasons for shutting an airspace. Closures communicate important messages to the international community about foreign policy preferences over salient issues. These messages make a country look more tough in the eyes of its peers, and resolute in its preferences to a target.

In addition to signaling preferences regarding a salient issue, there are two clear signals being sent in the three cases of airspace closures. These airspace closures function as strategic signals conveying a state's assertions of sovereignty, control over its territory, and prioritization of security interests, ultimately aiming to bolster its regional influence. The decision to enact an airspace closure, despite the associated economic costs, underscores the importance a state places on international perception. For instance, a state might leverage such a closure to cultivate an image of resolute action on a particular issue vis-à-vis the target state. The fact that a sending state is willing to incur the costs associated with a closure despite it not being an effective way to change a target's behavior demonstrates that the signal being sent to the target and the international community about foreign policy preferences is high in importance. In other words, the signal being sent is salient enough for the sending state to be willing to incur the costs. The

decision to close an airspace and the signaling behind the closure can be understood as a calculated choice leaders make to maximize benefits while minimizing costs. In all the cases, issue salience was the primary driver for a sending state to close its airspace, particularly when wealth is high and diplomatic costs are low.

Regardless, airspace closures have a human cost that are not considered when decision makers close their airspace to a target state. Citizens are most affected by the closure, not the politicians enacting the policies. For example, the population in Qatar relies on food imports to feed themselves and their families. The airspace closure to Qatar disrupted the channel for food imports, making it harder for people to obtain a basic need. In sum, despite the benefit of sending a signal to the international community and how that signal overpowers the costs associated, there are very real costs to ordinary people that are not considered when airspace closures are implemented.

Connecting with Existing Research

This dissertation underscores airspace as an under-researched political topic. The demand for international travel by air continues to rise, and therefore it is increasingly more important to understand airspace and the implications of its closure. To my knowledge, this is the first research study specifically investigating the use of airspace as a foreign policy tool. It is an exploratory investigation that fills a gap, as the literature has historically focused on leverage and control over land and sea but not airspace. Airspace closures have increased in frequency over the last few decades, yet they are costly to all parties involved. This puzzle deserves attention because it can shed light on state behavior in signaling preferences to other countries. A focus on the politics of airspace is indispensable to trying to understand state behavior because the sky is

used more and more for travel, cargo shipments, business, diplomatic missions, humanitarian efforts, and other state interactions.

In addition to being an under-investigated area of political inquiry, it considers airspace as another foreign policy tool within the broader framework of policy options for states to use. As mentioned earlier, open skies and deregulated airspace benefit all the countries that are involved, because it reduces airliners' travel time and, consequently, fuel costs, as flight paths can be more direct to their intended destination. Since banning a country from an airspace increases costs as well as travel time, this dissertation has explored the 'why?' behind airspace closures. As a foreign policy option, it sheds light on state behavior and relationships with other states, as well as implies that open access to airspace can be further investigated as an indicator of peace between nations.

There are numerous reasons for a country to close their airspace to a target country. This research concludes that economic factors and issue salience, which can include norm, value, or principle violation and/or territorial disputes, are the two major factors that contribute to the decision to close an airspace. Put simply, if a state (whether it is the target or sending state) can withstand the cost of a closure, they are willing to incur those costs if the benefit of the signal they are sending is important enough.

My research findings have implications not only for scholars involved in the peace and conflict literature but also for those that study foreign policy behavior. The results shed light on an understudied dominion of political engagement that has a tangible impact on the both the policymakers and, more importantly, the general population directly affected by the closures. Below, I connect my findings with the existing research and highlight how studies of airspace closure contribute to the literature.

Theories of International Relations

Airspace is another realm that shows the basic tension in international relations literature; it highlights the tension between sovereignty and compliance with international agreements (Stein 2008; Wohlforth 2008; Spindler 2013). Without an entity that can hold states accountable and enforce agreements, states can act independently to get what they want. This dissertation benefits the International Relations literature because airspace is another space of political engagement. This space can be analyzed according to dominant theories in political science literature.

Literature on Aviation

Existing research on aviation would benefit from a focus on the political dimensions of airspace. So far, the literature has focused on international aviation organizations, aviation as a form of soft power, civil aviation as a state tool in terms of culture and society, and international organizations as political actors (Kobierecki 2000; Indriani 2021). It has also focused on airspace to assert dominance in terms of creating flight routes and gaining control in the airline competition between states (Scott-Smith & Snyder 2013). My research fills a much-needed gap by investigating airspace as a political tool that has widespread effects. The findings here suggest that scholars need to account for airspace as another area of political engagement, ripe for both cooperation and conflict, and how the management of airspace for political reasons has symbolic meaning related to a particular salient issue.

