PERILOUS WATERS:
THE POLITICAL ECONOMY OF INTERNATIONAL WARSHIP EXPORTS

A Dissertation
submitted to the Faculty of the
Graduate School of Arts and Sciences
of Georgetown University
in partial fulfillment of the requirements for the
degree of
Doctor of Philosophy
in Government

By

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Washington, DC
August 8, 2013
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ABSTRACT

Why would a state export warships that could be used against it? Strategic logic suggests that increasing another state’s combat power is bad policy, as the United Kingdom discovered when it faced British-built destroyers in its 1982 war with Argentina. But if strategy is the primary guide for arms export decisions, history suggests that this “lesson” has gone unlearned.

Scholars provide divergent answers to this puzzle, resulting in nagging uncertainty about the determinants of conventional arms transfers. Warship exports can generate policy leverage or maximize alliance strength. Warships are also commodities, suggesting basic commercial motivations. These answers come up short, however, when states export warships to rising competitors or longstanding rivals, or sell warships in violation of their own export controls.

When leaders make warship export decisions, what factors trump core security interests? I argue that excess capacity in the naval shipbuilding industry explains these puzzling exports. When supply exceeds demand, the shipbuilding industry lobbies for export—typically emphasizing potential job losses. And since excess capacity often results from defense cuts, export pressure is most acute when the state is least able to subsidize its shipbuilding industry. Thus, strategically puzzling warship exports are more likely when there is excess naval shipbuilding capacity. In short, states discard strategic restraint when jobs are at stake.

This dissertation advances international relations scholarship by synthesizing insights from the subfields of security and political economy, examining the distinctive characteristics of the naval shipbuilding industry, and rigorously testing the excess capacity hypothesis through
statistical analysis and detailed case studies. It contributes to arms trade research through its focus on warship exports—including the development of an original warship export dataset—and by suggesting new perspectives on the conventional arms trade more broadly. Finally, it suggests that states with declining naval budgets should take active steps to reduce political pressure for risky decisions in a world of increasing strategic ambiguity.
For Katie, Connor, and Annali
ACKNOWLEDGEMENTS

I owe an enormous debt of gratitude to all who made this dissertation possible. These few words are wholly insufficient to repay that debt—nevertheless, consider them a down payment.

First, I thank the faculty, staff, and students of the Georgetown University Department of Government for making the last three years a thoroughly enjoyable and abundantly rewarding experience. I owe special thanks to my dissertation committee. Professor Jim Vreeland, Professor Kate McNamara, and Professor Matt Kroenig guided my efforts with great patience, offering thoughtful advice and steady encouragement all along the way. As my adviser and committee chair, Jim Vreeland has been the fundamental influence on my development as a scholar—to my great benefit. I also thank my classmates, especially Jeff Donnithorne: fellow military officer, occasional coauthor, and constant friend.

I would also like to thank Professor Jessica Weeks of the University of Wisconsin-Madison for generously sharing her data on authoritarian political regimes. Her friendly response to an out-of-the-blue request was a fantastic introduction to the collegial world of academic discourse, and contributed significantly to my dissertation.

I am very grateful to the United States Navy for supporting my academic endeavors. I particularly thank Rear Admiral Mike Smith, Mr. Bruce Stubbs, Rear Admiral Stuart Munsch, Captain Kevin Brenton, Captain Frank Michael, Mr. Rob Marshall, Commander Tom Williams, and especially Captain (Retired) John McLain of the Strategy and Policy Division of the Office of the Chief of Naval Operations for making sure I had the time I needed to complete my dissertation, notwithstanding the press of Navy business. Additionally, Rear Admiral (Retired) Jim Stark made sure I was properly motivated to get it done. And I sincerely thank my colleagues, who had to carry my workload on top of theirs while I was holed up in the library:
Commander Marcus Bauer, Commander Andy Corso, Lieutenant Commander Jennie Stone, 
Lieutenant Commander Taylor Dewey, Ms. Susan Lindahl and Mr. Aaron Stollar.

Finally, I thank my family from the bottom of my heart (the very bottom…all the way down by the keel!). My parents-in-law, Susan and Roy Wallace, provided boundless encouragement. My brother Teague inspired me with his penetrating intellect. And my mom and dad, Helen and Ken Clare, gave me all the tools I needed to embark on my voyage through the Navy, Georgetown, and life in general—for which I am eternally grateful.

Most of all, I thank Katie—my wife, partner, and best friend—and our two wonderful children, Connor and Annali. Your unflagging support and uncomplaining sacrifice made this possible. I couldn’t have done this without you. Thank you—and I love you.
# Table of Contents

Introduction .................................................................................................................. 1
The Risky Business of Warship Exports ....................................................................... 4
The Argument in Brief ................................................................................................. 10
Plan of the Dissertation .............................................................................................. 16
The Bottom Line ......................................................................................................... 17

Chapter 1: Explaining Puzzling Warship Exports ........................................... 18
   Excess Capacity and Warship Exports ................................................................. 22
   Alternative Explanations ...................................................................................... 42
   Control Variables ................................................................................................ 52
   Research Design: Testing the Competing Hypotheses .................................... 57

Chapter 2: Quantitative Correlates of Warship Exports .......................... 61
   Warship Export Data .......................................................................................... 62
   Data Analysis ...................................................................................................... 84

Chapter 3: Soviet and Russian Warship Exports ...................................... 109
   Fading Bear, Rising Dragon: The Strategic Puzzle of Russian Warship Exports to China 111
   Stalin: 1950-1953 ............................................................................................... 116
   Khrushchev: 1953-1964 .................................................................................... 126
   Brezhnev, Andropov, and Chernenko: 1964-1985 ....................................... 150
   Gorbachev: 1985-1991 .................................................................................... 163
   Yeltsin: 1991-1999 ............................................................................................ 183
   Conclusion .......................................................................................................... 196

Chapter 4: British, German, Chinese, and Japanese Warship Exports .......... 199
   Rue, Britannia: The United Kingdom’s Warship Exports, 1950-2000 .......... 202
   Exceptions as a Rule: German Warship Exports, 1950-2000 ................. 218
   Conclusion .......................................................................................................... 258

Chapter 5: Understanding and Influencing Warship Exports ................... 262
   Risky Business: Warship Exports and Security ............................................ 264
   Review of the Theory and Main Findings ...................................................... 266
   Back to the Future: The Dissertation’s Scholarly Contribution .............. 269
   The Political Economy of Arms Exports: A Research Agenda .................. 273
   Taking the Helm: Policy Implications ............................................................ 276

Appendix A: Naval Power and Warship Exports ....................................... 281
   Home and Away Games ............................................................................... 281
   Control of the Seas ......................................................................................... 284
   Capabilities vs. Intentions: The Cautious Logic of Defense Planners .......... 287

Appendix B: Potential Warship Exporters ......................................................... 289

Appendix C: Exports from States with No Warship Industry ................... 292
# List of Figures

*Figure 1.* United Kingdom, Argentina, and the Falkland Islands .................................................. 6

*Figure 1.1.* Examples of authoritarian regime types ................................................................. 38
*Figure 1.2.* Warship exports between allies and non-allies, 1951-2001 ........................................ 46
*Figure 1.3.* Summary of main, supporting, and alternative hypotheses ...................................... 57

*Figure 2.1.* World warship exports, 1951-2001 .......................................................................... 69
*Figure 2.2.* Distribution of budget change, 1950-2000 ............................................................... 74
*Figure 2.3.* Marginal effect of budget change on warship exports in states with warship industries ...... 98
*Figure 2.4.* Marginal effect of budget change, omitting states with alliances or common enemies ...... 98
*Figure 2.5.* Combined marginal effect of budget change x industry and budget change .................. 102

*Figure 3.1.* Chinese Navy Kilo submarine and Sovremenny destroyer ........................................ 111
*Figure 3.2.* Soviet/Russian and Chinese proportions of total dyadic power, 1980-2000 ................. 114
*Figure 3.3.* Soviet/Russian and Chinese GDP in trillions of 1996 US dollars, 1980-2000 .......... 114
*Figure 3.4.* Soviet defense expenditures, 1985-1991 ................................................................. 177
*Figure 3.5.* Soviet and Russian defense expenditures, 1985-1999 .............................................. 180

*Figure 4.1.* United Kingdom defense expenditures, 1965-1975 .................................................. 208
*Figure 4.2.* German defense expenditures, 1970-1990 ............................................................... 225
*Figure 4.3.* Chinese defense expenditures, 1975-1995 .............................................................. 238
*Figure 4.4.* Japanese defense expenditures, 1950-1996 ............................................................. 253

*Figure D.1.* Relationship of Soviet defense and industrial ministries ............................................ 300
**LIST OF TABLES**

*Table 2.1.* Export cases dropped as a result of lagged independent variables .................................................. 65
*Table 2.2.* “World naval hierarchy” categories ........................................................................................................ 66
*Table 2.3.* Export cases dropped by excluding token and constabulary navies .......................................................... 67
*Table 2.4.* Summary statistics for budget change ..................................................................................................... 73
*Table 2.5.* Summary statistics for budget change (without outliers) ........................................................................... 76
*Table 2.6.* Conventional arms export periods ............................................................................................................. 83
*Table 2.7.* Bivariate results ............................................................................................................................................ 86
*Table 2.8.* Correlates of warship exports, 1951-2001 ............................................................................................... 88
*Table 2.9.* Substantive effects of export covariates in warship-producing states, 1951-2001 ............................... 94
*Table 2.10.* Substantive effects of budget change under specified scenarios ............................................................... 96
*Table 2.11.* Individual interaction terms .................................................................................................................... 100
*Table 2.12.* Marginal effect of interaction terms on probability of warship export, 1951-2001 .............................. 100

*Table 3.1.* Recipients of Soviet warships, 1951-1953 ............................................................................................... 123
*Table 3.2.* Recipients of Soviet warships, 1954-1964 ............................................................................................... 143
*Table 3.3.* Recipients of Soviet warships, 1965-1985 ............................................................................................... 157
*Table 3.4.* Brezhnev-era warship exports to non-aligned African states ................................................................. 162
*Table 3.5.* Recipients of Soviet warships, 1986-1991 ............................................................................................... 174
*Table 3.6.* Recipients of Soviet warships, 1992-1999 ............................................................................................... 190

*Table 4.1.* Recipients of British warships, 1950-2000 ............................................................................................... 211
*Table 4.2.* Recipients of German warships, 1950-2000 ............................................................................................ 226
*Table 4.3.* Recipients of Chinese warships, 1950-2000 ............................................................................................ 240
*Table 4.4.* Recipients of Japanese warships, 1950-2000 .......................................................................................... 254

*Table B.1.* Potential warship exporters ..................................................................................................................... 289

*Table C.1.* Exports from states without warship industries ......................................................................................... 292
INTRODUCTION

In the predawn darkness of April 2, 1982, Argentina invaded the Falkland Islands. Black-clad Argentine commandos spearheaded an assault that overran the Royal Marine defenders and compelled the British islands’ surrender in just four hours, marking the beginning of a short but violent war in the South Atlantic.

The two months leading to Britain’s turnabout victory saw some of the most intense naval combat since World War Two. Before regaining the islands on June 14, British forces engaged in sea battles that ended in the sinking of six of Her Majesty’s ships, damage to 11 more, and the deaths of 85 British sailors—to say nothing of losses on the Argentine side (Hastings and Jenkins 1983, 72-74, 310; Woodward and Robinson 1992, xvii; Freedman 2005, 471, 727, 772). At the outbreak of war, British leaders knew that any sea fight would be close-run given the operational and logistical challenges posed by the Falklands’ distance from the United Kingdom. As to the naval balance, the commander of the British battle group—Rear Admiral Sir John “Sandy” Woodward—knew from the outset that Argentina possessed a potent fleet with which to contest the counteroffensive (Woodward and Robinson 1992, 74).

As Admiral Woodward contemplated the opposed naval forces, his mental inventory touched on an uncomfortable symmetry. The Argentine fleet counted among its most capable units two modern British-built warships, sisters of Woodward’s own Type 42 destroyers Sheffield and Coventry. Indeed, the commandos initiating Britain’s national “humiliation” began their assault on the Falklands aboard rubber rafts launched from one of the Argentine Type 42s, Santisima Trinidad (Hastings and Jenkins 1983, 74; Freedman 2005, 7). Worse was to come
during the ensuing battle: neither Sheffield nor Coventry survived to return to British waters. To this day, both remain at the bottom of the South Atlantic (Woodward and Robinson 1992, 75).

This dissertation investigates the international trade in warships. It addresses a straightforward puzzle: why would a state export weapons that could be used against it, or otherwise threaten its security interests? Strategic logic suggests that arming a non-ally is bad policy. The ship of state sails into perilous waters when it concedes some of its naval power. But if strategy is the primary guidepost for warship export decisions, history suggests that the “lessons” of Britain’s Falklands experience have gone unlearned. Consider Russia’s post-Cold War arms sales to a rising China (Donaldson and Donaldson 2003), and France’s 2009 decision to sell amphibious assault ships to Russia on the heels of an official statement of concern over Russia’s “reversion to power politics” (Smith 2009, Government of France 2008, 38). What explains these strategically counterintuitive warship exports? Similarly, what explains Germany’s abundant warship sales to states embroiled in regional conflict—despite a strict, self-imposed injunction against arms exports to “areas of tension” (Brzoska 1989, 169)? Appeals to market logic are intuitively insufficient when warship exports violate self-imposed rules intended to prevent market logic from running roughshod over strategic restraint.

Britain’s experience highlights the paradoxical nature of the arms trade. Before the conflict, Britain exported warships to Argentina despite longstanding friction over the Falklands. Even after the war, British official histories showed a surprising lack of retrospection regarding

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1 Ironically, both Argentine Type 42s continued to serve long after the war. Santisima Trinidad was decommissioned early in the twenty-first century, and sister ship Hercules was refitted and continues in a new role as an amphibious command ship (Saunders 2009, 19). Combined with the resurgence of Argentine nationalist politics concerning sovereignty over the Falklands (e.g., Hope 2013), this suggests that strategically shortsighted warship exports can be “gifts that keep on giving.”

2 By “warships,” I refer to armed naval vessels ranging from coastal defense ships to aircraft carriers, including armed auxiliaries (vessels that resupply other combatant ships at sea), but excluding small boats and ships built specifically for domestic maritime safety and law enforcement.
Britain’s role in strengthening the Argentine fleet. To restate the dissertation’s question bluntly: when leaders make warship export decisions, what factors trump the core interest of security?

International relations scholars and arms trade analysts provide divergent answers to this question, leaving nagging uncertainty regarding the determinants of conventional arms transfers. At one extreme is the “merchants of death” literature, which ascribes arms proliferation to the insidious profiteering of weapons manufacturers over whom states have little control. At the other extreme are studies asserting that the arms trade reflects rather than causes political pressures within the international system (e.g., Harkavy 1994), with one scholar going so far as to argue that arms transfers are superior to alliances as proxies for interstate alignment (Childs 2011, 4). Between these poles reside a variety of more nuanced analyses, the main themes and limitations of which I address in chapter 1. None of these studies, however, deal simultaneously with the supply-side security and economic dynamics of the conventional arms trade. Moreover, none of them focus specifically on warships. In short, a survey of the literature suggests that Richard Betts (1980, 82) is correct—there is “probably only one principle…on which everyone could agree: do not give weapons to an enemy.”

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3 The official British history of the Falklands war (Freedman 2005) does not address warship exports, despite having a chapter devoted to political-military lessons. Freedman acknowledges the origin of the Argentine Type 42s, but does not examine the underlying export policy or its strategic implications (722-735). Moreover, the book’s index curiously omits Britain from the long list of countries that provided arms to Argentina (823).

4 I use the qualifier “conventional” to exclude nuclear, chemical and biological weapons (often collectively termed “weapons of mass destruction,” or WMD). Both the physical effects and the international norms surrounding the use (or transfer) of WMD are generally considered qualitatively different from those of conventional weapons such as ships, tanks, aircraft, small arms, and so on (e.g., Price and Tannenwald 1996, 114-115). This dissertation focuses on warship exports as a subset of the broader conventional arms trade.

5 The progenitor of this theme is Engelbrecht and Hanighen’s Merchants of Death (1934), a “polemic” against the defense industry in which the authors argued that “American neutrality was compromised during World War I by weapons manufacturers whose strict adherence to commercial principles in peddling their wares left them little incentive to ponder the political or moral implications of their profession” (Kinsella 2011, 217). This genre of research remains active in the contemporary world—Andrew Feinstein (2011, xxii-xxiii), for example, argues that “the trade in weapons is a parallel world of money, corruption, deceit and death…with bribery and corruption de rigueur there are very few arms transactions that are entirely above board.” (Feinstein [ibid.] nevertheless concedes in a footnote that “not all arms sales are illegal and that illegality is often determined by particular national and international legal standards applicable at the time of specific transactions.”)

6 As Kroenig (2009, 114) writes, the conventional arms trade literature “has not systematically analyzed the causes of conventional military assistance across the entire universe of supplier states.…"
The Risky Business of Warship Exports

There is clearly room in the international relations literature for research that contributes to a better understanding of the conventional arms trade. Ultimately, however, warship exports merit study because warships provide states a unique capability to project military power around the world—or to defend themselves against power projection by adversaries. The renowned American naval strategist Alfred Thayer Mahan cautioned that even “a modest navy could be strong enough to deter the leading naval power when geographical and other circumstances were taken into account” (Sumida 1997, 23, 41). Thus, even superpowers such as the United States should take notice when warship exports threaten to tilt regional naval balances.

The close-run Falklands war illustrates Mahan’s warning, especially given the ostensible British naval advantage over Argentina in 1982. Though the British fleet overmatched its Argentine counterpart by almost four to one on paper, what ultimately counted was not overall fleet size, but rather the smaller force that Britain was able to sortie for the Falklands war—a

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7 In early 1982, the Argentine combat fleet consisted of 43 ships, including one aircraft carrier and four diesel-powered submarines; one squadron of aircraft aboard the carrier; various land-based aircraft; and approximately 30,000 personnel (Couhat and Baker 1982, 4-5). The British fleet, in contrast, was approximately four times the size of Argentina’s in terms of sheer numbers. It comprised more than 160 ships, including two carriers and 31 submarines (15 of them nuclear-powered, including four submarines capable of launching nuclear ballistic missiles); 24 squadrons of aircraft; and more than 74,000 sailors and Royal Marines (219-220, 226). While the British fleet was entirely home-built, every Argentine combat ship had been acquired from foreign countries including Britain, France, Germany, the Netherlands and the United States. Both the newest of Argentina’s ships (its Type 42 destroyers) and the most powerful (its aircraft carrier) were British-built (5-13). Moreover, the Argentine carrier, 25 de Mayo, was purchased from the United Kingdom by the Netherlands in 1948, then re-sold to Argentina in 1968 (5)—demonstrating that warship exports may entail boomerang risks not envisioned in the initial transaction.
force with slightly fewer ships than Argentina’s. Moreover, the British force had to operate at the end of a stretched-taut logistics tail leading back to the British Isles, in contrast with Argentina’s home-field advantage (figure 1). By altering the local naval balance, warship exports can jeopardize command of the seas—even for maritime powers such as Britain.

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8 A key constraint on the British ability to generate employable force, as for every navy that deploys regularly beyond its home waters, was the need to continuously cycle its ships, aircraft and people through maintenance and training periods to sustain combat readiness. Thus, the task force that sailed for the Falklands in April 1982 was built around the unit that was in the highest state of readiness at the time, Admiral Sir John “Sandy” Woodward’s First Flotilla (Hastings and Jenkins 1983, 62-63), which ultimately included only 40 ships: both of Britain’s two aircraft carriers, six submarines, and 32 surface combatants and amphibious assault ships (346-351)—a more even numerical match for Argentina’s 43 ships. And while numbers do not tell the whole story regarding any military balance, Argentina also possessed important capabilities that contributed to the close qualitative match between the Falklands belligerents: for example, “she had at least six ships fitted with Exocet sea-skimming [anti-ship] missiles, also the principle surface weapon of the Royal Navy…[and s]he had four submarines, two of them formidably difficult to detect with sonar” (62).

9 Hastings and Jenkins (1983, 62) write that “the logistic and strategic difficulties of conducting operations against [the Argentine] force 8,000 miles distant would be immense. Conventional wisdom decreed that, with the ships available to the Royal Navy in 1982, it would be most dangerous to take to sea against a force of [the Argentines’] strength.” Argentina’s home-field advantage also included the ability to employ “more than two hundred [land-based] planes capable of striking at a British sea or land force” (ibid.), an option obviously unavailable to a British fleet deployed far from its own shore-based airfields.
The strategic effects of warship exports are heightened by warships’ unique qualities relative to other conventional weapons. While most weapons generally achieve militarily usefulness only when aggregated—forming squadrons of aircraft, for example, or battalions of tanks and armored vehicles—single warships have the potential to generate strategic effects in a conflict. As the military analyst Duane Worley (2006, 4) notes,

An old saying originating between the world wars states that “the Navy mans the equipment and the Army equips the man.”

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Figure 1. United Kingdom, Argentina, and the Falkland Islands

This maxim reflects the fact that land power is largely determined by the number of soldiers that a state can muster. Navies, on the other hand, concentrate combat power more densely in the form of warships, with power derived from a ship’s armament rather than the size of its crew. Air forces fall somewhere in between. Like navies, they are capital-intensive rather than manpower-intensive. High-technology aircraft rather than troop formations form the basis for planning and procurement. Unlike warships, however, small numbers of aircraft are unlikely to affect the balance of military power.

Thus, compared to the export of aircraft or ground-force weapons, selling a single warship can have a proportionally greater effect on the military balance. The presence of just one submerged submarine, for instance, fundamentally constrains an opponent’s options due to submarines’ ability to stealthily attack naval or merchant shipping. World War Two presents countless examples. American and German submarines, typically operating singly, wreaked astonishing destruction on Japanese and Allied merchant shipping. A single aircraft carrier can have equally striking consequences. Michael Horowitz (2010, 85) relates that...

…India acquired the light carrier HMS *Hercules* from Great Britain in 1957 and commissioned it as the INS [Indian Naval Ship] *Vikrant* in 1961. Despite its small size, its status as the only South Asian aircraft carrier provided India with a large increase in naval combat capacity. In its war with Pakistan in 1971, the deployment of the *Vikrant* required Pakistan to deploy a large proportion of its naval assets, like the PNS [Pakistan Navy Ship] *Ghazi*, Pakistan’s US-made submarine, against the carrier. With Pakistan lacking an effective counter, the *Vikrant* sunk several Pakistani ships and launched strike operations against coastal targets.

11 The infamous German “wolf packs” (multiple submarines operating together) of the Battle of the Atlantic were developed as an ultimately unsuccessful response to the Allies’ defensive convoy systems, which were themselves a countermeasure to the predations of solo German submarines (Gannon 1998, 87; Morison 2010 [1947], 25; Padfield 1995, 52-57). Fortunately for the Allies, the Imperial Japanese Navy never instituted a convoy system of its own. Thus, single American submarines continued to bear sole responsibility for vast tracts of the Pacific and Japanese home waters through the end of the war. American submarines, operating singly, sank over 600 Japanese ships in 1944 alone, reducing Japan’s bulk imports by 40 percent (Hastings, 269).
So, while navies do aggregate forces to maximize their effectiveness, the export of just one warship can be cause for concern to a security-minded state.

With these factors in mind, it would make sense for maritime states to safeguard their own security by maximizing relative naval power for the best possible defense of their shores and seagoing commerce. Furthermore, navies by their very nature are instruments of power projection, thanks to their ability to extend national power beyond a state’s borders—whether in the service of offensive or defensive strategic objectives, and whether they operate a few miles offshore or on the other side of the globe.¹² Warship exports are risky because they reduce the margin of superiority necessary for effective maritime defense and power projection (or exacerbate inferiority relative to potential aggressors).

This brief consideration of naval strategy suggests that there is good reason for leaders to take seriously the security consequences of warship exports. This makes nonstrategic exports—especially to rivals or rising challengers—all the more puzzling. And for states with export controls founded on a desire to avoid stoking regional conflicts, it highlights the fact that warship exports can affect the naval balance between contending states, contributing to instability.

The contemporary geopolitical environment lends immediacy to the study of warship exports. Many scholars argue that the twenty-first century finds the international system in transition, holding the possibility of a future with no clarifying “center of gravity” as the dominance of the West is challenged by the “rise of the rest” (Kupchan 2012, 5). In particular, China’s rise could pose a challenge to US hegemony, at least within Asia. Moreover, some argue that shifting power dynamics in the broad maritime expanse of Asia have initiated an

¹² Kroenig (2010, 14-16) details the challenges of projecting military power away from one’s own shores and borders. Distance may also tend to reduce threat perception based on proximity, due to the military challenges already discussed as well as the possibly reduced likelihood of territorial conflict (Walt 1985, 10). I address both of these distance effects throughout the dissertation’s empirical analysis.
“Eastphalia” reaction, with regional states adopting confrontational positions on territorial and political sovereignty—combined with increases in military spending (e.g., Pennington 2012). As evidence, analysts cite quarrels over various uninhabited islands in the South China Sea (Kim, Fidler and Ganguly 2009), and Japan’s increasingly muscular defense policies (Banyan 2012).

Misunderstanding and miscalculation spurred by interactions at sea may become more frequent—and significant—in a world lacking a clear power hierarchy. Consider the empirical observation that “countries with interests in the largely maritime environment of East and Southeast Asia are increasingly willing to use naval forces for coercion and deterrence” (Le Miere 2011, 53). Similarly, Richard Bitzinger (2010, 60) cites the possibility of regional arms “competitions,” if not true arms races, bringing security dilemma dynamics to the fore. Recent events in the South China Sea have even inspired Graham Allison (2012) to warn that a “Thucydides Trap” has been sprung. Into this volatile mix, add the economic and military rise of additional powers (and avid importers of advanced weapons) such as India.

Whether the future portends a real-world test of Robert Gilpin’s (1981, 1988) theory of hegemonic war or (one hopes) a more peaceable outcome, it does seem clear that the flow of warships between maritime states represents, at the very least, a complicating factor in an already complex geopolitical equation; and one that is only likely to increase. The top 100 world arms producers enjoyed a mammoth 84 percent sales increase in constant dollars from 2002 to 2008,

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13 For the seminal treatment of the security dilemma (“in international politics…one state’s gain in security often inadvertently threatens others”), see Jervis (1978, 169-170). Jervis discusses navies explicitly, stating that “a navy large enough to keep the shipping lanes open…could not avoid being a menace to any other state with a coast that could be raided, trade that could be interdicted, or colonies that could be isolated” (ibid., 170).
14 Allison (2012) quotes Thucydides: “It was the rise of Athens and the fear that this inspired in Sparta that made war inevitable,” casting China in the role of Athens and the US and its Asian allies as Sparta.
15 There is also a prominent line of argument holding that interstate war is on the decline (e.g., Mueller 2004). For an even broader argument that worldwide violence in general is decreasing, see Pinker (2011). To the extent that the decline of war and violence does not result in the elimination of war and violence, however, the study of warship exports remains relevant to scholars and policymakers. As Mueller (2007, 12) concedes, “the arms industry, oft held in the literature to be peculiarly nefarious and a source, inspiration, instigator, or facilitator of war, continues to do quite nicely even as war itself slumps in frequency.”
and were largely immune to the 2008 financial crisis—thanks in large part to exports (Jackson 2010, 252-268). At best, warship exports increase “the potential level of violence inherent in the conduct of ‘gunboat diplomacy’” (Anthony, The Naval Arms Trade 1990, vii). At worst, they could tilt the naval balance against the exporter or its allies during an unanticipated conflict, echoing the British experience and leading to a severe case of seller’s remorse.

The Argument in Brief

Short of withholding arms from wartime foes, there is little consensus on the supply-side logic of the international weapons market. This dissertation aims to contribute to the international relations literature on the conventional arms trade, while providing insights relevant to naval strategists and defense policymakers. To that end, I develop and test a theory of warship exports that avoids the security-economics dichotomy implicit in the extant literature. I opt instead for an approach that brings together the imperatives of state security and the incentives of the global arms market, through the lens of political economy.

As Peter Trubowitz (2011, 3) writes, “leaders take both geopolitics and domestic politics seriously, and they do so for a simple reason: to do otherwise is to risk their reputation as leaders and their hold on political power.” Warships and the industrial base necessary for their construction are intimately related to geopolitics, in the form of naval power, and domestic politics, in the form of shipbuilding jobs and defense industry income. As such, warship export

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16 Additionally, warship exports increase not only the potential level of violence, but also the potential for miscalculation and escalation in the conduct of “gunboat diplomacy” due to real or perceived changes to the naval balance. For example, Russia’s exports of advanced warships to both China and India could affect political-military dynamics in Asia. Thus, whether or not these dynamics directly hazard Russia itself, there is a compelling reason to investigate Russia’s exports given their potentially far-reaching consequences.

17 Bueno de Mesquita, Morrow, Siverson and Smith (1999, 147) similarly note, “policies that promote peace and prosperity are, by almost any observer's yardstick, successful policies. Because politicians are ever eager to retain high office once having achieved it, incumbents must be eager to enhance their nation's welfare, thereby enhancing their own chances for continuing in office.”
decisions are a political litmus test. Refusing to export may convey intangible security benefits, but it can equally cause highly tangible industrial losses and unemployment.

In this dissertation, therefore, I argue that excess capacity in the naval shipbuilding industry best explains puzzling warship exports—for example, the sale of warships to rivals, or from declining states to more powerful ones. I define excess capacity as a state’s physical and human naval shipbuilding capital over and above what the state demands (or can afford). For example, if a state procures two ships from its domestic industry in a given year and then reduces its procurement to one ship the next, the resultant idle shipbuilding capital would be considered excess capacity. I draw on research in defense economics (e.g., Brzoska 2007) to demonstrate that the unique characteristics of the arms market and the obstacles to converting defense industries for civil use make excess capacity an acute political problem that is most readily solved by exporting—even when strategic considerations would intuitively dictate otherwise. And the greater the excess capacity, the greater the incentive of shipbuilding industries to mount political pressure in favor of exports.

The potential backlash from blocking warship sales is a powerful motivation for political leaders to take a permissive stance on exports. Indeed, I find only two strategic conditions under which no warship exports at all occurred between 1951 and 2001: first, an actual state of war between the potential exporter and recipient, and second, when the prospective seller and customer were split between the opposed superpower blocs during the Cold War. Barring such stark strategic indicators, the powerful logic of political economy—especially the preservation of shipyard jobs—predominates. Neither interstate rivalry nor militarized dispute short of war is sufficient to entirely negate the export pressure of excess capacity. In fact, as chapter 4’s case study of British warship exports reveals, the destroyers that came back to haunt the United
Kingdom during the Falklands war were exported at a time when Britain was actively striving to
deter Argentine aggression through naval deployments to the South Atlantic—and mere months
after an Argentine warship fired on a British civilian ship near the Falklands.

Political institutions intermediate the magnitude of the excess-capacity problem.
Accountable polities whose leaders are answerable to domestic audiences—including both
democracies and “machine” states such as Gorbachev’s Soviet Union—are more vulnerable to
the pressure of excess capacity.\(^\text{18}\) Personalist autocracies such as Mao’s China and Stalin’s
Soviet Union, on the other hand, are less vulnerable to domestic pressure. In these states, elites
owe their power to the dictator rather than vice versa, attenuating the influence of the defense
industry. In short, excess naval shipbuilding capacity makes risky warship exports more likely,
and the effect is stronger for domestically accountable polities than for dictatorships.

A brief consideration of the warship industry illuminates the link between excess capacity
and export pressure. The unique characteristics of warships call for a highly specialized industry,
entailing heightened constraints on factor mobility between defense and civil production—hence,
a disproportionate potential for loss of employment (and consequent political mobilization) as a
result of reduced procurement. A RAND study of the United Kingdom’s naval industry notes
that “the design and construction of warships is one of the more complicated weapon system
engineering and manufacturing tasks that a country can undertake” (Arena, et al. 2005, 2). It
goes on to state that

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\text{warships require a complex integration of [communication and control systems],}
\text{weapons, and sensors that must work together as a coherent system. These}
\text{components, or subsystems, are a mix of various technologies (e.g., electronics,}
\text{mechanical systems, [and] software). Oftentimes these technologies (particularly}
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\(^{18}\) I am indebted to Jessica Weeks, not only for her groundbreaking work on the disaggregation of authoritarian
regime types (2008 and especially 2012, from which the “machine” classification is drawn), but also for generously
providing her dataset for use in this dissertation’s quantitative analysis.
weapon systems) are state of the art or are undergoing development at the time a program begins (ibid.).

These factors make it difficult to shift capital and labor into commercial markets in times of low domestic demand for warships—even if there is robust demand (domestic or international) for commercial ship construction. The unique skills and technologies needed for warship construction may atrophy if unused, giving firms and employees an incentive to push for exports when the state cannot afford to subsidize the naval shipbuilding industry.

Moreover, naval shipbuilding employment is often highly concentrated, both geographically and in terms of unit production. In contrast to smaller and simpler military arms such as aircraft, tanks, or infantry weapons, “the workforce for the production trades might peak in the thousands for a [single] typical naval vessel” (ibid., 3). Politicians with power bases in geographical regions heavily involved with warship production are particularly vulnerable to the consequences of industry fortunes. Additionally, warship components are typically produced via a supply chain extending far beyond the shipyard, extending the spillover effects of procurement reductions all the way from the waterfront to the offices and factories that develop software, manufacture precision components, and so on. And of course, rhetoric designed to protect naval

19 Other factors distinguishing warships from their commercial counterparts include the requirements to survive and continue fighting after sustaining damage; to house, feed and provide medical care for hundreds or even thousands of sailors (as opposed to commercial ships whose crews typically number in the tens); to rearm and refuel at sea; and in many cases to land, launch and maintain military aircraft (Arena, et al. 2005, 3.).

20 The case studies presented later in the dissertation also reveal that “defense conversion”—shifting warship capital and labor into civil markets—is sometimes not even an option, since states with major warship industries may not be competitive commercial shipbuilders. In fact, several states, especially Germany and Japan, have used naval shipbuilding as a “cushion” against unemployment when their commercial shipbuilding fortunes ebbed—the exact opposite of defense conversion.

21 The fact that so many jobs, and the employment of so much industry capital, can hinge on the decision to procure (or export) just one ship distinguishes the naval shipbuilding industry from other defense industry subsectors. For instance, warships and military aircraft might be comparable in terms of technical complexity and supply chain depth; but aircraft are typically produced in lots of tens, hundreds, or even thousands over some number of years, which generates more political and economic room for maneuver, since annual procurement quantities can be more readily ramped up or scaled down. In contrast, the decision to build (or not build) a small number of ships can have major political consequences. McBride (1997, 386-387) writes, for example, that during the period between the world wars, the US battleship construction program survived assaults by “aviation [advocates], international treaty, and the attempts of three Republican presidents (especially Herbert Hoover) to negotiate or budget it into extinction,” not least as a result of its contribution to employment—and thus Congressional electoral fortunes.
shipbuilding jobs and revenue can be easily combined (or conflated) with appeals to national security and prestige.\textsuperscript{22}

Having defined excess capacity relative to the state’s own naval procurement levels—roughly, a reduction in how many ships the state buys, compared to the industry’s productive capacity—it follows that one of the most straightforward causes of excess capacity is a declining naval budget. (Indeed, chapter 2’s quantitative analysis uses decreasing military expenditure as a proxy measure for excess capacity.)\textsuperscript{23} Thus, the spectacle of declining Russia selling advanced destroyers and submarines to a rising China—counterintuitive when viewed through the lens of system-level theories of international relations—becomes understandable when viewed as an outcome of internal political pressures in a state whose defense budget has collapsed. Similarly, Britain’s otherwise-puzzling sale of destroyers to Argentina was a consequence of its attempt to sustain a faltering shipbuilding industry at a time of waning budgets.

The dissertation also explores a variety of competing hypotheses. While I find less support for these alternatives than for the excess capacity argument, I do note instances in which they play a role. For example, states do export warships to customers with whom they share common enemies. Similarly, states sometimes use warship exports as a form of political currency in an attempt to obtain strategic policy leverage over recipients. Yet, states often export warships when there is no clear strategic advantage, or indeed an obvious disadvantage—and these cases are best explained by excess capacity.

\textsuperscript{22} The present-day (2013) political debate over the deep defense cuts associated with the US Budget Control Act of 2012 (which entails “sequestration” of a large portion of the defense budget) has spurred many talking points in line with this theme. For example, the president of Newport News Shipbuilding—the sole builder of US aircraft carriers—recently characterized the importance of his yard: “it transcends being a shipbuilder or being the president of the shipyard…this is something important to the defense of the nation” (Shapiro 2012).

\textsuperscript{23} Of course, there can be other reasons for excess capacity. Reduced demand from existing international customers could generate excess capacity, as could an increased focus on one type of naval warship to the exclusion of others—as in chapter 4’s consideration of Polaris ballistic missile submarines’ impact on the British naval budget, which reduced disproportionately the funds available for other ship types.
This dissertation dispels the notion that security and economic explanations are theoretically incompatible, or that either option alone provides the best and most complete explanation of arms exports. Instead, I show that both security and political economy drivers play significant roles in influencing warship export decisions, and that political economy dynamics can be powerful enough to cause counterintuitive outcomes in the international security arena. While I do not argue that either security or economics always trumps its counterpart (short of the straightforward observation that warring states do not provide arms to one another), this dissertation sheds light on counterintuitive warship export by exposing and detailing the political incentives faced by state decision-makers.

In addition to its specific insights into the warship trade, this dissertation contributes to international relations scholarship more broadly. It represents a relatively rare theoretic melding of international security and international political economy (IPE), synthesizing insights from both subfields to arrive at a more finely grained understanding of an important empirical phenomenon. On one hand, it draws on political economy theories to explain why states would engage in strategically counterproductive arms exports. On the other, it draws on the logic of

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24 Homolar (2010, 411) writes, “the disciplinary fields of security studies and political economy too often maintain a deliberate distance from each other. Scholars tend to remain separated by an ontological divide between different theoretical traditions as well as different units of analysis, including an artificial division between foreign policy and security issues on the one hand, and domestic and economic issues on the other.” Thus, “the domestic and international political economy dimensions of national security has…remained both under-researched and under-explained within security studies, as well as across the discipline of international relations as a whole” (ibid.). I do not mean to suggest that this dissertation is a completely unique foray into combining IPE and security. See, for example, Whitten and Williams (2011, 117), whose study of military spending in advanced industrial democracies finds that domestic defense expenditures can be a form of “welfare policy in disguise”—i.e., “guns yield butter” (an argument that is related in spirit to that of this dissertation). See also Gowa and Mansfield (1993), who assess the security impact of free trade—arguing that it generates security externalities and is therefore more likely within than across alliances. McGuire (1995, 18-19) contributes a general discussion of how post-Cold War dynamics, especially the dissolution of the Soviet Union into multiple “new” states, have increased the focus on “the economic behavior of states and populations as the source of security threats...[and a conception of] territorial threats as deriving essentially from economic motives and forces.” Finally, for a fascinating argument that the structure (i.e., polarity) of the international system, the specific threats faced by policymakers, and the position of the United States in international economic competition fundamentally influence the degree to which security and economics are integrated in both statecraft and scholarship, see Mastanduno (1998).
security to implicitly address a question rarely occurring in IPE: why a state might choose to limit exports. As Adam Smith (1991 [1776], 346) observed, one of “the great object[s] of political economy [is]...to increase as much as possible the exportation of the produce of domestic industry.” Strategic logic explains why states make at least some effort to avoid risky warship exports—even if the pressure of excess capacity often trumps these efforts.

In sum, this dissertation aims to advance both international relations scholarship and better-informed policymaking by synthesizing theoretic insights from the subfields of security and international political economy, adding a unique analysis of the characteristics of the naval shipbuilding industry, and rigorously testing the excess capacity hypothesis against the empirical record. The dissertation contributes to the arms trade research agenda through its empirical focus on warship exports, while also suggesting new perspectives for investigating the conventional arms trade more broadly. And perhaps most importantly, it arrives at the key insight that seemingly expedient warship export decisions today can contribute to acute strategic and economic dilemmas tomorrow, by exacerbating the political problem of excess capacity.

