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# Exponential Capacity of Power and Its Impact on the Military Alliance Dynamics

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

EXPONENTIAL CAPACITY OF POWER AND ITS IMPACT ON THE MILITARY

ALLIANCE DYNAMICS

A dissertation submitted in partial fulfillment of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

INTERNATIONAL RELATIONS

by

Nikoloz Gabriel Esitashvili

2016

To: Dean John F. Stack, Jr.  
Steven J. Green School of International and Public Affairs

This dissertation, written by Nikoloz Gabriel Esitashvili, and entitled Exponential Capacity of Power and its Impact on the Military Alliance Dynamics, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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The dissertation of Nikoloz Gabriel Esitashvili is approved.

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Andrés G. Gil  
Vice President for Research and Economic Development  
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Florida International University, 2016

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## DEDICATION

I want to devote my work to my family, particularly to my mother Inga Kenkadze, whose infinite sacrifices and support have made it possible for me to go this far.

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ABSTRACT OF THE DISSERTATION  
EXPONENTIAL CAPACITY OF POWER AND ITS IMPACT ON THE MILITARY  
ALLIANCE DYNAMICS

by

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Florida International University, 2016

Miami, Florida

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The Cold War ended in 1991, yet the North Atlantic Treaty Organization still persists. This outcome defies paradoxically two exceedingly important facts: First, NATO's central and greatest geostrategic rival—the Soviet Union—disappeared a quarter of a century ago. Second, China and Russia are insufficiently capable to individually challenge and counterbalance NATO's military supremacy and conventional military might. From a theoretical perspective, in the absence of an immediate threat and/or the need to counterbalance relative power, International Relations alliance theory would posit the dissolution of military alliances. Nonetheless, NATO continues to endure. This study seeks to elucidate the strategic factors generating this puzzling historical and theoretical development.

This study demonstrated that the political economy of the defense industry has become an important variable that can affect the power of states and the endurance of alliances. The study analyzed three equivalent cases of military alliance dynamics—the aftermath of the Great World War, the Second World War, and the post-Cold-War phase of NATO. The analysis of these three cases served to probe and demonstrate the

necessary and sufficient conditions for the presence and endurance of military alliances. According to International Relations alliance theory such conditions should be, first, the presence of external threats and, second, the compatibility of national interests.

This study employed the comparative case study method in order to shed light on the nature of threats faced by great powers during different time periods. Further, the study used the focused comparison method in conjunction with the intensive case study approach to explore in depth the states' strategic military and economic interests and alliance decisions. Having analyzed the external threats and compatibility of great power interests in different time periods, the study concluded that neither of the two abovementioned conditions is sufficient to explain the endurance and deepening of the level of cooperation among the great powers participating in NATO. This study demonstrated that technological features of military production—the size and extent of scale economies, economies of scope, and learning-by-doing—and escalating military costs have been crucial and complementary factors affecting the motivations and intra-alliance politics of NATO member-states after the Cold War.



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## **CHAPTER I**

### **Introduction**

The unraveling of the Soviet Bloc began in Poland in June 1989. This was accelerated by protests throughout Eastern Europe and the crack on the Berlin Wall on November 9<sup>th</sup>, 1989. These events, together with other domestic-level conditions operating in the Soviet Union, ultimately caused its collapse and ended the Cold War in 1991. Nonetheless, the North Atlantic Treaty Organization (NATO) perversely still endures despite the end of the Cold War and the disappearance of the Soviet Union—the principal rival that prompted the military alliance’s formation and purportedly warranted its military and geostrategic operation for over four decades. Nonetheless, over the course of a quarter of a century, after the dissolution of the Soviet Union and the Warsaw Pact Treaty Organization in 1991, NATO intriguingly expanded its membership, kept its internal structure and organization virtually intact, and engaged in a variety of military missions, causing the redefinition of its original geostrategic function and purpose.

The enduring capacity of NATO is, indeed, a puzzling political event and a counterintuitive development regarding the internal logic of military alliance theory in International Relations. Undeniably, this is a crucial case worth exploring further and comprehensively in terms of its historical, geopolitical, strategic, and theoretical ramifications. Accordingly, this study aims to examine and explain, first, the underlying reasons and conditions causing NATO’s endurance in the absence of its original purpose:

counterbalancing the Soviet Union's threat. Second, and perhaps even more importantly, this study attempts to elucidate why NATO's most powerful members, (i.e., France, Germany, Great Britain, and the United States) continue (and deepen) their military cooperation when their main rival is a bygone historical fact. Third, on a broader scale, this study aims to advance a theoretical contribution to the literature on military alliance dynamics, particularly, the paradoxical and perverse alliance endurance beyond the defeat, capitulation, or disappearance of the alliance's central enemy. From this vantage point, this study will show that the political economy of military materiel production, an aspect generally omitted when explaining military alliance strategies and dynamics, might be a crucial causal factor in determining the alliance choices of states and the counterintuitive endurance of military coalitions such as the North Atlantic Treaty Organization's since 1991.

After a general historical introduction and functional description of NATO, I will review the extant literature on military alliance dynamics. Since I investigate the role of military power in the alliance strategies of states, my work closely examines realist assumptions and norms in the unfolding dynamics of world politics. Despite significant differences among various variants or branches within Realism, military power and the use of force are vital considerations among realists, driving alliance formation, operation, and state strategies. I will review three major realist theories that relate power and the threat of force directly to alliance politics among states: Balance-of-power; balance-of-threat; and balance-of-interests theories. These theories should clarify the motivations driving the behavior of states and the role of social power in their political and strategic

motivations and calculations. Once these theories are clarified in relation to the international behavior of states, I will explain specific alliance strategies that states employ towards each other. I will briefly analyze four strategies discussed in the realist literature: Balancing, bandwagoning, chainganging, and buckpassing, with its two attendant variants referred to as bloodletting and/or bait, and bleed strategy.

In the process of introducing realist theories, I will show that they fall short of explaining NATO's endurance since the end of the Cold War. Specifically, they fail to explain why Western European states chose the strategy of bandwagoning with the U.S. rather than choosing other possible and available alliance strategies, including simply opting for neutrality, as has been historically the case for Switzerland. In the next chapter, I provide my own theoretical contribution based on the political economy of military or defense materiel production. I will argue that traditional explanations of material capabilities should be expanded to incorporate political economic insights in order to complement (not to debunk) existing political and strategic propositions, and, thus, explain better and more comprehensively particular alliance policy choices—for example, bandwagoning.

## **Why Does NATO Persist?**

The North Atlantic Treaty Organization is an intergovernmental military alliance that came into existence on April 4, 1949. The organization was built on the principle of collective defense, wherein member-states have agreed to defend each other from an attack by an external party to the alliance. NATO's base is located in Brussels, Belgium. It is comprised of twenty-eight members across North America and Europe whose military spending exceeds 70% of the world's defense spending. Two U.S. supreme commanders direct NATO. During the Cold War NATO's main rivals were the member-states of the Warsaw Pact Treaty Organization, which the Soviet Union formed in 1955 to counterbalance NATO.

Social uprisings against Communism and Soviet hegemony in Eastern Europe in 1989, and the eventual dissolution of the Soviet Union and the Warsaw Pact Treaty Organization in 1991 removed NATO's geostrategic enemy. Even after the main enemy's disappearance, the military bloc has, nevertheless, continued to exist and operate. Moreover, NATO gradually expanded to include some Eastern European nations and former Warsaw Pact Treaty alliance members, and it started to engage in military, political and humanitarian activities in Europe and in the rest of the world. In sum, NATO is still a central fact of world politics despite the disappearance of the original geostrategic and political purpose for its formation, evolution, operation, and strategic justification for over four decades.

What factors make NATO's endurance possible? Importantly, why do NATO's great powers continue their military cooperation instead of engaging in competition and rivalry among themselves or opting for neutrality? As mentioned above, this study does not aim to discredit and challenge existing political and strategic alternative explanations for NATO's endurance beyond the end of the Cold War. Rather, this dissertation aims to show that important developments in the political economy of the military and defense industry may have played (and still play) an important role in the decision by key NATO members to remain active in the coalition. In the past two decades specific developments in the political economy of defense created important incentives for some NATO members to continue their organizational membership and military cooperation. This study argues that, in addition to political and ideological factors, political-economic calculations may have played a larger role than originally understood in extending the institutional and operational life of NATO into the twenty-first century. This will be the central focus and contribution of this dissertation.

### **Literature Review: Neorealist Theories and Alliance Dynamics**

In the field of International Relations, different versions of Realism—ranging from Classical to Neo-classical—have focused on military power and the use of force as the most significant determinants of military alliance dynamics among great powers. It is, thus, necessary to begin our exploration by reviewing the most germane propositions generated by realist approaches to military alliance formation, operation, and endurance. The focus here is to show how these alternative explanations may have overlooked

important political economic determinants accounting for the perplexing endurance of NATO beyond 1991.

Neorealist theories have been largely silent on how the political economy of security may condition and influence the alliance endurance among member-states. In his *Theory of International Politics*, Kenneth Waltz argues that alliances are formed by states to balance each other's military power. Waltz suggests that "balance-of-power politics prevail wherever two, and only two requirements are met: that the order be anarchic and that it be populated by units wishing to survive" (Waltz 1979, 75). Following the end of the Cold War, however, the Western European members of NATO, France, Germany, and Great Britain, the most powerful members of the alliance trailing the U.S., did not attempt to counterbalance the U.S. as we would have expected based on traditional realist alliance theories. Rather than realigning with other world powers, such as, for example, China and Russia, the European powers continued their alliance with the U.S. The continuation of military cooperation among Western European and North American NATO members may be acceptable, reasonable and even commonsensical from the perspective of political, cultural, and ideological affinity among these countries. However, from the normative perspective and fundamental assumptions underpinning all variants of Political Realism, it is rather anomalous and even counterintuitive.

In this vein, it is theoretically, historically, and politically intriguing how and why NATO continues to exist despite the disappearance of the Soviet Union, the superpower it aimed to counterbalance and deter during the Cold War. The study will



show that existing neorealist explanations are incomplete and should be complemented with insights that take into account the political economy of military materiel production. Below, I distinguish among various alliance strategies that nation-states usually pursue in world politics, namely, balancing, bandwagoning, chain-ganging, and buck-passing. Then, I will demonstrate that NATO's Western European members follow a bandwagoning strategy. Importantly, though, the study will show that bandwagoning, as it is currently presented in the theory of alliances, is insufficient to shed light on the causes leading to NATO's endurance and military cooperation among Western European powers in the midst of the U.S. military unipolar moment since 1989. It is imperative, though, to incorporate the political economic dimension of defense development and production into a more comprehensive explanation of these puzzling outcomes. This dissertation will show how the notion of social power entails a political economic dimension that still remains unincorporated into alliance dynamics theories by realist scholars and is poorly understood by international security theorists. The central argument of this study is that political economic developments in the defense industry partly influenced NATO's endurance by affecting the policies and calculations of the key alliance partners.

### **Relationship of Power, Balancing Behavior, and Alliance Dynamics:**

According to some neorealist scholars, states care about their power relative to that of other states. Gains in power by one state will adversely affect the interests of other states. In order to safeguard their national interests, whether it is because of survival or

expansion, states engage in unilateral or multilateral balancing. Unilateral balancing implies increasing economic growth and/or increasing military spending as states augment their own capabilities. Multilateral balancing occurs when states enter into military alliances. Since the principal objective of this dissertation is to explain why NATO, a military alliance, survived and outlived the end of the Cold War, I will concentrate on explaining the interests of states that may motivate their decisions with respect to military alliance. Below, I will review the extant literature on the motivations of states for engaging in multilateral balancing in international politics and the role of power, based on specific objectives. I will subsequently explore what social power motivations imply for states' alliance strategies.

As discussed above, neorealist scholars have offered three distinct theories expounding the motivations of states to engage in multilateral balancing—balance of power, balance-of-threat, and balance of interest theories. According to the balance of power theory, proposed by Kenneth Waltz, states attempt to balance each other's perceived power or capabilities in the international system. As stipulated by Waltz and other realists, states' uncertainty about each other's intentions in a decentralized and anarchic order causes them to remain perpetually fearful and distrustful about the potential that other states may use force against them at some point. There is no guarantee to the contrary. It is a world where there are no permanent friends or allies but, rather, only permanent interests. For Waltz and others, power is a means for survival and the primary concern of states is maintaining their power relative to other states (Waltz 1978, 82).

John Mearsheimer, an offensive realist, on the other hand, starts with the same assumptions as Waltz. That is, the international system is anarchic, states are mistrustful of each other's intentions, and they care about their power capabilities, which are crucial for their survival. Unlike defensive realism, promoted by Waltz and others, which assumes states to be *status quo* powers striving to maintain the existing balance of power, offensive realism views states as power-maximizing entities. For offensive realists, the anarchic international system pushes states to be more offensive in their quest to assure security and survival by expanding and protecting their assets, gains, and power (Mearsheimer 2001, 36).

In contrast to defensive realists, Mearsheimer argues that in the absence of a central authority, uncertainty of a state's intention, and the presence of offensive military capabilities, states fear and distrust each other, and are compelled to take measures to guarantee their survival. Given the fear of aggression, states strive to maximize their power defined in terms of material capabilities. As Mearsheimer puts it: "They look for opportunities to alter the balance of power by acquiring additional increments of power at the expense of potential rivals" (Mearsheimer 2001, 39). The states' goal is to increase their military strength at the expense of other states within the system, with global hegemony being their ultimate aim. Thus, the main motivation of states is survival, but they will not pass an opportunity to increase their power and even attempt to become global hegemons. However, since global hegemony is almost impossible "due to the constraints of power projection across oceans and retaliation forces," states end up

balancing each other and becoming *status quo* actors after they achieve local hegemony (Mearsheimer 2001, 45).

In line with the defensive versus offensive realist argument, Stephen M. Walt suggests that the main motive for state behavior is survival, but their concern is not only the power differential of other states, but, more importantly, the threats they face in the system. In his book *Origins of Alliances*, Walt offers the balance-of-threat theory to explain the motivations promoting state behavior in the international arena. In contrast to defensive and offensive balance of power theorists, the book argues that states ally to balance against threats rather than against power calculations alone (Walt 1987, 66).

In their quest for survival, states carefully consider factors affecting threat level: aggregate power, geographic proximity, offensive power, and aggressive intention (Walt 1987, 68). Aggressive intentions matter because states viewed as aggressive are likely to provoke others to balance against them, even if this state is weaker than other powers. This is the reason why, according to Walt, “in a balancing world, policies that convey restraint and benevolence are best, and appearing aggressive is costly” (Walt 1987, 70). Thus, like defensive and offensive realism, Walt in his balance-of-threat theory suggests that states strive for their survival. Similar to defensive realists, he argues that states’ best option is to appear less aggressive to other states in their quest for survival. However, an important distinction from defensive realists is Walt’s observation that states implement their defensive policies with regard to threats posed by other states, among which, aggressive intentions occupy a central position (Walt 1987, 82).

In his “Bandwagoning for Profit: Bringing the Revisionist State Back In,” Randall Schweller critiques Stephen Walt’s balance-of-threat theory (Schweller 1994, 76). According to Schweller, the *status quo* bias of some neorealists cannot explain the competitive behavior of states observed so regularly. He argues that Walt’s analysis ignores cases in which threat is not the main motivation for balancing. Rather, Schweller contends that competitive behavior in international relations frequently stems from the fact that certain states harbor intentions of territorial aggrandizement. Conflict, according to Schweller, is driven by the existence of state’s unhappiness or dissatisfaction with their territorial holdings (Schweller 1994, 77).

Schweller offers the balance-of-interests theory to explain the motivations of states in the international system. His theory suggests that state interests depend on how states value *status quo* situations as compared to possible changes they can potentially affect—states that can gain considerably from changes will be more likely to take measures to attain them and vice versa. In contrast, *status quo* states are relatively satisfied with their share in the international system and attempt to hold on to it by maintaining relative power. Revisionist states, on the other hand, might prefer increasing their absolute power to maintaining security. In such cases states might opt to choose power over security. Schweller adds: “when the goal of one or more states is something other than mutual security [...] conflict arises not because they misperceive the security efforts of benign states but because aggressive states truly wish to harm them” (Schweller 1994, 79).

Thus, states, according to these neorealist scholars, have various motivations in relation to the use of military power and force. Above, I presented three balancing theories offered by different neorealist scholars: Balance-of-power, balance-of-threat, and balance-of interest theories. According to Waltz and Walt, proponents of the balance-of-power and balance-of-threat theories respectively, states care about their security and engage in the use of power primarily for defensive purposes. Differently, Mearsheimer theorizes that increasing security often entails offensive use of power for defensive purposes. Finally, Schweller, the proponent of balance-of-interest theory, focuses on situations in which states are primarily motivated by territorial aggrandizement and, thus, would willingly jeopardize their security in order to increase their power in the system. He refers to such states as revisionist states.

Nonetheless, independent of their particular motivations and objectives, states often have to align with other powers—that is, balance externally—to protect their national interests. In the following section I will review the International Relations literature, which discusses how states choose alliances based on their underlying strategic motivations and goals. Accordingly, I turn now to examine the extant literature on alliance dynamics and how it fails to explain the case of NATO. Once this is accomplished, I will offer my political economic theoretical contribution with respect to NATO's endurance capacity beyond the end of the Cold War in 1991.

## **Motivations of States and Their Alliance Strategies**

Depending on which version of neorealist theory is reviewed, the main motivation of states can range from surviving to increasing their power and status, or all these motivations in between the extreme objectives along a continuum. Independent of whether the motivation of the state is survival, predation, or gain in power and status, the array of alliance strategy options is the following: Balancing, bandwagoning, buck-passing, and chain-ganging. Below, I will review each alliance strategy and discuss whether they explain convincingly or shed some light on NATO's resilience and endurance after the demise of the Soviet Union.

Balancing is one of the alliance strategies that has been extensively discussed by neorealist scholars. Balancing implies offsetting or counterbalancing a potential external threat by either pursuing increased unilateral capabilities in a self-help system or entering into a multilateral arrangement or military alliance with others against the perceived or actual threat. Balance of power theory posits that the formation of hegemony is highly unlikely because states threatened by a potential hegemon will ally with others to balance against it. Another important reason for balancing with other weaker powers against a potential hegemon is because the membership of such an alliance increases the influence of the state in the alliance. In contrast, an alliance with a rising hegemon could mean domination or overwhelming influence by their stronger ally (Waltz 1979, 95).

In the case of NATO, British, Canadians, French and Germans, contrary to what Waltzian defensive neorealism would predict, are not trying to balance relatively larger military capabilities of the U.S. within the coalition. Clearly, the U.S. is overwhelmingly more powerful than any other state on its own. Nonetheless, Europeans in alliance with Russians, Chinese, or these two combined could actually achieve enough military power to counterbalance the U.S. The Europeans, however, opted against this option. Instead, they chose to ally, or in other terms, bandwagon with a much stronger partner. This decision has been explained according to multilateral cultural, political, and ideological affinities among members of the North-Atlantic military coalition. Others have emphasized the United States' geopolitical and global leadership objectives and the proximity of a potentially threatening Russia. This does not, however, provide a strong explanation as to why the Europeans resolved to bandwagon with the U.S., consequently remaining in the NATO alliance. In addition to Russia, China was an alliance partner option for the Europeans in pure power politics context, yet these states resolved to bandwagon with the U.S. and remain linked to the U.S. in NATO. Below, I will review the extant theoretical military alliance literature discussing the reasons why states opt to bandwagon rather than to balance the superior power of other intra-alliance actors.

There are two main versions on bandwagoning offered in neorealist literature: One advanced by Stephen Walt and the other by Randall Schweller. According to Walt, some states bandwagon because they lose hope of balancing the aggressor and, instead, ally with a foe to gain, at least, something from wars. Walt suggests that bandwagoning is a dangerous strategy, though, and states will bandwagon if and only if they cannot



balance a threatening enemy. Therefore, weak states are more likely to bandwagon with the threatening state. Strong states have a better chance of affecting the final outcome of conflict and are more likely to balance (Walt 1987, 54).

Unfortunately, Walt's bandwagoning argument in its current form does not explain why states would continue in an alliance when there is a clear absence of any enemies posing either a diffuse or immediate threat. While it is true that Russia and China can, at some point, rise to threaten the Europeans, until very recently, perhaps as late as the Eastern Ukraine crisis and Russia's absorption and re-annexation of the Crimean peninsula, they have not been displaying such aggressive intentions towards either the Europeans or the U.S. In this vein, it is all the more fascinating and perplexing that the NATO alliance continued to exist beyond the end of the Cold War; and that the Europeans powers bandwagoned with the largest power within NATO rather than dissolve the alliance as were the cases subsequent to the end of the First and Second World Wars' Triple Entente and Allied Powers alliances, respectively.

Schweller may be able to provide a clue as to why powers could remain allied to one another even if the threat to their security is nonexistent. He introduces some modification to the bandwagoning alliance strategy proposed by Walt. He suggests that Walt mistakes bandwagoning with capitulation, and falsely attributes this strategy to coercion of the weaker side by the strong one. In his "Bandwagoning for Profit: Bringing the Revisionist State Back In," Schweller maintains that states sometimes join an alliance hoping to "gain something" rather than "to defend from a real threat." According to

Schweller, Walt's bandwagoning falsely assumes that states only look for power to achieve security. This is because Walt bases his argument on the assumption that "states value more what they have than what they covet" (Schweller 1994, 80). Schweller counters that some states—the so-called revisionist states—are not satisfied with their position and care to increase their power rather than just maintain security (Schweller 1994, 81).

But like other theories, Schweller's balance-of-interests theory cannot explain why the U.S. and the Western European states continue to have military cooperation despite the fact that the original geostrategic threat disappeared in 1991. Schweller's theory explains why the U.S. and the Europeans would align with each other against an external threat: They have common interests in preserving the existing *status quo*. However, it does not explain why the alliance members would cooperate, and, critically important, even deepen their military cooperation such as, for instance, in military production, in the absence of a clear and evident external threat. This suggests that some other causes for military cooperation remain unaccounted for and are worth pursuing in this study.

Chainganging is yet another military alliance strategy discussed by neorealist scholars. In chainganging, attacks on allies are considered as a direct threat to the state security. Chainganging occurs when states drag their allies into conflicts they would rather avoid. Thus, states "may chain themselves unconditionally to reckless allies whose survival is seen to be indispensable to the maintenance of the balance" (Christensen and

Snyder 1990, 138). If one member state is attacked by another power, allies retaliate together against the offender. However, chain-ganging is an alliance choice that explains why states may go into war because they are already members of an alliance and are dragged against their own will. It does not explain, however, why alliances endure but, rather, why alliances may prove to be catastrophic as was the case of the tight alliance system that prevailed prior to the 1914 debacle. As such, it is not useful in explaining the continuing military cooperation among NATO's great powers. In a similar fashion buck-passing strategy in alliance politics is not helpful to explain the endurance of alliances. In buck-passing, instead of balancing against an aggressor, some states choose to pass the responsibility of defending from an aggressor to another state. Thus, rather than remaining together in facing the alliance's responsibility, as was the case of the Europeans behavior during the mid-1990s Balkan wars, states engage in buck-passing by deciding to stay out of the conflict and letting other states sort out their differences.

In conclusion, none of the abovementioned theories provides a convincing explanation as to why great powers such as the U.S., Great Britain, France and Germany remained NATO members and continued their military cooperation after the Cold War. Among those discussed above, Schweller's alliance theory of bandwagoning seems to be the most compelling, convincing, and promising for our task at hand. That is, compatibility of national interests makes Europeans and Americans ally with each other. However, as this theory stands now, it appears to be only useful in explaining the alliance strategies during open hostilities and war. It does not explain, however, why Europeans continued to ally with the US during peacetime and in the absence of a direct and evident

threat from other powers, and, equally important, why the allies deepened their military cooperation in the absence of a real or perceived extra-alliance threat. The latter was particularly and more prominently the case from 1991 up until 2008 during the Russo-Georgian War.

Beyond political and, possibly, cultural and ideological factors, this study will show that there may be a political-economic rationale stimulating the decisions by the U.S. and the Western European states to continue and deepen their multilateral military cooperation. None of the theories discussed above explain the alliance strategies adopted by NATO members since the end of the Cold War. I argue that the political economy of defense production can turn out to be the decisive missing link and a complementary explanation of NATO's paradoxical outcome in terms of realist perspectives on alliance behavior. I will argue that, at the moment, Europeans and Americans gain from remaining involved in the alliance and cooperating with each other. Such cooperation needs not be only political, cultural, ideological, and geostrategic, but, also, pecuniary in nature. I argue that there are political-economic considerations motivating their individual decisions. That is, the dynamics of economies of scale, economies of scope, and other economic factors are centrally at play in this complex relationship. The logic of the proposed argument is expounded subsequently.

## CHAPTER II

### MARKET IMPERFECTIONS AND SECURITY: NEOREALISM AND INTERNATIONAL ALLIANCES

Military alliance dynamics literature can be divided into two general categories: neorealist and neoclassical realist. In the first category, we find neorealist scholars, who understand a military alliance to be a collective response to external power differential or threat conditions. The second category, represented by neoclassical realists, interprets alliances as a coalition among states that have compatible national interests. What unites these two positions is their common assumption that the endurance of alliances is conditioned by the achievement of their objective, external goals. These theories, however, take minimal effort to analyze how internal or intra-alliance dynamics affect the alliance endurance. Before expounding my theoretical contribution, it is necessary to discuss notions of intra-alliance dynamics in order to point out more directly an important dimension motivating the purpose for my theoretical contribution to alliance dynamics and politics—that is, intra-alliance balance-of-power. My goal is to analyze alternative explanations of intra-alliance dynamics that may obviate my own explanation for the endurance of military cooperation among NATO's great powers.

Generally, neorealists understand alliances as an attempt to aggregate power in order to balance other states' power, to balance their threat, or to achieve certain

geopolitical goals. But there is a competing view on alliances, which classifies them, using Paul Schroeder's terminology, as "power management tools" used by states to control the strategies of their alliance partners (Schroeder 1976, 255). However, alliances require a credible commitment to constrain other states. Absence of such commitment would make an alliance unstable and untenable. Following the same line of reasoning, Glenn H. Snyder in his *Alliance Politics* suggests that states make commitments that can actually entrap them in alliances. Hence, they will be wary of making any deep commitments. Snyder called this phenomenon the "dilemma of abandonment and entrapment" (Snyder 1997, 49). The benefits of an alliance are security and stability; however, it comes at the cost of losing degrees of autonomy, and that involves the possibility of being dragged into unwanted wars. But Snyder, just like Schroeder, makes his argument for alliances as power management tools in the conditions of external threats. He does not explain, however, why alliances hold in the absence of such threats, and why states make deep commitments or uphold them when there is no apparent rival.

Nonetheless, Snyder makes an important contribution to understanding the endurance of alliances. He coins the term "situational context of behavior," to help understand the bargaining process—the division of costs and benefits—within the alliance (Snyder 1997, 62). According to him, the type of alignment, goals of the participants, and the relative power of the allies will influence intra-alliance bargaining. In turn, the outcome of the bargaining process will influence the endurance of the alliance.

James D. Morrow, in his article “Alliances and Asymmetry: An Alternative to the Capability Aggregation Model of Alliances,” continues Snyder’s line of reasoning. He suggests that symmetric alliances –that is, alliances of states with roughly equal strength– will not last long because there is an inherent problem of distributing the costs and benefits (Morrow 1991, 908). In a symmetric alliance, a change in either ally's capabilities forces a reallocation of the benefits of the alliance, making the alliance less likely to persist. Conversely, asymmetric alliances are easier to negotiate and last longer. In such alliances the small state gains the support of the strong state but loses autonomy and the strong state provides this support and gains the compliance of the weaker one.

To summarize, internal or intra-alliance balancing dynamics are very important for the endurance of military alliances. The internal security depends on the bargaining between states and on the benefits they gain from bargaining. In an alliance among equal powers, bargaining might destabilize its endurance. However, in asymmetric alliances, endurance is much more readily available. Thus, the enduring success of NATO could be attributed partially to the fact that it is an alliance between a major power and weaker members. The problem with this explanation is that it also assumes the existence of an external threat simultaneous to the intra-alliance balancing dynamics as a crucial reason for the endurance of asymmetric alliances. In the case of NATO, however, there was no such catalyst immediately after the Cold War to warrant its existence. Despite the absence of the external threat, the military organization continued to exist for its members. Subsequently, I present and expound my contribution, which, I hope, will

explain this perversely puzzling phenomenon by incorporating an overlooked and understudied political-economic dimension to the question of alliance strategies.

I previously introduced the notion of intra-alliance dynamics as an important influence on the endurance of alliances. Among the various important factors conditioning internal dynamics, state's interests stand out as one of the most prominent. Similar to Schweller's argument about the compatibility of interests among states, my explanation takes the level of analysis explaining the endurance of alliances from the systemic to the state level. According to this perspective, alliances are not solely influenced by systemic factors and forces but, also, and perhaps primarily, by how nation-states view their national interests within the system.

As mentioned above, Schweller coined the balance-of-interests notion in order to explain what promotes states' alliance decisions and preferences. Schweller labels as "lions" those states that are strongly in favor of keeping the *status quo*. In turn, he defines as "wolves" states that are hungry for change and for revising the status quo. Jackals, which are smaller than wolves, have an interest in changing the system, and they bandwagon with wolves. There are other categories such as "pilgrims" and "lambs," but their behavioral effect on the balance of interests is minimal, if at all, and unrelated to the question at hand (Schweller 1994, 74).

However, Schweller explains only why states dissatisfied with the *status quo*, such as wolves and jackals, would ally to change the odds. And "lions," that are content



with the *status quo*, create alliances to oppose change. Schweller does not explain, nevertheless, why lions would continue their alliance after the threat to their status disappeared as is in the case of NATO. Even more importantly, he does not explain why states would deepen their military cooperation in the absence of external or extra-alliance challenges. Lions agree on their systemic interests and would not change the established order. In the absence of external challengers it is, thus, intriguing to observe and extremely challenging to explain why they chose to continue and deepen military cooperation. I explain next what could explain such development on the basis of the political-economic rationale of the defense industry and how it may influence alliance dynamics.

This section introduces several centrally important economic concepts that can potentially explain the states' decision to stay in a military alliance and continue cooperation beyond the disappearance of the original strategic objective fueling the formation of the coalition. Economies of scale, economies of scope, and research and development costs provide the political economic rationale for such outcome. Neorealists allude to political-economic considerations mainly under the rubric of intra-alliance balancing. According to them, states balance internally when they augment their own capabilities by increasing economic growth and increasing military spending. Consequently, natural resource endowment, and demographic, economic, military and technological capacity determine the economic potential of a country. Logically, the military power of a state is shaped by the state's own economic potential in military production. However, with economies of scale, economies of scope, and shared

research/development costs, a different logic applies. In cooperation with each other, nation-states may be able to achieve the same level of power, but using fewer resources and economizing by sharing costs.

This dissertation attempts to demonstrate that economies of scale, economies of scope, and research/development costs in military production can significantly cut down the military expenditure of the allies, without jeopardizing their individual capabilities, political and economic autonomy, and relative power. Consequently, on the basis of rational cost-and-benefit considerations, it makes sense for states to cooperate with each in order to cut down such costs, provided, of course, their individual national interests are compatible. Below, I discuss in more details the logic of economies of scale, and other market mechanisms, and how these ultimately may play a fundamental role in intra-alliance balance and its endurance in the absence of an extra-alliance threat.

