

When Collaboration Works:

High Politics and Realism's Renaissance in Arms Collaboration Studies

Abstract

Armaments collaboration's theoretical benefits of shared development costs and interoperability have led to an increase in collaborative projects, and the policy's popularity is only likely to grow. Nevertheless, most states fail to achieve their desired levels of collaboration. The question must therefore be raised as to what factors favour partnerships' success. We argue that realist dynamics play a more significant role than hitherto appreciated. International armaments collaboration is a fundamentally difficult process. Major projects cost significant sums and often require decades to complete. Multiple stakeholders, ranging from military headquarters to corporate managers, may calculate that cooperation no longer serves their interests. Governments therefore need powerful incentives to overcome domestic opposition in order for collaboration to succeed. Realist interests—notably, the sense of collectively balancing against threats—provide governments with the requisite motivation to overcome domestic discontent. States within alliances stand to benefit more from collaboration because they alone profit from collaboration's interoperability advantages. Alliances, furthermore, offer assurances in terms of supply security—sometimes through formal arrangements and at others through states' common interest in not jeopardizing the alliance—that mitigate this risk. Realist concerns, as expressed in formal alliances, thus incentivize governments to steer projects through to completion.

Introduction

Few defense-industrial questions are more important today than ascertaining why international armaments collaboration succeeds at times, and fails at others. Collaboration has occupied a central role in European states' defense-industrial policies for half a century and is increasingly prized by non-European states, ranging from India to South Korea, as well. Today, few states can afford to develop and produce their own weapons-systems. Even fewer have the defense-industrial capabilities to produce all their armaments domestically: development costs have risen, military technology has become more complex, and competition for global markets have intensified (Chin 2004). With collaborative projects promising the procurement of cheaper, better weapons, faster, collaboration has become a popular policy for states facing the ever-increasing difficulty of keeping an up-to date military

arsenal in the twenty-first century. Nevertheless, such projects has yielded a wide range of results, and most states fail to achieve their desired levels of collaboration, with many partnerships dissolving before they reach the production phase.

The question must therefore be raised as to what factors favor successful collaborations and what contribute to their failure. Although variables ranging from projects' structures to leaders' personalities can influence outcomes, the business management literature on corporate joint ventures suggests that choosing the "right" partner is the single most important determinant of whether projects succeed or fail. This, however, raises the related question of what makes for a good fit between partner countries. To fill this gap in armaments literature, we comparatively test the explanatory power of liberal, constructivist, institutionalist and realist analytic frameworks.

To preview our conclusion, realist dynamics play a more significant role than hitherto appreciated. International armaments collaboration is a fundamentally difficult process. Weapons projects are costly and often require decades to complete. Multiple stakeholders, ranging from military headquarters to corporate managers, may calculate that cooperation no longer serves their interests. Governments' fears about their security of supply can likewise sour leaders on collaboration. In light of these challenges, governments need powerful incentives to overcome domestic opposition in order for collaboration to succeed.

Realist foreign policy interests—notably, the sense of collectively balancing against foreign threats—provide governments with the requisite incentives to push collaborative projects through to completion. States within alliances stand to benefit more from collaboration because they alone profit from collaboration's interoperability advantages. Military alliances, furthermore, offer assurances in terms of supply security—sometimes

through formal arrangements and at others through allied states' common interest in not jeopardizing the alliance—that mitigate collaborative projects' inherent risks. At a final and more basic level, allied states' commitments to collectively balance against threats endow them with a vested interest in their partners' military power, which mitigates concerns about relative gains' distribution amongst cooperating partners.

Realist concerns, as expressed in alliances, thus incentivize governments to overrule domestic stakeholders opposed to collaboration, and steer projects through to completion.

Collaboration's Challenge

Experts began championing international cooperation as a superior means for producing armaments after the Second World War. Faced with weaponry's growing variety and sophistication, policymakers argued that smaller states could no longer efficiently produce weaponry on a purely national basis (Chin 2004; Finnegan 2009). In principle, collaboration offers substantial economic benefits. Due to scale- and learning-economies, doubling the number of weapons produced generate significant savings on weapons' production costs (Moravcsik 1993, p. 128). Research and development costs, likewise, can be shared equally across states (Hartley and Martin 1993). Collaborative weapons should furthermore be better than those that any partner state can develop independently when states exploit their comparative advantages in producing weapons' subsystems. Yet despite these factors motivating states to pursue armaments collaboration, and despite consistent process reforms, European countries have failed to achieve their desired levels of collaboration.

Collaboration's theoretical promise, combined with European states' need to produce weapons effectively, drove national leaders to launch their first collaborative projects in the early 1950s. American policymakers nurtured these projects with funding and by insisting that NATO's European members join them in establishing the Mutual Production and Supply Board (MPSB). This body's secretariat had the mission to "promote the standardization of parts and end products of military equipment" (North Atlantic Council 1949).

European states shortly thereafter formed two further bodies—FINBEL (later FINABEL) and FINBAIR—in 1953 to promote armaments collaboration independent of the United States (Burigana and DeLonge 2006, pp. 241-44). NATO states' leaders, however, followed up this move by forming a Defense Production Committee (DPC) within NATO in 1954 (later renamed the Armaments Committee), which oversaw Europe's early collaborative projects: the Light Weight Strike Reconnaissance (LWSR) fighter, the Atlantic anti-submarine aircraft and a joint artillery system (Vandevanter 1964).

This first wave of armaments organizations and collaborative projects failed, however, to yield the expected results. States frequently withdrew from projects and many collapsed entirely. After a decade of efforts, European states succeeded in acquiring only five percent of their weaponry collaboratively by the early 1960s (Vandevanter 1964. p. 2). This disappointing outcome highlighted armament collaboration's complexity to scholars and policymakers alike. In effect, projects could fail for multiple reasons, including: the inability of *governments* to cooperate (Dean 1979); disagreements between *armed forces* about weapons' characteristics (McNaughter 1983); and the unwillingness of *firms* from different states to work together (Moravcsik 1993).