Plan of the Dissertation

The dissertation proceeds in five chapters. Chapter 1 develops in detail the theory of warship exports and its associated hypotheses. Chapters 2 through 4 constitute the dissertation’s

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25 Studies of trade policy generally focus on degrees of openness to two-way trade flows, under which export-competing factors or sectors push for free trade, and their import-competing counterparts advocate for trade barriers. But the dependent variable in this literature is not usually export barriers; rather, these studies typically focus on tariffs and other import barriers, as well as export subsidies (e.g., Ray 1981; Rogowski 1989; Alt and Gilligan 1994; Mansfield and Busch 1995; Alt, Frieden, et al. 1996; Scheve and Slaughter 2001). Indeed, Leonidou's (1995) review and synthesis of empirical research on export barriers reveals a fundamental difference between conceptualizations of import and export barriers. Whereas the study of import barriers typically centers on government protection (i.e., active measures to inhibit the importation of foreign goods), the study of export barriers proceeds from an implicit assumption of laissez-faire, in which “export barriers” refer not to government action, but to various other practical impediments to export (e.g., the difficulty of gaining entry into foreign markets, and firm managers' risk aversion). This dichotomy is most clearly illustrated by Leonidou's single, generously-defined example of government-related export "barriers": "lack of government assistance" (ibid., 32).

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empirical core, beginning with statistical analysis and proceeding to detailed case studies of Soviet/Russian, British, German, Chinese, and Japanese warship exports. The conclusion, chapter 5, summarizes the dissertation’s key findings, its implications for scholars and policymakers, and avenues for future research.

The Bottom Line

The major finding of the dissertation is that excess capacity can tip the balance between strategic restraint and the siren song of the global arms market. In satisfying constituencies associated with the shipbuilding industry, political leaders may place national security at risk.

Moreover, in the post-Cold War world, there are few strategic “signals” short of war that are powerful enough to induce caution in warship export behavior. This finding points to an important policy implication of the dissertation: states with declining naval budgets should find ways of assisting the integration of shipyard workers into the wider economy, and of encouraging the economic redeployment of warship construction industries and their supply chains. Otherwise, the interest groups that represent these constituencies may pressure governments to make risky decisions in a world of growing strategic ambiguity, in which the consequences of warship exports are increasingly difficult to foresee. In short, the trite advice to simply “not give weapons to an enemy” perilously ignores both the complexities of international security and the pressures of the domestic political economy.
CHAPTER 1: EXPLAINING PUZZLING WARSHIP EXPORTS

Why would a state export warships, thereby empowering a potential adversary? Scholars and defense analysts propose a variety of answers. Arms transfers can be used as the currency of foreign policy influence, or as a means to maximize the collective strength of a military alliance.\(^1\) Arms are also economic commodities, albeit regulated by state arms export controls.\(^2\) These answers come up short, however, when warship exports seem to contradict the security interests of the state. They cannot explain, for example, why Britain would sell destroyers to Argentina in 1970 despite increasingly violent disputes over possession of the Falklands, or why Russia would sell submarines and destroyers to a rising China shortly after the implosion of the Soviet Union.

Moreover, they cannot convincingly explain why states would export warships in contravention of their own arms control regulations. Germany, for example, rose to the top tier of international warship exporters despite strict export regulations designed to prevent the postwar resurgence of German arms manufacturers and avoid contributing to regional conflicts. Appeals to the inevitability of profit-seeking (the “merchants of death” theme) are insufficient when warship exports violate self-imposed export controls, since they imply that states are relatively powerless to influence international transactions initiated by its own citizens.

I argue that puzzling warship exports are best explained by the political economy of shipbuilding. The arms industry plays a dual role in the state: it is an important component of

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\(^1\) For a general example of the foreign policy argument, see Freedman (1978, 377). Betts (1980, 95) offers the specific example of exports in return for basing rights. On the direct military benefits of arms trade within an alliance, see Betts (ibid.), and on the security benefits of intra-alliance trade more generally, see Gowa (1994, 3-10).

\(^2\) Garcia-Alonso and Levine (2007, 943), among others, note the fundamental tension that “arms trade…export controls and export subsidies often [chase] contradictory objectives such as the promotion of a domestic defense industry and the limitation of arms exports…so as to ensure national security.”
military capability, and it is also an influential actor in the domestic political economy.\(^3\) When warship supply exceeds state demand—generating excess capacity—shipbuilding industries employ both economic and strategic arguments to lobby for export. Furthermore, excess capacity often results from decreased military budgets. This suggests that the pressure to export is most acute just when a state is less willing—or able—to invest in its own naval capability. Therefore, *strategically puzzling warship exports are more likely when there is excess capacity in the naval shipbuilding industry*. When jobs are at stake, in other words, states sell warships to rivals, rising challengers, and other customers forbidden by arms export controls.

This is not an argument about states colluding with “merchants of death” in pursuit of ill-gotten gains. I do not contend that governments actively promote warship industry profiteering. Instead, I argue that excess shipbuilding capacity presents political decision makers with a dilemma. On one hand, unconstrained warship exports alleviate the political (and human) problem of lost jobs. On the other, the security of the state—and its population—calls for strategic export controls. The political challenge of balancing economic and physical security is always difficult, but it is especially acute when the prospect of lost jobs grows more tangible. Thus, when excess capacity presents the looming probability of shipyard unemployment, the scale tips toward export—despite incentives for strategic restraint.

The problem of excess capacity is arguably greater for the warship industry than for other sectors of the economy. The unique technological and strategic characteristics of the defense sector increase the challenges associated with conversion to other forms of production within the civil economy (“defense conversion”). This renders the factors of production extraordinarily immobile, making naval shipbuilding industries reliant on warship exports to avoid loss of

\(^3\) As I will argue in more detail, this holds whether the naval shipbuilding industry is privately owned or nationalized. Even government-owned warship industries are sources of employment, and of political influence for self-interested officials, both of which can translate into political pressure in favor of exports.
profits and jobs when state demand decreases. And the stakes can be very high: France’s 2011 sale of just two Mistral-class amphibious assault ships to Russia is reportedly worth $1.5–$2 billion (Viscusi and Meyer 2011; Congressional Research Service 2012, 4); and France’s then-president Nicolas Sarkozy “told shipworkers in [the French naval shipyard at] Saint-Nazaire that the deal represented six million hours of work and 1,500 jobs over four years” (Alfroy 2011).

The dense concentration of cost and effort associated with a single warship sets the shipbuilding industry apart even from the defense sector writ large, making individual export decisions especially consequential—and politically salient, as suggested by Sarkozy’s shipyard speech.

In principle, the security implications of warship exports compel political leaders to carefully weigh economic incentives against present and future strategic objectives. Indeed, states typically configure their export processes and regulations to ensure that heads of government approve (and thereby assume accountability for) strategically sensitive or controversial export decisions. Yet, it is also in those leaders’ interest to take seriously the desires of politically influential economic actors, including the defense industry. As Trubowitz

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4 “Demand” in this sense refers to what the state chooses to pay for its own naval procurement. This does not necessarily entail an accurate assessment of the security threats underpinning the demand, nor a budgeting process that is immune from conflicting priorities (including opportunistic manipulation) or exogenous resource constraints. These important but secondary considerations are set aside for future research.

5 A review of the historical top five arms exporters—the United States, Soviet Union, United Kingdom, France, and West Germany—reveals that, as of 1991, each government had in place processes to ensure that sensitive export requests were referred to the President, Politburo (which included the General Secretary of the Communist Party of the USSR), Prime Minister, or Chancellor (Anthony, The United States 1991, 190; Kirshin 1998, 49; Anthony, The United Kingdom 1991, 179; Allebeck 1991, 67; Wulf 1991, 79). In fact, Soviet arms export requests were handled within the Politburo as a rule (Kirshin 1998, 49).

6 Throughout the dissertation, I assume that political leaders generally select courses of action based on political self-interest. Peter Trubowitz (2011, 4n5) surveys important works in this theoretic tradition. Self-interest may be viewed from a variety of practical and normative perspectives; I do not draw distinctions between these, assuming instead that the particular mechanisms do not make a significant difference to warship export outcomes. For instance, leaders might act out of literal self-interest (i.e., balancing security and economic incentives for the cynical purpose of preserving their personal power) or in an attempt to logroll for other, more noble purposes; or they might act out of democratic or populist principle, using public opinion as a bellwether for the appropriateness of their actions. Whatever the underlying mechanism, leaders have an incentive to get their security and economic calculations “right,” because negative outcomes can end their tenure in office. See also Putnam’s (1988, 442) logic of two-level games, in which “national governments seek to maximize their own ability to satisfy domestic pressures, while minimizing the adverse consequences of foreign developments.”
(2011, 4) writes, “leaders are motivated by a concern for their reputations as effective statesmen on the international stage, as well as by the need to strengthen the political coalitions that secure their claims to office” (emphasis added). All else equal, otherwise-puzzling warship exports are more likely to occur when the naval shipbuilding industry and its subsidiaries, suppliers, and workers bring political pressure to bear on state leaders. This pressure, in turn, is proportional to the level of excess capacity. Thus, excess capacity raises the probability of export even when strategic factors dictate restraint.

Of course, this argument rests not only on the economic dynamics of excess capacity, but also on the existence of mechanisms and institutions that translate political pressure into political outcomes. The rest of this chapter establishes the plausibility of these dynamics and mechanisms, and the empirical chapters that follow show them in action.

* * *

The chapter is divided into three sections. The first section develops the excess capacity argument in detail. The second section introduces alternative explanations for warship exports: foreign policy leverage, external balancing, and macroeconomic pressure. These form the competing causal hypotheses that, alongside excess capacity, are tested against the empirical record in subsequent chapters. The third section describes several control variables, including relative power, nuclear weapons possession, interstate rivalry, democratic or liberal peace, and pressure from superpower patrons. The chapter concludes with a brief summary.

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7 Additional control variables are introduced in chapter 2’s statistical analysis.
Excess Capacity and Warship Exports

Market logic holds that supply will naturally reach equilibrium with demand. If the state sets the level of domestic demand for warships, and at the same time restricts exports for strategic reasons, why would the warship industry not simply adjust to state demand? From the industry perspective, the answer is straightforward: it is less costly to continue producing warships for export than to switch to another line of business. Yet, why should security-conscious policymakers concern themselves with industry’s efforts to protect the bottom line? In other words, why is excess capacity a problem for the state, and not just for industry? This is the political economy question underlying puzzling warship exports.

This section aims to answer that question, demonstrating how excess capacity is translated into political pressure for warship exports. It proceeds in three main steps. In the first step, I outline the unique characteristics of defense markets, in which three factors combine to transform the market dynamic into a process of bargaining between state and industry. This generates export incentives for both sides, even in the absence of excess capacity. Second, I demonstrate that the challenges of defense conversion—the conversion of military industry to civilian production—amplify export incentives related to excess capacity. In the third and final step, I draw on the logic of trade policy coalitions to show how the export incentive—generated by excess capacity and amplified by the challenge of defense conversion—translates into export

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8 The three factors are: (1) a unitary buyer (monopsony) in the form of the state, (2) high concentration of production (supply-side oligopoly or monopoly), and (3) non-price choice criteria emerging from military requirements.
9 Centrally planned economies with government-owned industries are not immune to these dynamics. Even Stalin’s Soviet Union accommodated “market-like exchange”: “Every year, Stalin gave the Red Army a purse of rubles and told it to order the guns it needed from the defense industry suppliers in an internal market for weapons and military equipment” (Harrison, Preface 2008, xiii). As a result, notwithstanding Stalin’s notorious dictatorship, “…defense industry leaders and managers…behaved opportunistically, sought a wide degree of independence, and followed their own narrow interests” (Gregory 2008, xi). (As I will describe later, however, dictators are nevertheless better positioned to quash strategically counterproductive exports because dictators are not susceptible to the logrolling or audience costs that transform export incentives into export outcomes.)
decisions. In keeping with Alt and Gilligan’s (1994) analytic framework for trade policy coalitions, this step incorporates a discussion of regime type—revealing why only dictatorships are likely to be immune to the export pressure of excess capacity.

*Defense Markets*

It is tempting to think of the peculiarities of different economic sectors as various species of market failure, but as Adam Przeworski (2003, 39) writes, one should “…stop thinking of ‘the market’ that may or may not fail, but admit that all markets are organized in some particular ways.” The extensive body of literature on defense economics offers important insights into the way arms markets differ from Adam Smith’s ideal. At the domestic level, the basic way in which arms markets differ from most others is that they are monopsonies. That is, arms markets generally consist of a single buyer (the government) facing multiple sellers (Brzoska 1995, 53). This is a natural outgrowth of state monopoly on the legitimate use of military force, combined with the fact that the cost of weapons such as warships would place them out of reach of all but the wealthiest firms, let alone individuals. Assuming for the moment that arms exports are prohibited, monopsony implies that the buyer sets the price by determining the quantity to be purchased. As Orley Ashenfelter et al. (2010, 203-204) write, “just as the monopolist faces a

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10 Defense economics “tailor[s] economic methods, both theoretical and empirical, to defense issues and policies, while taking account of institutional aspects that characterize the defense [sector]” (Sandler and Hartley 2007, 611). It arose in response to the problems of industrial mobilization for World War Two (McGuire 1995, 21). Defense economics expanded to incorporate not only the study of defense-related market phenomena, but also the application of econometric tools to security concepts such as arms races and deterrence—as in Thomas Schelling’s seminal *The Strategy of Conflict* (1960) (Hartley and Sander 1995, 4). For present purposes, I use the term more narrowly to indicate analysis of the unique economic characteristics of the defense industrial sector—particularly the “nonmarket characteristics of weapons acquisition,” first explored in detail by Peck and Scherer (1962, quoted in Hartley and Sandler [1995], 4), and the challenges associated with defense conversion and downsizing.

11 I refer to the “major conventional arms market” (which includes warships) to differentiate from the overall arms market, which may not be strictly monopsonistic at the domestic level. This is because the broader arms market includes not only major weapons (e.g., warships, tanks and tactical aircraft), but also small arms such as rifles and tactical infantry equipment, which may find other prospective buyers in local governments’ police and security forces, or might even be accessible to individual citizens.
downward-sloping demand curve…and can set the price, the monopsonist faces an upward-sloping supply curve for the good being purchased and can set the price.”

Monopsony does not only enable government price setting. It also imbues the government with other powers a buyer would not normally have. For example, the state can determine the parameters of contracts, including profit margins; encourage or forbid industry mergers; control entry into the defense market (by regulating access to classified information, for instance); decide whether to “bail out” failing companies; and decide on state or private ownership of defense industries (Hartley 2007, 1161; Liston-Heyes 1995). Warship producers therefore have a clear interest in lobbying for exports, which would allow them to enter a multiple-buyer market—increasing control over their own economic destiny.

Moreover, monopsony is not the only distinctive characteristic of the defense sector. There is also a tendency toward oligopoly or even monopoly on the supply side. The intense specialization and high performance benchmarks required for advanced military technologies make it necessary for states to consider “choice criteria” beyond simply the cost of the weapon (Hartley 2007, 1166). Warships from competing firms, ostensibly designed to the same set of operational requirements, are not identical and have relative advantages and disadvantages from a military perspective. Once a particular warship design is chosen, path dependency is likely to set in, with future ships and systems from the same manufacturer enjoying the competitive

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12 The typical focus for the study of monopsony is the labor market, since the historical existence of company towns, rural coal mines, and so on implied a monopsonistic hold on local labor—with the possibility of wage slavery (Ashenfelter et al., 204). It is possible that the warship market is an even more pure example of monopsony, since the causal factor underlying monopsony—the state’s power to permit or deny warship exports, thus controlling whether producers face only one buyer—is far more black-and-white than in labor markets (e.g., whether workers can realistically move to another geographic labor market within the state). Put differently, the degree of monopsony in labor markets varies in proportion to the elasticity of labor supply, whereas the warship market is either monopsonistic or not, depending on whether warship exports are permitted by the state.

13 The world’s leading arms manufacturers are textbook oligopolies, both domestically and internationally: “a group of giant firms, each of which keeps a watchful eye on the actions of the others...at least several of which are large enough...that they may well be able to influence the market price” (Baumol and Blinder 1994, 292).
advantages of compatible technology, common supply chains, and so on.\textsuperscript{14} As a result, warship firms often consolidate through self-initiated mergers. More-successful firms absorb less-competitive ones, creating monolithic suppliers with little—if any—domestic competition (Hartley and Sandler 1995, 8; Hartley 2007, 1145, 1150; Sandler and Hartley 2007, 610, 613, 619; Garcia-Alonso and Levine 2007, 948). Additionally, states with government-owned defense firms have little incentive to foster domestic competition in the first place, and so will tend to have monopolistic warship producers from the start.

Combined, the effects of demand-side monopsony and supply-side oligopoly or monopoly mean that the “invisible hand” does not rule the defense market. Instead, the market is a bargaining game. The players seek equilibrium, where “governments can procure required equipment at satisfactory costs to the society [and] tolerable profits to the…suppliers...” (McGuire 1995, 29).\textsuperscript{15} (For command economies, such as the Soviet Union’s, the perquisites and power enjoyed by industrial elites replace “profit.”) In short, the warship market has more in common with labor bargaining than with free markets (Baumol and Blinder 1994, 411).

The bargaining framework leads to the observation that a purely economic equilibrium is more easily reached when warship exports are permitted. Setting aside security concerns, increased production results in more profits (or power and perks) for the warship industry, and—through economies of scale—enables states to purchase more guns \textit{and} more butter.

Domestic defense markets create economic incentives for both governments and shipbuilders to favor warship exports. Yet, states do set some limits on exports for strategic

\textsuperscript{14} On the causes and effects of path dependency, see Pierson (2000).

\textsuperscript{15} While game theory provides useful shorthand to make this point, I do not use a formal game-theoretic model in this dissertation. As McGuire (1995, 29) points out, however, economists have made extensive use of game theory to investigate the interplay of governments and defense industries. In any case, the game-theoretic approach is particularly relevant to the move-countermove dynamic implied by monopsonistic government buyers and monopolistic/oligopolistic warship industries (e.g., Baumol and Blinder 1994, 410).
reasons. This leads to the question raised earlier: if a warship-producing state decides to constrain exports, why would its naval shipbuilding industry not simply switch over to some other product, such as civilian ships? The answer lies in the challenges of defense conversion.

*The Problem of Defense Conversion*

There are substantial challenges associated with the shift from manufacturing guns to churning out butter. Warship exports provide an enticing opportunity to circumvent the strategic, economic, and political costs of defense conversion.

The challenges of defense conversion demonstrate why excess capacity creates export incentives distinct from simple profit-seeking. These incentives are exacerbated by the high concentration of capital, labor and cost represented by warships. An example illustrates the premise: in a study finding significant levels of post-Cold War US defense industry consolidation, Kenneth Flamm (2000, 55) notes that “[o]ne glaring exception is in surface ships, where pork barrel politics has forced the [US] Navy to continue to support a number of shipyards that by all accounts is wildly mismatched to plans for future ship procurement.”

Defense conversion disincentives fall into two broad categories: strategic and economic. The strategic disincentives concern the risk of ceding latent naval power by dismantling warship production capacity, and the economic disincentives focus on the adverse effects suffered by industries attempting the shift from military items to alternative products. Strategic concerns translate into exports aimed at avoiding the loss of capacity that is considered a “strategic reserve,” while industry desire to avoid costly defense conversion translates to export pressure through the logic of trade policy coalitions, as discussed in the next section. Moreover, the concerns are mutually reinforcing. In particular, whether or not the strategic concerns are truly
legitimate, industries are adept at employing strategic rhetoric to advocate the preservation of excess capacity for more parochial economic reasons.

Both the strategic and economic concerns emerge from the nature of excess capacity in the arms industry in general, and naval shipbuilding in particular. As Flamm (2000, 54) writes, “from the perspective of the [arms-producing] firm, the real ‘excess capacity’ is the cost of maintaining and sustaining a minimum critical mass of skilled people with design skills and experience, not buildings and tools.” In other words, excess capacity largely concerns human capital: highly skilled individuals ranging from marine engineers to specialized welders to weapon technicians. I consider the strategic and economic aspects of defense conversion in turn.

The strategic impact of defense conversion is relatively straightforward. States with competitive domestic warship markets are likely to allow warship industry consolidation and downsizing to proceed in accordance with market forces—up to a point. At the extreme, that point is reached when a warship monopoly emerges; though governments may seek to sustain

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16 States with command economies—for example, the former Soviet Union, or contemporary North Korea—effectively have only one supplier for any given type of weapon, and that supplier is generally an arm of the state. For example, as of 1978, the Soviet defense industries were controlled via the Defense Industry Department of the Communist Party’s Central Committee, with warship production responsibilities consolidated under the Shipbuilding Industry Ministry (Scott and Scott 1979, 294-295). Nevertheless, the move of most state economies toward at least “managed” (if not free) markets, as in post-Soviet Russia and contemporary China, means that the challenges of defense conversion remain broadly applicable. (Russia is, in fact, probably the most-cited example of the pitfalls of defense conversion.) In any case, even command economies attempting to shift industrial plants (and their human capital) from defense to civilian production will encounter challenges related to factor immobility.
more than one supplier to keep prices down through competition (e.g., Flamm 2000, 56-57). Moreover, the existence of multiple domestic warship producers may belie effective monopoly when one takes into account specialization within the warship industry. For instance, as of 2012 the United States has a number of warship-producing shipyards, but only two (owned by Huntington Ingalls Industries and General Dynamics) produce destroyers, and only one (a separate yard owned by Huntington Ingalls) produces aircraft carriers (Defense Industry Daily 2012). And this is the world’s lone superpower. Smaller states are even less likely to enjoy redundancy in the warship industrial base.

Taken together, these factors highlight a key strategic rationale for sustaining the yards’ existence, through exports if necessary. The loss of a warship-producing firm will result in reduced ability to generate naval power in the future, since efforts to reverse industry downsizing are likely to suffer from extremely high entry costs—assuming the requisite technological know-how still exists in the domestic economy. As a Huntington Ingalls official put it, “this is the largest nuclear shipyard in the United States — the only one building aircraft carriers and one of two building nuclear submarines. If something happened that really impacted this yard, it changes what the [US] Navy looks like” (Shapiro 2012).

17 The minimum number of suppliers required for true competition is the subject of ongoing analytic debate (Flamm 2000, 56-57). For example, game theory suggests that with two warship suppliers, each is aware that the government—which seeks competition—has a perverse incentive to pay the overhead for maintaining both, since the collapse of either would result in a monopoly. By extension, three suppliers might not be enough either, since each of the three is aware that the collapse of one would result in a duopoly, causing a reversion to the first scenario. Moreover, US defense consolidation from 1990 to 1998 suggests that even more factors are in play. While the US government actively blocked the merger of Lockheed Martin and Northrop Grumman, which would have reduced the number of fixed-wing tactical aircraft producers from three to two, it permitted a variety of other mergers that resulted in duopolies for the producers of tracked combat vehicles, nuclear missiles, and torpedoes, among other weapons (55). (As noted previously, however, Flamm [ibid.] attributes the obstruction of warship industry consolidation to blatant “pork barrel politics.”) An international example from the military aviation industry is the proposed 2012 merger of warplane multinationals BAE and EADS. Meant to improve competition internationally (relative to US competitor Boeing, for example), this merger was nevertheless blocked by states that feared it would decrease competition in the European fighter market. Both BAE and EADS are members of the Eurofighter consortium, but EADS is also a major shareholder in the French firm Dassault, manufacturer of Rafale—a direct competitor to Eurofighter (“Like Unilever, but with fighter jets and missiles” 2012).
This may seem extreme, but the example of British nuclear submarine construction suggests otherwise. In 1997 the United Kingdom contracted with BAE Systems to produce *Astute*-class nuclear submarines, replacements for the Royal Navy’s aging attack submarine fleet. Due to a lack of experience with the latest design techniques required for nuclear submarine construction, the *Astute* program incurred over $1.6 billion in unanticipated costs, and an average delay of 28 months in delivering each submarine (United Kingdom Ministry of Defense 2011). Ultimately, BAE Systems and the Ministry of Defense resorted to hiring an American firm, Electric Boat, to “advise” and collaborate on design efforts—demonstrating that the requisite expertise was not available in the United Kingdom (BBC News 2003). In short, warship production expertise—that is, human capital—is perishable. The strategic rationale for sustaining active warship production lines stems directly from the difficulty in regenerating this specialized capability once lost. If lost capability cannot be recreated, then a state that formerly enjoyed an independent naval production capability may become beholden to foreign suppliers, leading to a disadvantage in future conflicts.  

A limitation of the strategic rationale for sustaining excess capacity through exports is that it should apply only when warship industries are truly in extremis—when budget cuts actually threaten industry survival. Cuts of this magnitude are relatively rare. This leads to the second aspect of the defense-conversion challenge: the political economy dimension. Warship industries (and their government advocates) are adept at exploiting strategic arguments, whether

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18 Game theory provides a related insight that suggests another reason for permissive warship export controls. As Garcia-Alonso and Smith (2007, 956) explain, competition and profit motives encourage defense industries to export their most advanced technologies to the broadest customer base available, including foreign governments. States want to restrict such exports, which concede military advantage; but they are unwilling to impose severe (i.e. bankruptcy-threatening) penalties due to the strategic importance of the domestic industry. Penalties are therefore likely to be (relatively) modest, thus increasing the value to industry of cheating. Governments, recognizing this, are therefore less likely to employ penalties in the first place.
valid or not; and moreover, there are real, practical obstacles to converting warship industries for civilian uses. I discuss each of these factors below.

First, arms producers are aware of political leaders’ vulnerability to both strategic and economic criticism. Thus, both arguments are often employed simultaneously for maximum effect. Hartley (2007, 1156) writes that arms producers will try to persuade governments to allocate contracts in their favor using various arguments about support for jobs and plants in high unemployment areas, the need to support the national defense industrial base, the importance of retaining “key” technologies and the export potential of a new arms program. Such arguments are often dominated by myths, emotion and special pleading, lacking economic analysis, critical evaluation and empirical evidence [emphasis added]…[thus,] politicians are reluctant to close military bases and defense industrial plants in their constituencies with associated job losses so leading to the retention of excess industrial capacity.\(^1\)

Hartley (ibid.) goes on to note that this political strategy is aggravated by the well-known tactic by which “prime contractors allocate sub-contracts to embrace as many political constituencies…as possible whilst vote-maximizing governments and their staffs will allocate defense contracts to marginal constituencies…”\(^2\) This amplifies political incentives for governments to intercede in arms procurement and export decisions.

Second, notwithstanding exaggerated industry rhetoric, there are real, practical challenges associated with defense conversion. Economists have examined these challenges in theoretic and empirical work inspired by the widespread anticipation of a “peace dividend” following the Cold

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\(^1\) Circumstantial evidence for this argument is vividly provided by the actions of US politicians in the days leading up to 2013’s “sequestration” of a portion of the federal budget—among them, a speech by President Barack Obama, symbolically held at a submarine-construction shipyard in Newport News, Virginia. “‘These cuts are wrong,’ Obama said, arguing that automatic reductions in defense and domestic programs will threaten thousands of jobs in Virginia, harm education programs and hurt the national defense” (Bartel 2013). On the industry side, “a Web site established by Lockheed for the [F-35 Joint Strike Fighter] provides a sample letter for constituents to send to lawmakers. ‘The F-35 program is a win-win proposition for our national security and our nation’s declining manufacturing base,’ the letter states” (Chandrasekaran 2013).

\(^2\) A roughly analogous effect was in play even in the Soviet Union’s command economy. Soviet industry dispersed across the country to evade the German advance in World War Two, leading to wide geographic distribution of defense plants. Defense industry managers, in turn, were members of the Communist Party elite—and as Almquist (1990, 38) writes, they “control enormous organizations and appear to be prominent local or national figures.”
War, and informed by successful defense conversion efforts, particularly in the US, following World War Two (Brzoska 2007, 1179). A key finding of this research—contrary to analysts’ initial expectations—is that defense conversion is far more challenging than originally believed, and that unique postwar conditions drove its apparent success after World War Two. Specifically, US defense conversion success resulted from the release of pent-up civilian demand following wartime rationing and bond issuance. The comparative “failure” of Great Britain’s defense conversion, in contrast, had more to do with its war-decimated macroeconomy than with any particular issues inherent to conversion (ibid.).

Michael Brzoska (2007) captures the hopes and disappointments of defense conversion advocates in his survey of studies on the “long decade of disarmament” near the end of the Cold War, extending from the mid-1980s to the late 1990s. After the Cold War, worldwide military procurement spending between decreased by almost 50 percent (ibid., 1179). Brzoska (ibid.) notes that “this sharp reduction in demand for military services made large amounts of resources available for civilian reuse. However, such reuse is neither automatic, nor always economically efficient and sometimes not even possible.” Most analysts had anticipated a smooth defense conversion process, based on the “lessons” of the 1950s. For command economies, analysts assumed that conversion could simply be ordered, and might even result in “major increases in civilian production as the defense sector was generally thought to be more efficient and technologically advanced than civilian sectors” (1180). But these hopes were dashed due to the qualitative differences between defense and civilian industries.

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21 Brzoska (2007) examines the effectiveness of defense conversion across six types of resources: government spending, military research and development facilities, defense production facilities, armed forces and defense industry personnel, military land and military-owned equipment. For the purposes of this study I focus on defense production facilities and defense industry personnel.

22 Part of the impetus for this research as it applied to post-Soviet bloc economies was the perceived potential for industry conversion to counteract high unemployment (Brzoska 2007, 1181).
For one thing, defense industry employment often entails higher pay for the training and retention of uniquely qualified workers. And in many cases, reemployment opportunities result in pay cuts, since defense-related skills may not be transferable (Brzoska 2007, 1202). This can create a glut of overqualified workers. Moreover, the extensive (and expensive) research and development capacity required to generate esoteric defense technologies may not translate well to the civilian market. The widespread unemployment of ex-Soviet weapons researchers after the Cold War is a well-known example of both of these effects (Gonchar 2000; Brzoska 2007, 1194). Given the high potential for unemployment, it is understandable that governments bow to political pressure to maintain these jobs through exports.

In addition, there is generally a different cost-performance ratio for defense industry compared to civil industry. In defense, “performance takes a clear precedence over cost,” which distinguishes the defense sector from most civilian sectors (with only a few niche exceptions, such as high-performance auto racing) (Brzoska 2007, 1185-1186). In other words, the military demand for even the slightest margin of superiority over potential adversaries tends to move the defense sector farther along the diminishing-returns curve than market forces might allow civilian industries to do, hampering their competitiveness in the civilian market.²³

Furthermore, “to turn an industrial plant producing weapons into a factory competitively producing civilian goods may require a complete change in production machinery as well as the

²³ Note that this military standard of marginal (or preferably significant) superiority is generally applied to the entire system—for example, a warship—rather than to individual subcomponents. This exacerbates the competitive challenges of defense conversion: while Country X’s warships might be superior to all others, the ships’ subcomponents—even if they have civilian application, as in the case of navigation systems—might not be individually competitive on the civilian market (where, of course, there is no demand for the whole ship). Brzoska (2007, 1192) finds that “practical experience in Western countries in the late 1980s demonstrated that the military was in front in some areas of technology, such as composite fiber structures and metal coating, while in most others civilian research had outpaced the military effort. This was particularly true for electronics but also for important frontiers of material science and aerospace.” Somewhat paradoxically, the concurrent “spin-in” of civilian technology meant that the core competencies of Western (particularly US) defense firms, such as systems integration and stealth technology, were increasingly specific to military systems and thus less applicable to the civilian market (Alic, et al. 1992, cited in Brzoska 2007, 1193).
work-force” (Brzoska 2007, 1187). Even if a firm’s management decides to shutter its defense plants outright in favor of investing in civil industry, “conversion on the level of the company is not paralleled by much conversion on the level of production factors” (ibid.). This is a high-cost proposition for the company, and a high-risk proposition for political leaders given the resultant employment challenges. Brzoska (1188) points out that this “social” point of view is more dominant in policymaking than the purely economic perspective. Put differently, the public relations problem posed by unemployed workers and rusting defense factories often outweighs the macroeconomic benefits of a firm’s “successful” transition to civil production, if it leaves much of its physical and human capital behind.

Obstacles to defense conversion are greater for warships, even compared to other military equipment (aircraft, for example), based on the typical evolution of firm concentration. Whereas “aerospace specialists” (e.g. Boeing, EADS, or Tupolev) evolved to address both civil and military aviation markets, most warships are produced by “defense specialists” for which no ready civil market exists (Hartley 2007, 1151)—especially when the state in question does not have a significant civil shipbuilding industry, as in the case of the contemporary United States. Warship producers thus stand apart from “defense-civil companies [such as aviation industries, that] are not dependent on winning large arms contracts and [whose] civil business supports their industrial capability for re-entering defense markets in the future” (ibid.). Defense conversion

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24 In addition to conversion of production, defense firms would also pay the costs of converting their organizational structures. According to Brzoska (2007, 1194), defense firms “generally have larger research and development and administration departments than comparable civilian companies. Marketing departments are smaller. Customer orientation, cost awareness, etc. are underdeveloped.” Furthermore, from an ideational perspective, some analysts argue that “socio-cultural factors, such as expectations of manager and workers, have been a major impediment to successful conversion” (ibid.). Along those lines, Adelman and Augustine (1992, 28) contended that conversion was “unblemished by success” (see also Brzoska 2007, 1190). Brzoska (ibid.) argues that this line of reasoning creates a vicious circle—defense industry managers, convinced that conversion does not work, focus instead on lobbying for defense market share even against a backdrop of declining military spending.

challenges therefore loom larger for warship producers, and downsizing is even more likely to result in irretrievable losses in shipbuilding expertise.\textsuperscript{26}

These challenges are not much affected by the trend toward dual-use technologies (e.g., Brzoska 2007, 1188), to which warships are relatively immune. While a warship may well incorporate a great many dual-use subsystems (e.g., navigational radars), the preponderance of its equipment—even including basic hull and propulsion systems—is quite specialized and has no ready equivalent in civilian industry (1195). Modern examples of these systems include missile launch equipment, three-dimensional air search and targeting radars, powerful and responsive gas turbine propulsion plants (grossly inefficient compared to civilian diesel engines optimized for fuel economy), electronic warfare systems, and so forth. Additionally, the modifications required to make these complex systems function in the maritime environment (resistance to salt-water corrosion, for instance) differentiates them from other military systems, reducing the potential even for intra-defense sector conversion.

Empirically, analysts have concluded that post-Cold War defense firms attempting to enter civilian markets found themselves uncompetitive (Brzoska 2007, 1189). What this implies for firms (and states) is that successful conversion should be seen not as costless, but as something that requires both up-front economic investment and a willingness to bear the political costs of shuttering defense plants—and putting their employees on the streets. Moreover, a warship producer need not be in extremis for these effects to occur. Because the defense conversion challenges described above render both human and physical warship production capital highly immobile, excess capacity is more an absolute problem than a relative one.

\textsuperscript{26} This reasoning presents a compelling explanation for warship producers’ willingness to license their designs for production in foreign yards. Even though this form of transfer is not as economically ideal as domestic production—in part because it encourages the buyer’s future ability to produce its own ships domestically—licensing at least offers the opportunity to subsidize key elements of the associated research, development and design enterprises.
Regardless of whether the warship producer’s industrial survival is at stake, the fate of “excess” industrial plant and workers is largely tied to whether or not alternative outlets for that excess capacity—exports—can be obtained.

In short, defense conversion has politically unappealing short-term costs (Bjerkholt 1996, 19; Brzoska 2007, 1191). As Brzoska (ibid.) puts it, “‘avoiding the cost and effort to convert to civilian production is an attractive option for those producers who can exploit political rents resulting from political protection.’” Warship exports offer firms and states an opportunity to deal with excess naval shipbuilding capacity without incurring economic and political costs.

Trade Policy Coalitions and Regime Type

The story thus far has laid out a structural framework of warship export incentives. To address the mechanisms by which these incentives result in domestic political pressure for policymakers to permit exports, I draw on the logic of trade policy coalitions.

Rogowski (1989, 3-20) explains how variance in a national economy’s exposure to international trade affects domestic politics. Because international trade benefits owners of abundant factors of production and harms owners of scarce factors, Rogowski argues, domestic political pressure groups should coalesce around owners of like factors. James Alt and Michael Gilligan expand and refine Rogowski’s approach (1994, 166-167 and passim), who pose three analytic questions relevant to excess naval shipbuilding capacity. First, who will mobilize for political action? Second, how do factor abundance and mobility affect mobilization? Third, how

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27 In an interesting reversal of the “peace dividend” narrative, the need for up-front investment may mean that successful conversion hinges on (rather than creates) the “new opportunities and markets, which are the signs of healthy, growing economies” (Brzoska 2007, 1198). The post-World War Two United States is a key example.

28 Brzoska (2007, 1190) presents a vivid example from the Soviet Union: “when conversion was ordered by the leadership…at least some Soviet defense producing companies adopted seemingly strange but rational behavior. Ordered, for instance, to produce prams, they did so, but made from special steels, very heavy and expensive. Proving that they were not able to produce competitive goods, they continued to lobby…for large military orders.”
do institutions affect policy coalitions? I assess the warship trade in light of each of these three questions, showing how defense-conversion challenges are translated into export pressure.

First, individual warship producers have a clear incentive to organize for political action. The benefits of lobbying for exports are excludable, minimizing the potential for free riding (Olson 1965). Arms export controls typically require case-by-case decisions; thus, government permission for one firm to export does not automatically confer export approval to other firms. Export approval can mean a warship export at a competing firm’s expense. Moreover, the number of actors (firms) is low compared to the broader domestic market, particularly given the tendency toward industry consolidation. Lone shipbuilders may be fighting for themselves and themselves alone—there is no one else to pick up the lobbying slack for them. To paraphrase Alt and Gilligan (1994, 185), “there really are no coalitions at all: there are simply individual [firms] requesting, and often receiving, [export permission] for their particular products.”

Second, the preceding discussion of excess capacity and defense conversion reveals how factor abundance and mobility affect political mobilization. For present purposes, factor abundance is best thought of not in the traditional sense (the prevalence of warship capital relative to other states), but rather as the amount of excess capacity—in other words, the

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29 Focusing solely on the economic aspect of warship exports, it may be easiest to summarize the corresponding logic from the state’s perspective by simply modifying Vilfredo Pareto’s (1927, 379) observation that “a protectionist measure provides large benefits to a small number of people, and causes a very great number of consumers a slight loss. This circumstance makes it easier to put a protection measure in practice.” The revised statement runs, “a warship export decision provides large benefits to a small number of firms (or just one), and causes domestic consumers no loss at all. This circumstance makes favorable warship export decisions practically automatic.” This logic merely reinforces the observation that export barriers other than those related to security appear almost non-existent in the world. The sole exception I have been able to discover is the use of export taxes—or decreased export subsidies—to help insulate domestic groups from increased costs of staple foods during price spikes in the global market, by keeping the grain at home rather than exporting (Martin and Anderson 2012, 422). Note that this is nearly the opposite problem as that faced by would-be warship exporters during periods of low domestic demand—there is no corresponding need to “keep the ships at home”; indeed, the lack of domestic demand is precisely what increases the motivation to export, both for the firm and for policymakers.
domestic “overabundance” of warship production capacity.\footnote{Throughout the dissertation, I use the term “capital” to encompass the physical equipment and facilities as well as human capital, embodied in the highly trained and specialized workers required for warship design and production.} When there is excess capacity, exposure to international trade through export permission (which would not typically be linked to competing import exposure) can only benefit the warship producer. Equally important, factor mobility between warship production and civilian alternatives is very low.\footnote{Alt and Gilligan (1994, 167) define factor mobility as “the ease with which those factors can move between alternate uses in different sectors or industries within the domestic economy.” Warship capital is a “sector-specific asset” which, in Alt and Gilligan’s (174) words, “apart from [its] present use…just [does] not have any very good alternate uses.” This implies the adoption of the Ricardo-Viner, or “specific factors” model to explain warship export policy coalitions, rather than the Stolper-Samuelson, or “mobile factors” model employed by Rogowski, among others (ibid.). See also Frieden (1991).} This implies that exporting is far less costly than conversion. Thus, the intensity of the export incentive is very high when excess capacity exists.