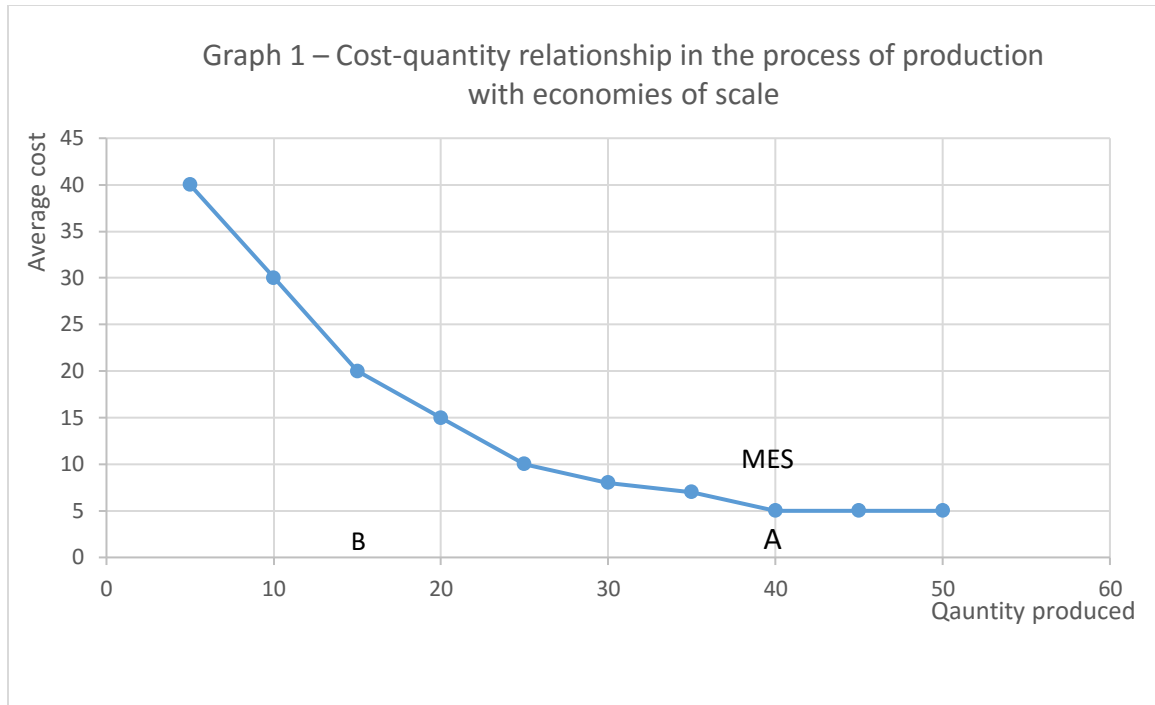
### **Market Imperfections:**

Certain methods of production exhibit increasing returns to scale. In his *Principles of Political Economy*, John Stuart Mill notes, “the larger the scale on which manufacturing operations are carried on, more cheaply they can in general be performed” (Mill & Robson 1996, 47). Adam Smith’s pin factory illustration in his *The Wealth of Nations* demonstrates how large-scale production can achieve lower costs per unit than an establishment with specialized labor tasks but short production runs. Scale and scope economies reflect indivisibilities - fixed costs that are indivisible with respect to output.

At the factory level, indivisible costs include capital requirements for plant and equipment, which can be amortized more rapidly when spread over large volumes to minimize costs per unit. Research and development costs will figure out as one of the most prominent ones, if not the most prominent outlay.

The returns to scale are important because producers gain more from increased scale, the steeper the cost curve in production (see the Graph No. 1 below): each marginal increase in plant size for producers decreases the average cost of the production. The difference in unit costs between producers of different sizes (for example between A and B in the Graph 1 below) denotes the penalty, or the cost in terms of reduced efficiency, when scale economies are not fully exploited. The steeper the curve, the larger are the economies of scale. That is, the lower the average cost of production is when goods are produced in large quantities.

For a producer, indivisibilities (costs incurred independent of the quantity of goods produced) arise from expenditures for research and development, product design and overhead costs. The minimum efficient scale is (MES) the level of output, which minimizes average costs, or the point at which potential economies of scale have been exhausted. The graph below shows how certain production costs fall until minimum efficiency scale is achieved. For producers that remain on the downward-sloping portion of the cost curve, some scale economies remain unexploited and, thus, savings in additional production do not accrue to these producers.



### **Economies of Scale in Military Production:**

Several authors have written about scale economies, economies of scope, learning by doing, and other economic topics related to military and/or defense material production. Harold Asher, in his paper, “Cost-Quantity Relationships in the Airframe Industry,” notes that the "learning curve" tended to apply to airframe production ... with unit costs declining in a fairly predictable pattern as production expanded (Asher 1956, 78). Malcolm W. Hoag, in his “Increasing Returns in Military Production Functions,” alludes to this reasoning when he suggests that prominent production economies of scale do apply with special frequency in military applications (Hoag 1967, 44). He argues that this is the reason why “concentrated sources of supply tend still to predominate,” meaning that instead of there being many factories and producers, there are just a few that

produce in large quantities (Hoag 1967, 46). He illustrates the point with the example of the F-iii (TFX), which was designed to be an advanced tactical fighter-bomber for both the United States Navy and the Air Force. Hoag concludes that the same logic applies to space programs.

According to Stefan Markowski, scale, scope and learning economies do appear to influence defense industry cost conditions, thereby helping prompt restructuring of the industry nationally and globally (Markowski et al. 2010, 38). Todd Sandler and Keith Hartley suggest that scale economies *per se* may have had only a modest influence on defense industry structure in the past, while the evidence for learning economies and their impact was more convincing. However, since the 1990s, scale economies have had large impact as well (Sandler and Hartley 2001, 891). James Dunne suggests that governments now appear more sensitive to the extra cost incurred by small national production runs (and the high technology nature of some manufacture) and more receptive to the argument that “economies of scale need to be met through international collaboration and industrial restructuring” (Markowski, Hall & Wiley 2010, 88).

Markusen argues that a huge wave of US mergers and acquisitions in the 1990s has been partly attributed to a search for scale and scope economies at a time of shrinking demand (Markusen 1997, 115). Markowski adds that the degree of cross-sector diversification among the largest defense firms suggests that they perceive and value such economies (Markowski, Hall & Wiley 2010, 95). According to Dunne, a major driver of economic restructuring is the growing trans-Atlantic nature of the industry, in terms of

both the European companies' aspirations to become major players in the US market and the US's acceptance that "interoperability requirements, the benefits of cooperative defense programs, and an increasingly global industrial infrastructure require that the [US Department of Defense] be prepared to accept the benefits offered by access to the most innovative, efficient, and competitive suppliers worldwide" (Dunne & Surry 2006, 395).

The various views summarized above point to one key development: There are clear indications that, after the end of the Cold War, cutting military costs became one of the major concerns for NATO members. The conclusion of the Cold War meant, NATO members no longer faced significant external threats and, therefore did not require high scale military production. Some firms could not keep up with the reduced demand and exited the market. Others, in order to stay in business, consolidated their operations and expanded their markets internationally and beyond the confines of the NATO system. Importantly, though, NATO members collaborated with each other and produced common orders, which, I will argue, allowed them to use scale, scope and reduce production and overhead costs significantly. All this has taken place while maintaining a vibrant military research, development, and production processes in case of a sudden increased need and to replenish normal tear and wear of the national armed forces. Further, I argue that by cooperating beyond an immediate need, these countries gained by saving from specialization in research, development, and production costs of defense.

Returning to Schweller's terminology, lions may want to continue their military cooperation beyond the end of the conflict in order to keep their power and international

status, but at a considerably lower cost. If significant economies of scale, scope and learning-by-doing exist in the production of military technology, countries can achieve higher gains from shared research, development, and production as compared to similar amounts invested unilaterally and independently. This argument is founded principally on the assumption that significant scale/scope and other economies exist in the production of certain military technology. Translating the logic of my argument to the case of NATO's endurance, I maintain that, although the strategic need for NATO may have disappeared for some time after the Cold War, countries like the U.S., France, Germany, Great Britain opted to stay in it and promote NATO beyond the end of the Cold War, in part, to access affordable and still important military technology.

Methodologically speaking, part of my goal in this dissertation is to demonstrate how important economies of scale, scope, and other economic factors may be in military production and ultimately in the persistence of NATO beyond the end of its chief geostrategic purpose. In addition, I will attempt to provide available historical and quantitative data to establish what impact, if any; economies and market imperfections may have on intra-alliance politics, specifically on NATO's endurance beyond 1991.

### **Methodology and Central Research Question:**

The key purpose of this study is to develop and articulate a sound answer to the following central research question: Why did NATO endure through 1991-2014 in the absence of an external or extra-alliance strategic threat? My preliminary answer hinges

on pecuniary considerations leading to significant savings in the research, development, and production functions of military materiel and operations. In the absence of an external threat, NATO members did not need to spend as much on expensive and sophisticated weapon systems, and on keeping large operational infrastructures and specialized personnel. Regarding research, development, and production, NATO countries let military industries to consolidate, engage in trans-border mergers or economic cooperation, use economies of scale, economies of scope, and learning by doing in order to save scarce financial resources, and shared research and development expenditure. This dissertation uses a combination of qualitative and descriptive quantitative data in a process-tracing method in order to investigate and establish a sound analysis addressing the central research question of this work.

The study focuses on the most important members of NATO, namely the U.S., France, Great Britain and Germany. With the exception of Germany, these countries were lions, using Schweller's terminology, after WWI and WWII, yet in yesteryears, they did not continue the intra-alliance cooperation, as has been the case since the end of the Cold War. To reiterate, this study attempts to explicate why states decide to continue and deepen military cooperation in the aftermath of a major rivalry like the Cold War, especially, when the main rival collapsed, capitulated, and opted out of the competitive systemic game of international politics. I will attempt to explain, concomitantly, why similar military cooperation did not take place at the end of WWI and WWII, when both the Triple Entente and the Allied Powers alliances ceased to exist shortly after the end of both major wars, respectively. The methodological objective of this comparative three-



case study approach is to demonstrate the anomalous situation that has prevailed in the world since the end of the Cold War in 1991. Below, I will present, first, the outline of my research approach with the research questions, hypotheses, methodology, and brief chapter content. With my explanatory contribution, these are the central components of the study on NATO's puzzling endurance for over two decades after the Cold War.

**Ancillary Research Questions and Hypotheses:**

- 1) Did the U.S., France, and Great Britain cooperate in military and weapons production in the post-First World War and post-Second World War periods?
- 2) If not, what structural, geopolitical, ideological, or economic conditions precluded such military cooperation in the absence of an extra-alliance threat?
- 3) Did the military and weapons production cooperation between the US, Great Britain, France, and Germany increase during the Cold War?
- 4) If yes, what were the structural, geopolitical, ideological, or economic conditions that energized the military cooperation process in the absence of a clear extra-alliance threat?
- 5) Has the military and weapons production cooperation among the U.S., Great Britain, France, and Germany increased since the end of the Cold War?
- 6) If yes, what has been the primary motivation, given prevalent structural, geopolitical, ideological, or economic conditions for such military cooperation?

Answers to these questions will be used to guide the test of the following hypotheses:

**Hypothesis No. 1:** If there is no external threat and no compatibility of interests among great powers, cooperation is weak or non-existent.

I will analyze the post WWI developments to confirm or falsify the validity of the above hypothesis.

**Hypothesis No. 2:** If there is incompatibility of national ideational interests in the presence of major external threat, then military cooperation among great powers will ensue.

I will analyze the post WWII developments to corroborate or disconfirm the validity of the above hypothesis.

**Hypothesis No. 3:** Given compatibility of national material and ideational interests, cooperation in national military production will be positively related to economies of scale, economies of scope, and learning by doing indistinctively in either the absence or presence of a serious external threat.

I will analyze the post-Cold War developments to confirm or falsify the validity of the above hypothesis.

**Hypothesis No. 4:** Provided there are favorable market conditions and compatible national material and ideational interests, cooperation in national military production is positively related to escalating costs in military production in either the absence or presence of a serious external threat.

I will analyze the post-Cold War developments to confirm or disconfirm the validity of the above hypothesis.

**Answer No. 1:** From the preliminary research conducted, the answer to the first question above is negative. Important structural, geopolitical and economic interests did not lead to a cooperative outcome.

By answering the questions above, I should find that economies of scale, economies of scope, and learning-by-doing in military production either were not present or were too insignificant to effect intra-alliance military cooperation among states after World War I and immediately after the end of World War II. Thus, my primary goal is to analyze such compatibility. And, should such compatibility exist, I will examine if market factors and forces influenced state cooperation in defense matters. Case studies, as well as historical and international relations literature on great power politics of the era will be used to corroborate or falsify the hypotheses expounded above. Concomitantly, though, I will look at the type of weaponry produced and examine if the logic of economies of scale, economies of scope, and learning-by-doing were at work in these cases.

**Answer No. 2:** From the preliminary research conducted thus far, I expect answers to questions 3 and 5 to be on the affirmative. Economies of scale, economies of scope, and learning-by-doing have progressively become significant due to the nature of modern military equipment—its sophistication and high research costs. During the Cold War, the

cooperation among states became more pronounced because the production of weapon systems was increasingly characterized with significant economies of scale, economies of scope, learning-by-doing, and high research costs.

After the Cold War, external, geostrategic threats have significantly decreased, which has made great powers even more likely to cooperate to save costs. I will show through the analysis of the weapon-producing industry that economies of scale, economies of scope, and learning-by-doing can now bring real benefits to these states. Here, I will show how much states would spend if they produced the same military equipment on their own and how much they actually spend through multilateral cooperation.

The comparative case study method is used in order to highlight the presence or absence of external threats. More specifically, I will use focused method of comparison since I have a small sample of countries to study. I will combine my method with intensive case study approach to explore in-depth about threat conditions that nation-states faced and alliance decisions they made under these conditions. I will approach each case by analyzing the various economic and military tactics each state takes to deal with actual or potential external threats. This will allow for finding similarities and reaching specific generalizations and conclusions. These generalizations will allow us to understand why states chose the alliance strategy they did given the political economy of defense, compatibility of national interests, and threat conditions they faced at different intervals since 1919.

I will supplement my own analysis with historical records, writings of political scientists as well as government records on the subject. I will analyze the US, France, the UK, and add Germany to the post-Cold War analysis. These countries have been allies for decades and actively cooperate inside and outside the framework of NATO. After analyzing and comparing the threat levels during Cold War and post-Cold War, I will try to explain why states chose differing strategies with regard to military cooperation after the Cold War. I will base my explanation on the technological features of military production. That is, the size and extent of scale economies, economies of scope, learning-by-doing, and research and development costs.

When there is the potential for scale economies, unit costs differ across plants and firms manufacturing the same product in different volumes. It's impossible to observe long-run average cost curves, but I attempt to draw from the unit costs data, which is publicly available; significant decrease of costs as the quantity of production increases would be indicative of significant economies of scale. This will allow me to observe if there were any economies of scale in the period during and after the Cold War. Importantly, though, I will be able to calculate how much states have gained by cooperating in weapons production since the end of the Cold War. I will be able to find how much states save on weaponry because of transnational production compared to how much they would spend if they produced the same quantity on their own. Discovering that market conditions have been bringing considerable benefits to states since the Cold War, compared to other periods, might be an important explanation as to why the above-

mentioned states continued to cooperate militarily within and outside the framework of NATO.

The U.S. and its allies are cooperating in over 20 military programs. I will try to investigate how much states save by cooperating with each other. Should savings be considerable, this would be a robust indicator as to why military cooperation between states still continues and, thus, solid proof that Schweller's logic of the balance-of-interest works even during time of peace, and is a primary motivation for the military cooperation among NATO's great powers.

## **CHAPTER III**

### **POST-WWI ALLIANCE DYNAMICS AMONG GREAT POWERS**

The first hypothesis of this study posits that the absence of an external threat and compatibility of interests among great powers do not lead to cooperation. This chapter analyzes the post-World War One developments to confirm and/or falsify the validity of this hypothesis. More specifically, I will investigate why the Triple Entente members did not continue military cooperation after the end of the Great War and the signing of multiple peace treaties in 1919, prominently among these, the Treaty of Versailles. Identical to the end of the Cold War, the main rival or geostrategic threat that fueled the inception, evolution, and functioning of the military coalition since 1907 disappeared as the result of the military defeat. Yet, unlike the collapse and capitulation of the Soviet Union 1991 that led to the end of the Cold War, member-states of the Triple Entente did not continue, nor extended their military cooperation within their alliance and/or engage in common military projects beyond 1918. I will try to show that the explanation lies in the fact that the national interests of the great powers in 1919—namely, the U.S.A., Great Britain, and France—were incompatible. They viewed post-world war global political order differently. Subsequent to explaining the background and alliance politics of WWI, the chapter will discuss in detail the individual national interests of these great powers on the winning side of the Great War and how the incompatibility of their national interests

precluded the extension of the Triple Entente alliance and further military cooperation beyond the end of the First World War in 1918.

### **Background of WWI:**

World War I, also called the Great War, started on 28 July 1914 and lasted for four years until November 11, 1918. Up to the time, it was the biggest, most costly, and most bloody war in the history of humankind, mobilizing more than 70 million soldiers, the large majority of whom were Europeans (Keegan 1998, 12). The total death toll exceeds 16 million, over 9 million soldiers and the rest civilians. Genocides, trench warfare and technological developments significantly increased the death toll. It was one of the bloodiest wars ever, and entailed important political developments, revolutions, and economic changes around the globe (Willmott 2003, 23).

The world's greatest powers at the time formed the Triple Entente alliance that originally included the United Kingdom, France, and the Russian Empire. This military coalition was meant to counterbalance the Triple Alliance—a secret military alignment functioning since 1882 that morphed in the early 1900s into the Central Powers military coalition. It has been argued repeatedly that the military commitment to the European alliance system just prior to 1914 was one of the central factors that dragged Triple Entente members into war against the Central Powers alliance that included Germany and Austria-Hungary (Willmott 2003, 24). Italy did not join the Central Powers in the war, although it was a member of the alliance, as Austria-Hungary and Germany were inciters



of the conflict, in violation of one of the central stipulations of the alliance (Willmott 2003, 32). Both military alliances increased in size, as Italy, Japan and the United States joined eventually the Triple Entente, while the Ottoman Empire and Bulgaria allied with the Central Powers.

### **Political and Military Alliances**

The history of Great Powers relationships in the 19<sup>th</sup> century can be characterized as one of trying to secure the balance of power among each other. By the end of the century the powers had formed multiple political and military alliances (Clark 2014, 18). Creation of such alliances began in 1815 as Russia, Prussia and Austria-Hungary signed a treaty. The bloodshed of the Napoleonic wars that culminated in 1815 made European powers averse to war. Diplomats at the Congress of Vienna in 1815 negotiated the so-called classical balance of power system or the Concert of Europe system among the great powers of the continent. This diplomatic arrangement was supposed to resolve conflicts of interest and differences among great European powers via peaceful means. The mechanism worked rather well and except for minor wars among great powers, such as the Crimean war among the Russians and the British in 1853-56 and the war among the French and the Prussians in 1870-71, Europeans enjoyed international peace up until 1914.

However, with the rise of Germany in the second half of the 19<sup>th</sup> century, the balance was bound to change. Before 1871 there was no centralized Germany. But it was

known as the Holy Roman Empire and consisted of independent kingdoms. One such kingdom was Prussia, which desired to increase its influence and even unite other kingdoms under the leadership of the Prussian king. Otto von Bismarck, who was a chief minister of the Prussian king, was the primary force behind the German unification. Before 1870, Germany comprised of a few kingdoms, and territories rather than a country under a central authority. It was in 1860s, when Prussians, with King Wilhelm I and prime minister, Otto von Bismarck, incited a conflict with a goal to unite the German states. Bismarck celebrated a significant victory over the Danes in the 1864 Second Schleswig War, soon after which he turned his full attention to southern German states. In 1866, Prussian military celebrated another important victory. After the final victory German confederation was formed. Bismarck's ambitions did not stop there. In 1870, German confederation had warfare with France, when French opposed Bismarck's attempts to place a German prince on the Spanish throne (Hickman 2015, 1).

Prussians devastated French forces, captured French Emperor and occupied their capital. In 1871, they proclaimed the German Empire at Versailles and ended the unification process. The Treaty of Frankfurt ended the war and left German Empire with French Alsace and Lorraine. The loss of this territory badly stung the French and was one of the motivating factors in 1914 war (Hickman 2015, 2). At this point Germany was a well-developed and industrialized nation with its army power growing speedily. The strong Germany was a problem for the traditional balance of power system in Europe. The agreement in 1815 among great powers had not envisioned another great power

arriving in Europe and the traditional balance of power system was upset by the empowerment of the Germans.

After the war of Germans with the French both states tried to make sure their rivals did not pose threat to them. Bismarck's Prussia aimed to keep France weak and without allies. French were especially worried at the cooperation among Germany, Austria-Hungary and Russia in what came to be known as the Three Emperor's league. After German unification Prussia became a part of a German state. In 1873, with Bismarck's initiative the League of Three Emperors was founded between Russians, Germans and Austrians. Despite the fact that Russians and Austrians had frequent broils, with German intervention they were easily settled down, and the alliance remained the most potent force. Disagreements between Austrians and Russians arose because both were keen to increase their influence in the Balkans, among others in Serbia and Bosnia.

The League of Three Emperors functioned smoothly until Kaiser Wilhelm II, in what later proved to be a huge political mistake, released Bismarck from his service and assumed the conduct of foreign affairs himself. Wilhem II unraveled Bismarck's carefully designed system of alliances. One of his biggest blunders, if not the biggest, was not to renew the relationship with Russia. By not renewing the Reinsurance Treaty with Russia, the Austrians and Germans allowed the French to form a military alliance with Russia, with the parties promising to come to each other's aid if assailed by outside forces. In 1892, Russians and French officially allied to defend themselves from possible aggression by Germans and Austrians. Germans and Austrians formed a dual alliance to

oppose Russians in the Balkans, as the weakening Ottoman Empire was no longer capable to (Willmott 2003, 43). The alliance was expanded in 1882 to include Italians (Keegan 1998, 35).

The German Kaiser, Wilhelm II (1888-1918), the son of Wilhelm I, was rather belligerent towards his neighbors. He, nonetheless, forged an alliance with Emperor Franz Joseph (Austria- Hungary-1848-1916). They shared language and culture. Their ambitions of territorial aggrandizement were quite comparable. They had often been at war with their neighbors and their countries had even fought against each other in the 19<sup>th</sup> century. They had special gusto for wars of conquest. In 1879, they formed a coalition to thwart potential Russian challenges to Austrian foreign policy goals in the Balkans. Italy was itself no stranger to ambitions of territorial aggrandizement and held a grudge against France over Tunisia. An alliance comprising of three such aggressive countries was eventually bound to involve in some major conflict (Wilmott 2003, 56). During WWI, Great Britain, France, and the USA forged a military alliance to thwart Germany and Austria-Hungary's aggressiveness. Since the 1815 Napoleonic wars France and Great Britain had abstained from forming common alliances. At this historical juncture, however, they concurred that it was in their common interests to guarantee the neutrality of Belgium. The document was signed in 1839 and its main goal was to protect Belgium from outside aggression. Interestingly, though, some of the signatories were countries that initiated the First World War. Later, the document was incorporated into the Franco-Russian agreement and formed the basis of the Triple Entente. (Wilmott 2003, 57).

In 1914, Germany informed Britain of its intentions to attack France via Belgium. Prussian General Alfred von Schlieffen wanted to avoid attacking France directly because the French were well prepared. Rapid attack from the north (Belgium) would leave France exposed. England, citing the 1839 agreement with France, advised Germany to abstain or expect a war. The German Chancellor was infuriated and could not comprehend why countries would go to war because of a "scrap of paper" (Wilmott 2003, 84). For the British, Belgium was the red line and not just the protection of French sovereignty. Moreover, the British and French had significantly improved their relations. They had signed the Entente Cordiale recognizing British influence in Egypt and the French sphere in Morocco (Wilmott 2003, 84).

The French and British signed the Entente Cordiale in 1904 and in three years Russia and Britain signed a convention. Although, the British agreements were not military in nature, they, nevertheless, increased the chance of their involvement in the French and Russian conflicts. The agreements among Russia, France and Britain have come to be known as the Triple Entente (Wilmott 2003, 84). After the British joined the Franco-Russian alliance, Turkey and Italy allied with the Germans. This would complete the formation of opposing alliances. Both alliances increased the cost of war for rival factions and were supposed to make the entry into the war unfathomable for the involved parties. It is noteworthy to note that the major powers had their own, individual military alliances with several smaller states. For instance, Russians allied with Slavs in Serbia. These alliances were not considered a threat to the overall security and stability of the

European geostrategic system. Ironically, though, such alliances turned out to be the fuse that sparked the Great War in 1914.

While the French and British were improving their relationship, the United States was gaining influence in the Pacific. Americans had a policy of avoiding international entanglements—a foreign policy style dating back to the US first President, George Washington. However, in 1889 they nearly avoided a navy battle with Germany over trade routes in the Pacific archipelago. The conflict was peacefully resolved and the United States signed an agreement with Germany and Britain dividing zones in the Pacific. This was the first agreement of the U.S. with Germany (Keegan 1998, 46).

During WWI, the American freighter, *Housatonic*, was sunk in January 1917. No American lives were lost this time, but soon after another ship was sunk, with 28 American lives lost. At the same time, the German Ambassador to Mexico, Arthur Zimmerman, attempted to push Mexico into war with the U.S. by promising Mexico material support and territories the U.S. had conquered from them. Zimmerman sent a telegram, which was intercepted and decoded by the British. British intelligence shared the message with the Americans. Although there is a historical debate about the “real” purpose of Zimmerman’s telegram, some even claiming that it was in fact a British ploy to push the U.S. into war on its side, the fact remains that after publishing the note in the U.S.A., the administration declared war against Germany (Wilde 2015, 2).

American soldiers boarded the first ships to Europe in the spring of 1917 to join the British and French with whom they had no prior military alliance, but merely a friendly sympathy with their plight against a common enemy. Germany had overplayed its hand and encouraged Americans to act in concert with the original Triple Entente members (Wilde 2015, 2).

### **Colonial Politics and Naval Power Before World War I:**

Before the First World War, Great Britain was the global hegemon. It was a superpower that possessed the biggest and most powerful fleet in the world and ruled over a fifth of the world's territories, including Australia, Canada, India, and other minor territories. The rise of Germany threatened Britain's global dominance. Germans had their own intention of colonial aggrandizement and global domination. By the beginning of the Great War, Germany had the second largest fleet and their army was the most potent in Europe. German unification and the creation of the German Empire after the war with France in 1871 catalyzed its economic growth. Starting from the mid-1890s, Kaiser Wilhelm II devoted considerable resources to strengthening the German fleet. Admiral Tirpitz had to make sure that Germans challenged the British on the seas (Willmott 2003, 94). Both nations aimed to build more ships than their rival. In 1906 Britain released its Dreadnaught and capitalized on its advantage over Germany.

Wilhelm II was a grandson of England's Queen Victoria. He was an ambitious leader and wanted to see Germany gain the status of other great powers. Therefore, Germany was set on the track of becoming an imperial power and consistent with the approach of other great powers at the time, it got involved too in the colonization of foreign lands. It was, thus, inevitable and a matter of time that Germany would be competing and in conflict with other great powers. Despite this, Germany still managed to conquer parts of Africa and Pacific islands. Wilhelm spent enormous resources to build his fleet. He was particularly humiliated by the German fleet's demonstration on Victoria's special occasion. He devoted significant resources to build a formidable fleet (Willmott 2003, 94).

Great Britain did not view Germany's decision to expand its fleet with a benevolent eye. The British forged an alliance with the Japanese to counteract German goals of territorial expansion in the Asian Pacific. Shortly thereafter, Britain and France formalized their relationship under Entente Cordiale in 1904. This helped the powers to settle some outstanding disputes over their colonial possessions. As Germans completed Dreadnought in 1906, British and German competition accelerated exponentially and each nation strived to build more naval forces. Germany saw a formidable fleet as an instrument to make the British recognize Germany's ambitions and make political concessions. Instead, the British signed an agreement with the Russians in 1907. This agreement was signed on the basis of the Triple Entente of France, Russia and Britain. The Triple Alliance of Germany, Austria-Hungary, and Italy and the Triple Entente were now ready for further developments. The abovementioned political and military



arrangements laid the foundation for WWI's process of international polarization, which would not take long to happen in 1913 (Willmott 2003, 98).

The naval race, nonetheless, did not end with the development of opposing counterbalancing political and military coalitions. Soon enough the rest of Europe was devoting its resources to increasing their military power (Prior 1999, 28). Right before the global conflict, then European great powers had increased their military spending by half as compared to 1907 (Fromkin 2004, 67). At the turn of the 20<sup>th</sup> century France had started to grow into an industrial nation. Concomitantly, its military power rose exponentially and keeping pace with its economic and industrial prowess. France had a decent navy by the beginning of the Great War, counting submarines along with regular battleships. Italy and Russia were taking measures to increase and modernize their armies with Russians establishing their air force in 1907. In sum, before the outbreak of the Great War, great imperial powers were engaged already in an intense arms race. This was ignited by Germany's rise, its relative growth in economic and military power, its global ambitions, and its ability to reach and expand globally. This development was a clear manifestation of the classical security dilemma problem, running and spiraling uncontrollably towards a major conflagration among rival powers<sup>1</sup>.

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<sup>1</sup> For the introduction and further elaboration of the security dilemma notion, see John H. Herz, "Idealist Internationalism and the Security Dilemma," *World Politics*, Vol. 2, No. 2, (January 1950), pp. 157-180; and Robert Jervis, "Cooperation Under the Security Dilemma," *World Politics*, Vol. 30, No. 2 (Jan., 1978), pp. 167-214.

## **The War Trigger: Conflicts in the Balkans**

The Austria-Hungarian Empire was the main culprit of what came to be known as the Bosnian Crisis (1908-1909). Austrians annexed Bosnia and Herzegovina, which Ottomans had under their control since 1878. The annexation irritated Serbians and their allies, particularly the Russian Empire. Further, Russian involvement in the region proved to be highly provocative. It was notoriously known as the “powder keg of Europe” (Keegan 1998, 124). The Ottoman Empire had to fight a war, the so-called First Balkan War, against the Balkan League in 1912-1913. The war ended with Ottoman defeat and they had to give up some of their Balkan possessions. As the result of this war, an independent Albanian state was formed, while Greeks, Serbians, Bulgarians and others saw their territories increase in size. The Second Balkan War was fought in 1913, when Bulgarians attacked Greeks and Serbians. Bulgarians came out as a defeated party and lost much of their territory to their rivals. In this vein, one can argue that both wars laid the foundations and context for future violent conflicts, and prepared the grounds for the outbreak of WWI in 1914 (Willmott 2003, 89).

In 1914 Archduke Ferdinand, the heir to the Austro-Hungarian throne, was visiting Bosnia-Herzegovina. These were turbulent times in Bosnia, which was home to an angered Serbian minority dreaming about unification with Serbia. Ferdinand was taking a ride in his car on June 28, 1914 in Sarajevo, when Serbian militants attacked him. The murder served as the trigger for the great conflict. Serb nationalist, Gavrilo Princip, and his five accomplices from the group Mlada Bosna had gathered on the street

where Ferdinand and his entourage were supposed to pass. The grenade, which was thrown at Ferdinand, missed the target. Ironically, though, on the way back from a nearby hospital, Ferdinand's car ran into Princip and he did not hesitate to fire and kill both Ferdinand and his wife Sophie.

The initial response of the Austrian authorities was to provoke aggression against Serbs in Sarajevo. The violence resulted in the death of a few Serbs and damage of Serbian residences. Acts of violence against Serbs were encouraged in many other cities in the Balkans (*Mitrovic 2007, 24*). Many others were either deported or imprisoned. In Bosnia, a Muslim militia was founded, which organized atrocities against Serbs. For about a month, in July, the Great powers were engaged in diplomatic talks. The Austrians correctly believed that the Serbian government had something to do with the assassination. In addition, the continuous movements in Bosnia towards Serbian independence irritated the Austrians (Stevenson 1996, 59). On July 23, 1914 they presented 10 commandments to Serbians, which Serbian government could not accept without revealing their involvement in the assassination case (Wilmott 2003, 76).