States responded to these collaborative disappointments with a succession of measures designed to improve the collaborative process. To this end, they formed organizations with an independent legal personality—NATO’s Eurogroup (1968) and the Independent European Program Group (1976)— that enabled states to officially establish consortia under their aegis (Schlotter 1979). They subsequently created a consultative body in 1984, composed of industry representatives to incorporate corporate managers in the collaborative process (Bauer 1992, pp. 40-41).

These process reforms fostered armaments collaboration’s steady growth such that European states were acquiring 15 percent of their weapons collaboratively by 1990 (Tayler 1990, pp. 63-64). Collaboration’s volume, however, continued to Europe’s aspirations, with significant numbers of projects either suffering cancellation or one or more partners’ withdrawal. If anything, transatlantic projects—with the United States partnering with European states—performed even worse, with only one of Cold War-era 25 projects avoiding cancellation (Bitzinger 2004).

European policymakers addressed their continued inability to achieve their desired degree of collaboration with a further wave of process reforms, including the transfer of authority for collaboration and creating an organization with the specific purpose of improving the collaboration process (Mawdsley 2004). Finally, the EU Council’s member governments created the European Defence Agency in 2004 and provided it with a larger staff (133 personnel) and budget (€31 million) than any prior armaments organization (EDAb 2017).

These efforts to improve the collaborative process have yielded only miniscule marginal increases in collaboration’s volume. The proportion of procurement budgets spent

on collaborative weapons has remained steady at 21.7 percent in the decade (2006-16) since the EDA began collecting data (EDAa 2017, p. 34). European governments, however, continue aspiring to higher levels of collaboration. National leaders' adoption of the goal of boosting collaboration to 35 percent of total procurement, their ratification of the European Commission's Defence and Security Procurement Directive (2009) and the Franco-British prioritization of collaboration in the 2010 Lancaster House Agreement all testify to this.

European states' preference for collaboration raises the question of why they consistently fail to achieve more despite consistent process improvements.

Explaining Collaborative Partnerships

The predominant European response to armament collaboration's failures has been to repeatedly reform the institutional and legal structures within which collaborative projects were undertaken. This "process" approach has however failed to yield the anticipated results and armaments collaboration continues at a far more modest level than its proponents' desire. Process improvements' disappointing impact, in turn, suggests that deficiencies in collaborative procedures are not the primary factor preventing governments from achieving their coveted level of collaboration.

Largely absent from armament collaboration debates has been the impact of states' choices about what states to partner with. The business management literature on joint ventures—a subject that bears analytic similarities to armaments collaboration—however suggests that choosing the right partner(s) oftentimes determine success. Management scholars argue that factors ranging from firms' positions within markets to their corporate

cultures and management institutions dictate the degree to which collaborating corporations “fit” well together (Gomes-Casseres 1996; Doz and Hamel, 1998, 57-118). Although theories about joint ventures cannot be uncritically applied to armaments due to the large role played by governments and armed forces in the latter, the literature’s focus on selecting the “right” partner is analytically appealing because there are powerful reasons for anticipating that certain states collaborate better together than others.

The challenge, within this context, lies however in identifying what factors are most important in determining which partnerships will succeed and which will fail. The three dominant theoretical paradigms used to explain European security cooperation—constructivism, institutionalism and liberalism—each yield distinct predictions in this regard.

Constructivism has, in recent years, contributed powerfully to our understanding of European security collaboration. Ulrich Krotz’s (2011) seminal work on the Franco-German relationship demonstrates that iterative collaborative experiences in other domains built up inter-subjective understandings and habits of collaboration. As a result, French and German policymakers today turn to one another when they confront new challenges, facilitating their joint development of weaponry. Frédéric Mérand (2008), meanwhile, draws upon Pierre Bourdieu’s sociology to argue that security cooperation amongst European states has, over time, fostered a collective *habitus* that fuels further security integration.

Abstracting from constructivist accounts such as these yields a clear prediction that states that have engaged in the broadest and deepest efforts at bilateral cooperation in other domains will be best equipped to pursue armaments collaboration. Shared inter-subjective understandings and similar cultural attributes provide, within this context, the adhesive that binds partnerships together and enables them to surmount difficulties. One should therefore

expect that specific communities of states that have constructed particularly close relationships, will collaborate best.

While constructivism predicts that cooperation in other domains facilitates armaments collaboration, institutionalism suggests that similarities or differences between partners' political economies will determine collaborations' fate. Michael Smith's (2004) pioneering work established institutionalism's ability to explain European security collaboration's rise. According to Smith, European security cooperation has evolved beyond its modest inter-governmental origins through the progressive institutionalization of habits of cooperation. Ulrika Mörth and Malena Britz (2004), meanwhile, advance a distinct, yet related institutional argument about how rivalries between European Union (EU) institutions have led to an ever-greater Europeanization of the domain.

Although institutional arguments promoted by Smith, Mörth and Britz offer plausible explanations about why collaboration's overall level has expanded, they cannot account for discrepancies in how well different states collaborate together. Predicting which European states will collaborate best together consequently obliges institutionalists to focus on the similarities and differences between states' political economies. The "varieties of capitalism" framework of analysis, developed by Peter Hall and David Soskice (2003), constitutes the most widely accepted framework for classifying advanced industrial democracies' political economies, dividing them into liberal market economies (LMEs), coordinated market economies (CMEs) and statist economies. Marc DeVore's and Moritz Weiss' (DeVore and Weiss 2014; DeVore 2015) scholarship demonstrate that these differences in domestic political economies shape states' defense-industrial policies. When it comes to collaborative

projects, institutionalists would therefore logically anticipate that states with more similar political economies will collaborate better together.

In addition to constructivism and institutionalism, liberalism has also been convincingly applied to armaments collaboration. Liberalism has at its core a fundamentally “bottom-up” view of politics wherein societal groups’ demands aggregate into state policies (Keohane 2002, p. 2). Andrew Moravcsik (1993), within this context, argues that firms are the most important interest group involved in armaments collaboration; and their calculations are the primary determinant of whether projects succeed or fail. Consequently, when firms calculate that they would be better served by a national project they will lobby governments to withdraw from collaborative ones. In a similar analysis, Jonathan Tucker (1991) claims that discrepancies in corporations’ size and capabilities facilitates collaboration. Firms of an analogous size and with similar core competencies will, within this context, fail to collaborate because of their preoccupation with relative gains, while those that differ will face fewer obstacles. It is thus complementary, rather than competitive, corporations that will collaborate most effectively.

