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Organizing international armaments cooperation: institutional design and path dependencies in Europe

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Few issues are more important to scholars of Europe's emergence as a foreign policy actor than whether the European Union (EU) can forge a common defense-industrial policy out of 27 states' procurement policies and defense industries. Overlooked in most scholarly analyses of European defense-industrial cooperation, the story of Europe's international armaments organizations stretches back more than six decades. In this article, we examine the impact of past institutional outcomes on the defense-industrial field by applying the concepts and analytic tools of historic institutionalism to European armaments organizations. Because past institutional dynamics have channeled the subsequent development of armaments cooperation, what has emerged is a polycentric governance architecture wherein organizations with transatlantic, pan-European and restrictive-European memberships dominate distinct components of the cooperative process. We demonstrate that this maturing institutional pattern will likely limit the opportunities for the EU – and especially its Commission – to shape the future contours of European defense-industrial cooperation.

Keywords: armaments cooperation; European Union; North Atlantic Treaty Organization (NATO); path dependencies; organizational design; historic institutionalism

Introduction

Few issues are more important to scholars of Europe's emergence as a foreign policy actor than whether the European Union (EU) can forge a common defense-industrial policy out of 27 states' procurement policies and defense industries. While success could transform the EU into a defense-industrial superpower whose ability to produce cutting-edge weaponry would be second only to the United States', failure could result in increased dependence as Europe's atomized defense industries are driven out of business by more efficient rivals. Because of the issue's intrinsic importance, scholars have recently devoted greater attention to European defense-industrial cooperation. For some, a desire to 'softly balance' the United States' power is driving cooperation (Jones 2007, pp. 136–180). For others, long-term processes of economic integration have generated 'spill-over effects' that are

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Europeanizing this domain (Guay 1998; Taylor 1990, p. 73). Yet, other analysts focus on the ability of Brussels' supranational institutions to re-frame policy issues and diffuse pan-European norms (Bátora 2009; Mörth 2003; Mörth and Britz 2004).

Regardless of their approaches, these analyses all predict the emergence of a cohesive defense-industrial base regulated by the EU. However, to arrive at their conclusions, many scholars restrict their focus to the creation of recent organizations formally associated with the EU. Indeed, some scholars even make the 'recent development of European cooperation on armaments' a precondition for their analysis of what they believe is an 'emerging organizational field' (Mörth and Britz 2004, p. 962). Unfortunately, however, there are compelling reasons for believing that the adoption of short-time horizons may have limited the analytic value of many treatments of European defense-industrial cooperation. To remedy this lacuna, we investigate European armaments cooperation over a longer time horizon than has hitherto been attempted.

Overlooked in most analyses, the story of Europe's international armaments organizations stretches back more than six decades. Over time, European states have created 16 distinct armaments organizations either amongst each other or with transatlantic partners. When reforms of existing organizations and the involvement of broader institutional actors (e.g. the European Commission) are included, the record of institutionalized defense-industrial cooperation appears richer still. The question is, however, what impact will past organizational outcomes have in shaping the future development of European cooperation in this sector? Or can existing organizations simply be eliminated or replaced to accommodate policy-makers' changing preferences?

Historic institutionalist scholarship offers powerful reasons why early organizational choices should continue shaping the development of international cooperation long after policy-maker preferences have changed. Although the process of organizational design is messy and based on compromise, prior research suggests that it is difficult to entirely eliminate and replace existing organizations. Instead, organizations either tend to develop path dependently along predictable trajectories or new institutions are layered on top of existing ones. In both eventualities, previous organizational outcomes channel and constrain the future evolution of international cooperation. To examine the impact of such dynamics on the defense-industrial field, we apply the analytic tools of historic institutionalism to European armaments organizations.

To preview our conclusions, path dependencies and layering effects have played a critical role in shaping European defense-industrial cooperation. Therefore, only through a understanding of armaments cooperation's history can scholars discern this field's future contours. Crucial within this context is the sequence whereby different forms of cooperation came to be institutionalized. Because certain forms of defense-industrial cooperation were institutionalized under the North Atlantic Treaty Organization (NATO) in the 1950s, these domains have continued to evolve within a transatlantic, rather than European context.

When the locus for creating institutions shifted to Europe, other facets of armaments cooperation were then organized on a European basis. However, the vicissitudes of intra-European negotiations produced two distinct varieties of organization – those with a pan-European membership and those restricted to a smaller set of states. Because all of these past outcomes have channeled the

subsequent development of armaments cooperation, what has emerged is a polycentric governance architecture wherein organizations with transatlantic, pan-European and restrictive-European memberships dominate distinct components of the cooperative process. This maturing institutional pattern has limited the opportunities for the EU – and especially its Commission – to shape defense-industrial cooperation.

The *Problematic* of organizational design

To understand why European states have created armaments organizations it is necessary to examine what historian Ferdinand Braudel referred to as the *longue durée* (Braudel 1966). For half a century, structural and technological changes have confronted European states with pressures for defense-industrial cooperation that are both incremental and cumulative in nature. Since the World War II, technological developments have propelled an escalation in the cost and complexity of weaponry that has outstripped the modest growth achieved by mature economies. Whereas European states have sustained real growth rates averaging two per cent, the costs of major weapons systems have increased at 6–10 per cent per annum (Augustine 1983, pp. 104–110; Kirkpatrick 2004). Over time, the gap between escalating weapons costs and economic growth has undermined states' ability to autonomously produce armaments (Bitzinger 2003). To make matters worse, the post-World War II trend of multinational coalitions wielding force has demanded a greater degree of military inter-operability than hitherto necessary (Moon et al. 2008).

Faced with these realities, international cooperation offers the only means for European states to cost effectively acquire armaments while preserving some form of domestic defense-industrial base. Analyzing the problem in 1975, Callaghan (1975, p. 34) argued that transatlantic cooperation could enhance the cost-effectiveness of European defense expenditures by 25 per cent. More recently, Keith Hartley calculated that Europe could realize efficiency gains of 10–20 per cent through improved inter-European defense-industrial cooperation (Hartley 1998). Although differing on details, these estimates reflect a consensus that defense-industrial cooperation should yield substantial benefits.

However, the promise of potential economic benefits is not in itself sufficient to generate the desired level of cooperation. As in other domains, coordinating the activities of a multitude of governments, each fearing losses relative to its partners, is problematic (Oye 1984). To surmount these difficulties, prior research suggests that properly conceived international organizations can: redress information asymmetries between partners, focus stakeholders on long-term cooperative benefits, curtail opportunistic behavior, and encourage actors to invest in assets specific to collaborative endeavors (North 1990). But the design of armaments organizations has been bedeviled by the multitude of potential ways they *could* be configured and the absence of any consensus about how they *should* be organized. Four facets of institutional design – mandate, membership, interest representation, and resources – have proven especially problematic.¹

The first issue facing policy-makers is the type of mandate with which an organization should be endowed. Rather than being a single issue, armaments cooperation actually consists of five distinct, interrelated tasks. Cooperation can generate efficiency gains through: (1) cooperation on non-product specific research

and development (R&D); (2) the adoption of common technical standards so that allies' weapons will be inter-operable; (3) collaboration on weapons projects; (4) the international integration and regulation of defense industries and markets; and (5) cooperative logistics and maintenance arrangements. In principle, it should be possible to either create separate organizations to facilitate cooperation in each domain or a smaller number of organizations with broader mandates.

In addition to defining a mandate, an organization's architects must determine which states should belong to it. While any combination of states could theoretically collaborate, three ideal-typical configurations – transatlantic, pan-European, and restrictive-European – have dominated European debates on armaments cooperation. Of these, transatlantic cooperation should generate the greatest efficiency gains because linking European and North American defense industries and markets can yield superior economies of scale and R&D savings than intra-European cooperation (Hartley 2006, pp. 480–483). Moreover, because European states and the USA conduct military operations jointly, transatlantic equipment inter-operability is a factor in the success or failure of many endeavors (Taylor 1982).