Sanctions

This dissertation expands the existing body of research on sanctions by investigating airspace closures as an understudied tool within the broader category of sanctioning policies. The scholarly discourse surrounding the effectiveness of traditional sanctions remains inconclusive. Sanctions are a tool that states can use to place pressure on a target country to urge them to comply with sanction sender's demands by making a change in behavior. The conventional wisdom, however, is that sanctions do not work (Biersteker & van Bergeijk 2015; Hufbauer et al. 1985; Pape 1997). Given the failures of the Arab Quartet's closure to Qatar and Pakistan's closure to India, as well as the fact that Algeria's closure to Morocco (which is still ongoing) has not resulted in a change in behavior, the findings in this dissertation reinforce the notion that sanctions are not effective tools for pressuring other states to change their policies.

Some scholars find that they are counterproductive and often unintentionally cause harm to the population (Onder 2019; Pape 1997 Hufbauer et al. 1990; Bienen & Gilpin 1980). My research supports this argument. Both the sending and target states are affected by airspace closures. Sending states lose overflight fees and other sources of revenue generated by international aviation. Target states, after being shut out of an airspace, are required to reroute around closed airspace which increases time, fuel consumption, and operating costs. Most importantly, however, the population is affected despite the fact they are not directly involved in the dispute between the countries. Airspace closures complicate travel plans and increase costs, disrupt supply chains, delay cargo deliveries, separate families that may live in an adversary's country, and could lead to feelings of insecurity and stress resulting from the geopolitical tensions. While those enacting the policies might close an airspace to signal foreign policy

preferences, they impact the population in unintended ways, which has been described in the case studies.

Scholars have also found that poorly aligned sanctions lead to their failure (Forrer 2017). Forrer (2017) describes these poorly aligned sanctions are those "that prove to possess limited powers of persuasion [and] may be categorized as symbolic, but they still cause real and unnecessary losses on [the population]" (para. 4). As evidenced throughout this dissertation, comprehensive airspace closures, encompassing the denial of access to all aircraft registered within the target state, have demonstrably failed to compel significant behavioral modifications from targeted states. However, a potential avenue to enhance the effectiveness of this foreign policy tool lies in fostering greater international alignment with respect to the implementation of airspace closures. Such alignment could bolster the credibility of this policy instrument. Increasing the alignment in this case could include analytically determining the cost that would persuade a state to change its behavior, avoiding the choice to use airspace as a symbolic foreign policy tool, or increasing the use of targeted airspace closures that focus on individuals or corporations rather than entire populations (Forrer 2017).

Cooperation

The literature on cooperation discusses relationships between states that are signatories on international agreements and how these agreements shape state behavior (Mansfield, Milner, & Rosendorff 2002). Cooperation occurs when states adjust their behavior to suit the preferences of other states through policy coordination (Milner 1992; Keohane 1984). A focus on airspace in this literature would highlight the shortcomings of aviation agreements in getting states to cooperate and comply when open access to airspace benefits all countries involved. Furthermore, the literature shows that democracies are more likely to cooperate, but airspace closures are

enacted by democracies and non-democracies roughly the same amount. My research contributes to the literature on cooperation because it highlights the barriers to cooperation from closing airspace. These barriers prevent states from enjoying mutual gains from open airspace access. Additionally, my research opens the door for further research on avenues for improved cooperation through aviation institutions.

Policy Implications

My research reveals that airspace closures are not an effective way to change state behavior. The Arab Quartet's closure to Qatar was the most comprehensive in terms of a closure isolating a target country, but the vast economic strength of Qatar permitted it to withstand the economic impact of the closure. Algeria's closure to Morocco is still ongoing and has not resulted in a change in behavior. Pakistan's closure to India ended after 5 months when Pakistan reopened its airspace because it could not withstand the economic impact. The closure, however, did not result in a change in India's behavior.

It is important to note that when analyzed together, the case studies show that the very conditions that prompt a state to close their airspace also inhibit the target states from changing their policies. This tension leads to a potential gridlock between the sender and the target, in which both parties are unwilling to come to a resolution and negotiations are futile. If an issue is high in salience for both parties and the states involved can withstand the costs of the closure, this may lead sending states to be more inclined to close their airspace and target states less inclined to change their behavior when faced with an airspace closure. When a foreign policy like an airspace closure is devised, it promotes the interests and security of the sender, which, in turn, might conflict with the interests and security of the target.

How might sending states persuade a state to comply with what the sender wants without resorting to the use of military force? One possible path is through strengthening international institutions that can encourage states to comply and cooperate with other states. As Nye (2008) points out, "[t]here are times when cooperation, including enhancement of the public image of multilateral institutions like NATO or the UN, can make it easier for governments to use such instruments to handle difficult tasks like peacekeeping, promoting democracy, or counterterrorism." (107). Strengthening international institutions like International Civil Aviation Organization and non-governmental institutions such as International Airline Transport Association and Flight Safety Foundation would provide a foundation for compliance and cooperation among states.

Strengthening institutions would increase their authority. Cooper et al. (2008) discuss the level of authority that institutions can have, and how states yield sovereignty to highly authoritative institutions. International institutions "solve coordination problems and achieve efficiency gains from specialization," and highly authoritative institutions have the final say regarding certain decisions (Cooper et al. 2008, 508). As this plays out in airspace closures, strengthening ICAO could result in a greater push for keeping airspace accessible to all, or at least for civil aviation and airline travel.