Turning to Alt and Gilligan’s third question, domestic institutions have straightforward implications for the effectiveness of export pressure. As noted earlier in the chapter, political leaders are accountable for both economic and strategic policies, and defense conversion provides warship producers, constituents, and political opponents with ammunition on both counts. In order for export pressures to cause warship export outcomes, however, the responsible leader must actually be vulnerable to lobbying or logrolling. Because of the heightened political accountability of democratically-elected leaders compared to autocrats, democracies should therefore be among the states most likely to export warships.\footnote{On the tenuous nature of democratic office, see Chiozza and Goeman’s (2004, 611) finding that democratically-elected leaders’ tenure is substantially shorter than that of leaders in other regime types.}

Successful export advocacy, however, is not limited to democratic regimes (e.g., Alt and Gilligan 1994, 185-187; Bueno de Mesquita et al. 1999; Przeworski 2003; 14). As Jessica Weeks (2008, 2012) points out in her pathbreaking work on authoritarian regime types, some autocrats are vulnerable to political pressure from nominal subordinates. Among these are machines, in
which leaders are constrained by key civilian elites.\textsuperscript{33} Figure 1.1, reproduced from Weeks (2012, 337), summarizes and provides examples of authoritarian regime types. Because of elite constraints, the leaders of machine regimes—like Nikita Khrushchev, who was ultimately ousted by his Party comrades (Kort 1997, 22)—are more vulnerable to the political pressure of excess capacity than dictators like Stalin and Mao. Indeed, historian Martin McCauley (1995, xii, xvi) notes that defense industry ministries “defeated Khrushchev’s attempts to make them more accountable to the Party leadership,” and that Khrushchev’s efforts to implement such reforms contributed to his downfall by threatening the interests of defense industry elites.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
\textbf{Civilian Audience or Leader} & \textbf{Military Audience or Leader} \\
\hline
\textbf{“Machine”} & \textbf{“Junta”} \\
China (after Mao) & Algeria \\
Kenya & Argentina \\
Malaysia & Brazil \\
Mexico (until 1997) & Greece \\
Poland & Myanmar (after 1988) \\
Senegal & Nigeria \\
Tanzania & Rwanda \\
USSR (after Stalin) & South Korea \\
(North) Vietnam & Thailand \\
\hline
\textbf{“Boss”} & \textbf{“Strongman”} \\
China (Mao) & Chile (Pinochet) \\
Cuba (Castro) & Egypt (Nasser) \\
Egypt (Sadat, Mubarak) & Indonesia (Suharto) \\
Indonesia (Sukarno) & Iraq (Qasim, al-Bakr) \\
Iraq (Saddam) & Myanmar (until 1988) \\
Libya (Qaddafi) & Pakistan (Ayub Khan) \\
North Korea (Kims) & Paraguay (Stroessner) \\
Portugal (Salazar) & Somalia (Siad Barre) \\
Romania (Ceausescu) & Spain (Franco) \\
USSR (Stalin) & Uganda (Idi Amin) \\
\hline
\end{tabular}
\caption{Examples of authoritarian regime types\textsuperscript{34}}
\end{table}

\textsuperscript{33} Personalist autocracies, by contrast, feature elites beholden to leaders (civilian bosses or military strongmen)—a reversal of the accountability mechanism present in democracies and machines.

\textsuperscript{34} Weeks (2012, 337).
I do not mean to imply that warship export decisions are part of the daily agenda of heads of government, or that their political survival hinges directly on individual exports. Yet, the strategic and economic problems posed by excess shipbuilding capacity suggest two complementary policy dynamics through which political pressure translates into warship exports.

First, leaders accountable to electorates or elites can design warship export control regulations and processes to be broadly permissive, allowing most export decisions to go forward as *faits accomplis*—insulating leaders from the political problem of saying “no” to exports. Highly autonomous export bureaucracies have a lower bar for warship sales, since state leaders can plausibly claim limited responsibility for exports to problematic customers after the fact—dismissing them as “accidental” outcomes of standard operating procedures, and holding bureaucrats accountable.\(^{35}\)

Alternatively, leaders can ensure that at least the most strategically sensitive export proposals are referred for the leader’s approval. While this gives leaders more direct control over exports that threaten the state’s security interests, it also saddles them with personal accountability for the consequences of blocked exports—including unemployment, the loss of strategic production capacity, and in the extreme, potential industrial collapse. This creates political leverage for the constituencies most affected by industry losses—whether voters, political benefactors, or horse-trading subordinates.\(^{36}\)

\(^{35}\) This is analogous to Allison’s (1969, 1971) organizational process model—employed with malice aforethought. \(^{36}\) Indeed, bureaucratic politics are integral to the logic of trade policy coalitions that underpins my core argument. Snyder (1991, 31-32), for instance, describes the formation of ruling coalitions through logrolling among various interest groups. In a particularly relevant example, he cites “German state-financed colonialism…[which] benefited the navy, Krupp steel, and other contractors while providing essentially zero return on the public’s investment” (35). It is a logical extension to argue that warship exports could arise from logrolling—especially since the negative consequences of warship exports are far less severe than those of the imperial overextension that Snyder examines.
In the absence of a crystal-clear and catastrophic security impact, then, warship exports to relieve the political pressure of excess capacity may be a deal that leaders can’t refuse.\textsuperscript{37} Moreover, since leaders often have an information advantage over their citizens on the intricacies of national security matters, electors and elites are less likely to oppose exports on national security grounds than they are to mobilize political pressure for economic reasons.\textsuperscript{38} This means that there is no likely source of countervailing political pressure against exports, at least from outside a leader’s circle of defense advisors. Politically, if not strategically, warship exports—even to rivals, rising challengers, or customers that violate self-imposed export controls—may be a low-risk proposition.\textsuperscript{39}

There do appear to be some empirical limits beyond which leaders are unwilling to export warships—yet these sharp delineations serve mainly to emphasize the broad range of possibilities remaining for strategically puzzling exports. Specifically, no state has exported a

\textsuperscript{37} As Taliaferro, Lobell and Ripsman (2009, 32) observe, “even if elites correctly perceive the nature and magnitude of international threats, domestic political dynamics can nonetheless force them into pursuing arguably counterproductive foreign and security policies.” Moreover, self-interested political leaders who have in the past conflated economic and security justifications for exports may find themselves rhetorically trapped when their security concerns overtake economic motivations: “speakers cannot return to a pure bargaining process and openly reveal inconsistencies between their discourse and their instrumental objectives without risking the loss of credibility” (Morin and Gold 2010, 577). For additional analyses of strategic rhetoric (and rhetorical trapping) in the service of political ends, see Krebs and Jackson (2007), Lusk (2010), Müller (2004), and Schimmelfennig (2001).

\textsuperscript{38} Numerous scholars argue that state leaders have more leeway in shaping domestic perceptions of their policies’ security consequences, as compared to domestic economic aspects. For instance, Milner and Tingley (2012, 8) provide a rationalist explanation in their study of US presidents’ foreign policy constraints, arguing that “policy tools differ depending on whether they have large distributional consequences at the local level and by whether there are informational asymmetries such that certain actors, especially the President, have better information about the policy.” From this perspective, warship exports provide significant domestic distributional consequences combined with uncertain security consequences; furthermore, political leaders can readily shape domestic perceptions of security consequences due to information asymmetry between leaders and constituents on security matters. Put bluntly, losing one’s job in the shipbuilding industry is a clear and unambiguous signal of an export decision’s consequences, whereas security consequences are likely to be longer-term and less conclusive—thus more amenable to rhetorical shaping. All else equal, this should make it easier to reach positive export decisions notwithstanding security concerns. As Betts (1980, 82) puts it, “one of the few tangible results of limiting [arms] sales is economic loss…the extent and import of the loss are debatable, but there is certainly no immediate gain.” See also Milner and Tingley (2012, 49) and Taliaferro, Lobell and Ripsman (2009, 5).

\textsuperscript{39} Alternatively, some scholars find that leaders’ tenure in office is barely affected by economic factors, especially in autocracies (e.g., Chiozza and Goemans 2004, 614-615). From this perspective, leaders might not pay much of a price for blocking warship exports, thus decreasing the political impact of excess capacity.
warship to another state with which it was actually at war, at least since systematic data is available beginning in 1950 (SIPRI 2011, Maoz 2005). And during the Cold War, no warship exports crossed between the US and Soviet blocs. In cases like these, leaders can clearly perceive the negative security impact to the state, and the political impact to themselves. With the passing of the Cold War into history, the remaining empirical “rule”—against exports to wartime adversaries—leaves plenty of room for states to export warships under a broad range of strategic circumstances.40

* * *

To recap, the core argument runs as follows. Idle shipbuilding capital—excess capacity—generates pressure for warship exports, and leaders have political incentives to approve them. Warship industries are encouraged to mobilize politically because of the high costs of defense conversion. Leaders often approve exports, whether personally or indirectly through permissive export regimes, to avoid paying the political price associated with the domestic consequences of defense conversion—especially lost jobs.41

The core argument and its underlying mechanisms generate two hypotheses:

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H1: \text{States export warships when there is excess capacity in their naval shipbuilding industries (main hypothesis).}
\]

\[
H1A: \text{Democracies and machines are more likely than dictatorships to export warships in response to excess capacity (supporting hypothesis).}
\]

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40 This is analogous to Trubowitz’s (2011, 5-6) “geopolitical slack”: situations in which the lack of explicit interstate belligerence creates room for error in security policy—thus, a permissive environment for exports.

41 More formally, to paraphrase Alt and Gilligan (1994, 191), “mutatis mutandis, we [should] expect to see...industries with highly specific investments persisting indefinitely under sets of political institutions which contain [many] element[s] giving politicians incentives to protect those specific assets.” This recalls the example of the US shipyard surplus relative to domestic demand for warships (Flamm 2000, 55).

42 I omit juntas (regimes constrained by military elites) because, according to Weeks (2012, 333), “military officers are more likely than civilians to form ominous views of the status quo, and to view military force as effective and routine.” This could temper the impact of export advocacy due to the regime’s focus on security concerns.
Hypothesis H1 is the minimum requirement for testing the argument that excess capacity leads to warship exports. Hypothesis H1A scrutinizes the supporting claim that democracy and elite constraints transmit the export pressure to decision-makers. A lack of support for H1A would not invalidate the central claim, but would call for a reexamination of the underlying mechanisms.

**Alternative Explanations**

Arms trade studies often assert that states export warships to gain strategic advantages. The most powerful competing explanations for warship exports, therefore, might be those that view exports as a means of external balancing against a third party, or as tools of foreign policy leverage. These are the first two alternative explanations. The third is rooted in the argument that arms exports are primarily a means of bolstering the state’s macroeconomy—distinct from the sectoral motivations associated with excess naval shipbuilding capacity.

The alternative explanations are not mutually exclusive. Excess capacity, for example, could make the export of warships to allies more likely. But since this study is motivated primarily by counterintuitive exports, the most important consideration is not to declare one of the competing theories the victor in explaining all warship exports, but rather to determine which explanation provides the greatest analytic purchase on the most puzzling exports.43

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43 As Snyder (1991, 60) puts it, “the purpose is to eliminate theories that fail many tests and to show in what ways the surviving theories contribute to explaining the outcome of the cases.”
States might export warships as a form of external balancing, bolstering their own security by increasing the military strength of an ally.\footnote{This argument is equally valid from either Waltz’s structural realism or Walt’s (1985, 1987) “balance of threat” theory. While distinct in their alliance-formation arguments, Waltz and Walt share conceptions of the mechanisms of internal and external balancing, with the arms trade implicitly serving as a form of external balancing.} Indeed, as Betts (1980, 80, 95) writes, “where the linkage of arms transfers to defense policy is direct—provision of weapons to close allies—there has never been any controversy….transfers to allies who supplement our own deployments can function as an extension of American force.” Arms exports to allies can also obviate or at least supplement the deployment of a state’s own armed forces, as in the case of US exports to European allies before 1942.\footnote{One of President Roosevelt’s strategic goals was to prevent German conquest of Europe; thus, the export of arms to the Allies was a form of external balancing—particularly before Pearl Harbor made the United States’ open entry into the war politically feasible (e.g., Beevor 2012, 49). Even after the United States joined the war, Roosevelt’s “Arsenal of Democracy” strategy was intended to materially support the Allied war effort “with a minimum expenditure of American lives” (Greenfield 1982 [1963], 74).} Moreover, the logic of external balancing extends to strategic partnerships with “enemies of enemies” (e.g., Kroenig 2010, 37). This leads to the first alternative hypothesis:

**Hypothesis A1:** States export warships to allies or states with which they share a common enemy.

The naval rearmament of Japan following World War Two illustrates this argument. In 1951, Admiral Arleigh Burke (then Deputy Chief of Staff to the US Commander, Naval Forces Far East) wrote that “there is a need by the United States for the assistance of Japan in the defense of her own country and in defense of the high seas surrounding the Japanese archipelago” (Auer 1973, 79). Burke supported the transfer of US-built warships to Japan, citing
the need to counter Soviet operations in the Pacific (ibid.). US security, in other words, called for external balancing through the export of American warships to an ally.

Even without a formal alliance, selling arms to the enemy of one’s enemy can impose strategic costs on a third-party adversary (Kroenig 2010, 37-38). Analysts argue, for example, that the export of Chinese warships to Pakistan and Bangladesh was a means of balancing against its traditional rival India (Gill 1993, 7). Common enemies do not necessarily imply a mutually trusting relationship—merely a partnership of necessity. As such, the risk of exported warships boomeranging against the seller may be higher than when an actual alliance exists, which could give leaders pause. Nevertheless, decision-makers may be willing to tolerate the risk when the third-party threat is particularly pressing, and when they believe they can control the risk by cutting off post-export technical and logistical support (Robinson 2012, 4-5).

In addition to the military benefits of external balancing, warship exports can increase the comprehensive national power of states within a bloc through economic efficiency (Hartley 2006, 473-474). As with any highly specialized product, warship exports provide “gains from trade and competition, from learning and scale economies, and from reducing the duplication of costly [research and development]” (ibid.).

There is also a more nuanced alliance-efficiency argument. Alliances produce a public good: mutual defense. According to public-goods theory, states with a larger absolute interest in mutual defense will bear disproportionate costs—while those with a lesser absolute interest will not contribute enough (Olson and Zeckhauser 1966, 267-271). Alliances therefore tend to

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46 McGuire (1995, 25) writes that Olson and Zeckhauser’s collective action problem has stood the test of empirical scrutiny with “impressive results.” It is worth noting, however, that Olson and Zeckhauser’s influential model is an imperfect approximation of the real world (ibid.). For example, “defense may lie on a spectrum between ‘public’ and ‘private,’” not least because theoretically equivalent contributions (e.g., warships of two different allied nations) may be imperfect substitutes due to differing communication systems, weapons, and so on (ibid).
generate suboptimal levels of defense capability (McGuire 1995, 18). Warship exports can help rectify this imbalance. Both states gain by specialization and trade: customers produce the same amount of the defense capability at lower cost by buying warships from an ally that specializes in naval construction, whereas exporters increase their national income to help offset security costs. For example, James Auer (1973, 93) writes that the export of US warships to Japan was in part an effort to “[serve] notice on [US] allies, including Japan, that they must now provide the greatest share of their own conventional military defense.”

The key limitation of the external balancing hypothesis is its scope of applicability. Not only is it theoretically possible for non-allies to trade in warships, it is actually more common. Of 1,459 state pairings that exported warships to one another between 1951 and 2001—based on the dataset I introduce in the next chapter—only 629 (43 percent) were between allies, and when the focus is narrowed to alliances involving explicit mutual defense guarantees, the proportion drops

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47 The NATO alliance is a recurring exemplar of this phenomenon. America’s disproportionate contribution to the mutual defense of the NATO nations was the introductory example in Olson and Zeckhauser’s “An Economic Theory of Alliances” (1966), and continues to rankle US defense leaders in the 21st century. In June 2011, Defense Secretary Robert M. Gates scolded the NATO nations for being “apparently unwilling to devote the necessary resources or make the necessary changes to be serious and capable partners in their own defense” (Shanker 2011).

48 Whether this really does produce more security in addition to more economic efficiency is a separate analytic question. As Hartley (2006, 474) notes, “discussions about burden-sharing of commonly shared benefits are usually based on the politically acceptable notion of each member-state’s total military burden [e.g. defense spending as a proportion of GDP], rather than the more accurate concept of each nation’s military contribution to common ends.” Furthermore, while this conception of burden sharing focuses on international defense-economic efficiencies, it sets aside the “possibility that defense deflects technological advance, capital investment, and creative human capital with highest skills for technical innovation away from growth.” In other words, the defense burden could contribute to national decline—as the collapse of the Soviet Union suggests (McGuire 1995, 27). It is also possible, however, that defense spending could have a positive effect on the macroeconomy through spinoffs in “infrastructure, technological progress, and human capital formation” (Ram 1995, 254; see also Betts 1980, 94 and Hartley 2007, 1148, 1155). According to Ram (1995, 271), “the weight of the evidence suggests neither a positive nor a negative overall effect of defense outlays on growth.” Hartley (2007, 1155) offers a caveat, noting that, notwithstanding plentiful qualitative examples of spinoff, “they are no substitute for quantitative data on the market value of spillovers.” In short, the jury is out on the efficacy of the arms trade in contributing to economic efficiency.
to 36 percent (see figure 1.2).\textsuperscript{49} Tabulating exports between states with common enemies produces similar results. Using measures based on either of two leading measures of interstate rivalry (Colaresi, Rasler and Thompson 2007; Klein, Goertz and Diehl 2006), only 10 to 11 percent of positive export-years occurred between states with common enemies. In short, most warship exports take place between non-allies and between states that do not share mutual enemies. So, while external balancing is a theoretically compelling explanation for many warship exports, it is precisely the cases it fails to explain that help motivate this study.

Figure 1.2. Warship exports between allies and non-allies, 1951-2001

Despite its empirical limitations, external balancing does offer a strategic explanation for some warship exports that seem counterintuitive at first blush. An export from a declining state

\textsuperscript{49} Warship export data is derived from SIPRI’s authoritative online database (Stockholm International Peace Research Institute (SIPRI) 2011). Alliance data is drawn from Gibler and Sarkees (2002) and extracted using EUGene version 3.2 (Bennett and Stam 2000). The dyadic “export-year” variable indicates whether or not a state exported warships to another in a given year, thereby flagging strategic and economic conditions propitious for warship exports. It can encompass multiple ships and multiple transactions, and therefore does not capture the absolute number of warships exported between states.
to a rising one—puzzling from a strictly dyadic perspective—may be logical if they share a common enemy. Yet a simple examination of the data reveals that the data do not explain well over 50 percent of all warship exports. Nevertheless, chapters 2 through 4 closely assess the external balancing hypotheses against the empirical evidence.

Foreign Policy Leverage

Warship exports might result from a state’s quest for international influence (e.g., Morgenthau 1978 [1948]). Lawrence Freedman (1978, 377), for example, writes that “armaments are a key currency in international politics as well as international trade.” States export warships in exchange for something they desire, such as basing rights within the customer’s territory. Alternatively, states can export warships in exchange for future influence through an implicit threat to cut off technical and logistical support should the customer act against the seller’s desires (e.g., Betts 1980, 95; Taylor 1971, 912). These possibilities lead to the second alternative hypothesis:

_Hypothesis A2: States export warships to recipients over which they desire influence, or from which they desire strategic exchanges (e.g., basing rights)._ 

There is ample historical justification for this hypothesis. In May 1940, for example, British Prime Minister Winston S. Churchill drafted an urgent personal plea for US President Franklin D. Roosevelt to loan Great Britain “forty or fifty of your older destroyers” for anti-submarine operations in the Battle of the Atlantic (Loewenheim, Langley and Jonas 1975, 50). After expressing initial reluctance, Roosevelt agreed to provide fifty “over-age American destroyers”—at a price. He demanded “long-term leases to construct American bases in various
British possessions in the Western Hemisphere” (80-81), and insisted that any US subsidy of war materiel would require Britain to first exhaust all of her foreign exchange and gold reserves (Beevor 2012, 181). In ironic counterpoint to Churchill’s statement in the House of Commons that lend-lease was “‘the most unsordid act in the history of any nation,’” a “US Navy warship was sent to Cape Town [South Africa] to take the last British gold stockpiled there” (ibid.).

Warship exports also offer the possibility of influence via penetration of the customer’s military. A study of pre-World War Two warship exports to Turkey describes “the obvious link between the delivery of…German-funded…submarines and the arrival of the German naval advisers,” and recounts Benito Mussolini’s regret that “43 German, 17 French, two Austrian and one English adviser were then employed in the Turkish military service but not a single Italian was even in civilian service in Turkey” (Barlas and Güvenç 2002, 150).

Whether or not such penetration translates into influence, policymakers are on guard for such a possibility—especially when a third party makes inroads with an erstwhile partner. During the 1956 Suez crisis, for example, a US Special National Intelligence Estimate on Soviet bloc arms sales to Egypt asserted that “military and economic dependence on the Bloc might eventually deprive [Egypt] of some of its freedom to choose its orientation” (G. Warner 1991, 305). Secretary of State John Foster Dulles worried “that [Egypt’s] Czech arms deal might make Nasser ‘a tool of the Russians’” (Gaddis 2005, 127).50 Employing the same logic, the United States has used military aid in an attempt to preclude another war between Egypt and Israel. As military historian Trevor N. Dupuy (1978, 369, 408) writes, US Secretary of State Henry Kissinger “more than once told Israeli diplomats that there could be no US aid to Israel in a future war if the Israelis fired the first shot.”

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50 Czechoslovakia had to obtain Soviet permission to export weapons to Egypt, effectively making Czech exports an arm of Soviet foreign policy (Kirshin 1998, 54).
There are reasons to be skeptical of the foreign policy leverage argument—or at least, its scope. Betts (1980, 99) cautions that it is important to consider both the financial vehicle by which an export is effected and the international sources available to the customer, because both of these convey important information about the potential for influence:

Grants may buy influence because beggars can’t be choosers, but with cash sales the debt is usually paid with the invoice…. The only cases where sales do yield reliable leverage are where the customers have no alternative sources…. Indigenously financed buildups demonstrate a customer’s commitment to independence [rather than compliance]. 51

Describing Italy’s interwar warship exports to Turkey, for example, Barlas and Güvenç (2002, 143) write that one of Rome’s objectives was to “facilitate Turkey’s transformation into a pro-Italian actor in the Eastern Mediterranean naval balance.” To that end, Italian leaders believed that “the naval arms trade offered a logical and reliable instrument for penetrating Turkey politically and militarily. Historical experience suggested to the Italians that this great power tool had been employed successfully by Britain and Germany in the Ottoman Empire” (144).

Overlooking the fact that Turkey had multiple suppliers, “…Italian policy failed to produce the desired outcome” (ibid.). Indeed, in 1933 Turkey went out of its way to insult Italy by charging duties for the delivery of equipment for the Italian-built destroyers. “The warships that were supposed to serve as instruments of Italian influence in Turkey became demonstration vehicles of Turkish disdain for Italy” (161). 52

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51 Taylor (1971, 905) similarly notes, “while supplying arms usually yields some sort of gain, no positive increase in influence can be expected from refusing to sell…. Customers can simply go elsewhere to acquire arms.

52 As a postscript to this anecdote, a 1934 speech by Mussolini in support of Italian expansionism prompted Turkey to again increase its fleet—this time with British support (Barlas and Güvenç 2002, 161). In short, “the naval arms trade ran little, if any, chance of overriding political and military concerns that characterized the guarded Turkish approach to the great powers of the time…ironically, the Italian-built warships provided the backbone of the Turkish Navy against the Italian threat after 1934” (162). Thomas’ (1996) study of the pre-World War Two French-Romanian arms trade makes much the same point. Though interwar French leaders viewed arms exports as “part of the currency of France’s quasi-imperial influence across Southeastern europe,” neither arms exports nor the 1926-1940 alliance between France and Romania stopped Romania from aligning itself with the Third Reich after early indications of French defeat in 1940 (231, 233).
Despite reservations about the general effectiveness of warships-for-influence, the foreign policy leverage argument offers a potential strategic explanation for warship exports between states without an external balancing incentive. As such, hypothesis A2 is evaluated against the empirical record in chapters 3 and 4.53

**Macroeconomic Hypothesis**

One oft-cited rationale for arms exports is policymakers’ desire for a cash infusion into the national economy.54 Post-Soviet Russia is the usual example. According to Richard Grimmett (2002, 42), Russia “actively seeks to sell weapons as a means of obtaining hard currency.” This argument is highly plausible in the case of Russia and the other former Soviet Bloc countries, where the post-Cold War economic collapse coincided with a dramatic decrease in defense spending. The World War Two US lend-lease program is another example of the macroeconomic benefits of arms sales. According to Antony Beevor (2012, 181), “British cash payments of $4.5 billion for arms orders in 1940…rescued the United States from the depression era and primed the wartime boom economy.”55 Based on these examples, states could plausibly export warships for macroeconomic reasons. In particular, states suffering low or negative growth might try to stimulate their economies through warship exports. This leads to the third alternative hypothesis:

*Hypothesis A3: States export warships during low or negative economic growth.*

53 Chapter 2’s statistical analysis does not consider the foreign policy leverage hypothesis due to the lack of a suitable quantitative proxy variable.

54 Taylor (1971, 906), for example, argues that “more and more countries have sought to build up their own armaments industries to avoid dependence on outside suppliers, and as a means of earning foreign exchange by exporting their products” (emphasis added). Note that this argument about countries’ macroeconomic motives is distinct from the logic of excess capacity in the naval industrial base, which focuses on the interplay between the microeconomics of warship production firms on one hand, and the political concerns of state leaders on the other.

55 This influx equates to over $74 billion in 2012 dollars (US Bureau of Labor Statistics, n.d.).
There is also reason to be skeptical of this hypothesis, however. Some analysts argue that arms exports hurt rather than help the national economy (e.g., Brauer 2007, 983; Brauer and Dunne 2004; Brzoska 2007, 1191; Chalmers et al. 2002; Hartley 2007, 1161; Menon 1982, 386). Arms exports often include the use of grants, offsets, or government credit (Smith, Humm and Fontanel 1985). Thus, while shipyards remain gainfully employed, the state incurs net fiscal loss.

Moreover, exports for policy leverage or external balancing can undercut macroeconomic benefits by encouraging explicit subsidies. In the 1950s and 1960s, for example, the United States used Military Assistance Program (MAP) funds to wholly finance the construction of US-built minesweeping and patrol ships for transfer to various NATO countries, other European states, and Taiwan, with the express purpose of counterbalancing the Soviet Union and China (Stockholm International Peace Research Institute 2011; Gaddis 1982, 73). Similarly, governments often accept financial risk on behalf of an exporter, as in the case of Russia’s “state backing of loans to arms-producing companies with export financing supported by…two Russian banks critical to the industry” (Jackson 2010, 268). Additionally, some economists argue that arms exports actually hinder rather than contribute to economic growth (e.g., Yakovlev 2007).

Even if political leaders do not believe that warship sales will really stimulate the economy, however, they may be vulnerable to accusations that they are disadvantaging their citizens by obstructing exports. Therefore, it is plausible that states export warships to gain macroeconomic benefits, or at least to mollify pro-trade constituencies distinct from the warship industry. Chapters 2 through 4 therefore assess the hypothesis A3 against the historical record.

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56 There are also unintentional forms of export subsidy. The defense sector is well known for the disproportionate expense of research and development compared to other sectors of the economy (e.g., Taylor 1971, 906), which is a natural result of the state’s desire to maintain a qualitative military edge. But by the same token, states generally do not desire to sell their cutting-edge military technologies, with the result that exported arms (including warships) are usually serial copies of less-capable arms in the exporter’s arsenal. So, even when less-capable arms are sold at full price, the arms-producing state bears the vast majority of the sunk costs of research and development, while the customer enjoys the fruits of scale economies (e.g., Garcia-Alonso and Levine 2007, 948).
Control Variables

In order to rigorously test the competing hypotheses, I control for other factors that could encourage or constrain exports. This section of the chapter sets out the main control variables.\(^5\)

Naval Power

Intuitively, states should be reluctant to empower potential adversaries. As Ian Anthony (1990, 8) writes, the warship trade “is interesting partly because it appears to reduce the ability of major naval powers to use naval force effectively.” According to this logic, states should refrain from exporting warships when exports would create or exacerbate an unfavorable naval balance. Conversely, states with a large advantage in naval power relative to a prospective recipient should be more likely to export warships, because they have more strategic margin to export without harming their own security.

Thus, relative power is likely to be a key influence on warship exports. It is therefore taken into account in the empirical analyses that follow. Appendix A provides for interested readers a more detailed discussion of naval strategy, and of how export constraints arising from relative naval power are transmitted to leaders from their defense planning establishments.

Nuclear Weapons Possession

States with nuclear weapons face a fundamentally different strategic calculus than those without them (Kroenig 2010, 10-40). Nuclear states may be more likely to export warships to non-nuclear recipients, because they have a giant “hammer” with which to deter misbehavior. If both states are nuclear-armed, they may be mutually deterred from

\(^5\) Additional control variables, including demand-side factors, are introduced in chapter 2’s statistical analyses.
aggression due to fear of reciprocal nuclear annihilation (Kroenig 2013, 142)—making exports more likely than between two non-nuclear states due to the reduced salience of conventional conflict. Non-nuclear states, in turn, might be more willing to export warships to nuclear counterparts, since fighting a nuclear-armed adversary would be a losing proposition whatever the naval balance.

There are counterarguments to each of these propositions, however. Nuclear deterrence may lose some potency due to the “taboo” against nuclear attack (Tannenwald 1999), implying that conventional military balances remain relevant. Similarly, even if nuclear parity or superiority deters major wars, it does not rule out limited conventional conflicts and brinksmanship such as that associated with the enduring India-Pakistan rivalry (e.g., Ganguly and Hagerty 2005)—which warship exports could exacerbate. Finally, many nuclear-armed states are also leading producers of warships. As such, they may be less likely to export to other nuclear powers—not out of strategic restraint, but simply because major warship producers are less likely to import warships.

In short, the effects of nuclear weapons possession on warship exports may be significant, but the directions of the effects are unclear. Therefore, the inclusion of nuclear weapons status in the empirical analyses not only controls for a possible confounding influence, it also sheds new light on the interplay of nuclear weapons and the conventional arms trade.

**Interstate Rivalry**

Most wars can be traced to longstanding rivalries between a relatively small set of states (Colaresi, Rasler and Thomp2007; Klein, Goertz and Diehl 2006). Rivalry may decrease the likelihood of warship exports due to the exporter’s increased expectation of future conflict.
Rivalry also presents a relatively clear criterion for domestic audiences to assess a leaders’ strategic judgment, and correspondingly impedes leaders’ ability of to rhetorically frame exports in a positive strategic light.

Nevertheless, warship exports to rivals (using established rivalry variables) are not unheard of—Argentina’s British destroyers are a leading example. Therefore, rivalry is not only an important control variable, it is also an important benchmark for identifying some of the most puzzling warship exports for focused investigation.

*Democratic or Liberal Peace*

Peaceful interstate relations are often attributed to shared ideologies or trade dependency. For example, the United States and Great Britain are both “liberal, capitalist democracies, sharing common beliefs in the rule of law and the principle of peaceful change” (Reynolds 1985, 5). “Democratic peace” (Doyle 2005) or trade-based “liberal peace” (Oneal and Russett 2001) may temper perceptions of future conflict, increasing the probability of warship exports between democratic or highly trade-dependent states. Moreover, trade-dependent states may be disproportionately disadvantaged by export constraints. Therefore, the analysis includes democracy, trade openness, and bilateral trade dependence as control variables.

*Superpower Pressure*

Superpowers may intervene when other states undertake actions that threaten their ability to project force and influence worldwide (Kroenig 2010, 38-40). In turn, smaller states dependent on superpower patrons may be vulnerable to pressure to abstain from arms exports.
Applied to nuclear weapons assistance, this logic is compelling. Nuclear proliferation to
adversaries negates the strategic advantages conferred upon superpowers by their overwhelming
conventional superiority, and proliferation to allies that depend on the superpower’s nuclear
“umbrella” reduces that dependence (Kroenig 2010, 17-20, 26). States reliant on superpower
patrons are therefore less likely to provide nuclear assistance (59).

Applied to warships, however, the impact of this argument is attenuated (Kroenig 2010,
182-185). A nuclear weapon transfer has the potential to fundamentally reverse the strategic
advantage enjoyed by a superpower at a single stroke, whereas a warship export generally does
not. Just as a state that enjoys substantial naval superiority should be more likely to export
warships (as discussed earlier), a superpower should be more tolerant of exports by others.

On the whole, it seems likely that superpower patrons will be fairly tolerant of their
clients’ warship exports. Nevertheless, the empirical analysis in the upcoming chapters controls
for superpower patronage when examining warship export behavior.

A Note on International Warship Export Control Regimes

Statesmen have tried to regulate both the construction and export of warships through
international regimes. For example, Kaiser Wilhelm’s attempt to challenge British naval
superiority through a crash program of battleship construction—often held up as an archetype of
security dilemma dynamics—led directly to the 1922 Washington Naval Treaty. The Washington
Treaty sought not only to establish a fixed naval power ratio among the signatories, but also to
ban warship exports outright (Dulles 1929, 173-175; Kuehn 2008, 23-39).58

58 Article XVIII of the Washington Naval Treaty states that “each of the Contracting Powers undertakes not to
dispose by gift, sale or any mode of transfer of any vessel of war in such a manner that such vessel may become a
vessel of war in the Navy of any foreign power” (Papers Relating to the Foreign Relations of the United States:
While the Washington Treaty’s ratification suggests that institutions have a role to play in explaining warship exports, post-ratification history suggests otherwise. The outbreak of World War Two—a war with a hugely significant naval component—suggested that the treaty had failed to achieve its dual objectives: “to contribute to the maintenance of the general peace, and to reduce the burdens of competition in armament” (Papers Relating to the Foreign Relations of the United States: 1922, Vol. 1, pp. 247-266). Many states circumvented the treaty’s prescriptions through naval innovation, or simply by cheating.59

Given the perceived failure of the Washington Naval Treaty, it is unsurprising that no postwar arms control treaty has arisen to regulate warships.60 “Since 1945, much has been said about negotiating (or otherwise applying) limitations on naval forces, some of it has been vigorously debated, but little of it has taken actual form in binding, operationally consequential agreements” (Lacy 1990, 1).61 International arms-control regimes do not presently play a role in shaping warship export dynamics.

59 For example, the Washington Treaty’s ban on island fortification spurred the US Navy’s development of ocean-spanning power projection capabilities. Knowing the US would lose lightly defended Pacific outposts to Japan early in a conflict, the Navy nurtured long-legged ship designs, at-sea logistic replenishment capabilities, and (with the Marine Corps) amphibious assault techniques and equipment that contributed critically to the successful campaign against Japan in 1942-1945 (Kuehn 2008, 1). Another unintended consequence of the treaty was to encourage the development of aircraft carriers, which, thanks to their recent arrival on the naval scene, received less attention in the document than more-traditional battleships (152). Moreover, Japan simply “broke the rules seriously, systematically, and often clandestinely” (Kaufman 1990; Downs, Rocke and Barsoom 1996, 393).

60 According to a former US Chief of Naval Operations: "we should remember...that maritime nations have seldom benefited from naval disarmament treaties and never from unilateral disarmament...the Washington Naval Conference of the 1920s proved to be one of those misguided policies, so seductive in the present, so harmful to the future, that we have adopted all too often in our history; and that have led us step by descending step into the abyss of war” (Lacy 1990, v).

61 Postwar naval arms control regimes have had nothing to say about warship production or export, focusing instead on sea-based nuclear weapons systems (the Strategic Arms Reduction Talks series) and US-Russian naval operational consultation (the Incidents at Sea agreement of 1972) (Lacy 1990, 3). In any case, Downs, Rocke and Barsoom (1996, 1-2) conclude that apparent success stories about regulatory regimes may simply indicate that those regimes reflect rather than affect state interests—in other words, states choose to join regimes only when they require little deviation from what the state would have done anyway. Rampant cheating under the Washington Treaty may therefore have dissuaded states from entering future naval arms control regimes by illuminating the fundamental incompatibility of state interests with naval arms control.
Research Design: Testing the Competing Hypotheses

I conclude this chapter with an overview of the research design that guides the empirical analysis in chapters 2 through 4. Figure 1.3 summarizes the competing hypotheses that I test using statistical and qualitative methods.

<table>
<thead>
<tr>
<th>Main and Supporting Hypotheses</th>
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<tr>
<td><strong>H1</strong> (Main Hypothesis): States export warships when there is excess capacity in their naval shipbuilding industries (<em>excess capacity</em> explanation).</td>
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<tr>
<td><strong>H1A</strong> (Supporting Hypothesis): Democracies and machines are more likely than dictatorships to export warships in response to excess capacity.</td>
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<tr>
<th>Alternative Hypotheses</th>
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<tbody>
<tr>
<td><strong>A1</strong>: States export warships to allies or states with which they share a common enemy (<em>external balancing</em> explanation).</td>
</tr>
<tr>
<td><strong>A2</strong>: States export warships to recipients over which they desire influence, or from which they desire strategic exchanges (e.g., basing rights) (<em>foreign policy leverage</em> explanation).</td>
</tr>
<tr>
<td><strong>A3</strong>: States export warships during low or negative economic growth (<em>macroeconomic pressure</em> explanation).</td>
</tr>
</tbody>
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*Figure 1.3. Summary of main, supporting, and alternative hypotheses*

The dependent variable is the international export of warships, derived from the Stockholm International Peace Research Institute’s (2011) arms export register.\(^6\) Chapter 2 begins the dissertation’s empirical tests with statistical analysis. It employs a unique dataset describing all warship exports from 1951 through 2001, within a universe of cases comprising all potential exporters with oceanic coastlines and navies larger than minor coastal forces. The

\(^6\) Though sale of new warships for money is the most obvious type of export, the dissertation also examines other types of transactions—namely grants, leases, and sales involving offsets—and the export of used warships.
statistical analysis tests the competing hypotheses, while mitigating the risk of selection bias by examining the full range of variation on the independent and dependent variables.

There are limitations of the quantitative findings, however, that detailed qualitative analyses can address. First, the statistical relationship between excess capacity and exports might actually result from omitted or confounding variables. For example, defense spending often falls in times of weak or negative economic growth, making it difficult to disentangle microeconomic from macroeconomic influences in a particular case. The case studies in chapters 3 and 4 reduce the likelihood of such misdiagnosis through process tracing and between-case comparison. They develop qualitative links between excess capacity and exports, while assessing competing explanations and remaining alert for overlooked causal factors. Case study analysis thus complements the probabilistic statistical findings by accounting for the particulars of individual exports, building the case that puzzling exports result primarily from excess capacity.

Moreover, qualitative analysis permits a closer look at the main explanatory variable. Excess capacity can arise from factors other than budget reductions, and defense budget cuts may not proportionally impact the naval budget. Naval expenditures could be slashed even as overall defense spending increases, or could increase while other military branches absorb most of the cuts. The case studies therefore examine qualitative manifestations of excess capacity.

Each case study focuses on the warship export behavior of a different state during the latter half of the twentieth century. Chapter 3 examines the Soviet Union and post-Soviet Russia, and chapter 4 comprises four short studies of the United Kingdom, (West) Germany, China, and Japan. The case selection encompasses wide variation on each variable, both between states and within states over time. For example, the Soviet Union had no excess shipbuilding capacity until the Gorbachev years, whereas the United Kingdom had substantial excess capacity from the very
beginning of the postwar era. Furthermore, the Soviet-Russian study incorporates significant within-case variation on both excess capacity and polity type, with massive excess capacity and democracy (albeit short-lived) arising nearly simultaneously under Gorbachev. In addition, the cases incorporate great diversity in each state’s broader strategic, geographic, cultural, and political circumstances, further reducing the risk of spurious findings.