However, the potential efficiency advantages of transatlantic cooperation are counterbalanced by the power asymmetries generated by the United States' procurement spending, which is ten-times that of Europe's largest states (EDA 2009).² Consequently, American interests and priorities dominate most armaments organizations to which the USA belongs. Moreover, European policy-makers justifiably fear that a liberal transatlantic defense-industrial market might generate an American arms monopoly (Caverley 2007). With American defense firms larger than their European counterparts, lowering barriers to transatlantic sales could result in American corporations acquiring or driving their competitors out of business (Kapstein 1994). Thus, while transatlantic cooperation offers efficiency gains, it also risks subjecting Europe to the United States' defense-industrial hegemony.

Because power asymmetries impede transatlantic cooperation, European policy-makers frequently prefer pan-European armaments organizations. The 27 members of the EU annually spend \$43 billion on defense procurement, a sum that exceeds the unitary expenditures of any state other than the USA (EDA 2009). By rendering these expenditures more rational, pan-European cooperation should generate substantial efficiency gains (Fontanel and Smith 1991). Moreover, by enhancing European armed forces' inter-operability, pan-European cooperation can also improve the EU's ability to intervene militarily. Unfortunately, however, large numbers of states renders pan-European cooperation problematic. As previous scholarship suggests, distributional and enforcement problems grow with the number of states admitted to organizations (Koremenos *et al.* 2001, pp. 783–785). To make matters worse, large and small states possess incompatible preferences, with large states favoring a liberalized market and small ones defending illiberal practices, such as offsets, that protect domestic defense industries (Mawdsley 2008).

In light of these obstacles to pan-European cooperation, policy-makers often favor cooperation amongst a more restrictive group of states. As the literature on 'club goods' demonstrates, international cooperation is most likely to succeed when pursued by small groups with exclusive membership criteria (Buchanan 1965). In many respects, restrictive cooperation appears ideally suited for the defense-industrial domain. Because six states (Britain, France, Germany, Italy, Spain, and

Sweden) account for 80 per cent of Europe's procurement expenditures, excluding smaller states from armaments organizations should raise the likelihood of successful cooperation, while sacrificing few efficiency gains (Mawdsley 2003, EDA 2009). In sum, transatlantic, pan-European and restrictive-European organizations form a continuum, with larger organizations offering greater potential benefits and smaller ones promising healthier internal dynamics.

While membership helps shape how organizations function, determining who represents states within organizations is equally important. Concerning armaments organizations, the fundamental trade-off is between privileging the expertise of civil servants and military officers or the political authority of elected officials. Because civil servants and military professionals possess technical expertise unmatched by their political superiors, they can best gauge and exploit opportunities for cooperation. Consequently, a case can be made for 'functional' cooperation at this level in the hopes that a multitude of minor, yet tangible cooperative successes will collectively produce major breakthroughs in international cooperation (Mitrany 1933, Rosamond 2000). Unfortunately, however desirable in theory, functional cooperation exhibits many drawbacks in practice.

Because politicians are influenced by domestic politics as well as economic and military considerations, elected leaders' outlooks differ from those of civil servants and military officers (Braddon 1995). Thus, political leaders often undermine agreements negotiated by their subordinates (Vandevanter 1964). To remedy this problem, one school of thought holds that only elected leaders can reliably represent states. According to this line of reasoning, the fundamental obstacles to defense-industrial cooperation are political, rather than technical, and can, therefore, be overcome when political leaders negotiate agreements on defense-industrial cooperation and commit their states to significant changes in policy (Vandevanter 1964, p. 93). In an effort to combine the technical expertise of officers and civil servants with the political authority of elected leaders, some policy-makers advocate organizing cooperation at the level of national armaments directors who are politically appointed civil servants that answer directly to defense ministers (Kirby 1979).

A final dilemma facing an organization's architects is defining its resources. Large and independent staffs can monitor members and provide the institutional entrepreneurship needed to improve an organization's effectiveness. A staff who commands significant financial resources can also construct a support network amongst the corporations, think tanks and consultants that benefit from its contracts. However, although financial and human assets can enhance a structure's effectiveness, plentiful resources can also undermine governments' ability to control international organizations. Given the universal bureaucratic impulse to pursue enhanced size, wealth and autonomy, the staffs of highly resourced organizations can manipulate states into adopting policies that are in the interests of an organization's administration rather than its members.

Path dependence and organizational change

Faced with alternative ways of structuring armaments organizations, European policy-makers have had difficulty designing institutions to accomplish their objectives because their actions have been guided by a multitude of distinct motivations and they have been unable to fully anticipate the effects of their

decisions. As Eric Schickler demonstrates, the character of institutions is more frequently determined by the interactions of numerous actors with a multitude of interests than cohesive actors pursuing clear objectives (Schickler 2001). In this context, the structure of armament organizations reflects negotiations and compromises amongst governments with distinct, often conflicting preferences. Because of this negotiated, rather than deliberate process of organizational design, organizations' founders will have difficulty anticipating their impact (Pierson 2004, pp. 115–119). Such is especially the case because no expert consensus exists as to how armaments organizations should be structured.

Because of the uncertainty and contentiousness surrounding the creation of any armaments organization, nothing is more important to scholars of armaments cooperation than understanding the impact of past organizational choices on the future development of this field. Are suboptimal organizations liable to be replaced by superior ones created *ex nihilo*? Or will previous organizational outcomes channel and constrain later efforts to enhance the arms cooperation process? In response to this question, prior research by historic institutionalists suggests that early organizational choices powerfully shape the later development of a field. To understand why early choices condition later outcomes, one must examine the different trajectories that organizations follow after their creation. Assuming that no organization is perfectly structured to achieve its founders' objectives, organizations can experience three varieties of institutional change: (1) they can be eliminated and replaced; (2) attempts can be made to compensate for shortcomings by adding-on additional organizations or renegotiating elements of an organization; or (3) positive feedback dynamics can propel their development along strongly path-dependent trajectories (Pierson 2004, Thelen 2004).

Conceptually, the simplest response to an organization's shortcomings is to replace it with one designed to compensate for its predecessors' limitations. If this dynamic were the dominant trend in how organizations develop, past outcomes would have little impact on how organizations will be configured in the future. However, theoretical reasons exist for anticipating that organizations are resistant to such dramatic change. Since international organizations are the product of negotiation and compromise, national policy-makers have an interest in insuring that their partners cannot revise institutional arrangements in a manner prejudicial to themselves. Consequently, states frequently design organizations in ways that render them resistant to change, such as subjecting reforms to unanimous- or supermajority-votes (Moe 1990). Moreover, once organizations are created, governments adopt policies and make investments in the expectation that existing arrangements will persist. As a result, the cost of eliminating and replacing organizations grows with time (Pierson 2004, p. 147). In sum, because of high costs and procedural difficulties, elimination/replacement is unlikely to be the dominant trend driving how organizations develop.

If organizations are resistant to wholesale replacement, then their development is likely to proceed more incrementally, with the path of future developments being, to some degree, shaped by past decisions. One response to circumstances where significant pressures for change exist yet barriers to dismantling extant organizations also persist, lies in the creation of new organizations *without* replacing the old. When this occurs, new arrangements tend to be 'layered' on top of those created earlier (Schickler 2001). An alternative to this scenario lies in the partial 'conversion' of an

organization's structure, replacing certain elements while leaving others intact (Thelen 2004). Conceptually, layering and conversion represent weak forms of path dependence because elements of existing institutional arrangements persist, continuing to shape future developments.

There are times, however, when past outcomes exert a greater impact on organizations' development than is the case with layering or conversion. Such is the case when positive feedback generates high degrees of institutional path dependence. Four interrelated factors – set-up costs, learning effects, coordination effects, and adaptive expectations – contribute to positive feedback and path dependence (North 1990, pp. 92–104, Pierson 2004, pp. 17–53). Establishing organizations entails set-up costs, including headquarters facilities, technical assets and personnel. When these costs are high, governments are incentivized to work with existing organizations, rather than create new ones. Furthermore, learning effects render organizations more efficient over time, so that the long-term process of 'learning by doing' enables organizations to gradually improve bureaucratic routines and develop the skills of their personnel. Under *ceteris paribus* conditions, mature organizations will, therefore, outperform new ones (Nelson and Winter 1982).