Austria-Hungary delivered an ultimatum to the Kingdom of Serbia (Taylor 1998, 44). Just a few weeks later the Great War broke out. Looking to avenge the murder of Ferdinand, the Austrians sent their army to Belgrade. At this stage Serbs sought Russian help and Russia started preparing for an offensive. Russian Tsar mobilized most of its Western European districts and the fleets of the Baltic and Black Seas. Other regions

would be in a state of alert ready for general mobilization. Serbians also declared general mobilization and on July 28, 1914 Austria-Hungary officially declared a war on Serbia.

Two days after the Russians declared the military mobilization against Austria-Hungary, they ordered general mobilization against the Germans. Austrians responded with a general mobilization as well. Wilhelm demanded that Russia refrain from supporting Serbians in case Austria-Hungary attacked them. An ultimatum not to support Russia was sent to France as well. Russia declined the German ultimatum and declared war against them on August 1, 1914 (Wilmott 2003, 79). This was the beginning of the Great War or the First World War.

Germans needed the French to stay out of the war because they had to choose between two alternative deployment plans, which were difficult to switch if launched. According to the first plan, Eighty percent of the German army would go west, while the second plan envisioned the deployment of sixty percent in the same area. Forty percent was the maximum capacity the railway infrastructure would allow to deploy to the East. The French left unaddressed the German request to avoid interference. They withdrew their army 10kms away from the borders but simultaneously ordered the full mobilization of the troops. As a result, the Germans chose to act according to the second plan. On the second, third and fourth days of August 1914 Germany declared war on Luxembourg, France and Belgium (Crowe 2001, 127). Britain demanded that Germans abstain from invading Belgium. Having received no satisfactory answer they declared war on Germans.

Shortly after Russia's mobilization, Germans warned Russians about an imminent war should they not stop the military preparations. The military on all sides did not hesitate to use military power to pursue their goals. Consequently, WWI began as Austria-Hungary started the war against the Serbs, Russia responded by mobilizing against Austria, Germany countered with a war declaration on Russia, France, and Britain, and both Russian allies, declared war on Germany. Soon enough German's were stopped from advancing to Paris and the conflict grew into a war of attrition. The trench line lasted until 1917. On the Eastern flank, Russians claimed a few victories over the Austro-Hungarian army, but Germans stopped them. In 1914, the Ottoman Empire joined the Central Powers and made their advancement on the eastern front much easier. In 1915 Bulgarians joined the Central Powers, while Romania joined the Triple Entente a year later. In 1917, the United States entered the war on the side of the Allies.

In 1917, Russians withdrew from the war and signed the Treaty of Brest Litovsk with the Central Powers. Germans celebrated a huge victory and could now concentrate their forces on the Western flank. Germans organized a huge offensive, however, they were repelled by the Allies powers, which forced the German army to retreat. In November 1918 both Austria-Hungary and Germany signed the peace treaty ending the war with the victory of Allies. The end of the war brought with it the dismantlement of Russian, German, Austro-Hungarian and Ottoman Empires. Borders of these countries were redrawn; a few independent nations were restored or came into existence. The ensuing Paris Peace Conference solidified the status of the Allied Powers as the global superpowers. With an American initiative the League of Nations was created to prevent

war and to promote peace and stability worldwide. Unfortunately, such attempts failed because of rampant economic problems in the ensuing two decades. These included economic and political nationalism, beggar-thy-neighbor policies, selfishness, and lack of political and economic cooperation among the victors. All of these developments contributed to the rise of totalitarian ideologies, like Nazism and Communism, economic depression, military rivalry and ultimately the outbreak of the Second World War.

## **Post-WWI**

The end of the Great War brought important changes in Europe and throughout the world. Four empires collapsed and disappeared, several new states were formed, border changes took place, international institutions were formed and important political movements and ideas became widespread. The Treaty of Versailles was signed after the First World War, on 28 June 1919. The treaty signified an end to the bloody war between the Triple Alliance among the central powers and the Triple Entente. The armistice, which was signed in 1918 effectively, ended the war; however, negotiations at the Paris Conference lasted half a year (Cohrs 2006, 54).

The treaty was harsh obligating "Germany to accept the responsibility of Germany and her allies for causing all the loss and damage" during the war (the other members of the Central Powers signed treaties containing similar articles) (Cohrs 2006, 55). Subsequently, these treaties came to be called the War Guilt clause. Germany was disarmed, lost much of its territories and had to pay compensation to the Entente powers.

In 1921, the total cost of these reparations was assessed at 132 billion Marks (then \$31.4 billion or £6.6 billion, roughly equivalent to US \$442 billion or UK £284 billion in 2015 terms). At the time, economists, notably John Maynard Keynes predicted that the treaty was too harsh—a "Carthaginian peace", and said the figure was excessive and counter-productive (Cohrs 2006, 92). Moreover, Germans could only have a small army of no more than 100,000 soldiers without any heavy machinery and equipment.

### **Peace Treaties and National Boundaries**

Importantly, though, the participants in the Great War gathered in Versailles to plan the postwar global order. The Paris conference determined what measures to take against Germany, and established the League of Nations, which would run according to the principles enunciate by U.S. President Woodrow Wilson in his "Fourteen Points Address to Congress" on January 8, 1919 (Magliveras 1999, 52). Germany and its allies were condemned as the party responsible for the damage to the Allied powers and were accused of starting the war. Article 231, also known as the War Guilt clause was not well received in Germany; actually, most Germans felt insulted, on top of that, they sincerely believed that the blame had to be equally accepted by both sides (Morrow 2005, 44). Germans called the decision at Versailles a dictate, which imposed on Germany "legal sanctions, deprived of military power, economically ruined, and politically humiliated" (Schulze 1998, 68).

German humiliation would have important consequences for German politics in the next two decades after the war. Germans denied the war guilt, found reparations unfair and resented the occupation of German territories by foreign powers. Many started to believe that Germany was betrayed by some political forces inside the country and people started to accept the idea that alien forces worked hard to annihilate the German nation. Widespread sense of German humiliation and resentment prepared the grounds for the rise of the Nazi party, which searched for scapegoats so as to mobilize the German people. The Nazis made sure that the disappointments of the Great War would ripen the society to their political advent.

Many victorious nations viewed the punishment of the Germans as a just recognition of their wartime wrongdoings. The Conference obligated the defeated side to pay reparations. Because the Germans had the most functional economy among the defeated countries they were forced to pay most of the reparations. France, Great Britain, and the United States, were the most proactive in the Paris Peace settlement. For obvious political reasons, they were determined to secure the fruits of their victory (Horne 2010, 42). At the same time the victorious parties were far from united in their standings. The French and British were involved in the bloodshed for about four years; they had expended too much human and material resource. The French, who had suffered the most, held the biggest grudge against Germans and worked hard to weaken them permanently. The British had successfully defended and even expanded their naval and colonial goals. Britain's goal now was to safeguard its economic interests, to manage the European balance of power, and protect its empire.



## **American Approach**

The United States, which had entered the fighting in the last year, had the most grandiose design of all, to create a stable world of democratic governments, limited armaments, and open markets (Horne 2010, 71). When Wilson arrived in Europe in 1918 he happened to be the first American president who had visited Europe, as a president (MacMillan 2001, 186). Wilson was the author of the Fourteen Points, which were very popular among civilians in the U.S., Europe and other continents. According to many, Wilson's involvement in global politics had contributed to the swift end of the war. Wilson also believed that he owed to the world to make sure the Paris Peace Conference would follow his lead. He had promised a bright future after the war and started by being exceedingly active in global politics despite domestic resistance at home.

President Wilson was actually shocked by the savagery of the war. It was hard for him to comprehend how advanced civilizations could engage in such barbarism. Although, his ideas were popular, most Americans desired isolation from Europe. Soon after Wilson's health deteriorated, he wanted to make sure Americans did not get involved in European matters. Although, he developed the idea of the League of Nations, American contribution to it was kept minimal. Ultimately, the U.S. never joined the League of Nations. Also, Wilson was a firm believer that Germany was to be punished; however, the punishment should not have been harsh, to make sure that Germans would reconcile with the rest of Europe (MacMillan 2001, 186). He had already written on what

he believed the world should be like in his "Fourteen Points" (MacMillan 2001, 186). The main points in this document were:

- 1) No more secret treaties
- 2) Countries must seek to reduce their weapons and their armed forces
- 3) National self-determination should allow people of the same nationality to govern themselves and one nationality should not have the power to govern another
- 4) All countries should belong to the League of Nations
- 5) Free trade and commerce among nations.

During the conference, Wilson was disappointed to notice that his wartime allies shared little enthusiasm for the Fourteen Points (MacMillan 2001, 188). The main reasons for the lack of understanding among powers were reparations and imperial competition. Wilson was not able to gain support for his Fourteen Points at home. The British Prime Minister, Lloyd George, and the French representative, Clemenceau, agreed to found the League of Nations (Hickman 2015, 1). For two months after the peace talks were opened, Wilson was actively engaged in the talks about the League of Nations. Wilson's initiative led to the draft of a document, which created a Council, Assembly, and a Secretariat. The document also included clauses on the arbitration of international disputes and collective security, as well as, colonial mandates, disarmament, and humanitarian functions (Horne 2010, 145).

Unfortunately, conflicts of interests among participants led to a treaty, which was largely ineffective. Moreover, the treaty included very little of what Wilson had prescribed in his Fourteen Points, and it was very harsh towards Germany and “ultimately played a key role in setting the stage for World War II” (Horne 2010, 146). He spent most of his efforts to persuade his allies to change their firm stance towards the Germans, Ottomans and their allies. The French and Germans would not accept his Fourteen Points because of irreconcilable differences they held with regard to its fundamental principles. His Fourteen Points conflicted with the other powers. First of all, the U.S. did not believe that the War Guilt clause, Article 231, imposed on Germany was just or reasonable.

The French and British compromised with the US and agreed to the establishment of the League of Nations. But the U.S. Congress did not ratify the treaty because some of it went against the US constitution, and isolationists in the congress could not accept it. The U.S. signed separate peace treaties with Germany and their allies in 1921 under President Warren Harding. The ultimate goal of the U.S. was to promote the world order based on liberal principles, where diplomacy would substitute for wars. According to the Fourteen Points the world would be built on the premises of democracy, liberty, self-determination and sovereignty. Ironically, the most prominent opponents of the U.S. were its wartime allies, which possessed the greatest empires and were colonial states.

The Middle East proved to be one of the most polemical topics among the triumphant powers because of incompatible aims and interests of the participating states. Zionists and Arabs both were allowed to make statements during the conference and

defend their position regarding some Ottoman lands. At first, an international commission, which would study the opinion of local inhabitants, would be created. But the U.S. allies, although initially sympathetic to the idea, later rejected it, and the US formed the King-Crane Commission to travel to Syria and Palestine to learn the opinion of locals. The US Congress passed the decision favoring Zionists in 1922 (Horne 2010, 165).

Although American President Woodrow Wilson was rather discontent with the outcome of the peace talks for not having achieved his liberal goals, American interests played an active role in rebuilding Europe and helping Germans with their wartime reparations. Americans were divided in their opinion on providing help to Germans and its wartime allies. Some argued that the aid should first go to those who suffered at the hands of Germans, while others called for distributing aid equally among those who suffered on both sides. Unfortunately, the economic depression undermined these efforts.

### **British Approach**

The primary British concern during the Paris Peace Conference was to maintain its empire intact. After the conference, David Lloyd George suggested that the outcome of the Conference was quite favorable, taking into consideration that he had to deal with Jesus Christ and Napoleon. The British Prime Minister was referring to how idealistic Wilson's policies were versus the sheer realism of Clemenceau (Harris 1920, 45). Lloyd George agreed that Germany had to pay for war reparations, but to preserve the British

Empire he sought to settle territorial disputes, keep France secure, and make sure that the German fleet never became potent enough to challenge the British Navy. While he favored the formation of the League of Nations, he discouraged Wilson's call for self-determination as it could adversely affect Britain's colonies (Horne 2010, 148).

The British Prime Minister cared about his public image and could not afford being soft on Germany. He needed public support to keep his party afloat. Being soft was a sure ticket to losing upcoming elections. The British society demanded blood and the Prime Minister had to go by their wishes. "Hang the Kaiser" and "Make Germany Pay" were two very common calls in the era immediately after the end of the war and Lloyd George, looking for public support, echoed these views (Horne 2010, 149).

But Lloyd George was preoccupied by important foreign developments. He feared that communism, which came to reign in Russia, could spread to Western Europe. With the war already over and Germans down, the British feared, that communism posed a great challenge to Western nations. Lloyd George saw Germany as a natural barrier to resist the expected spread of communism. He feared that if Germans became dissatisfied too much with their government they could turn to communism. The British did not want to be soft towards Germany, but they also realized that Germans would be the only capable force to stop communism if it started spreading to the West. Germans had to be punished, but it was vital to leave them capable to deter the spread of communism. It would have been political suicide for the British Prime Minister to go public with these views (Horne 2010, 160).

The Great War had ruinous effects on the British economy. German submarines sank over a third of British merchant ships during the war. Before the war the UK was the top foreign investor. The war made it one of the largest debtors, having to devote about 40% of its government revenues to servicing interest on the debt. Inflation had risen and the value of the pound sterling had fallen by over half. German reparations had a depressing effect on the economy. It is calculated that the net financial loss in investments was about 300 million pounds (Taylor 1976, 61).

Indirect harm caused by the war was much more important for the British Empire. Important wartime achievements of Canada and Australia made them less willing to follow the dictates of the British Crown. They increasingly demanded more autonomy in the 1920s. Some of the British dominions were disheartened by the fact that the British did not care so much about their army. Indians and Nigerians were vociferous in their demands for independence. They realized that Britain was becoming weaker and it was their time to act. Moreover, Great Britain had problems on what it considered its immediate home territory. Irish started the war of independence right after the World War. The Irish were virtually independent although they formally remained in the British Empire.

### **French Approach**

The French delegation, led by Prime Minister George Clemenceau, attended the Paris Peace Conference with the primary goal of trying to make sure Germans never

posed a threat to France again. He had twice been a witness to how Germans attacked French lands, and wanted to make sure this would never take place again. Clemenceau wanted to make sure that France's wartime allies would become its guarantors of security as well. Clemenceau was rather unhappy with Wilson's fourteen points but was very pleased when the American president signed a defense treaty with him. The treaty never took effect, though, as republican isolationists decided to distance themselves from European affairs, when they took over congress (Ambrosius 1972, 56).

The French had tried a different policy with the Germans. In 1919, before the Paris Conference the French asked the Germans to solve the outstanding issues such as territorial and economic disputes (Trachtenberg 1979, 71). The French were seeking closer German collaboration because they feared that Anglo-Saxon powers might have posed serious future threat to it. According to them, the French had common interest in trying to resist the domination of the Anglo-Saxon powers. The Germans opted to wait for the Paris Peace Conference and see what other great powers had in store for it.

As part of the armistice of WWI, Alsace-Lorraine, the region France lost to Germans during the 1870 Franco-Prussian War, was returned to France. French Prime Minister Georges Clemenceau wanted to make sure that Germans never attempted to get the region back or seek any kind of revenge. The destruction brought upon French territory was to be indemnified by the reparations negotiated at Versailles (Trachtenberg 1979, 73). The French wanted to make sure that Germans paid reparations, and they even occupied the Ruhr in 1923 in order to force Germany to pay. Germany was unable to pay,

and they sought United States' help. Fortunately, the sides were able to agree to common terms and the Dawes Plan and then the Young Plan were successfully negotiated. The Dawes Plan and the Young Plan were supposed to mitigate the effect of war reparations on the German economy and provide certain benefits for its recovery.<sup>2</sup>

Georges Clemenceau believed that Germany had to be weakened so that it would never be able to start another war. It is true that the French public shared the same beliefs, but Clemenceau was under no public pressure, because he himself held those beliefs firmly. He had seen the complete destruction of large parts of his country and he wanted to make sure that this would never repeat. "The Tiger" did not have to adapt his policies to suit the French public—the French leader and the French public both thought alike (Trachtenberg 1979, 73).

Due to important disagreements among the allies, the final treaty was an unsatisfactory compromise for the parties involved. Germany was left infuriated and it was not weakened as some had hoped for. Soon other treaties followed, such as for instance, the Locarno treaties, which reset the feelings between Germany and other great powers to a more positive mode.

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<sup>2</sup> For detailed account on the plans, see Stephen A. Schuker, *The End of French Predominance in Europe: The Financial Crisis of 1924*; and Douglas Willoughby and Susan Willoughby, *The Adoption of the Dawes Plan* (Chapel Hill, N.C.: University of North Carolina Press, 2000).



## **Aftermath, 1920–1924**

The Versailles agreement was not able to settle the problems left by the war. It is true that the League of Nations was created, but the victorious powers had too many disagreements to make the system work smoothly. The United States decided to isolate itself from global matters; France felt more insecure as British and Americans distanced themselves from European matters; Soviet Russia, was already in war with Poland and was growing into a serious threat for the West; Germans were facing domestic economic problems, and were extremely unhappy about war reparations; and the former Entente alliance was fragmented over managing the burdens of victory (Horne 2010, 189). Germany and Russia had problems in their volatile regions. The military blocs between France and its East European clients, as well as among the Little Entente, only hid the nationalist rivalries in the region (Horne 2010, 191).

The revisionism reared its ugly head at Genoa political summit in April–May 1922. David Lloyd George, British prime minister, had an ambition to create a new post-war peace between winners and losers; he hoped to revive political and economic ties between Western and Eastern Europe. The Conference failed, because Americans abstained from participation, France obstructed its proceedings, and Germans and Soviets struck their own treaty at Rapallo. Europe slid into chaos, with a wave of assassinations, the Fascist seizure of power in Italy, and the Franco-Belgian invasion of the Ruhr in January 1923 to collect unpaid reparations (Horne 2010, 197).

France's leader, Raymond Poincare, was too weak to continue being aggressive in his foreign policy even if he wanted to, which he actually did not. Britain was thinking globally, and insisted on the restoration of the European balance of power. France, increasingly desperate in economic straits and rebuffed in its efforts for a British or US commitment, bowed to the inevitable, even at the cost of sacrificing its East European clients (Horne 2010, 201).

### **Conclusion:**

This chapter was designed to test hypothesis No. 1, suggesting that the absence of external threats and incompatibility of interests led to no military cooperation among former allies. Specifically, the chapter showed that the Great powers, particularly those former members of the Triple Entente, failed to engage in military cooperation after the end of WWI. The disappearance of the external threat loosened the bond holding the Entente powers together. Consumed by their own national interests, the United Kingdom and France reverted back to traditional balance of power approach to foreign affairs, while the USA opted for its traditional grand strategy of isolationism.

The United States, which had entered the fighting in the last year, had the most grandiose design of all, to create a stable world of democratic governments, limited armaments, and open markets (Horne 2010, 71). The ultimate goal of the U.S. was to promote the world order based on liberal principles, where diplomacy would substitute for wars. Wilson was the author of the Fourteen Points Address, which was very popular

among civilians in the U.S., Europe and other continents. According to the Fourteen Points the world would be built on the premises of democracy, liberty, self-determination and sovereignty. Ironically, the most prominent opponents of the US were its wartime allies, which possessed the greatest empires and were colonial states.

During the conference, Wilson was disappointed to notice that his wartime allies shared little enthusiasm for the Fourteen Points. The main reasons for the lack of understanding among powers were reparations and imperial competition (MacMillan 2001, 188). Unfortunately, conflicts of interest among participants led to a treaty, which was largely ineffective. Moreover, the treaty included very little of what Wilson had prescribed in his Fourteen Points, and it was very harsh towards Germany and “ultimately played a key role in setting the stage for World War II” (Horne 2010, 146). The French and Germans would not accept his Fourteen Points because of irreconcilable differences they held with regard to its fundamental principles. Wilson spent most of his efforts in vain to persuade his allies to change their firm stance towards the Germans, Ottomans and their allies.

As a result, the absence of a credible external threat loosened the bond tying Entente powers. Consumed by their own national interests they discontinued military cooperation. This outcome contrasts with the developments after the Cold War, when NATO Great Powers deepened their cooperation despite the absence of credible external threat. The compatibility of national interests could explain why these states decided not to rearrange alliances, but it does a poor job when it comes to explaining the deepening of

cooperation. The goal of the following chapters is to do exactly this. In the next chapter, I will explore what role the national interests of great powers and threats to their security played to affect their cooperation after WWII. I will show that incompatibility of national interests almost led to the disintegration of the Western Alliance; however, the existence of immediate external threats, in difference to the post-WWI environment, turned out to be the glue that held the allies together.

## **CHAPTER IV**

### **POST WORLD WAR II ALLIANCE DYNAMICS AMONG GREAT POWERS**

This chapter will test hypothesis No. 2, which postulates that the absence of compatibility of national interests, coupled with external security threats, leads to military cooperation. I will analyze post WWII developments to confirm or falsify the validity of this hypothesis. In this chapter I will show and investigate why allied powers—predominantly, the U.S.A., the Soviet Union, Great Britain, and France—did not continue military cooperation right after WWII. Just like after the Cold War the main geostrategic rival of the military coalition was no longer a threat, but unlike then states did not continue cooperation within the alliance and/or engaged in common military projects. I will try to show that the explanation lies in the fact that the national interests of the allied great powers were incompatible after the end of the Second World War. Consequently, they viewed post-world war global political order differently. However, the U.S.A., Great Britain, and France overlooked their main differences and allied as soon as they started perceiving the Soviet Union as a strategic threat to their security. After explaining the background and alliance politics of WWII, the chapter will describe in detail the interests of great powers on the winning side of the war, their incompatibility of interests and how common threats forced them to overcome these incompatibilities and cooperate in a new military alliance.

## **Background of the WWII:**

World War II known as the Second World War, lasted from 1939 to 1945. The war encompassed the majority of the nations and all superpowers at the time. Nations formed two rival military alliances: the Allies and the Axis. The conflict counted more than 100 million persons and mobilized incredible amount of global resources. The causes of WWII should had much to do with the outcome of the WWI. States on the winning side, such as France, Belgium, Italy, etc., gained a lot from the war. Quite a few new nations were born after the dissolution of Austria-Hungary, the Ottoman and Russian Empires.

Despite the strong pacifist sentiment after World War I, its aftermath caused irredentist and revanchist nationalism in several European states (Kritzman, Reilly and DeBevoise 2006, 78). German's were irate because of the incurred losses cemented by the Treaty of Versailles. The treaty deprived Germany of almost one-sixth of its home territory and colonies. Importantly, they had to pay reparations to other nations for war damages and limits were placed on the size and capability of the country's armed forces (Kantowicz 1999, 149).

## Causes of WWII

There were many causes of WWII among which the rise of Nazism in Germany and Fascism in Italy, and Japanese expansionary politics in the 1930s played a crucial role. Hitler was extremely aggressive in his foreign policy and did not hesitate to use military means to achieve his political goals. Hitler came to power in Germany—a nation that was highly disgruntled by the provisions of the Treaty of Versailles. The treaty was not soft enough to mollify Germans, nor harsh enough to impede its rise (Kantowicz 1999, 149). Germans found it hard to accept that they had to demilitarize, never unite with Austria, lose a number of German speaking territories, and importantly, they could not accept the war-guilt clause which obliged the German people to pay war reparations.

During the German Revolution of 1918–1919, the German Empire was dissolved and a democratic government, called the Weimar Republic, was founded. The democracy had to face many internal problems and was unlikely to succeed. They were facing high inflation because they had printed money excessively to cover up for the lack of ingressions. The French had two main stipulations for Germany, reparations and control of the coalmines. The French required German reparations to stabilize their economy (Paxton 2011, 153). They also wanted German coal supplies for their coalmines had been destroyed during the war. Moreover, the French asked for excessive coal to make sure Germans would not be able to pay. They also wanted the German Rhineland demilitarized. Germans found all these French demands excessive, unreasonable, and highly onerous (Paxton 2011, 156).

Germany was running late with its payments. As a response the French invaded the Ruhr, the German coal region, in 1923. Naturally, the Germans were infuriated by the French occupation. Many of them blamed the new founded republic for the humiliation. Riding on the sentiment, Adolf Hitler attempted a revolution, better known as the Beer Hall Putsch. He and his followers were infuriated by the fact that foreigners were dictating Germans what to do. Germans could not resist because the Treaty of Versailles had prohibited the Germans to possess combat ships, tanks, aircraft and heavy artillery (Paxton 2011, 158).

Because Germans could not repay war reparations they resorted to printing money, trillions of marks, which lead to hyperinflation. The Great Depression magnified the difficulty of repaying the debt. The political and economic problems increased the dissatisfaction of the German people with the Weimar Republic. Germans were enraged with the victors of the war, who had pledged that Fourteen Points of the U.S. President Wilson would dictate the nature of the postwar talks. But because Americans were not able to convince its European allies to accept the 14 points, the nature of the talks did not favor the Germans. Many Germans had assumed that their country capitulated only because they were promised peace talks on the basis of the abovementioned principles. Another segment of the of German population assumed that peace talks were conducted by the government, which had assumed power through revolution, and it lacked legitimacy (Paxton 2011, 165). Germany was deprived of all of its colonies and even though they had won the war in the east, they had to give up their conquest.



Italy, Germany's ally that ultimately switched sides, had gained some territory during the war; however, most of the promises made by Britain and France to secure Italy's support were not even discussed during the peace settlement. Italian nationalists were left frustrated. Fascists led by Benito Mussolini came to power in 1925 and immediately abolished representative democracy. They repressed all opposition forces – liberals, socialists, and communists. Mussolini pursued an aggressive expansionist foreign policy aimed at forging Italy as a world power, promising the creation of a "New Roman Empire" (Shaw 2000, 56).

In Germany, the fledgling democracy was crushed by right-wing elements such as the Freikorps and the Nazi party, who organized the Kapp Putsch and the Beer Hall Putsch. The Great Depression in 1929, brought support for Nazism and Adolf Hitler. In 1933, he became the Chancellor of Germany. In the aftermath of the Reichstag fire, Hitler created a totalitarian single-party state led by the Nazis (Bullock 1964, 28). It is ironic that Adolf Hitler, who was not able to overthrow the German government in 1923, eventually became the Chancellor of Germany in 1933 through political/democratic means. Hitler immediately designed to turn the country into an authoritarian state. Moreover, he planned to resuscitate the crippling economy, with huge unemployment, through colossal military expenditure (Tooze 2008, 49). He abolished democracy, espousing a radical, racially motivated revision of the world order, and soon began a massive rearmament campaign (Brody 1999, 64).

The Nazi party engaged in propaganda to encourage the rage of people against the Weimar government and foreign powers. They spread the stab-in-the-back myth, according to which the reason why the German fleet did not engage in war after the mutiny of its sailors in 1917 was because it was full of traitor officers, who had betrayed their country. They also promoted the ideology of uniting all German people under one state, creating a living space for Germans through wars of conquest and subjugation of inferior races. Italians and Japanese were practicing similar ideologies. Dissatisfied with the post-WWI territorial arrangements, they had decided to lay claim on certain territories. German allies, Italians, conquered Ethiopia in 1935, while the Japanese did the same with Manchuria and parts of China.

Hitler's first step was to increase the size of the German army and its weaponry. In 1934 he began building ships, forming the air force and increasing the size of the army. Simultaneously, Hitler accelerated his rearmament program and introduced conscription (Zalampas 1989, 83). Germans now were obligated to serve in the army. The French and British turned a blind eye at Hitler's violation of the Treaty of Versailles. Their graver concern was the spread of Communism from the east, and they hoped a stronger Germany would serve as a deterrent against the expansion of the Soviets. France desired Italy's alliance and did not object to its politics in Ethiopia, which Italy wanted to colonize. In early 1935, Hitler scrapped the Treaty of Versailles and the Saar Basin became Germany's once again.

Hitler's diplomacy largely consisted of extorting territorial concessions from other powers. He made territorial demands and threatened with war if they were rejected (Record 2007, 22). The strategy worked for some time as other powers preferred to appease him than go to war with Germany. As part of his strategy he left the League of Nations, started the re-militarization, created military alliances and invaded neighbor states. Germans violated the Treaty of Versailles and moved their military to the Rhineland. Hitler violated the Versailles and Locarno treaties and remilitarized the Rhineland. He encountered little opposition from other European powers (Adamthwaite 1992, 43). Germany and Italy formed an alliance in 1936. Only a few weeks later Germans and Japanese concluded their own agreement, which Italians joined in less than a year. Both the French and British failed to act. The French were experiencing political problems at home, while the British considering certain provisions of the Treaty of Versailles unjust to Germans hesitated from involvement (Doerr 1988, 6).

The United Kingdom, France and Italy, alarmed by Germany, formed a front. In June 1935, the United Kingdom decided to strike a naval deal with Germany, which gave the Germans more freedom in their naval buildup. The Soviet Union was also alarmed, especially by German encroachment on Eastern Europe and formed a partnership with the French. The United States, concerned with events in Europe and Asia but opting not to intervene, passed the Neutrality Act in August of the same year (Schmitz 2001, 121). In 1938 Germany annexed Austria and made Hitler's dream of all German people living in one state more realistic. The idea was widespread in both countries and was quite popular. The British, French and Italians had pledged to support Austria's independence,

but after Italy allied with the Germans, Mussolini started supporting German aspirations. The government of Austria was not happy about this fact. The results of the vote showed that more than 99% of Austrians supported the unification, but the results of the vote were fixed (Shaw 2000, 29). The Austrian government asked other powers for help. Hitler promised this would be his last expansion and not wanting war the outside powers condoned the political maneuver of Hitler.

Unfortunately, German, Italian and Japanese aggressions were met with feeble resistance from other Great Powers and the League of Nations. Germany's next goal was taking the Sudetenland, part of Czechoslovakia comprising 3 million Germans. The Great Powers allowed the annexation of Sudeten. This part of Germany was given to Czechoslovakia according to the stipulations of the treaty of Versailles with the insistence of the French. The territory was industrialized and the French wanted to weaken Germany by separating the territory from them (Faber 2010, 101). Hitler insisted on the annexation of the Sudetenland claiming that Germans under Czech were treated with brutality. Germans required immediate intervention.

According to the Munich agreement of 1938 French, Britain and Italy recognized Hitler's demands and appeased him by allowing the incorporation of the Sudetenland. The British Prime Minister and Hitler had three talks in 1938 to decide the fate of Czechoslovakia. Chamberlain conceded that the Germans could incorporate the Sudetenland as long as they abstained from invading Czechoslovakia. Chamberlain hoped that he could satisfy Hitler by fulfilling his demands. He was following the policy

of appeasement. The reason why the British and French decided to stick to the policy was because they realized the Treaty of Versailles was unjust to the Germans.

Hitler's policies of rearmament and immediate expansion seemed reasonable. A strong Germany could be a bulwark against the Soviets. Moreover, Hitler had argued that the French-Soviet agreement made Germany vulnerable, as they felt encircled. He argued that armament and expansion was essential to safeguard its security. Moreover, the French would not be able to fight Germans without the British help and Britain was not willing to go to war. Neville Chamberlain, who became the Prime Minister of Britain in 1937, firmly believed that Germans were treated unfairly after the WWI and giving in to Hitler could rectify those issues. So Chamberlain adopted the policy of appeasement.

Germany still remained unsatisfied. Hitler could not hide his anger that the British would not allow Germans to seize the whole of Czechoslovakia. In January 1939, Hitler decided he would challenge the British naval leadership and started his own naval build-up. In March, Hitler attacked the rest of Czechoslovakia, and appropriated part of Lithuania. In less than a year German troops violated the Munich agreement and invaded Prague. The policy of appeasement had failed. The French and British agreed that any future aggression of Germany would be resisted. The Germans were not stopped by ultimatum and set Poland as their next goal for expansion. Poland had access to the Baltic Sea only because the Treaty of Versailles had given part of West Prussia to the Polish. Danzig, the largest port of the area, was now a free city under Polish influence.