The case selection is informed by the dissertation’s focus on explaining the most puzzling warship exports—those that appear to undermine the exporter’s strategic position by strengthening enemies or otherwise contributing to a decline in relative power, or by contradicting self-imposed export controls. Each case study includes instances in which states did (or did not) export warships, and periods when they did (or did not) have excess shipbuilding capacity. It is critical to connect excess capacity to warship exports through process tracing, and to ensure variation on both the dependent and independent variable to guard against selection bias. To make the dissertation’s analysis relevant and useful to both scholars and policymakers, however, it is also important to focus attention on the most intuitively puzzling cases—those in which excess capacity seems to trump security considerations. Chief among these are Russia’s and Britain’s exports to China and Argentina, respectively; and Germany’s prolific warship sales in contravention of its ban on exports to “areas of tension.”

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63 Throughout the case study chapters, one must bear in mind that the discrete effect of any single variable—including excess capacity—cannot be assessed in isolation. For example, chapter 2’s statistical analysis reveals that excess capacity (which post-Soviet Russia possessed in spades) leads to a greater probability of export. One might argue, therefore, that Moscow should export more warships after the Soviet collapse. This argument does not, however, account for the countervailing influence of factors such as a potential decrease in international demand for warships in the aftermath of the Cold War, or the ability of ex-Warsaw Pact states to seek other suppliers as they aligned themselves with Western Europe instead of Moscow. (Former Soviet allies such as Bulgaria and Poland, for example, turned to suppliers ranging from Belgium to the United States [SIPRI 2011]. Moreover, former Soviet republics including Ukraine entered the international warship market, introducing new sources of competition [ibid.].) Chapter 2’s statistical analysis addresses these possibilities by using quantitative control variables. The case studies in chapters 3 and 4 use process tracing—rather than measures of frequency—to test the competing hypotheses. Thus, the fact that Soviet warship exports outnumber Russian exports year-for-year cannot be construed as evidence against the excess capacity argument. Instead, it is important to examine the detailed qualitative evidence associated with each warship export.
The next chapter begins the dissertation’s empirical analysis with statistical tests of the main, supporting, and alternative hypotheses.
CHAPTER 2: QUANTITATIVE CORRELATES OF WARSHIP EXPORTS

Every warship export is a strategic gamble. Why would states run the risk of arming potential adversaries? Moreover, what explains warship sales that contradict a state’s own arms export controls—regulations specifically designed to subordinate commerce to strategy? This chapter presents statistical analysis of an original dataset to help address these puzzles. To foreshadow the main results, I find that states are more likely to export warships when they have excess naval shipbuilding capacity. I also find support for the political accountability mechanisms linking excess capacity to exports. In short, statistical analysis supports the hypothesis that excess capacity causes states with elected or elite-constrained leaders to set aside strategic restraint when shipbuilding jobs and industry revenue are on the line.

States are also more likely to export to allies, or when they share a common enemy with the recipient.¹ Yet allies and states with shared enemies comprise less than half of the dataset—and the effects of excess capacity persist when these states are dropped from consideration. Finally, this chapter also sheds light on the broader dynamics of the warship trade by examining a variety of control variables that could ease or tighten constraints on exports.

¹ The three alternative explanations are foreign policy leverage, external balancing, and macroeconomic pressure. Only external balancing and macroeconomic pressure are examined in this chapter. I do not conduct statistical analysis of the foreign policy leverage hypothesis, due to the challenge of identifying a suitable quantitative proxy variable. The case studies in chapters 3 and 4, however, do examine the foreign policy leverage hypothesis.
**Warship Export Data**

I conduct statistical analysis of warship exports using an original dataset describing all interstate warship transfers from 1951 through 2001. This section of the chapter describes the universe of cases and the dependent, explanatory, and control variables.

**The Universe of Cases**

The dataset consists of 379,186 directed-dyad panel observations representing every plausible interstate warship export pairing between 1951 and 2001.\(^2\) 1,459 of the observations, or roughly 0.4 percent, include warship exports.\(^3\) These data form a subset of the nearly 1.1 million observations corresponding to all state dyads from 1951 to 2001, of which 1,478 include exports.\(^4\) The final dataset therefore represents a 65 percent reduction, with a corresponding loss of only 19 (1.3 percent) of the export cases.

The smaller dataset results from the elimination of states with little or no potential to export or acquire warships. These include landlocked states that are physically prevented from having an oceangoing navy, as well as states that lack substantial navies and thus effectively have nothing to export. The statistical models presented in this chapter are, however, robust to the retention of all states that have some theoretical possibility of exporting or receiving warships (i.e., all non-landlocked states). In fact, the statistical significance of the core results is greater

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\(^2\) Directed dyads are used since the (potential) transfer of warships from state \(i\) to state \(j\) in year \(y\) is analytically distinct from the (potential) transfer of warships from state \(j\) to state \(i\) in the same year.

\(^3\) I code the export data from the Stockholm International Peace Research Institute’s (2011) arms transfer register, with one correction to the data based on empirical insights from chapter 3’s detailed analysis of Soviet warship exports. SIPRI codes Soviet exports to China of Osa and Komar class fast attack craft as being approved in 1964 and 1965 respectively—after the Sino-Soviet split caused the USSR to pull all military aid from China (Muller 1983, 90). SIPRI caveats, however, that the years of export approval are unconfirmed. The only solid data on these exports are the dates the ships appeared in China. Western intelligence assessments shed light on this disparity, concluding that the Soviet warships appearing in China after the split were constructed from plans and materials left behind by the Soviets (Muller 1983, 94). I therefore code 1964-1965 as “no export” from the USSR to China.

\(^4\) I generate the panel data using the “EUGene” program, version 3.2 (Bennett and Stam 2000), which produces 1,086,806 observations covering all directed dyads spanning 1951 to 2001.
when these states are included, indicating that retaining them would overstate the findings.\(^5\) Dropping exceptionally unlikely exporters helps ensure that my results are not exaggerated.

I omit several specific types of observations. First, I drop observations in which either state is landlocked and thus has no seagoing navy, resulting in a 28 percent reduction of the dataset.\(^6\) This eliminates only two of 1,478 warship exports (a tank landing ship, or LCT, exported from the United Kingdom to landlocked Zambia in 1966 for use in internal waterway patrols; and Ethiopia’s 1996 transfer to Eritrea of an *Osa II* fast attack craft after Ethiopia became landlocked as a result of Eritrean secession).\(^7\) Similarly, I eliminate observations featuring prospective exporters lacking navies, and thus without warships to export.\(^8\) This reduces the original dataset by a further one percent,\(^9\) with only two dropped export cases: Ukraine’s sale of naval supply ships to South Africa and China in 1992, a year in which Ukraine had not yet established its own navy following the dissolution of the Soviet Union.\(^10\) (I do not drop observations in which the potential recipient has no navy, since this does not preclude it from deciding to form one—making it a prospective warship importer.)

The next stage of reductions centers on methodological considerations. The statistical analysis uses lagged independent variables to ensure that the proposed explanatory factors

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5. The retention of these 330,000-plus observations—including only three export cases, as discussed later in the chapter—makes the core results even stronger than I report in the chapter’s primary models.

6. I drop over 303,000 observations in which one or both states are landlocked. At this stage of the dataset reduction, I do *not* drop states whose maritime borders lie solely on the Caspian Sea (Azerbaijan, Kazakhstan, and Turkmenistan), given the potential for exports between these and the other Caspian states (Iran and Russia). (Indeed, between 1999 and 2001, two of these states—Azerbaijan and Kazakhstan—exported warships from Turkey [SIPRI 2011], which does not even border the Caspian.) Azerbaijan and Turkmenistan are, however, subsequently omitted as potential exporters due to their lack of substantial navies from post-Soviet independence through 2001.

7. In 1981, Ethiopia and Eritrea (then federated states) acquired *Osa II* missile-armed attack craft from the Soviet Union. The subsequent 1996 transfer from Ethiopia to Eritrea took place following coastal Eritrea’s successful separatist war and a 1993 referendum establishing formal independence—which rendered Ethiopia landlocked (SIPRI 2011; Sharpe 1993, 186; Central Intelligence Agency 2012).

8. This rare (and generally temporary) phenomenon appears to have resulted primarily from decolonization and other post-World War Two “Third World” dynamics.

9. Eliminating prospective exporters that lack navies results in over 10,800 dropped observations.

10. See appendix B, table B.1, for more information on Ukraine’s exporter status.
chronologically precede observed warship exports. Specifically, exports in year $y$ are explained using the values of the independent variables in year $y-1$. However, the statistical estimator I employ drops observations that have missing variables. As a result, roughly 22,200 observations (about 2 percent of the original dataset) are excluded from analysis because one of the states in the dyad simply did not exist (or in the prospective exporter’s case, had no navy) the year before—resulting in missing independent variables.\footnote{By saying that a state did not exist, I mean that it did not appear as a member of the international system according to the Correlates of War dataset. States without navies were dropped in the first stage of reductions.} Since these relatively unusual observations are unlikely to represent the central dynamics of warship exports, I consider their omission justified in light of the analytic benefits of lagged independent variables. And since the model estimators would drop these observations anyway, eliminating them at the outset has no effect on the results. It does, however, permit a more accurate specification of the universe of cases. This decision eliminates 12 exports (table 2.1).
Table 2.1. Export cases dropped as a result of lagged independent variables

<table>
<thead>
<tr>
<th>Year</th>
<th>Exporter</th>
<th>Importer</th>
<th>Warship(s)(^{12})</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>United States</td>
<td>Japan</td>
<td>Frigates</td>
<td>1952 is Japan’s first appearance in the Correlates of War (COW) dataset</td>
</tr>
<tr>
<td>1954</td>
<td>France</td>
<td>Republic of Vietnam (RVN)</td>
<td>Landing ships, gunboats, patrol craft, minesweepers</td>
<td>1954 is RVN’s first appearance in COW dataset</td>
</tr>
<tr>
<td>1955</td>
<td>France</td>
<td>Federal Republic of Germany (FRG)</td>
<td>Minesweeper</td>
<td>1955 is FRG’s first appearance in COW dataset</td>
</tr>
<tr>
<td>1957</td>
<td>United Kingdom</td>
<td>Malaysia</td>
<td>Minesweepers</td>
<td>1957 is Malaysia’s first appearance in COW dataset</td>
</tr>
<tr>
<td>1960</td>
<td>United Kingdom</td>
<td>Nigeria</td>
<td>Patrol craft</td>
<td>1960 is Nigeria’s first appearance in COW dataset</td>
</tr>
<tr>
<td>1962</td>
<td>Egypt</td>
<td>Algeria</td>
<td>Minesweepers</td>
<td>1962 marks establishment of Algeria’s navy (see appendix B)—note that this is Egypt’s only export</td>
</tr>
<tr>
<td>1967</td>
<td>United Kingdom</td>
<td>Yemen People’s Republic (YPR)</td>
<td>Minesweepers</td>
<td>1967 is YPR’s first appearance in COW dataset</td>
</tr>
<tr>
<td>1975</td>
<td>Netherlands</td>
<td>Suriname</td>
<td>Patrol craft</td>
<td>1975 is Suriname’s first appearance in COW dataset</td>
</tr>
<tr>
<td>1975</td>
<td>Australia</td>
<td>Papua New Guinea (PNG)</td>
<td>Patrol craft</td>
<td>1975 is PNG’s first appearance in COW dataset</td>
</tr>
<tr>
<td>1975</td>
<td>Portugal</td>
<td>Angola</td>
<td>Landing craft, patrol craft</td>
<td>1975 is Angola’s first appearance in COW dataset - ships retained upon independence from Portugal</td>
</tr>
<tr>
<td>1975</td>
<td>Portugal</td>
<td>Mozambique</td>
<td>Landing craft, minesweeper</td>
<td>1975 is Mozambique’s first appearance in COW dataset - ships retained upon independence from Portugal</td>
</tr>
<tr>
<td>1990</td>
<td>Soviet Union</td>
<td>Yemen</td>
<td>Minesweeper</td>
<td>1990 is Yemen’s first appearance in COW dataset</td>
</tr>
</tbody>
</table>

The final stage of the dataset reduction draws on Daniel Todd and Michael Lindberg’s (1996, 56-64) typology of naval forces, summarized in table 2.2. The table indicates whether each type of navy is included in the dataset, and provides examples of states corresponding to each type. States that have nominal navies yet neither produce nor own true warships are of little interest in an analysis of warship exports. Some states have navies with “force structures so small

\(^{12}\) I code the dependent variable based on whether a state transferred warships to another state in a given year. It does not represent the quantity of ships transferred between those states in that year. Each row in table 2.1 therefore represents a single dyad-year export observation, notwithstanding multiple entries under “Warship(s).”
that they often comprise a mere one or two craft” (“token navies”), and others have maritime law-enforcement forces with no actual combat capability (“constabulary navies”) (ibid.).

Table 2.2. “World naval hierarchy” categories

<table>
<thead>
<tr>
<th>Navy Category</th>
<th>Included?</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global-reach Power Projection</td>
<td>Yes</td>
<td>United States</td>
</tr>
<tr>
<td>Limited Global-reach Power Projection</td>
<td>Yes</td>
<td>France, UK, USSR¹⁴</td>
</tr>
<tr>
<td>Multi/Extra-regional Power Projection</td>
<td>Yes</td>
<td>Russia, India</td>
</tr>
<tr>
<td>Regional Power Projection</td>
<td>Yes</td>
<td>Argentina, Japan</td>
</tr>
<tr>
<td>Regional Offshore Coastal Defense</td>
<td>Yes</td>
<td>Iran, Sweden</td>
</tr>
<tr>
<td>Inshore Coastal Defense</td>
<td>Yes</td>
<td>Albania, Singapore</td>
</tr>
<tr>
<td>Token</td>
<td>No</td>
<td>Haiti, Micronesia</td>
</tr>
<tr>
<td>Regional Offshore Constabulary</td>
<td>No</td>
<td>Iceland, Mexico</td>
</tr>
<tr>
<td>Inshore Constabulary</td>
<td>No</td>
<td>Bahamas, Philippines</td>
</tr>
<tr>
<td>Inland Waterway¹⁵</td>
<td>No</td>
<td>Austria, Botswana</td>
</tr>
</tbody>
</table>

Eliminating states with token or constabulary navies reduces the dataset by a further 31 percent (over 336,400 observations) at the cost of only three exports, all from states with constabulary navies (table 2.3). Each dropped export represents the listed state’s sole warship export, and consequently the only warship exports ever conducted between 1951 and 2001 by states with token or constabulary navies. This reaffirms that such exports are so rare as to be of little significance. However, the core results presented later in the chapter are unaffected by retaining these states (nearly doubling the size of the dataset to 709,469 observations). In fact, the results become stronger—suggesting that inclusion of states with very little likelihood of export overstates the results’ statistical significance.

¹⁴ Todd and Lindberg (1996) do not assign a category to the Soviet Union, since their analysis consist of a post-Cold War snapshot of world navies. Recent scholarship (e.g., Swartz and Connell 2013) suggests that the USSR was at best a limited global-reach power projection navy, rather than a world-straddling force like the US Navy (notwithstanding episodic long-distance Soviet naval deployments).
¹⁵ Inland waterway navies are eliminated by the exclusion of landlocked states.
Table 2.3. Export cases dropped by excluding token and constabulary navies

<table>
<thead>
<tr>
<th>Year</th>
<th>Exporter</th>
<th>Importer</th>
<th>Warship(s)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>Senegal</td>
<td>Gabon</td>
<td>Landing craft</td>
<td>Senegal’s sole warship export</td>
</tr>
<tr>
<td>1993</td>
<td>Iceland</td>
<td>Sweden</td>
<td>Transport ship</td>
<td>Iceland’s sole warship export</td>
</tr>
<tr>
<td>1996</td>
<td>Estonia</td>
<td>Sweden</td>
<td>Survey ship</td>
<td>Estonia’s sole warship export</td>
</tr>
</tbody>
</table>

In sum, reduction of the dataset lowers the number of observations from almost 1.1 million to a more theoretically relevant set of 379,186 cases. The resulting list of 74 prospective exporters ranges from Albania to Yugoslavia, and includes all of the states examined in the case studies presented in chapter 3 (the Soviet Union and Russia) and chapter 4 (Britain, Germany, China, and Japan). The complete list of exporting states is presented in appendix B.

The Dependent Variable: Warship Export

The dependent variable, warship export, is a dichotomous indicator of whether a state exported one or more warships to a specified recipient in a given year. The year of an export is coded based on the year of the official export decision. Because it typically takes several years to build a new warship, and because a variety of contingencies could delay or hasten delivery, coding the dependent variable in the year of the decision rather than delivery eliminates

16 A limitation of this dependent variable is that it captures neither the quantity of warships exported, nor their monetary value. (Pricing data is not readily available for most of the export transactions, and quantity is not a reliable proxy for cost.) Yet, this is not a major concern. The aim of this chapter is to examine systematically the conditions under which warship exports take place. My theory holds that the key explanatory variable—excess capacity in the naval shipbuilding industry—creates an export incentive. This incentive is at least partly independent of the fiscal value of any transaction that ultimately takes place, which could run the gamut from “better than nothing” to a financial windfall. It is plausible that lucrative foreign bids could influence leaders to approve exports, but this is theoretically independent of political pressure stemming from excess capacity. For present purposes, the dichotomous export variable provides suitable analytic leverage for a statistical assessment of the warship trade. 17 To be clear, this does not imply that the dataset contains positive warship export decisions that were never carried out. The SIPRI arms trade registers do not include unconsummated export decisions. There is no obvious way to systematically capture the universe of false-negative cases, in which states agreed to export warships and then did not deliver them. In any event, cases in which warships actually do proliferate hold the most practical significance.
unpredictable variation in the lag between the dependent and explanatory variables. The export dataset is derived from the Stockholm International Peace Research Institute’s arms trade register, which spans the years 1950 through 2012 (though my analysis is limited to 1951 through 2001 based on the availability of comprehensive independent variable data).\(^\text{18}\) It includes both new and secondhand warships, as well as licenses for foreign production.\(^\text{19}\)

Figure 2.1 summarizes warship export observations for all states that exported at least once from 1951 through 2001, ranked by cumulative number of export cases.\(^\text{20}\) It shows which states are the primary exporters in the international system. I account for this in the statistical analysis by ensuring that the results are not driven solely by any one of the top exporters, such as the United States, the Soviet Union, or the United Kingdom.

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\(^\text{18}\) Kinsella (2011, 223-224) surveys leading sources of conventional arms trade data, making a persuasive case that SIPRI’s is the most authoritative.

\(^\text{19}\) Though probably not as lucrative as exporting entire ships, licensing brings income critical to the employment of warship design bureaus—which, as chapter 1 points out, may be irreversibly harmed if allowed to close as a result of reduced demand. Moreover, licensed production often involves co-production arrangements in which domestic shipyards are allotted a significant proportion of the construction work. Examples include the British Type 42 destroyers exported to Argentina (the first of which was built in a British shipyard), as well as the present-day export of French Mistral-class amphibious assault ships to Russia.

\(^\text{20}\) The following prospective exporters never actually exported warships, and do not appear in figure 2.1: Albania, Algeria, Bahrain, Bangladesh, Brunei, Colombia, Croatia, Cuba, Ecuador, Egypt (but note entry in table 2.1), Eritrea, Georgia, Greece, Indonesia, Iran, Iraq, Kazakhstan, Kenya, Kuwait, Morocco, Nigeria, Oman, Peru, Saudi Arabia, Syria, Taiwan, Thailand, Tunisia, United Arab Emirates, Venezuela, Vietnam (including the Republic of Vietnam), and the Yemen Arab Republic.
Figure 2.1. World warship exports, 1951-2001
Independent Variables

To test the central hypothesis (H1), I construct a quantitative proxy for excess naval shipbuilding capacity; and to examine the supporting hypothesis (H1A), I add regime variables. To evaluate two of the competing explanations—external balancing and macroeconomic pressure—I generate variables for alliance, common enemies, and economic growth.\textsuperscript{21} Additionally, to account for potential confounding influences, I develop a number of strategic, economic and institutional control variables. I describe each of these variables below.

Excess Capacity. There is no obvious way to systematically measure excess capacity for every state in a dataset spanning half a century. However, one straightforward driver of excess capacity is a decrease in a state’s naval shipbuilding budget. If a state cannot sustain its level of investment in its warship industry, then—all else equal—excess capacity will ensue.\textsuperscript{22} As a proxy for excess capacity, therefore, I construct the variable budget change, which measures the year-to-year change in a state’s military spending. Specifically, I extract the military expenditure data from the National Military Capabilities dataset (Ghosn and Bennett 2003), and then calculate the annual change in each prospective exporter’s spending as a percentage of the

\textsuperscript{21} Analysis of the foreign policy leverage hypothesis is reserved for the case study chapters, due to the challenge of quantifying a suitable proxy. The most obvious targets of such exports are non-aligned states (non-allies and states that do not share common enemies). Yet, as the statistical analysis reveals, states are less likely to export to non-aligned recipients. This does not disprove the foreign policy leverage hypothesis, but it is difficult to conceive of another quantitative measure that would allow statistical analysis of this competing explanation.

\textsuperscript{22} “Military [industry] sectors are, for all practical purposes, dependent on government spending: without government spending the militaries of all countries cannot buy the factors of production they need” (Brzoska 2007, 1185). Hence, military spending is a proxy for the amount of productive capacity purchased, and a decline in spending is a de facto increase in excess capacity. “A reduction in military spending signals that fewer factors of production are used for military purposes” (ibid., 1187).
Using a percentage rather than the raw spending change helps ensure that the effects of budget change are measured proportionally across states of varying economic power. (For example, the same spending decrease that represents a 5 percent change for the United States might obliterate the defense budget of a developing nation.) Negative values of budget change—spending cuts—correspond to excess capacity, whereas positive values suggest that the state has sufficient funds to pay for the output of the naval shipbuilding industry.

I take two more steps before arriving at my primary measure of excess capacity. The first accounts for the nature of shipbuilding. Because warships usually take at least a year to build and are often ordered well in advance of the year in which construction begins, shipyards typically have a queue of ongoing work. A single annual reduction to the shipbuilding budget may take some time to generate excess capacity (Shapiro 2012), and could well be reversed the very next year. Consequently, I convert budget change into a five-year moving average rather than an annual measure. This allows the analysis to account for longer-term spending trends rather than annual fluctuations that may have little impact.\(^{24}\)

The second step rectifies a missing data problem generated by the moving-average approach. To be sure, there is missing expenditure data that cannot be reconstructed, as it simply does not exist in the NMC dataset.\(^{25}\) The moving average, however, creates a different problem. “New” states that enter the Correlates of War interstate system after 1951 do not have a moving-

\[\text{budget decrease}_{t,t} = \frac{\text{expenditure}_{t,t} - \text{expenditure}_{t,t-1}}{\text{expenditure}_{t,t-1}}\]

In contrast to the economic data described later in the chapter, NMC military spending data is in current-year rather than inflation-adjusted dollars. However, this should be relatively inconsequential since budget change measures the annual percent change in expenditure. Barring extreme inflation or deflation within a one-year period, budget change should be approximately equivalent to a “real” measure.

\(^{24}\) The core findings are, however, robust to the use of the annual budget change variable in place of the average.

\(^{25}\) There are roughly 11,000 observations in the warship export dataset that lack military expenditure data—about 2.9 percent of the total observations. I assume this missing data to be randomly distributed, though in reality this may not be the case. In any event, I assume that this missing data does not affect the core findings of the analysis. Annual expenditure data is missing for nine cases of warship export.
average entry until five years after they appear on the scene. The same effect occurs whenever spending data is missing for any reason—subsequent entries for the average budget change are missing until there is five years of continuous data.²⁶ I therefore amend budget change to make it a five-year moving average whenever possible, while falling back on a four-year average (or three, two, or single-year measure) if it would otherwise be missing.²⁷ This is the primary proxy for excess capacity in the statistical analysis.²⁸

There are three main conceptual limitations of using military expenditures to proxy excess capacity.²⁹ First, military spending cuts may not translate into proportionally decreased naval budgets, particularly if other armed forces bear the brunt of the decrease (as when states demobilize ground forces following the conclusion of a land war). Second, even if reductions do affect the naval budget, shipbuilding could be shielded from cuts, with other budget lines (such as personnel and maintenance accounts) making up the difference. Finally, the loss of pre-existing warship export relationships could create excess capacity, independent of state military spending. Nevertheless, budget change is a useful and practical proxy for excess capacity. And in any event, the case studies in chapters 3 and 4 address its limitations through detailed qualitative examination of excess capacity across a variety of warship-exporting states.

Before moving on, I examine summary statistics for budget change.

²⁶ Use of the unmodified moving average results in over 31,000 missing observations, and 38 dropped exports.
²⁷ Use of the modified average reduces missing observations to 17,364, and lost exports to 15.
²⁸ Substitution of the unmodified average does not affect the core results of the statistical analysis.
²⁹ There is also an empirical limitation. Fluctuations in military expenditures could stem from measurement problems rather than actual spending changes, especially since “governments are basically free to define military expenditures according to their own wishes and purposes” (Brzoska 1995, 48). Measures may vary, for example, on whether they include military retiree pensions, strategic materiel stockpiles, civil defense expenses, etc., to say nothing of the use of separate budget categories in wartime (such as US “supplemental” defense appropriations) or even the possibility of intentional misrepresentation (ibid.). It is important to heed the caution that “data accuracy and validity [for military spending] is not sufficient to support weak statistical results” (64). For that reason, the analysis in this chapter considers a 95 percent confidence level to be the minimum threshold for a claim of statistical significance for budget change.
Table 2.4. Summary statistics for budget change

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>MINIMUM</th>
<th>MAXIMUM</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget change</td>
<td>1.959</td>
<td>47.805</td>
<td>-0.702</td>
<td>1,965.292</td>
<td>368,218</td>
</tr>
</tbody>
</table>

Table 2.4 reveals extremely wide variation in budget change. One standard deviation corresponds to a nearly 4,800 percent change in spending. Moreover, the mean budget increase is a whopping 196 percent. These values immediately suggest the influence of outliers. Unquestioning use of this data therefore seems likely to skew the findings away from a realistic appraisal of warship export patterns. The distribution of budget change (figure 2.2) reveals that these extreme values are indeed driven by outliers—specifically, states that experienced idiosyncratically large military spending increases (see right side of the figure).

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30 Budget change is coded so that a spending change of 100 percent is listed as 1.0.
Amazingly, figure 2.2 does not even tell the whole story: the largest five-year budget increase is over 983,000 percent. Including it in the graph would compress the horizontal axis to the point of illegibility. More importantly, these extreme outliers do not export warships. Therefore, the skewed distribution could make budget change statistically significant when the simple fact is that states closer to the center of the bell curve export, while those in the right-hand tail never do. Indeed, re-estimating this chapter’s models with outliers included grossly inflates

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31 Independent variable data covers 1950 to 2000, since it lags one year behind warship export (1951-2001).
32 The largest five-year budget increase associated with a warship export is 127 percent—still fairly large, but several orders of magnitude smaller than the extreme outliers.
the statistical significance of the main findings. I therefore drop the outliers to avoid stacking the deck in favor of the excess capacity hypothesis.

Before doing so, however, it is important to ensure this step is theoretically and empirically defensible. First, I address the mystery of how a state could possibly increase its military spending by such enormous proportions. The answer is straightforward. Budget decreases cannot mathematically exceed 100 percent, but increases are not similarly limited. For example, Cuba increased its military expenditures by 196,600 percent between 1994 and 1995 (Ghosn and Bennett 2003). Examination of the raw spending data reveals that such examples are not the result of heroic increases in absolute spending. Rather, they represent a return to normal after periods of unusually low military spending. For example, recouping a 90 percent decrease would mathematically require a 1,000 percent increase just to get back to the starting point. In Cuba’s case, this may have resulted from the loss of financial support from the Soviet Union, followed by efforts to rebuild military resources through the 1990s. From a theoretic perspective, the unique circumstances associated with rare, extreme budgetary swings (such as the loss of a superpower financier) militate against outliers’ relevance to the central analysis.

94 percent of the observations in the dataset fall within a +/- 100 percent budget change, while 97 percent fall between a 250 percent increase and a 100 percent decrease. Moreover, all warship export cases occur between budget change values of +127 percent and -31 percent. Opting for a conservative approach, I drop outliers with spending increases greater than 250 percent. This retains 97 percent of all observations while reducing the mean and standard
deviation to far more realistic values (13 percent and 21 percent respectively)—without dropping any export cases.\textsuperscript{33} Table 2.5 summarizes the distribution of budget change without outliers.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>MINIMUM</th>
<th>MAXIMUM</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget change</td>
<td>0.130</td>
<td>0.210</td>
<td>-0.702</td>
<td>2.079</td>
<td>367,233</td>
</tr>
</tbody>
</table>

Regime Type. Chapter 1 argues that industries and government officials responsible for naval shipbuilding enterprises lobby or logroll to relieve the microeconomic pressure of excess capacity through warship exports. These dynamics are not necessarily limited to democracies. Some authoritarian regime types are more susceptible than others to domestic political mobilization. As a complement to the democracy variables, therefore, I add Jessica Weeks’ (2012) measures of autocratic regime type.\textsuperscript{34} Accountable autocracies include machines, such as the USSR after Stalin and China after Mao, in which leaders are constrained by civilian elites, and juntas, in which leaders answer to military elites. Personalist autocracies, by contrast, feature elites beholden to dictators (civilian bosses such as Stalin or Mao, or military strongmen such as Spain’s Franco or Egypt’s Nasser) rather than vice versa (ibid.; Slater 2003).

Alliances and Common Enemies. To test the external balancing hypothesis, I first create two dichotomous alliance measures drawn from the Correlates of War dataset (Gibler and Sarkees

\textsuperscript{33} I re-estimate each model presented later in the chapter with outliers included, and also estimate models using different subsets of the data based on different budget change strata—including the subset lying between plus and minus 100 percent, as well as the section between -75 percent and 25 percent that contains the vast majority of the total observations. None of these tests affect the core results—though, as predicted, models including all outliers produce a substantially inflated statistical significance for budget change.

\textsuperscript{34} Models including Weeks’ variables drop roughly 8,300 observations, including four warship exports.
Ally indicates the existence of a formal alliance between two states, including defense pacts, neutrality and non-aggression pacts, and ententes. I also construct defense pact, which denotes only those alliances with mutual defense obligations. The closer security relationship implicit in a defense pact might encourage warship exports even if most alliances do not.

To analyze the effect of shared enemies, I construct two alternative variables. Both indicate whether two states share one or more enemies in a given year. The difference between the two measures stems from the source data. I code enemy (KGD) based on Klein, Goertz, and Diehl’s (2006) measure of interstate rivalry, which focuses on dispute frequency (“enduring rivalry”). Enemy (CRT) is based on Colaresi, Rasler, and Thompson’s (2007) alternative measure of “strategic rivalry,” which places more emphasis on qualitative factors such as leader rhetoric.

Macroeconomic Growth. To test the macroeconomic pressure hypothesis, I construct the variable growth, which consists of the change in logged real GDP since the preceding year.

Control Variables. A number of additional strategic, economic, and institutional factors may affect the probability of warship export. Key control variables include relative power, nuclear weapons possession, interstate rivalry, superpower influence, trade ties, and regime type. I describe each of these categories below, and conclude with a brief consideration of systemic and demand-side control variables.

---

35 To avoid lost observations, I code missing alliance data as “no alliance.” This would be incorrect if there were indeed a secret alliance or some other contingent reason for missing data in Gibler and Sarkees (2002). However, it seems likely that secret alliances have been rare (if not nonexistent) in the post-World War Two era, and therefore the benefits of replacing missing data with “no alliance” outweigh the statistical hazards.

36 For a detailed explanation of each alliance type, see Gibler and Sarkees (2004).

37 \( growth_{it} = \log(gdp_{it}) - \log(gdp_{i,t-1}) \).

I draw GDP data from Gleditsch (2002), which extends through 2000. Since I lag the independent variables, this permits me to examine warship exports through 2001. 89 exports are excluded from statistical models that include growth, due to missing GDP data in Gleditsch.
**Relative Power.** A military power advantage could make states more likely to export warships—and conversely, relative weakness could be a constraint on exports (Kroenig 2010, 184-185). I construct two alternative dyadic variables for relative power, both derived from the NMC composite military capability measure, which accounts for each state’s military spending, manpower, and productive capacity (Ghosn and Bennett 2003; Singer 1987). The primary variable is *power ratio*, which measures the prospective exporter’s military capability divided by the total capability of both states—yielding the exporter’s power as a percentage of the dyadic total. The alternative variable, *power projection*, accounts for the effects of distance between states using a formula advanced by Gartzke and Braithwaite (2011, 13-14).

**Nuclear Weapons.** States enjoy (or suffer) different strategic circumstances depending on whether they have nuclear superiority, parity, or inferiority relative to another state. These could

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38 NMC Version 3.0, May 2005. While it would be useful to code the naval balance more specifically, rather than relying on the overarching material capabilities balance, no such dataset has yet been released and validated. A working paper and dataset by Brian Crisher and Mark Souva (forthcoming) aims to rectify that shortcoming, but it remains under review for publication.

39

\[
\text{power ratio}_i = \frac{\text{capability}_i}{\text{capability}_i + \text{capability}_j},
\]

This formulation follows Kroenig’s (2010, 53) alternate coding of power projection capability. It does not account for the effects of distance. In a contrasting example, Kroenig’s (51) central explanatory variable in his analysis of sensitive nuclear assistance is a power projection measure that does take the “tyranny of distance” into consideration. It acknowledges that power projection becomes more difficult with distance, and adjusts the measure of relative military power accordingly. This is logical as applied to conventional military power writ large, and especially when explaining the consequences of nuclear proliferation for power-projecting states. But navies may be required to fight enemies near home, near the enemy’s coast, or anywhere on the high seas between. From this perspective, it is less clear that a unilateral adjustment for distance—one applied only to the exporter’s relative power—is appropriate. While a distance adjustment would account for the decreased effectiveness of the exporter’s navy when operating near the enemy’s shores, it would fail to reflect the same handicap suffered by an enemy attempting to attack the exporter on its own territorial seas. Moreover, it would not address the fact that the distance between states may have little to do with the locations where naval battles actually take place. “If power declines in distance, then power relations between two nations differ at different points on the globe” (Gartzke and Braithwaite 2011, 1, emphasis added). A systematic adjustment based solely on the distance between two states could overestimate the effect of distance, applying it only to the narrow challenge of operating on the enemy’s doorstep. After all, the most critical naval battle of World War Two in the Pacific occurred at Midway Island, whose name reflects its position relative to both Pearl Harbor and Tokyo (Parshall and Tully 2007, 20-21).

40

\[
\text{power projection}_i = \frac{\text{capability}_i}{1 + (\text{distance}^2)} - \text{capability}_j.
\]
affect the probability of warship export. I therefore construct dichotomous nuclear weapons variables to account for these varying circumstances. *Nuclear exporter, nuclear recipient* and *nuclear dyad* reflect nuclear weapons possession by one or both states in a given pairing.  

*Interstate Rivalry.* Longstanding antagonism between two states seems likely to reduce the probability of warship export. I therefore construct dichotomous rivalry measures, *rival (KGD)* and *rival (CRT)*, based on the same sources used to code the shared-enemy variables discussed earlier. In addition, I construct a third measure—*MID*—that indicates the occurrence of an actual militarized interstate dispute short of war. (As noted in chapter 1, no state in the dataset exported a warship to a state with which it was actually at war. I therefore exclude MIDs coded as full-blown wars.)

*Superpower Pressure.* Superpowers might act to prevent client states from undertaking actions—such as warship exports—that could erode their military advantage. On the other hand, superpower blocs could encourage intra-alliance arms exports. A third possibility, consistent with the logic of relative power described above, is that superpowers have such a substantial margin of military advantage that they will care little about conventional weapon proliferation. Whatever the case may be, the potential for superpower influence must be taken into consideration. Following Kroenig (2010, 53), I construct two alternative measures of superpower influence. The first, *superpower pact*, is a dichotomous variable indicating whether or not a state

41 I code nuclear weapons possession based on Jo and Gartzke (2007), codebook, table 1. I code *Nuclear dyad* as 1 if both states possess nuclear weapons, and 0 if either state does not. Mathematically, it is an interaction term derived from both supply-side and demand-side nuclear weapons possession (*nuclear dyad = nucleari x nuclearj*).
42 Rivalry data sources are Klein, Goertz and Diehl (2006) and Colaresi, Rasler and Thompson (2007).
43 I extract this variable from Maoz’s (2005) dyadic MID dataset.
has a mutual defense pact with the United States or (until 1989) the Soviet Union. The second, *superpower vote*, is a continuous variable comparing each state’s United Nations General Assembly voting behavior to that of the superpower whose votes it most closely matches. *Superpower vote* ranges from -1 (complete dissimilarity) to 1 (complete similarity). This provides a proxy for how closely a state hews to a superpower’s policy preferences, which could correspond to increased probability of bowing to superpower pressure on arms-export issues.

*Trade ties and democracy.* Democracies and states sharing strong economic ties may be more likely to export warships to one another due to a reduction in mutual threat perception. Similarly, states heavily dependent on international trade may be more likely to export warships, believing that interstate conflict is less likely in a globalized economy. Therefore, I construct variables for *democratic exporter, democratic recipient, democratic dyad, dependence,* and *openness.* The democracy indicators are based on the Polity IV index (Marshall, Jaggers and Gurr 2012). I code states as democracies if their score is at least 6 on the scale of -10 (pure

---

44 I draw defense pact data from the Correlates of War dataset Version 3.0 (Gibler and Sarkees 2003). For the superpowers themselves, I set *superpower pact* at 0 since they have no strategic patrons of their own.

45 I draw UNGA voting data from Voeten and Merdzanovic (n.d.). Models including the UNGA voting data drop roughly 30,400 observations, of which 72 include warship exports. From 1990 onward, I code each state’s voting similarity to the United States. *Superpower vote* is set at 1 for the superpowers themselves. (Portraying superpowers as having indifferent voting similarity with themselves—as reflected by a zero score—would be intuitively nonsensical, hence my decision to code the superpowers as having 100 percent self-similarity). This decision could inflate the effect of *superpower vote*, since superpowers are prolific exporters. The problem is mitigated by re-estimating each model with superpowers excluded.

46 Models including *democracy* omit approximately 10,700 observations due to missing Polity IV data. None of these result in lost exports. Note that Polity IV uses different country codes for the USSR (364) and Russia (365), while every other data sources I draw upon uses a single code (365) for both. I therefore recode the Soviet Union as 365 in the Polity data to avoid dropping observations in which the Soviet Union is the (potential) exporter. This would be a critical flaw, given USSR/Russia’s status as the second leading exporter (after the United States).
autocracy) to 10 (pure democracy). Democratic dyad is coded as 1 when both states are democracies and 0 otherwise. Economic dependence measures the prospective exporter’s bilateral trade within a dyad as a percentage of its total trade. Openness measures the prospective exporter’s total trade as a percentage of its gross domestic product.

**Other Controls.** The strategic effects of distance between exporter and recipient could affect the probability of warship export. Distant states may appear less threatening, leading to a higher probability of export. On the other hand, the challenge of projecting power over great distances could make a prospective exporter wary of increasing the recipient’s home-field advantage, reducing the likelihood of export. Therefore, I include a logged distance variable based on Correlates of War data (Ghosn and Bennett 2003). To account for the possibility that the effect of distance is non-linear (Kroenig 2010, 192), I also include distance squared.

A prospective exporter’s economic strength and level of development may also play a role. Wealthy states have more resources to devote to the development and production of advanced warships, making their wares especially competitive in the international market. On the other hand, wealthy states are better able to subsidize excess capacity, which could reduce the

---

47 This democracy threshold follows Fearon and Laitin (2003) and Weeks (2012). Note that controversy surrounds the Polity index (Vreeland 2008). Yet, according to Cheibub et al. (2010), when employing political regime as control variable to test for a linear hypothesis, the choice of measure matters little because all measures of regime are highly correlated in the tails of the distribution. The coding of “middle” observations is more controversial, and so when the middle of the distribution is crucial for identifying estimates—as in non-linear hypotheses—the choice of political regime measure matters much more. Coding democracy as a minimum of 6 on the Polity IV scale is a step toward mitigating the uncertainty associated with the center of the regime distribution.