Coordination effects occur when the attractiveness of institutional arrangements increases as a function of the number of actors using them (North 1990, pp. 96–101). In principle, the importance of scale economies and shared R&D expenses should render defense-industrial cooperation particularly subject to coordination effects. Because states' willingness to use an organization grows with time, coordination effects encourage states to reinforce, rather than replace existing organizations. States' tendency to adapt their actions and expectations to existing organizational frameworks further reinforces the impact of coordination effects. When organizations offer benefits, governments will invest in the physical and human assets needed to exploit them. However, because states' investments in these organization-specific capabilities would be lost were the organizations eliminated, states have an incentive to reform, rather than replace organizations (Pierson 2004).

When set-up costs, learning and coordination effects, and adaptive expectations are significant, a policy area will experience a high degree of positive feedback. Once this occurs, a self-reinforcing process will propel an organization's development along a path that is inherently difficult to reverse. Even if alternative arrangements might prove superior, the growing costs of switching organizational formats will render changes of trajectory increasingly unlikely. Consequently, when forces of positive feedback are in play, early organizational outcomes will exert a disproportionate and enduring impact on how international cooperation is structured.

While the relative frequency of different forms of organizational change has never been examined in the field of defense-industrial cooperation, institutional studies of other domains reveal that the elimination and replacement of organizations is less common than varying forms of path dependence (Lipset and Rokkan 1967, Thelen 2004). Should the defense-industrial field exhibit similar dynamics, the evolving framework of institutionalized cooperation will be powerfully shaped by organizational choices made decades ago. However, given the uncertainty and differing circumstances facing past organizational architects, they have likely placed European armaments cooperation on a development trajectory different from that which their latter-day successors would have chosen.

Cases examined

This study aims to explicate the design and evolution of European defense-industrial cooperation, with the following pages focusing specifically on formal international organizations with at least three European members that promote collaboration, integration or standardization in the acquisition of armaments. To date, 16 such armaments organizations, illustrated in Figure 1, have come into being. Of these, nine have been abolished and many surviving ones have evolved substantially since their creation.³

Because our objective is to ascertain how path-dependencies and sequences of organizational creation have shaped the defense-industrial policy field, our approach to analyzing organizations is deliberately diachronic. For heuristic simplicity, we treat the 60-year history of international armaments organizations as consisting of three phases. The first, beginning with the first organization’s creation in 1949, ended in the mid-1960s when the broader institutions of transatlantic and European cooperation experienced nearly simultaneous crises. The second, commenced when the first concluded and lasted until the Soviet Union’s demise (1991) and the Maastricht Treaty (1992) transformed the context of European security cooperation. The third, beginning in the early 1990s, continues today.

The emergence of armaments organizations

Although instances of bi-lateral and temporary efforts at armaments cooperation can be identified earlier in the twentieth century, the emergence of permanent, institutionalized cooperation began with the creation of NATO’s Mutual Production and Supply Board (MPSB) in 1949.⁴ In many respects, the period was exceptionally favorable for the development of armaments organizations. Europe’s post-war devastation and the need to contain the Soviet threat generated pressures for more efficient defense expenditures. Meanwhile, the nearly simultaneous emergence of transatlantic security institutions (with the 1949 Washington Treaty) and European economic integration (with the 1951 Paris Treaty) shaped an environment that was a

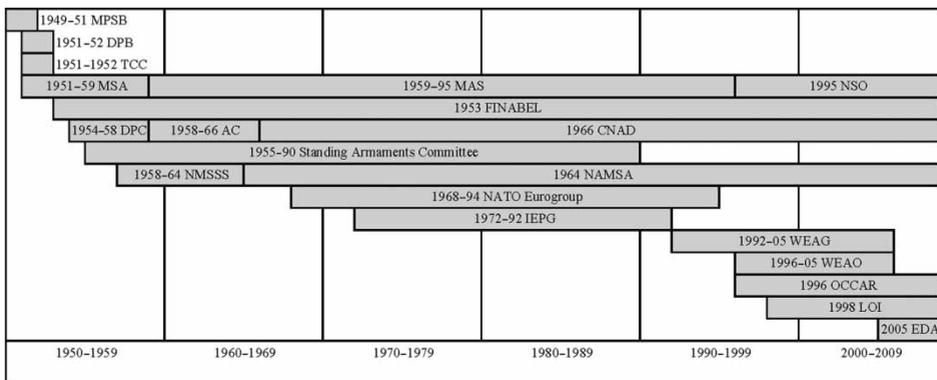


Figure 1. International armaments organizations (1949–present).

priori favorable to international cooperation. Therefore, the question facing the policy-makers of the late-1940s and early-1950s was not *whether*, but *how* to organize armaments cooperation.

In terms of structure, early efforts at armaments cooperation were influenced by functional theories of international organization. Articulated during the interwar period by scholars such as David Mitrany, functionalism was the paradigm of international organization foremost in the minds of policy-makers during the late-1940s and 1950s (Sewell 1966). According to functionalism's proponents, the key to successful cooperation lies in reducing complex issues to clearly delimited non-political tasks, which can be entrusted to international groups of technocrats (Mitrany 1933). Concerning armaments organizations, a functional approach consists of creating organizations with limited mandates where authority is vested in technically trained military professionals and civil servants.

While functionalism was the guiding principal behind most organizations of this period, a greater level of dissent existed over whether armaments cooperation should be organized on a transatlantic or a pan-European basis. Both approaches had proponents and each resulted in distinct organizations, with transatlantic cooperation getting an earlier and faster start than its European equivalent. Because cooperation was considered urgent and the USA funneled American money to European defense industries through transatlantic institutions, the transatlantic alliance gave rise to seven armaments organizations during NATO's first decade. While some proved short-lived, others would fulfill crucial roles in Europe's emerging architecture of defense-industrial governance.

The first transatlantic armaments organization, the MPSB, created several months after NATO, was envisioned by its architects as *the* forum for coordinating member states' defense-industrial activities. According to its charter, the MPSB was designed '[To] insure that, insofar as feasible, the military production and procurement program supports defence plans effectively. The Board shall also work . . . on the promotion of standardization of parts and end products of military equipment, and provide technical advice on the production and development of new or improved weapons'.⁵ To fulfill this broad mandate, policy-makers empowered the MPSB to form working-groups of specialists who would pursue in specific domains.⁶ However, it soon became apparent that the MPSB's central administrative structure was too weak to manage a network of functional working-groups. Its directing body, a committee of civil servants representing member states, met only a few occasions per year, for several days at a time. Hampered by consensual voting procedures and a miniscule secretariat, this committee proved incapable of managing the nine working-groups that soon emerged (Connery and David 1951, pp. 335–338, Thies 2003, p. 83).

Confronted with the MPSB's inadequacies, NATO leaders converted it into a better-designed organization, the Defense Production Board (DPB). Created in 1950, the DPB possessed the same broad mandate as the MPSB and was supposed to pursue its objective via the nine functional working-groups that the MPSB had established. However, the DPB's architects reinforced the new organization by replacing the MPSB's part-time executive committee with a permanent board and by reforming its voting procedures so that measures could be adopted with a two-thirds majority. To further strengthen the DPB, NATO policy-makers enlarged its staff and

appointed an influential director from industry to supervise the organization (Ismay 1954, p. 339, Masson 2004, pp. 186–187).