At this stage, Great Britain and France were extremely worried. Hitler was relentless and his next target was Danzig. Britain and France decided to interfere and they supported Polish independence. Italy invaded Albania in April 1939, and the British and French pledged support to Romania and Greece. Soon, as a response to Franco-British pledge to Poland, Germany and Italy concluded the Pact of Steel (Dear and Foot 1995, 23). Moreover, Hitler abrogated the non-aggression agreements with Britain and Poland claiming that they were trying to encircle Germany.

The Nazis had an intention of returning Danzig to Germany. In 1939 they offered the Polish extra territory and a non-aggression pact in exchange for Danzig. The Polish refused because they feared they would lose their access to the Baltic Sea. They did not want to fall under German influence and succumb to future demands (Dear and Foot 1995, 25). The same year the Nazis decided to solve the Polish issue. In between two world wars Poland's official policy was that of neutrality between the Soviets and Germans. In 1939 Germans demanded that the Polish join the anti-comintern and become a satellite state of Germany (Lukacs 1976, 124). Poland refused and Hitler soon invaded justifying his invasion as a necessary step towards "the extension of the living space in the East" (Lukacs 1976, 124).

Britain and France had no intention of giving up Poland and they pledged to come to their help should Germany invade them. Hitler continued to be bullish about Poland and his actions provoked an international response. Britain and Poland became the signatories of a defense pact. Britain and France hoped to persuade the Soviets to resist

German aggression. Although its initial intentions were to come to the aid of Britain and France, the Soviets were soon tempted by the opportunity of territorial aggrandizement Germans offered them.

Germany did not want to be encircled by France, Britain, Poland and the Soviet Union in case of a full-scale war. This is why in 1939 they signed a non-aggression pact with the Soviets, which is known as Molotov-Ribbentrop pact. The Germans and Soviets did not seem to have rival intentions at the moment. In addition, the Soviets had lost territory to Poland in 1920 and, as mentioned before, the Germans wanted back some of the German territory conceded to Poland by the Treaty of Versailles. Germany and the Soviet Union decided to split secretly the independent Baltic States into their spheres of influence. They were waiting for the right moment to conquer these states. The Germans and Soviets conquered all these states in the immediate future. According to the agreement, Germans were left free to command western Poland and Lithuania, while eastern Poland, Finland, Estonia, Latvia and Bessarabia were left at the disposal of the Soviets. It was clear that Polish independence was seriously threatened (Dear and Foot 1995, 24). Hitler relished the agreement with the Soviets for it allowed Germans to avoid a two-front war, as had happened during WWI.

On September 1, 1939, Germany attacked Poland accusing them of sabotage measures against Germans (Evans 2009, 48). On September 3, after Germans turned a deaf ear to the British ultimatum to stop the warfare with the Poles, the British and French declared war on Germany. France and Britain had failed in their attempts to

prevent the takeover of Poland. But Hitler still did not expect that the British and the French would start a war because of Poland and ignored their demands to withdraw the German army from Polish soil. As a consequence, France and Britain declared war on Germany in compliance with the defense treaties they had signed with Poland (Kochanski 2012, 39).

At the outset, British and French were hesitant to start full-scale operations, and French sent small forces into the Saarland (Keegan 2009, 56). Importantly, Germany was subjected to the maritime blockade aiming to hurt Germany's economy and its military capabilities. As a response, Germany ordered its submarines to sink the ships of the Allied powers. Soon, Hitler offered a peace deal to the British and French, on the conditions that the future of Poland would be determined by the Soviet Union and Germany. The British government had little trust in Hitler's pledges and they turned down the deal. After hearing that the British government rejected the deal, Hitler ordered an immediate offence on France.



## **Impotence of the League of Nations**

It is important to note that the League of Nations failed to keep peace among the nations. It was founded as one of the conditions of the Treaty of Versailles, with a goal to uphold world peace. All states were supposed to be the members of the organization and conflicts would be settled through peaceful bargaining rather than war. Should this fail countries would impose trading sanctions on the violator and in case sanctions failed they would go to war against that country. But the organization failed although it enjoyed temporary success after WWI (Evans 2009, 25-28).

The end of the 1920s brought with it depression. The depression hit countries so hard that some people resorted to violent means to solve their economic problems. For instance, the Japanese army unilaterally invaded China, which was rich in lands and natural resources. The Chinese government requested the help of the League of Nations. Although, the Japanese were ordered to leave, they disobeyed and continued their military raid (Keegan 2009, 32). Next step of the League was to order its member states to stop trading with Japan, but because of the depression many countries feared to lose a trading partner. Japan left the League but the plunder of China continued.

Italians violated the rules of the League by attacking Abyssinia in 1935. Abyssinians asked for the League's help. The League tried to impose sanctions but again they would have no effect. The members of the League were not united in imposing sanctions. The League of Nations failed mainly because not every state joined it (Evans

2009, 32). The Americans, who initially promoted the institution, abstained from joining it when Republicans changed Democrats at the helm of power in the states. Many other countries were not allowed to become members, like Germany or Soviet Union, and some others joined but soon left. Importantly, though, the punishment with trading sanctions often did not work. Punished states still managed to trade with non-member states. The League did not have its own standing army to enforce the rules of the organization. And, it is important to note that the League was slow to intervene in conflicts. It gathered only a few times per year and required unanimous approval of its members (Evans 2009, 36).

### **Assault on the Soviet Union**

Having conquered France, Hitler now laid his eyes on the Soviet Union. He ordered the German troops to invade the Soviet Union in 1941. Hitler reasoned that he could defeat the Soviets in a fast war, so-called blitzkrieg. Germans believed that they would catch the Soviets by surprise. Hitler also believed that by defeating the Soviets he would prevent any future attack from Stalin. Moreover, Germans reasoned that by defeating the Soviets they would force the British to compromise and sign a peace treaty (Dear and Foot 1995, 78).

## **Japanese Involvement in WWII**

On December 7<sup>th</sup>, 1941, Japan bombed Pearl Harbor, the U.S. naval base in the Pacific Ocean. The Japanese air forces completely annihilated the harbor. Thousands of soldiers were killed and wounded. The Japanese suffered only minor losses. On the following day the US declared a war on Japan. Japan attacked the Philippines, first organizing an air assault and then invading the country. Japan invaded a few other countries in the neighborhood with an ultimate goal of taking control of the local oil fields (Schmitz 2001, 67). Right after the Japanese attacked the US base, Germany declared a war on the US. Hitler hoped that if he did so the Japanese would support him and invade the Soviet Union. Unfortunately for Hitler his calculations proved wrong and the Japanese did not assail the Soviets. Moreover, now Americans had a justification to attack Germany itself. Because of his blunder, Hitler was now simultaneously fighting the US, Britain and the Soviet Union (Zalampas 1989, 134).

The primary reason why the Japanese initiated their assault on Indochina and the US is because they lacked resources. After defeating the Russians in 1905, the ultimate goal of the Japanese was to expand in Asia. They aspired for economic self-sufficiency and for this they needed to dominate East Asia (Hotta 2007, 87). Japan's goal was to become the most influential actor in China. In 1910 Japan annexed Korea.

In 1931 Japan was hit hard by the Great depression. Because the government was too weak to solve outstanding problems, the Japanese army assumed the responsibility.

The army saw Manchuria as a prized asset that would solve Japan's problems. It was rich in resources and had a lot of fertile land for overcrowded Japanese population. In 1937 Japan invaded Manchuria and China so as to remove Western powers and dominate the region itself (Best 2002, 128). It was when the Japanese moved their troops to French Indochina that Roosevelt's administration stopped oil shipments to Japan (about 80% of all its oil imports). Instead of withdrawing its troops from the occupied territories Japan decided to conquer the oil fields in East Indies and become oil-independent (Sugihara 1997, 56).

The U.S. government and its European allies were in favor of an open door policy in China. Hence, the Japanese expansionary ambitions were unacceptable to them. Americans held close ties with the Nationalist Government of Chiang Kai-Shek and considered the Japanese invasion in 1937 as a violation of its sovereign rights. In response to the Japanese aggression, the US provided diplomatic, economic and military help to China.

In 1940 the U.S. began limiting its trade with Japan. The U.S., Britain and the Netherlands provided almost all Japanese oil imports (Conrad Black 2005, 647). In response, the Japanese invaded French Indochina to prevent Chinese from importing fuel and military supplies. Japan achieved its goal of stationing troops in Indochina, though it would take place gradually. In 1941, after the Germans attacked the Soviets, the Japanese not fearing them anymore continued with the occupation of the rest of Indochina. The

U.S. imposed full trade embargo on Japan, trying to halt the Japanese aggression. Japan responded with the attack on Pearl Harbor, Hawaii.

## **World War II Ends**

The war lasted 6 long years and ended with the German defeat in 1945. The leaders of the victorious side gathered at the Potsdam Conference of July-August 1945. Truman, Churchill and Stalin gathered to decide the fate of Japan and Germany. As a result, Germany would be split into four zones controlled by the Soviet Union, Britain, the United States and France. Because they needed Stalin's cooperation in the war with Japan, Churchill and Truman compromised with Stalin on the important question of Eastern Europe. Truman was so desperate after two bloody battles, at Iwo Jima and Okinawa, that he sanctioned the use of atomic bombs. The Japanese cities of Hiroshima and Nagasaki were annihilated in early August 1945. Almost immediately, the Japanese capitulated, accepted the terms of the Potsdam Declaration and formally surrendered.

## **Post World War II**

The U.S.A., the UK and France were on the winning side of WWII. During the war, these allies, together with the Soviet Union, were united in their opposition to Nazi Germany; however, immediately after defeating their enemy they discovered that they had more differences than similarities in their visions of the post-war European and global politics. The U.S.A. desired to reconstruct the post-war world order into one based

on multilateralism and open-door politics. Britain, on the other hand, too weak to compete economically with U.S.A., hang on to Imperial Preference system. France, just like after WWI, wanted to prevent the rise of Germany, and in this objective, it differed from the U.S.A. and the UK, which saw a strong Germany as a barrier against the spread of Soviet communism on Western Europe. Thus, after the war the differences among great powers might have proved insurmountable, if not for the common geostrategic threats these states faced emanating from the Soviet Union.

### **American Interests**

WWI and the Great Depression transformed the way Washington thought about U.S. national security. Long-term American interests required a world more open to the free flow of goods and capital. Quantitative restrictions, imperial preferences, exchange controls, and autarkical economic arrangements restricted trade, had prolonged the Great Depression, and bred jealousy and aggression (Kennedy and Hitchcock 2000, 24). Starting in the mid-1930s Democrats took control of the White House by storm and firmly controlled the executive branch of the U.S. government for about two decades. Among many of the Democrats and especially with the secretary of state Cordell Hull, free trade was associated with peace. In Hull's words, free trade policy was "an essential requirement of a full and balanced economic recovery" and a powerful instrument of economic appeasement and stability [...] to strengthen the foundations of world peace" (Eckes 1995, 148). Roosevelt appreciated the instrumental role commerce can play for world peace when he claimed that "reciprocal trade is an indispensable part of the

foundation of any stable and durable peace” (Eckes 1995, 153). Despite Hull’s retirement in 1944 and Roosevelt’s premature death less than a year after, a prosperous world without trade barriers continued to inspire American policy-makers for many years to come (Eckes 1995, 157).

For Truman, who assumed the helm of the U.S. presidency in 1945, free trade was an important element of foreign policy that was supposed to lighten the direct costs of reconstruction in the war-ravished Europe. The Department of State, Department of Commerce, and Economic Cooperation Administration all promoted foreign exports to the dollar bloc. They wanted to reduce the US merchandise trade surplus in order to relieve dollar shortages abroad (Eckes 1995, 158). By importing more it was argued that more dollars would flow from the US to financial markets increasing global investment dynamics, promoting foreign trade and economic reconstruction. The U.S. delegation arrived to the Geneva conference on Trade and Unemployment eager to construct a liberal economic order without high tariffs and exchange controls. Department planners contemplated drastic and disproportional cuts in the US tariffs to stimulate imports and assist foreign reconstruction and participation in an open trading community (Eckes 1995, 160).

Post-world war political developments and ensuing rivalry with the Soviet Union made the logic of free trade with allies and neutrals even more appealing to the U.S. Trade became an international issue with visible security implications to be settled within a multilateral framework (Verdier 1994, 201). Senator Vandenberg expressed the

common sentiment prevalent in Truman's administration when he admonished the isolationists against inaction, "if we do not lead, some other great and powerful nation will capitalize on our failure and we shall pay the price of our default (Verdier 1994, 205)."

Coupled with the commendable principles of high morality and national security there were some other parochial interests that motivated the silver-tongued partisans of free trade. Great Britain happened to be the largest market for world imports in 1938 (18.5 percent); it was natural that the US should focus on negotiations with the United Kingdom and its commonwealth. Americans wanted to "crack" the Imperial Preference system, which largely limited the ability of the US producers to export their products into the Commonwealth markets (Eckes 1995, 160).

After the war, the U.S. delegation wanted to offer other states up to 50% of tariff cuts in exchange for their concessions. Americans aimed to persuade other nations to open up to the principles of free trade and non-discrimination. The State Department officials who began planning for the postwar world as early as 1940 considered an open international system based on multilateral commercial and financial arrangements indispensable to postwar security. The unrestricted flow of capital and goods would tend to bind other nations to the United States and discourage trade alliances that could endanger U.S. security (Kennedy and Hitchcock 2000, 29).



The U.S. had its own post-war strategy according to which none of its real or potential enemies should take over Europe and Asia. Moreover, Americans envisioned a global economy, which would not be hampered by colonialism, autarkic or discriminatory practices of certain states. American strategy was a careful balance of political and economic goals. The basics of the strategy envisioned Europe and Asia free from any power inimical to U.S. interests, and world economic system open to the movement of goods and capital (Kennedy and Hitchcock 2000, 36). An important part of this strategy was the affirmation of the sovereign right of states, economic cooperation, open trade and cooperation to improve the well-being. Self-determination was an important aspect of this, and Americans pushed for the world free of empires and colonies.

Acheson, the U.S. Secretary of State, insisted that the global trade needed less discrimination and more openness. He and his colleagues in the State department worked hard to lay the foundations for the creation of the International Monetary Fund (IMF), General Agreement on Tariffs and Trade (GATT) and the World Bank. Lower tariffs, US loans, and stable exchange rates were deemed the prerequisites to peace and prosperity in the postwar world as well as for safeguarding the security of the United States (Kennedy and Hitchcock 2000, 46).

U.S. decision-makers were worried that economic distress in Germany and other parts of Europe would lead to serious economic and political unrest. Assistant secretary of War, John McCloy, traveled to Germany in April 1945 and reported to Stimson "there

is a complete economic, social, and political collapse going on [...] in Europe" (Kennedy and Hitchcock 2000, 54). Many Europeans were proposing price controls and heavy state intervention to take care of the distress by sheltering local producers from global competition. However, heavy state intervention, the U.S. feared, could lead to increased Soviet influence and/or isolation of the European economies from the rest of the world. Naturally, such arrangements conflicted with the open world order that US officials deemed a requisite to American well-being and its national security (Kennedy and Hitchcock 2000, 78).

The U.S. feared that the loss of Britain and France to communism could prove lethal to U.S. security. Thus, it was vital to protect the allies. However, the security of these nations was closely linked to political developments in Germany. According to the opinion presented in 1947 by the Joint Strategic Survey Committee to the Joint Chiefs of Staff of the American Armed Forces:

The complete resurgence of German industry, particularly coal mining, is essential for the economic recovery of France—whose security is inseparable from the combined security of the US, Canada, and Great Britain. The economic revival of Germany is therefore of primary importance from the viewpoint of US security (Kennedy and Hitchcock 2000, 64).

George Kennan, the famous US historian and public official, clearly states the fears of Washington. He affirmed that, "the only really dangerous thing [...] is the possibility that the technical skills of the Germans might be combined with the physical resources of Russia" (Kennedy and Hitchcock 2000, 67).

Decision makers in Washington clearly understood that they could not isolate themselves from European affairs. Economic isolation from Europe would be detrimental to both Europeans and themselves. From their actions, it seems they realized that they had to take a leading role in the reconstruction of the global economy. They also understood that instead of punishing Germany, Italy, and Japan, they had to convert their former enemies into friends. The lessons from WWI had showed that punishment could ignite indignation and fury in people, leading to bloody conflicts and wars. U.S. policymakers remembered very well how the Versailles Treaty had prevented any chance of peace and how the ensuing fall of the Weimar Republic brought Hitler to power. They also clearly understood that the presence of U.S. power in Europe was essential for the infusion of confidence and the pursuit of moderation (Kennedy and Hitchcock 2000, 75).

America was hoping to defeat unemployment at home and in Europe. They wanted to rebuild the war-torn Europe first. Washington found the solution to the problems in multilateralism for the reduction or elimination of trade barriers between the U.S. and its allies. Washington offered a system of fixed exchange rates, which would allow goods to flow freely among nations and nations would produce and sell goods they produced best. Multilateralism, Washington believed, would prevent unemployment in postwar America, rehabilitate war-torn areas in Europe and Asia, and raise living standards in the developing world (Kennedy and Hitchcock 2000, 84). Therefore, multilateralism became the most important element of post-war reconstruction.

An international trade system would be created which would be based on the economic principle of competitive advantage. Countries would specialize in the production of goods they produced cheaply and therefore could gain by trading those goods on international markets. As mentioned above, reduction of trade barriers and institution of fixed exchange rates was central to the goal. According to Americans, such a system would benefit everybody by accelerating economic growth. It was the breaking up of the British Sterling bloc that they recognized as the key to the realization of a multilateral system (Heroki 2015, 42).

In the two years following the war, the Western Allies agreed to unprecedented 45,000 tariff concessions affecting \$10 billion of trade, they signed the General Agreement on Tariffs and Trade (GATT—predecessor of World Trade Organization), drew up the framework for the foundation of ITO, and generally standardized trading rules for countries which accounted for 70% of total world trade.

### **British Interests**

The British government, decided to close off its economy during the war. It created the so-called Sterling Bloc during wartime. Though, they understood very well that they could not close themselves from others completely and forever. Their economic well-being depended on massive American help. British economist and one of the active participants of post-war reconstruction, John Keynes, supported multilateralism but he wanted to create an order, which would safeguard British position in the world. Keynes

did not want to live to see a global economic system in which Americans would dominate global markets and drive out their competitors. He wanted to have a system in which Americans would help their wartime partners to reconstruct their economies, to be able to keep their production and be competitive on global markets. Keynes wanted to form an International Clearing Union. The role of this institution would be to monitor which countries ran surpluses and deficits in their trade and if certain countries ran surplus, they would fine them and redistribute the surplus to debtors. The purpose of this plan was to impose on the US, the biggest creditor with huge trade surpluses, the duty to furnish international liquidity institutionally (Heroki 2015, 48).

After the U.S., Great Britain was the greatest non-communist trading nation in the world. At this stage, it was still operating inside its imperial trading system. Because Britain was so important, Americans needed their support to spread their idea of multilateralism on a global scale. At the Ottawa Conference in 1932, the British imperial trading bloc concluded an agreement according to which members of the bloc would receive preferential treatment from the members of the bloc. Material losses of the WWII forced British government to consolidate the bloc and to accelerate the trend toward governmental control of international finance and foreign commerce (Kennedy and Hitchcock 2000, 104). The government limited imports from outside the bloc and limited the ability of domestic businesses to import from foreign countries. American policymakers did not approve of British actions, because these actions contradicted America's goals to make multilateralism the primary reference of post-war global economic system (Kennedy and Hitchcock 2000, 108).

As the war ended, the gold and dollar resources of Great Britain had fallen drastically, because Britain had spent most of them on acquiring weaponry and other war-related goods. Moreover, Britain had accumulated almost a \$14 billion debt. The British could not afford opening their borders to free trade, because this would exhaust their resources. First, they had to take important economic measures, resuscitate their war-torn economy and only then engage in the multilateral free trade system Americans had on their mind. Such an eventuality would mean not only the collapse of the internal economy but a British strategic withdrawal from Europe and Middle East (Kennedy and Hitchcock 2000, 125).

Naturally, the British were very concerned with the post-war developments. The UK was not as potent as it used to be. The U.S. had risen as a hegemon and the Soviets were the global power threatening the whole of Europe. The UK had also lost its economic and financial prowess to the U.S. Moreover, American's were particularly insistent with the British on the matter of India. American anti-imperialism, in particular regarding India, was an old cause of British bitterness. Roosevelt's prodding had led Churchill - much to the anger of the Right-wing of his own Party - to commit Britain in the Atlantic charter to the right of all peoples to national sovereignty and self-government (Goodman 1996, 42).

Americans continued their demands and drew particularly bitter British responses. At one point Churchill responded to Americans that he had not become 'the King's First

Minister in order to preside over the liquidation of the British Empire (Goodman 1996, 48). The intense U.S. pressure on the matters regarding Imperial preferences preoccupied Leo Amery, Lord Beaverbrook and several other ministers in Churchill's party. Amery called lunatic the American advocacy of free trade. Most British politicians shared a view that Americans were using arguments in favor of free trade as a tool to strip the British of their markets and dominate them instead (Goodman 1996, 54). Nor did the British fall for the American initiatives on post-war system of fixed-exchange rates by a dollar-dominated IMF.

Great Britain was the historical home of liberal economic tradition. In the seventy years between the repeal of the Corn Laws in 1846 and the beginning of the First World War in 1914 the United Kingdom had put no obstacles in the way of the free importation of goods from foreign markets (Gardner 1980, 26). Because the United Kingdom was a densely populated island with very limited resources, it could be self-sufficient only at a tremendous cost. It also had an indirect stake in the development of free and prosperous international commerce, being at once a leading financier, carrier, and insurer of the trade of nations (Gardner 1980, 26). In the words of the Chancellor of the Exchequer, Sir Kingsley Wood, pronounced soon after World War II: "No nation's interest in the maximum growth and freedom of commerce will be as great as ours. We shall want to secure as large a volume of international commerce under conditions as free from restrictions as possible" (Gardner 1980, 28).

Free trade and multilateralism were the desired long-term goals of Britain. However, many in the empire doubted the ability and economic strength of a war-devastated country to handle the pressures from free trade and global competition in the short-run. Exactly for this reason, the United Kingdom had a strong stake in strengthening Commonwealth political and economic unity in an uncertain and insecure world (Gardner 1980, 36). British government could not support any American program, which seemed to be aimed indiscriminately at weakening Commonwealth ties (Gardner 1980, 36).

Employment and social welfare was another of British major concerns. It was generally agreed that any future projects for the revival of multilateral trade would need to have expansionist bias, with safeguards to protect the United Kingdom from fluctuations originating abroad (Gardner 1980, 37). British were particularly afraid that open trade and international interdependence resulting from it meant that a crisis originating in one country might eventually spread to the other. British opinion was gravely concerned with the danger of post-war depression in the United States. Anticipating global economic repercussions of the U.S. slump, the British aimed to insulate themselves from the crisis and resulting mass unemployment. Last but not least, of Britain's major concerns was the frightening balance of payments dynamic. Britain imported heavily from abroad, but postwar British exports were falling to a fraction of their pre-war level and its productive capacity was being reduced by depreciation and aerial construction (Gardner 1980, 37).



For Britain it was clear that free trade could only be restored gradually. During the transition period Britain needed to have some means of making payments for imports while repairing its war damage and rebuilding its export trade. In short, they needed substantial assistance from the United States without which they could not participate in a system of multilateral trade. As quoted by Gardner, the British Prime Minister put it:

The essential problem is to reconcile the aims of expansion of international trade and equilibrium in the balance of payments. For this purpose what is chiefly needed is that those countries [namely, the U.S.] which are otherwise likely to have an unduly favorable balance of payments should be willing to do most to reduce import duties and to remove other impediments to imports (Gardner 1980, 355).

The British apparently meant that they could not resort to multilateralism and should not be expected to open up their markets before their economy was back on its feet and before their businesses could export more to alleviate the balance-of-payment burden. British representatives insisted that,

Greater reductions in preferences might have been possible in more normal circumstances, but having regard to Britain's balance of payment difficulties, this is about the worst moment for surrendering safeguards of any kind, and particularly those that derive from Imperial Preference (Gardner 1980, 357).

In the immediate future, as put by the *Economist* (29 April, 1944, 564), "there was no chance that the British would consent to the abolition of the system of Imperial Preference save possibly as part of a very large reconstruction of international trade involving concessions of other countries far larger than any that are yet in prospect" (Gardner 1980, 357).

### **British and American Disagreement:**

In the private meeting between British and American representatives at the Geneva conference, Will Clayton, representing the Department of State, frankly admitted to the British representative that he 'was disappointed in the British offers as compared with the US offers' (FRUS 74, 45). And disappointed he should have been. The concessions the U.S. side offered to the United Kingdom affected 95% of U.K. imports into the US in 1939; the U.S. concessions on dutiable items affected 70% of U.K. imports into the U.S. and the U.S. concessions in the form of free list bindings covered 75% of U.K. imports into the U.S. Mr. Clayton pointed out to his British colleague that the reductions in dutiable items covered by the U.S. concessions, on 92% reductions of 36-50% were offered, on 17% reductions of 25-35% were offered and on 11% reductions of less than 25% were offered (FRUS 74, 46). With respect to duty concessions offered by the U.K., about 48% of total dutiable imports on which concessions were offered, were effected by reductions of less than 25%, about 41% by reductions of 25-35% and only 1% reductions of 50%. According to Mr. Clayton the U.K. offer covered only 34% of the total U.S imports into the U.K (FRUS 74, 47).

The British were anything but persuaded with the arguments of the U.S. delegation; in fact they thought Americans were pursuing two contradictory objectives: (1) to obtain a world in which there will be a minimum of trade restrictions and impediment to private enterprise; and (2) to obtain for every concession they make on

tariffs an equivalent concession in tariff and preference from other countries (FRUS 74, 30). In the British view, equal concessions in the tariff bargaining would not help to turn over the US favorable export balance. As a result Britain and other war-ravaged countries importing the US products would run into balance-of-payment problems. According to the British, if the Americans wanted to advance towards a regime of more liberal trade by the path of tariff bargaining, they would need to make unequal trades in this field and offer concessions which would really lead to greater international specialization through the shifting of some productive resources and capacity in the U.S. in favor of imports (FRUS 74, 30). The British critically joked that “gold medals should be distributed to the teams making the worst bargains, as this would most quickly bring to an end the overriding dollar exchange shortage problem which is plaguing the world” (FRUS 74, 34).

The US delegates objected that the British could impose quantitative restrictions when they face balance-of-payment problems and by doing so decrease imports, accumulate dollars and eventually switch back to trade without restrictions. The British representative responded that an equal bargain on tariffs and preferences would prolong the period during which the U.K would have to take advantage of balance-of-payment quantitative restrictions. This would be due to the fact that equal tariff bargains would not reduce the US imports relative to exports. The U.K. did not like this solution because as long as the U.K. took advantage of quantitative restrictions many other countries would feel they also had to do so, and the U.K objected to the system of balance-of-payment

quantitative restrictions applied generally as contrary to her own export interests (FRUS 74, 30).

British representatives argued that although ‘on a statistical basis the offers made by the U.K to the U.S. were inconsequential, if the U.K offers were reasonably considered from the point of view of greater economic strength of the U.S., and the tremendous increase in the volume of the foreign trade of the U.S. due to the war, the offers made by the U.K to the U.S. compare favorably to those made by the U.S. to the U.K (FRUS 74, 58). Moreover, the U.K delegation suggested that Americans were welcome to withdraw some of their concessions if they thought they were offering too much to the U.K in return for nothing.

### **Conclusion of the Geneva Negotiations:**

Although many in the American delegation believed that the real obstacle to a mutually advantageous agreement lay in the political resistance to multilateralism within the U.K, the sterling convertibility crisis which unraveled during the negotiations played its due role to persuade Americans to continue the negotiations in the face of continued unwillingness of the British to compromise. Disgruntled as they were that the British were violating the Mutual Aid Agreement of 1942 and the spirit of the “Proposals” of 1945, they nevertheless saw the outcome of the conference rather satisfactory. The British had their own interpretation of those documents, which radically contrasted with the American interpretation.

Though the Imperial Preference system stood unscathed at the end of the conference, according to Americans “in the overall picture of success, the comparative failure on preference negotiations will not loom too large” (FRUS 74, 89). The proposed agreement was the result of fifteen negotiations between the U.S. and other countries and more than ninety negotiations between other pairs of countries. It covered the countries that handled around 75% of the world’s trade before the war and represented the most extensive action undertaken to reduce barriers to trade (FRUS 74, 107). As part and parcel of the Geneva negotiations, the General Agreement on Tariffs and Trade (GATT) was signed as a preliminary step to the creation of the International Trade Organizations (ITO). GATT contained important provisions on most-favored-nation treatment, customs matter, quantitative restrictions and state trading that would bind nation-states from January 1, 1948, provided the participant countries ratified the agreement on that date. The agreement would be made definitively effective after the charter of ITO had been approved during the Havana Conference. The GATT provisions had no mention of cartels, commodities, employment, economic development or the establishment of ITO.

But GATT provisions committed its signatories to essential commercial policy provisions of the ITO charter. The articles on quantitative restrictions proved to be one of the most contentious undertakings. On the one hand, they paid tribute to the principle of non-discrimination. On the other hand, they allowed wide scope for discrimination during the transition period – with no assurance that transition period would ever end (Gardner 1980, 364). Quantitative restrictions were allowed by countries if they were running

balance-of-payment deficits and only after the “finality of Monetary Fund determination as to balance-of-payments position of countries seeking to use import quotas to correct balance of payment” (FRUS 1974, 109).

At the Geneva conference, the under-developed countries advanced a number of specific exceptions to the commercial policy rules to safeguard their national plans for economic development. One of the main exceptions was the principle of treatment of private investment. The under-developed countries filled the Geneva Draft article on foreign investment with broad exceptions asserting the right to place all kinds of restrictions on foreign investment, even the right to expropriate particular investments without paying compensation for the full value of the investments (Gardner 1980, 366). They successfully sought to include in the Geneva Draft a special authorization for regional preferences to promote economic development, subject to the approval of two-thirds of the members of the ITO. Moreover, under-developed countries were allowed to employ quantitative restrictions to promote economic development “as long as such restrictions were unlikely to be more restrictive of trade than any other reasonable and practical alternatives and were suited to the economic needs of the industry and the member concerned” (Gardner 1980, 367).

### **French Interests**

America’s grand strategy was unacceptable to the British and the French. The U.S. had decided to pump significant funds to rebuild Germany and Japan. The French

were opposed to American and British measures designed to raise industrial production in Germany. Neither did they approve of America's decision to merge the German zones and allow for self-government. The French were fearful that Germans would pose a threat to France in the future, either unilaterally or in alliance with the Soviets. Washington's most influential diplomat in Europe, Lewis Douglas, informed Marshall that "if the French were assured of long-term U.S. defensive cooperation against German aggression, in other words, we would fight on the Rhine, in such an eventuality, the French would relax in their attitude regarding German industry and reconstruction" (Kennedy and Hitchcock 2000, 134).

The U.S. troops would remain on the territory of Germany and France would partake in the management of Ruhr coal. Moreover, the U.S. would provide military assistance and work diligently towards creating a transatlantic security organization. In 1949 British and French representatives arrived in Washington to sign the North Atlantic Treaty. Without the North Atlantic Treaty, Acheson confided to President Truman, "I doubt that we could have come to a successful conclusion of these agreements at this time (Kennedy and Hitchcock 2000, 125).

After the war, De Gaulle had tried to maximize French security as much as he could. However, his style of diplomacy was inflexible. If he failed to achieve his goals, he would rather obstruct others than try to find common ground. According to Hitchcock, such a diplomatic choice was a disaster for the Fourth Republic of France. The French prioritized forcing Germany to pay reparations and isolating a few important coal and

steel mines from the rest of Germany. Even after de Gaulle's departure as president, his confrontational diplomatic style persisted until 1948 in the person of foreign minister Georges Bidault (Esposito 2000, 18). Bidault continued his demands for reparations and coal/steel mines. Nevertheless, Americans and British were deaf to France's demands. Very soon they united their occupation zones, leaving the French isolated and sending them a signal that Germany would be united even against French wishes (Esposito 2000, 19).