Assessing the factors that lead to certain collaborative partnerships succeeding while others fails offers a means of advancing beyond the “process” approach to improving collaboration. The three analytic frameworks dominating the European security literature—constructivism, institutionalism and liberalism—each in turn offers predictions about which states can be anticipated to collaborate best together.

The Realism Redux

There are powerful reasons for anticipating that realist considerations may shape states' armaments collaboration activities even though other theories have to-date dominated the European security literature. States, at base, produce weaponry to secure themselves against potential threats; an activity that can be conceptualized as a form of internal balancing. This same concern for self-preservation in an anarchic international system drives states to league together in alliances, which is an archetypical form of external balancing. Armaments collaboration transpires at the intersection of the two acknowledged forms of balancing insofar as it involves sovereign states collaborating to augment their individual power and, as such, should succeed best when undertaken by allied states.

While many varieties of realist thought have prospered over time, they share the belief that international cooperation is inherently difficult because of states' concerns about relative gains. Threats—either in the form of states that are overly powerful or bellicose—provide the impetus for overcoming these obstacles to cooperation. The balancing coalition, as described by Kenneth Waltz (1979, pp. 102-193), thus stands out as the archetypical form of cooperation that emerges under these circumstances. These efforts at external balancing can take the form of either durable alliances (Snyder 1997) or brief military coalitions (Wolford 2015, pp. 12-51).

Realism's prominence within international relations has inspired scholars to employ it to explain Europe's integration and subsequent rise as a security actor. Sebastian Rosato (2011), within this context, claims that the whole European integration process was driven by the need to balance against the Soviet Union's military power. Although Western Europe's largest states embraced NATO as a vehicle for balancing the Soviet Union, their fear of abandonment by the United States allegedly drove them to integrate Europe economically as

a precondition for building an alternative European alliance should the need arise. Rosato furthermore claims that the absence of a powerful enemy to be defended against explains the EU's malaise in the 2000s (Rosato 2011, pp. 68-82).

While Rosato uses realism to explain European integration, Barry Posen (2006) employs the same framework to explore the EU's post-1999 development of the European Security and Defence Policy (ESDP). According to Posen, fears of abandonment by the United States in the face of regional security challenges drove European states to develop capabilities for conducting large military interventions independently of the United States. Seth Jones (2007), finally, advances a related realist argument that a desire to "softly balance" a United States viewed as excessively unipolar is driving EU states to preference collaborating amongst one another rather than with the United States.

Although these assessments of European cooperation appeared in prestigious outlets, they attracted considerable criticism, highlighting both methodological and empirical shortcomings (Howth and Menon 2009; Krotz and Maher 2012; Sheetz and Heine 2012). Yet despite prior realist attempts to explain European integration and security cooperation having been regarded as unconvincing, there are nonetheless powerful reasons for anticipating that realism can enhance our understanding of European armaments cooperation. For one thing, any assessment of collaborative armaments projects eschews the challenge facing the above analyses in terms of analytically disentangling the security functions fulfilled by NATO and the EU. For another, states' efforts to arm themselves—armament collaboration's *raison d'être*—has long been accepted as a form of internal balancing. As Joachim Krause (2002) demonstrates, states build and maintain domestic defense-industrial bases as a means of producing the weapons needed for this form of

balancing, which Waltz defines as “[states] relying on their own capabilities rather than on the capabilities of allies” (1979, p. 168). If the production of armaments is recognized as a form of internal balancing, then defense-industrial policies should be governed by realism’s logic (Keohane and Nye 1977, pp. 23-60).

Applied to armaments collaboration, realism yields the parsimonious prediction that states that are collectively engaging in external balancing together are more likely to succeed when it comes to armaments collaboration. The reason for this is that armaments collaboration is inherently difficult and domestic stakeholders often object to the process when their individual preferences diverge (McNaughter 1983; Moravcsik 1993). High levels of governmental commitment are therefore necessary to override domestic stakeholders’ opposition and shepherd projects through to completion. Allied states’ governments are more likely to feel such levels of commitment because they stand to gain more and lose less from collaboration.

The pay-off matrices for armaments collaboration are, indeed, fundamentally better for allied states than non-aligned ones for three reasons. First, since most domestic opposition to collaborative projects emerges from domestic stakeholders’ concerns about relative gains—whether militaries compromising on weapons specifications (McNaughter 1983) or firms concerned about market share (Moravcsik 1993)—the fact that allied states benefit positively from one another’s military power partially mitigates these relative gains concerns.

In a second and related manner, alliance relationships reduce the supply security anxieties that bedevil collaborative projects. States fundamentally prefer autarchy when it comes to armaments because they fear that conflicts or crises will disrupt their ability to

obtain weaponry. Collaboration, within this context, constitutes a “second best solution”, which nonetheless exposes states to some degree of supply risk (Kapstein 1991-92). Alliances mitigate these fears insofar as member states are committed to acting together against threats.

The third and final reason realism predicts that allied states will collaborate better lies in the interoperability advantages they reap. Militaries in coalitions often struggle to operate alongside one another because of incompatible equipment. States employing different weapons systems cannot service one another’s equipment in the event of rapid redeployments, and one state’s spare parts and munitions will be unusable by allies. Collaboration, however, resolves these interoperability challenges since it results in partner states procuring identical products. Since interoperability only effects states that intend to fight together, the interoperability benefits generated by collaboration only accrue to states in alliances.

Realism thus predicts that states allied to one another risk less and benefit more when they engage in armaments collaboration. Operationalizing this hypothesis for the European context is comparatively straightforward. Two partially overlapping security regimes—NATO and the EU—embrace a significant number of European states. Although NATO and the EU can both be conceptualized as security communities, they are of unequal value when judged by realist standards. NATO, within this context, is an archetypical and highly institutionalized formal alliance wherein states are committed to collective defense and participate in robust peacetime standing military forces. The EU, by way of contrast, only gradually developed a military dimension that remains less binding, and whose effectiveness is regarded as “disappointingly poor” (Hyde-Price 2018, p. 400).