Despite these reforms, the DPB proved ineffective. Although it generated proposals for improving NATO armaments collaboration, member governments paid scant attention to initiatives approved by the civil servants representing them. Meanwhile, the DPB's director resigned within less than a year of assuming office upon discovering that he lacked the authority to fund initiatives approved by the DPB's board. Thus, two years after its inception, transatlantic armaments cooperation had reached an impasse. However, with defense budgets growing (NATO spending climbed from \$3 billion in 1949 to \$25 billion in 1953) and uncoordinated national expenditures generating economic inefficiencies, governments needed to improve their cooperation on armaments (Ismay 1954, p. 125).

The task of reinvigorating transatlantic cooperation fell to an ephemeral organization, the Temporary Council Committee (TCC), which was established in 1951 to recommend improvements to NATO's structure.⁷ To maximize what could be accomplished within a single year, NATO's leaders entrusted the TCC's direction to a troika of senior policy-makers representing the alliance's largest members – Averell Harriman (the Marshall Plan's former administrator), Jean Monnet (the European Coal and Steel Community's architect), and Edwin Plowden (Britain's former Minister of Aircraft Production).⁸ These three so-called 'wise men' rapidly devised procedures for annually reviewing NATO members' activities, with the aim of eliminating redundant procurement programs and standardizing members' armaments. Since its adoption in 1952, this process has become a permanent NATO institution. Besides developing this annual review process, the TCC also encouraged NATO to reorganize its armaments cooperation efforts into a series of specialized bodies, each possessing highly specific mandates. Following this advice, NATO created distinct functional organizations dedicated to: collaborative weapons procurement, establishing common equipment standards, and logistics and maintenance cooperation.

North Atlantic Treaty Organization's efforts to foster collaborative procurement were initially embodied in the Production and Logistics Division (PLD) of NATO's International Secretariat. Created in 1952 and overseen by a NATO assistant secretary general, the PLD formed technocratic groups from member states' experts to examine collaboration on specific items of equipment (Thies 2003, p. 113). When states balked at international civil servants forming working-groups, NATO's North Atlantic Council adopted a Belgian proposal to subject working-groups to control by a Defense Production Committee (DPC) comprised of member states' defense production experts. Renamed the Armaments Committee (AC) in 1958, this organization gradually institutionalized procedures for collaborative procurement (Huston 1984, pp. 192–195).

Known as the NATO Basic Military Requirements (NBMR) process, the AC's procedures sought to combine the virtues of technocratic functionalism with the efficiency of economic competition. In principle, any member or NATO command could propose a collaborative weapons project. If several states supported the proposal, the AC would form a group of military officers and technologists to determine the weapon's specifications. Once this was accomplished, member states' corporations would be invited to submit bids. Then an international committee would select the best product for production. In theory, this process would enable

NATO's members to achieve both the economic advantages of large production runs and the military benefits of equipment standardization (Vandevanter 1964, Huston 1984, pp. 194–205).

As NATO's leaders were forming the PLD to facilitate collaborative procurement, they created the Military Standardization Agency (later the Military Agency for Standardization) in 1952 to develop common equipment standards. In keeping with the era's prevailing philosophy of organization design, the Military Standardization Agency (MSA) privileged a technocratic approach to problem-solving by states' military officers and technologists. Organized into boards specialized in terrestrial, naval and aeronautical matters, and a host of issue-specific working groups, the MSA empowered technically trained military and civilian officials to craft equipment standards (Huston 1984, pp. 220–222). From the beginning, the MSA's activities were prolific, adopting 400 standardization agreements (STANAGs) within four years.⁹

Later, as NATO states increasingly acquired common weaponry, the idea of maintaining equipment via a common logistics agency gained traction. Although the concept had been evoked as early as 1951, the NATO Maintenance and Supply Service System (NMSSS) was not created until 1958.¹⁰ The new organization's objective was 'to maximize in times of peace, crisis and war the effectiveness of logistics support to armed forces of NATO states and to minimize costs'.¹¹ In practice, the NMSSS functioned via Weapon Systems Partnerships whereby groups of states specified the level of support they desired for a weapons system, and the NMSSS' staff then negotiated and managed contracts' execution. When necessary, the NMSSS could store spare parts in its warehouse, which possessed 82,000m² of stockpiling space (Visine 1975, pp. 19–21).

Thus, by the late-1950s NATO had established three functionally organized armaments institutions to promote defense-industrial cooperation. Unlike the first efforts at transatlantic cooperation, these organizations (the AC, MSA, and NMSSS) would endure years, with two continuing to this day. While eager participants in transatlantic organizations, European states also launched a parallel effort to create European armaments organizations. But the failure of Europe's first ambitious effort, combined with the progress of transatlantic cooperation, channeled later European efforts into marginal domains.

Within this context, the French proposal and, later refusal to ratify the European Defense Community (EDC) Treaty constitutes a critical juncture in the development of European armaments cooperation. As part of their proposal for an EDC federating six European armed forces, French policy-makers envisioned an integrated defense market and supranational procurement authority. According to the EDC Treaty, a supranational commission, composed of nine members, would decide procurement issues by simple-majority voting. Once this had been done, the commission would contract directly with suppliers for weaponry, which would be paid for by dues assessed from member states. In principle, members would thereby be equipped with identical equipment procured from Europe's most cost-effective suppliers.¹² The EDC's defense-industrial provisions went further in terms of integration and centralized decision-making than anything envisioned at that time or achieved since (Furdson 1980, pp. 161–183).

Although France's government developed the EDC concept in 1950, unexpected resistance from France's own National Assembly soon threatened to derail the

project. Anticipating that the EDC might collapse, French policy-makers explored alternative forms of armaments cooperation (Burigana and Delonge 2008). In 1953, they attempted to convince the Belgium, Italy, Luxembourg, and the Netherlands to join them in forming organizations to promote cooperation on air (FINBAIR) and land (FINBEL) armaments. However, Belgium and the Netherlands opposed the creation of FINBAIR because NATO organizations (the PLD and MSA) were already involved in aeronautical cooperation and neither state could spare the resources to participate in redundant structures. As a result, only FINBEL was ultimately established (Burigana 2010).

In terms of design, FINBEL (renamed FINABEL after West Germany joined) embodied the same functional beliefs that underlay contemporaneous transatlantic institutions (Burigana and Delonge 2006). While FINBEL's direction was entrusted to an annually meeting committee of its members' military Chiefs of Staff, practical control of the organization was vested in a Principal Military Experts' committee where lower-ranking (one-star) generals represented states (Heyhoe 1976, p. 19). As with NATO organizations, concrete work within FINBEL was pursued by mid-ranking military officers and technologists within working-groups. However, because NATO's MSA was already developing standards for land armaments, FINBEL concentrated on subsidiary issues, such as establishing procedures for equipment testing and diffusing information on weapons trials (Burigana and Delonge 2006).¹³

After the EDC project definitively collapsed in 1954, French policy-makers sought to embed the EDC's defense-industrial roles into the newly established Western European Union (WEU). However, the British and Dutch opposed creating an organization whose functions would duplicate those of existing NATO bodies (Dietl 2009, pp. 434–436). Consequently, when the WEU's members created an armaments organization – the Standing Armaments Committee (SAC) – in 1955, the result was an insubstantial compromise. To begin with, SAC's charter granted the organization only a vague mandate to 'seek common solutions that would facilitate member governments' ability to satisfy their equipment needs (Dumoulin and Remacle 1998, pp. 49–51). Playing on these ambiguities, British and Dutch policy-makers sought to constrain the organization to serving as the 'clearing house for the exchange of information and requirements leading to bilateral agreements'.¹⁴

Although, like many other armaments organizations, SAC's directing body was a committee of national representatives, governments resisted appointing high-level representatives to an organization they considered superfluous. Consequently, mid-level military officers represented most states at the SAC's quarterly meetings. Although SAC was supposed to employ technocratic working-groups to compensate for weak central structures, its scope to form such groups was constrained by preexisting transatlantic working-groups. For example, when SAC's directing committee suggested forming five working-groups, member states rejected four of the proposals as duplicating the functions of transatlantic working-groups and the fifth because it (electronic warfare) was deemed too sensitive (Heyhoe 1976, p. 18). Ultimately, the need to avoid duplicating functions of transatlantic organizations channeled the SAC's activities into domains of marginal importance, such as operational research and questionable technologies (i.e. slurry explosives).