The French continued with their obstructionist stance for a while. Bidault hoped that he could play as an intermediary between the West and the Soviets. However, the confrontation between the West and the Soviets was reaching its peak. Soon Bidault realized that by isolating France from the West, he was not just distancing the country from its wartime allies, but also, and perhaps more importantly, letting the country be threatened by the communists, both inside and outside the country. In that context, German reconstruction became ever more important for the West: a weak Germany in the heart of Europe could only benefit the Soviet cause (Esposito 2000, 20).

Right after the war, the French were fearful that Germany would rise again. Naturally, they wanted to weaken Germany by punishing it with reparations and control of its resources. The French did not take to heart the Marshall Plan, because it would make Germany stronger. The French would only agree to German unification if it were in their interest. The threat of communism was that important catalyst, which pushed the French towards European integration. Also, "by embracing European integration, France



sought to establish itself as the *de facto* arbiter of European economic reconstruction, and thus offset the crippling disadvantages that economic dependence and military weakness had placed on French diplomacy" (Willis 1999, 45).

### **Soviet Threat and Transatlantic Alliance**

With the Marshall Plan, Americans aimed to achieve monetary stabilization in the West. Americans wanted to gradually achieve currency convertibility among nations. The U.S. Treasury, IMF and other intergovernmental institutions were in charge of policies. If the first postwar settlement had experimented with an international "associationalism," the post-1945 settlement rested on an American-sponsored intergovernmentalism (Kennedy and Hitchcock 2000, 145).

It is evident that post-WWII cooperation between the US and the Western European powers proved more solid than the one after WWI. An important factor was the cooperation among the governments of Great Britain, France, and the United States. The heavy involvement of governments was crucial to the success. However, this involvement was largely conditioned and motivated by the serious Soviet threat. Had communism appeared more of a menace to Western Europe in the 1920s, perhaps the United States and Britain would have adopted a more resolute policy (Kennedy and Hitchcock 2000, 146). The latter is only a counterfactual that only help us put into perspective the significance of the geostrategic threat posed by the Soviet Union

immediately after the end of the Second World War and the reconstruction of the post-war international order, particularly in the European theater.

The British and Americans were equally fearful of threats emanating from the Soviet Union. They wanted to get along with the Soviets, but they were also firm in their conviction and geostrategic interest that Europe and Asia had to be protected from Soviet encroachments and the expansion of communism. It was a direct affront to the way of life in liberal democracies and a direct threat to the stability of the post-world liberal order. In 1945, an important study by the Brookings Institution was released in the field of International Relations, which clearly summarized the attitude of the Western allies. The study stressed that,

Soviet Russia is a power whose good intentions must be assumed until there is incontrovertible evidence to the contrary, but its intentions are sufficiently unclear so that the US must in no case place sole reliance for its security on Soviet good intentions. In all the world only Soviet Russia and the ex-enemy powers are capable of forming nuclei around which an anti-American coalition could form to threaten the security of the US (Kennedy and Hitchcock 2000, 148).

In May 1944, Admiral William Leahy, briefly summarized the point of view the U.S. government held of the Soviets:

[T]he outstanding fact to be noted is the recent phenomenal development of heretofore latent Russian military and economic strength—a development which seems certain to prove epochal in its bearing on future politico-military international relationships, and which has yet to reach the full scope attainable with Russian resources (Kennedy and Hitchcock 2000, 151).

While it is true that right after the war Americans might not have wanted to depict the Soviets as their enemies, they were confident that the Soviet Union's influence should not be allowed to spread further. Hence, the US decisions to intervene in South Korea, to control Japan, and to take measures to prevent further Soviet expansion around the globe. The preparations for negotiations at Potsdam revealed the determination of almost all US military and civilian officials to block Soviet inroads into Western Europe and the Middle East (Kennedy and Hitchcock 2000, 163). The US government and its allies took an important decision to exclude the Soviets from any decisions regarding Germany's coal and steel mines. Quoting the U.S. Strategic Committee, Paul M. Kennedy and William I. Hitchcock put it in a nutshell:

Russia had already been left as the sole great power on the Continent—a position unique in modern history. Under present circumstances, the extension of Soviet power and influence into the heart of Western Europe, through the device of trusteeship, would manifestly be open to grave doubt" (Kennedy and Hitchcock 2000, 162).

The U.S. government wanted to see Europe and Asia free from Communist control. They were concerned that Germany and other European nations had been devastated by the war. The Marshall Plan would help Europe rise to stand on its feet and help create a multilateral order, which the Soviets would be unable to undermine alone. The strategy was to link economies together and make sure that Western countries would never fall under the influence of the Soviets. The U.S. was particularly worried that the Kremlin could lure the Western Europeans with economic incentives or promises of territorial aggrandizement. According to Marshall, the worst of all scenarios would be

seeing "a Germany controlled by the Soviet Union with German military potential utilized in alliance with the Soviet Union (Kennedy and Hitchcock 2000, 183).

### **Conclusion:**

This chapter tested hypothesis No. 2: Absence of compatibility of national interests, coupled with the looming or actual presence of an external security threat, leads to multilateral military cooperation. It also explained why former allied Great powers during the war, including prominently the Soviet Union, failed to engage in military cooperation right after the Second World War. Incompatibility of their national interests was a primary obstacle to their cooperation right after the war and the disbanding of the military coalition that defeated the Axis Powers in 1945. This incompatibility almost also led to the disintegration of the Western Alliance. However, the looming Soviet threat grew exponentially in a couple of years from 1945 to 1947, forcing the USA, the United Kingdom, and France to set aside their differences. The existence of an immediate external threat as early as 1947, in contrast to the post-WWI environment in 1919, turned out to be the catalyst that induced the Western allies to stay together and reconstruct another military alliance with a different geostrategic enemy in sight: The Soviet Union.

The aftermath of the First World War and the Great Depression of 1929-1939 unquestionably transformed the way decision makers in Washington thought about U.S. national security. Long-term American grand strategic interests required a world more open to the free flow of goods and capital. Quantitative restrictions, imperial preferences,

exchange controls, and autarkical economic arrangements restricted trade, had prolonged the Great Depression, and bred jealousy and aggression (Kennedy and Hitchcock 2000, 24). Post-world war political developments and ensuing rivalry with the Soviet Union made the logic of free trade with allies and neutrals even more appealing to the U.S. Trade became an international issue with visible security implications to be settled within a multilateral framework (Verdier 1994, 201). The unrestricted flow of capital and goods would tend to bind other nations to the United States and discourage trade alliances that could endanger U.S. security (Kennedy and Hitchcock 2000, 29).

Beginning in 1947, American grand strategy was a careful balance of political and economic goals. An important part of this strategy was the affirmation of the sovereign rights of states, economic cooperation, open trade and cooperation to improve the well-being of peoples throughout the world, particularly those in the North Atlantic community. Self-determination was an important aspect of this strategy, and Americans pushed for the world free of empires and colonies. Importantly, though, the U.S. feared that the loss of Britain and France to communism could prove lethal to the U.S. security. Thus, it was vital to protect the Western allies. The security of these nation-states was closely linked to political developments in Germany.

The British government, unlike the US government, decided to close off its economy during the war and continued the policy for a brief period thereafter. It created the so-called Sterling Bloc. As the war ended, Great Britain's gold and dollar resources had fallen drastically, because Britain had spent most of them on acquiring weaponry and

other war-related goods. Moreover, Britain had accumulated almost \$14 billion in debt. The British could not afford opening their borders to free trade, because this would exhaust their national reserves and resources. Naturally, the British were very concerned with the post-war developments. The UK was not as potent as it used to be. The US had risen as a hegemon and the Soviets were the global power threatening Europe and counterbalancing U.S. leadership and power.

The UK had also lost its economic and financial prowess and leadership to the US. Many in the empire doubted the ability and economic strength of a war-devastated country to handle the pressures from free trade and global competition in the short-run. Exactly for this reason, the United Kingdom had a strong stake in strengthening the Commonwealth political and economic unity in an uncertain and insecure world (Gardner 1980, 36). Employment and social welfare was another of British major concerns. British were particularly afraid that open trade and international interdependence resulting from it meant that a crisis originating in one country might eventually spread to the other. British opinion was gravely concerned with the danger of post-war depression in the United States. Anticipating global economic repercussions of the US slump, the British aimed to insulate themselves from the crisis and resulting mass unemployment. Last but not least, of Britain's major concerns was the frightening balance of payments dynamic. Britain imported heavily from abroad, but postwar British exports were falling to a fraction of their pre-war level and its productive capacity was being reduced by depreciation and aerial construction (Gardner 1980, 37).

America's grand strategy was unacceptable not only for British but for the French too. The U.S. had decided to pump significant funds to rebuild Germany and Japan. The French were opposed to American and British measures designed to raise industrial production in Germany. Neither did they approve of America's decision to merge German zones and allow for self-government. French were fearful that Germans would pose a threat to France, alone or in alliance with the Soviets. The French prioritized forcing Germany to pay reparations and isolating a number of important coal and steel mines from the rest of Germany. Bidault continued his demands for reparations and coal/steel mines. For some time, the French continued with their obstructionist stance. Bidault hoped they could play an intermediary between the West and the Soviets. However, the confrontation between the West and the Soviets was reaching its peak. Soon Bidault realized that by isolating France from the West, he was not just distancing the country from its wartime allies, but, more importantly, letting the country be threatened by the communists, both inside and outside the country. In that context, German reconstruction became ever more important for the West: a weak Germany in the heart of Europe could only benefit the Soviet cause (Esposito 2000, 20).

National differences of the Western Great Powers, right after WWII, loosened the bond tying the Western Alliance. Consumed by their own national interests they were on the brink of discontinuing military cooperation. However, the rise of the Soviet Union to the status of global power and regional hegemon in Eurasia made the Western Allies reconsider their differences and prioritize at the top of their national interest the looming expansionistic Soviet threat to their individual and collective national security. Thus, both

immediately after WWI and WWII, the absence of major external threats were a sufficient condition in affecting the extension and endurance of the Triple Entente and the Allied Powers alliances respectively. Subsequent to the end of the Cold War in 1991, however, the threats disappeared; yet, the alliance continued and deepened over the next twenty-five years. In the next two chapters, accordingly, I demonstrate why sufficient conditions such as the presence or absence of external threat ceased to be decisive in affecting the probability of extending and strengthening multilateral military cooperation after the end of the Cold War. The compatibility of ideational national interests could explain why NATO member states decided against either rearranging or altogether dissolving the alliance in the absence of clear and direct external threat. In the presence of the continuation and deepening of multilateral, military cooperation for twenty-five years, however, it does not fare well as a satisfactory explanatory variable. Subsequently, I will introduce several understudied and overlooked variables in the literature of military alliance dynamics and politics that I expect will help to explain part of such paradoxical and complex developments since 1991.



## CHAPTER V

### MARKET IMPERFECTIONS AND ALLIANCE POLITICS

In the previous two chapters on the Triple Entente alliance of the First World War and the Allied Powers alliance of the Second World War, it was demonstrated that military alliances which are successful during times of crisis and war dissolve or regenerate as a result of two different but interrelated international dynamics. First, immediately following the disappearance of the external geostrategic threat, even in the presence of compatible national interests among former alliance members, military cooperation ceases to operate; and, second, when in the presence of an immediately new external geostrategic security threat, even in the absence of compatible national interests among former alliance members, a renewed military cooperation and coalition regenerates. The aim of the present and subsequent chapters is to explain the paradox of NATO's endurance for well over two decades beyond the absolute disappearance of its former external geostrategic threat and in the absence of a renewed external threat as was the case immediately after 1991. On the basis of extant military alliance literature and history in International Relations, it is truly puzzling to make sense of how some former allied great powers during the Cold War continued and deepened considerably their military cooperation in the absence of a former or new geostrategic external threat to their national security in the aftermath of the Cold War. Accordingly, I will test the following third major hypothesis: Cooperation in the military production of states with compatible

national interests is positively related to economies of scale, scope and learning by doing, both in the absence or presence of an external geostrategic threat. I will analyze the post-Cold War developments to confirm or disconfirm the validity and usefulness of this hypothesis.

Prior to engaging in my evaluation and analysis of the post-Cold War alliance dynamics and politics, a caveat is necessary and in order. It is exceedingly critical to clarify that I am not oblivious to the possibility that other important contributing causes or socio-political, ideological/ideational, geostrategic factors may be crucial contributing elements or sufficient conditions explaining the endurance of NATO beyond the collapse of the Soviet Union in 1991. Nonetheless, my analytical objective is to offer and assess an important, new argument that has been largely overlooked or neglected up to now by military alliance dynamic theory. The goal here is not to argue that the political economic argument of alliance dynamics advanced in this dissertation is the single most important explanation of NATO's endurance since 1991. But rather my position is that a political-economic dimension is missing and it needs to be incorporated into the explanatory equation in order to advance a richer, more rounded, and more rigorous explanation of this puzzling historical development among current great powers.

Traditional trade theory in political economy has viewed economic cooperation among nation-states as a function of economic endowments. I will argue in these two chapters that market imperfections and rapidly increasing costs of military production and research and development (R & D) make traditional political economic explanations

of economic relations superfluous. Members of NATO do not simply trade in military goods among each other to cut down military costs, as the classical trade theory would predict, but, more tellingly, they cooperate in R & D and production of many weapon systems.

Before exploring how market imperfections might affect military alliances and specifically, the endurance of NATO, however, I will first explain classical trade theory and its assumptions regarding trade and economic cooperation of states in order to frame my argument in main corpus of this literature; next, I will attempt to explain market imperfections and review the work advanced by several authors who have analyzed such imperfections in military materiel production. I will close this chapter by analyzing specific military industries in which NATO members cooperate. In this vein, I will search for economies of scale and other market imperfections in these industries as these conditions may save huge quantities to enduring NATO members.

### **Classical Trade Theory**

According to Adam Smith, the main reason why states trade with each other is because they possess an absolute advantage to provide higher quantity of goods or more service employing the same inputs. In other words, states are more efficient. For Adam Smith the production function was rather simple and consisted only of the labor input. Thus, by comparing the labor productiveness of two units, countries, factories, or productive sectors one could see which has an absolute advantage (Marrewijk 2007, 13).

It is not uncommon to see different sides without absolute advantage at all. In this case trade makes no sense and, hence, it does not take place (Marrewijk 2007, 18). I will compare the principle of absolute advantage to the Ricardian comparative advantage model, which explains international trade as a factor of opportunity costs of producing a certain good in a nation-state.

Adam Smith coined the term absolute advantage in his book *An Inquiry into the Nature and Causes of the Wealth of Nations*. As a supporter of free trade, his main goal was to demonstrate that mercantilist ideas on free trade were erroneous (Marrewijk 2007, 25). Smith showed that it was counterproductive for nations to set direct and indirect barriers to free trade if they wanted to prosper. Free trade, according to him, was the only way for all nations to gain. All nation-states would gain if they specialized in the production of goods and services in which they had absolute advantage. His logic was that prosperity of populace depended on commodities and services they enjoyed.

Adam Smith's reasoning was the following: If the foreign producer can furnish a certain good or a service at a cheaper price than local producer, the population is better off if they buy foreign products in exchange for goods and services that are produced cheaper locally. Such an exchange is mutually beneficial. Both produce more goods in total and in case of the exchange they will end up with higher utility. The capital in each country is employed in the production of goods and services at which the producer is efficient (Smith 1937, 85).

Although absolute advantage can bring gains from international trade, still, it does not completely explain why international trade is mutually beneficial. The principle of comparative advantage fills this gap. Comparative advantage explains the benefits of trade to individual agents, companies and countries because of their labor and capital factors and/or technological progress (Maneschi 1998, 1). According to the concept, an actor has a comparative advantage over another if it can provide a service or manufacture a good at a lower opportunity cost. The main idea here is not to compare the input costs, as in the case of Smith's concept of absolute advantage, but to compare the opportunity costs of manufacturing different commodities. According to the logic of comparative advantage, when countries engage in free trade they will produce more of goods in which they have comparative advantage to produce and export (Dixit 1980, 2).

David Ricardo, the author of the theory of comparative advantage, wanted to show why it makes sense for countries to engage in trade even when they are more efficient in the production of all goods than other countries. This is because countries that engage in trade will increase their utility by consuming more goods through export of goods they are more efficient at producing and importing more of goods their trading partners enjoy comparative advantage at. Here, it is crucial that relative efficiency in producing goods be different in trading countries. Countries that produce goods relatively cheaper than their partners will export those goods, and import goods their partners are relatively more efficient at producing. Like in Adam Smith's theory of absolute advantage, it is important that exporting countries have different labor productivity in the production of goods they exchange (Baumol and Binder 1979, 50).

David Ricardo's theory has important implications for international trade, as it suggests the theory of comparative advantage rather than Smith's theory based on absolute advantage (Krugman 1996, 12). Ricardo advanced his theory in his book *On the Principles of Political Economy and Taxation*. Like Smith, he was against artificial barriers to international trade. Ricardo adds an important premise that with perfect competition and markets countries would prefer to trade and export goods they are better at producing. The classical theory of international trade continued its development in the twentieth century. In 1919 Heckscher and Ohlin offered their factors proportions development model to explain international trade.

Similar to Ricardo's theory, they start with an assumption that trade depends on the proportion of factor endowments among trading countries. According to their trade theory, countries will export goods they are better at producing or have more and cheaper resources to produce and in turn will import goods which are too expensive to produce at home (Blaug 1992, 190). According to this model, a country's land, labor and capital endowments create its comparative advantage. The logic posits that countries enjoy advantages when they have profuse resources domestically. Profuse resources translate to cheap inputs and production costs which translate into low prices (Blaug 1992, 286).

Countries endowed with a large labor force but lacking capital will enjoy comparative advantage in goods that require labor-intensive production. The abundance of labor keeps a downward pressure on its costs. Capital-intensive commodities would be relatively expensive because of the scarcity of capital inputs. In this case it would make

more sense for a country to concentrate on the production and export of labor-intensive goods and importation of capital-intensive commodities.

David Ricardo's theory of comparative advantage bases its explanation of international trade on differences in labor productivity among nations. It is crucial to note that, according to Ricardo, such difference in labor productivity stems from the use of different technologies. Heckscher and Ohlin's model of international trade does not base its explanation of trade among nations on technological differences. It makes a theoretical assumption that such technologies are similar everywhere. Ricardo had only labor as a factor of production and to explain comparative advantage and trade he focused on technological differences among nations. Heckscher-Ohlin argued that countries differed in capital inputs rather than technological availability. In their model capital is privately owned and it is used to create infrastructure and invest in technology. Thus, private owners make decisions in which technologies and intermediate goods to make their investment.

Heckscher-Ohlin model of international trade assumed that countries had different proportions of labor and capital. Developed countries had proportionally more capital to labor. This means that developed countries had an abundance of capital compared to developing countries, while developing countries enjoyed an overabundance of labor. But just like in the classical models of Adam Smith and David Ricardo, Heckscher and Ohlin reached the conclusion that trade increased the utility of the parties engaged in international trade. Trade increased the quantity of consumed goods, simultaneously

making them cheaper. Subsequently, I will discuss the criticism of beneficial effects from trade by several economists.

### **Criticism of the Classical Model of Trade**

The notion that states should specialize in the production of goods in which they enjoy comparative advantage has been criticized on theoretical and empirical grounds. Keynesianism, Infant-industry argument, and Singer-Prebisch theorem criticize certain assumptions and conclusions of the comparative advantage theory. According to advocates of the Infant-industry argument countries that are disadvantaged in a certain industry can protect such industries from foreign competition while they become competitive enough to succeed in free markets. New economic theories, like the new growth theory, the new economic geography and the new trade theory, charge that comparative advantage is not a dynamic theory and does not account for the fact that advantage might change in time. In other words, the theory does not take the long-term perspective. It does not account for the possibility of advantage changing through investment or economic development, and, thus, it does not provide guidance for long-term economic development (Krugman 1987, 135).

It has been shown by new economic theorists that in strategic scenarios, subsidies for local producers and import limitations on foreign ones can help domestic producers compete with foreign producers and increase consumer welfare and utility (Krugman



1987, 137). Despite the fact that classical assumptions regarding international trade are shared by a majority of economists, nevertheless, it is clear that under certain conditions they do not hold necessarily. For example, international trade theory based on the comparative advantage assumption cannot explain the success of Japan and South-Eastern Asian states (Krugman 1987, 141).

John K. Galbraith suggests that a constant return to scale that is assumed in the theory of comparative advantage is simply fallacious. According to the constant returns assumption to scale, doubling an input would cause the doubling of output. But Galbraith argues that for many goods, economies of scale, scope, learning-by-doing, and other market imperfections set in to decrease the marginal and consequently the average cost of production (Galbraith 2008, 69).

More often than not, production is characterized by diminishing returns. Very often the land, resources and nature in general, constrain the ability of countries to produce. Tropical countries that export banana, coffee and other natural commodities are more likely to remain poor. Galbraith argues that demand for such products is inelastic – increase in supply and decrease in prices harms domestic producers and economy. Importantly, diversification allows states to fall back upon other goods when some of the goods they export fall in demand and prices. It is very important for countries to rely on multiple sources of export to withstand temporary or permanent fall in demand for some of their goods (Galbraith 2008, 69).

## **Market Imperfections:**

Classical trade theory has been criticized because it assumes that markets are perfect. But it has been shown that in certain scenarios allocation of goods and services in perfect markets might be inefficient. Market failures are situations when the actions of agents to increase their utility might not lead to the optimal outcome (Krugman and Robin 2006, 25). During market failures there are possible outcomes in which the utility of market participants can be improved without harming anybody else. Market failures can be eliminated through various means; one of them is through the intervention of government institutions. Although many economists approve of such interventions, public policies can actually harm market efficiency, leading to so-called government failure (Weimer and Vining 1992, 28). For this reason, there is no consensus on the necessity and benefits of government intervention. Although, it should be noted that mainstream/Neoclassical economists agree that governments should interfere to alleviate the effects of market failure and increase the public good. Market failure is a direct consequence of market imperfections—that is, factors, which impede trade in the market. Imperfections affect market costs and consequently the decisions that rational actors would make when they trade in the open market.

There are many reasons why market failures might arise. One of the most important has to do with the nature of the markets. In certain markets participants can possess market power and preclude other beneficial transactions from taking place. Inefficiencies can arise due to limited competition, for example, in markets where actors

are monopolies or monopsonies (DeMartino 2000, 70). In monopolistic markets an agent will provide goods or services below the optimal level of utility for customers to keep profit high. Monopolies arise and persevere when barriers to entry in the market are high, meaning when it is impossible for a new entrant in the market to compete with a present member. Importantly, first entrants might have advantage like diminishing costs as the quantity of their output increases.

It is argued that multinational corporations (MNCs) exist because of market imperfections. According to Hymer and Kindleberger there are many reasons why structural market imperfections arise (Pitelis and Sugden 1991, 74). Among the most important are patents, scarcity and limited ownership of inputs, and economies of scale. If not for the above-mentioned factors, markets would work efficiently (Pitelis and Sugden 1991, 75). Other political economists, like McManus, Casson, and Hennart, have argued that market imperfections are normal market developments and MNCs are specifically useful to overcome such imperfections. According to them, imperfections exist because neoclassical economic assumptions of perfect information and knowledge are often missing and unrealistic (Pitelis and Sugden 1991, 74).

### **Economies of Scale:**

Among other market imperfections, economies of scale occupy one of the most prominent roles. Economies of scale are the effect on the cost of production of such factors as quantity, size, and volume of production. The idea is that with economies of

scale constant return to scale assumed in classical economics is discarded. With increased volume of production high average cost, due to high fixed costs, is spread out. Among other effects on the cost of production, it is important to mention the positive effect that increased volume of production might have on variable costs.

Economies of scale were responsible for many corporate mergers in the 20<sup>th</sup> century. They were relevant in the previous century and they continue to be relevant nowadays. Economies of scale are one of two kinds: internal and external. With internal economies of scale, companies have cost savings independent of industries they operate in. With external economies of scale, a company enjoys certain economic benefits because of the way it is organized. Internal economies of scale are very often influenced by R & D costs (Chandler 1977, 92). For instance, large companies find it easier to invest large amounts in research and experimentation. The amount of money needed for the research is enormous and the costs are only increasing. In recent years a few important mergers between large companies have been driven by the fact that research costs are getting progressively higher. Economies of scale have a downside too. Very often as companies increase in size to become more profitable from increased quantity of production and sales, they become more difficult and complex to manage. Increased management costs may at some point exceed benefits from increased production. Thus, it is important to coordinate the costs related to production and management.

Economies of scale can bring benefits at various organizational and manufacturing levels and units, though. It is expected that *ceteris paribus* a larger factory

would enjoy lower costs per unit of production than a smaller factory. Also, companies that possess many branches might have cost advantages over their smaller competitors. The concept itself was coined by Adam Smith and was applied to the division of labor as a source of generating larger and more efficient production. In the majority of cases, though, economies of scale are constrained by factors that cause costs per marginal unit of production to increase beyond certain point. Among such factors can be the exhaustion or overusing of local mineral resources used as inputs in production, the size of local markets, smaller local markets obliging companies to sell abroad increasing their transportation costs, and the inefficient use of energy beyond certain quantity of production. (Chandler 1977, 92).

The use of economies of scale is only possible for large-scale producers, but there is a downside in that such producers might find it hard to change the good they are producing. As a result they avoid specializing, leaving it to smaller producers to specialize in production. Production of specialized goods by smaller producers is widespread in steel, paper and many other industries. As already mentioned, economies of scale implies the change in efficiency of production given the changes in production capacity, volume, and quantity (Chandler 1977, 92). Very often economies of scale originate because of the costs related to fixed capital, which decrease per unit of production as the volume of production increases. In some businesses, increasing the speed of conducted work decreases fixed costs. Economies of scale can originate for multiple reasons, for example, establishing long-term contracts might decrease the purchasing costs, allowing managers to specialize might increase the speed and quality of

their work, borrowing in large quantities from banks might decrease the interest on loans, advertising large quantity of goods instead of just one, employing technology which is more efficient. In the long run in each of these scenarios the average cost of production decreases.

Scale economies explain practical phenomena such as the nature or markets and number of companies that populate it. Scale economies tell us why in certain markets companies grow in size. Some national markets are too small because of the presence of such economies and companies could be making more profits in larger international markets. For instance, it would not make sense for a small country like Monaco to produce planes if it could not sell them on international markets. Production of planes implies high fixed costs and if the local producer produced only for local markets they might not be able to produce enough to make them cheap and affordable. If the producers in Monaco could sell on international markets they would increase the volume of production, cut down the long run average cost of production and make planes cheaper and highly affordable. Economies of scale exist in the service sector; meaning, a company can potentially speed up its service from the moment it receives an order to the moment it gratifies the customer.

It is important to distinguish economies of scale from returns to scale. When economists talk about economies of scale they refer to the relationship between costs and volume/quantity of production/service. Returns to scale relate inputs to outputs. That is, what effect the change in quantity/volume of inputs has on the quantity/volume of

outputs. For example, constant returns to scale implies that if quantity/volume of inputs increases by some number, the quantity/volume of output will always increase by certain number. Decreasing returns to scale mean that increasing the quantity/volume of inputs by one increase the quantity/volume of outputs by less than one. Lastly, increasing returns to scale mean that increasing the quantity/volume of inputs by one increase the quantity/volume of output by more than one.

If markets for all company's production inputs are perfect, meaning that the company cannot influence the price of inputs by how much of these inputs it buys, it implies that a company will have economies of scale if it has increasing returns to scale and *vice versa*. Also, it will have no economies of scale at constant return to scale (Frisch 1965, 52). This implies that in the long-run companies will be exhausting their economies of scale and producing at the lowest long-run average cost. On the other hand, if there is no perfect competition in the markets, the outcome will be different. In case of increasing returns to scale, when the company is big enough to effect input prices; they will have decreasing economies of scale if they increase the quantity of production. Importantly, though, if a company can buy cheaper, its inputs depending on the increased quantity of purchase, it will have economies of scale.

### **Significance of Learning:**

The most important element of economies of scale is process learning. While fixed costs need to be spread over large quantities to make profits possible, scaling is

only possible through the process of learning. Getting to the production stage involves a process of learning that might turn decisive for a company's survival (Ribbonfarm 2012). Amortization of fixed costs is the final stage; it is unknown costs of learning that will prove detrimental more frequently. This is the reason why many innovators almost never succeed in or dominate their markets (Ribbonfarm 2012). Very often, nonetheless, learning how to scale the idea is much more important than coming up with the innovative idea in itself. According to the online study by Venkatesh Rao<sup>3</sup>, there are multiple reasons why learning is involved in scaling:

1. **The law of large numbers:** Producing in large quantities implies that a company is subjected to the risk of failure more often than smaller companies. This means that if they want to survive or cut down their costs they have to learn ways to cope with failures.
2. **Staircase effect:** Economies of scale implies that production capacity increases fast, while market demand takes time to change. As such producers will take time to learn the optimal quantity of production to satisfy market demand and cut down costs.
3. **Loss windups:** With small businesses time and cost of discovering a problem and fixing it will not be so significant. When economies of scale are involved when the volume and speed of production is large even an insignificant problem can cause huge operational loss.

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<sup>3</sup>For more detailed analysis see Venkatesh Rao, "Economies of Scale, Economies of Scope," *Ribbonfarm*, last modified October 15, 2012, <http://www.ribbonfarm.com/2012/10/15/economies-of-scale-economies-of-scope/>



4. **Accounting issues:** Scaling implies innovating accounting tools and expertise, which might take quite some time. Meanwhile, poor financial accounting might lead to losses, through justifiable mistakes or employees taking advantage of the situation.
5. **Process design:** Economies of scale consists of large amounts of repeating processes, which very often entail defects and risks. Discovering such conditions and addressing them should be adequately timed. Process adaptation that takes long or is too costly might exacerbate the problem.
6. **HR effects:** During economies of scale it is important to acquaint the workforce with the intricacies of the production process. Imparting such knowledge on the workforce might simply turn too expensive and contribute to the demise of business.
7. **Gravitational effects:** Scaling means increasing the company in size; this very often leads to markets that are monopolistic or oligopolistic. Increasing in size might lead to legal problems. As a company increases in size, it becomes more likely that somebody is going to sue it.
8. **Lucy effects:** As the speed of production increases companies might have to reinvent certain aspects of production entirely. At small sizes, certain tools of production might satisfy the needs, but increased velocity of production might lead to the need to overhaul certain components of production, which might turn out to be hard and costly.

Economies of scale do not simply imply spreading large fixed costs over certain volumes of production. Companies have to go through an important learning process, on the way to producing a successful product, a process which can prove to be very costly (Ribbonfarm 2012).

### **Minimum Efficient Scale**

Competition in the markets depends on the minimum efficient scale. This is the lowest possible scale/quantity of production to achieve efficiency and be competitive on the market. No economies of scale can be achieved beyond specific quantity. Minimum efficient scale has important implications for the nature of the market. Namely, it determines how many companies can survive in the market. The lower the scale, the larger is the number of firms that can operate in the market. However, if minimum efficient scale requires large output, then the number of firms in the market will be small. This is the case with natural monopolies, such as water, gas, and electricity suppliers. The most important factor, which determines the economies of scale, is the type of product manufactured. In many industries, the economies of scale are minimal and such industries are very competitive, with many small firms operating in the market. Economies of scale are more of anomaly than regularity, and for many industries, they might be out of question. However, when they occur they do only to a certain level of output until diseconomies, or decreased economies of scale set in (Frisch 1965, 56).

## **Fixed Costs and Economies of Scale**

More often than not, economies of scale exist due to large fixed capital costs, which are lowered per unit as the volume of production increases. The basic characteristic of fixed costs is that they do not change at all or experience minimal change independent of how much they are used. Fixed costs are expenses that companies have to spend their resources on even if nothing is produced at all. Building factories, warehouses, investing in equipment, and several other similar production factors are all examples of fixed costs. Of course, there are current costs associated with these assets, and some of them will likely vary, at least in part, according to the level of output, such as maintenance and security (Frisch 1965, 78). However, such costs are minimal compared to fixed costs incurred by companies.