48 Missing Polity data results in roughly 50,400 dropped observations (and 49 exports) in models that include democratic dyad.

49 I draw trade data from Gleditsch (2002) via Weeks’ (2012) dataset. Missing data in Gleditsch results in approximately 14,800 dropped observations (and 26 exports) in models that include dependence.

50 I draw trade openness data from Singh and Way (2004). Missing data results in about 19,600 dropped observations (and 51 exports) in models incorporating openness.

51 I code distance capital-to-capital, except for contiguous states, for which I code it as 0.
probability of export. To account for either possibility, I include the supply-side control variables $\log GDP$ and development (GDP per capita).

In addition, I add the dichotomous variable \textit{industry} to indicate whether a state possesses a warship industry in a given year. States can export secondhand ships originally acquired from a third-party supplier, and it is therefore important to distinguish between the export behavior of states with warship industries (in which the dynamics of excess capacity may be in play) and that of states with no warship industries (where it is less likely that the excess capacity theory applies). While all but six of the 1,459 export cases in the dataset are from states with warship industries, this variable permits me to isolate and evaluate the effect of \textit{budget change} in states with and without industries, using an interactive model specification.

There may also be chronological or period effects on warship exports. In particular, time elapsed since a previous dyadic export (if any) could decrease the likelihood of future exports—due, for example, to the reduced influence of path-dependency effects.\textsuperscript{52} Hence, I include cubic polynomials of the time variable (Carter and Signorino 2010). Moreover, there are “strong reasons to anticipate robust period effects in the proliferation of conventional weaponry” (Eyre and Suchman 1996, 98-99). I therefore code the variable \textit{period} to account for the qualitative arms exports eras proposed by Eyre and Suchman \textit{(ibid.)}. The period 1966-1975 is coded as 1, with the periods before and after coded as 0 (table 2.6). Based on the period descriptions in table 2.6, it is reasonable to predict that exports should be fewer in the middle period—after the drawdown of cheap World War Two surplus and a spate of superpower efforts to outfit Cold War allies, but before the “buyer’s market” of the latter part of the twentieth century. (Eyre and

\textsuperscript{52} States that previously acquired warships from a given supplier may be more likely to acquire future ships from the same source to capitalize on equipment compatibility, common training and maintenance infrastructure, and so on. The more time that passes following an export, the weaker this effect is likely to be, as the producing state moves forward with new and different warship designs less compatible with older models. For a general discussion of path dependency, see Pierson (2000).
Suchman are unclear on the expected direction of period effects; this coding reflects a best effort to capture their qualitative insights.) In addition, Cold War tensions may well have spurred warship exports between allies, and to non-aligned states in a quest for influence. I therefore include the indicator cold war, coded as 1 until 1991 and 0 thereafter.

<table>
<thead>
<tr>
<th>Period (value)</th>
<th>Years</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1946-1965</td>
<td>Superpowers offload World War Two equipment—exports high?</td>
</tr>
<tr>
<td>1</td>
<td>1966-1975</td>
<td>Beginning of high-technology arms transfers—exports depressed?</td>
</tr>
<tr>
<td>0</td>
<td>1975-</td>
<td>Buyer’s market—resurgent exports?</td>
</tr>
</tbody>
</table>

Finally, I control for factors that influence a prospective importer’s incentives and ability to procure foreign-built warships. States that feel threatened may be more likely to build up their naval power (e.g., Wallace 1980, 43); therefore, I include the variable disputes, which is a five-year moving average of the number of militarized conflicts in which a prospective importer has been involved (Singh and Way 2004). Importing states might also be vulnerable to superpower pressure to procure (or not procure) ships from certain states. Consequently, I extend the superpower pact and superpower vote variables to the demand side. National wealth could increase an importer’s ability to afford foreign warships (or, alternatively, enable it to build its

53 Roberts (1996, 149) argues that the Cold War stimulated arms exports for balancing and foreign policy leverage, as well as the availability of security assistance funds, which could artificially boost demand by allowing exporters to subsidize their own arms sales. Roberts quotes former US Secretary of Defense Robert S. McNamara (1993, 38): “over the past decade [1983-1993], five of the top 15 Third World arms importers (India, Cuba, Israel, Vietnam, and Egypt) have received many of their arms free of charge or at highly subsidized rates from their superpower patron.” Nevertheless, these free or subsidized exports mean that the exporter’s warship industry receives a cash infusion—though possibly from state budget accounts distinct from military expenditure. For example, the United States has historically provided credit, subsidies or outright grants for foreign purchases of conventional arms using financial instruments appropriated outside Defense Department budget lines (Hammond, et al. 1983, 125-128).

own warship industry), so I include logged GDP and development on the demand side. As with prospective exporters, I include a dichotomous indicator for industry. States able to produce warships should have less need to procure ships from abroad, and import-competing warship industries could make it politically difficult to buy warships from foreign suppliers. Finally, the trade linkages and democratic peace arguments discussed earlier could make states more willing to import warships, as they might be less intent on developing defense autarky to hedge against an uncertain future—trusting, instead, that liberal or democratic states would remain reliable suppliers. Alternatively, expectations of peace might simply make states less likely to procure warships at all. Therefore, I include demand-side dependence, openness, and democracy.

**Data Analysis**

Warship exports occur in less than 0.4 percent of the observations in the dataset. The statistical analysis in this chapter therefore employs the Rare Events Logistic Regression (ReLogit) estimator, which is designed specifically for data in which observations with positive outcomes, or “ones,” are far outnumbered by those with negative outcomes, or “zeroes” (King and Zeng 2001, 137). The analysis also uses robust standard errors to account for the fact that observations of the same two states over time cannot be considered truly independent. Furthermore, each model includes the time in years since the last dyadic export (if any), along with time squared and time cubed terms, to correct for the logistic regression estimator’s

---

55 Roberts (1996, 139) writes that “military power tends to increase in the wake of economic progress.” Similarly, Thayer (1969, 352) observes that developing nations, especially newly independent ones, progress through three distinctive phases: the purchase of used, obsolete weapons from more-developed states; the purchase of more advanced weapons (often for prestige) as the government consolidates power; and finally, branching out to other sources to reduce the vulnerability of its military supply lines. Each of these factors could be correlated with economic development, and could affect the probability of warship imports. See also Taylor (1971, 904).

56 Re-estimating the model with standard logit or probit models does not affect the core results.

57 Specifically, each model clusters standard errors by dyad (e.g., Hafner-Burton and Montgomery 2006, 114).
assumption of temporal independence of the dependent variable (Carter and Signorino 2010). The time polynomials also address the possibility of path dependency arising from previous warship exports within a dyad. I do not list the coefficients of the time polynomials in the tables that follow, but it is worth noting that—as expected—the probability of export within a dyad does decrease in proportion to the time elapsed.

To establish the basic plausibility of each contending argument, I begin my analysis with a set of bivariate ReLogit regressions (table 2.7). I regress warship export on each alternative coding of the main explanatory variables, highlighting the primary coding used in the subsequent multivariate models. To establish the plausibility of the main argument’s supporting political-accountability hypothesis, I also regress warship export on each of Weeks’ regime types, using only the subset of observations for which budget change is less than zero—indicating the presence of excess capacity. Table 2.7 confirms the initial plausibility of all three competing explanations considered in the statistical analysis, as well as the supporting hypothesis associated with the main argument. Exports appear more likely when excess capacity or external balancing incentives exist, and less likely in times of economic growth. Moreover, only elected leaders and regimes constrained by civilian elites—democracies and machines—appear more likely to export in response to excess capacity. (I omit “strongman” regimes since no military dictatorship in the dataset exported warships during defense cuts, as measured by budget change.)

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58 Substituting cubic splines (Beck, Katz and Tucker 1998) for the polynomials does not affect the core results.
59 The coefficients of time and time cubed are negative and statistically significant (p < 0.001) in every model.
60 The bivariate regressions also suggest that “bosses” are less likely to export during budget cuts. However, this result does not persist in the multivariate models.
Main Hypothesis H1: States export warships when there is excess capacity in their naval shipbuilding industries (excess capacity explanation).

Supporting Hypothesis H1A: Democracies and machines are more likely than dictatorships to export warships in response to excess capacity (supports excess capacity mechanism).

Alternative Hypothesis A1: States export warships to allies or states with which they share a common enemy (external balancing explanation).

Alternative Hypothesis A3: States export warships during low or negative economic growth (macroeconomic pressure explanation).

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLE</th>
<th>COEFFICIENT</th>
<th>ROBUST STANDARD ERROR</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess Capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budget change (1 yr)</td>
<td>-0.519</td>
<td>0.060***</td>
<td>368,218</td>
</tr>
<tr>
<td>Budget change (5 yr)</td>
<td>-1.727</td>
<td>0.108***</td>
<td>368,218</td>
</tr>
<tr>
<td>Regime (when budget change &lt; 0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy</td>
<td>1.446</td>
<td>0.222***</td>
<td>57,572</td>
</tr>
<tr>
<td>Machine</td>
<td>0.438</td>
<td>0.237†</td>
<td>59,526</td>
</tr>
<tr>
<td>Junta</td>
<td>-1.033</td>
<td>0.991</td>
<td>59,526</td>
</tr>
<tr>
<td>Boss</td>
<td>-2.643</td>
<td>1.004**</td>
<td>59,526</td>
</tr>
<tr>
<td>External Balancing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ally</td>
<td>1.984</td>
<td>0.103***</td>
<td>379,186</td>
</tr>
<tr>
<td>Defense pact</td>
<td>1.859</td>
<td>0.118***</td>
<td>379,186</td>
</tr>
<tr>
<td>Non-defense pact alliance</td>
<td>1.689</td>
<td>0.227***</td>
<td>379,186</td>
</tr>
<tr>
<td>Enemy (KGD)</td>
<td>2.032</td>
<td>0.228***</td>
<td>379,186</td>
</tr>
<tr>
<td>Enemy (CRT)</td>
<td>1.571</td>
<td>0.311***</td>
<td>379,186</td>
</tr>
<tr>
<td>Macroeconomic Pressure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>-0.599</td>
<td>0.242*</td>
<td>364,341</td>
</tr>
</tbody>
</table>

† p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.
Highlighted rows indicate variables used in primary multivariate analyses.

The primary statistical analysis comprises four multivariate models addressing all of the competing explanations and control variables (table 2.8). Each model differs slightly in its analytic emphasis. Model 1 focuses on the most theoretically and empirically salient subset of the universe of cases, in which all prospective exporters possess warship industries. Model 2 is

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61 States with indigenous warship industries account for 66 percent of the observations in the dataset, and 99.6 percent (all but six) of the export cases. Re-estimating model 1 with the complete universe of cases—including non-producers—does not affect the core results.
identical to model 1, but omits the superpowers (the United States and the Soviet Union) to verify that they are not driving the results. Model 3 supplements the democracy variables with Weeks’ autocratic regime types to account for the possibility that elite-constrained autocracies, like democracies, are more likely to export warships. Finally, model 4 incorporates all prospective exporters, not just those with their own warship industries. Though there have been only six exports from non-producers, model 4 adds analytic value by allowing for variation on supply-side industry—leading to an interactive model that supports the main argument, while also revealing an unforeseen effect of budget changes.

A few methodological notes are in order before proceeding to the findings. I use a 95 percent confidence interval as the minimum threshold to claim statistical significance for the excess capacity hypothesis. At the same time, I want to be forthcoming about the effects of competing explanatory variables. Therefore I annotate (“†”) all coefficients that reach a 90 percent confidence level, to make clear that they are at least in the neighborhood of statistical significance. Additionally, informed by numerous robustness tests, I list variables that never achieve significance in a muted font so as to highlight covariates that are significant in at least one of the main models. Models 2 through 4 drop consistently insignificant variables (including, as it turns out, competing explanatory variable growth—which never achieves significance in any main model or robustness test). Finally, throughout the chapter, “core results” is shorthand for the coefficients of the main explanatory variables: budget change, ally, enemy, growth, and each regime-type variable.

62 Growth, rivalry, demand-side nuclear weapon, distance, distance squared, and demand-side openness never achieve significance \((p < 0.1)\) in any of the four models. I therefore drop them from the specifications of models 2 through 4 in table 2.8 (with the exception of nuclear weapon, which is a constituent element of the nuclear dyad interaction term). The results in table 2.8 are, however, robust to inclusion of the omitted variables.
Table 2.8. Correlates of warship exports, 1951-2001

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>1 Baseline (Industry States)</th>
<th>2 Baseline (No Superpowers)</th>
<th>3 Baseline (Regime Types)</th>
<th>4 Interactive (All States)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excess Capacity</strong></td>
<td></td>
<td>0.202*</td>
<td>0.756***</td>
<td>0.120</td>
</tr>
<tr>
<td><strong>Hypothesis H1</strong></td>
<td></td>
<td>(0.113)</td>
<td>(0.228)</td>
<td>(0.113)</td>
</tr>
<tr>
<td><strong>Budget change</strong></td>
<td>-0.718***</td>
<td>-0.713**</td>
<td>-0.841***</td>
<td>1.783**</td>
</tr>
<tr>
<td></td>
<td>(0.223)</td>
<td>(0.273)</td>
<td>(0.212)</td>
<td>(0.560)</td>
</tr>
<tr>
<td><strong>Industry</strong></td>
<td>3.532***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.575)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Regime</strong></td>
<td></td>
<td>0.020†</td>
<td>0.357†</td>
<td>0.308</td>
</tr>
<tr>
<td><strong>Hypothesis H1A</strong></td>
<td></td>
<td>(0.113)</td>
<td>(0.199)</td>
<td>(0.202)</td>
</tr>
<tr>
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<td>0.966***</td>
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<td>1.088***</td>
</tr>
<tr>
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<td>(0.239)</td>
<td>(0.239)</td>
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<td><strong>Strongman</strong></td>
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<td>1.088***</td>
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<tr>
<td><strong>Control Variables</strong></td>
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<td><strong>Strategic</strong></td>
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<td>(0.509)</td>
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<td>0.408*</td>
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<td>0.195†</td>
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<tr>
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<td>(0.323)</td>
<td>(0.340)</td>
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<td>(0.237)</td>
<td>(0.227)</td>
<td>(0.243)</td>
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Table 2.8 (continued). Correlates of warship exports, 1951-2001

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>1: Baseline (Industry States)</th>
<th>2: Baseline (No Superpowers)</th>
<th>3: Baseline (Regime Types)</th>
<th>4: Interactive (All States)</th>
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<td>Distance Squared&lt;sub&gt;ij&lt;/sub&gt;</td>
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<td>Democracy</td>
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<td></td>
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<td>(0.213)</td>
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<td>Dependence&lt;sub&gt;ij&lt;/sub&gt;</td>
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<td>4.982***</td>
<td>5.264***</td>
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<td>(1.391)</td>
<td>(1.388)</td>
<td>(1.451)</td>
<td>(0.357)</td>
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<td>0.007***</td>
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<td>0.006***</td>
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<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
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<tr>
<td>GDP&lt;sub&gt;j&lt;/sub&gt;</td>
<td>0.270***</td>
<td>0.294***</td>
<td>0.243***</td>
<td>0.259***</td>
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<td>(0.059)</td>
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<td>(8.86e-6)</td>
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<td>Period</td>
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<tr>
<td>Period</td>
<td>0.271***</td>
<td>0.374***</td>
<td>0.246**</td>
<td>0.217**</td>
</tr>
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<td>(0.081)</td>
<td>(0.109)</td>
<td>(0.078)</td>
<td>(0.078)</td>
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<td>0.693***</td>
<td>0.494***</td>
<td>0.507***</td>
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<td></td>
<td>(0.119)</td>
<td>(0.139)</td>
<td>(0.118)</td>
<td>(0.114)</td>
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<tr>
<td>Demand</td>
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<td></td>
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<td></td>
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<tr>
<td>Disputes&lt;sub&gt;j&lt;/sub&gt;</td>
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<td>0.066*</td>
<td>0.111***</td>
<td>0.112***</td>
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<tr>
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<td>(0.031)</td>
<td>(0.024)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Superpower pact&lt;sub&gt;j&lt;/sub&gt;</td>
<td>-0.193†</td>
<td>-0.250†</td>
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<td>-0.166</td>
</tr>
<tr>
<td></td>
<td>(0.112)</td>
<td>(0.134)</td>
<td>(0.113)</td>
<td>(0.107)</td>
</tr>
<tr>
<td>GDP&lt;sub&gt;j&lt;/sub&gt;</td>
<td>0.325***</td>
<td>0.413***</td>
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<td>0.348***</td>
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<td>(0.040)</td>
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<td>(0.040)</td>
<td>(0.038)</td>
</tr>
<tr>
<td>Development&lt;sub&gt;j&lt;/sub&gt;</td>
<td>-6.14e-5***</td>
<td>-5.28e-5***</td>
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<td></td>
<td>(1.5e-5)</td>
<td>(1.59e-5)</td>
<td>(1.51e-5)</td>
<td>(1.49e-5)</td>
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<td>1.111***</td>
<td>1.107***</td>
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<td>(0.276)</td>
<td>(0.313)</td>
<td>(0.223)</td>
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</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry&lt;sub&gt;j&lt;/sub&gt;</td>
<td>0.268*</td>
<td>0.462**</td>
<td>0.261*</td>
<td>0.263*</td>
</tr>
<tr>
<td></td>
<td>(0.124)</td>
<td>(0.145)</td>
<td>(0.124)</td>
<td>(0.122)</td>
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</tbody>
</table>
Table 2.8 (continued). Correlates of warship exports, 1951-2001

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>1 Baseline (Industry States)</th>
<th>2 Baseline (No Superpowers)</th>
<th>3 Baseline (Regime Types)</th>
<th>4 Interactive (All States)</th>
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<td>(1.437)</td>
<td>(1.566)</td>
<td>(1.410)</td>
</tr>
<tr>
<td>N</td>
<td>211,950</td>
<td>217,656</td>
<td>202,156</td>
<td>319,684</td>
</tr>
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</table>

Note: † p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.
The dichotomous dependent variable is warship export (0 is no export, 1 is export in a given year). Each column displays the results of rare-events logistic regression using the ReLogit estimator (King and Zeng 2001). Standard errors are reported in parentheses and are clustered by dyad. Each model includes cubic time polynomials to account for effects associated with temporal dependence (Carter and Signorino 2010). Polynomial results are not reported here, but as expected, increased time since previous export is in all cases associated with a statistically significant (p < 0.001) decrease in likelihood of transfer. Re-estimation of the models using cubic splines rather than cubic polynomials does not affect the core results. The maximum proportion of export observations omitted from the analysis due to missing independent variable data is 12.2 percent, in model 1.

Results of the Data Analysis

The dissertation’s central argument is that states export warships to strategically puzzling customers when there is excess capacity in the naval shipbuilding industry. All four models support this hypothesis (H1). Warship exports are more likely when defense spending falls—even after controlling for alliances and common enemies.63 Specifically, models 1 through 3 all produce negative and statistically significant coefficients of budget change, meaning that the probability of export increases in proportion to spending cuts. The results of model 4 require more detailed interpretation of the multiplicative interaction term (budget change x industry), which I describe in more detail after surveying the main results.64 For now, it is sufficient to note

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63 I perform numerous robustness tests to ensure that key exporters or individual control variables do not drive the results. Appendix D summarizes the results of these tests. Additionally, the negative and significant results of budget change are robust to the substitution of any of the alternative budget change variables discussed earlier in the chapter (either a single-year measure, or a five-year average that is not adjusted to mitigate missing data).

64 The coefficients of an interaction term and its constitutive terms must be assessed simultaneously, not individually, to avoid inaccurate conclusions about their net effect (Brambor, Clark and Golder 2006). I interpret the results of model 4 at greater length at the end of the data analysis section.
that the coefficient of the interaction term—representing the effect of budget change in states with warship industries—is also negative and statistically significant.

The analysis also supports the core argument’s associated hypothesis that democracies and machines are more likely to export warships in response to the political pressure of excess capacity (H1A). Model 3, which includes Weeks’ disaggregated autocracy variables, shows that these states are indeed more likely to export warships. However, to fully assess hypothesis H1A—that democracies and machines are more likely than dictatorships to export warships in response to excess capacity—I take the additional step of re-estimating each model using data subsets including only democracies and only machines. The coefficients of budget change remain negative and significant in all of these models, demonstrating that democracies and machines are in fact more likely to export warships when defense spending falls. I repeat the tests using data subsets corresponding to every other autocratic regime type, finding that the coefficients of budget decrease are insignificant by wide margins in every case. In short, democracies and machines are more likely to export warships when there is excess naval shipbuilding capacity—and other regimes are not. (While this may appear to limit the findings’ broad applicability, it is worth noting that democracies and machines account for 94 percent of the warship exports in the dataset.)

65 As model 3 shows, the effect of democracy holds even after controlling for GDP. Acemoglu and Robinson (2012), for example, find that democratic political institutions are particularly conducive to economic growth. See also Doucouliagos and Ulubasoglu (2008, 61).

66 Specifically, I re-estimate models 1, 2, and 4 for democracies, and models 1 and 2 for machines. (I omit model 4 for machines because there are no exports in the dataset from a machine regime that does not have a warship industry—obviating the budget change x industry interaction.)

67 The coefficients of budget change are significant at the 99 percent confidence level or better for each democracy model; at the 99 percent level for machines when the USSR is included; and at the 90 percent confidence level when the USSR is omitted.
All four models also support the external balancing hypothesis, independent of excess capacity. The coefficient of *ally* is positive and statistically significant in every model. The results for shared *enemy* are not as consistent, but *enemy* has a positive and significant ($p < 0.1$) coefficient in the first model, and substitution of a shared-enemy variable based on Colaresi, Rasler, and Thompson (2007) yields positive and significant ($p < 0.001$) results in all four models without affecting the other core findings. This is unsurprising given the compelling logic of the external balancing argument. Moreover, it suggests a possible solution to the puzzle of exports that appear counterintuitive at first sight. Like the tip of an iceberg, they could be the first indication of a secretive effort to balance against a common adversary. The case study chapters account for this possibility by examining each export’s strategic circumstances in detail.

It is logical that allies and states with shared enemies are more likely to trade in warships. Yet, this does not explain why states would export warships when no balancing incentive exists. Chapter 1, figure 1.3 reveals that unaligned states account for more than half of all exports in the dataset. Therefore, returning to the main argument, I re-estimate models 1 through 4 with allies and enemies-of-enemies omitted. The coefficients of *budget change* (models 1 through 3) and *budget change x industry* (model 4) remain negative and significant. Excess capacity increases the probability of export even when states lack an external balancing incentive.

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68 The findings are so strong that it is not necessary to resort to the *defense pact* variable to achieve support for the external balancing argument. Nevertheless, the findings are robust to the substitution of *defense pact* for *ally*.

69 Such cases would not be reflected in the statistical analysis, since the lack of confirming evidence of balancing would result in scores of 0 for *ally* and *enemy*.

70 For this test, model 1’s specification omits the variables that were not significant in table 2.8 (*growth, rivalry, distance, distance squared, and demand-side openness*). The remaining models’ specifications are identical to those shown in table 2.8.

71 In model 1, the coefficient of *budget change* is negative and significant at the 99 percent confidence level. In models 2 and 3, it is negative and significant at the 95 percent confidence level. In model 4, the coefficient of *budget change x industry* is negative and significant at the 99.9 percent confidence level. The constituent interaction terms are also significant at the 99.9 percent confidence level, with signs identical to those in table 2.8.
In contrast to the excess capacity and external balancing hypotheses, the macroeconomic pressure hypothesis finds no support in any of the models. If states export warships for hard cash to stimulate a flagging economy, negative economic growth should lead to greater probability of export. Yet the coefficient of growth is insignificant, with a standard error larger than the coefficient’s value in every model. (Based on this finding, I omit growth from model specifications 2 through 4 in table 2.8.)

Using model 1 as a baseline specification, I conduct numerous robustness checks to ensure that individual exporters and control variables do not drive the core findings of the statistical analysis. Model 2, for example, omits the superpowers—demonstrating that the United States and Soviet Union do not drive the core findings. However, as figure 2.1 shows, the superpowers are not the only major warship exporters. The United Kingdom, France, and West Germany round out the top five from 1951 through 2001. Therefore, I re-estimate model 1 (minus variables with insignificant coefficients) while omitting each of these three states sequentially, and then omitting all three of them plus the superpowers. Sequential omission of each state does not affect the core findings. Omission of all five leaves the coefficient of budget change at the threshold of the 95 percent level \((p < 0.055)\) with no change to its sign.\(^\text{72}\)

I also re-estimate model 1 while sequentially omitting each individual control variable.\(^\text{73}\) These omissions have no effect on the sign or statistical significance of the core results.

I now discuss the substantive effects of budget change in states with warship industries. Table 2.9 shows the simulated change in the probability of export, or “relative risk,” associated

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\(^\text{72}\) Additionally, growth becomes significant at the 95 percent confidence level when all five top exporters are omitted—but in the positive direction (the opposite of the macroeconomic pressure hypothesis’ prediction).

\(^\text{73}\) For models in which I omit either supply or demand side democracy or nuclear weapons, I also omit the corresponding dyadic term democratic dyad or nuclear dyad.
with changes in each explanatory variable. I use model 1 (with insignificant variables omitted) as the baseline specification. For the continuous variable budget change, I obtain the relative risk by varying budget change from one standard deviation above its mean to one standard deviation below, and then repeat the procedure, varying from two standard deviations above to two below the mean. (While this may seem extreme, numerous states including the Soviet Union/Russia have undergone maximum-to-minimum budget swings of this magnitude.) I obtain relative risks for the dichotomous variables ally and enemy by moving them from 0 to 1. I hold all other variables at their mean values.

Table 2.9. Substantive effects of export covariates in warship-producing states, 1951-2001

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLE</th>
<th>RELATIVE RISK</th>
<th>95% CONFIDENCE INTERVAL</th>
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<tbody>
<tr>
<td>Budget change (1 SD)</td>
<td>1.31</td>
<td>1.15 to 1.50</td>
</tr>
<tr>
<td>Budget change (2 SD)</td>
<td>1.72</td>
<td>1.31 to 2.24</td>
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<tr>
<td>Ally</td>
<td>2.86</td>
<td>2.40 to 3.47</td>
</tr>
<tr>
<td>Enemy</td>
<td>1.41</td>
<td>0.95 to 2.09</td>
</tr>
</tbody>
</table>

Relative risks calculated using model 1, table 2.8 (minus variables with insignificant coefficients). For budget change, relative risk is obtained by varying from one standard deviation above the mean to one standard deviation below, and then again from two above to two below. For ally and enemy, relative risks are obtained by changing the value from 0 to 1. All other variables are set to their means.

Table 2.9 shows that varying budget change by two standard deviations results in a mean 31 percent increase in the probability of warship transfer, and varying it by four standard deviations (from two above to two below the mean) results in a 72 percent increase. The table also shows that alliances and common enemies have a meaningful impact on warship exports.

I use Tomz, Wittenberg and King’s (2000) Clarify software to simulate relative risks.
All else equal, allies are roughly three times as likely to trade in warships, and states that share mutual rivals are on average 41 percent more likely to export warships to one another.

The increased probability of warship exports due to budget cuts may seem very modest. Why should analysts care about a one-third to three-quarters increase in the probability of export? A comparison of the budget change and external balancing relative risk simulations answers the question. Alliance has the most dramatic effect, nearly tripling the probability of export. This is not surprising—nor is it particularly interesting. There are many ways in which arms exports can benefit the members of an alliance, as discussed in chapter 1. More interesting is the effect of a common enemy, which reflects the increased probability of export when non-allies share a mutual adversary outside an alliance structure. The relative risk associated with enemy is only slightly larger than the first budget change entry in table 2.9, and substantially smaller than the second entry. So, while the effect of budget change is unlikely to match that of alliance, it is comparable to—and potentially even greater than—that of a shared enemy.

Moreover, what about states with no external balancing incentive? What effect does excess capacity have in such cases? And separately, scholars caution that the relative risk technique used above—which sets all secondary variables to their mean values—posits an “average” case that may not be a plausible representation of the population (e.g., Hanmer and Kalkan 2013, 263). I address both issues using another set of relative risks accounting for non-aligned states and realistic combinations of independent variables. The first two lines in table 2.10 repeat the relative risk procedure used in table 2.9, but limit the cases under consideration to

75 It is possible to generate relative risks for budget change exceeding that of alliance, but this requires heroic suspension of disbelief about the potential magnitude of budget swings. For example, varying budget change from three standard deviations above to three below the mean generates a relative risk of 2.26, while varying it from its maximum to its minimum value generates a relative risk of 8.98.

76 One straightforward critique is that the mean value of a non-constant, dichotomous variable cannot, by definition, occur in any discrete observation. Additionally, even if each individual variable takes a value that could plausibly occur in the real world, the overall combination of values might create an implausible mean case in the aggregate.
states that are not allies and share no common enemies. The last line presents an empirically plausible scenario based on the Russia-China dyad in 1993—the year Russia sold Kilo submarines to China. It shows the relative risk associated with a shift in Soviet-Russian budget change from its pre-1993 high (18.5 percent, in 1951) to its actual value in 1992 (-22 percent), with all other variables set at their actual 1993 values for Russia and China.

Table 2.10. Substantive effects of budget change under specified scenarios

<table>
<thead>
<tr>
<th>SCENARIO</th>
<th>RELATIVE RISK</th>
<th>95% CONFIDENCE INTERVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-aligned states (1SD)</td>
<td>1.21</td>
<td>1.05 to 1.40</td>
</tr>
<tr>
<td>Non-aligned states (2SD)</td>
<td>1.47</td>
<td>1.11 to 1.96</td>
</tr>
<tr>
<td>Russia-China 1993</td>
<td>1.41</td>
<td>1.20 to 1.69</td>
</tr>
</tbody>
</table>

Relative risks calculated using model 1, table 2.8 (minus variables with insignificant coefficients). In non-aligned scenarios, model includes only cases in which ally and enemy are both equal to zero.

Non-aligned scenario: budget change is varied from one (two) standard deviation(s) above the mean to one (two) below. All other variables set to mean values.

Russia-China scenario: budget change is varied from its mean (-0.10) to its actual value for Russia in 1993 (0.22). All other variables set to actual values for Russia-China dyad in 1993.

Table 2.10 first reveals that the effect of budget change persists in states that do not share an alliance or common enemies. For states with no clear balancing incentive, varying budget change from one standard deviation above the mean to one standard deviation below produces an average 21 percent increase in the probability of export. Using a two standard deviation benchmark, the probability of export increases by 47 percent. Therefore, excess capacity still has a substantively meaningful, positive effect on the probability of export even among states that lack a clear external balancing incentive.

The table also reveals that the effect of excess capacity is not an artifact of implausible assumptions in the relative risk simulation. Holding all other variables at their actual 1993 values
for the Russia-China dyad, the table shows that varying Russian budget change from its Soviet-era high to its actual 1993 value results in a 41 percent increase in probability of export—even to its erstwhile enemy China. The results displayed in Table 2.10 cannot be directly linked to the causal factors at play in 1993’s Russia. But they do indicate that excess capacity can have a meaningful effect under real-world conditions, and not just in a mathematically average case. Excess capacity may not double or triple the probability of warship exports, but it has the demonstrable potential to tip the scales in favor of strategically problematic exports.

Figures 2.3 and 2.4 are graphs of the key simulation results. Both are based on model 1, differing only in the subset of observations examined. Figure 2.3 corresponds to table 2.9, including all observations (minus outliers) in which the prospective exporter has a warship industry. Figure 2.4 omits observations in which an alliance or common enemy exists, and thus corresponds to the top row of table 2.10. Each shows the change in probability of export as budget change continuously varies. Both graphs clearly demonstrate the relationship between budget change and the probability of warship export.

77 All other model parameters are as listed in tables 2.9 and 2.10.
Simulation based on model 1 (table 2.8)—all variables except budget change set to mean values

Figure 2.3. Marginal effect of budget change on warship exports in states with warship industries

Simulation based on model 1 (table 2.8)—all variables except budget change set to mean values

Figure 2.4. Marginal effect of budget change, omitting states with alliances or common enemies
So far I have concentrated on models 1 through 3, which focus on cases in which prospective exporters all have warship industries. Not only are these the most theoretically relevant exporters (after all, they are the only states able to produce warships for export), they account for 99.6 percent of all exports. Yet, the fact that some non-producing states have exported warships means that they cannot be ignored. (Appendix C describes the six exports from states without warship industries.) As it turns out, model 4’s interactive specification not only produces support for the main argument, it also uncovers an interesting wrinkle emphasizing the strategically puzzling nature of warship exports in lean fiscal times.

There are two essential differences between model 4 and the other models. First, it captures the entire universe of cases (other than extreme outliers), including states without warship industries. Second, it adds two new variables. One is a dichotomous indicator of supply-side industry, and the other is an interaction term generated by multiplying industry and budget change. This permits a mathematical distinction between the effects of budget change when industry is present (a closer proxy for excess capacity than budget change alone) and its effects absent industry. Table 2.11 summarizes the substantive interpretation of these variables, considered individually. Table 2.12 displays their coefficients, excerpted directly from table 2.8. For comparison, it also includes the coefficients of budget change from models 1 through 3.

---

78 Warship-producing states account for 1,455 of the 1,459 export cases in the dataset.
79 The core results are nevertheless unaffected when the outliers are retained, with the coefficients keeping the same signs and roughly identical magnitudes. As predicted in the earlier discussion of outliers, however, the statistical significance of the budget change term becomes implausibly high (with a z-score of nearly 1,600).
80 The core findings of the first three models are, however, robust to the inclusion of states without industries.
Table 2.11. Individual interaction terms

<table>
<thead>
<tr>
<th>Interaction term</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget change x industry</td>
<td>Marginal effect of budget change in the presence of warship industry</td>
</tr>
<tr>
<td>Budget change</td>
<td>Effect of decreased military expenditure without industry (industry = 0)</td>
</tr>
<tr>
<td>Industry</td>
<td>Effect of warship industry when expenditures are static (budget change = 0)</td>
</tr>
</tbody>
</table>

Table 2.12. Marginal effect of interaction terms on probability of warship export, 1951-2001

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>1 Baseline (Industry States)</th>
<th>2 Baseline (No Superpowers)</th>
<th>3 Baseline (Weeks)</th>
<th>4 Interactive (All States)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess Capacity</td>
<td>$BD_i \times \text{industry}_i$</td>
<td>-2.580*** (0.607)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\text{Budget change}_i$</td>
<td>-0.718*** (0.223)</td>
<td>-0.713** (0.273)</td>
<td>1.783*** (0.560)</td>
</tr>
<tr>
<td></td>
<td>$\text{Industry}_i$</td>
<td>3.532*** (0.575)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The coefficient of $\text{budget change} \times \text{industry}$ supports the excess capacity hypothesis. Just as in the first three models, reduced military spending in states with warship industries increases the probability of export. Unsurprisingly, the coefficient of $\text{industry}$ indicates that warship-producing states are more likely than non-producers to export.

The coefficient of $\text{budget change}$ is surprising, at least at first blush. It indicates that when there is no warship industry, larger cuts in military spending make states less likely to export warships.\(^81\) This is exactly the opposite of the effect in warship-producing states. Yet, there is an intuitive explanation. Strategic logic suggests that states with no warship industries

---

\(^81\) When $\text{industry} = 0$, the interaction term also takes a value of zero through multiplication by $\text{industry}$—therefore the net effect on the probability of export is captured solely by the negative coefficient of $\text{budget change}$. This finding is affirmed by analyzing non-industry states in isolation, using model 1’s specification (but including only states without warship industries). For states without warship industries, $\text{budget change}$ diminishes the probability of export at the 90 percent confidence level.
should hoard whatever forces they do have when budgets fall, because lean times mean they may not be able to purchase more. And unlike their warship-producing counterparts, these states do not have naval shipbuilding industries to be threatened by declining budgets—thus, no industry pressure to counteract strategic export constraints.

In short, the interactive model supports the argument that declining military budgets produce excess industrial capacity, and consequently increase the export incentive. Moreover, it reveals the unforeseen, but strategically intuitive negative effect of budget changes when excess capacity is rendered impossible by the lack of a warship industry.

It is important, however, not to jump to conclusions about the net effect of budget changes on states that do have warship industries. Consider a simplified expression of model 4 (omitting the coefficients of other explanatory and control variables):

\[
\text{Pr}(\text{Export}) = \beta_{XY} \times \text{budget change} \times \text{industry} + \beta_X \text{budget change} + \beta_Y \text{industry} + \epsilon
\]

Substantive interpretation of this model is simple for states without warship industries. For these states, \(\text{industry} \) is equal to zero, and therefore the entire effect of \text{budget change} is captured by the coefficient \(\beta_X\)—which is positive and statistically significant in model 4, indicating a decreased probability of export when budgets fall. For states with industries, however, the net effect of \text{budget change} must account for the combined effects of \(\beta_{XY}\) and \(\beta_X\)\textsuperscript{82}. Table 2.12 shows that these coefficients work against one another due to their opposed signs.

\textsuperscript{82} Mathematically, it must also include the effect of \(\beta_Y\). But since \text{industry} is constant for all warship-producing states (\text{industry} = 1), this coefficient is not analytically interesting because it does not contribute to differential export probabilities between states with naval shipbuilding industries. For a full discussion of the interpretation of interactive models, see Brambor, Clark and Golder (2006) and Ai and Norton (2003).
The coefficient of the interaction term is larger, suggesting that excess capacity (\(budget \ change \times industry\)) is likely to overpower \(budget \ change\) by itself. But one cannot assume this is the case.

To assess the net effect of the interaction, therefore, I conduct another simulation. Figure 2.5 shows the combined marginal effects of \(budget \ change \times industry\) and \(budget \ change\). The graph is nearly identical to figure 2.3, demonstrating that the interaction produces substantively the same results as model 1’s baseline specification: budget cuts lead to greater probability of export. The interactive model thus supports the main argument, while also revealing the conflicting economic and strategic incentives generated by military spending decreases.

Simulation based on model 4 (table 2.8)—Industry = 1, all other variables set to their mean values

*Figure 2.5. Combined marginal effect of \(budget \ change \times industry\) and \(budget \ change\)*
I conclude the quantitative analysis by considering the control variables. Table 2.8 demonstrates that many of the controls have statistically significant effects. This adds to the robustness of the main findings by accounting for other warship export influences, and also suggests avenues for future arms trade research. I briefly discuss each control variable in turn.

The first set of controls deals with strategic factors. As expected, power ratio has a positive and significant effect. The larger a state’s conventional military advantage, the more likely it is to export warships.\(^{83}\) Surprisingly, interstate rivalry and militarized disputes short of war (MID) do not consistently constrain warship exports.\(^{84}\) However, neither rivalry nor MID achieves statistical significance when the superpowers are omitted (model 2).

Superpower influence is a potential constraint on warship exports. In contrast with Kroenig’s (2010, 57) findings on sensitive nuclear assistance, however, model 2 shows that non-superpowers are more likely to export when they share a defense pact with a superpower.\(^{85}\) This effect persists when allies are omitted as potential customers, suggesting that warship exports seem a safer bet when the seller enjoys superpower protection.

\(^{83}\) Substitution of the distance-adjusted measure power projection produces less conclusive results. Its effect is positive, but reaches statistical significance at the 90 percent confidence level or better only in models 1, 2 and 3. This is consistent with the discussion of naval strategy in chapter 1 and appendix A. Since naval battles can take place anywhere on the ocean, the distance between states is less salient. The core results are, however, unaffected by this substitution. Additionally, there is an alternative interpretation of this finding (whichever power variable is used). States with the largest relative power advantages are likely to be among those with the most substantial naval shipbuilding industries, and they may simply have more wares to export. The analysis addresses this possibility by controlling for other factors associated with a large shipbuilding industry, especially GDP and development.