In sum, five organizations – three transatlantic and two European – existed at the end of the 1950s. Because of their rapid development, the transatlantic organizations came to occupy critical policy niches (joint procurement, standards-setting and

logistics), which channeled pan-European efforts into comparatively marginal domains. Ultimately, this outcome was the result of both conjectural and structural factors. One conjectural factor – the failed ratification of the EDC Treaty – delayed and, thereby, handicapped the development of European organizations. Meanwhile, structural factors, such as European states' desire for a tight transatlantic relationship and the United States' willingness to subsidize transatlantic organizations led to the swift development of transatlantic cooperation. Throughout this process, functional theories of international cooperation shaped the structure of both transatlantic and pan-European organizations.

The Europeanization of cooperation (1965–91)

While circumstances favored the rise of transatlantic cooperation during the 1950s, changing trends privileged the creation of pan-European organizations from the mid-1960s. Heightened transatlantic defense-industrial competition and political strife within NATO drove European states to design organizations that excluded the USA. Given shifting attitudes about armaments organizations' membership, it must be asked whether functionally designed transatlantic bodies were replaced with European organizations designed according to new criteria. As will be demonstrated in the following pages, only one pre-existing organization, the AC, succumbed to the changing environment. This development and the concomitant survival of other transatlantic institutions (the MSA and NMSSS) channeled European organizational efforts into the area of joint procurement, where the AC's dissolution had created a policy void.

The development of transatlantic organizations in the 1950s had been shaped by unique circumstances. Early cold war perceptions that the Soviet Union posed an imminent threat led European politicians to seek robust transatlantic ties, even when this meant deferring to American leadership. Meanwhile, American leaders initially provided substantial monetary inducements for the creation of transatlantic armaments organizations. Through the Mutual Weapons Development Program and Off-Shore Procurement Program, the USA provided \$1.7 billion (equivalent to \$14 billion today) in direct aid to European defense industries (Selva 2005).¹⁵ At times American policy-makers leveraged this aid to coerce European governments into accepting their preferred institutional arrangements (Kaplan 1980, p. 94). Once established, American policy-makers also subsidized transatlantic armaments organizations, underwriting \$38 million (\$280 million today) in loans to the NMSSS and funding 36 per cent of NBMR project costs (McIntyre 1960, Visine 1975, pp. 19–21).

Both European policy-makers' deference and American defense-industrial generosity attenuated in the 1960s. Politically, President Charles de Gaulle's 1966 decision to withdraw France from NATO institutions was the most emblematic development, but other European leaders also evinced dissatisfaction with America's leadership (Bozo 1998). To make matters worse, American and European defense-industrial interests diverged markedly. After curtailing aid for European procurement projects in the early 1960s, the Kennedy Administration promoted arms exports as a means of preserving American jobs. Combined with America's domestic protectionism, this export-push generated a 10-to-1 defense-industrial trade-surplus favoring the USA (Heyhoe 1976, pp. 12–14). As one scholar observed, '(T)he United States

changed from the ‘patron saint’ (of Europe’s defense industries) in the 1950s to the ‘most active competitor’ in the ... 1960s (Taylor 1982, p. 98).

The combination of political tensions and defense-industrial competition durably transformed the type of organizations that European policy-makers created. Whereas *two-thirds* of armaments organizations formed during the first decade of institutionalized armaments cooperation (1949–59) were transatlantic, *all* organizations created after 1966 were exclusively European. Moreover, as the organizations’ membership dynamics evolved, the dominant paradigm of organizational design shifted as well. Although functional cooperation amongst experts – either military officers or government-employed technologists – generated agreements on the ‘best’ technological standards to adopt and the ‘optimal’ specifications for weapons, experts were unable to commit states to the accords they negotiated, which governments often abrogated. Faced with these realities, policy-makers devised new institutions based on the insight that only governments’ highest-level representatives can credibly commit states to enacting policies (Draper 1990, p. 23). Termed the ‘permissive’ system of armaments cooperation, new armaments organizations were designed as politically driven forums where the collaborative process was transformed ‘from a search for the “best” weapon to bargaining for agreement on an “acceptable” one (Vandevanter 1964, p. 93)’.

Although beliefs about organizational design changed markedly, only one preexisting organization, NATO’s AC, was actually dissolved.¹⁶ While early AC projects generated high-profile European weapons systems, such as the G.91 fighter and the Atlantic anti-submarine aircraft, the United States’ willingness to subsidize projects undertaken by European industries was crucial to these successes (Huston 1984, pp. 194–205). Therefore, after American subsidies ended, European leaders defected from international projects whenever their domestic contractors failed to win design competitions. As a consequence, all but a handful of 50 NBMR projects collapsed and collaborative weapons ultimately accounted for under 5 per cent of European procurement spending (Vandevanter 1964, p. 2, Hayward 1997).

The AC’s ineffectiveness drove policy-makers to replace it in 1966 with a transatlantic organization designed according to the new paradigm of politically driven ‘permissive’ cooperation. This new organization – the Conference of National Armaments Directors (CNAD) – was designed to facilitate structured interactions amongst politically accountable national armaments directors. Its charter explicitly argued that, ‘the cooperative process as a whole must avoid rigidity ... It must be permissive in the sense that those countries wishing to join together to cooperate can do so in as free and flexible a manner as possible (Cooper 1983)’. Implicitly, CNAD’s architects assumed that the organization’s openness to political bargaining, trade-offs and logrolling would foster ‘free and flexible’ collaboration on weapons systems.¹⁷

In 1968, after it became apparent that European and American interests diverged too greatly for transatlantic cooperation to yield results, NATO’s European members created an exclusively European organization – Eurogroup – to foster collaborative procurement. Inspired by the same vision of permissive cooperation as CNAD, Eurogroup also featured regular meetings of national armaments directors as its principal policy-making mechanism (Heyhoe 1976, p. 20). Eurogroup complemented armaments directors’ regular meetings with bi-annual gatherings of defense ministers.¹⁸ Whenever these meetings led several states to embark on a collaborative

project, they could institutionalize their endeavor as a subsidiary NATO organization, with the authority to enter into contracts (Draper 1990, p. 40). However, although certain projects, such as the Tornado fighter-bomber's co-development and the F-16 fighter's co-production, were conducted this way, Eurogroup achieved far less than anticipated (Cornell 1981, pp. 61–62, Hébert 2004, pp. 201–202).

European policy-makers consequently became disenchanted with Eurogroup. However, rather than blaming the organization's shortcomings on its design, they viewed its membership – namely France's non-participation – as the organization's principal flaw (Scott 1976). European leaders, therefore, created an organization in 1976, the Independent European Programme Group (IEPG), that was structurally similar to Eurogroup, yet acceptable to France because unconnected to NATO. Like CNAD and Eurogroup, national armaments directors' meetings constituted the principal forum for IEPG members to launch collaborative projects (Kirby 1979). When armaments directors identified opportunities to collaborate, they could form subordinate working-groups. At least two major collaborative weapons projects – the four-nation Eurofighter and the tripartite minesweeper – evolved in this way. To strengthen the IEPG, its members later supplemented their armaments directors' meetings with gatherings of defense ministers (Bauer 1992, p. 91).

In the late-1980s, European leaders expanded the IEPG's mandate from its narrow focus on procurement to include the added domains of collaborative R&D and market integration (IEPG 1987). Although IEPG achieved concrete, albeit limited results in R&D, its efforts at market integration remained rhetorical. Established in 1989, IEPG's European Cooperative Long-term Initiative for Defence (EUCLID) inaugurated cooperation on defense R&D. Based on the same permissive principles as IEPG's earlier activities, EUCLID provided a flexible structure within which states could collaborate on new defense technologies on an *à la carte* basis. While IEPG's members collectively identified priority areas for cooperation, they individually decided which Research Technology Projects (RTP) they would fund and in which they would participate (Reed 1990). In 1992, IEPG members had agreed on 13 priority areas and dedicated \$36 million to seven RTP contracts (Walker and Gummert 1993). Although small, these projects represented tangible cooperation on critical technologies.¹⁹ Nothing equivalent, however, developed from IEPG's proposal that its members grant each other balanced access to their defense markets (Steinberg 1992, pp. 44–46).