Logically, therefore, collaboration will be most successful when undertaken by states that are members of *both* NATO and the EU. Second best to those collaborations will be those between NATO members, while those combining EU members occupy a tertiary position. Fourth and finally, those collaborations least likely to succeed will combine states that share no common membership in an alliance or security community.

Realism thus predicts that whether collaborative armaments projects succeed or fail hinges on the strength of alliance bonds connecting partner states.

Case Selection

The remainder of this article competitively tests realist, constructivist, institutionalist and liberal hypotheses about which states collaborate best together. Since realism has been neglected in prior studies of armaments collaboration and potentially has significant analytic value, we selected cases for examination that are both challenging ones for realism and where realism's predictions run contrary to those of all three rival frameworks. Two cases—the Scandinavian Viking submarine project (1997-2004) and the Italo-Anglo-French Storm Shadow missile (1996-2002)—meet these criteria.

According to the tenets of constructivism, institutionalism and liberalism, few states would be expected to collaborate better than those of Scandinavia. Deep legacies of social and political interaction have shaped habits of inter-societal cooperation, bolstered by cultural similarities, which would lead constructivists to predict success. Institutional factors—notably political economies that are so similar that experts classify them as a distinct Nordic variety of corporatism—likewise presage success. Liberalism too suggests that this

project should benefit from the complementary, rather than rival characteristics of the three partner firms—Norway’s Kongsberg Defense & Aerospace, Sweden’s Kockums, and Denmark’s Odense Stålskibsværft—involved in the Viking submarine project (Eliasson 2017, p. 182.).

In contrast to these three frameworks’ strong predictions of collaborative success, only realism suggests that the project might fail. From the Scandinavian perspective there is a consensus that the three countries’ alliance relationships vary significantly. Scandinavian scholars, such as Björn Hagelin (2006) and Håkon Saxi (2016) underline that when it comes to their security policies, Nordic countries are fundamentally different. Norway is a part of the North Atlantic Treaty Organization (NATO), but not a part of the European Union (EU); Denmark is a part of both, while Sweden is only a part of the EU. The biggest deviation regarding Scandinavian foreign policy is Sweden’s neutrality, and military non-alignment. Norway and Denmark, by contrast, have largely similar approaches to defense policy.

While few projects seem more predestined for success than a Scandinavian submarine according to constructivism, institutionalism and liberalism, few would appear more foredoomed to failure than an Italo-Anglo-French missile according to these same criteria. From a constructivist perspective, none of these three states enjoys a particularly special relationship with one another, to the extent that prominent French policymakers, including President Charles de Gaulle, historically referred to Britain as “*l’ennemi héréditaire*.” In terms of their political economies, these states stand divided between Britain’s liberal market economy, and France’s and Italy’s statist economies. Finally, these states’ aerospace firms—France’s Aérospatiale-Matra, Italy’s Alenia Marconi Systems, and Britain’s BAe Systems—possess analogous capabilities and are rivals in many of their other market segments.

While most theories would predict the Storm Shadow project’s failure, only realism anticipates success. This prediction nevertheless is robust insofar as all three belong to both NATO and the EU. As such, realists would anticipate that governments would go to significant lengths to overcome obstacles and overrule those discontented domestic actors that might prefer national projects for their own parochial reasons.

By focusing on the Viking submarine and the Storm Shadow missile we thus set up a comparison that is both difficult for realism because of the competing theories’ strong predictions and definitive insofar as realism is the only theory predicting a given outcome in each case, as opposed to all of the alternative theories predicting the opposite. Table I, below, summarizes each theory’s predictions, as described above.

Table I				
Theories’ Predictions about Collaborative Projects				
Collaborative Project	Constructivism	Institutionalism	Liberalism	Realism
<i>Viking Class Submarine</i>	success (+)	success (+)	success (+)	failure (-)
<i>Storm Shadow Missile</i>	failure (-)	failure (-)	failure (-)	success (+)

In addition to selecting cases that provide the best test for realism’s explanatory value, we also engage in process tracing to ascertain which theories’ mechanisms produced projects’ final outcomes. To this end, we draw upon official documents, white papers, parliamentary records and journalistic accounts in five languages to provide the best account hitherto available of these projects.

Failure of the Vikings

The Scandinavian case of international armaments collaboration provides a particularly compelling example of the difficulties of successful cooperation without a security alliance. With its strong geographical, cultural and linguistic ties, external observers would expect Scandinavian collaboration to yield fruitful results. Nevertheless, military-industrial collaboration between Norway, Denmark and Sweden has had a particularly poor track-record. Notwithstanding wide-ranging efforts to promote military cooperation, Scandinavian countries have been unable to complete a single successful project.

Despite the perceived similarities between the countries, Denmark, Sweden and Norway have developed fundamentally different security policies. This encompasses both different historical identities as well as different contemporary orientations towards NATO and the EU (Tiilikainen 2006, p. 51). After the Second World War, each country made distinct security choices that subsequently shaped future “developments in their defense procurement and defense industries” (Hagelin 2006, p. 169). Norway and Denmark became members of NATO, and depend on its security guarantee to protect them against military threats.

Sweden, by way of contrast, maintained a policy of neutrality. Throughout the Cold War, Sweden sustained three official defense pillars: strategic independence, non-alignment in peacetime, and neutrality in wartime (Hagelin 2006, p. 169). Sweden’s electorate regards this policy as tremendously successful because it kept Sweden out of the Second World War and subsequent armed conflicts. Sweden’s self-defined international role, however, has had the adverse effect of convincing potential partners that Sweden could not be fully trusted as either a collaborative partner or as an armaments supplier, which excluded Sweden from any kind of Nordic or Scandinavian collaboration during the Cold War (Tiilikainen 2006, p. 50).

Structural factors, however, incentivized Sweden to seek collaborative partners in the 1990s. Sweden's substantial post-Cold-War cuts in national defense spending meant that orders from the Sweden's armed forces could no longer single-handedly sustain the country's defense industries. Swedish defense firms consequently sought new markets outside Sweden, and collaborative projects offered a plausible means for penetrating such markets. Both Swedish firms and Sweden's government, in turn, regarded nearby and culturally similar Nordic states as the most promising collaborative markets. Defense industry executives' fears that "future European defense cooperation would not include any Swedish companies" (Andersson and Lilliecreutz 2000, p. 36) further accelerated this move towards collaboration.