Large economies of scale are characteristic of industries with large fixed costs. Industries, which are capital intensive, are normally the ones with high fixed costs. Examples of such industries are railroads, aircraft production, semiconductors, and information technology to name a few. In these industries, only if the quantity of production is large enough will unit costs reach the minimum level possible. To attain such levels of output, it is necessary to have massive investments in production facilities, measured in billions of dollars (Frisch 1965, 85).

## **Other Causes of Decreasing Costs**

An additional unit of production can decrease costs for various other reasons. One of those is the often-mentioned concept defined as technical economies. This is when a firm saves money, as it grows larger, because it starts employing more sophisticated equipment or simply equipment used for large-scale production. Technical economies of scale are normally found in motor vehicles production, because it employs mass production technology. Economies of scale can occur for typical industry-specific reasons. In steelmaking, larger blast furnaces retain heat better and thus are more economical. In chemical industry, because of the characteristics of chemical processes, large-scale production is equally economical (Frisch 1965, 88).

## **Physical and Engineering Basis**

One of the important reasons for economies of scale is the square-cube law (David H. 2013). According to the law, if the surface of a container increases by the square of dimensions, its volume will increase by the cube. This law has a direct effect on the capital cost of buildings, factories, pipelines, ships and airplanes (Ferguson 2008, 123). Normally, the capacity of a vehicle to carry cargo decreases less than proportionally with the increase of the quantity of cargo. Consequently, larger vehicles consume less fuel at a given speed. Heat losses from industrial processes vary per unit of volume for pipes, tanks and other vessels in a relationship somewhat similar to the square-cube law (Ferguson 2008, 124).

## Capital and Operating Costs

It is a common fact that capital costs are subject to economies of scale. Normally changing the size of equipment changes its cost by the 0.6 power of the capacity ratio (the point six-power rule) (Ferguson 2008, 145). When it comes to airplanes, ships and other types of transportation increase in size or volume does not require proportional increase in the number of operators (Rosenberg 1982, 28). Factories, warehouses and other facilities very often have labor requirements that are not influenced by changes in size (Rosenberg 1982, 29). This is because much of the labor work has to do with the nature of tasks rather than the volume of production.

It is important to note that the crew size of planes, trains and many other transportation vehicles does not change proportionally to the increase in size (Rosenberg 1982, 40). For example, the crew will still consist of one pilot/driver and the same number of assistants. Many planes and other transportation vehicles have been increased in capacity to increase profitability (Rosenberg 1982, 41). Many industries like chemical, gasoline, and pulp to name a few do not require any or significant change in labor as the size of the plants is increased. This stems from the fact that most of the production process is automated and does not require adding extra labor force to handle the increased load of work – with standard operating procedures, amount of work and equipment does not change.

Very often the number and professional expertise of managers and other specialists determine the quantity of production. If a company produces little, it is not able to make profits and afford high quality specialists who could actually save them operating costs. Companies could have significant administrative, accounting and other types of savings if they can have their management work across different factories, sectors and divisions of the same company. For instance, MNCs can have their accountants perform their functions in different subdivisions of the company, saving it the costs of hiring more accountants.

Purchasing economies is another way of saving. In this type of economies, large firms receive discounts as they purchase goods in large quantities. Supermarkets are the ones that take advantage of such discounts. Often, the cost of inputs decreases for a company as they purchase more of it from their suppliers. Freight rates are subject to economies of scale as well—rates decrease as the volume of cargo shipment increases. Moreover, a larger firm might be able to obtain financing at lower interest rates than a smaller firm, also contributing to its lower costs (Rosenberg 1982, 65). Large firms can be monopsonistic in nature. Monopsony gives firms huge bargaining powers to reduce the cost of inputs, because they are the only buyers on the market.

It is important to note that large companies have significant borrowing advantages over smaller companies. This is explained by the fact that they have more valuable assets that can be declared as collateral. Also, they are considered to be less risky compared to smaller and newer businesses. Many new businesses go bankrupt very soon after they

launch production. Also, large companies might be more resistant to risks/failures. If a line of production of a large company fails, unlike a small company, it might find enough resources to switch to producing something else (Rosenberg 1982, 83). Large production runs might contribute to using inputs sparingly and avoiding a lot of waste (Rosenberg 1982, 87). For example chemical industries are largely dependent on turning their chemical waste into products they can sell. In paper production process wood parts are burned to recover some used chemical for further use (Rosenberg 1982, 87).

### **Economies of Scope:**

Under economies of scale the efficiency of production is a direct consequence of the volume of production. Under economies of scope, on the other hand, efficiencies stem from the variety of production. In other words, diversification of production is supposed to achieve certain economic benefits by cutting down the average costs of production by producing more types of goods. But diversification of product base is only possible if the producer makes frequent use of some knowledge/expertise or even a particular asset (Teece 1980, 225). A good example of economies of scope is when a company promotes a few different products; more people can be reached with the same amount of money spent compared to the scenario when different companies specialize in the production of particular goods. Economies of scope allow the company to cut down the costs of advertising/branding goods. It should be taken into consideration that the company will get to the point when extra expenses on advertising will be of no effect.

Whereas with economies of scale a company might reach the optimal quantity of production, which is relatively easy to detect because of falling costs, with economies of scope, on the other hand, one may not reach such a point at all. To put it in different terms, one may never reach a point at which the business can be certain it has reached the optimal quantity or diversity of production (Ribbonfarm 2012). This makes businesses hard to manage; however, success in the modern market requires that firms never stop attempts to diversify their production.

Economies of scope have many advantages for companies. Among many other advantages, companies can react swiftly to fluctuating or shifting market demands. Also, economies of scope entail less wasted costs, more accuracy, better training. Importantly, it involves fewer risks. If a business sells different products, in different countries, the company benefits from the economies of scope. For example, if some of its merchandise becomes less attractive to the public, the company can always switch to other production line and/or rely on other markets before it does so. Normally, economies of scope are possible when companies start to share separate functions, for example, finance and advertising. It also happens when a company sells one of its products next to another and can use certain outputs as inputs for another finished product.

It should be noted that the agreement on economies of scope is not unanimous among economists. According to some, this phenomenon is rare and applies to a handful of businesses. While some might doubt the significance of the economies of scope for businesses, it is a documented fact that economies of scope played an important role



behind the mergers and formations of huge MNCs in the 1970s and 1980s. Many companies like Hanson and BTR (can you spell out the name of this company and its specialization?) enjoyed the benefits of economies of scope by employing their financial expertise in diverse businesses. In the following decades companies employed the same people to advertise, market, and sell different products (Panzar and Willig 1977, 483).

When marketing some merchandise, it is more efficient to sell a few products rather than just one, especially if this involves a lot of travel. Very often it is more lucrative for companies to offer a bundle of products rather than a single one. Economies of scope occur through distributional effects as well. For instance, it is much cheaper and efficient in terms of transportation costs to sell a range of products over long distance than sell just a single product. Economies of scope can originate because of byproducts. For example, heating produced during the production of energy can be used to create necessary climate for agricultural products (Panzar and Willig 1977, 488).

### **Learning in Economies of Scope:**

An important element of economies of scope is transaction-cost learning. It originates with the ability of companies to produce their goods and to purchase their inputs in bulk. Companies should determine the size, volume of production and diversification of a company relative to its economic capabilities. It is important to realize that scoping has to do with the allocation of resources towards various activities in a

company, the activities which will lead to decisions related to the quantity of production (Ribbonfarm 2012).

**Scaling vs. Scoping:**

Scaling and scoping are related. In an environment with little or no competition companies are free to scale, and they will start scoping after significant competition emerges. In markets where competition is a fact, companies have to scope first, which is a tool for a company to establish itself in the market. Once a company has managed to create a niche for itself in the market, it can start to find ways to employ economies of scale. It is vital to start scaling and grow the company in size before the competitors begin to take measures. It is of primary importance to break in the existing market and once this is achieved the speed becomes essential. The company should grow in sufficient size and gain enough knowledge to remain a successful player in the market, particularly once the initial phase of success has passed (Ribbonfarm 2012). It is important to grow big enough to be able to influence the surrounding environment. The more a company grows, the more it will shape the environment and the less other actors will be able to influence it. One has to grow sufficiently big in order to become a dominant player in the market and not just be one of the small market actors.

### **Computer-integration and Economies of Scope:**

Among multiple advantages of economies of scope, it offers critical flexibility, responsiveness, and faster reaction to changes in customer tastes and demands. Managers play a crucial role for they should appreciate the benefit of economies of scope and implement them at the expense of other more familiar modes of production. A common assumption among companies is that manufacturing systems/process is important; but despite this acknowledgement, decisions regarding this have not been considered as central and critical. At the managerial level the bias towards economies of scale has been so strong that scope economies have had little consideration at all (Goldhar and Jelinek 1983, 142).

The bias towards economies of scale comes from the assumption that manufacturing “know how” is an attribute of a machine. So, if managers decide to purchase certain equipment, they are making a decision to increase efficiency in producing a certain good; however, this would come at a price, the production process becomes rigid and diversification of production is too costly. But the role of computers in manufacturing has challenged the above-mentioned type of thinking (Goldhar and Jelinek 1983, 143). Moreover, as global competition has become more mature, product customization has become a motto in markets. Standardized manufacturing, inventory and processes related to traditional manufacturing are becoming increasingly obsolete. Advances in technology have impacted how companies view the process of production and decisions managers take regarding it.

The new technologies cut down the production costs as well as diversify production, but they require a large expenditure. Very often, though, such technologies are much more expensive than traditional equipment; the company is gambling its future when deciding to invest in such technologies. However, the company should realize that the new technology offers a broad range of opportunities. They should not try to improve simply the efficiency of present production but, more importantly, take strategic decisions to diversify which the new technology offers. This is critical in case they fail. If this is the case, competitors might take advantage of the window opportunity in market competition (Henderson and Cockburn 1996, 25).

The use of computer technology has impacted the production process significantly. Following elements are the qualities that cyber technology has introduced into the market in the recent past: 1) Flexibility in production, which makes it possible for companies to have a huge variety of designs; 2) the ability to respond quickly to changes in market demands, tastes, production rates, scheduling problems; 3) better product quality because of the greater control involved in the production process; 4) more control of the waste produced, which allows companies to cut down significantly the waste of basic resources; 5) greater predictability in the process of manufacturing, due to the greater amount of data that can be collected at any stage of manufacturing; 6) less use of inventory; 7) fewer problems with machines—new sensory machines allow for faster speeds and information processing (Goldhar and Jelinek 1983, 144).

All these developments in production capabilities have direct implications for the cost of production. The assumption in economies of scale is that larger quantity of production decreases the costs per unit. The idea is that large quantities in production permit companies to invest in costly specialized equipment. With economies of scope, modern technologies introduce efficiencies of variety. Computerized technology, controls, memory make it possible to have smaller production runs (Goldhar and Jelinek 1983, 145). This has implications for the market structure. Small companies can gain from advances in technology and successfully share the markets with giant producers. Steel production is a good example, where economies of scope have been successfully introduced. It is not the only one, though. Increasingly companies are switching to smarter ways of production made possible by developments in technology. Small manufacturers, who produce a limited quantity of a given product, but can switch the variety is becoming increasingly a central tenet in the production function of companies.

### **Variety in Production:**

The logic of economies of scope allows the manufacture of a variety of products to product at lower cost than it would cost to produce them separately. Computer equipment allows companies to diversify products and produce them in different sequences. Costs and time necessary to switch the mode of production is negligible, because it is programmed in the computer, and can be adjusted by pushing a button. With given technology, engineering data can be adjusted easily, and changes in style and design become simpler; if a machine can polish, paint and perform multiple functions,

and if these functions can be alternated, the same machine can be used to produce multiple products and their variations (Fraquelli and Piacenzo 2004, 48).

The impact of technology goes further than improvements in velocity or precision. Several years ago manufacturing was possible because of skills and abilities of individuals—it was in the hands of an individual. Workers were the ones who controlled the information and possessed experience. With mechanization or automatization, knowledge was built into machines. Such machines became faster, more accurate, and better than producers who used human labor. Unfortunately, such machinery was also very expensive. Importantly, companies utilized expensive hardware as a means of production. Nowadays, more and more companies emphasize the use of software. Machines can be programmed to produce even in small quantities, without any sunk costs. Such flexibility allows companies to become more competitive in multiple markets, attract more customers, and open new venues for success (Fraquelli and Piacenzo 2004, 50).

The given method of production would be of particular value only if the company entrepreneurs and managers learn how to market its diversified product base. The company will have to invest in research to be able to modify its products and turn them competitive. They need to be able to come up with product and design changes. Consequently, the companies will have to “learn” to compete not only in terms of efficiency but also in terms of their ability to satisfy simultaneously diverse demands to provide diverse markets. For example, plastic manufacturers have already absorbed the

knowledge; apart from their traditional product base, they specialize in the production of diaper pail and tubs. Computer technology has cut down the time needed to manufacture Tornado fighter jets from two year and a half to one year and a half. (Substantiate this with a footnote) This investment reduction of only 50 million dollars decreased hardware and personnel by almost half, area of production by almost third, and costs by about 10% (Goldhar and Jelinek 1983, 146).

Computers and programming of production devices will oblige managers to consider the importance of production decisions on their strategic options. For instance, Boeing's decision to adopt computer based manufacturing enables it to work on over billion parts, oversee clerks and workspace, which would be impossible without computerization. The same systems have made it possible for the company to produce a few aircrafts at the same time. With the developments in technology, the company's production and marketing strategies had to change. Examples of how computerized technology has aided the production process are multiple: NC, one of the leaders in the rubber industry, produces fender molds with the help of technology without first having to produce wooden parts. In perfume production, computers are used to control the volume of perfume poured, which has increased the efficiency over seven times (Goldhar and Jelinek 1983, 146).

Electronics production depends heavily on computerized systems. In such production, circuits are tested through computer simulation and calculations are made before they are approved for production. The role of manufacturing is already impacting

company's strategic decisions and will continue to do so increasingly. Without computer technology, no manufacture in electronics would be able to handle the complexity and errors of production, and the costs associated with them. For example, in Intel's high-density memories, computer input is very heavy. Actually, the possibility of breakdown has been lowered by over 80% (Goldhar and Jelinek 1983, 147).

Developed computerized systems handle the production from design to manufacturing. Technologies such as adaptive controls and sensors help to gather and store information. With increased information it will be much easier to collect relevant data and draw important conclusions. Lockheed, for example, has been a pioneer in this direction. It has installed a system, which will gather data on the performance of engines, vibration, and temperature, which will be used later to increase the quality of production and, importantly, prevent failures. Moreover, if it takes more time to handle certain tasks, data provided from the computerized tools will help discover the difficulties. The sophistication of computerized technology has become so staggering that machines can specify the most optimal sequence and timing of operations. Thus, the increase is not just in quality and efficiency of producing in a certain way; the technology can point the most efficient way of production too. New methods of production can now satisfy traditional needs with increased efficiency (Goldhar and Jelinek 1983, 147).

With traditional production there is little flexibility to diversify. Products become standardized until the cheapest mode is discovered, and it becomes one standard mode of



production. With new technology it is possible to make markets more diversified and satisfy specific needs of customers. Thus, ultimately customers will have products that are both more inexpensive, better, and cater amply to consumers' tastes. If before computerization catering to specific needs of customers was prohibitively expensive and depended on the capabilities of workers, now it has become less expensive and more accessible as the result of computer programming.

When companies invest in equipment they take a huge bargain. Their products will move through their life cycle, competitors will produce something better. In such situations smart technology becomes especially important. Computerization allows companies to reprogram their technology to produce new products, so hardware might not become obsolete at all and may only need the update of software. Ultimately, economies of scope allow companies to diversify their production, increase innovation, obviate the need for inventories, eliminate production and other kind of errors, and in general, increase product variety and customer satisfaction, as well as cutting down response time to changes in customer tastes.

**Learning-by-doing:**

Learning-by-doing implies increasing efficiency by means of practice and perfection. Companies might “learn” to use their equipment better without a need to buy more equipment or train their workers. The process of learning implies that companies “think,” realize their problems, and, then, take measures to solve them. Dynamic

programming and strategic planning are fields where learning-by-doing is of primary importance. In learning-by-doing the workforce increases its efficiency by doing the same process repeatedly over time. Kenneth Arrow promoted the idea when he coined his endogenous growth theory incorporating innovations and technical change into classical explanation of economic growth. Arrow used the notion of learning-by-doing to denote learning inside the company. He was basing his studies on previous conclusions by Solow and Abramowitz, who argued that technological change had important implications for long-run development. First of all it implied that economic growth was susceptible to policy manipulations (Greiner and Hanusch 1994, 28).

There are increasing returns associated with human capital. And learning is extremely important for building human capital. As a result countries tend to specialize, increasing efficiency in production and cutting down costs (Bretschger 1994, 85). Yang and Borland demonstrate that learning-by-doing can be an important source of comparative advantage.<sup>4</sup> Many studies have documented the increase in efficiency through learning-by-doing. Lundberg studied Horndal iron factory in Sweden. He observed that productivity of the factory increased by 2% every year although it had no new investments.<sup>5</sup> Wright and Middleton show that in aircraft industry the labor productivity and output have increased with time independent of scale effects.<sup>6</sup>

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<sup>4</sup> For more detailed account, see Yang, Xiaokai and Jeff Borland, "A Microeconomic Mechanism for Economic Growth," *Journal of Political Economy* 19, no.11 (1991), 460-82, doi: 10.1007/s00787-010-0130-8.

<sup>5</sup> For more details see Erik Lundberg, *Produktivitet och Räntabilitet* (Stockholm: Norstedt & Söner, 1961), 126-28.

<sup>6</sup> For more details see Alexander Middleton Theodore Wright, "Wartime Productivity Changes in the

Learning-by-doing is supported by literature in engineering and management, which clearly demonstrates the fact that increases in aggregate output have a dampening effect on unit costs. Wright was one of the first scholars who mentioned the phenomenon in his analysis of aircraft manufacturing—although the effects were quite well known in the industry itself. They were so established that when in the 1950s the US government was purchasing boats and planes from shipbuilders and aircraft manufacturers, they were already incorporated in the budget (Bretschger 1994, 122).

### **Market Imperfections in Military Production:**

Several authors have written about scale economies, economies of scope, learning-by-doing, and other economic imperfections related to military production. Harold Asher, in his paper, “Cost-Quantity Relationships in the Airframe Industry,” published in 1956, noted that the “learning curve” tended to apply to airframe production [...] with unit costs declining in a fairly predictable pattern as production expanded.” Malcolm W. Hoag, in his 1967 paper, “Increasing Returns in Military Production Functions,” alludes to this reasoning when he suggests that prominent production economies of scale do apply with special frequency in military applications. He argues this is the reason why instead of many factories and producers, there are just

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Airframe Industry,” *Monthly Labor Review* 61, no.2: 215-225, doi: 20.1347/g23456-010-0177-8, also Paul Wright, “Factors Affecting the Cost of Airplanes,” *Journal of Aeronautical Sciences* 3, no.4: 122-128, doi: 23.4456/d3456-015-6627-2.

few that produce in large quantities. He illustrates the point with the example of F-iii (TFX), which was designed to be the advanced tactical fighter-bomber for both the United States Navy and the Air Force. Hoag concludes that the same logic applies to the space programs.

Scale economies *per se* may have had only a modest influence on defense industry structure in the past, though the evidence for learning economies and their impact was more convincing (Sandler and Hartley 1995, 22). However, since the 1990s, scale economies have had a large impact as well. Governments now appear more sensitive to the extra cost incurred by small national production runs (and the high technology nature of some manufacture) and more receptive to the argument that “economies of scale need to be met through international collaboration and industrial restructuring” (Dunne 1995, 28).

A huge wave of U.S. merger and acquisition in the 1990s has been partly attributed to a search for scale and scope economies at a time of shrinking demand (Markusen 2000, 46). The degree of cross-sector diversification among the largest defense firms suggests that they perceive and value such economies (Markowski 2010, 125). According to Dunne, a major driver of economic restructuring is the growing trans-Atlantic nature of the industry, in terms of both the European companies’ aspirations to become major players in the U.S. market and the U.S.’s acceptance that “interoperability requirements, the benefits of cooperative defense programs, and an increasingly global industrial infrastructure require that the U.S. Department of Defense be prepared to

accept the benefits offered by access to the most innovative, efficient, and competitive suppliers worldwide.” (Dunne 1995, 35).

Market imperfections (e.g., economic of scale, economies of scope, and learning-by-doing) are important in the military production of many states. And their importance has only grown in the last quarter of the century. Unfortunately, International Relations literature has not reflected the growing significance of political economic variables in the military production of states. Such a gap should be filled in as the political economic variables can explain developments, such as continuing and deepening military cooperation of NATO Great Powers after the Cold War.

The various perspectives summarized above point to one key development: there are clear indications that since the end of the Cold War cutting military costs has become one of the major concerns for NATO members. Since the end of the Cold War, NATO members have not faced comparable external threats and, thus, have not required high scale production. Some firms could not keep up with reduced demand and exited the weapons system market. Others, in order to stay in business, consolidated their operations and expanded their markets internationally. Importantly, though, NATO members collaborated with each other and produced common orders, which, I will argue, allowed them to use scale, scope, and other economies to cut down production and overhead costs. All this has taken place while maintaining a vibrant and robust military research, development, and production processes in the face of decreased threat and to replenish normal tear and wear of the national armed forces. Furthermore, due to this I argue that

by cooperating beyond immediate needs, these NATO countries gained by saving from specialization in research, development, and production costs of defense. Cooperation among NATO allies has been in terms of NATO projects, and projects outside it too.

### **Analysis of NATO Common Projects:**

Both military and civil aerospace costs are tremendous and the costs are continually rising. The costs are actually growing at an exponential rate (Augustine 1987, 18). The historical cost trend arises from technical progress in each generation, with governments striving to purchase the latest products in order to have a competitive edge. I maintain that continuing rising costs in defense products provide a sobering context for nation-states to engage in continuous military collaboration. The cost incentives to collaborate result from the large fixed costs in military technology, rendering some countries unable to afford the necessary defense or military equipment to provide unilaterally for their own national security.

Augustine forecasted that the costs of military production would increase to the extent that all resources in the defense budget would be channeled to acquire just one aircraft. Both Navy and Air Force would have to share this single aircraft 3.5 days each week because they could not afford more. According to Augustine, the British military would reach the same point somewhat earlier than the US, and countries with smaller defense budgets would take even less time. The main reason why this is happening,

according to Augustine, is because the costs of producing military equipment is rising fast, while military budgets are falling rapidly to keep up with rising costs (Augustine 1987, 19).

The Augustine prediction concerns rising costs in high-tech equipment. He shows that the costs of aircrafts have jumped by fourfold every ten years. Similar trends can be observed with helicopters, ships, tanks as well as commercial aircraft. For ships and tanks, the cost growth has been lower at a factor of two every ten years (Augustine 1987, 38). The rise in the cost trend is conditioned by technical progress in military equipment. Nations are striving to have the latest high-tech equipment in order to be more secured. These trends have led to suggestions of an eventual single ship navy, a single tank army and Starship Enterprise for the air force! (Kirkpatrick and Pugh 1985, 83).

### **Rising Costs and Incentives for Collaboration:**

Expensive military technology and rising costs create an important rationale for states to engage in military cooperation; namely, collaborative projects. Collaboration is particularly important because large fixed costs and small national orders make it too costly for states to have national production. Large international orders would allow the average cost of production to fall over larger volumes of output and make new technology affordable to collaborating nations. Rising costs make it impossible for any single nation in Europe to produce a future generation of planes unilaterally. Production of a new model will necessitate colossal resources, which could only be allocated to the

development of future generation combat jets through collaborative projects. Even advanced technology unmanned air vehicles (UAVs) will be costly (Hartley 1999, 13). Europeans will have to make a choice between increased collaboration and importation from other nations, which can afford large batches of production, such as for example, the US.

Collaboration gains can be assessed following the square root rule. The rule implies that the costs of common projects compared to single-nation production are increased by the square root of the number of participants. With four nations, the costs of developing a project would be twice as much as doing it alone. With two nations, the costs can amount to 1.4. However, these additional costs are shared between the partners so that each nation has lower development costs compared with a national venture (Hartley 1999, 23). Although, the aggregate costs increase due to cooperation, costs per nation decrease, which allows them to partake in the development of technology they would not afford on their own.

Collaboration increases development costs as the number of nations rise (Pugh 2007, 30). With two nations aggregate development costs are about 1.5, with three nations they are about 1.8 and with four nations they are about 1.95 of the single-nation projects. It is important to take into consideration the fact that along with the drop of development costs per nation, increase in output affects the costs negatively. In general,



the doubling of output is expected to result in a reduction in unit production costs of up to 10% when developed and manufactured jointly (Hartley 1999, 29).

### **R & D and Unit Production Costs:**

Decreased economic costs provide significant incentives for states to cooperate. Such costs are incurred during research and development (R & D) and production processes. Collaborating nations can share in R & D costs and they can achieve economies of scale and learning through increased production. For example, if two nations were intending to develop similar high-tech weapons, which would cost them billions of dollars in research, they would be duplicating their resources if they invested in R & D separately and independently. Additionally, they would fail to take advantage of economies of scale, which comes with larger batches of production. Common projects would allow nations to save considerable resources. *Ceteris paribus* two-nation collaboration, with equal sharing, will save half of the development costs for each nation in the example, plus savings in unit production costs from a larger output (Hartley and Sandler 1995, 28).

It is estimated that doubling of output in aircraft production from 300 to 600 units might lead to savings in unit production costs of about 5%. If a single aircraft costs about 50 million per unit, savings are 2.5 million per unit. A two-nation collaboration would avoid the duplication of resources and save little over 5 billion for each nation (Hartley

2006, 56). Below, I will present NATO's common projects and benefits brought to member-states of the alliance.

**Typhoon combat plane:** One of the top common projects in NATO is the Typhoon plane. The cost of development of the plane is over 54 billion Euros. Moreover, the Typhoon project has created about hundred thousand jobs in over four hundred European companies. Britain had 40,000 of these jobs, with Spain having 25,000, and Italy and Germany about 20,000 each. Large part of these jobs is in high skilled crafts, creating important externalities for the rest of the national economies. Skills from the Typhoon's production can be used in many other industries as well. This is clearly a positive spillover effect. The Typhoon project scores more highly on gains from scale and learning through combining production (Hartley 2010, 43).

Aircraft production is characterized by large economies of scale. Gains from production are increased as the quantity of production is increased. Increased production is important to spread R & D costs and reduce average production costs. Typhoon production benefits from learning with an average 85% learning curve and typically a 90% learning curve for combined labor and other operations (Hartley 2010, 46). On the Typhoon project, learning was substantial over the first 60 units. Both Typhoon and Airbus have significantly improved learning scale compared to previous generations. This suggests that the European aircraft production is characterized by constant improvement in learning scale, which is reflected in productivity improvement and downward shift in average cost of production.

The Typhoon production has often been called inefficient. However, in reply to such criticism, it is argued here and in accordance with Hartley's conclusion, that the main principle in production is single source for major units and sub-systems (Hartley 2010, 48). Most of the production, about 95%, is single-source and is able to achieve economies of scale and learning. Only the final assembly lines, 4 of them are not single-source, and consequently fail to benefit from larger economies of scale and learning. Data from the US Joint Strike Fighter (JSF) production confirms that the benefits of final production line are minimal. It is estimated that JSF final assembly and check-out cost is about 2% of the fleet unit recurring flyaway costs: other airframe work totals 35% of costs, propulsion totals 19% and other non-airframe items total 44% of costs (Hartley 2010, 49).

The main reason for inefficiency in Europe is due to having many final assembly lines. Each one of them costs Europeans over 130 million Euros. However, four assembly lines compensate the losses with the important benefits they bring. They transfer important technology to member states and support the aircraft in service. Thus, the penalty of four assembly lines is small when taking into consideration the societal spillover effects and in addition there are offsetting benefits for life-cycle support (Hartley 2010, 57).

**Industrial benefits:** The Typhoon project brings important industrial benefits. It allows the European aircraft industry to remain competitive, but also, allows Europeans

to remain independent and feel secure in case of conflicts with outside powers. (Hartley 2012, 13). Some critics claim that the Typhoon project still remains more expensive compared to other aircrafts. Data confirms the criticism. (Show source for this conclusion) The Typhoon is about 20-60% more expensive than those other national aircraft projects in Europe –for example French Rafale. On a unit total cost basis, the French Rafale is some 10% cheaper than the Typhoon whilst the Swedish Saab Gripen is some 50% less expensive than the Typhoon (Hartley 2012, 14).

But in response, it should be noted that comparing only prices confuses rather than clarifies. Prices say nothing about operational efficiency of the aircraft. The Typhoon is a superior aircraft to French Rafale, although it is more expensive (See Table 1). R & D costs for the Typhoon is \$23.5 billion and for Rafale is about \$21.9 billion. The Typhoon is more expensive, but it should be remembered that R & D costs for the Typhoon are shared by four nations, while only France incurs the Rafale costs. The Gripen costs about 6-8 billion Euros. But it is smaller and simpler with many combat disadvantages. The Typhoon has important combat advantages over Rafale and Gripen (Hartley 2012, 16).

Table 1  
Comparison of Relative Combat Effectiveness

F-22	Typhoon	F-15F	Rafale	F-18E/F Super Hornet	F-16C	F-18 Hornet
0.91	0.82	0.6	0.5	0.25	0.21	0.21

*Note:* Combat effectiveness rating of 1.0 means that the aircraft will always win a combat engagement, a 0.5 means that it has an even chance, and less than 0.5 means that it will usually lose.

The price and battle effectiveness data in Table 1, clearly demonstrate that the Typhoon is the best combat plane among European produced planes. Had the nations, which are producing now three different combat planes, joined their resources to produce only the Typhoon planes, important implications would ensue, particularly a better aircraft and superb cost-cutting savings. The aggregate volume of production would have topped 900 units and through economies of scale they would save more than 20% of production costs. Importantly, more than 20 billion Euros would have been saved in R & D costs (Hartley 2012, 20).

Other examples of collaborative projects in Europe confirm that common production brings considerable benefits. Collaborative development compared with national alternatives can be about 140% for two nations (e.g. the Merlin helicopter), 161–179% for three nations (e.g. the Tornado airplane) and almost twice as high for four nations (e.g. the Eurofighter). Despite higher aggregate development costs of collaboration, each partner only bears its share of these costs. As a consequence, costs savings accrue to the nations involved in collaborative development work (Hartley 2012, 24).

### **Collaboration in other Projects:**

The US and its allies are cooperating in over 20 military programs. Below I will list a few programs, with each spending over \$1.5 billion:

- The F-35 Joint Strike Fighter NATO Medium Extended Air Defense System Design and Development Production and Logistics, NATO Helicopter Design and Development Production and Logistics.
- The United Kingdom and the United States are also key partners in terms of defense industry cooperation and defense sales. The two countries are engaged in more than 20 joint equipment programs. Moreover, France and Great Britain have multiple military cooperation programs. They are already building a "Future Combat Air System," due in 2030.

Western Europeans are also cooperating in the production of missiles through a company called MBDA. The collaboration has actually become so successful that MBDA now is a primary competitor of the major global missile company, Raytheon, from the US. The English and French have cooperated in the Storm Shadow missile project. Similarly, the Meteor air-to-air missile is showing promise with the UK acting as the lead on a six nation international program also involving France, Germany, Italy, Spain and Sweden (Hartley 2012, 40).

Logistical support can also bring important economic benefits. The UK, Netherlands, Belgium and France have been cooperating in the logistical support of Spey,

Olympus and Tyne marine engines. According to rough estimates, such cooperation has saved participating nations about 30 per cent in maintenance services. The UK and US benefit considerably from their cooperation in Multi-Launch Rocket System and the Tomahawk Land Attack Missile. They have benefited from the economies of scale through joint purchasing of spares and shared maintenance facilities (Ministry of Defense 2001).