\(^{84}\) The rivalry finding is based on Klein, Goertz and Diehl’s (2006) measure. Colaresi, Rasler, and Thompson’s (2007) rivalry measure achieves statistical significance at the 95 percent confidence level in models 1, 3, and 4, but not model 2—revealing that the superpowers drive this result. The core results are unaffected by the substitution.

\(^{85}\) The substitution of superpower vote for superpower pact in model 2 does not affect this result. Note, however, that this substitution renders the coefficient of budget change statistically insignificant ($p \sim 0.21$). This appears to result from a coincidental relationship between budget change and superpower vote, since all of the many other robustness tests produce coefficients of budget change that attain significance at least at the 95 percent confidence level, and usually at the 95 percent or 99.9 percent level depending on model specification.
Nuclear superiority results in a higher probability of export compared to non-nuclear dyads. Somewhat surprisingly, so does nuclear parity.\(^86\) This is consistent with the argument that nuclear powers generally resolve conflicts through crisis bargaining rather than warfare (Kroenig 2013), reducing the risk posed by warship exports. Non-nuclear states are neither more nor less likely to export to nuclear states than to non-nuclear customers.

Consistent with the argument that naval battles can occur anywhere on the high seas between two adversaries, reducing the salience of interstate distance,\(^87\) neither distance nor its square achieves statistical significance in any model.\(^88\)

The models also control for the potential effects of democratic peace. Democracies might be more willing to export warships to one another based on mutually peaceable relations. Yet when the substantive effects of democratic dyad and its constitutive terms are combined, it turns out that democracies are no more or less likely than autocratic pairings to trade in warships.\(^89\)

The findings for the individual terms are intuitive. Democracies are more likely to export warships to autocracies than autocracies are to one another, perhaps reflecting less innate suspicion of future conflict (i.e., the monadic democratic peace argument). Autocracies, on the other hand, are less likely to export to democracies than they are to fellow autocracies, possibly because they are outside the peaceful club of democratic states (e.g., Jervis 2005, 1).

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\(^{86}\) Because nuclear dyad is an interaction term, only the effects of exporter nuclear superiority or inferiority can be inferred directly from table 2.8. (The coefficient of nuclear weapon, is the effect of nuclear superiority compared to the baseline probability of export in a non-nuclear dyad, and the coefficient of nuclear weapon, is the corresponding effect of nuclear inferiority.) The net effect of nuclear dyad must account for the effects of both constitutive terms. Relative risk simulation reveals that the effects of both nuclear superiority (nuclear weapon\(_i/j \neq 1/0\)) and nuclear parity (nuclear weapon\(_i/j \neq 1/1\)) increase the probability of export by a factor of approximately 3.5 compared to non-nuclear dyads (nuclear weapon\(_i/j \neq 0/0\)). Export pairings under conditions of nuclear parity include the United States to Britain, Israel, and Pakistan; Britain to the United States, France, Israel, India, and Pakistan; France to the United States and Pakistan; the Soviet Union and Russia to China and India; Israel to India; and China to Pakistan.

\(^{87}\) Appendix A develops this argument in more detail.

\(^{88}\) Substitution of unlogged distance data does not affect this result.

\(^{89}\) Relative risk simulation using model 3 (which controls for other elite-constrained regime types) shows that mutual democracy does not alter the probability of export relative to autocratic dyads at the 95 percent level.
Trade ties consistently increase the probability of export—whether because of “liberal peace” (the expectation that states would not forgo beneficial trade by starting wars) or simply because states relying heavily on international trade are more vulnerable to economic losses resulting from blocked exports. In any case, both bilateral dependence and overall openness to international trade increase the probability of export.

The macroeconomic controls also affect the probability of export. States with higher logged GDP are more likely to export warships, possibly because of their greater ability to start up and maintain a warship industry. Development makes exports less likely in models 1, 3, and 4—but is insignificant in model 2, suggesting that its negative effect on exports is driven by the superpowers. In fact, re-estimating the models while sequentially omitting each superpower (the United States and Soviet Union) reveals that the United States drives the significance of development in models 1, 3, and 4. This is a counterintuitive finding worth future investigation, since the United States is both highly developed and a major warship exporter.

The period effects are also significant. Unsurprisingly, the probability of export is higher during the Cold War than thereafter—likely buoyed by a booming intra-alliance arms trade. The coefficient of period is more interesting. Eyre and Suchman’s (1996) coding of distinct arms trade periods does produce differential effects, with a greater probability of export between 1966 and 1975 (“beginning of high-tech arms transfers”) compared to the preceding World War Two surplus era and the later buyer’s-market era. It is possible that states desiring to remain militarily competitive were forced to import a larger proportion of their warships as they sought

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90 Interestingly, substituting unlogged GDP makes its coefficient negative and significant ($p < 0.001$), without changing the sign or significance of the other key variables. Raw GDP may reflect more directly rich states’ disproportionate economic strength, which enables them to better subsidize their own warship industries—reducing the probability of exports. Logged GDP, on the other hand, compresses the measured disparity in economic power; possibly generating results related to the general correlation between economic strength and substantial, export-seeking warship industries.

91 This result is robust to the omission of the cold war variable, which could have a confounding effect.
to keep up with the latest naval technology, then ramped down demand as their own industries came up to par with foreign competitors. (Not coincidentally, this could also contribute to the later appearance of a buyer’s market.) While Eyre and Suchman do not clearly predict the direction of each period’s impact on the probability of export, this result does seem to contradict the prediction set out in table 2.6, suggesting another avenue for future research.

Most of the demand-side controls produce intuitive results. States with more frequent militarized disputes are more likely to need warships, resulting in a higher probability of export to those states. States sheltered under a superpower pact are generally less likely to receive warships (as Olson’s alliance inefficiency hypothesis might predict). Bilateral trade dependence on the importer’s part increases the probability of export, consistent with the effect of supply-side dependence. Demand-side openness, however, does not affect the probability of export.

A few of the demand-side controls are more puzzling. Industry increases the probability of export, which is curious since states with shipbuilding industries should in principle seek to minimize foreign competition. It is less puzzling, however, assuming that states with shipbuilding industries have a higher innate level of demand for warships than states without industries. The opposed effects of logged GDP and development constitute a more challenging enigma. Higher logged GDP on the demand side increases the probability of export, whereas highly developed recipients decrease it. The lack of an obvious explanation for these incongruous results suggests another opportunity for future research.

Conclusion

Statistical analysis supports the hypothesis that warship exports are more likely when there is excess capacity in the naval shipbuilding industry of democracies and machine regimes.
It also supports the external balancing hypothesis. States are more likely to export warships to counterparts with whom they share an alliance or common enemies. The strong effect of strategic alignment is unsurprising—but almost by definition, it cannot explain strategically puzzling exports. Moreover, relative risk simulations reveal that the substantive effect of excess capacity is on a par with that of shared enemies, revealing that domestic political factors can have as much influence as strategic motivations. In short, excess capacity is a compelling explanation for warship exports, even when strategic factors seem to dictate restraint.

The interactive model specification incorporates states with and without warship industries, lending further support to the excess capacity hypothesis. The substantive effect of spending cuts on the probability of export for states with industries is practically identical to that produced by the simpler models. The interactive model also reveals an unforeseen yet intuitive dynamic. For states without warship industries, military budget changes reduce the probability of export. Non-interactive models focusing on states without industries confirm this finding. States unable to build their own warships may stockpile naval strength in lean times, since shrinking budgets mean less ability to finance future warship purchases.

The analysis does not support the competing argument that states export warships to ameliorate low or negative economic growth. Indeed, examination of macroeconomic control variables yields only one consistent result: wealthier states are more likely to export. This lends further credibility to the argument that excess capacity creates microeconomic pressure to export because of its specific impact on the shipbuilding sector, distinct from the economy writ large.

The quantitative control variables account for confounding influences, and shed light on the wider dynamics of the warship trade. Among the most interesting results, states with conventional military superiority are more likely to export warships. States with nuclear
superiority or parity are also more likely to export warships. Bilateral trade—and openness to international trade more generally—increases the probability of export. And rather remarkably, interstate rivalry does not consistently reduce the probability of warship exports.

The most consistent implication of the statistical analysis is that microeconomic factors—those directly impacting the naval shipbuilding industry—play a central role in promoting warship exports. This holds even when the external balancing motivation is stripped away. In short, no matter the strategic circumstances, warship exports are more likely when excess capacity places shipbuilding jobs at stake.

* * *

The advantage of the statistical analysis is that it covers hundreds of thousands of state pairings, with countless permutations of the explanatory and control variables. The rigorous quantitative analysis thus has the advantage of breadth. It also provides objective criteria by which to judge confidence in the analytic results. Still, this confidence relies on many assumptions about the data and underlying causal processes. Moreover, the statistical analysis does not provide any details about specific warship export transactions, nor does it address the competing foreign policy leverage hypothesis. To examine these, I turn to qualitative accounts, beginning with chapter 3’s examination of Soviet and Russian warship exports.
CHAPTER 3: SOVIET AND RUSSIAN WARSHIP EXPORTS

The Soviet defense industry was at the focus of continuous interplay between the ruler and his subjects, state interests and private interests, finance and politics, and foreign policy and domestic policy.¹

Why would a weakened Russia sell advanced submarines and destroyers to longstanding enemy China after the implosion of the Soviet Union? I argue that excess naval shipbuilding capacity explains this puzzle. Until Mikhail Gorbachev came to power, the Soviet Union had little or no excess capacity. Its warship exports were strategic, designed to counter the West—and, after the Sino-Soviet split, China. When Gorbachev imposed massive defense cuts, however, he created colossal excess capacity at a single stroke. After the Soviet collapse, warship exports to paying customers—even erstwhile enemy China—provided an attractive, if Faustian, alternative to the political outcry that would attend lost jobs in the shipbuilding sector.

This chapter analyzes Soviet and Russian warship exports in the second half of the twentieth century. The lack of excess shipbuilding capacity through the mid-1980s suggests at first blush that the Soviet Union rationally matched its industrial base to its security strategy through efficient central planning. Yet, closer examination reveals that this was not the case. After Stalin’s death, cartelized domestic politics encouraged logrolling among political, military, and industrial elites.² Logrolling was so prevalent, in fact, that western Kremlinologists even had a Russian term for it: kto-kogo, or “who is prevailing over whom” (Nogee and Donaldson 1992, 45). Consequently, shipbuilding capacity continued to grow even when reform-minded Nikita

¹ Gregory (2008, xii).
² Weeks (2012) categorizes the post-Stalin USSR as a “machine” rather than a dictatorship. Similarly, Nogee and Donaldson (1992, 45) write, “not since Stalin has a single member of the leadership been able to dictate the terms of every policy, ignoring the challenges of both rivals and experts and removing those who refuse to bend to his will.” Snyder (1991, 214) likewise explains that the Soviet military-industrial complex had strong vested interests and engaged in extensive logrolling after Stalin’s death. On cartelized politics in general, see Snyder (1991, 250).
Khrushchev ordered defense reductions. The expanding naval industry did not constitute excess capacity under Khrushchev, however, because industry and military logrolling resulted in defense budget growth. In effect, state demand for warships increased to accommodate supply. Even Khrushchev’s hawkish successor, Leonid Brezhnev, lamented the resulting economic burden—though he did nothing to tame it.

The post-Soviet shift to capitalism meant that politics no longer trumped the invisible hand of the market. With Moscow unable to subsidize its massive defense industry, shipyards needed foreign markets to survive. Luckily for Russia’s warship industry, China proved a willing customer. In the face of pressure from industry elites and a newly empowered electorate, Russian President Boris Yeltsin allowed the export of advanced Kilo submarines and Sovremenny destroyers to China to forestall lost jobs and elite privileges—losses which would imperil his agenda of economic and political reform. In short, the political pressures of excess naval shipbuilding capacity led directly to Russia’s warship sales to China.

* * *

I begin this chapter by explaining why Russia’s warship exports to China in the 1990s are so puzzling from a strategic perspective. I then proceed to a chronological analysis of Soviet and Russian warship exports. Reflecting the central puzzle, the narrative places special emphasis on Sino-Soviet relations.

Leadership tenures provide a useful means of dividing the chapter’s chronology. Stalin and his successors had distinctive approaches to policy and governing, making them the obvious focal points for each stage of the story. Sections on the Stalin, Khrushchev, Brezhnev, Gorbachev, and Yeltsin eras round out the chapter. Each section provides strategic context,

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3 The Brezhnev section includes Brezhnev’s short-lived successors Andropov and Chernenko, who led the Soviet Union for less than two years between Brezhnev’s death and Gorbachev’s ascent.
examines the key variables associated with the main and supporting hypotheses—excess capacity and political regime—and concludes with an analysis of that era’s warship exports. Finally, I conclude with a summary, explaining why the excess capacity argument provides the best solution to the puzzling case of Russian warship exports to China.

**Fading Bear, Rising Dragon: The Strategic Puzzle of Russian Warship Exports to China**

In a nutshell, Russia’s export of *Kilo*-class submarines\(^4\) and *Sovremenny*-class destroyers (figure 3.1) is perplexing because the USSR and China were outright enemies from the mid-1960s until Gorbachev’s abrupt about-face in roughly 1989. Moreover, when Russia sold *Kilos* to a rising China in 1993, the former superpower was growing militarily and economically weaker by the day. History offers few examples of states that responded to a declining strategic position by selling arms to one of their main historical adversaries. From a strategic perspective, these exports are bewildering. A short review of Sino-Soviet history in the second half of the twentieth century reinforces the point.

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\(^4\) Russian-built submarines originally produced during the Cold War are usually referred to in the West using the NATO naming convention—e.g., *Alfa, Kilo, Romeo, Yankee*, etc.
Even in the best of times, Sino-Soviet interactions were laden with mistrust and mutual suspicion. At the worst of times, the two states regarded each other with undisguised hostility. In 1964, with the relationship ebbing into mutual antipathy, the Soviets took the astonishing step of conferring with American officials about the possibility of joint strikes against Chinese nuclear facilities (Gaddis 1998, 218; Kroenig 2010, 124). The same year, Mao Zedong—stalwart enemy of Japan during World War Two—told a group of visiting Japanese industrialists that he would support their government’s claim against the Soviets for ownership of the contested Sakhalin and Kurile Islands (N. Khrushchev 1990, 90). Not to be outdone on the geostrategic playing field, from 1969 through 1986 the Soviet Union led its bloc in an effort dubbed INTERKIT—“a joint ideological, propagandistic, and disinformation assault against the Chinese” (Watts 2012, 1).

Sino-Soviet antagonism eased only when Gorbachev unilaterally normalized relations. Yet, Gorbachev’s olive branch was expressly designed to reduce the Soviet defense burden by declaring China a friend rather than an enemy, practically overnight. China itself had done little to suggest that it viewed the Soviet Union more favorably. The Soviet Union simply could not afford the burden of dual cold wars with West and East (Donaldson and Donaldson 2003, 712). Gorbachev’s desire to salvage the Soviet economy therefore provides a plausible explanation for normalization—but a shaky rationale for selling arms to a longstanding enemy (709).

Gorbachev’s efforts to place the Soviet Union on a sustainable path came too late, however. On December 25, 1991, the Soviet Union dissolved. The loss of the former Soviet republics was a heavy blow to Russian power. By one reckoning, the end of the Soviet Union left Russia only half as powerful as China in military terms.5 Similarly, Russia’s economic power

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5 The dissolution of the USSR deprived Moscow of roughly one-third of its 1991 military potential (Ghosn and Bennett 2003). In 1992, China had about 1.8 times Russia’s military power (see figure 3.2).
dropped immediately to about two-thirds that of China, and continued to decline (Gleditsch 2002). By either measure, China had become the more powerful state (figures 3.2 and 3.3).\textsuperscript{6}

\textsuperscript{6} This assertion bears some qualification. Though China’s GDP was substantially higher than Russia’s in 1992, China lagged Russia in industrialization, and had a per-capita GDP one-fifth that of Russia (Gleditsch 2002). It is important, therefore, not to overestimate China’s qualitative power advantage based on raw quantitative indicators.
Russia exports warships to China, even as its military potential declines well below that of China

Figure 3.2. Soviet/Russian and Chinese proportions of total dyadic power, 1980-2000

China’s economic power surges past Russia’s by the time of warship exports

Figure 3.3. Soviet/Russian and Chinese GDP in trillions of 1996 US dollars, 1980-2000

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7 Based on Correlates of War military capabilities data (Ghosn and Bennett 2003).
8 Based on Gleditsch’s (2002) economic data.
Russia and China had no treaties and no shared enemies at the time of the *Sovremenny* and *Kilo* exports. Moreover, Russia was suffering an increasing military and economic disadvantage. As Donaldson and Donaldson (2003, 716) describe at length, it is strange for arms exports to form the vanguard of rapprochement between two longstanding enemies.9

Skeptics might point out that the Russian arms exports to China could reflect balancing against the United States, the lone post-Cold War superpower (Walt 2009; Ferguson 2012)—notwithstanding Russian and Chinese disavowal of such motives (Ferguson 2012, 198). This claim is logical from a system-level perspective. As Brooks and Wohlforth (2005, 83) note, “Russia's own military is presently unable to use most of the output of its defense industry. To the extent that its strategic [partnership] with…China permit[s] the transfer of some of this output to militaries that can use it effectively, the net effect is a shift in relative power.”

Closer analysis of the Sino-Russian relationship, however, challenges the balancing explanation. Despite a presumed common interest in constraining US power, Russia and China do not enjoy harmonious relations conducive to unfettered military cooperation. They have only modest economic exchange relative to “most friendly countries, let alone allies” (Weitz 2011, 660).10 Tensions persist over illegal Chinese immigration and the spillover of pollution from rapidly industrializing China. There are enduring disagreements over energy security, despite Russia’s status as a major exporter and China’s as a major importer; and Russia’s continued ties with a rising India put it at odds with China (660, 662). Moreover, both Russia and China have avoided overt, costly commitments to a balancing strategy—preferring strategic flexibility and the benefits of trade with the West (Brooks and Wohlforth 2005, 84).

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9 Similarly, Tsyganov (1997, 307-308) writes, “the emergence of a military and political Sino–Russian alliance seems inconceivable as their geopolitical and strategic national interest do not coincide.” See also Swaine and Tellis (2000, 119): “this essentially arms procurement relationship has now been baptized as a ‘strategic partnership,’ [but] it is so only in name.” (Both quotes cited in Donaldson and Donaldson 2003, 716).

10 On stagnating Sino-Russian economic ties, see also Norling (2007, 35-36) and Brooks and Wohlforth (2005, 84).
Thus, a variety of factors suggest that “Russia's interest in these exports is not driven by the need to counterbalance US power but rather by a desperate need to slow the inexorable decline of its military industrial complex” (Brooks and Wohlforth 2005, 86). This chapter’s qualitative analysis lends even more weight to this conclusion.

Meanwhile, China is moving to increase its own naval shipbuilding capacity—capitalizing on expertise gained by reverse-engineering Russian-built warships (Collins and Grubb 2008, 32). Moscow therefore faces a dilemma. It stands to lose critical income for its shipbuilding industry if it does not sell advanced warships to China. Yet, China can exploit these sales to increase its own shipbuilding expertise, leading to a vicious circle in which China may emerge the clear winner both militarily and economically. Russia appears to have made a devil’s bargain, as warship sales to China have continued into the twenty-first century—including eight more Kilos and two more Sovremennys (SIPRI 2011). This chapter attempts to explain why.

Stalin: 1950-1953

*Nobody pities or respects the weak. Respect is reserved only for the strong.*

- Josef Stalin

The chapter’s central analysis begins with an examination of Soviet warship exports under Stalin. Stalin’s emphasis on military strength and his continued drive for a large and powerful fleet resulted in unmet Soviet demand for warships—the exact opposite of excess capacity. Moreover, he was a ruthless dictator and, as such, invulnerable to political pressure from the Soviet defense industry complex. Consistent with the main and supporting hypothesis,

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11 Quoted in Zubok (2007, 19).
Stalin’s warship exports therefore proceeded along strategic lines. All Soviet warship exports under Stalin were to allies, or to states with which the USSR shared a common enemy.

This section opens with a brief discussion of the Soviet strategic context during Stalin’s era. It then discusses the two main factors associated with strategically puzzling warship exports—excess capacity and an elected or elite-constrained political regime—revealing the absence of both. It concludes with a detailed analysis of warship exports under Stalin, providing support for the main hypothesis by showing that the lack of excess capacity, combined with Stalin’s iron-fisted dictatorship, led to a corresponding lack of nonstrategic exports.\(^\text{12}\)

**Background: Cold War to the West, Cold Alliance to the East**

In the early 1950s many Soviets believed that World War Three was imminent. Sergei Khrushchev (Nikita’s son) recalls, “none of us doubted that the Americans wanted a general [Eisenhower] in the White House because an experienced commander-in-chief would be needed in the impending war” (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 242). The 1949 establishment of the North Atlantic Treaty Organization (NATO) seemed to confirm Stalin’s assertion that the world was divided into two camps—imperialist and “democratic” (i.e., socialist) forces locked in a zero-sum struggle for dominance.\(^\text{13}\)

Stalin therefore aimed for military supremacy. A massive naval buildup was one result (Yegorova 2005, 179). Moreover, under the rhetorical guise of global revolution, he worked to extend Soviet influence into both neighboring and distant states, so as to push the USSR’s defensive perimeter beyond the Soviet border (166). To that end, he sponsored communist

\(^{12}\) Later sections of the chapter show that the Soviet Union and Russia did engage in strategically puzzling exports when excess capacity and political accountability emerged. In other words, the chapter’s analysis does not hinge on a negative case (i.e., no excess capacity and no accountability lead to no puzzling exports).

\(^{13}\) The two camps—“the ideological basis for the Iron Curtain over the next forty years”—were introduced in Stalin lieutenant Andrei Zhdanov’s speech of 25 September 1947, which Stalin helped write (Montefiore 2003, 569).
revolts in Azerbaijan, the Philippines, Indonesia, Malaya, Burma, Indochina, and India (Mott 2001, 1; Nogee and Donaldson 1992, 103). Closer to home, he sought to strengthen adjoining socialist states such as Bulgaria and Romania.

In the East, Stalin took advantage of Mao’s rise to further his strategic vision. On February 14, 1950, following Mao’s victory over Chiang’s Nationalists, Stalin concluded a new treaty with communist China. Yet, this was far from an expression of socialist harmony. “Tough bargaining and mutual acrimony…characterized the negotiations to the end” (Zubok 2007, 79). In particular, Mao demanded that the USSR return its territorial holdings in Manchuria, a key Soviet outpost on the Pacific Ocean. Stalin angrily conceded—but he was incensed by Mao’s lack of deference. For his part, Mao “felt humiliated by Stalin’s condescension and refusal to treat China as an equal partner” (ibid.). Ultimately, as the Korean War experience would demonstrate, the Sino-Soviet treaty was a pact between two self-interested powers determined to balance against a common enemy. Montefiore (2003, 607) notes that at the post-signing banquet, Stalin and Mao “barely spoke”, with Stalin “pointedly [denouncing] Titoism…and Mao [continuing] his historic sulk.” Conflict over national interests and ideology would bring the treaty to an end by 1960 (Wolff 2000, 1).

The Korean War exemplified Stalinist realpolitik. Archival evidence reveals that Stalin—despite having endorsed Kim Il Sung’s “war of national reunification”—may have aimed merely for a balance of power on the peninsula, preventing any single state from gaining control while inducing the United States to “squander its military prestige and moral authority” (Zubok 2007, 14)

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14 Stalin’s reference to “Titoism” emphasized his disapproval of independent-minded leaders within the socialist camp, such as Yugoslavia’s Marshal Tito (see, for example, Nogee and Donaldson 1992, 98-99).
79-80). Stalin hoped that the Korean conflict would lead to a protracted US-China war, which would “distract the United States from Europe,” giving the USSR time to “consolidate socialism in Europe” (Zubok 2007, 81). He therefore convinced Mao to take up arms in support of North Korea, promising comprehensive military aid (ibid.).

Despite Stalin’s “generous” support of his Chinese ally, it could not have escaped Mao’s notice that Chinese engagement in the Korean War placed China in direct combat with the United States, and diverted China from its main objective of incorporating Nationalist-held Formosa (Taiwan)—now blocked by the US Seventh Fleet (Nogee and Donaldson 1992, 105). For his part, Stalin “refused to task the Soviet Navy with supporting the North Korean army and Chinese volunteers, so as not to complicate relations with the US and provoke a full-scale war”—even refusing to provide Soviet naval advisers to North Korea (Yegorova 2005, 168). In short, Stalin’s strategic approach to China consisted of opportunistic manipulation designed to gain an advantage for the Soviet Union at the expense of both the United States and China.

This coldblooded strategy was consistent with Stalin’s longstanding approach to relations with China. Stalin consistently subordinated ideology to the balance of power. Before Mao’s rise to power, Stalin pressured the Nationalist government for an alliance and territorial rights to consolidate a strategic bastion against Japan, even telling Nationalist Foreign Minister T.V. Soong that “we do not support and don’t intend to support [the Chinese Communists]. We consider that China has one government” (quoted in Zubok 2007, 25). Indeed, to attain the “Sino-Soviet Treaty of Friendship and Alliance” of August 14, 1945, Stalin forced the Chinese Communist Party to conclude a truce with the ruling Nationalists (26).

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15 See also Weathersby (1993). There is also evidence, however, that Mao’s earlier victory over Chiang’s Nationalists reenergized Stalin’s belief in the efficacy of revolutionary regimes (Zubok 2007, 79-80). Hence, his aid to North Korea may not have been entirely cynical.

16 Stalin did, however, authorize naval mine-laying support to North Korea, which resulted in the sinking of 13 US Navy ships (Yegorova 2005, 168).
Stalin also excelled at playing both sides of the fence. Despite his ambivalent references to the Chinese Communists as “margarine Marxists,” he hedged his bets by providing captured Japanese weapons to Mao at the end of World War Two (Gaddis 1998, 59-60). Moreover, when the United States sent Marines to Manchuria in September 1945 to support the Nationalists, Stalin responded by “[exploiting] the presence of the Chinese Communists in Manchuria as a counterbalance” (Zubok 2007, 35).

In short, Stalin-era Sino-Soviet interactions reflected the hard-nosed realism that would pervade the bilateral relationship for the ensuing four decades—making Russia’s 1990s warship sales to China all the more puzzling.

**Naval Shipbuilding Capacity: Struggling to Keep Up**

Stalin’s quest for military supremacy led to a warship construction program whose reach exceeded its grasp. In other words, there was insufficient shipbuilding capacity. (Appendix D provides more detail on Stalin’s blue-water aspirations for interested readers.) A 1950 memo from the Soviet bureau for central economic planning, Gosplan, provides confirming evidence of the shipbuilding shortfall: “of the three light cruisers to be delivered in 1949 not one was delivered, of 12 destroyers only two were delivered, of the two escort ships not one was delivered, of 18 basic minesweepers 11 were delivered and of 83 torpedo boats six were delivered” (“To the Deputy Chairman of the USSR Council of Ministers Comrade I.F. Tevosyan” 1950, quoted in Yegorova 2005, 164). Submarine production also lagged behind schedule (Yegorova 2005, 165).

In 1950, there was a “noticeable redoubling of efforts by the Soviet leadership to expedite” the shipbuilding program (Yegorova 2005, 165). War-damaged construction yards
were restored, and the state undertook to improve old shipyards and construct new ones (ibid.). Additionally, Stalin encouraged the shipbuilding industry to construct far-flung production facilities for expressly political reasons. Indeed, he directed the construction of a yard on Sakhalin to reinforce Soviet citizens’ perception of the contested island as “our land” (166).

The first years of the Korean War impressed upon Stalin the need to catch up to superior US naval technology. The drive for technological advances compounded the shipbuilding industry’s capacity challenges. By 1952, “shipbuilding enterprise activities were increasingly taking on the character of mobilization”—including a Shipbuilding Ministry request that the Ministry of Armed Forces conscript 7,000 workers to build submarines (Yegorova 2005, 175). Shipyards even employed GULAG inmates to address labor shortfalls (176). Naval shipyards—such as Krasnoye Sormovo, builder of the Chinese Kilos—that also produced civilian ships were relieved of civil production duties, and often further specialized in a single type of warship (ibid.). And in 1952 the Soviet Union began its nuclear submarine program, with the first nuclear-capable yard constructed at Severodvinsk (179).

The warship industry struggled to keep up with Stalin’s demands. Ironically, his successor, Khrushchev, would deem the Stalinist navy and its warship industry excessive, and of little strategic value. But until Stalin’s death in March 1953, the warship industry sprinted all-out without ever quite catching up. Moreover, execution of the shipbuilding plan was complicated by Stalin’s particular admiration for battle cruisers, which led to his detailed personal oversight and meddling at the expense of other parts of the program.19

17 On a related note, the state security services established sharagas—prison design bureaus—in which political prisoners who also happened to be engineers conducted naval design work (Harrison and Markevich 2008, 73-74).
18 Krasnoye Sormovo, for example, specialized in Whiskey-class submarines, predecessors of the Kilos.
19 For example, Stalin sent an angry February 1953 directive to Shipbuilding Minister Nosenko to “mobilize forces” to prevent an anticipated delay in commissioning the Stalingrad-class cruisers (Yegorova 2005, 177-178).
In short, Soviet naval shipbuilding capacity throughout the Stalin era consistently lagged behind demand. There was no excess capacity—quite the opposite.

*Domestic Politics: Iron Fist in an Iron Glove*

Historian Vladislav Zubok (2007, 18) aptly summarizes Stalin’s vicious dictatorship: “he succeeded at home by allying with some of his rivals against others and then destroying them all.” There is little need to expand on this, except to touch on one particular aspect of Stalinist politics—his unfettered personal control over foreign policy, including arms export decisions.

Before consolidating his power at home, Stalin had to play a two-level game. For example, he shaped his foreign policies in the 1920s and 30s with an eye toward domestic political opponents such as Leon Trotsky (Nogee and Donaldson 1992, 44). By the late 1930s, however, Stalin had eliminated any political competition. Soviet policies until Stalin’s death in 1953 reflected his own decisions (McCauley 1995, xi-xii; Nogee and Donaldson 1992, 45).

Among these policies were arms export rulings. During Stalin’s tenure, military aid decisions were made by the Politburo—which, though ostensibly a consensual decision-making body, had been entirely coopted by Stalin. As Yuriy Kirshin (1998, 59) writes, “in practice it was Stalin who had the final word.” Nikita Khrushchev’s reminiscences provide further evidence: “Stalin did not allow [Khrushchev], or most other members of the upper leadership of the country, to deal with military matters. Stalin decided them himself, privately” (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 246).

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21 On two-level games (i.e., the intersection of domestic and foreign policies), see Putnam (1988).
22 Yoram Gorlizki (2001, 291) writes that “what once had been a crucible of political struggle had turned, by World War Two, into a tractable committee of Stalin's friends and accessories.” See also Nogee and Donaldson (1992, 49).
Stalin’s absolute power left no room for subordinates to lobby for divergent interests in the realm of foreign policy. Had there been excess capacity in the warship industry, it is implausible that industrial elites would or could have lobbied for exports in contravention of Stalin’s wishes. Warship export decisions under Stalin therefore comported with the dictator’s broader Cold War strategy.

Explaning Warship Exports, 1950-1953: No Excess Capacity

There was no excess capacity in Stalin’s warship industry. All of its productive potential was fully engaged in meeting Stalin’s expansive naval demands. The testable implication of the main hypothesis, therefore, is that there should be no nonstrategic warship exports. Because there was no excess capacity, in other words, any warship exports under Stalin should be clearly explicable in terms of strategic benefits to the state.

Table 3.1 sets out a yearly typology of Soviet warship export recipients to facilitate a systematic analysis. The table distinguishes between Soviet allies, states sharing a common enemy with the Soviet Union, and non-aligned states.23 The first two columns enable a rapid assessment of the plausibility of the external balancing hypothesis, and the “non-aligned” column identifies states that require more detailed analysis.

Table 3.1. Recipients of Soviet warships, 1951-1953

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23 I draw alliance data from the Correlates of War dataset (Gibler and Sarkees 2002). It includes defense pacts, neutrality and non-aggression pacts, and ententes. To ensure a robust test of the main hypothesis relative to the external balancing hypothesis (i.e., to err in favor of the latter), I code states with shared enemies based on either (or both) of Colaresi et al. (2007) or Klein et al. (2006). Allies that also share enemies with the USSR are listed only once, in the ally column, for ease of reading.
<table>
<thead>
<tr>
<th>Year</th>
<th>Allies</th>
<th>Shared Enemies</th>
<th>Non-aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>East Germany(^{24})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1951</td>
<td>Bulgaria</td>
<td>China(^{25})</td>
<td></td>
</tr>
<tr>
<td>1952</td>
<td>Romania</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1953</td>
<td>Bulgaria</td>
<td>North Korea</td>
<td></td>
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<tr>
<td></td>
<td>Poland</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Romania</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The empty “non-aligned” column is consistent with the main hypothesis. Since there was no excess naval shipbuilding capacity, warship exports would negatively impact Stalin’s own naval buildup and create an undesired burden on industry—thus, one would not expect to see exports to states other than clear strategic partners. That is precisely what table 3.1 shows.

Of course, the simultaneous absence of excess capacity on the one hand and puzzling warship exports on the other does not necessarily substantiate the main hypothesis.\(^{26}\) Later sections of this chapter aim to do just that, by showing that puzzling exports *did* occur when excess naval shipbuilding capacity emerged—and that plausible causal logic links excess capacity to those exports. Nevertheless, so long as strategic explanations account for Stalin-era warship exports, this finding does provide initial support for the main hypothesis by demonstrating that nonstrategic exports did not occur in the absence of excess capacity.

The entries in table 3.1 clearly support the external balancing rationale. Warship exports to allies East Germany, Bulgaria, Romania, and Poland strengthened the expanded perimeter

\(^{24}\) The USSR and East Germany were not technically allied in 1950, since the USSR did not grant sovereignty to the German Democratic Republic until 1954 (Gallagher 1988, 46). Table 3.1 nevertheless lists East Germany as an ally due to Stalin’s de facto political control over its government.

\(^{25}\) Gibler’s coding does not consider the 1950 Sino-Soviet Treaty to meet the threshold for a military alliance, in contrast to the Sino-Soviet Treaty of 1945-1950 between Moscow and Nationalist China (Gibler, 4.1325 Sino-Soviet Treaty of Friendship and Alliance 2009). I follow Gibler for consistency with the statistical analysis presented in chapter 2. In any case, though the treaty did not expire until 1979, Brezhnev said as early as 1966 that “the behavior of the PRC government has long been destroying the basis for our allied relations” (Radchenko 2009, 183).

\(^{26}\) In other words, the analysis does not hinge on attempts to prove a negative (i.e., “no excess capacity causes a lack of nonstrategic exports”).
with which Stalin sought to buffer Soviet defenses against a Western onslaught. For example, Khrushchev (1990, 166) recalled that during the Berlin crisis of 1948, Stalin became “quite uneasy that Turkey was planning an attack against Bulgaria” and was therefore determined to strengthen the allies that constituted his European defensive perimeter. Similarly, as Stalin put it to Franklin Roosevelt, “throughout history, Poland has served as a corridor for enemies coming to attack Russia’—therefore he wanted a strong Poland” (Montefiore 2003, 482).

Bulgaria also shared a common rival with the Soviet Union in the form of Yugoslavia, whose leader Josip Broz-Tito defied Stalin’s assertion of authority over the socialist world (Nogee and Donaldson 1992, 241-243). And China, despite suppressed Sino-Soviet rancor, had aligned itself with the USSR in the face of a common enemy—the United States—by the time it received Soviet warships in 1951. Khrushchev recalled that Stalin’s military aid to China “was useful because arming and strengthening China meant strengthening the socialist camp and securing our eastern borders” (N. Khrushchev 1990, 142). Similarly, North Korea was the beneficiary of Soviet military aid during the Korean War.27 Thus, Stalin’s warship exports were consistent with straightforward strategic logic.

* * *

Stalin-era naval shipbuilding was characterized by a persistent shortage of productive capacity as the warship industry struggled to keep up with Stalin’s insatiable demand for a high-seas fleet. Warship exports constituted both a brake on Stalin’s naval buildup and an additional burden for the naval industry. The corresponding implication of the excess capacity hypothesis is that there should have been no warship exports beyond those designed to bolster the Soviet Union’s strategic position relative to its Cold War foes. This was indeed the case.

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27 For an overview of Soviet military aid to North Korea during the Korean War, see Kirshin (1998, 55-59).
Khrushchev: 1953-1964

*If the military men aren’t kept under control, if they’re allowed to charge off in whatever direction they please, they’ll drive our country into a budgetary grave.*

- Nikita S. Khrushchev

Many in the West remember Nikita Khrushchev chiefly for banging his shoe on a United Nations podium, or for covertly installing Soviet missiles in Cuba—bringing the world within spitting distance of a nuclear holocaust. A close inspection, however, reveals a leader intent on a “daring but bumbling attempt to reform communism” in a manner that would be sustainable for the Soviet economy and society (Taubman, *Khrushchev: The Man and his Era* 2003, xi). In this regard, Khrushchev shared much in common with Mikhail Gorbachev.

Khrushchev sought to reduce the Soviet defense burden, and his skepticism of the Soviet Navy’s value in the nuclear age led him to attempt a dramatic reduction of the USSR’s shipbuilding program. Yet cartelized post-Stalin politics allowed the warship industry to foil Khrushchev’s cuts. Consistent with the Soviet shift from dictatorship under Stalin to machine politics under Khrushchev, powerful defense industry interests forced Khrushchev to reverse his spending cuts—and helped entrench the mechanisms by which the warship industry shielded itself from oversight and control by the top Soviet leadership.

As a result of industry and navy logrolling, the Soviet defense budget increased to accommodate warship supply. This forestalled excess capacity, limiting warship exports to strategic purposes. The majority of Khrushchev’s exports therefore went to allies or states sharing common enemies with the Soviet Union, and exports to non-aligned states are readily explained by the foreign policy leverage argument.

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29 The infamous “shoe incident” is a matter of some controversy; contrary to the conventional wisdom, it may not actually have happened (see, for example, Taubman, “Did He Bang It?: Nikita Khrushchev and the Shoe” 2003).
Chapter 1 argues that two key variables combine to cause strategically puzzling warship exports: excess capacity, and electoral or elite-constrained domestic politics. Under Stalin, neither was present. Under Khrushchev, machine politics arose. Machine politics are not sufficient to cause counterintuitive warship exports—indeed, under Khrushchev, machine politics forestalled excess capacity. However, manipulation of state demand for warships was only possible while the Soviet Union remained (relatively) solvent—foreshadowing the counterintuitive exports of later years, when logrolling would be redirected from defense budget machinations to the pursuit of warship sales to any customers willing to pay.

**Background: Nikita’s New Look, and the Sino-Soviet Split**

Josef Stalin, the “Red Tsar,” died on 5 March 1953. Key voices in the Presidium feared that war with the United States was imminent as a result of Stalin’s aggressive policies. Believing the Soviet Union unprepared, they moved to tamp down tensions while Soviet military strength was built up (Zubok 2007, 86). Khrushchev, who took the helm on September 14, 1953 after defeating competitor Georgi Malenkov’s leadership bid, was of a similar mind. He saw the Soviet Union as a continental state, not an oceanic state like the United States or the United Kingdom. This implied a more modest, defensive strategy (N. Khrushchev 2004, 440-448). Khrushchev hoped that a less-provocative posture would usher in an era of “peaceful

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30 The term is Montefiore’s (2003).
31 The Politburo was renamed “Presidium” from 1952 to 1966.
32 Khrushchev was skeptical of the Soviet Navy’s potential to challenge the US and UK navies on the high seas, even with extravagant investment in more and better warships (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 249). From the Soviet perspective, the Second World War had been decided primarily within continental bounds—Stalin’s expensive 1930s fleet “hardly participated in the war with Germany” (248).
coexistence” with the West (Zubok 2007, 94). Moreover, he did not ignore the suffering of his citizens, and sought to improve their standard of living by reducing the Soviet defense burden.