Meanwhile, despite the shift in policy-maker preferences from functionalist transatlantic organizations to politically driven European organizations, this shift's impact was largely confined to *new* organizations. With the exception of the AC, existing transatlantic organizations not only weathered NATO's crisis in 1966–67, but expanded their activities. In the NMSSS' case, the organization underwent a series of reforms and was renamed the NATO Maintenance and Supply Agency (NAMSA) in 1964 (Visine 1975, pp. 25–26). From that point, to increase returns on states' investment in NAMSA, members encouraged the institution to: develop facilities to better support Southern European members (1969–72), maintain guided or 'smart' weapons (1967–75), and manage a facility dedicated to European F-104 fighters (1965) (Visine 1975, pp. 27–64). NAMSA's increasingly indispensable role in supporting members' armed forces raised the costs of replacing the organization with an alternative, as evidenced by European states' abandonment of a proposal to give Eurogroup a logistics function (Heyhoe 1976, pp. 20–21). Although less dramatic

than NAMSA's growth, the Military Agency for Standardization (MAS, formerly MSA) also expanded, to oversee the development of electronic standards for members' weapons systems to distinguish between allied and enemy forces (Mockos 1983).

In sum, the dominant paradigm for designing armaments organizations shifted from functionally organized transatlantic organizations to politically driven European organizations in the mid-1960s. However, although policy-makers' new preferences were reflected in the organizations they created – Eurogroup, the IEPG and, to a lesser degree, CNAD – to promote the collaborative weapons procurement, the new organizations generally did not encroach on the responsibilities of preexisting transatlantic organizations. Thus, a polycentric architecture of European armaments cooperation emerged by the end of the cold war, with logistics cooperation and standards-setting anchored in a transatlantic framework and collaborative weapons projects and R&D cooperation dominated by pan-European organizations.

Competing designs for European cooperation (1992–present)

By the cold war's end a network of armaments organizations enabled European states to reap undeniable gains in armaments cooperation. However, despite the fact that many European weapons were either built to NATO standards or logistically supported by NAMSA, and over 15 per cent of large states' procurement budgets were spent on collaborative armaments, studies suggested that cooperation could yield greater benefits (Taylor 1990, pp. 63–64). European defense markets were derided as fragmented, with defense R&D and industrial capabilities duplicated by multiple states (Hartley 2006, pp. 475–476). To make matters worse, 'fair return' work-share practices, whereby corporations from each state receive contracts equal to their government's financial contributions, regardless of their comparative ability to fulfill the work in question, rendered most collaborative weapons projects grossly inefficient (NAO 2001). In response to these shortcomings, policy-makers established new institutions incorporating recent insights on how organizations should be designed.

To improve armaments cooperation, the architects of new organizations drew inspiration from the broader process of European integration, whose acceleration after the signing of the 1992 Maastricht Treaty augmented EU influence over domains outside of its traditionally economic focus. This effected armaments cooperation in two ways. On the one hand, certain policy-makers felt that connecting armaments cooperation with the EU would enable the former to benefit from the latter's perceived legitimacy and efficiency. On the other hand, the EU's supranational bodies sought to expand their authority over a domain, armaments, from which they had hitherto been excluded (Mörth 2003).

For partisans of an EU role in armaments cooperation, the contemporary rise of issue-specific EU agencies offered an enticing organizational model. Although certain agencies functioned as supranational regulators, while others operated as engines for inter-governmental networking, all EU agencies focused less on *who* represented states and more on *how* international bureaucracies could achieve results (Hofmann and Turk 2006). As a result, post-cold war armaments organizations featured substantially larger staffs than their predecessors, which assumed new tasks,

such as entrepreneurially proposing new initiatives, monitoring states' progress towards objectives and managing digital platforms designed to facilitate armaments cooperation.

Many of the new principles for organizing cooperation were first incorporated into the Western European Armaments Group (WEAG). One of WEAG's distinctions – the decision to link armaments cooperation to the broader process of European integration – emerged from negotiations over the Maastricht Treaty on European Union. In an annex to the Treaty, members declared their 'aim of creating a European armaments agency' and expressed their belief that the WEU could provide the framework for them to pursue this objective.²⁰ As a result, 13 states joined together to form WEAG in 1992 (Rees 1998, pp. 70–72).

The Western European Armaments Group's mandate and structure were shaped by both members' desire to improve defense-industrial cooperation and the constraining influences of previous organizational outcomes. Because logistics cooperation and standards-setting were already institutionalized within transatlantic organizations, WEAG's mandate was restricted to the facets of armaments cooperation that had been pursued within the IEPG. To this end, WEAG was organized into three commissions, with: Commission I promoting collaborative weapons projects, Commission II responsible for R&D cooperation, and Commission III entrusted with market integration (Hayward 1997). However, although states willingly disbanded the IEPG, they refused to dispense with many of its institutional components. As a consequence, WEAG adopted the IEPG's system of political control by committees of defense ministers and national armaments directors, and adopted the IEPG's EUCLID program as the basis for Commission II's activities (Dumoulin and Remacle 1998, pp. 321–326).

Considering the institutional components WEAG adopted from the IEPG, the new organization's distinguishing feature was its permanent staff. Although European states provided the IEPG with a five-person secretariat in 1989, the use of temporarily detached military officers undermined its effectiveness.²¹ Conscious of the IEPG secretariat's shortcomings, European states endowed WEAG with a secretariat composed of international civil servants, whose superior continuity and expertise permitted them to develop digital tools for facilitating armaments cooperation. The first such tool was WEAG's Equipment Review Schedule (ERS) database, which electronically compared states' procurement programs to identify opportunities for collaboration (Dumoulin 2005, pp. 153–156).

Within four years, however, WEAG's failure to generate the desired level of R&D cooperation drove its members to create a new executive agency – the Western European Armaments Organization (WEAO). In line with prevailing philosophies of organizational design, WEAO's architects endowed it with a staff of 11 international civil servants and an independent legal personality, making it the first European (non-NATO) armaments organization with such a status. These attributes enabled WEAO to engage in cooperative R&D contracting and organize meetings between potential R&D partners. Moreover, based on recommendations by WEAO's staff, states signed the European Understandings for Research Organisation, Programmes and Activities (EUROPA) agreement, streamlining existing (EUCLID) procedures for launching collaborative R&D projects (Schmitt 2003, pp. 21–24). Due to WEAO's efforts, the rate that new R&D projects were launched increased by 250 per cent (Dumoulin 2005, pp. 141–152). In 2004, WEAO was managing 120 R&D

projects, valued at €500 million, which nevertheless represented only 2.5 per cent of members' total defense R&D expenditures (James 2004, pp. 99–101).

Even as large numbers of European states formed WEAO, a small group of states cooperated on joint weapons projects and market integration. When analyzing armaments cooperation, certain policy-makers blamed large numbers of members, each with an equal voice, for organizations' shortcomings. As a result, they created new organizations restricted to a small subset of European states. The first such organization – the Organisme Conjointe de Coopération en Matière d'Armement (OCCAR) – was established in 1996 (Mawdsley 2003). Originally composed of only Europe's four largest arms producers (Britain, France, Italy, and Germany), OCCAR's *raison d'être* was collaborative weapons projects. This organization was endowed with a staff of unprecedented size (48 personnel) and a legal personality.²² In theory, OCCAR would improve collaboration by: creating standard procedures for project management, institutionalizing legal expertise on international contracting, and implementing a 'global balance' in work-share arrangements, whereby 'fair return' would no longer be applied to individual projects (NAO 2001, pp. 35–36).