This new-found support for defense-industrial cooperation first manifested itself in the Standard Nordic Helicopter program (SNHP), an initiative aiming to achieve cost savings by standardizing the four Nordic militaries' new multi-role helicopter purchase. Yet even the simple task of jointly purchasing a helicopter proved fraught, and Sweden, Norway and Finland failed to agree on common operational requirements. The SNHP program finally broke down in 2001 when Denmark decided to select an entirely different helicopter (the AgustaWestland EH101), and the rest bought distinct versions of the NH90 helicopter (Hagelin 2006, p. 170). In addition to being tremendously over-budget, the helicopters have, over ten years later, still not entered service with Norway's military, with the project being dubbed "Norway's worst military procurement" ('Crisis-Hit Norwegian Army Up in Arms' 2018). Nordic armament collaboration thus proved far more difficult from the outset than external observers anticipated; the same would prove true for the Viking Class Submarine project.

In contrast to the modest SNHP program, the Viking submarine project was more complex and launched with greater fanfare. Three Scandinavian countries—Sweden,

Denmark and Norway—aimed to develop and procure a common Scandinavian submarine. They consequently established a joint venture company, the Viking Class Submarine Corporation, in 1997 (Ikegami 2013, p. 444), with the purpose of designing and producing a state-of-the-art submarine. Kockums in Sweden was named the primary contractor, and was responsible for designing the submarine. Norway’s Kongsberg Defense and Aerospace would provide the Combat Management System, while Odense Shipyard in Denmark would produce the remaining parts (Ikegami 2013, p. 444). This project, in principle, would reinvigorate Scandinavia’s naval subcontractors, and was initially regarded as a beneficial economic stimulus to all three countries’ defense industries. Initially ambitious plans projected that Norway and Denmark would procure four submarines apiece and Sweden two, and that all would be delivered by 2007 (Nath 2004, p. 88; Eliasson 2017, p. 18).

The Viking submarine project would deliver, in principle, a capability central to each partner state’s military doctrine. Norway has a particularly long coastline and its military planners fear that Russia’s much larger navy could intervene in Norway’s Northern Finnmark territories. Denmark’s armed forces are similarly anxious about adversaries conducting amphibious landings along Denmark’s coast. Sweden’s military has likewise long struggled to limit Soviet/Russian submarines’ incursions into Swedish territorial waters, including the notorious 1981 “Whisky on the rocks” incident, which involved a Soviet Whiskey-class submarine running aground near a Swedish naval base (Groll 2014).

Despite their real military function, however, Sweden’s primary motivation for the project was supporting the state’s domestic defense industries. Sweden’s Defense Ministry affirmed that the collaboration was “primarily about developing new technology” (Dahlquist 2003), rather than an imminent need to upgrade Sweden’s submarine fleet. Moreover,

Norway's Kongsberg specialized in producing high-tech command systems, which would theoretically render the Viking submarine among the most advanced in the world.

With Kockums being fully capable of designing a submarine on their own, collaboration's main selling points were these defense-industrial considerations. In addition to near term economic and technical benefits, Swedish policymakers hoped to use the Viking Project to signal to European policymakers that Sweden was eager to collaborate with countries that pursued different foreign policies. If all went according to plan, the high-profile Viking project would convince other European states' leaders that Swedish defense companies should be considered an *asset* within the context of a Europeanized armaments industry.

Denmark's and Norway's motivations, however, differed significantly from Sweden's. Denmark had a more pressing need for new submarines (Dahlquist 2002), and did not possess the defense-industrial base to produce their own. Their options were therefore limited to collaboration or importing new submarines. What's more, collaborating with Norway had the significant advantage of improving the Danish and Norwegian navies' abilities to operate together (Taylor 1982, p. 95). Interoperability was a long-standing goal within NATO, and the Viking submarine would advance Denmark and Norway one step further in this process. Their motivations were thus shaped their desires to both enhance their ability to operate alongside alliance partners and symbolically strengthen core alliance relationships.

In mid-2002, Norway's parliament announced that Norway would withdraw from the project, stating that "they would not need to replace their current submarines until 2020" (Bill no. 45, 2001-2002). Denmark's government then announced that it would continue its involvement, though they would buy three instead of four submarines (Dahlquist 2004a). This downsized project suffered a further political blow when a NATO spokesperson publicly

opined that NATO had “no use for the Danish-Swedish submarine” (Dahlquist 2004b). Denmark pulled out of the project altogether in June 2004, stating that they intended to discontinue their submarine fleet (Dahlquist 2004c). A Kockums spokesperson expressed their hope that another partner would replace Denmark, but no replacements were forthcoming, and the project was subsequently abandoned in favor of an entirely Swedish submarine: the A6.

At a fundamental level, the Viking submarine project illustrates the triumph of realist considerations over their liberal and institutional counterparts. This is not, however, to suggest that alternative theories’ mechanisms were entirely absent. As liberalism predicts, both Swedish and Norwegian defense companies lobbied in favor of the project throughout its life span. For Kongsberg, the project would serve as an opportunity for expansion, as the company would gain access to new export markets by virtue of Sweden’s track record of exporting submarines to Australia (1987) and Singapore (1997) (Mizokami 2014). Industrial pressures were similarly strong in Denmark, where firms such as Odense, Maersk Data Defense, Terma and Reson repeatedly claimed that the project was essential to Denmark’s defense-industrial base. The Danish Terma company’s division-director, Erik Kressel, encapsulated the sentiments of other Danish defense manufacturers when he argued that the project would raise the company’s visibility and make “us particularly interesting to the international market” (Stenstrup 2003). This corporate lobbying can hardly be considered hyperbole since the Viking project’s cancellation led to the permanent closure of the one-hundred-year old Odense shipyard (Bensson 2009).