Nevertheless, Khrushchev could not wish away the Cold War competition. The Kremlin interpreted NATO’s inception as evidence of the West’s implacable hostility, and this led directly to the 1955 establishment of the Warsaw Pact and continued support (at first) for Mao’s China. Additionally, Khrushchev was more of an ideologue than Stalin (McCauley 1995, xii). Thus, archival research shows, “the new Kremlin rulers were eager to reassert the Soviet position as a global revolutionary leader and began to build alliances with revolutionary-nationalist leaders and groups in the Middle East, South and Southeast Asia, Africa, and Latin America” (Zubok 2007, 95; see also Laron 2007, 16-18). Non-aligned states—particularly those emerging from colonialism—formed a new Cold War battleground for influence. Revolutionary regimes and non-aligned states therefore constituted a new market for strategic warship exports, even when they showed no inclination to directly balance against the West.

Khrushchev’s attitude toward naval power was fundamentally shaped by the Soviet Union’s acquisition of the bomb in 1949. In early 1954, a Soviet official “presented a report that convincingly demonstrated the deadly consequences for the entire planet of any mass use of atomic and hydrogen bombs. Reading the document, Khrushchev concluded that nuclear war was impossible. He did not doubt that the American leadership would arrive at a similar

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33 How Khrushchev reconciled his desire for détente with a habit of ultra-provocative foreign policy stratagems (such as placing nuclear-armed missiles in Cuba) is a matter of ongoing historical debate. See, for example, Taubman (Khrushchev: The Man and his Era 2003). Snyder (1991, 214) attributes this seeming enigma to Khrushchev’s need to appease the militarist faction in Soviet domestic politics.

34 Khrushchev fully appreciated the guns-or-butter dilemma of Cold War mobilization. “Khrushchev had to manage his meager budget so as to feed the hungry—hungry in the literal sense—without sacrificing security” (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 244; see also Linden 1990, 90). As Khrushchev himself recalled, “in the period immediately after Stalin’s death we didn’t get into military matters right away…we were up to our ears in worries about the domestic situation” (N. Khrushchev 2004, 432). On the economic motivation of Khrushchev’s military reform efforts, see also Evangelista (1997, 17-26).

35 The Warsaw Treaty Organization comprised Albania (until 1968), Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania, in addition to the USSR. On the creation of the Warsaw Pact in response to perception of NATO hostility, see N. Khrushchev (1990, 68-69).
Foreshadowing the doctrine of mutually assured destruction, Khrushchev settled on nuclear-centric strategy—a Soviet precursor to Eisenhower’s 1955 “New Look” defense policy—that he hoped would eliminate the threat of war with the United States and reduce the need to expend resources on conventional forces—including warships. Moreover, he believed that ships were mortally vulnerable to nuclear attack, and therefore of little use in any war between nuclear powers (N. Khrushchev 2004, 428, 434; Vego 2009, 216). Reducing the navy therefore became one of Khrushchev’s top priorities (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 248).

The downward spiral of Sino-Soviet relations in the Khrushchev era completes the strategic backdrop. As early as 1954, Khrushchev claims, he “told his colleagues…that conflict with China was inevitable” (Gaddis 1998, 218; see also N. Khrushchev 1990, 466). As David Wolff’s (2000, 2) analysis of archival evidence reveals, “even Communist unity’s brightest moments concealed suspicious maneuvering and mutual discontent, later available for negative interpretations as the [Sino-Soviet] relationship deteriorated.” A seemingly irretrievable schism between the two socialist powers would emerge before the end of Khrushchev’s rule (e.g., Gaddis 1998, 211-213).

The Sino-Soviet split had roots in both Stalin’s legacy and Khrushchev’s own policies. As noted earlier, the 1950 treaty was rooted more in realpolitik than socialist solidarity. When Khrushchev’s decisions contradicted Mao’s political interests, therefore, the alliance began to fray. Khrushchev’s “New Look” was one such stumbling block. His “vision of nuclear bipolarity became anathema for Mao, because it relegated China to a secondary position in the pecking

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36 In Evangelista’s (1997, 7) colorful phrase, Khrushchev sought “more rubble for the ruble.”
37 As Khrushchev (2004, 428) put it, “building up the navy required very heavy spending and exhausted our country…[Stalin] chose a type of armed power that was not the most important for our country.”
order of great powers”—recalling Stalin’s high-handed treatment of his “junior” partner (Zubok 2007, 136). Similarly, Khrushchev’s 1956 denouncement of Stalin’s crimes at the Twentieth Party Congress struck an implicit blow at Mao, China’s Stalinist dictator. Because Khrushchev had not discussed his speech with Mao beforehand, it reinforced the Chinese leader’s suspicion that there was a lack of trust and harmony in the socialist camp (Gorbachev 1996, 487; Radchenko 2009, 10).³⁸

Sino-Soviet relations under Khrushchev had not started out quite so poorly. From the outset, Khrushchev was less inclined than Stalin to treat Mao as a junior partner. In 1954, Khrushchev became the first Soviet leader to flatter Mao with a visit to Beijing (Zubok 2007, 110). He initially sought to strengthen ties with China, providing sorely needed support to Mao in the communist leader’s battles with the Nationalists and the Chinese standoff with the United States. Soviet military aid included conventional arms as well as assistance with the Chinese nuclear program (111). Historian Odd Arne Westad dubs Khrushchev’s expansive support to Beijing between 1954 and 1959 a “Soviet Marshall Plan” (quoted in ibid.). In fact, Soviet aid to China during this period amounted to almost 7 percent of the USSR’s GDP (ibid.).

Yet all was not well. Despite Khrushchev’s diplomatic and military support, Mao refused to toe the Soviet line. Indeed, during the 1956 Hungarian uprising, “Mao felt it was the opportune moment to teach the Soviets a lesson about their imperialist arrogance and enhance the [Chinese Communist Party’s] central role in the Communist movement by mediating between the Soviets and their Eastern European satellites” (Zubok 2007, 116). Mao lectured Khrushchev on his “mistakes” (118), and “Khrushchev, from his position of weakness, needed Mao’s friendship and tolerated the new Chinese role” (ibid.).

³⁸ The Khrushchev-Mao ideological debate centered on their basic disagreement whether the former’s “revisionism” or the latter’s “conservative dogmatism” posed the greater threat to world communism (Linden 1990, 54).
The simmering acrimony came to a head in 1958—spurred by naval affairs. As Zubok (2007, 136) explains, “Mao’s hidden animosity became public when the Soviet military asked Beijing to build joint bases of the Soviet navy and submarine fleet in the Pacific. Mao angrily rejected the proposal. On July 31, 1958, Khrushchev, in deep secrecy, flew to Beijing with the aim of soothing the [Chinese] leader. Instead, he was subjected to a barrage of insults and humiliating treatment by the host…the prolonged Sino-Soviet honeymoon was over.”

Mao even refused Khrushchev’s plaintive request to at least let Soviet submarines refuel at Chinese ports (Taubman, Khrushchev: The Man and his Era 2003, 391). Less than a month later, as Chinese artillery shelled the Nationalist-held islands of Quemoy and Matsu in the Taiwan Strait—drawing the Soviet Union and United States into a nuclear standoff on behalf of their respective Communist and Nationalist clients—Mao gloated that “the islands are two batons that keep Khrushchev and Eisenhower dancing” (quoted in Zubok 2007, 137).

Khrushchev, for his part, believed that Mao’s “recklessness” undermined the goal of peaceful coexistence with the non-communist world (Wolff 2000, 18).

The next few years witnessed the death of Sino-Soviet amity. On June 20, 1959, Moscow terminated nuclear assistance to China (Zubok 2007, 137). And at Khrushchev’s September 1959 conference with Eisenhower at Camp David, he took a harder line on China by emphasizing “the Soviet government’s neutral stance on the Sino-Indian border conflict” and simultaneously sought more peaceable relations with the United States (Linden 1990, 90). Then, on July 16, 1961, Khrushchev “abruptly” withdrew all technical and economic assistance from Beijing

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39 On the submarine base incident see also Wolff (2000, 11).
40 On the Taiwan Strait Crisis of 1958, see also Chang (1988) and Wolff (2000, 18).
41 This initial attempt at détente was soon undermined by the 1960 U-2 incident, in which American pilot Francis Gary Powers was shot down over the USSR (S. Khrushchev, “The Day We Shot Down The U-2” 2000).
(Gaddis 1998, 216-217). From then on, Sino-Soviet relations were characterized by distrust and competition—and, until the Russian about-face of 1993, the cessation of warship exports.

**Naval Shipbuilding Capacity: We Have Met the Enemy and He is Us**

Khrushchev firmly intended to shrink the Soviet Navy. He first set his sights on surface ships, such as cruisers and destroyers, in view of their perceived vulnerability to nuclear weapons (S. Khrushchev, *The Military-Industrial Complex, 1953-1964* 2000, 242; Gaddis 1998, 207). Stalin, he believed, had failed to imagine any use for the bomb besides threatening the enemy’s home territory with annihilation (Holloway 1994, 241, 332). Khrushchev, on the other hand, appreciated its battlefield potential. This applied equally to war at sea, as he told British officers during a 1956 visit to the Royal Navy War College at Greenwich—tactfully referring to surface warships as “floating graveyards” (N. Khrushchev 2004, 444). Stalin’s heavy cruisers were only good for Potemkin gunboat diplomacy: so long as there was no real threat of war, “it’s a lovely thing to go out to sea on a cruiser, and we can do a little showing off in front of the foreigners” (451). The bottom line, to Khrushchev, was that “to pursue the policy of building a surface fleet meant to drain our country’s resources to no good purpose” (429).

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43 As he put it to Mao, “one bomb sweeps away several divisions. To put it crudely, divisions are just so much dead meat” (N. Khrushchev 1990, 148).

44 Not only did Khrushchev believe that surface ships were vulnerable to nuclear attack, he also thought that the Soviet surface navy was ineffectual. On a visit to Vladivostok in 1954, he observed simulated torpedo boat attacks on a cruiser—and they soured him on the judgment of naval leaders. It “was rather depressing: there was a lot of smoke and a lot of noise, but none of the torpedoes hit its target, although the attack was carried out from a close distance. In a real battle the torpedo boats would have suffered greater losses. The naval officers were, however, in ecstasy over the ‘success’ of these exercises” (N. Khrushchev 2004, 434). Archival evidence demonstrates that Khrushchev repeated his anti-surface ship arguments almost verbatim to Mao in 1958 (Archive of the President of the Russian Federation 2001, 251-252).
Khrushchev was more impressed with submarines—less vulnerable to nuclear attack when underwater—and anti-ship missiles.\(^{45}\) He gave a particularly positive review to a film depicting a cruise missile attack. The missiles “hit their targets exactly and made a very strong impression on us…the target was sunk by the very first missile” (N. Khrushchev 2004, 434-435). As a result, Khrushchev—without navy input—decided to “shift from…‘obsolete’ surface ships to a navy based mainly on submarines” and small missile-armed ships (Vego 216).\(^{46}\)

The navy raised an objection. In defiance of Khrushchev’s decision, “in summer 1955, [navy chief Admiral] Kuznetsov submitted a memorandum to the Central Committee with specific—and expensive—proposals for a continued buildup of the navy” (N. Khrushchev 2004, 437).\(^{47}\) Khrushchev asked Kuznetsov whether the buildup would enable to Soviet fleet to stand up to the combined power of the American and British navies. Upon Kuznetsov’s forthright answer—“no…our forces would be substantially inferior to theirs”—Khrushchev asked, rhetorically, “then what is the purpose of spending all these resources?” (438).\(^{48}\)

Khrushchev resolved the debate in an October 1955 meeting with his military leaders, declaring, “surface ships will become a burden…I have faith in submarines. We can make a submarine fleet and naval aviation the main force in the battle at sea.”\(^{49}\) Kuznetsov’s naval program was rejected, and Kuznetsov was demoted on a pretext—replaced by Admiral Sergei

\(^{45}\) Notably, submarines and missiles would become major export commodities for both the Soviet Union and Russia. In fact, *Kilo*-class submarines employ the SS-N-27 *Sizzler* hypersonic anti-ship cruise missile, and *Sovremenny* destroyers carry the SS-N-22 *Sunburn* “carrier-killer” anti-ship cruise missile.

\(^{46}\) On Khrushchev’s naval strategy, see also Holloway (1994, 333), N. Khrushchev (1990, 71) and (2004, 446-447), and Rohwer (1990, 110).

\(^{47}\) Khrushchev (2004, 437) goes on, “the sum required came to 110-130 billion rubles over a ten-year period. For those days it was a colossal sum…at that time our shipbuilding industry had in fact stopped producing commercial cargo vessels. Stalin had shifted it over to forced-pace production of military vessels, mainly cruisers, destroyers, and battleships…a certain number of submarines were also being built, but the concentration was mainly on the surface fleet.”

\(^{48}\) On Khrushchev’s disagreement with Kuznetsov, see also S. Khrushchev (*The Military-Industrial Complex*, 1953-1964 2000, 249).

\(^{49}\) Similarly, Odom (1998, 80) writes that “coastal protection was clearly an early and primary naval mission.” See also MccGwire (1973).

Khrushchev thought he had decisively nixed the Stalin-legacy shipbuilding plan (Zubok 2007, 127). As part of his “New Look,” both the navy and the army were to be substantially reduced (Vego 2009, 216). The first reductions included 375 warships, which went into mothballs (ibid.). The Stalingrad-class 18,000-ton heavy cruisers under construction were mercilessly slashed. After exploring options including conversion to fishing or passenger ships, or even “floating hotels for tourists,” Khrushchev decided to cut them up for scrap before they had even been launched (N. Khrushchev 2004, 449).

Yet, the shipbuilding weathered the storm and emerged victorious. It helped that Khrushchev’s favorable opinion of submarines allowed a number of shipyards to convert from surface warship to submarine construction.  

It also helped that Soviet shipyards were nominally capable of building civilian ships (though in practice they were fully employed in warship construction). Central planners could simply direct them to build cargo, fishing, or passenger

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50 Admiral Kuznetsov’s failure to change Khrushchev’s mind may have reflected his lack of political influence, stemming from the fact that Defense Minister Zhukov—a Marshal of the Soviet Army, and key Khrushchev ally—cared little about the navy, and disliked Kuznetsov personally. As Sergei Khrushchev (The Military-Industrial Complex, 1953-1964 2000, 270) relates, his father’s “clash with Admiral Kuznetsov went unnoticed. To the navy the generals reacted with indifferent coldness.” In contrast, his replacement, Admiral Gorshkov—who had led highly successful World War Two amphibious operations along the Soviet coast in support of the Red Army—had key allies in the Defense Ministry and army leadership (Hibbits 1974, 143-145). (On the Gorshkov era, see Chernyavskii 2005; Herrick 989, 246; Hibbits 1974, 144, 146; Kurth 2005; and Kuzin and Chernyavskii 2005.) Like Kuznetsov, however, Gorshkov was a believer in a “balanced” fleet that included large surface warships (Vego 2009, 217-219). He reveals his longstanding preference for a balanced fleet—one that does not place all its eggs in a submarine basket, and includes large surface warships such as cruisers and destroyers—in his prolific naval history/advocacy writings of the 1970s, as well as in a journal article of 1963. (He was the serving chief of the navy at the time of all of these writings.) See Gorshkov (1963) and Gorshkov (Navies as Instruments of Peacetime Imperialism 1974; Russia’s Road to the Sea, Peter I to Napoleon 1974; Some Problems in Mastering the World's Ocean 1974; The First World War 1974; The Soviet Navy Rebuilds, 1928-41; The Soviet Navy in the Great Patriotic War 1974), and Gorshkov (1979).

51 Of the eight main battleship, cruiser, and destroyer shipyards that existed in 1950, four were ultimately converted to build attack and ballistic missile submarines (MccGwire 1973, 140-142).
This was a direct consequence of Khrushchev’s vulnerability to logrolled coalitions. His defense cuts “created an uncertain future for the giant military-industrial complex” (Zubok 2007, 138).53 Furthermore, senior military officers were dismayed by his nuclear strategy, which they dubbed “Nikita’s folly”—believing that “an exclusive emphasis on nuclear retaliation left no choice between surrender and suicide” (135).54 The manner of the budget cuts amplified resentment. Khrushchev’s reductions took no steps to address the human impact on idled shipyard workers; additionally, many military personnel “were in effect dumped in the street” (Taubman, Khrushchev: The Man and his Era 2003, 380). The conditions were set for concerted resistance by a coalition of political elites aligned with the defense industry and navy.

Meanwhile, Khrushchev’s budget cuts did not translate into meaningful action by industry, notwithstanding the melodramatic dismantling of incomplete cruisers. Khrushchev himself concedes to policy inertia, although his memoir has the ring of an excuse: despite his cuts, industry “continued to carry out the program adopted earlier by Stalin. We hadn’t yet studied the question sufficiently to finally admit that this was the wrong direction to take” (N. 52 Two more battleship/cruiser yards were ultimately shifted to civilian production (MccGwire 1973, 140-142). Chapter 1 discussed the economic inefficiencies associated with conversion-on-command; in the Soviet era, this waste was real, if largely concealed by the lack of true market dynamics. See also Polmar (1979, 58).

53 Sergei Khrushchev (The Military-Industrial Complex, 1953-1964 2000, 270) is blunter: “the postwar history of Khrushchev’s relations with military officers was one of steady deterioration, from virtually unconditional support to unconditional enmity.” In a telling anecdote, naval officers reportedly wept with rage “as they watched nearly completed cruisers and destroyers at the docks in Leningrad being cut up for scrap on Khrushchev’s orders” (Shevchenko 1985, 93).

54 See also Evangelista (1997, 7-13), who described the military establishments’ reaction to demobilization as moving “from reluctance to resistance.” Moreover, long before American intelligence analysts caught on, Soviet military leaders were well aware that the ostensible “missile gap” was based on “mostly imaginary missiles” (Taubman, Khrushchev: The Man and his Era 2003, 379).
Khrushchev 2004, 440). His son Sergei’s analysis is more direct. Khrushchev’s reforms “had to overcome both the resistance of party ideologues, who professed the inevitability of a cleansing struggle against the imperialist powers, and the resistance of generals [and admirals]” (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 245). Because Khrushchev’s hold on political power was tenuous—as evidenced by the 1957 “Anti-Party Coup”—he could not dismiss outright the opponents of his defense cuts.

Meanwhile, the warship industry continued to churn out cruisers, destroyers, and smaller escort vessels (McCgwire 1973, 146-150). In fact, several new destroyer classes were introduced, and Sverdlov-class cruisers that Khrushchev intended to cancel were merely reduced from a production run of 24 to 14 (McGruther 1978, 17). Shipbuilding persisted, at first, due to bureaucratic inertia enabled by Khrushchev’s hedging in the face of political opposition.

The story does not end there. Khrushchev continued to beat the budgetary drum through 1960, always emphasizing the reduction of the surface navy. As a result, the political stars began to align decisively against him (Snyder 1991, 248). The warship industry initially employed passive-aggressive tactics. Rigid bureaucratic channels and Stalinist secrecy meant that pertinent information about naval programs could be kept from the Soviet leader, undermining his attempts to ensure compliance with his cuts (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 246). Additionally, a narrative playing out in official Soviet military journals seemed to endorse Khrushchev’s strategy, while at the same time subtly advocating a more

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55 Hibbits (1974, 144-145) attributes this to Gorshkov’s direct lobbying of Khrushchev, who—as Zubok (2007, 151) reports—never altered his fundamental position on the obsolescence of large warships in the nuclear age.
expansive role for the navy—one that entailed larger surface ships (Herrick 1989, 233-253). These articles provided ammunition for industry elites who opposed Khrushchev’s cuts.

The military establishment also engaged in more open dissent. After a 1957 speech in which Khrushchev intimated a shift of resources away from heavy industry, including shipbuilding, the military journal Krasnaya Zvezda (Red Star) published an article darkly warning “that enormous harm to our state would occur if, instead of being stepped up, the tempos of further development of industry—including heavy industry—and the material basis of the economic might and defense capability of the country were weakened” (Krasnaya Zvezda 1957, quoted in Linden 1990, 52). According to Linden (ibid.), “clearly Red Star was warning Khrushchev that tampering with the traditional line on heavy industry would incur the resistance of the military. This was a harbinger of Khrushchev’s future troubles with the generals over military policy, as well as the danger of an alliance between the military and more conservative elements in the leadership in opposition to his program of economic reform.”

That alliance would emerge full-blown after 1960’s U-2 crisis, which spelled doom for Khrushchev’s efforts to ram economic reform past his conservative critics. The incursion of an American U-2 spy plane into Soviet airspace provided Khrushchev’s opponents “with a weapon

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56 Obtained in the West through Soviet defector Oleg Penkovskiy, “on casual reading [the articles] appeared to support the policy of Marshal Zhukov and Khrushchev of building a…navy of submarines, aircraft, and only small surface combatants”—yet they actually advocated a strategy that “would require large surface ships, too, including aircraft carriers, to conduct the ‘special preliminary operations’ against NATO’s strong naval forces which the article said had assumed increased importance” (Herrick 1989, 246-248).

57 Similarly, Snyder (1991, 243-244) writes, “the [Soviet] military can enhance the political credibility of leaders it favors by endorsing their national security strategies on technical grounds. On the same grounds, it can undercut the credibility of leaders it opposes. This power to persuade...can be used to good effect when civilian leaders are jockeying against each other, as they were during much of the post-Stalin period.”
for attacking his policy of less guns and more butter” (Linden 1990, 91). His continued support of a nuclear-centric strategy was met with superficial support by the military, but even Defense Minister Rodion Malinovskiy—ostensibly a Khrushchev “yes-man”—cannily crafted his official statements into an effective refusal to comply with defense cuts. 59

To appease the military and forestall another palace coup like that of 1957, therefore, Khrushchev increased the defense budget beginning in 1960 (Gaddis 1998, 146-147; S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 247; Zubok 2007, 132). Khrushchev-initiated crises such as Berlin (in 1961) and Cuba (in 1962) provided yet more ammunition for his conservative adversaries, who aligned themselves with the military to advocate for more funds and more forces (Gaddis 1998, 115, 157). Despite Khrushchev’s efforts, the Soviet economy would continue to stagger along under an enormous defense burden. Opponents of naval cuts successfully prevented the emergence of excess shipbuilding capacity by causing Khrushchev to increase spending.

58 Among these opponents was rising political challenger Frol Kozlov, a conservative, hawkish voice who used the leverage of Khrushchev’s failed foreign adventures to extract policy concessions. Not only was Kozlov an influential advocate of the defense industry in general; he was also a scion of the Soviet shipbuilding center at Leningrad (formerly the Imperial capital of St. Petersburg, and main Soviet naval base on the Baltic Sea). In his political education, Kozlov had learned the art of extracting maximum parochial benefit from the Soviet leadership. In large cities such as Leningrad, local Party officials did not just respond passively to central direction—rather, “leaders play a dual role…in that they become political and bureaucratic brokers between the center and the periphery…at odds with more passive images deduced from the Soviet Union’s centrally controlled political and economic systems” (Ruble 1990, 3). Ascending to power in the Presidium, Kozlov evinced a strong “preference…for heavy industry and defense over consumer welfare” and wielded his political clout to “[blunt] Khrushchev’s…initiatives in economic policy” (Linden 1990, 106). His policy positions were so distinct from the First Secretary’s, in fact, that the Chinese Communist Party newspaper saw fit to praise him personally in a 1963 editorial (along with fellow Khrushchev adversary Mikhail Suslov) (Linden 1990, 100). Speaking in the Presidium, Kozlov made Khrushchev sound positively counterrevolutionary, expounding the “Leninist line on the preferential development of heavy industry” (Linden 1990, 50). For more on Kozlov, “whose political base was rooted in Leningrad’s military-oriented economy” see Snyder (1991, 242).
59 Khrushchev unequivocally stated in a 1960 speech that “the air force and the navy have lost their former importance in view of the contemporary development of military technology”—meaning nuclear weapons (Pravda [1960] cited in Linden [1990, 92n2]). Malinovskiy followed with a speech stating, “the rocket troops are indisputably the main arm of our armed forces. However, we understand that it is not possible to solve all the tasks of war with any one arm of the troops. Therefore…we are retaining all arms of our armed forces at a definite strength and in relevant, sound proportions” (ibid.).
Sergei Khrushchev (The Military-Industrial Complex, 1953-1964 2000, 247, 270, 272) pinpoints March 1963 as the month that his father decisively lost the support of conservative elites as a result of his proposal to reduce the army to a territorial force numbering only 500,000. Zubok (2007, 151) places the end of Khrushchev’s influence even earlier, at the conclusion of the October 1962 Cuban Missile Crisis. His domestic enemies interpreted the denouement of the crisis as a failure of Khrushchev’s policies and leadership (Vego 2009, 218).

Thus, by 1963, Admiral Gorshkov was able to extract official sanction for a larger fleet from a resigned Khrushchev, obtaining a stamp of approval for the continued production of major surface ships in substantial quantities (Vego 2009, 219). Even before, as a result of bureaucratic inertia and Khrushchev’s hedging, the warship industry had managed to introduce a new cruiser class and five new destroyer classes—keeping design bureaus and shipyards employed even as Khrushchev tried to put them out of business (MccGwire 1978, 86-86).60

Not satisfied with the tactical victory of increased defense budgets, in October 1964 a coalition of political opponents centered on conservative political, military, and defense-industry elites ousted Khrushchev (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 734). The warship industry emerged victorious, carrying along with it prodigious shipbuilding

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60 Sergei Khrushchev personally attended a September 1964 meeting between his father and military leaders, at which the elder Khrushchev laid bare his frustration. “Father conceded that the weapon designers’ work was without a doubt worthy of praise but added that they did what they were ‘ordered’ to do. ‘And they’re the ones who do the ordering.’ Father said, jabbing his finger toward the marshals sitting in the front row. ‘They determine what we need and what we don’t. One gets the impression that they need everything’” (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 273).
capacity—capacity that was not “excess” only because it was subsidized by the state on the backs of its impoverished citizens.  

Domestic Politics: Welcome to the Machine

As dictator, Stalin stood outside the Soviet state machine, pushing and pulling its levers as he saw fit. His successors, however, had to work inside the machine. Political power in the post-Stalin era derived from logrolling rather than assassination. Khrushchev led a political coalition that overcame that of his chief rival Georgi Malenkov, and he became leader of the Soviet Union as First Secretary of the Communist Party in September 1953 (Zubok 2007, 97). His power remained dependent, however, on his ability to maintain a base of political support within the Presidium, and among other key Communist Party officials (the nomenklatura), the military leadership, and influential politicians from key industrial regions of the Soviet Union—including major warship-producing cities such as Leningrad (Donaldson and Nogee 1992, 49).

Coalition politics provided openings for various political actors to pursue parochial ends in defiance of Khrushchev’s intent. And because those actors’ prestige, privileges, and power typically derived from the scope and scale of their responsibilities, the military and defense

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61 As a postscript to Khrushchev-era machine politics, it is worth mentioning the fate of Admiral Gorshkov, who—as mentioned earlier—would remain in charge of the Soviet fleet through 1985. Hibbits (1974, 145) contends that Gorshkov’s ascendancy within the Communist Party of the Soviet Union was complete by July of 1965, when “his presence at official ceremonies with Brezhnev in Leningrad…was noted.” Moreover, a series of awards honoring Gorshkov’s contributions to victory in World War Two were remarkable in that they included contributions by the army—“Gorshkov’s primary foe in the battle for the defense ruble” (ibid.). The Soviet Navy and warship industry were well positioned to grow under the Leonid Brezhnev’s beneficent leadership.

62 Waters (1975).

63 On machine regimes, including the post-Stalin USSR, see Weeks (2012, 330).

64 Two key factions emerged during the succession struggle: one led by Malenkov, who believed that the government bureaucracy (the Council of Ministers, of which he was Chairman) should be the locus of state power, and one led by Khrushchev, who argued that the Communist Party (embodied in the Presidium) should be in charge. (Throughout the Soviet era, the government and Party formed two parallel but interconnected hierarchies.)

65 Regional officials could also be members of the Presidium, thus bringing local interests directly into Soviet national politics.
industry—dual centerpieces of Soviet Cold War mobilization—had both an incentive and the political leverage to exploit every opportunity to deflect Khrushchev’s budgetary axe.

The roots of Khrushchev’s failure to tame shipbuilding capacity are therefore evident in some of the tactics he used to dispatch Malenkov in 1953. In a speech on August 8 of that year, Malenkov “announced several sensational policies to radically improve the living standards of Soviet people...at the expense of the military-industrial complex” (Zubok 2007, 96). This was largely compatible with Khrushchev’s own vision. Yet, to defeat Malenkov, he had to forge a tactical alliance with the industry faction that Malenkov had angered (Linden 1990, 54). 66 When Khrushchev later worked to push through his own defense reforms—focusing on nuclear weapons at the expense of the conventional armaments industry—he angered the same elites who had elevated him to power. As a result, he had little political leverage with which to overcome conservatives’ efforts to foil his naval reductions.

What is more, Khrushchev’s attempts to improve economic efficiency at the expense of the defense industry contributed to his own downfall in 1964. His ouster “reflected the hostility of the heads of the bureaucratic fiefdoms of party and state to a leader bent on upsetting

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66 Similarly, when in 1957 Khrushchev faced a political mutiny by the “Anti-Party Group” (which included Malenkov), he accepted the support of Defense Minister Marshal Georgi Zhukov, incurring a political debt to the military side of the military-industrial complex (Linden 1990, 22, 40-57 and 94-95; Zubok 2007, 120-121). Khrushchev later fired Zhukov for Zhukov’s attempts to minimize Party influence within the military, replacing him with the more pliable Rodion Malinkovsky (Shevchenko 1985, 85). Nevertheless, Khrushchev’s debts to military and industry would undercut his efforts to reduce both.
established relationships” (Linden 1990, 207-208). Adding insult to injury, Khrushchev’s political demise was not compensated by meaningful reductions to the warship industry.

*Explaining Warship Exports, 1954-1964: No Excess Capacity*

Despite Khrushchev’s efforts to cut back naval expenditures, the Soviet shipbuilding industry—in collusion with the navy and with conservative Party elites—was able to prevent the emergence of excess capacity. While the pro-industry coalition conceded a few early, limited victories to Khrushchev—such as the dismantling of *Stalingrad*-class cruisers—it was ultimately successful in blocking major cuts. In other words, political elites opposed to defense cuts caused the state to pay for warships that Khrushchev did not want.

According to the main hypothesis, the lack of excess capacity should result in a corresponding lack of exports, other than those explained by strategic rationales. Table 3.2 tabulates warship export recipients under Khrushchev. 10 of the 17 distinct recipients appear in the “allies” or “shared enemies” column, suggesting that straightforward external balancing incentives can account for over half of the exports. The seven states in the “non-aligned” column require further investigation. The rest of this section analyzes each column.

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67 Khrushchev clearly recognized that “Party officials were a brake on attempts to improve economic efficiency” (McCaulay 1995, xii). The nomenklatura were intent on safeguarding their own personal power and privilege; as Khrushchev himself put it (2004, 535), “there was a lot of excessive spending of resources, and the self-seeking, grab-what-you-can attitude was widespread…unfortunately, our socialist system encourages this. The heads of one or another government department or ministry are very often the chief initiators of such attitudes or such practices. Each one tries to grab as much as possible for his ministry or department.” (Heads of departments or ministries were officially government rather than Party functionaries; however, they were typically also Party members.) Khrushchev’s attempted reforms therefore infuriated the very elites whose support he needed to sustain his grip on political control.
Warsaw Pact allies dominate the left-hand column. In fact, every Warsaw Pact state (save landlocked Czechoslovakia and Hungary) received Soviet warships in this period. The Warsaw Treaty Organization was more than just a mutual defense alliance that strengthened the

Table 3.2. Recipients of Soviet warships, 1954-1964

*Warsaw Pact member*

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<th>Year</th>
<th>Allies</th>
<th>Shared Enemies</th>
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<td>1954</td>
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Soviet perimeter; it effectively made member states into Soviet appendages.\textsuperscript{68} Therefore, adding to the military capabilities of Warsaw Pact states was practically \textit{internal} balancing from the Soviet perspective.\textsuperscript{69} Moreover, in the case of Bulgaria, mutual rivalry with Yugoslavia added to the external balancing motivation, at least until Khrushchev patched up relations with Tito in 1955 (Nogee and Donaldson 1992, 246).

Khrushchev provides an explicit balancing justification for the 1958 export of submarines to Albania, a Warsaw Pact signatory. “Albania had to be seen as a base on the Mediterranean. To put it simply, it made no difference whether we had our own troops stationed there or Albania had its troops there…for this reason it was beneficial for us to aid the [Albanians]” (N. Khrushchev 1990, 106). Twelve \textit{Whiskey}-class submarines were duly dispatched, together with Soviet sailors to sail them to their destination and train the Albanian crews upon their arrival.\textsuperscript{70}

Finland and North Korea round out the ally column, and are easily explained by external balancing. Bordering the Baltic approaches to the Soviet coast and interposed between the USSR and Scandinavia, Finland formed a key element of both the maritime and land defense perimeters of the Soviet Union. Moreover, “the Soviet leadership completely dominated the foreign policy

\textsuperscript{68} Gibler explains, “the treaty existed as a regional military alliance under complete control of Soviet high commanders. Every important post was Soviet held, all officers were Soviet born, all equipment was standardized to Soviet specifications, and the alliance headquarters was established in Moscow. The organization also began an economic system among pact members that attempted state specialization and favored an extraction of resources to aid Soviet domestic and foreign policy” (Gibler, 4.1360 Warsaw Pact 2009).

\textsuperscript{69} See also Wulf (“The Union of Soviet Socialist Republics” 1991, 171) on the intra-alliance military efficiency rationale: “The transfer of arms within the WTO was based on a division of labour among the allies that guaranteed the procurement of standard equipment within the alliance.”

\textsuperscript{70} Subsequently, however, developments within the communist bloc illustrated the potential for exported warships to boomerang against the seller. When Albania sided with China in denouncing Khrushchev’s de-Stalinization program, the Soviets decided to take their submarines back. Menaced by Albanian forces, the Soviet Admiral sent to do the job was obliged to line up eight of the ships in “fighting formation” and conduct a rapid sortie from the submarine base at Vlora. The Albanians managed to keep the other four. Khrushchev (1990, 106) noted that “during the operation, our warships cruised along the Albanian coastline, in order to take some kind of action and scare the Albanians if they tried to use force to prevent our submarines from leaving.” Albanian ruler Enver Hoxha (1984, 467-468), on the other hand, recalled that the Soviet Admiral “sailed out of the bay back home with his tail between his legs.” China soon took up the role of primary warship supplier to Albania, even before Albania formally withdrew from the Warsaw Pact in 1968 (SIPRI 2011; Nogee and Donaldson 1992, 247).
of its much weaker neighbor” (Gibler, 4.1341 Treaty of friendship, co-operation, and mutual assistance between the Union of Soviet Socialist Republics and the Republic of Finland. 2009). North Korea, as already discussed, was the recipient of copious wartime Soviet aid as the result of Stalin’s policy of bleeding the US and maintaining a balance of power on the Korean Peninsula. After the armistice of 1953, Khrushchev continued aid to North Korea to maintain that balance—even before the USSR and North Korea became treaty allies in 1961.

The “shared enemies” column reveals three additional recipients: China, Iraq, and Cuba. Until the Sino-Soviet split, Khrushchev was generous in his military aid to China in its battles with the Nationalists and balancing against the United States. The Soviet Union not only provided new warships to China, it also helped Mao’s navy develop its own shipbuilding capability. In fact, from 1955 on, a substantial proportion of Soviet warships exported to China were actually co-produced in Chinese shipyards (D. G. Muller 1983, 29-30).

In response to the 1958 Taiwan Strait crisis, however, Soviet military assistance to China began to taper (Wolff 2000, 22-23). Finally, Khrushchev decisively cut off Soviet naval support to China as part of the Sino-Soviet split. “The remaining 150 Soviet advisors left China in 1960, and the flow of Soviet ship components and spare parts crucial to the continued progress of Chinese naval development stopped” (Muller 1983, 90). Chinese sources indicate that the Soviets “destroyed all reference material in an attempt to sabotage [China’s] task of building new-type naval vessels” (quoted in ibid., 39). The cutoff of exports after the split supports the external balancing hypothesis. When China became an adversary, the flow of warships ceased.

The cases of Iraq and Cuba are straightforward. In 1958, Iraq’s pro-Western Hashemite monarchy was overthrown in a coup, and the new government “quickly professed its friendship for the USSR and legalized the communist party” (Nogee and Donaldson 1992, 190; Blackwell
Khrushchev poured aid into the new Iraqi regime (Nogee and Donaldson 1992, 190), which now shared with the USSR a common enmity with the West. As to Cuba, by 1960 Khrushchev had become an enthusiastic supporter of Castro’s revolutionary regime—“openly threatening the United States with a Soviet missile attack if it should try to invade Cuba” (Gaddis 1998, 181-182). As with Iraq, warship exports to Cuba are readily explained as external balancing against Western powers.

The Soviet Union exported warships to a number of non-aligned states during this period. From 1955 to 1964, the USSR exported to Egypt, Syria, Indonesia, North Vietnam, Algeria, Cyprus, and Yugoslavia. As already noted, Khrushchev had discarded Stalin’s “two camps” in favor of “peaceful coexistence” in a world that encompassed not only socialist and capitalist states, but also non-aligned countries. Non-aligned states were not candidates for traditional balancing behavior, since they shared no common enemies with the Soviet Union, and were often reluctant to associate themselves explicitly with Soviet interests. Khrushchev was willing to tolerate their neutrality, but still sought to prevent Western (and later Chinese) encroachment into the “zone of peace.” Even if non-aligned states spurned socialism or had no intention of actively confronting Soviet enemies, exports could provide the political leverage to at least prevent non-aligned states from supporting US or Chinese agendas.

A brief region-by-region review demonstrates that the Soviet quest for foreign policy leverage explains Khrushchev’s exports to non-aligned states. In the Middle East, Khrushchev encouraged Arab nationalism in order to reduce the prospect of oil-producing and strategically

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71 In fact, there is evidence that arms exports to Cuba were primarily the work of Khrushchev—against the collective judgment of the Presidium, which feared (prophetically) that military aid to Cuba would provoke a US reaction (Taubman, *Khrushchev: The Man and his Era* 2003, 532-533).
positioned states’ aligning themselves with the West (Hatzivassiliou 2013, 74). Egyptians, Syria, and Algeria received Soviet arms—including warships—to insure against a westward turn (ibid.). Moreover, these states provided strategic access to the Mediterranean; indeed, the USSR loaned Egypt the money to purchase Soviet arms and then leveraged the debt to gain basing rights (officially termed “naval visits” as a face-saving nod to Egyptian sovereignty) (Ferris 2011, 22-26). Soviet exports to the Middle East would generate a dramatic echo when, in October 1967, an Egyptian Komar-class attack craft—exported in 1961—sank the Israeli destroyer Eilat in the world’s first anti-ship cruise missile attack (Schulte 1994, 3).

Turning to Asia, the foreign policy leverage argument is at work in Khrushchev’s warship exports to Indonesia and North Vietnam. Between 1945 and 1965, Indonesia received more Soviet aid than any developing country except Egypt. It accounted for a third of all Soviet aid in Asia, mostly in the form of loans (Boden 2008, 110, 116-117). 90 percent of this aid was in the form of military assistance, including warship exports (119). According to Soviet archives, Khrushchev’s objective was to preempt “imperialist” inroads in Indonesia, and later, to do the same with regard to China, which was triangulating Indonesia following the Sino-Soviet split (123-124). In particular, “Khrushchev hoped [that his aid to Indonesia would] offset the South-East Asia Treaty Organization (SEATO), a regional anti-Communist military alliance formed in

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72 As Khrushchev put it, “from now on we will support the Arab nationalists. The longer-term target is the destruction of the established relations of the Arabs with Europe and the United States...this will generate problems for Europe and will make it more dependent on us” (quoted in Zubok 2007, 110).
73 On the large package of military aid that the Soviet bloc provided Egypt in 1955, see Gaddis (1998, 171). On the strategic objectives of Soviet military aid to the Middle East more broadly, see Mott (2001, 75-79).
74 Recent evidence suggests that the foreign policy leverage knife cut both ways. In a September 15, 1955 meeting between Nasser and the Soviet Chargé d’Affaires in Cairo, Danil Solod, Nasser “expressed concern that an agreement on the sale of heavy type IS-3 tanks, two torpedo ships, and two submarines had not been reached...[he] added that just two weeks prior a war with Israel had been barely averted and that without heavy tanks and a strong fleet, the Egyptian army would never be able to stem an Israeli attack. Nasser stated bitterly that the Western powers were hoping for an Egyptian defeat, as American agents would then be able to create disorder in the country. This could lead to the collapse of his regime and the rise of some Egyptian pasha who would be more accommodating towards the West” (Laron 2007, 37). The Soviet Union shortly provided the requested ships (SIPRI 2011).
As to North Vietnam—which would later become a battleground for influence vis-à-vis China—1960’s warship exports were part of Khrushchev’s effort to support Ho Chi Minh’s communist revolution, in order to expunge the pro-western influence of the Republic of Vietnam (Mott 2001, 240).