Western Europeans have successfully cooperated in other helicopter and missile programs. Among them, the 1967 Anglo-French helicopter agreement and the NH90 helicopter need to be singled out. The NH90 helicopter is a four-nation collaboration to develop and build a medium-sized multi-role military helicopter (Hartley 2006, 28). The manufacturers of the helicopter are NHIndustries (France and Germany), Agusta-Westland and Fokker Aerostructures. NATO Helicopter Management Agency (NAHEMA) manages the program for participating NATO members. There are six assembly lines: in France, Germany, Italy, Finland, Spain and Australia. Five hundred and seventy three helicopters have been sold by 2011. More generally, European collaboration in helicopters has created two industrial groups which are now competitive with the US helicopter industry (Hartley 2006, 30).

The UK Department of Defense estimates that collaboration with partners in research brings benefits almost five times the original investment. Collaboration with partners provides access to important technology, saves from duplicated costs, and, in general, allows managing more efficiently the limited budget. The UK Department of

Defense spends little over 40 million pounds on collaborative programs with other nations, less than 10% of its defense budget. However, according to their estimate they obtain technology worth approximately £200 million– a 5:1 return on its investment (Ministry of Defense 2001).

### **Conclusion:**

This chapter tested hypothesis 3 according to which states are more likely to have military cooperation in the presence of market imperfections, even in the presence of minimal external threat. It is undisputable that an ideological, political, and cultural affinity among the great powers making up NATO's leadership is an *a priori*, fundamental, and necessary condition for other facilitating factors influencing the cooperation of NATO members beyond the end of the Cold War. Yet, this chapter revealed that the presence of market imperfections in the military production is an important incentive for NATO's Great Powers to continue cooperation even after the disappearance of their rival, the Soviet Union.

I demonstrated that military production is characterized by significant market imperfections, such as economies of scale, scope and learning-by-doing. Such imperfections have a dampening effect on the costs of production up to a certain quantity/size/volume produced. Because military production is extremely expensive and is characterized by market imperfections, some NATO members find it imperative to collaborate in the production of military technology to save costs but still have access to



it. The cases analyzed demonstrate that by collaborating, member states can produce better, more efficient and secure war material and save lots of money. NATO states have benefited from common projects, and by taking advantage of market imperfections they preserved and even increased their power capabilities since the end of the Cold War.

In the following chapter, I will show that since the early to mid-1990s only a few military companies have remained. Disappearance of the external threat obviated the need for states to have Cold War level expenditures. Military companies consolidated and only a few big companies remained. Because of their size and other specific qualities, these companies could now take advantage of economies of scale and other market imperfections.

## **CHAPTER VI**

### **CONSOLIDATION OF INDUSTRIES AND ESCALATING PRICES**

In the previous chapter, I showed that there are important political economic conditions, which made it meaningful for NATO members to cooperate in military production after the end of the Cold War. In this chapter, though, I will analyze how those conditions came about, evolved, and strengthened the enduring capacity of NATO beyond the disappearance of the Soviet Union in 1991. I claim that those conditions were facilitated by the end of the Cold War, which allowed the consolidations of military industries seeking to cut down escalating military costs in the face of decreased government demands for weapon systems. I will analyze hypothesis No. 4 to confirm or disconfirm whether international cooperation in military matters and production, of states with compatible national interests, is positively related to escalating costs in military production, both in the absence or presence of external threat. In short, if exponentially increasing costs of defense prevail, then multilateral military cooperation or an alliance will endure beyond the disappearance of the immediate external, geostrategic threat. I will analyze the post-Cold War military cooperative developments to confirm or disconfirm the validity of this hypothesis. My assumption is that escalating costs are partly responsible for the degree of cooperation, common military projects/spending among NATO members, military firm mergers and consolidations.

A brief explanation is in order to expose more directly the above-hypothesized causal relation. Since the 1990s the concentration/size of military companies globally has increased steadily (see Table 2 below). What explains the development? One plausible argument is that the disappearance of the external, geostrategic threat to NATO members obviated the need for these states to maintain military expenditures at the same levels as those prevailing during the Cold War. Accordingly, some companies had to merge to survive the reduction in military expenditure by NATO-members. Based on their size and other specific qualities, some of these companies could take advantage of economies of scale and other specific market imperfections.

Table 2

Concentration of the Arms Industry, 1990–2003

Figures are percentage shares of the sales of the SIPRI Top 100 arms-producing companies.

	Share of total arms sales				Share of total sales			
	1990	1995	2000	2003	1990	1995	2000	2003
Top 5	22	28	41	44	33	34	43	45
Top 10	37	42	57	61	51	52	61	61
Top 15	48	53	65	69	61	64	71	72
Top 20	57	61	70	74	69	72	79	80

Source: SIPRI Arms Industry Database.

Economies of scale *per se* may have had only a modest influence on defense industry structure in the distant past, though the evidence for learning-by-doing and its impact was more convincing. However, since the 1990s economies of scale have had large impact as well (Sandler and Hartley 1995, 84). Nonetheless, since the late 1990s to

2015, one is able to discern that governments appear significantly more sensitive than in previous periods in history, to the extra cost that may be incurred by small national production runs and the highly sophisticated technological nature of some defense equipment manufacturing. Further, governments appear to be quite receptive to the argument that increasing “economies of scale need to be met through international collaboration and industrial restructuring” (Dunne 1995, 415).

A huge wave of US merger and acquisition in the 1990s has been partly attributed to a search for scale and scope economies at a time of shrinking demand for weapon systems (Markusen 2000, 127). Also, the degree of cross-sector diversification among the largest defense firms suggests that they perceive and value such economies (Markowski, Hall and Wylie 2010, 36). A major impetus of economic restructuring is the increasing trans-Atlantic drive of the military companies in terms of both the European companies’ aspirations to become major players in the US market and the acceptance by the United States, as argued by Dunne and Smith, that “interoperability requirements, the benefits of cooperative defense programs, and an increasingly global industrial infrastructure require that the [USDOD] to be prepared to accept the benefits offered by access to the most innovative, efficient, and competitive suppliers worldwide” (Dunne and Smith 2001, 17).

However, as the chapter will explain it was not only market imperfections and decreased demand that pushed NATO great powers to continue and deepen their cooperation after the Cold War. Escalating R & D costs made it prohibitively expensive for NATO members to develop a new generation of military technology on their own. As

a result, NATO members found it imperative to cooperate in military production even in the absence of the serious threat to their security. The cooperation allowed access to the modern military technology at a cheaper cost and allowed states to remain competitive.

### **Military Production during the Cold War:**

The defense industry had unique characteristics during the Cold War. Governments spent generously on the procurement of new and sophisticated weaponry, which attracted quite a few corporations. The high R & D costs influenced the structure of the market and companies. The high expenditure on R & D also influenced significantly the trend in costs, making them higher than the cost on civil projects, and the nature of production—with short production runs, technologically advanced and concerned with performance rather than cost minimization—limited the potential for economies of scale and learning (Dunne 1995, 25). Civil and military production were very different from each other as was the nature of capital equipment, with labor skills and the organization of production becoming increasingly specific to the sector (Dunne 1995, 30).

During the Cold War, governments prioritized the performance of technology rather than price. In this sense governments were ready to finance expensive research, investment heavily, and bear the risks (Dunne 1995, 32). Moreover, during the Cold War, the military always pushed to innovate in order to be able to cope with the worst possible scenarios. Governments, military and producers developed close ties, leading to a

“revolving door” through which military and civil servants moved to defense contractors with whom they had previous dealings and defense contractors’ personnel moving into the national bureaucracy (Gordon 1981, 236). This became known as the “military–industrial complex.” This complex relationship influenced governmental policies and pushed for financing projects even when there was no apparent need (Dunne 1995, 45). With the help of a close relationship between military and civilian personnel, these defense firms became very efficient in obtaining lucrative government contracts to develop and manufacture expensive weapon systems. Moreover, the close relationship of firms with governments was the primary reason why markets were stable, with no firms entering or exiting the market. In addition, the manufacturing industry remained national in its composition, with a few or no actors from other countries. Smaller countries, which could not afford the large fixed costs, resorted to import major weapon systems (Dunne 1995, 46).

Immediately after the Cold War, the world’s military expenditure declined considerably for a brief period. However, in 1998 spending in the military sector started to increase until in 2005 it exceeded the peak expenditure of the Cold War. The US influenced decisively this trend, as it is the largest spender on military equipment in the world spending almost as much as the rest of the world (Markowski, Hall and Wylie 2010, 13). In the mid-2000s, the US spent about half of the world’s outlays on military equipment. To put this amount into perspective, one must realize that the combined expenditure on the military of the next five largest spenders—the UK, France, Japan, China and Germany—is less than half that of that by the U.S.A. NATO members alone

spent more than 70% of the world's military expenditures in 2005 (Markowski, Hall and Wylie 2010, 12).

Two main processes have characterized the evolution of the defense industry since the end of the Cold War and the disintegration of the USSR. First, markets in the USA and Europe have consolidated and become oligopolistic. Second, the US and Western Europe are unparalleled in the production and export of advanced weapon systems (Mantin and Tishler 2004, 238). Just like during the Cold War, in the post-Cold War world the arm's industry and trade are a function of government decisions. Governments are the main purchasers and regulators of export and import policies. However, there have been some changes. Because of the reduced demand, outside the USA, many companies have become national champions, in many cases monopolies or close to it, with a consequent need for cross-border restructuring (Dunne and Surry 2005, 32).

### **Defense-Related Industrial Consolidation in the USA:**

In 1993 the US Secretary of Defense initiated the industrial consolidation process of the defense market in the USA. According to the Secretary, the existing market was too small for so many companies and reduction of the number of players would actually decrease the US defense costs (Markusen 2000, 32). A mergers wave was stimulated by the Deputy Secretary of Defense, William J. Perry, when he addressed a dinner attended by defense industry executives and openly encouraged consolidation—this became

known as the “last supper” (Tirpak 1998, 22). The department of Defense facilitated the process of consolidation by financing the costs of defense industrial restructuring (Dunne 1995, 602).

The Clinton administration changed the course of previous governments who scorned the idea of mergers and consolidations. Between 1990 and 1998, four giant companies were formed (Lockheed Martin, Boeing, Northrop Grumman, and Raytheon). Aerospace and electronics firms in the USA and Europe were centrally involved in much of the industrial restructuring of the 1990s (Hartley and Sandler 2003, 372). In fact, the process of consolidation was advocated by the US Department of Defense as necessary to achieve economies of scale (Flamm 2000, 28). The government heavily subsidized the firms so they could produce enough to achieve economies of scale. For example, over the period 1993 to 1997, the U.S. Department of Defense approved restructuring costs of \$765 million for seven major mergers based on forecast cost savings in weapons acquisitions exceeding \$4 billion over five years (Kovacic 1999, 12).

Post-cold war consolidations have affected the structure of the defense industry. During the Cold War, the industry was not concentrated, as the top five companies sold about 20% of global arms supply. By 2003 this had changed significantly, with the top five firms accounting for 44% of total arms sales in the world. This large increase in the share of the top companies continued further for the top ten, fifteen and twenty companies in the world (Kurtz 2008).



The U.S. companies have been particularly successful in the global defense-related markets. This is significant when compared to European NATO partners. For example, BAE Systems is the only European company that ranks among the top five defense-related manufacturing firms in the world (Dunne 1993, 99). Three other European companies are in the top ten: Thales, EADS and Finmeccanica. The largest number of mergers and acquisitions in the defense industry took place in the five-year period between 1993 and 1998. While the process is still in progress, it is proceeding at a much slower rate. The “last supper” event had important implications for arms manufacturers. As a direct result of this, defense-related firms limited their product range and increased their specialization in producing specific products. This was reinforced by Wall Street transactions, which encouraged companies to concentrate on what the players in the stock market called “pure play” and “core competences” (Dunne 1993, 102).

### **Defense-Related Industrial Consolidation in Europe:**

The emergence of four giant American defense firms appears to be the catalyst for a similar consolidation process in Europe and across the Atlantic (Becker 2000, 25). Industrial size, so it seems, had become a significant factor in the defense industry (Dunne 1993, 104). However, European consolidation was necessarily a more complicated process than the American. In Europe the process among NATO members involved cross-border consolidations, which created serious political problems (Ripley 2005, 28). It is important to underscore here that the ownership type in Europe was quite different than in America. In comparison with the US, European arms production was

characterized by a high degree of state control. National borders made the process of consolidation difficult. However, the driving forces in Europe were similar to those that affected the US defense-related manufacturing sector and ultimately led to a marked increase in industrial concentration.

Further, one should point out here that industrial consolidation in Western Europe's defense market was a gradual process. These were centered around EADS (European Aeronautic Defense and Space Company -a European international merger in 2000 involving aerospace companies in France, Germany and Spain); BAE Systems; and Thales, which is a French company based on the following firms: Thomson-CSF, Thomson Marconi Sonar and Shorts Missiles Systems (2000). Further, European mergers resulted in the creation of Agusta-Westland that involved a number of defense-related systems production lines among different international partnerships, for example, the helicopters production partnership between Italy and the UK; MBDA missiles, which was the result of a merger between Matra BAe Dynamics from France, the UK, and Alenia Marconi Systems from Italy (Hartley and Sandler 2003, 367).

In 1999, two gigantic mergers took place. First it was the merger of BAE systems and EADS, and the second was the purchase of British Racal Electronics by the French Thales Company. These two mergers increased dramatically the concentration in defense-related markets. On average, the sales of each of the largest 100 defense firms declined from \$2.2 billion to \$1.5 billion (1995 prices) between 1990 and 1998, while

each of the five largest defense firms increased their defense sales from \$9.5 billion to \$11.7 billion (Dunne et al. 2003, 25).

France was a major protagonist in the European moves towards independent defense production and it was an active force behind the restructuring of this sector after the Cold War. Surprisingly, though, France does not collaborate as much with other European nation-states. Much of the French armament and naval industry is in the hands of the government. France has also encouraged more competition in their defense markets. British Aerospace is very active in Britain's domestic market and to counterbalance this dominance and to create a second "national" defense electronics supplier competing with BAe Systems, the UK Ministry of Defense accepted the take-over of Racal by France's Thales.<sup>7</sup>

Germans have integrated their aerospace production into the European Aeronautics, Defense and Space Company (EADS), which originally included German DASA, French Aérospatiale Matra, and the Spanish CASA. EADS increased even more in the early to mid-2000s by acquiring other defense-related manufacturing companies. For example, EADS incorporated the Spanish company, CASA, and accepted the General Dynamic's offer for Santa Barbara, the Spanish defense contractor. The Italian company Finmeccanica is also participating in a few joint European projects (Hartley and Sandler

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<sup>7</sup> For more detailed review see Hartley, Keith, and Todd Sandler. 1995. *Handbook of defense economics*. Amsterdam: Elsevier. Hartley, Keith, and Todd Sandler. "The Future of the Defense Firm." *Kyklos* 56, no. 3 (2003): 361-80.

2003, 370). Similarly and compounding the merger trend, several trans-Atlantic deals were struck in the period from the mid-1990s to the early 2000s. During this period BAE purchased Lockheed Martin and American companies bought a number of European defense-related companies. For example, US companies bought MOWAG of Switzerland; Santa Barbara of Spain; and Bofors of Sweden (Hartley and Sandler 2003, 372).

### **Arms Sales and Company Consolidations during the 2000s**

In the 2000s arms sales continued to rise in the world. U.S. companies accounted for the large majority of military equipment sales. The year 2005 was significant for the analysis due to the number of important company consolidations that took place in the world. The sector is already extensively consolidated as compared to previous decades in the midst of the Cold War. While the pace of consolidation slowed down in the 2000s, significant activity is still taking place. Consolidation among European companies continues and is likely to be reinforced by the increased political commitment in the European Union (EU) to harmonize rules for arms procurement and by the adoption of the 2005 Code of Conduct on Defense Procurement, which accepts competition in arms procurement among member states (Dunne and Surry 2005, 256).

The top 100 weapons manufacturing companies sold about \$270 billion worth of merchandise. American and Europeans sold the overwhelming majority of these sales (Kurtz 2008). US defense companies are particularly prominent in this trend. To buttress

this point, one should keep in mind that about 65% of total world sales in defense-related material is sold by 40 American companies and another 30% of these sales are by 35 European companies (Holmqvist, C. 2005). The sales of top 100 defense companies increased in 2004, which was an increase of about 15% over the previous five years. The sale increases in the 2000s suggest that the decline in arms sales by the largest arms-producing companies that occurred during the 1990s ended by this time (Dunne and Surry 2005, 28). Specifically, the year 2005 is significant for my analysis and I designated accordingly due to the five large acquisitions that took place for over \$10 billion in total. By comparison, in 2004, there was only one similar acquisition in terms of size and amount. In 2005 BAE Systems (UK) purchased United Defense (USA) for \$4.2 billion (Dunne and Surry 2005, 29). This deal was historic. It represented the biggest foreign purchase ever of an American defense company. An extraordinary result from this purchase is that a British company has become the sixth-largest military contractor selling to the US Department of Defense (DOD). The above-mentioned purchase may prove a catalyst for the European market and push it to consolidate further (Chutter and Ratnam 2005, 122).

The Information Technology (IT) sector was also an important venue for acquisitions in 2005. Titan Corporation was acquired by L-3 Communications for over \$2.5 billion. The company General Dynamics was purchased by Anteon International for about \$2.2 billion; DRS Technologies paid a little bit less than \$2 billion to acquire Engineered Support Systems. All these purchases constituted American companies purchasing other American companies. In the same year the Swedish EQT purchased a

subdivision of German DaimlerChrysler. This transaction, which had been a source of considerable controversy and political debate in Germany, also included the Off-Highway Division of Detroit Diesel (USA) and was valued at approximately \$1.9 billion (Aguera 2005, 156).

As mentioned above, the British BAE Systems purchased American United Defense in order to gain access to US markets. But this is not a discrete case at all. British QinetiQ purchased 4 U.S. aerospace firms in 2004-5. VT Group (UK) also purchased an American company and openly stated its goal of doubling its business in the United States. Among non-US companies, which have announced publicly their intentions to increase their presence in the US, Thales of France and Finmeccanica from Italy are the biggest company currently doing business with the US Department of Defense. Efforts by non-US companies to access a greater part of the large US procurement budget in this way have been characterized as an “uphill battle” as a direct consequence of the ongoing political debates about the procurement of foreign military equipment by the US and how this may compromise national autonomy and security (Dune and Surry 2005, 245).

Cooperation has always been relatively common between American and western European aerospace and defense companies. They can use collaboration, joint ventures and strategic alliances to cut production costs—by sharing high R & D and other overhead costs-cutting strategies, and pooling orders together to increase production runs—without losing independence (Dunne 1993, 110). Joint ventures are partnerships or conglomerates, often formed to share risk or expertise, where two or more businesses

agree to share profit, loss and control in a specific enterprise. They are seen as a safe way for companies to combine resources without having to merge. However, joint ventures can be difficult to manage and companies generally prefer direct control, when they can get it. One of the success stories in military aerospace is the longstanding link between the partly state owned French aero-engine company Snecma and General Electric of the USA (Dunne 1993, 112).

Strategic alliances are arrangements between companies that pool, exchange or integrate selected business resources for mutual benefit, while remaining separate entities. Strategic alliances are less complicated than joint ventures. They take many forms and have become more sophisticated and flexible over the past few years. Companies may choose an alliance that involves simple market exchanges or cross-licensing agreements, or they may form a more complicated partnership that includes cooperative manufacturing arrangements or joint-equity ventures.

Defense-related manufacturing companies have adopted all of these variants over the past two decades. While the companies rely significantly on domestic support through procurement and support for exports, and so are not truly “transnational,” they have internationalized considerably the manufacturing operations. Governments are increasingly willing to recognize that the costs of high-technology defense R&D and smaller national production runs mean that economies of scale need to be met through international collaboration and industrial restructuring (Dunne and Surry 2005, 226). This is very different from a few decades ago, when governments aimed to maintain a

comprehensive national defense industrial base. Major non-US defense companies are also buying defense contractors in the U.S.A. as a means of entering the U.S. market. While Europe has been heading in the same direction, they still have some way to go in terms of restructuring and increasing concentration.

It is, thus, sufficiently clear that the defense market has changed considerably in terms of shape. The number of companies has decreased, while they have also increased in size. The attempt by European firms to move into the U.S. market has been significant, with seven transatlantic acquisitions of U.S. companies in 2005 (Dunne and Surry 2005, 227). The evidence shows that concentration among giant companies stopped in the states around the end of 1990s. However, at the time of this writing, the process of consolidation is still continuing at the level of smaller firms. Europe is closely following the US in its efforts to restructure the industry and gain a competitive edge (Slijper 2005, 28). Europeans are becoming more open to privatization, foreign companies, and non-domestic procurement.

At this stage, 19 of the 20 largest defense producers belong to one or a combination of the NATO great powers. NATO members have a considerable advantage over other states in military production. The combined share of the USA and Western Europe (mainly UK, France, Germany, Italy, Sweden, Switzerland and Spain) in the world's exports of weapon systems has been about 85% since 1992 (Hartley and Sandler 1995, 45) . The top 10 arms producers in the world have increased exponentially their presence on the market since the 1990s. The biggest corporation in the top ten of largest



defense producers supplied in 2015 about 20% of the total arms sales of the top ten companies as compared to the previous 14% in 2005. Moreover, the same number increased from 37% to 55% for the top 3 firms in arms sales in the same time period. These figures are indicative of the trend towards increased concentration resulting from mergers leading to a smaller number of larger defense firms (Hartley and Sandler 1995, 46).

Movement towards more concentration is shown by the fact that throughout the 1990s the largest firm experienced a 50% increase, while the mean increase of the top 5 firms was over 20%. After the Cold war the relative size of American and European firms changed considerably. If in the 1990s European firms earned about 95% of the revenue of American ones, in the 2000s this number decreased to 88% (Hartley and Sandler 1995, 47). A similar relative position occurred between the largest U.S. firm and its European equivalent: in 1990, British Aerospace was 83% of the size of the US based McDonnell Douglas but in 2000, BAE Systems was 77% of the size of Lockheed Martin (Hartley and Sandler 1995, 47). The data above shows unequivocally that since the end of the Cold War the size of the companies in the defense industry has grown in the U.S.A. and Western Europe. The decreased demand by governments and escalating production costs in the first decade after the Cold War forced defense companies to consolidate/merge with other companies, exit the industry or switch to civil production. Importantly, NATO great powers increased the number of common projects to save costs in the face of escalating prices and tightening budget constraints.

## **Escalating Prices in Military Production**

Increasing production costs and consequent concentration in defense industry should bring a few benefits to NATO powers. They should actually decrease net costs in these countries. As a result, industry consolidation is likely to continue and more transatlantic mergers are to be expected in the near future. Americans and Europeans are likely to continue their colossal investments in military R & D to crowd out the rest of the world from the market for modern weapon systems and to maintain a credible deterrent capacity against potentially rising geostrategic and national threats (Mantin and Tishler 2004, 162). NATO countries are going to benefit with the decrease of the number of firms globally. This way they will be able to produce more and reduce their production costs. Thus, the consolidation process of the defense industry in the USA and in Western Europe is, at least in part, the outcome of economic considerations, along with political and security processes. Except for a major systemic disruption in world politics, this trend is likely to continue in the immediate future (Mantin and Tishler 2004, 165).

Although, Europeans and Americans will be increasing the concentration of their production by increasing the size of their companies and other forms of multinational cooperation, prices will still increase. This is because the NATO Great Powers will be investing heavily in R & D in their attempts to improve their national and multilateral security. They will not be manufacturing more of the old technology, but will try to go ahead in the technological battle. Better technology will necessarily mean rising costs and create increasing pressure for more military expenditure. Statistical evidence shows that

production costs of military aircrafts in the UK and the US have risen by almost 10% annually, which is equivalent to a factor of 2.5 per decade (Kirkpatrick 1995, 265). Pugh demonstrates that a similar logic applies to other military technologies. He calculates that production costs will double every 7 years for a unit of output produced (Pugh 1993, 180).

The main reason for increasing production costs is the expensive nature of the new technologies. New generations of arms are more lethal than previous ones, but they also have higher development and production costs. This implies that fewer units will be produced because of the expensive nature of production and limited and shrinking national military budgets. What currently is enough to develop and produce 200 units is unlikely to be sufficient to complete the development of its successor (Pugh 1993, 185).

Some neoliberal economic experts and observers will probably argue that producers can become more effective by increasing efficiency and productivity, thus, alleviating the cost escalation. However, I think such prognosis is unrealistic. With cost escalations of about 10% per year, becoming more efficient and productive only solves the problem for a short time. The rate of increase in costs, particularly of R&D and innovation, is so huge that it easily offsets any improvements in efficiency and productivity. As a result, unit cost escalation is a major determinant of both military and industrial capabilities and their structures (Pugh 1993, 186). Such unit cost escalation influences the nature of military competition more than inefficiencies in procurement.

Crises and budgetary constraints and escalating costs will make great powers postpone or outright reject the development of costly military hardware and technology independently. For example, in 2000s, the U.S. Department of Defense had ordered the production of about 700 F-22 fighter jets, but the final budget cap was reached with the production of less than 180 units. Europeans have also cut their orders for the Typhoon jets. It seems Germans, British, Italians and Spanish cannot afford the jets. It is predicted that the order for F-35 advanced fighter jets will experience sharp fall in demand too. Constraint on military budgets is severe. In 2010, the U.S. started cutting jobs for over 40 of its generals and admirals, diminished funding for contractors and implemented other money saving measures. After almost a decade of increased spending in the war on terrorism, resources have been cut to fight the budget deficit (Kirkpatrick 2010, 123). The Europeans started the process of cutting military spending a bit earlier than the Americans. Germany's defense is working to decrease its army by about 30% and save over 10 billion dollars annually. Britain is working on cut down its military spending by about 20%. Spain and Italy have cut about 10% and are working on more budget saving measures (Kirkpatrick 2010, 267).

NATO's goal of having its members contribute a minimum of 2% of their GDP never has looked so bleak. Public demands for more and deeper cuts and the governments' willingness to heed them make diminished military expenditure almost a certainty. It might be argued that by implementing the expending cutting measures, the West is acknowledging its decline and accepting a less hegemonic position in the world. Some observers, like Krepinevich, director of a think-tank in Washington, suggests that

America is now experiencing what Britain experienced at the end of the 20th century. He reminds readers that in just after the First Great War, Britain had to deal with rapidly growing States, aggressive Russia, Germany and Japan. Britain had to play wisely and strategically to make sure it remained in the dominant position. It compromised with the United States, allied with Japan against Russia, and befriended the French to resist German inroads for European and global supremacy. Krepinevich suggests that wise strategy can help solve the problems created by decreased economic might. Like Britain the declining U.S. can sustain its dominance, at least for a while, if it plays its cards right (Markowski, Hall and Wylie 2010, 58). This is a view shared by this study.

In light of its constrained military budget, the U.S. must find new resources and devise alternative policies like manufacturing. Although the U.S. military budget is over 700 billion dollars, equaling the military budget of the rest of the world, price escalation of military equipment and rising wages pose a great problem for the superpower and its allies (Mantin and Tishler 2004, 165). The annual budget rises by approximately 2%, while the US military costs by about 3% (Mantin and Tishler 2004, 166).

The fixed costs of the remuneration of military forces are quite expensive. The U.S. also pays considerable amount for health-care services of its combatants and families. And it is next to impossible to cut down such services to soldiers. One of the tried solutions to save on military costs is to invest in technology. But unfortunately, there is ample evidence to show that technology does not solve the problem, primarily because it is expensive and is becoming even more so at a staggering speed. The price of

technology has overshadowed the general inflation in the economy. The price of combat jets has been rising faster than inflation. Combat ships are going through the same process. Augustine in 1983, in his book, suggested that the unit cost of combat jets will increase exponentially. He reached a staggering conclusion that, on the basis of current rates, by the year 2054 the US would possess only one fighter jet system, which would be shared by the Air Force and the Navy. Over three decades after his forecast, Augustine's projection remains absolutely on target. The Raptors system costs over 150 million and 350 per unit if developmental costs are included. Compared to previous generations, this is a mind-boggling inflation. For example, the F-16 cost about 50 millions. Because of increasing prices, the air and marine forces of the states have decreased, although defense spending has risen (Mantin and Tishler 2004, 170).

The value of modern military equipment is in computers. And logically, it should follow Moore's law, which forecasts rapid fall in the costs of computer technology. Strangely, though, the military technology has followed Augustine's law, which predicted sharp rise in costs. There are a few reasons for such development. First of all, military equipment very often is not produced in large quantities and its expenses are usually inflationary, which does not allow the drop in the unit costs (the effect of economies of scale). Second, the security requires that military software always be programmed from scratch, instead of being upgraded periodically. Importantly, governments rarely negotiate fixed-price deals. There is a lot of risk involved in developing expensive military technology and software and companies would not assume the risk without government guarantees, which cost government an enormous amount.

Even the giants in the combat aircraft industry, such as for example Boeing, would abstain from developing military jets on their own, if they had no government guarantees (Pugh 2007, 29).

Military technology has been rising in cost at tremendous speed. Pugh in his study of the costs of constructing war ships suggests that industrial revolution exacerbated the problem even further. Since owing to groundbreaking technologies and the pace of their development, great powers have been competing in building better ships for their fleet. Countries normally face two choices when the costs of production start to escalate – they either can cut down on producing advanced weapons, or invest in new and sophisticated technology. According to Pugh, the rivalry to build better ships is the most pronounced during times of peace, but usually falls when the war starts. At such times, the author argues that countries prioritize quantity over anything else. Moreover, the Cold War induced countries to prefer quality to quantity because it never actually turned into a real war. During the Cold War, quality was given precedence over other factors (Pugh 2007, 30).

Another one of Augustine's laws is that achieving the final 10% of performance is responsible for over 30% of the costs and 60% of problems. Very often the so-called conspiracy of optimism manifests itself, when governments and producers purposefully or unintentionally miscalculate the cost of weapons. Add to this the fact that military projects are almost never cancelled until consummated; the result is frightening for budgetary policies. There are many reasons for rising costs: technological problems cause

delays; governments delay work to avoid annual budgetary overspending which increase costs in the long run. As time passes, technology becomes obsolete, and new requirements have to be satisfied. All this ends up with governments downsizing their projects, purchasing less than they had initially planned for, due to increasing per unit costs. For example, the US government was planning to buy over 130 B-2 bombers but ultimately bought less than twenty-five at an approximate cost of 2 billion per plane. Despite measures to increase efficiency and decrease production costs, spending on the biggest military programs in the United States has increased by over 25% (Pugh 2007, 35).

The problems in Europe are just as acute as in the US. Tight budgetary constraints have left France with one aircraft carrier, while Britain has two of medium size. The British have two more coming out of the production line in the near future, but since the moment they ordered their construction, the project had to be delayed because of pecuniary constraints. This way the British would save about half a billion in the next few years but spend over 1 billion more than initially planned in the long run. European countries are less efficient with their funds than Americans. While together they have more troops, they are actually less potent in terms of their fighting capabilities. Their limited resources are divided among many more units and industries. As a result they find themselves in a difficult situation. If the United States is deciding on how many weapons to make, very often the Europeans are breaking their heads deciding whether to make those weapons at all because they are too expensive. So when the U.S. might be



contemplating if it needs its 11 aircraft carriers, in France and Britain the question is whether they need and/or can afford those carriers.