Two years after creating OCCAR, large states employed the same restrictive approach to organizational design for integrating their defense markets (Mawdsley 2008). In 1998, Europe's six largest arms producers (Britain, France, Italy, Germany, Spain, and Sweden) signed a Letter of Intent (LoI) committing them to develop 'measures to facilitate the restructuring of European defence industry'. Although the LoI began as an inter-governmental accord, it was later formalized as a treaty and institutionalized in committees where members negotiated market integration. The LoI's directing authority was an executive committee comprised of senior officials representing member states. Under this body, subcommittees labored to produce agreements on: security of supply, export procedures, handling classified information, and the treatment of technical information (Schmidt 2003, pp. 26–28).

Even as policy-makers created new European organizations, existing transatlantic organizations continued to expand. For NATO's MAS, the post-cold war era saw the organization's role grow as members employed it to resolve new inter-operability challenges and non-members increasingly adhered to its standards. When exterior interventions demanded greater integration between national contingents and advances in digital communications intensified interoperability problems, states relied increasingly on the MAS as the only body with a proven ability to set interoperability standards (Pedersen 2007). As a result, standards-setting by MAS increased such that the organization developed and periodically updated 2000 distinct STANAGs (NSO n.d.). In 1995, states reorganized the MAS as the NATO Standardization Organization (NSO), providing it with a larger staff and new digital tools (Ferrari 1995, pp. 33–35; NSO n.d., pp. 16–17). Even as members intensified involvement in transatlantic standards setting, non-members such as Israel, Sweden, and Switzerland increasingly adopted NSO standards to appeal to a broader export clientele (Keijsper 2003).²³

As with standardization, the transatlantic logistics organization – NAMSA – also prospered after the cold war. In NAMSA's case, external military interventions drove organizational growth. When states that hitherto concentrated on territorial defense sent military contingents to the Balkans and Central Asia, they turned to NAMSA to negotiate and oversee contracts for firms to supply their armed forces with food, munitions and equipment (Maynard 2009).²⁴ In recent years, NAMSA's

new role in operational logistics generated an annual turnover of €1.4 billion.²⁵ In addition to rendering NAMSA indispensable to members, NAMSA's expanding capabilities have prompted 12 non-member states to sign partnership agreements with the organization.²⁶

Together the path dependent development of transatlantic organizations and institutional continuities in pan-European cooperation have constrained and channeled the EU's initiative in armaments cooperation. The notion that a single, large EU organization would provide the optimal 'solution' for the continent's defense-industrial problems has an intellectual pedigree that can be traced back to the 1975 Tindermans Report (Rees 1998, pp. 71–72). However, the exclusion of the defense sector from European market integration via Article 223 of the 1957 Rome Treaty (Article 346 of the Lisbon Treaty) long provided a facile excuse for *not establishing* an EU armaments organization. In the 1990s, though, policy-makers began calling for the EU to assume *the* predominant role in armaments cooperation. Vaguely articulated in the 1992 Maastricht Treaty's appeal for a European armaments agency, the European Commission and Council reiterated the idea of 'Europeanizing' armaments cooperation with increasing vehemence and specificity in the late-1990s (Mawdsley 2002, pp. 8–11, Mörth 2003).

Most experts argued that an EU organization should ideally possess a broad mandate, significant internal resources and a close relationship with the European Commission (Hartley 2006, Batora 2009, Wulf 2011). However, when states finally created an EU armaments organization in 2005 – the European Defence Agency (EDA) – its mandate was more limited and decision-making procedures more intergovernmental than what many considered ideal (Batora 2009). Because member states judged costs of switching from one organizational format to another to be excessive in the domains of standards-setting and logistics cooperation, they restricted the EDA's mandate to the facets of armaments cooperation that WEAG and WEAO had overseen. Furthermore, because the EDA undertook tasks previously assigned to WEAG and WEAO, policy-makers incorporated components from these preexisting organizations into their successor. Consequently, the EDA adopted WEAG's decision-making framework, based on meetings of defense ministers and national armaments directors, and modeled the design for three of its five directorates on WEAG's commissions (Dumoulin 2005, pp. 127–136). Moreover, rather than adopting a new approach to R&D cooperation, the EDA largely relies on preexisting EUCLID and EUROPA procedures.

Considering how many of the EDA's institutional components were adopted from its predecessors, the new organization's main distinction lies in its greater resources. States provided the EDA with a permanent staff five times larger than those of WEAG and WEAO combined (80 personnel versus 16) to enable its central administration to entrepreneurially promote non-binding 'codes of conduct' and employ a wide range of digital tools (Secades 2011).²⁷ The EDA also possesses a small budget (€70 million per annum) for cooperative R&D contracts that the organization's staff can award on a competitive basis. However, although innovative, the magnitude of this new form of R&D cooperation remains marginal compared to that pursued under the state-negotiated EUCLID and EUROPA programs.²⁸

The EDA's creation as an intergovernmental organization frustrated the European Commission, which had been attempting to carve out a role for itself in armaments cooperation. However, unwilling to abandon its long-term objective, the

Commission concentrated on marginal domains that had hitherto been overlooked. For example, after failing to influence defense R&D, the Commission redirected its efforts into the related niche of security R&D, which was allocated €1.4 billion under the EU's seven year (2007–2013) 7th Framework Programme for Research and Technological Development (Mawdsley 2011). Likewise, after being excluded from any role in collaborative weapons projects, the Commission obtained a modest niche in the regulation of defense markets through the Council's 2009 Directive on Security and Defence Procurement, whose impressive rhetoric is undermined by caveats excluding contracts awarded by international organizations or under their rules from the Commission's purview. According to one official, these constraints will limit the Commission's authority to a 'percentage of defence expenditure that... in practice is probably far from being even the majority of the 'defence cake' (Secades 2011, p. 30).

To sum up, two varieties of path-dependency limited the scope for radical reforms in a domain already characterized by a large number of organizations and channeled the Commission's efforts into marginal niches within the overall policy area. On the one hand, the steady growth of transatlantic standards and logistics organizations via processes of increasing returns represents a case of strong path dependence. On the other hand, the institutional continuities between successive pan-European armaments organizations represent a case of weak path dependence. Together, these forms of path dependency reinforced the polycentrism of European armaments cooperation, with different facets of cooperation fragmented amongst distinct types of organizations.

Conclusion

As this study demonstrates, institutionalized European defense-industrial cooperation stretches back six decades and has involved a multitude of organizations with varying designs. This concluding section will answer the question posed in the introduction about what impact past organizational outcomes have in shaping the development of European defense-industrial cooperation. Firstly, this section assesses the impact of path-dependencies and sequences of organizational creation on how armaments organizations developed. Secondly, the overall architecture of European armaments cooperation is examined to determine both what types of organizations fulfill which roles and how a multitude of distinct organizations contribute to the governance of a complex policy area. Finally, building on the above analyses, we explore how armaments cooperation is likely to evolve.

As historic institutionalism suggests, early organizational choices continue to shape the development of cooperation in a policy area long after policy-maker preferences have changed. In fact, the empirical record of armaments cooperation indicates that the wholesale replacement of organizations is less common than forms of path dependence. Within this context, strong path dependencies drove the development of transatlantic cooperation on interoperability standards and logistics from the 1950s onwards. After the MSA and NMSSS were established, both organizations experienced positive feedback as member states entrusted them with a wider range of tasks and non-members either adopted the organizations' standards or sought partnership agreements with them. In this way, the MSA evolved into the NSO, which today sets the world's most influential defense equipment standards. Likewise, the NMSSS evolved into NAMSA, which provides both frontline logistics

support and maintenance for a wide range of weapons systems. Because these transatlantic organizations grew steadily in scope and efficiency, the opportunity costs for European states to switch institutional formats gradually became prohibitive.