While liberalism’s prediction that companies would defend a project commercially advantageous to themselves proved well-founded in the Viking project’s case, so too do institution predictions that firms from similar political economies will collaborate well

together. Civilian industries and economies in Scandinavia are strongly interlinked and numerous Nordic defense-industrial mergers have already occurred, generating defense companies with subsidiaries in multiple Scandinavian states. This corporate interconnectedness has generated bottom-up demands for more Nordic defense cooperation. These dynamics all operated within Scandinavia's institutional context of analogous coordinated market economies (Pontusson 2008, p. 2).

The Scandinavian political economies' similarity means that Kockums, Kongsberg Defense and Aerospace, and Odense experienced very few difficulties and remarkably little friction working together on a common project. Similarities in the capitalist structure of each state furthermore facilitated firms' lobbying on behalf of the project. Scandinavia's variety of coordinated market economies encompass coordinated firm hierarchies (Witt and Jackson 2016, p. 795), strong labor unions, and strong organizational structures for collective bargaining (Pontusson 2008, p. 17). The top-tier firms involved in the Viking project, moreover, promised to award subcontracts to firms at over 500 different locations in Scandinavia, giving labor unions and local businesses involved in the project strong incentives to lobby for the project's survival.

With factors such as these favoring the project's success, why was it ultimately abandoned? For Denmark, the outcome ultimately boiled down to parliamentary debates, wherein the influential Danish Social Democrats Party (*Socialdemokratiet*) argued that notwithstanding its industrial benefits, there were "no longer operational [military] requirements for such a project" (Stenstrup 2003), and that it would be in the best interest of Denmark's naval capabilities to withdraw. Denmark's government ultimately chose to dismantle their submarine fleet altogether and focus their limited defense budget on other systems. Governments' decisions to cancel the Viking project were taken in the face of

considerable corporate lobbying for the endeavor's continuation. The Viking project therefore provides a compelling demonstration of what occurs when preferences diverge, demonstrating that economic calculations or industrial pressures cannot, as recent literature has suggested, override military security imperatives.

Following the Viking Class Submarine project's failure, Sweden decided to produce their own exclusively Swedish submarines. Yet hope remained that Norway would eventually place an order for A26s. Norway's government, however, rejected this idea in 2016, following upon Norway's decision not to buy the Swedish Gripen and withdraw from the Archer Artillery Project (Ekroll 2013). Norway's then-Defense Minister, Ine Eriksen, emphasized alliance considerations' role in Norway's decision when she declared that Norway's new submarines needed to "contribute to more efficient armaments cooperation within NATO" (Berntzrød 2017), suggesting that Norway's navy would give their contract to a NATO-supplier. The Norwegian government subsequently announced that Kongsberg would collaborate with Sweden's rival in submarine-building, Germany's Thyssen-Krupp, to create next-generation submarines (Thyssenkrupp-Industrial-Solutions 2017).

Norway's exit from the Viking project ultimately reflects its policymakers' desire to pursue standardization with their NATO allies. Denmark's decision to withdraw was likewise driven by alliance considerations. In the absence of Kongsberg's technological expertise and Norway's large R&D budget, the Viking submarine would be unlikely to outperform other NATO conventional submarines even then available for purchase. NATO policymakers' subsequent critique of the Viking project thus convinced Danish leaders that the project, absent Norway's partnership, would disserve Denmark's role within the alliance.

NATO, in sum, played a fundamental role in Nordic collaboration's failure. First and foremost, the alliance played a decisive role in defining national interests. Because Norway

and Denmark are so dependent on NATO security guarantees, it was important to demonstrate their commitment to the alliance through their procurement decisions. More than this, both sides ultimately concluded that collaborating with fellow alliance members provided more benefits than collaborating with non-members, since the former provides interoperability and rationalization benefits. Project-risks are also lower, because of the security of supply encouraged by the alliance structure. The Viking Class Submarine project demonstrates all of these dynamics. Revealing the primacy of foreign policy realism, Viking Class comprises a case where collaboration failed in spite of exceptionally powerful industrial and economic pressures in favor of the project.

Storm Shadow's "Coopération Exemplaire"

The Storm Shadow missile project proves an equally compelling case for the primacy of foreign policy realism. The project involved particularly strong industrial rivalries and structural impediments arising from participating countries' vastly different political economies. Despite all these impediments, however, Storm Shadow proved an enormous success. The missile has performed exceptionally well, and is used by several armed forces across Europe and the Middle East. The collaboration also prompted the creation of MBDA systems, which has established itself as one of the world's most powerful missile manufacturers.

The history of Franco-British-Italian collaboration is one of 'partners and rivals' insofar as these states' defense firms are one another's main rivals when they are not collaborating. While the European aerospace industry has been the arena for fierce competition, the British, French and Italian governments frequently initiated collaborative projects to reduce costs and

avoid the unnecessary duplication of military material within NATO. In 1965, British experts produced the 'Plowden Report', which recommended that Britain "no longer maintain a full range of aerospace capabilities" and instead collaborate with other countries (Morris 1997, p. 68; Hartley, Martin 183). The following decade witnessed significant increases in Anglo-French aerospace collaboration including projects such as the Jaguar bomber, the Martel missile, and the Concorde airliner (Morris 1997, p. 68). Most notably, the air-to-surface Martel missile resembles the Storm Shadow in terms of the type of product and the fact that both endeavors are widely viewed as successes (TNA DEFE/24907 2000).

In the late-1990s and early-2000s, Italy, France and Britain all faced difficulties procuring the weapons systems their air forces considered necessary in light of diminished post-Cold War defense budgets and all three states therefore chose to consolidate their missile industries (Belan and Mercillon 2006, p. 164). With fewer funds available per project, all three countries needed to maximize their efficacy, reduce costs, and decrease unnecessarily duplication. The basis for their procurement policy therefore encompassed the need for high performance, at the lowest possible cost. All three countries faced the same predicament of procuring better weapons at a lower cost. The culmination of smaller budgets and the operational need for new missiles for future NATO operations sparked increased political interest in consolidating their missile industries into a pan-European champion firm.