It is evident from the European example that it needs to take advantage of market imperfections and most of all, economies of scale. One European army seems very difficult to imagine at this stage. As argued above, more transatlantic cooperation would make matters affordable to the European members of NATO. An example with the F-35 fighter jet shows that despite the rising costs, it still seems affordable, provided the costs of development and manufacturing are shared by NATO members. The F-35 borrows some of its avionic technology from previous models and currently the U.S. uses it in all its army divisions. At the moment, a few European countries have joined the U.S. In this manner these countries can save more money if they avoid custom-made technology and invest in small projects that upgrade existing technology, rather than invest colossal amount in developing new one (Ripley 2005, 8). The rising price is not a problem at all. This is the case because the price is well compensated by the efficiency/quality of the weapon system. While this is true, this logic only works against a single/concentrated enemy. When there are multiple enemies or the enemy is dispersed, fighting in multiple locations and tactical scenarios is inevitable and complex. In such cases the efficiency/quality of weaponry would be of little help if it is not omnipresent. In such cases quantity rather than sophistication and quality become very important (Ripley 2005, 12).

The findings above demonstrate unequivocally that costs in military production are escalating at a tremendous rate. And the trend will only exacerbate. Given the colossal R & D costs of producing competitive military equipment NATO great powers, and especially its Western European members, find it necessary to continue and increase their cooperation, even in the absence of immediate external threats. The inflationary effect of military production is the bond that tightens the military cooperation among NATO members.

### **Future Trends: Creation of European Market**

Escalating costs and limited budgetary resources are forcing nations to consider alternatives to autonomous national development and production of military technology and, thus, choosing to engage in more and greater cooperation (Hartley and Sandler 1995, 328). Autonomous production is costly for European nations because of the small scale of production. In this sense, high costs are forcing NATO members to cooperate in the development, production, and adoption of weapons projects and systems. But Western European members of NATO are even under greater pressure than the U.S. because of the small size of their markets. Faced with escalating costs, they can opt to cooperate with each other to take advantage of economic imperfections and shared costs or buy from foreign producers.

Europe is an inefficient defense market. A preference for national independence is costly and the future organization of European defense markets is likely to change

radically as nations seek to achieve the economic benefits of collective action (Sandler and Hartley 1995, 330). The creation of a Single EU Market for defense equipment will allow companies there to achieve large scale of output. Estimates show that the creation of a Single EU Market for defense equipment would yield cost savings of approximately 10% to 17% annually (Hartley and Sandler 1995, 331).

### **A NATO Free Trade Area?**

Two factors can lead to the creation of a NATO-based trade area: First, the escalation of R & D costs for high-tech military technology, and, second, the increased concentration in the market. These two factors are already affecting the nature of military production. As a result, the preference for a competitive procurement policy will favor the creation of a NATO-based free trade area for defense equipment (Hartley and Sandler 1995, 333). In this vein, a NATO market would allow companies to cooperate on transatlantic basis. One of the successful instances of such multinational cooperation is the US Joint Strike Fighter (JSF). The UK and several other states are actively cooperating with the US in this project. The JSF industrial arrangement provides a model for future international collaboration in the defense industry and it can be potentially an important determinant of continued multilateral security collaboration within the confines of the NATO alliance system.

## **Conclusion:**

This chapter attempted to demonstrate the extent of military or defense-related company mergers and consolidations. As I showed in the previous chapter, economies of scale and other market imperfections are responsible for many military projects among NATO members, leading them to cooperate closely within the same organizational umbrella. In this chapter my goal has been to show how those conditions came about and evolved over time. The evidence presented above reveals that after the Cold War military companies have actively pursued consolidation through mergers. According to the argument advanced in this study, this condition allowed them to cut down costs in the face of decreased government spending in the military sector. NATO member states allowed for such consolidation because it permitted them to save considerable resources while remaining strategically and politically secured under the umbrella of the NATO alliance.

In closing, it is important to underscore that this chapter tested the effect of increasing prices on the cooperation among NATO Great Powers. The effect has proved to be positive. Escalating military prices made it even more meaningful for states to cooperate. New technology is becoming increasingly expensive and many NATO members will be able to afford it only under a multinational cooperation within the auspices of the alliance. As a direct result, cooperation in military production remains the only possible option to keep up with technological pace. In the next chapter, I will show how the incorporation of the political economic aspect enriches and complements the

international relations theory on military alliances, as well as provides an important reason to explain why NATO member states continued their multilateral military cooperation well beyond the end of the Cold War in 1991.

## CHAPTER VII

### CONCLUSION

This study set out to explore the characteristic of military power heretofore unaccounted in the international relations literature – its exponential capacity. Moreover, it set out to investigate how this unique characteristic can potentially impact military alliances among states. The case of post-Cold War NATO alliance was selected to test the validity of the theoretical assumption, that, the exponential capacity of power impacts endurance and more importantly, deepening of military cooperation, even in the absence of external threats, in the conditions of compatible national interests. The study explored why NATO's most powerful members, (i.e., France, Germany, Great Britain, Canada, and the United States) continued and deepened their military cooperation when their main geostrategic rival collapsed and disappeared over a quarter-of-a-century ago. This study made a theoretical contribution to the literature on military alliance dynamics. It showed that the political economy of military production, generally omitted when explaining military alliance strategies and dynamics, might be a crucial causal factor in determining the alliance choices of states and the endurance of military coalitions beyond the absence and/or disappearance of an external threat. This is a dimension that, as far I have been able to establish in my perusal of the germane literature on military alliance dynamics, has not been discussed and has not been theorized into the alliance behavior literature. At no time has the intention of my work been to debunk other alternative explanations of the

extension and endurance of NATO. Rather, the purpose of this study has been to offer a new complementary explanation.

In the case of NATO, British, French and Germans, contrary to what Waltzian defensive neorealism would predict, are not trying to balance the relatively larger military capabilities of the U.S. within the coalition. Clearly, the U.S. is overwhelmingly more powerful than any other state on its own. Nonetheless, Europeans in alliance with Russians, Chinese, or these two combined could actually achieve enough military power to counterbalance the U.S. The Europeans, however, opted against this option. Instead, they chose to ally, or in other terms, bandwagon with a much stronger partner—the U.S. This decision has been explained according to multilateral cultural, political, and ideological affinities among members of the North-Atlantic military coalition. Others have emphasized the United States' geopolitical and global leadership objectives and the proximity of a potentially threatening Russia. This does not provide, however, a strong explanation as to why the Europeans deepened their military cooperation or in other words bandwagoned with the U.S., even more importantly and perplexing, in times of peace, consequently remaining in the NATO alliance. In addition to Russia, China was an alliance partner option for the Europeans in a pure power politics context, yet these states resolved to bandwagon with the U.S. and remain linked to and deepened their cooperation with the U.S. in NATO.

It should be emphasized that the term bandwagoning used in this work is modified from Schweller's original understanding. Schweller uses the term to denote why

countries with compatible interests would cooperate with each other in the military realm in times of conflict with other powers. In this work, bandwagoning assumes an additional meaning. It signifies that countries can first increase/deepen their cooperation and, second, do so in times of peace. This is an important point of the study, because it shows that countries do not require conflicts and outside threats in general to expand, increase, and deepen military cooperation. According to the study, one of the reasons why countries would do so is to afford sophisticated and advanced military equipment.

It should also be noted that the state represented as a unitary actor is a choice of convenience. Such a choice should not impact the conclusion of the study – that power has exponential capacity, which affects the cooperation in military alliances. It is clear to the author that state is not a black box, but a playing ground for competing actors vying for political power. Among them, corporations and financial sector having interest in military production and generally in military matters are very important. However, this study does not go deep to dissect what these sectors are and how they impact state agenda. This is a critical important aspect that should be examined in greater detail in a study with a different scope. The axiomatic assumption on my side is that whoever the agents who formally or informally dominate states' agenda, they can cut down the costs of military production by cooperating with each other, whether the ultimate goal is to augment profits, increase state power, satisfy certain group interests, or promote certain ideology worldwide. And as the study shows, change in the mode of military production (deepened cooperation among states) has significantly cut down the production costs both in Europe and the US, although due to inflationary costs in military production and for



other possible reasons unexplored within the scope of the study, it has not necessarily decreased the states' expenditure.

The study completely discounts the role of certain external threats, for example, Islamic terrorism, or threat language like concern with peripheral instability that justify the cooperation among NATO great powers after the Cold War. The threat language was actively used by the U.S. to justify NATO cooperation and expansion after the Cold War. Moreover, the U.S. global military spending means protection of markets for a wide range of firms, U.S. and European, so there is a larger constituency in favor of global militarization, both in terms of consolidated profit-making opportunities within the defense sector and opening up of markets—especially in the oil and natural gas sector, where NATO global expansion was justified as early as the 1990s with the idea to protect foreign oil markets from external "threats." But readers should be reminded that the goal of the study was not to explore why NATO powers cooperate and justify their cooperation in terms of actual or perceived external, geostrategic "threats." Rather, this study aimed at demonstrating that significant savings accrued to NATO partners from the joint production and consumption of highly advanced and sophisticated military materiel. While the final bill to governments remains relatively expensive, the accrued prize is the acquisition of highly sophisticated military equipment that would otherwise be too expensive and possibly beyond the procurement potentials of any single major NATO power except, perhaps, the U.S. The latter is a critically important motivation for the endurance, expansion, and deepening of the NATO alliance beyond 1991. This is a new complementary interpretation that remained neglected until the completion of this work.

Another key aspect that remains for future study and analysis is the absence of a clear explanation on what the cost-sharing burden is among great powers. That is, how much each NATO great power pays in the production of military goods. The study does not emphasize the role of the U.S. military spending and its corporations in the common military projects among NATO's great powers. It should be noted that the U.S. and its corporations play a significant role in almost all NATO projects. However, the European Great powers are not idle or innocent bystanders either. France and Great Britain have multiple military cooperation programs. They are already building a "Future Combat Air System," due in 2030. Western Europeans are also cooperating in the production of missiles through a company called MBDA. The collaboration has actually become so successful that MBDA is now a primary competitor of the major global missile company, Raytheon, from the U.S. The English and French have cooperated in the Storm Shadow missile project. Similarly, the Meteor air-to-air missile is showing promise with the UK acting as the lead on a six nation international program also involving France, Germany, Italy, Spain and Sweden (Hartley 2012, 40).

Although, the U.S. and its corporations gain most from the hegemonic-induced cooperation, as this study shows, other NATO great powers, as well as their national corporations, gain considerably. In this regard, the study follows Morrow's logic to explain the endurance of NATO. James D. Morrow, in his article "Alliances and Asymmetry: An Alternative to the Capability Aggregation Model of Alliances," suggests that symmetric alliances –that is, alliances of states with roughly equal strength–will not last long because there is an inherent problem of distributing the costs and benefits

(Morrow 1991, 908). In a symmetric alliance, a change in either ally's capabilities forces a reallocation of the benefits of the alliance, making the alliance less likely to persist. Conversely, asymmetric alliances are easier to negotiate and last longer. In such alliances the small state gains the support of the strong state but loses autonomy and the strong state provides this support and gains the compliance of the weaker one. Likewise, corporate actors in European states might be getting less of the table compared to their American partners in their asymmetric relationship, but, still, they are getting more than they would if they were only oriented domestically or to Europe.

To summarize, internal or intra-alliance balancing dynamics are very important for the endurance of military alliances. The internal security depends on the bargaining between states and on the benefits they gain from bargaining. In an alliance among equal powers, bargaining might destabilize its endurance. However, in asymmetric alliances, endurance is much more readily available. Thus, the enduring success of NATO could be attributed partially to the fact that it is an alliance between a major power and weaker members. And by the same token, it is quite plausible that corporate actors within the state influence the endurance and deepening of the alliance because of pecuniary considerations. This aspect remains for further study in another work with a different analytical scope.

Having analyzed external threat conditions, compatibility of state interests after WWI and WWII and, also, military markets and imperfections in military production in the post-Cold War era, I should have an answer about whether the political economy of

military production is an important variable in the alliance politics among states. My findings should elucidate why states may continue to ally and collaborate in the absence of external threats and countervailing military power. And by the same token, the study shows that Schweller's balance-of-interests theory, generally valid in explaining alliance choices of states during conflicts, by taking into consideration certain economic variables, also explains military cooperation of great powers in times of peace. Schweller provided a clue as to why powers could ally even if the threat to their security is nonexistent.

In Schweller's "Bandwagoning for Profit: Bringing the Revisionist State Back In," he argues that states sometimes join an alliance hoping to gain something rather than to defend from a real threat. Schweller suggests that some states—the so-called revisionist states—are not satisfied with their position and care to increase their power rather than just maintain security (Schweller 1994, 74). According to Schweller the Europeans and the US would align to counter external threat, which challenges the *status quo*. However, Schweller does not attempt to explain why alliances would hold in peacetime. I have argued that at the moment, Europeans and Americans gain from remaining involved in the alliance and cooperating with each other. The central argument of this study was that political economic developments in the defense industry influenced NATO's endurance by affecting the policies and calculations of the alliance partners.

This study demonstrated that market imperfections—economies of scale, economies of scope—and sharing escalating research/development costs in military

production can significantly cut down military costs of the allies, without jeopardizing their individual capabilities, autonomy, and relative power. Consequently, it makes sense for states to cooperate with each other to cut down such costs, provided their national interests are compatible. Scale, scope and learning economies and escalating research costs do appear to influence defense industry costs, thereby prompting the restructuring of the industry nationally and globally. Governments are more open to international collaborations, because they realize they have a lot to gain from their continued military cooperation. Cooperation allows large-scale production and gives companies opportunities to merge to take advantage of size and other factors that affect the production.

The central question of this study was: Why NATO endured through 1991-2014 in the absence of an external or extra-alliance threat. My answer to this question hinges on pecuniary considerations leading to significant savings in the research, development, and production functions of military materiel and operations. In the absence of an external threat and countervailing power, NATO members did not need to spend much on expensive weapons and on keeping large operational infrastructures, and specialized personnel. Regarding research, development, and production, NATO countries let military industries to consolidate, engage in trans-border, friendly mergers or economic cooperation, and use economies of scale, scope and share research costs in order to cut down costs.

To answer the question of how economic considerations in military production might influence the endurance of alliances, given threat conditions and compatibility of

interests, I tested two different sets of hypotheses. The first two hypotheses confirmed the importance of the compatibility of national interests and the existence of external threats to promote multinational military cooperation among several states. Hypotheses Nos. 3 and 4 showed that, even in the absence of external threats, states might choose to cooperate given their interests are compatible.

**Hypothesis No. 1:** If there is no external threat and no compatibility of interests among great powers, cooperation is weak or non-existent. I have analyzed the post WWI developments to confirm the validity of this hypothesis.

**Hypothesis No. 2:** Incompatibility of interests, coupled with external threats, leads to cooperation among great powers. I have analyzed the post WWII developments to confirm the validity of this hypothesis.

**Hypothesis No. 3:** Cooperation in states' military production, given their national interests are compatible, is positively related to economies of scale, economies of scope, and learning by doing, both in the absence or presence of external threat. I have analyzed the post-Cold War developments to confirm the validity of this hypothesis.

**Hypothesis No. 4:** Cooperation in military the production of states, with compatible interests, provided there are favorable market conditions, is positively related to escalating costs in military production, both in the absence or presence of external threat.

I have analyzed the post-Cold War developments to confirm the validity of this hypothesis.

**Detailed Explanation of Findings:**

**Hypothesis No. 1:** If there is no external threat and no compatibility of interests among great powers, cooperation is weak or non-existent.

Political developments after WWI confirmed hypothesis No. 1. Great powers failed to engage in military cooperation after the war. The disappearance of the external threat loosened the bond holding the Triple Entente powers together. Consumed by their own national interests, the USA, the United Kingdom, and France reverted back to traditional, balance of power approach to foreign affairs. Among this limited coterie, there were clashing interests and an unequal power balance. France, who had suffered the most, held the biggest grudge against Germans and worked hard to weaken them permanently. The British goal was to safeguard its economic interests, to manage the European balance of power, and protect its empire. The objectives of the United States were to create a stable world of democratic governments, limited armaments, and open markets (Horne 2010, 129)

The U.S. President, Woodrow Wilson, was shocked by the savagery of the war. Although, he developed the idea of the League of Nations, American contribution to it was kept minimal during its work. Wilson was a firm believer that Germany had to be

punished; however, the punishment should not have been harsh, to make sure that Germans would reconcile with the rest of Europe. During the conference, Americans were disappointed that their wartime allies shared little enthusiasm for the Fourteen Points plan advanced by President Wilson (Hickman 2015, 2). The main reasons for the lack of understanding among powers were reparations and imperial competition.

British concern was to preserve the British Empire. They sought to settle territorial disputes; keep France protected, and make sure that the German fleet never became potent enough to challenge the British Navy. While the British favored the formation of the League of Nations, they discouraged Wilson's call for self-determination as it could adversely affect Britain's colonies possessions (Hickman 2015, 4). French Prime Minister Georges Clemenceau wanted to make sure that Germans never attempted to restore territorial holdings or seek any kind of revenge. The destruction brought upon French territory was to be indemnified by the reparations negotiated at Versailles (Hickman 2015, 10). The French wanted to make sure that Germans paid war reparations, and they even occupied Rurh region in 1923 in order to force Germany to pay. Georges Clemenceau, the French statesman, believed that Germany had to be weakened so that it would never be able to start a war. The three victorious nations were far from united on how Germany should be treated and had conflicting views about how best to reorganize the post-war political and economic systems. As a result, they failed to continue military cooperation after the war.



**Hypothesis No. 2:** Incompatibility of interests, coupled with external threats, leads to cooperation among great powers.

I have analyzed the post WWII developments to confirm the validity of this hypothesis. Hypothesis No. 2 is confirmed by the political and strategic developments after WWII. The Allies—the U.S.A., Great Britain, and France—did not continue military cooperation immediately after the end of the Second World War. Just like after the Cold War, when the Soviet Union capitulated and disappeared as a geostrategic threat, the main rival of the coalition during WWII—Nazi Germany—was defeated and ceased to be a threat. The explanation lies in the fact that the national interests of great powers—the U.S., Great Britain, and France—were incompatible. However, these three great powers united as soon as they realized that the Soviet Union was a major geostrategic threat to their national security.

The U.S., the UK, France, and the Soviet Union were on the winning side of WWII. During the war these allies were united in their opposition to and quest to defeat Nazi Germany; however, immediately after defeating their common enemy, they discovered that they had more differences than similarities in their visions of the post-war European and global orders. The U.S. desired to reconstruct the post-war world into one based on multilateralism and open-door politics. Britain, on the other hand, too weak to compete economically with the U.S. hanged on to its Imperial Preference system. France, just like after WWI, wanted to prevent the rise of Germany, and in this regard it differed deeply from the US and the UK, which saw a strong Germany as a barrier against the

spread of Soviet communism in Europe. Thus, after the war the differences among great powers might have proved insurmountable, if it had not been for the common threat posed by the Soviet Union, which they all faced at this juncture.

WWI transformed the way Washington's decision makers thought about U.S. national security. Long-term American interests required a world more open to the free flow of goods and capital. Quantitative restrictions, imperial preferences, exchange controls, and autarkical economic arrangements had restricted trade, prolonged the Great Depression, and bred jealousy and aggression (Kennedy and Hitchcock 2000, 24). The US State Department officials who began planning for the postwar world as early as 1940 considered an open international system based on multilateral commercial and financial arrangements indispensable to postwar security. The unrestricted flow of capital and goods would tend to bind other nations to the United States and discourage trade alliances that could endanger U.S. security (Kennedy and Hitchcock 2000, 104).

On the other side, the British government, especially the Exchequer and the Board of Trade, strengthened the Sterling Bloc during wartime. Material losses during WWII, nevertheless, forced the British government to consolidate the bloc and to accelerate the trend toward governmental control of international finance and foreign commerce (Kennedy and Hitchcock). The government limited imports from outside the Sterling Bloc and limited the ability of domestic businesses to import from foreign countries. American policymakers did not approve of British actions, because these actions

contradicted America's goals to make multilateralism the primary reference of post-war global economic system (Kennedy and Hitchcock 2000, 108).

The French were opposed to American and British measures designed to raise industrial production in Germany. In addition, they did not like that the Americans had decided to merge German zones and allow for self-government. The French were fearful that Germans would pose a threat to France, alone or in alliance with Soviets.

Washington's most influential diplomat in Europe, Lewis Douglas, informed Marshall that "if the French were assured of long-term US defensive cooperation against German aggression, in other words, we would fight on the Rhine in such an eventuality, the French would relax in their attitude regarding German industry and reconstruction" (Kennedy and Hitchcock 2000, 124).

### **Soviet Threat and Transatlantic Alliance**

It is evident that the post-WWII cooperation between the US and the Western European powers proved to be on more solid than the one after the WWI. The critically important factor was the cooperation among the governments of Great Britain, France, and the United states. The heavy involvement of governments was crucial to the success of cooperation. However, this involvement was largely conditioned by the Soviet threat. Had communism appeared more of a menace to Western Europe in the 1920s, perhaps the United States and Britain would have adopted a more resolute public policy in the 1920s (Kennedy and Hitchcock 2000, 128).

The Marshall Plan would help Europe to stand on its feet and create a multilateral order, which the Soviets would not be able to undermine through their policies. The idea was to link economies together and make sure that the Western countries would never fall under the influence of the Soviets. The U.S. was particularly worried that the Kremlin could lure the Western Europeans with economic incentives or promises of territorial aggrandizement. According to Marshall, the worst of all scenarios would be seeing "a Germany controlled by the Soviet Union with German military potential utilized in alliance with the Soviet" (Kennedy and Hitchcock 2000, 129). Incompatibility of Great power interests was the primary obstacle to their cooperation right after the war. The incompatibility of interests among the allied powers led to the disintegration of the Western Alliance after the end of WWII. However, very soon the Soviet threat made the U.S., United Kingdom and France put aside their differences in order to counterbalance the existence of immediate external threats. This was very different from the aftermath of the post WWI environment and it turned out to be the facilitating factor that held the allies together immediately after the post-WWII environment.

**Hypothesis No. 3:** Cooperation in states' military production, given the fact that their national interests are compatible, is positively related to economies of scale, economies of scope, and learning by doing, both in the absence or presence of external threat.

The collapse and disappearance of the Soviet Union removed the geostrategic external threat and military power balancing that NATO members confronted since 1949

until 1991. The absence of the threat obviated the need for NATO members to maintain the military alliance, according to traditional military alliance theory, and/or to sustain their individual and collective Cold War level of military expenditure. In this new geostrategic context some firms could not keep up with reduced sovereign demand for defense-related equipment and, thus, many companies exited this market. Others, in order to stay in business, consolidated their operations and expanded their markets internationally. Because of their size and other specific qualities, these companies could take advantage of economies of scale and other market imperfections.

Sandler and Hartley suggest that scale economies *per se* may have had only a modest influence on defense industry structure in the past, though the evidence for learning-by-doing and their impact was more convincing recently (Sandler and Hartley, 1995, 28). However, since the 1990s scale economies have had a major impact as well. Dunne suggests that governments now appear more sensitive to the extra cost incurred by small national production runs (and the high technology nature of some manufacture) and more receptive to the argument that “economies of scale need to be met through international collaboration and industrial restructuring” (Dunne 1995, 595).

The end of the Cold War transformed the defense industry in two important ways: First, defense firms in the NATO countries grew to become giants through the consolidation process and, second, NATO Great Powers have established themselves as the only dominant players in the development, production, and export of advanced weapon systems (Mantin and Tishler 2004, 38). Mergers in the US reduced the number of

defense and aerospace firms from 15 major companies in 1990 to four by 1998, namely, Boeing, Lockheed Martin, Northrop Grumman and Raytheon (Hartley and Sandler 1995, 30). Post-Cold War consolidations have affected the structure of the industry. During the Cold War the industry was not concentrated, as the top five companies sold about 20 per cent of global arms. By 2003 this had changed significantly, with the top five firms accounting for 44 per cent of total arms sales. This large increase in the share of the top companies has continued further for the top 10, 15, and 20 manufacturers of defense-related equipment (Mantin and Tishler 2004, 55).

European consolidation: The emergence of four giant American defense firms stimulated the process of consolidation in Europe too (Becker 2000, 25). Size, so it seems, had become a significant factor in the defense industry (Dunne 1993, 104). However, the European industrial consolidation was necessarily a more complicated matter. Here the process involved cross-border consolidations, which created political problems (Ripley 2005, 28). The consolidation of Western Europe's defense market was a more gradual process than that in the US. These were centered around EADS (a European international merger in 2000 involving aerospace companies in France, Germany and Spain); BAE Systems; and Thales (electronics) which is a French company based on Thomson-CSF which acquired the UK defense companies and divisions of Racal, Thomson Marconi Sonar and Shorts Missiles Systems (2000). Further European mergers resulted in the creation of Agusta-Westland (helicopters: Italy and the UK: 2000) and MBDA (missiles) which was a merger of Matra BAe Dynamics (France and the UK) and Alenia Marconi Systems (Italy) (Hartley and Sandler 2003, 367).

Governments are increasingly willing to recognize that the high costs of sophisticated technology, defense R & D and smaller national production runs mean that economies of scale need to be met through international collaboration and industrial restructuring (Dunne and Surry 2005, 226). The trend was different a few decades ago, when governments aimed to maintain a comprehensive national defense industrial base. Major non-US defense companies are also buying defense contractors in the US as a means of entering the US defense market. While there has been some activity in Europe, there is still some way to go in terms of restructuring and increasing concentration.

Thus, on the bases of the factors outlined above, the findings of this study confirm hypothesis 3. That is, market imperfections positively influence cooperation in military production among great powers. Consolidations, mergers, and collaborative projects which have become the new golden rule of the game in military production after the Cold War have created fertile conditions for great power cooperation.

**Hypothesis No. 4:** Cooperation in military production of states with compatible interests, provided that there are favorable market conditions, is positively related to escalating costs in military production, both in the absence or presence of external threat.

Both military and civil aerospace costs are tremendous and the costs are rising. The costs are actually growing at an exponential rate (Augustine 1987, 18). The historical cost trend arises from technical progress in each generation, with governments striving to purchase the latest products so as to have a competitive edge. Continuing rising costs

provide a context for nations to engage in collaboration. The cost incentives to collaborate result from large fixed costs with nations unable to afford the equipment. Countries seek to acquire the latest high technology in defense equipment to maintain their superiority in the technical arms race. New technology creates new capabilities. The continued trend of rising unit costs of combat aircraft, for instance, renders the point about independent development nonsensical since if there is to be another future generation of manned combat aircraft, it will be too costly after some time for any single nation to develop and produce independently. European Great Powers have already reached this limit.

Examples from collaborative projects in Europe confirm that common production brings serious benefits to collaborating partners. Collaborative development costs compared with national alternatives can be some 140% as high for two nations (e.g. Merlin helicopter), 161–179% for three nations (e.g. Tornado) and almost twice as high for four nations (e.g. Eurofighter). Despite higher aggregate development costs on collaboration, each partner only bears its share of these costs so that there are costs savings to the countries involved in collaborative development work (Hartley 1999, 47).

### **Collaboration in Other Spheres:**

Western Europeans are also cooperating in the production of missiles through a company called MBDA. The collaboration has actually become so successful that MBDA now is a primary competitor of the major global missile company based in the U.S.,



Raytheon. The British and French have cooperated on the Storm Shadow missile project. Similarly, the Meteor air-to-air missile is showing promise with the UK acting as the lead on a six-nation international collaborative program also involving France, Germany, Italy, Spain, and Sweden (Hartley 2010, 111).

Logistical support can also bring important gain. Important economic benefits can accrue from logistical support. The UK, Netherlands, Belgium, and France have been cooperating in the logistical support of Spey, Olympus and Tyne marine engines. According to rough estimates, such cooperation has saved participating countries about 30 per cent in maintenance services. The UK and US benefit considerably from their cooperation in the Multi-Launch Rocket System and the Tomahawk Land Attack Missile. They have benefited from the economies of scale through joint purchasing schemes of spares and shared maintenance facilities (Ministry of Defense 2001).

Western Europeans have successfully cooperated in other helicopter and missile programs. Among them, the 1967 Anglo-French helicopter agreement and the NH90 helicopter need to be singled out in relation to this international collaborative aspect in the defense industry. The NH90 helicopter is a four-nation collaboration project to develop and build a medium-sized, multi-role military helicopter (Hartley 2010, 112). The manufacturers of the helicopter are NH Industries (France and Germany), AgustaWestland and Fokker Aerostructures. NATO Helicopter Management Agency (NAHEMA) manages the program for participating NATO members. There are six assembly lines: in France, Germany, Italy, Finland, Spain and Australia. 573 helicopters

have been sold by 2011. More generally, European collaboration in helicopters has created two industrial groups which are now competitive with the US helicopter industry (Hartley 2010, 113).

The British Ministry of Defense estimates that collaboration with partners in research brings considerable benefits—almost five times the original investment. Collaboration with partners provides access to important technology, prevents countries from duplicating costs, and in general allows for more efficiently manage the limited and shrinking national defense budgets. The UK Ministry of Defense spends a little over 40 million pounds on collaborative programs with other nations, less than 10% of its defense budget. However, according to their estimate, they obtain technology worth approximately £200 million— a 5:1 return ratio on its original investment (Ministry of Defense 2001).

### **Theoretical Contribution of the Study:**

My findings suggest that the political economy of military production is an important variable in the alliance politics among great powers. The findings of this study elucidate why states continue to ally in the absence of external threats and military power-balancing needs. The findings of this study also reveal that Schweller's logic in his balance-of-interests theory is generally valid. Finally, this study shows that by taking into consideration economic variables, one can also explain military cooperation and coalitions between great powers in times of peace. On the larger scale, the study

demonstrates that the incorporation of political economic variables enriches and complements the international relations theory of military alliances. Classical realist and neorealist theories have been largely silent on how the political economy of security conditions the possibility of alliance endurance among member states. I tried to show that the notion of social power entails a political economic dimension that remained neglected and unincorporated into alliance dynamics theories by realist scholars and generally by international security theorists.

I introduced above the notion of intra-alliance dynamics as an important influence on the endurance of alliances. Among the various important factors conditioning internal dynamics, state interests stand out as one of the most prominent assumptions. Similar to Schweller's argument about the compatibility of interests among states, my explanation takes the level of analysis explaining the endurance of alliances from the systemic to the state level. According to this perspective, alliances are not solely influenced by systemic factors but also, and perhaps very importantly, by how nation-states view their interests within the system. This is more a refinement of neo-classical realism.

Schweller only explains why states dissatisfied with the *status quo*, such as wolves and jackals would ally to change the odds. And "lions" that are content with the *status quo* create alliances to oppose change. Schweller does not explain, nevertheless, why lions would continue their alliance after the threat to their status disappeared, as is in the case of NATO. Even more importantly, though, he does not explain why states would deepen their military cooperation in the absence of external or extra-alliance challenges

and power-balancing dynamics. I explain such development by introducing the political-economic arguments and their influence on the defense industry and alliance dynamics.

Economies of scale, scope, learning-by-doing and research and development costs provide the political economic rationale for such outcome. Classical realists and neorealists consider political-economic elements mainly under the rubric of intra-alliance balancing. According to them, states balance internally when they augment their own capabilities by increasing economic growth and increasing military spending. Accordingly, the economic potential of a country is determined by its natural resource endowment, its demographic, economic, military and technological capacity. Logically speaking, the military power of a state is shaped by the state's own economic potential in military production. However, with economies of scale, economies of scope, and shared research and development costs a different logic operates. In cooperation with each other, nation-states may be able to achieve more power using the same resources or the same level of power by using fewer resources.

The findings of this study suggest that military power has a unique quality. It has a capacity to increase exponentially in ratio to inputs. This is important because states might decide to cooperate in the creation of this power by pulling their resources together. In this manner they would be generating more power than they could on their own, using the same resources. Moreover, cooperation would make sense even if states would want to generate the same amount of power, which they could on their own, simply because it would cost states less.

Based on the outlined explanations, the findings of the study suggest that the logic of Schweller's balance-of-interest works in times of peace as well. *Status quo* powers will cooperate among each other and they do not need external threats and power-balancing compulsion to do so. As long as their national interests are compatible, pecuniary considerations will be the bond that holds these powers together under the NATO umbrella even in the absence of formidable rivals like the former Soviet Union, Nazi Germany, or Imperial Japan.

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