Two of the three case studies, Pakistan's closure to India and Algeria's closure to Morocco, deal with disputed territory, which could impede efforts to encourage states to comply with the suggestions made by ICAO regarding airspace. Fravel's (2005) study on China's territory disputes, the author suggests that a feasible solution may "[involve] an offer to compromise by dividing control of contested land or dropping outstanding claims" (52). While these are seemingly improbable suggestions given the long duration of the dispute between the

target and sender in both cases, they could aid in promoting cooperation and compliance with the push for more open and accessible international airspace.

Areas for Future Research

As there is limited research on the politics of airspace, there are many areas that welcome future research. First and foremost, as a case study driven approach, I acknowledge that this dissertation has limitations in terms of selection bias, generalization, and establishing causation. The cases were chosen to include economic and regime-type variation, but also because they had the most available information and data. Since the cases are only three instances out of many airspace closures, a potential drawback is from selection bias. However, as this is an exploratory dissertation seeking to open a new avenue of political science research inquiry, the benefit of the project outweighs the problem of selection bias.

Establishing causation with case studies is also problematic because of the lack of statistical analysis, and as a result generalization across airspace closures is difficult because of the limited number of cases. However, the purpose of this dissertation has been to simply gain new insights and to explore airspace closures to show that as a foreign policy tool, closures are a response to salient issues to signal foreign policy preferences. It is my hope that this research offers a platform from which other hypotheses can be developed, tested, and new insights into foreign policy behavior can be gleaned.

This dissertation has focused on the costs, benefits, and perceived probability of success of the sending state. Future research could investigate why target states maintain behavior despite major international pressure to change. A focus on target behavior would supplement our understanding of target behavior through a rational choice framework by analyzing the costs and benefits of maintaining behavior.

Further research on the use of airspace closures as a foreign policy tool would benefit from the development of a comprehensive dataset that records all known instances of airspace closures, the impetus behind the closure, and the duration of the closure would greatly benefit this area of research. The data that are available for public use, such as the Global Sanctions Database, gathers data on sanctions between states. The dataset includes sanction duration, objective of the sanction, perceived degree of success, and indicates whether a travel ban was instituted. Travel bans, however, are different than airspace closures in that travel bans often tend to target individuals, groups, or firms rather than total airspace closures. A comprehensive dataset on airspace closures opens more opportunities to investigate the impact of the closure on domestic populations, supply chains and imports/exports, as well as impacts on economic development.

There is an opportunity for research on other types of closures that have a political impact, such as those enacted by the military. Military closures include the establishment of No-Fly Zones (NFZs), which are created to protect civilian populations during military conflicts. When an NFZ is initiated, a coalition of countries appropriates control over a nation's airspace. They involve both preemptive and reactive attacks on an enemy, the nation whose airspace has been appropriated, to make sure they do not violate the airspace. Examples include NFZs over Iraq from 1991-2003, and the NFZ over Libya in 2011, 2018, and 2019, which were all initiated to protect the civilian population. NFZs are important to research because they violate the sovereignty of the target but are done so largely for humanitarian reasons. While they were created in the 1990s, they are still used today. Most recently, Ukraine requested an NFZ imposed over its airspace, but the West ultimately rejected this idea due to fears of escalation with Russia

(Durbin 2022). Scholarship would benefit from research on their legality and effectiveness of NFZs.

Lastly, since most commercial airliners are manufactured by a small number of companies, further investigation could go into the politicization of aircraft maintenance and how politics can hinder the proper maintenance of fleet according to the manufacturer when the aircraft is foreign made. As an example, the West's recent embargo against Russia has prevented Russia from importing the Boeing and Airbus parts needed to maintain their fleet (Rains 2022). This has caused them to forgo necessary repairs and/or resorted to 3rd party suppliers that may not fully satisfy the manufacture's requirements (Rains 2022). This is a growing safety concern that is derived from international relations. My research project was developed from the increasing instances of airspace closures in the news. It set out to explore and promote the study of airspace closures as a foreign policy tool because closed airspaces have political and economic implications while also complicating an already convoluted map of airline flight paths. My goal was to shed light on factors that help to explain why a country might close its airspace but also what can contribute to their success, success being measured as a change in a target's behavior. It is my hope that this dissertation can act as a springboard for airspace as a new area of political inquiry, as the frequency of airspace closures have increased with the growth of international aviation.

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VITA

Dr. Samantha Costas earned a Bachelor of Arts degree in International and Global Studies from Sewanee: University of the South in 2013. She subsequently obtained a Master of Arts degree in Latin American and Caribbean Studies in 2015, followed by another in Political Science in 2016, both from the University of Guelph. In 2024 she received a Doctor of Philosophy in Political Science from Loyola University Chicago. In academia, she has taught undergraduate courses in Introductory Spanish and Introduction to International Relations. She also has presented her research on airspace closures at the Midwest Political Science Association Annual Conference. Professionally, she holds an Airline Transport Pilot certificate and has been actively working as a commercial airline pilot since 2023.