Consolidating the missile industry would simultaneously decrease European states' dependence on American weapons and improve the European defense industry's competitiveness vis-à-vis America's. This post-Cold War trend of establishing a "*jeu égale*" or "level playing field" culminated in an ideological, rather than commercial, rationale for trans-national industrial mergers. Because France, Italy, and Britain had found themselves intervening side-by-side during the Gulf War, and would likely comprise the nucleus of any

European coalition in future operations, their governments concluded that it was in their political interest to integrate their missile industries.

As seen in France's 1994 Defense White Paper, French leaders called for a "stronger, more competitive European defense industry" (Moens and Domisiewicz 2001, p. 9). Similarly, British Prime Minister Tony Blair favored a uniquely European missile company, announcing that merging national missile industries "would create a strong European industrial base for competition with 'the American three' (*Raytheon, Boeing and Lockheed Martin*)" (Moens and Domisiewicz 2001, p. 9). Foreign policy considerations were consequently pushing European missile firms towards consolidation.

These dynamics fueled converging interest in missile collaboration. Moreover, these three states' alliance relationship was growing stronger throughout this period. In sharp contrast to prior decades, when France had distinguished itself as the least integrated of NATO's major military powers within the alliance and Britain had consistently resisted the EU playing a security function, the two countries' alliance policies converged in the mid-1990s. French leaders embarked upon a gradual process of reintegrating their armed forces into NATO structures and deployed substantial combat forces of NATO operations, including Bosnia, Kosovo and Afghanistan (Fortmann, Haglund and von Hlatky 2010, pp. 1-2). British leaders, meanwhile, came to recognize the value of EU military structures as a complement to NATO and launched a process of cooperation with France that culminated in the 1998 St. Malo Summit and the official launching of ESDP in 1999.

Recent military operations, particularly Operation Desert Storm (1991) highlighted the increasing importance of the missile sector and emphasized to policymakers that "the needs for Western armies were changing" (Belan and Mercillon 2006, p. 142). This was particularly relevant for countries such as France and the UK, who foresaw NATO as the vehicle through

which they would intervene in future conflicts. British firms had been researching new stand-off missiles since the Falklands War (1982), but it was not until after the 1991 Gulf War that policymakers realized that Britain needed to procure such missiles. Without stand-off missiles, Britain's air force suffered the highest rate of aircraft losses of any of the coalition's members during the war, which was largely the result of their low-altitude raids on airfields (Murphy and Frantz 1991). Following this poor military performance, Britain's Defense Ministry concluded that if the United Kingdom were to participate in any similar future action, "the UK could not be without a stand-off missile system in its arsenal" (Forecast International 1999).

In 1994, the British MoD announced, "Staff Requirement 1236" (SR-1236), which defined the need for a Conventionally Armed Stand-off Missile (CASOM). In tune with Britain's changing procurement policy, which aimed to increase inter-firm competition by letting foreign firms bid for government contracts, seven different companies submitted proposals (Forecast International 1999). In July 1996, the contract was awarded to a consortium of BAe and Matra, who had proposed the SCALP EG program; a design based on France's APACHE anti-runway missile. While official British Defense Ministry statements claimed that the Matra and BAe proposal had won the competition by virtue of its superior cost-effectiveness in meeting all the SR-1236 requirements, sources reveal that the CASOM competition was shared by inter-governmental politics.

Most significantly, within this context, was the French government's efforts to promote an Anglo-French design. France had initiated the SCALP EG program in the late-1980s when France's military concluded that it needed an anti-runway missile. The French APACHE anti-runway missile was state-of-the-art in terms of its technological capabilities

(Carlier 2003, p. 136), and French planners therefore envisaged developing an air-to-surface missile based on its design. The Cold War's end however brought about significant cuts in France's defense budget, which meant that France struggled to finance a project that Operation Desert Storm demonstrated was even more necessary than hitherto appreciated.

Having long regarded its military as perhaps Europe's most powerful, France's mediocre performance and technological inferiority vis-à-vis the United States during the Gulf War came as a shock (Young 1997, p. 106). While their AS30 missiles had significantly reduced their aircraft losses relative to that of the United Kingdom, the war shattered the notion that France's military could compensate for quantitative disadvantages with qualitative advantages (Matthews 1993, p. 269). To achieve its "long held wish not to be under America's shadow" (Watson et al 1991, p. 23) France needed to catch up in the missile field.

At the time of Britain's CASOM competition, France's missile producer, Matra, was in discussions with BAe over merging their missile branches (Gumett and Stein 1997, p. 168). Because international mergers in the defense industry require governmental approval, France's government could block the BAe-Matra merger. Paris consequently insisted that Britain grant the SR-1236 contract to Matra BAe Dynamics (Gumett and Stein 1997, p. 168). Despite Britain's government's insistence that it would not interfere in the competition, Matra and BAe were given permission to create a joint-company and then awarded the CASOM contract. Britain initially placed a €1.13-billion contract for the Storm Shadow missile in 1997 (National Audit Office 2000, p. 64). France's procurement agency then awarded a similar Storm Shadow contract to Matra BAe Dynamics (which later became MBDA) in 1997. Two years later, Italy also placed its own order for the Storm Shadow, citing the CASOM competition as the reason for choosing this system (Peruzzi 2006).

The CASOM competition reveals how allied governments can both strong-arm their defense firms as well as other governments. France's use of statist mechanisms to steer the industrial mergers in the direction it wanted demonstrates political players' primacy in defense-industrial matters. The British Defense Ministry similarly made its final choice based on political calculations. The decision to not buy an American missile reflects a desire to limit Britain's defense-industrial reliance on the United States and instead privilege collaboration with NATO's European members. With Operation Desert Storm revealing French and British technological inferiority to American air power, it became clear just how late in the game the British missile industry was, and British missile producers therefore needed France's technological expertise.

Attempts to consolidate Europe's missile production thus began in 1996 with the Matra Missiles-BAe dynamics merger (Bitzinger 2009, p. 349). With a great deal of political will on their side, further consolidation occurred through a series of mergers between the United Kingdom, Italy, and France's main missile producers, creating MBDA in December 2001 (Carlier 2003, p. 143). The company is currently made up of the missile branches of each company, with BAe owning 37.5% of the shares, EADS 37.5%, and Finmeccanica 25% (Morrison 2007). Its structure is such that it allows for conventional national interfaces for separate contracts, with a single management team executing the various contracts. In this way, each country has its own management, R&D, and production departments in their home countries, which facilitates national government requirements (Hartley et al 2008, p. 99).