While logistics cooperation and standards-setting are cases of strong path dependence, weak path dependence shaped other aspects of armaments cooperation. Rather than replacing existing organizations wholesale, states frequently either layered new organizations on top of earlier ones or established them through processes of organizational conversion, whereby institutional components of old organizations are preserved within their successors. In armaments cooperation, FINABEL presents a case of layering. Even though states created new organizations to fulfill FINABEL's functions after it proved ineffective, their unwillingness to abolish FINABEL has ensured that the organization persists and contributes modestly to European armaments cooperation (Burigana and Delonge 2008).

Although FINABEL is an example of layering, organizational conversion played a greater role in the evolution of European armaments organizations. For example, when the IEPG and WEAG/WEAO accomplished less than their architects anticipated, policy-makers hesitated to replace these organizations with new ones designed along radically different lines. Instead, they incorporated institutional components from each organization into their successors. Therefore, both WEAG and the EDA adopted their predecessors' model of peak-level decision-making and procedures for R&D cooperation. In the EDA's case, the organization even adopted its predecessor's administrative subdivisions. Given the prominence of organizational conversion in the defense-industrial domain, there was often more institutional continuity than change between successive organizations.

Because path dependencies shaped how organizations evolved, the sequence that organizations were created has defined the overall architecture of European armaments cooperation. Once standards-setting and logistics cooperation were institutionalized within transatlantic organizations in the 1950s, the path dependent development of cooperation precluded policy-makers from subsequently pursuing *European* solutions to these challenges. Likewise, the decision in the 1970s to empower national armaments directors and defense ministers to control the IEPG persisted through succeeding organizations and thereby limited the future role of supranational actors. Because philosophies of organizational design have changed over time, yet existing organizations have evolved path dependently, Europe has gradually developed a polycentric governance architecture (illustrated in Table 1) wherein authority over armaments cooperation is fragmented between transatlantic, restrictive-European, and pan-European organizations.²⁹

This institutional architecture of European armaments cooperation is more a product of historical processes operating over time than decision-makers' purposive designs. Indeed, few argue that the current institutional architecture, with its numerous organizations designed along different lines, is efficient. Rather, most experts argue that a single European organization with responsibility for all aspects of international armaments cooperation would be preferable to this institutional potpourri. Nevertheless, due to their path dependent development, it would be prohibitively costly to replace today's organizations with a single new entity. Consequently, the polycentric architecture of contemporary armaments cooperation will likely persist.

Table 1. Contemporary armaments organizations.

Organization	Date established	Membership	Mandate	Institutional characteristics
NSO (originally MSA)	1953	Transatlantic	Interoperability standards	Military representatives constitute directing authority; functional cooperation via committees
NAMSA (originally NMSSS)	1958	Transatlantic	Logistics and maintenance cooperation	Military representatives constitute directing authority; cooperation via <i>a la carte</i> weapons systems partnerships
OCCAR	1996	Restrictive-European	Managing collaborative weapons projects	International staff supports contracting and monitors work-share agreements
LoI Process	1998	Restrictive-European	Market integration	National representatives constitute directing authority; subsidiary committees address specific issues
EDA (succeeds to WEAG)	2005	Pan-European	Promoting weapons collaboration; R&D cooperation; market integration	Defense ministers constitute directing authority; large staff develops 'codes of conduct' and digital tools
European Commission	2007 (as a defense-industrial actor)	Pan-European	Collaborative <i>security</i> R&D; a limited role in market regulation	Supranational bureaucracy awards R&D contracts and submits violations of procurement directive to the European Court of Justice

Within this context, polycentrism and path dependence will continue to limit the role of the EU and, particularly, its Commission in armaments cooperation. With so many aspects of cooperation rooted in transatlantic or restrictive-European organizations, the EU's role will likely remain limited to its current responsibilities and domains outside the mandates of existing organizations. While the EU's role is constrained by preexisting armaments organizations, the Commission's activities will probably be further restricted by the dominant role of inter-governmentalism, led by defense ministers and national armaments directors, that has characterized pan-European armaments cooperation since the 1970s. Thus, polycentric governance, rather than supranational regulation, is likely to remain the dominant trend in European armaments cooperation.

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Notes

1. These facets are derived from, yet not identical to, those employed by Koremenos *et al.* (2001).
2. In 2009, the USA spent \$140 billion on procurement; Britain spent \$11 billion, France \$10 billion, Germany \$6 billion, and Italy \$3 billion (EDA 2009).
3. The acronyms in Figure 1 refer to the following organizations: Military Production and Supply Board (MPSB); Defense Production Board (DPB); Temporary Council Committee (TCC), Military Standardisation Agency (MSA); Military Agency for Standardisation (MAS); NATO Standardisation Organisation (NSO); Defence Production Committee (DPC); Armaments Committee (AC); Conference of National Armaments Directors (CNAD); NATO Maintenance and Supply Service System (NMSSS); NATO Maintenance and Supply Agency (NAMSA); Independent European Programme Group (IEPG); Western European Armaments Group (WEAG); Western European Armaments Organization (WEAO); Organisation Conjointe de Coopération en Martières d'Armement (OCCAR); Letter of Intent (LoI); and European Defence Agency (EDA).
4. Two early efforts at armaments cooperation include Germano-Soviet cooperation in the 1920s (Mueller 1976) and the creation of the trilateral (American, British, and Canadian) Combined Production and Resources Board during World War II (Katz 1946). Compared with later efforts, these cases involved small numbers of states and were designed as transitory arrangements.
5. North Atlantic Council, The Council establishes a Defence Financial and Economic Committee and a Military Production and Supply Board, 18 November 1949.
6. NARA 330/192/3 N7-1(1)-F Transcript of the First Meeting of the North Atlantic MPSB, 1949.
7. TNA FO 371/94210 From Ottawa to FO, Telegram No. 36, 20 September 1951.
8. TNA FO 371/94122 Ottawa Telegram No. 9 to FO, 17 September 1951.
9. TNA FO 371/124872 M.R. Starkey, WU Department, 14 December 1956.
10. TNA FO 371/94122 Ottawa (UK Delegation) Telegram No. 9 to FO, 17 September 1951.
11. Board of Directors, Charter of the NMSSS, 21 May 1958 [C-M (58)78].
12. Articles 101–111, *Traité instituant la Communauté européenne de défense*, Paris, 27 May 1952.
13. TNA FO 371/124872 P.F. Hancock, FO, 23 November 1956.
14. TNA FO 371/124857 W.E.U. Standing Armaments Committee, 12 October 1956.

15. NARA 330/192/10, N7-1(1)-F.4 Impact of Military Assistance Programs on U.S. Economy, 1949; and NARA 330/192/19, N7-1(1)-F.1 Basic Policies of the Military Assistance Programs, 1949.
16. LAC RG 24/21638 Study of NBMR Procedures, 1965.
17. Communiqué issued by Eurogroup Defence Ministers, Brussels, 23 May 1972.
18. TNA FCO 41/1347 Meeting Eurogroup Defence Ministers, March 1973.
19. The \$36 million committed by 13 states to EUCLID constituted less than three per cent of what the UK annually spent on defense R&D (Walker and Gummett 1993).
20. Declaration on the WEU, Section C, Treaty on European Union (1992).
21. Interview with Hilmar Linnenkamp, former Deputy Chief Executive of EDA (17 March 2010).
22. This does not include 180 personnel dedicated to individual projects. Interview with Paul Haccuria, Head of OCCAR Public Relations (5 April 2010).
23. Interview with General Christophe Keckeis, former Chief of Staff of the Swiss Armed Forces (9 November 2010).
24. Interview with Linda Bird, NAMSA Logistics Director (24 August 2009).
25. Interview with Nadia Nelson, NAMSA (25 August 2009).
26. NAMSA, Support for Partnership for Peace Nations, www.namsa.nato.int/services/pfp_support_e.htm [Accessed 11 December 2011].
27. Interview with Hilmar Linnenkamp (17 March 2010).
28. Interview with Hilmar Linnenkamp (17 March 2010).
29. Although still in existence, FINABEL and CNAD are excluded from this table because of their marginal importance.

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