Benefitting from significant political support, MBDA has been structured in such a way as to alleviate the inter-firm rivalry problems. Each country retains offices and R&D facilities in their home countries, which alleviates firms' fears of losing critical capabilities to their partners, focusing their competitive instincts outwards towards American missile producers

(Guay 2016, p. 41). In this way, the MBDA merger's dynamics and the British Defense Ministry's decision to select the Storm Shadow missile reflect European states' 'relative-gains' concerns vis-à-vis the United States. More important than intra-European rivalry, within this context, was the necessity of redressing the American defense industry's increasing capabilities advantage. This strong political interest in European consolidation reflects a 'relative-gains' outlook on the defense industry, further emphasizing foreign policy realism's impact on international armaments collaboration projects.

With the Storm Shadow program precipitating the MBDA merger, the development and procurement of the new missile became central to the countries and air forces involved. With MBDA representing "the most advanced defense industrial sector integration project in history" (de France et al 2017 p. 19), the stakes were particularly high. MBDA ultimately became the second-largest missile systems company in the world (Barbaroux and Laperche 2013, p. 12), and the merger has been dubbed "The Airbus of Missiles" (Lecompte-Boinet 2011).

Storm Shadow's success has come to symbolize the MBDA merger's more global accomplishment. Extensive resources were devoted to Storm Shadow's development, with the end-result reflecting the capabilities of Europe's premier armaments industries. To this day, Storm Shadow has been adapted to the Tornado, Rafale, Mirage 2000 and Eurofighter Typhoon aircraft (MBDA Systems 2013). The Storm Shadow is currently operated by both the original partner states—Britain, France and Italy—and has been exported to Greece, Saudi Arabia, and the United Arab Emirates (UAE) (Carlier 2003, p. 137). The missile has also seen operational service in the Gulf, Iraq and Libya (Markowitz, Gresham 2012). The products continued success in both wars and export markets highlights Storm Shadow's status as an

exemplary European collaboration, whose origins lie in realist dynamics and high politics (Belan and Mercillon 2006, p. 147).

Conclusion

Realist dynamics—namely states' tendency to league together to balance against threats—play a greater role in armaments collaboration than hitherto acknowledged. This finding is intuitive to a large degree. States' development of weaponry is a form of internal balancing whereby governments convert human and economic resources into military capabilities. Meanwhile, states' formation of alliances is a form of external balancing whereby governments aggregate their individual military capabilities to defeat or deter adversaries. Logically, then armaments collaboration—which seeks to bolster states' military capabilities by collaborating on weaponry—should be most effective when undertaken between states that are also allies. Although realism offers a logical and parsimonious explanation for which states collaborate best together, the collaboration literature has to-date privileged other factors.

As the case studies reveal, moreover, prior liberal, institutional and constructivist accounts of armaments collaboration are not entirely wrong. Firms with complementary capabilities and states with similar political economies generate higher levels of societal support for armaments projects than those where such factors are absent. This was particularly evident with the Viking submarine, where firms, labor unions and industry associations all lobbied actively for the project. The close interconnections of these societal groups on a transnational basis facilitated their mobilization on behalf of a project they regarded as being in their self-interest. By way of contrast, corporate rivalries and the vastly

different political economies characterizing the Storm Shadow's partner firms precluded the development of any equivalent grass-roots mobilization.

While alternative theories' mechanisms galvanized societal groups as their proponents anticipated, realist dynamics prevailed when it came to determining projects' fates. The evidence for realism's primacy is, indeed, unambiguous. Only realism predicted the ultimate outcome in each case, in opposition to all three other theories, which predicted the opposite. Moreover, realism's mechanisms—notably the preponderant influence of high politics and governments' quest for viable security arrangements—over-ruled interest group lobbying when conflicts emerged between these two sets of considerations. The Danish and Norwegian governments thus abandoned the Viking project because of its incongruity with NATO, despite domestic interest groups' consistent support, while France's and Britain's governments pushed forward the Storm Shadow project forward regardless of societal groups' indifference.

While our cases provide unambiguous evidence of realist factors' importance, a broader survey of European armaments collaboration suggests that realist factors consistently shaped states' decisions about with whom to partner. A cursory examination of Europe's collaborative jet aircraft projects—the Jaguar (France/Britain), Alphajet (France/West Germany), Tornado (Britain/West Germany/Italy) and Eurofighter (Britain/West Germany/Italy/Spain)—thus reveals a pattern of states with rival aircraft industries and vastly different political economies collaborating effectively. What explains success in these cases is not therefore states' internal characteristics, but rather their common membership in NATO and, in all but one case, the EC/EU as well.

By way of contrast, the collaborations that constructivists, institutionalists and liberals champion, combining similar states with complementary industries, simply did not succeed.

Nordic collaboration, within this context, utterly failed over the course of multiple projects and other similar types of arrangement—for example involving Europe’s three Germanophone states (German, Austrian and Switzerland)—never progressed beyond negotiations.

Our findings have powerful implications for policymakers concerned with advancing European armaments collaboration. At the most basic level, our finding that high politics determine collaborative projects’ outcomes suggests that selecting the “right” partner, rather than attempting to further reform the collaborative process, will yield the best results. As part and parcel to this lesson is our determination that the strength of states’ security ties is the primary determinant of whether they will collaborate fruitfully. Finally, our study emphasizes the importance of formal alliance commitments to mutual defense, rather than “softer” forms of security cooperation, when it comes to determining which states’ governments most prize collaboration with.

To sum up, armaments collaboration is part and parcel to states’ efforts to secure themselves. Governments consequently treat this policy arena as realists would predict; namely one where rational self-interest and security concerns prevail over other considerations. The overall vision of state-centered cooperation that emerges thus complements Hugo Meijer’s and Marco Wyss’ (2018) recent calls for a more state-based approach to assessing European security rather than the approaches centered on developments at the supranational and inter-governmental levels that constructivist, institutionalist and liberal scholars hitherto privileged.

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