Moving to Europe, Cyprus and Yugoslavia conclude the analysis of non-aligned states. Cyprus occupies a strategic position in the Eastern Mediterranean, and after it gained independence from British rule in 1960, the USSR became concerned about the possibility of the United States establishing a military foothold on Cyprus and thus completing a ring of US bases around the entire Mediterranean Sea (Sezer 1985, 124). Warship exports were an aspect of Soviet attempts throughout the Cold War to keep Cyprus neutral (ibid.).

Relations with Yugoslavia were at a low point at the outset of Khrushchev’s rule. Stalin had even approved a plan to assassinate the independent-minded Tito, though it was cancelled after Stalin’s death in 1953 (Cold War International History Project Bulletin 1998, 137). On 31 May 1954, however, the Presidium concluded that the USSR needed to “foil the ‘anti-Soviet plans of the Anglo-American imperialists and to use all means to strengthen our influence over the Yugoslav people’” (Edemskii 1998), opening the door for attempts to gain foreign policy leverage through military aid. Still wary of the Soviet Union after the Stalin years, Yugoslavia continued to accept US, Greek, and Turkish aid through 1958. Nevertheless, according to declassified US intelligence reports, Khrushchev’s peacemaking efforts in the mid-1950s warmed relations sufficiently for Yugoslavia to accept Soviet military aid by the early 1960s (Gaddis 1998, 206-207; Johnson and Koch 1977, 9-10; Watts 2012, 3). Not only did this yield

75 Boden (2008, 127) notes, however, that aid to Indonesia “…cost the Soviet economy dearly and brought no lasting influence.”
potential Soviet influence, it also resulted in the quid pro quo of naval bases on the Mediterranean via the Adriatic Sea (Mott 2001, 317-318).

The fiscal element of Khrushchev’s warship exports lends additional support to the foreign policy leverage argument—precisely because these exports were not economically beneficial. The Soviet Union wanted something specific from each warship recipient, and thus could not play hardball on payment. Moreover, even if Khrushchev had wanted to extract cash payments from Soviet arms clients, it would have been very challenging to do so. The world’s wealthy industrial states were primarily members of the US-led bloc; thus, with the exception of oil-rich states, most Soviet clients had to barter basic goods or accept Soviet credit as a matter of necessity (e.g., Mott 2001, 57). Therefore, Moscow generally paid out of pocket for the military aid it sent abroad—to the tune of an estimated $67 billion between 1954 and 1978, in 2013 dollars (Cooper and Fogarty 1985, 55).76

* * *

Nikita Khrushchev’s failed attempt to rein in the Soviet warship industry left two important legacies to his successors. The first and most tangible was an enormous naval industrial base that imposed an increasing burden on the Soviet economy—but was also an important source of both employment and political power. All it needed to become excess capacity was a future Soviet leader with the ability to make defense spending cuts stick.

Khrushchev’s second legacy was a military-industrial coalition increasingly adept at political activism. Political logrolling induced Khrushchev to increase the Soviet defense budget, thus preventing the emergence of excess capacity. As a result, warship exports under Khrushchev were motivated by the Soviet Union’s Cold War strategy rather than industry

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pressure. Decades later, however, as the defense industry struggled for survival in the midst of the Soviet economic collapse, it would employ its political independence to fight tooth-and-nail against defense budget cuts—and ultimately to seek export markets, whether or not they would benefit state security.

The next section of the chapter describes the rule of Khrushchev’s conservative successors Leonid Brezhnev, Yuri Andropov, and Konstantin Chernenko. During their combined tenure, the shipbuilding industry benefited from increased defense budgets and an expansive foreign policy that embraced strategic arms exports.

**Brezhnev, Andropov, and Chernenko: 1964-1985**

*We are obliged—I repeat, obliged—to protect our defense systems, because we are faced with an unconstrained arms race.*

- Leonid I. Brezhnev

Although it covers a period of more than 20 years, this section is relatively brief. The Cold War context, the core features of the Soviet defense economy, and the survival tactics of the shipbuilding industry have already been set out in some detail. Moreover, the Brezhnev, Andropov, and Chernenko years were characterized by domestic conservatism combined with hawkish defense strategies, even as Brezhnev sought détente with the United States in the 1970s. Brezhnev’s focus on balancing NATO and China, combined with his deference to military-industrial interests, continued to boost the defense budget. These were boom times for the warship industry. In the absence of excess capacity, warship exports continued along strategic

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77 Brezhnev during a French television appearance on October 5, 1976 (quoted in Gorshkov 1979, viii).
lines. Meanwhile, as Gorbachev puts it (1996, 138), “the economy was carried further and further down a spendthrift path, which would inevitably lead to bankruptcy.”

**Background: Peace through Strength, and Sino-Soviet Deep Freeze**

The core of Brezhnev’s Cold War strategy was to meet strength with strength in every facet of military power. Gone was the notion of relying solely on nuclear deterrence. Thus, “the Soviets placed an increased emphasis on the navy’s oceanic mission and its unique and essential contribution to the country’s overall strategy” (Vego 2009, 220).78 Though Brezhnev continued to build Soviet nuclear forces at a rapid clip, he also embarked on a major program of conventional military and naval production (Evangelista 1997, 14). During the final years of Brezhnev’s leadership—and through the Andropov and Chernenko interregna—“military expenditure rose twice as fast as the GNP” (Gorbachev 1996, 136). On average, military spending increased by over 8 percent per year from 1965 to 1985 (Ghosn and Bennett 2003).79

Brezhnev did seek détente with the United States in the 1970s. The Politburo80 sensed that Soviet Union’s influence and prestige were on the wane, especially after the defeat of its Arab clients in 1967’s Six Day War (Zubok 2007, 199). Brezhnev, worried by the declining political and military power of the Soviet bloc compared to the West, believed that “war must be

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78 In fact, Soviet nuclear and naval capabilities acted to reinforce one another. The increasing range of Soviet submarine-launched nuclear ballistic missiles enabled the USSR to pursue a “bastion” strategy, whereby missile submarines did not need to transit NATO defensive chokepoints (e.g., the waters delimited by Greenland, Iceland, and the UK—the so-called “GIUK Gap”) to get within range of Western targets (Hattendorf 1989, 24-36; Odom 1998, 13; Vego 2009, 220). Instead, they could operate near Soviet shores. This called for heavy surface forces able to defend the bastions by interdicting NATO forces far out at sea (Vego 2009, 221). Additionally, the simultaneous US submarine buildup led Admiral Gorshkov to call for more anti-submarine cruisers (ibid.). Finally, Soviet Navy forces would also be employed to interdict NATO’s Atlantic and Pacific lines of communication (Odom 1998, 13).

79 Based on NMC expenditure data (Ghosn and Bennett 2003), the largest single increase in Soviet military expenditures from 1965 to 1985 was 20.4 percent, in 1968. The five-year moving average during this period (incorporating data from 1960 onward) is roughly identical to the overall average, at about 8.5 percent, and never dips below a roughly 1 percent increase.

80 Brezhnev restored the Politburo’s original name, in lieu of Khrushchev’s “Presidium.”
avoided at all costs” (202). Nevertheless, détente paradoxically coexisted with a massive Soviet arms buildup, including major new shipbuilding initiatives (203).  

The self-perceived diminution of Soviet influence tempered the world-socialism agenda somewhat, particularly toward the 1980s. Nevertheless, Moscow continued to provide military aid to existing clients for “internal security,” especially against the possibility of “reactionary counterrevolution” (Mott 2001, 61; Zubok 2007, 227). In addition, decolonization in Africa created a self-imposed Soviet obligation to forestall imperialist encroachment, and a strategic opportunity to gain new bases on the Indian Ocean and adjacent waters. These would be particularly important as the Soviet Navy expanded its geographic scope (Zubok 2007, 247-249).

Meanwhile, Sino-Soviet antagonism worsened to the point that Moscow “opted for outright containment of China” (Radchenko 2009, 21). Soviet and Chinese troops faced one another across the Sino-Soviet border, and in 1969 armed clashes occurred between the two nuclear powers (ibid.; Zubok 2007, 210, 243). To Brezhnev, Nixon’s 1972 overtures to China and US diplomatic recognition of the PRC in 1979 “represented a worrying coalescence of hostile forces, especially since it was accompanied by increased efforts to modernize Chinese industry and military capabilities” (Booth 1990, 25). Amid deepening enmity, the USSR found itself staring down the barrels of Soviet-made weapons exported to China in happier times.

**Naval Shipbuilding Capacity: Ward of the State**

The shipbuilding industry benefited directly from Brezhnev’s budgetary largesse. Navy chief Admiral Gorshkov was borne into the Brezhnev era on a wave of political influence rooted in both the Communist Party and the Defense Ministry (Vego 2009, 220). He wasted no time in

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81 This apparent contradiction emerged as a direct result of the logrolling dynamics I describe in the next section. For now, it suffices to say that Brezhnev conceded direct control over the military-industrial complex in return for the political support he needed to maintain his leadership and carry out his policy of détente in the first place.
using his clout to push major new shipbuilding initiatives in support of naval deployments to the Mediterranean Sea, Indian Ocean, the African coast, and other far-flung waters. These brought the Soviet Navy into more-frequent brushes with the US Navy, providing Gorshkov ammunition to justify even greater investment in his fleet.

Accordingly, and with official sanction, Gorshkov built the large high-seas fleet that Khrushchev had tried to prevent. Not only did it feature numerous large surface warships, it also marked the debut of Soviet aircraft carriers (Anderson 1974, 87; Hibbits 1974, 145; Vego 2009, 222). Moreover, Gorshkov ramped up submarine production, building “ten times as many as Khrushchev had planned” (S. Khrushchev, The Military-Industrial Complex, 1953-1964 2000, 254; see also Vego 2009, 222). As Sergei Khrushchev (ibid.) put it, “the ambitions of the admirals were satisfied.” Shipbuilding capacity therefore continued growing through the early 1980s (Vego 2009, 223-224).

Domestic Politics: Machine Redux

Brezhnev had even less personal authority than Khrushchev. Whereas Khrushchev had clearly prevailed in the post-Stalin succession struggle, and thus felt empowered to be a policy entrepreneur, analysts generally consider the Brezhnev-Andropov-Chernenko era a period of oligarchy (e.g., Gelman 1984, 54-58; Linden 1990, 226-227; Roeder 1985, 964-965; Shevchenko 1985, 20; Zubok 2007, 193). Brezhnev maintained his position through careful logrolling.

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82 In an unintentionally comical caption to a photograph of a Soviet warship paying a port call in an unnamed African country, Gorshkov writes: “the author hopes that this African sentry and all of his countrymen will welcome this call by a Soviet combatant as a neighborly display of Russian technology, friendship, and resolution to thwart US imperialism. Conversely, a visit by a US warship should be regarded as saber-rattling” (Gorshkov, Navies as Instruments of Peacetime Imperialism 1974).

83 As just one example of such scrapes, 1973’s Yom Kippur war featured a tense faceoff between the Soviet Fifth Squadron and US aircraft carrier battle groups in the Eastern Mediterranean (Vego 2009, 221).

84 Not counting smaller escort and attack ships, by 1978 Gorshkov had introduced four new classes of cruisers (including the 18,000-ton Moskva “helicopter carrying cruiser”) and four new classes of destroyers, plus the 40,000-ton Kiev-class aircraft carrier (McGruther 1978, 93-99).
fact, Roeder (1985, 964) describes three phases of the Brezhnev era: competitive oligarchic through 1967, as the coalition that ousted Khrushchev warily felt out the distribution of power amongst themselves; stable oligarchic through 1971, as Brezhnev consolidated his own power around a core of key conservative supporters; and cartelistic thereafter, when various failed Brezhnev policies decreases elite support, undermining his personal authority. To varying but always significant degrees, therefore, Brezhnev was reliant upon Party elites for political support. Indeed, McCauley (1995, xii) writes that Brezhnev “prided himself that his expertise consisted of keeping [Party] cadres happy.”

Even when Brezhnev’s power was at its greatest, in the “stable oligarchic” period of 1967 to 1971, his political base was fundamentally conservative, favoring hawkish defense strategies and support for heavy industry. Later, conservatism persisted as Brezhnev’s personal authority decreased. This was a key reason for his seemingly contradictory policy of seeking détente while simultaneously sharpening his sword. As Zubok (2007, 339) writes, “during the second half of the 1970s, Soviet security and foreign policies were guided not by coherent strategy but rather by ideological and bureaucratic inertia and various factional and political interests.”

Moreover, Brezhnev’s roots lay in the military-industrial complex, and he could ill afford to cut off this key element of his power base. 85 Therefore, even as he pursued a grand strategy of détente, he left defense-planning decisions large and small to his Defense Ministers, Andrei Grechko and later Dmitri Ustinov (S. Khrushchev 2000, 253; Linden 1990, 228). 86 This ensured he would not inadvertently offend critical supporters by running roughshod over vested interests.

85 Brezhnev had been responsible for Party oversight of heavy industry—which was effectively synonymous with the defense sector—in Khrushchev’s Presidium (Cooper 1990, 166).
86 Zubok (2007, 205) notes that Ustinov had been “Stalin’s whiz kid, a brilliant autodidactic technocrat who had organized the evacuation of Soviet industries under the nose of the advancing Nazis in 1941…for two decades, he was a tireless leader of the Soviet military-industrial complex…[who] argued for an unrelenting arms race.” Cooper (1990, 171) adds that Ustinov’s appointment as Defense Minister “may have…led to some weakening of party supervision over the activities of the defense industry.”
Ustinov, before becoming Minister of Defense, was responsible for oversight of the defense industry, and Brezhnev had allowed him to “shake up and centralize the enormous military-industrial complex” (Zubok 2007, 205). This helped create a cartel under Ustinov’s personal control. As Gorbachev (1996, 136) recalls, upon appointment as Defense Minister and full member of the Politburo in 1976 Ustinov became a highly effective defender of industry: “a mere allusion to the inadequate operation of a defense enterprise and Ustinov would pounce upon the ‘immature fault-finder’. No-one in the Politburo dared to stand up to him.”

Between 1976 and 1983, Ustinov consolidated his control over the military and the defense industry—uncontested by Brezhnev, other Party elites, or the bureaucracy—and pushed forward continued expansion (Gorbachev 1996, 145). None dared oppose his authority. Indeed, the reaction of Party elites was quite the opposite, as McCauley (1995, xii) writes:

Each Party official sought to attract as much investment to his region as possible and the enterprises and government ministries also wanted more investment and subsidies. The most powerful regions were those associated with the military-industrial complex, since they were immune to criticism, except from the Party leader himself. Various policy areas were no-go zones in the Politburo: defense, security, the military-industrial complex and foreign trade…in these circumstances privileged ministries and enterprises paid no attention to the interests of others and were, literally, a law unto themselves.88

This created a self-reinforcing cycle that strengthened the political power of the defense industry, and helped productive capacity to continue soaring ever upward—fully subsidized by the state.

From time to time, Brezhnev would let slip his frustration: “I…give [the Ministry of Defense]

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87 On Ustinov’s monopoly on defense industry oversight, see also Gelman (1984, 62-63). In addition to the conservative bent of the Brezhnev oligarchy, Party elites were quite mindful of “the military’s ability to give assistance to contenders who are disposed to continue a policy line that accords with military interests” (Nogee and Donaldson 1992, 66). Positive and negative examples of such assistance include the military’s provision of air transport necessary to assemble the Central Committee to avert the 1957 anti-Khrushchev coup, but later—after being antagonized by Khrushchev’s reforms—its acquiescence in the coup that brought Brezhnev to power (ibid.).
88 Similarly, Nogee and Donaldson (1992, 66) note that “on matters of military strategy and operations…the judgment of military professionals went unchallenged.” See also See also E.L. Warner (1977).
money, again and again—money that disappears into the funnel” (quoted in Zubok 2007, 246). Meanwhile, shipbuilding capacity continued to grow, at increasing cost to the Soviet economy.

After Brezhnev’s death in 1982, former KGB Chairman Yuri Andropov (who died in office after only one year) and then Brezhnev lieutenant Konstantin Chernenko assumed the mantle of Soviet leadership until Gorbachev’s ascent to power in 1985 (Zubok 2007, 276-277). Little original policy originated from either of these short-term officeholders, and defense expenditures continued to climb (Campbell 1990, 133).

*Explaining Warship Exports, 1965-1985: No Excess Capacity*

The Brezhnev-Andropov-Chernenko era found the Soviet naval industrial base fully employed in response to increasing state demand. There was no excess naval shipbuilding capacity. The main hypothesis therefore implies that there should have been no exports other than those designed to gain strategic advantage. Table 3.3 summarizes Soviet warship exports from 1965 through 1985 to guide an examination of the alternative hypotheses.
Table 3.3. Recipients of Soviet warships, 1965-1985

*Warsaw Pact member*

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<tr>
<td></td>
<td>North Korea</td>
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<td></td>
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<tr>
<td></td>
<td>Romania*</td>
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<td></td>
</tr>
<tr>
<td>1970</td>
<td>Bulgaria*</td>
<td>India</td>
<td>Mauritanian</td>
</tr>
<tr>
<td>1971</td>
<td>Bulgaria*</td>
<td>Iraq</td>
<td>Egypt</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>North Vietnam</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Yemen People’s Republic</td>
</tr>
<tr>
<td>1972</td>
<td>Bulgaria*</td>
<td>Cuba</td>
<td>North Vietnam</td>
</tr>
<tr>
<td></td>
<td>North Korea</td>
<td>Egypt</td>
<td>Somalia</td>
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<td></td>
<td></td>
<td></td>
<td>Syria</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yemen People’s Republic</td>
</tr>
<tr>
<td>1973</td>
<td>Finland</td>
<td></td>
<td>Syria</td>
</tr>
<tr>
<td></td>
<td>Iraq</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>North Korea</td>
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<td></td>
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<tr>
<td>1974</td>
<td></td>
<td></td>
<td>Syria</td>
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<tr>
<td>1975</td>
<td>Bulgaria*</td>
<td></td>
<td>Algeria</td>
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<tr>
<td></td>
<td>East Germany*</td>
<td>India</td>
<td>Libya</td>
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<td></td>
<td></td>
<td></td>
<td>Guinea-Bissau</td>
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<td>Somalia</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Yugoslavia</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Sri Lanka</td>
</tr>
<tr>
<td>1976</td>
<td>Angola</td>
<td>Cuba</td>
<td>Algeria</td>
</tr>
<tr>
<td></td>
<td>East Germany*</td>
<td></td>
<td>Libya</td>
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<td>Somalia</td>
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<td></td>
<td></td>
<td></td>
<td>Yemen People’s Republic</td>
</tr>
</tbody>
</table>
Table 3.3 (continued). Recipients of Soviet warships, 1965-1985

*Warsaw Pact member

<table>
<thead>
<tr>
<th>Year</th>
<th>Allies</th>
<th>Shared Enemies</th>
<th>Non-aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>Angola, Bulgaria*</td>
<td></td>
<td>Algeria, Equatorial Guinea, Ethiopia, North Vietnam, Syria, Yemen People’s Republic</td>
</tr>
<tr>
<td>1978</td>
<td>Ethiopia</td>
<td>Cuba</td>
<td>Benin, Guinea, Libya</td>
</tr>
<tr>
<td>1979</td>
<td>Vietnam, Romania*, Yemen People’s Republic</td>
<td>Cuba</td>
<td>Algeria, Cape Verde, Congo, Guinea-Bissau</td>
</tr>
<tr>
<td>1980</td>
<td></td>
<td></td>
<td>Libya, Yugoslavia</td>
</tr>
<tr>
<td>1981</td>
<td>Angola, Bulgaria*, Ethiopia</td>
<td>Cuba</td>
<td>Algeria, Yemen Arab Republic</td>
</tr>
<tr>
<td>1982</td>
<td>East Germany*, Ethiopia, India, North Korea, Poland*, Syria</td>
<td>Cuba</td>
<td>Algeria, Libya</td>
</tr>
<tr>
<td>1983</td>
<td>Bulgaria*, India, Vietnam, Syria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>East Germany*, Ethiopia, India, Mozambique, Poland*, Syria</td>
<td>Cuba</td>
<td>Cambodia, Libya</td>
</tr>
<tr>
<td>1985</td>
<td>Bulgaria*, India, Poland*, Romania*, Syria</td>
<td></td>
<td>Algeria</td>
</tr>
</tbody>
</table>
The ally and shared-enemy columns contain many states already covered in the analysis of Khrushchev-era exports. Warsaw Pact allies Bulgaria, East Germany, Poland, and Romania make repeat appearances, together with key strategic “buffer state” Finland and communist ally North Korea. Similarly, Cuba, Egypt, and Iraq return for more warship exports during this period, with Iraq receiving a formal treaty of friendship in 1972 (Gibler 4.1396 Soviet-Iraqi treaty of friendship and co-operation 2009). These are consistent with external balancing.

Brezhnev’s warship exports to India are also cases of external balancing. Indo-Soviet military cooperation was founded in the “simultaneous disintegration of both Soviet and Indian relations with the PRC” in 1958-1959 (Mastny 2010, 57-58). India’s border conflict with China, beginning in 1959 and leading to full-blown war in 1962, imposed significant strategic costs on the Soviet Union’s Asian bête noire (Westad 2005, 163). The USSR therefore exported warships to India beginning in 1967, and signed a non-aggression pact in 1969 (Mastny 2010, 67-68).

Foreign policy leverage was also a consideration in the exports explained by external balancing, given the increasing Soviet fears of faction within the communist bloc. Such fears were well founded. Even Warsaw Pact ally Romania tried to ingratiate itself to the West in return for economic benefits. It therefore became the target of a concerted Soviet propaganda campaign to isolate it from the international community—an effort that continued until at least 1989 (Watts 2012, 2-4), even as Romania simultaneously received Soviet warships. Outside the communist bloc, the Soviets used warship exports to court Egypt’s Anwar Sadat after he succeeded Nasser in 1970, seeking to ensure a continued pro-Soviet tilt (Gelman 1984, 153; SIPRI 2011).

89 These efforts did not pay off. Sadat broke with the USSR in 1976 to align himself with the United States, the very outcome the Soviets had been trying to prevent through military support (Nogee and Donaldson 1992, 315). Meanwhile, Sadat began procuring new warships from none other than China (SIPRI 2011).
Other recipients are primarily explained by the foreign policy leverage argument—even some exports to treaty allies. Syria—a recipient of Soviet warships since 1956 in return for pro-Soviet policies and basing access on the Mediterranean—did not become an ally until 1980 (Gibler, 4.1419 Treaty of friendship and co-operation between the Syrian Arab Republic and the Union of Soviet Socialist Republics 2009). Similarly, Vietnam appears in the ally column, yet archival Soviet evidence suggests that this 1983 export actually reflects Soviet efforts to keep Vietnam from aligning with China.\(^9\) 1984’s warship export to Cambodia was also an example of the Soviet quest for influence over Vietnam. Even though Cambodia was ostensibly independent, Vietnam had occupied it since 1978. As Robert S. Ross (1991, 1171) writes, “the Soviet Union bankrolled and defended Hanoi’s occupation of Cambodia in exchange for a continuing dominant political and military presence in the region.”

Four states (besides India) that did not receive Soviet warships under Khrushchev now appear in the ally column: the Yemen People’s Republic, Ethiopia, Angola, and Mozambique. Despite the intuitive applicability of the external balancing argument, the first four cases better support the foreign policy leverage hypothesis. Britain’s withdrawal from South Yemen in 1967, the 1974 overthrow of Ethiopia’s Haile Selassie, and Angola’s and Mozambique’s 1975 independence from Portugal cleared the way for new socialist regimes that received rapid backing, including friendship treaties, from the USSR. These small, impoverished nations were unlikely military partners. On the other hand, the USSR stood to gain a foot in the door contra

Chinese influence—an explicit desire of Brezhnev’s (Kissinger 1999, 102, cited in Mott 2001, 59)—as well as bases and ports on the African continent.\footnote{Soviet aid to Ethiopia’s Marxist regime provided concrete military benefits, including access to Red Sea ports in Massawa and Assab (Westad 2005, 250). On Mozambique, see also Westad (1996/1997, 21). Additionally, Ghebhardt (1975, 678) finds evidence that the Soviets and Chinese competed for bases in Mozambique in the 1970s.} The foreign policy leverage argument readily explains Brezhnev’s exports to non-aligned states. Algeria and Yugoslavia continued to receive Soviet arms in return for strategic access and influence, and the “scramble for Africa” continued as new nationalist (and often socialist) regimes emerged in the wake of decolonization (Zubok 2007, 247).\footnote{The Soviet incentive to seek political influence in Africa was compounded by Britain’s announced intent to eliminate its military presence “east of Suez” by 1970, which implied an incipient power vacuum on the African continent (Nogee and Donaldson 1992, 195).} In addition to the diffuse benefits of influence, the Soviet Union stood to gain strategic access to African mineral deposits—or at least to deny them to the West (Westad 1996/1997, 21). The USSR also sought ports near the approaches to the Persian Gulf, particularly in the Horn of Africa (Abebe 1996/1997). As Zubok (2007, 249) writes, “the Soviet naval command, especially Admiral Sergei Gorshkov, itched to compete with the US Navy and demanded bases in Africa. In 1974, they obtained one in Somalia,” a 1972 recipient of Soviet warships. Many non-aligned African states therefore received Soviet warships as part of aid packages designed to purchase their loyalty at China’s expense and generate strategic access to the continent (table 3.4).
Finally, there is even more evidence that arms exports were political weapons in the battle with China for the favors of the non-aligned states. In the lead-up to the second Bandung Conference of non-aligned states in 1965, the USSR and China exchanged volleys of military aid offers to “gain a recipient’s support for or against Soviet attendance” (Mott 2001, 56)—making it obvious that “behind the ideological camouflage it was essentially a question of Soviet national interest versus Chinese national interest” (Goldman 1967, 60, cited in Mott, ibid.).

Skeptics might point out that the Soviet Union increasingly sought payment for arms exports during the Brezhnev era, declining to provide weapons free of charge as it had often done earlier in the Cold War (Kirshin, *Conventional Arms Transfers During the Soviet Period* 1998, 47). Analysts usually conclude that cash payments reduce the prospect of political leverage (e.g., Betts 1980, 99). However, prices were generally limited to the amount required to cover

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Table 3.4. Brezhnev-era warship exports to non-aligned African states

<table>
<thead>
<tr>
<th>Warship Recipient</th>
<th>Region</th>
<th>Socialist?</th>
<th>Example of Specific Foreign Policy Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>West Africa</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Cape Verde</td>
<td>West Africa</td>
<td>Yes</td>
<td>Access to strategic minerals</td>
</tr>
<tr>
<td>Congo</td>
<td>West Africa</td>
<td>Yes</td>
<td>Intelligence and military staging post</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>West Africa</td>
<td>No</td>
<td>Submarine bases established 1960</td>
</tr>
<tr>
<td>Guinea</td>
<td>West Africa</td>
<td>Yes</td>
<td>Naval and air bases sought (without success)</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
<td>West Africa</td>
<td>Yes</td>
<td>Fishery rights</td>
</tr>
<tr>
<td>Libya</td>
<td>North Africa</td>
<td>Yes</td>
<td>Naval base established 1974</td>
</tr>
<tr>
<td>Mauritania</td>
<td>West Africa</td>
<td>Yes</td>
<td>Bolster ties due to YAR’s courtship of other patrons</td>
</tr>
<tr>
<td>Somalia</td>
<td>Horn of Africa</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Yemen Arab Republic</td>
<td>Horn of Africa</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

Exports to non-aligned African states supported socialist regimes and/or garnered concrete strategic benefits

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93 These regimes were typically admixtures of socialism and nationalist dictatorship. Sources: Benin, Cape Verde, Congo, Guinea-Bissau, Somalia (Dunning 2004); Equatorial Guinea (Dye and Zeigler 1989, 805); Guinea (Harshe 1984, 624); Mauritania (Handloff 1988). For countries not otherwise listed, source is CIA World Factbook, https://www.cia.gov/library/publications/the-world-factbook/index.html.

94 Sample benefits are in addition to the basic strategic benefit of propping up friendly regimes (where applicable). The benefits listed in the table do not necessarily postdate warship exports to the listed country, but at a minimum they do follow the provision of other types of Soviet military and/or economic aid. Information in table 3.4 is contemporaneous with the exports listed in table 3.3. Sources: Guinea (Mott 2001, 172); Equatorial Guinea (David 1986, 11); Libya (Mott 2001, 102-107); Mauritania (Handloff 1988); Somalia (Zubok 2007, 249); Yemen Arab Republic (Mott 2001, 121-122).
the production costs, and were frequently lowered to suit strategic objectives associated with a particular customer (Kirshin 1998, 47). Moreover, the terms of financing were typically generous. Even Warsaw Pact states paid with a combination of barter and credit, and like most other recipients, received very generous terms of repayment. Soviet credit could often be reimbursed over periods of decades, and was frequently forgiven if it suited strategic purposes (ibid.). Indeed, many of the less-developed states like those listed in table 3.4 could not have afforded cash payments (Mott 2001, 57). External balancing and foreign policy leverage remain the best explanations for warship exports in this period.

* * *

There was no excess naval shipbuilding capacity under Brezhnev and his short-lived successors Andropov and Chernenko. The main hypothesis therefore implies that there should have been no strategically puzzling exports, and in fact, Soviet warship exports proceeded along strategic lines. The naval industrial base continued to grow in accordance with the Soviet Navy’s increasingly expansive demands, and Brezhnev-era conservatism combined with Politburo logrolling ensured that Brezhnev and his successors did nothing to stand in its way.

Brezhnev’s inauspicious bequest to the final generation of Soviet leadership was a colossal defense industry accompanied by entrenched logrolling, a faltering domestic economy, and continued enmity with both the West and China. The next section of the chapter turns to the final years of the USSR under the leader who inherited these challenges: Mikhail Gorbachev.

**Gorbachev: 1985-1991**

*It was vital to change our relationship with the West, particularly the United States, and to bring the costly and dangerous arms race to an end...our foreign policy had to be radically reformed and it was clear that this would affect our*
Mikhail Gorbachev believed that the USSR was on an unsustainable course. Whereas Brezhnev and Chernenko argued that Marx, Lenin, and time itself were all on the Soviet Union’s side, Gorbachev concluded that the economic stagnation of 1982-1984 was no aberration. Moreover, he had lost faith in the command economy. Traveling to Western Europe in the 1970s, he reached the “conclusion…[that] people there lived in better conditions and were better off than in [the USSR]” (Gorbachev 1996, 102-103). In a valedictory address on the last day of Soviet Union, December 25, 1991, he castigated a “bureaucratic command system…doomed to serve ideology and bear the heavy burden of the arms race” (Gorbachev, Memoirs 1996, xxvii).

During his tenure, Gorbachev turned his policymaking focus inward to domestic and economic affairs (Gaddis 1998, 229-236). To break the tyranny of parochial interests, he was “forced to make democratic reforms in order to rally to his cause millions of Soviet citizens outside the Communist Party,” establishing elections in 1989 and assuming office as President in 1990 in addition to his duties as General Secretary of the Communist Party (Kort 1997, 24; McCauley 1995, xiv-xvii). Centralization of power in the presidency helped Gorbachev break vested Politburo interests’ hold on official state policy. Therefore, unlike Khrushchev, he was able to carry out his defense cuts. Similarly, in foreign affairs he sought to reduce international tensions with the express purpose of reducing the military-industrial drag on the Soviet economy. In a complete reversal of his predecessors’ approach, he subordinated military strategy to economics and cut the defense budget by more than 60 percent between 1988 and 1989.

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95 Gorbachev (1996, 171 and 180).
96 Yuri Andropov did try to impose some economic discipline during his tenure, but he died after only one year in office (Stewart 1986, 3).
Gorbachev largely succeeded in breaking the military-industrial coalition’s control of official policy. Yet, two factors prevented him from ending its hold on the economy. First, his democratic reforms and policy of government openness (glasnost) reduced the opportunity for logrolling, but at the same time they created new opportunities for military and industrial elites to appeal directly to an empowered public. Second, Gorbachev’s lack of personal familiarity with defense matters allowed the antagonized defense industrial sector to exploit his economic restructuring program (perestroika) to its own benefit.\(^{97}\) As a result, the excess shipbuilding capacity created by Gorbachev’s sweeping budget cuts caused industry to defy reduction through lobbying, accounting trickery, and simple bureaucratic inertia.

Warship exports under Gorbachev share a surface similarity to those of his predecessors. The recipients were almost all existing customers; the sole exceptions to the rule were the Seychelles and Iran. Yet, the most compelling explanation for post-1988 warship exports is the excess capacity argument. Strategic explanations for these exports are belied by the fact that Gorbachev was simultaneously working to reduce tensions with the United States and China, objectives that exports to states such as India actively undermined. I now set out the case for this conclusion, and also foreshadow the Yeltsin era, during which warship exports would shake off even the appearance of strategic rationality.

**Background: Open to Cooperation with Anyone\(^{98}\)**

In the early 1980s, the USSR was locked in competition with both the United States and China, and its military was heavily engaged in Afghanistan. Gorbachev (1996, 121) recalls that

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\(^{97}\) Gorbachev’s early career focused on agricultural matters. On his lack of defense expertise see Cooper (1990, 173).

\(^{98}\) In an early 1986 speech in Vladivostok, Gorbachev “stressed...that we were open to co-operation with everyone—be it China, the United States, Japan, or all the other countries of the region, and obviously with our friends in India” (Gorbachev 1996, 423).
“the growth in military expenditure was far ahead of the growth in national income. Yet no attempt had ever been made to analyze that budget rationally, with a view to an optimal redistribution of means and resources.” In a discussion with N.K. Baibakov, Chairman of Gosplan, Gorbachev ruefully admitted that he dared not broach the topic of cutting the defense budget—“we both knew perfectly well that even a mention of this subject would mean immediate dismissal. It was [Brezhnev’s] turf” (ibid.). As General Secretary, however, Gorbachev was determined to rationalize spending—through the unorthodox tactic of obtaining a peace dividend by offering olive branches to longstanding enemies (Zubok 2007, 291).

The spur for Gorbachev’s peace offerings, in other words, was not a fundamental change in the strategic threat posed by the two main Soviet antagonists, the United States and China. Neither adversary had indicated a desire for détente. Indeed, President Ronald Reagan famously called the Soviet Union “the focus of evil in the modern world” and began a buildup of US military strength. Similarly, three demands that China presented on the occasion of Brezhnev’s 1983 funeral remained unmet: Soviet troops were still stationed along the Chinese border, the Soviet military was still in Afghanistan, and Vietnamese troops remained ensconced in Cambodia (Wilson 2004, 20; Booth 1990, 25). Rather than responding to a nonexistent lessening of tensions, Gorbachev sought to reduce Soviet defense spending despite ongoing strategic confrontation with the United States and China.

He began by setting a vigorous arms control agenda. On January 15, 1986, Gorbachev made a dramatic proposal to abolish nuclear weapons (Gorbachev 1996, 403). A goal this expansive was clearly aspirational; meanwhile, conventional arms control negotiations with the West continued to founder over objections by Soviet traditionalists (Zubok 2007, 289). However, the April 26, 1986 disaster at the Chernobyl nuclear plant “shattered ossified bureaucratic
structures and the old militarized mentality to the core…Gorbachev was humiliated by the international scandal…and he chose to scapegoat the military-industrial complex” (288). He forced his subordinates into a more cooperative stance on the details of arms control proposals (289), contributing to the successful conclusion of the Intermediate Nuclear Forces (INF) treaty and the Treaty on Conventional Forces in Europe.\footnote{On Gorbachev’s unilateral arms-control outreach, see also Gorbachev (1996, 462) and Kaiser (1988). On arms control negotiations for INF, see Nogee and Donaldson (1992, 368-369).}

At the same time, Gorbachev called for “new bridges of trust” with China after decades of an “atmosphere of profound mutual hostility” (Gorbachev 1996, 488). He recalls (1996, 465) that as early as 1985, he expressed in a discussion with Chinese Prime Minister Li Peng “my conviction as to the necessity of and the potential mutual benefit to be derived from full normalization of our relations.” Subsequently, Gorbachev moved unilaterally to satisfy China’s “three demands,” and in 1989 the USSR and China announced the normalization of relations and began planning the demilitarization of their border (Weitz 2011, 665; Wilson 2004, 20-21).

Military ties were re-established almost immediately. Li Peng visited Moscow on April 24, 1990 and “expressed interest in…the acquisition of up-to-date military equipment from the Soviet Union, and contacts between the militaries of the two countries” (Gorbachev 1996, 493). Though the Moscow did not export warships to China until 1993, under Yeltsin, it began exporting helicopters, cargo aircraft, and air-to-air missiles to China in 1990 (SIPRI 2011). The Soviet Union went from balancing against China to arming it practically overnight.

There is no obvious strategic explanation for these exports. The Soviet Union and China had no shared enemies, and the USSR could hardly expect to gain foreign policy leverage when it had come to China as a supplicant in order to reduce the Soviet defense burden. While Gorbachev’s unilateral détente with China may have been an understandable strategic decision,
selling arms to the Soviet Union’s enemy of three decades did not logically follow, and calls for a detailed analysis. Normalizing relations with a longstanding adversary is one thing; arming it is another thing entirely. Gorbachev might have been willing to shrink his military to save the Soviet Union, but why would he exacerbate the strategic risk by actively empowering China?

**Naval Shipbuilding Capacity: An Immovable Object**

Even as Gorbachev sought to reduce the Soviet defense burden by converting military production facilities for civilian use—and indeed, overall military production fell from by 1989—Soviet production of submarines continued unhindered, and the number of surface ships produced actually increased (United States Department of Defense 1990, 35, quoted in Wulf, *Arms Production* 1991, 299). Gorbachev’s political force met with an immovable object in the form of the navy and shipbuilding industry, as I discuss in greater detail in the next section of the Gorbachev-era story. As Gorbachev had to admit in April 1990, defense conversion “proved not so simple as it originally seemed” (Wulf, Arms Production 1991, 308-309).

The naval shipbuilding industry on the eve of Soviet collapse encompassed shipyards, repair facilities, and supporting factories on every Soviet coastline and deep inland. It included not only the shipyards themselves, but also the technical bureaus responsible for the design of new ship classes. It retained powerful allies in the traditional Politburo elites, and based on a

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100 See Donaldson and Donaldson (2003) for a detailed analysis of the unprecedented way in which Soviet and Russian arms sales to China preceded deeper strategic rapprochement—a reverse of the intuitive sequence.

101 The increase in naval production may have been a reaction to the United States’ 1986 maritime strategy, which envisioned the US Navy in a Third World War bringing the fight to (and across) the USSR’s very coastline, rather than simply defending the strategic lines of communication connecting the US mainland to Europe. The strategy led Admiral Gorshkov’s successor, Admiral Chernavin, to accuse “the United States and several other NATO countries of starting a new naval race with the sharp increase in their maritime activity,” and to cite an increase in the probability and strategic threat of a war at sea (Vego 2009, 223). This was but the latest example of the USSR’s longstanding and ultimately unaffordable naval arms race with the United States and NATO (Kuzin and Chernyavskii 2005, 438).
conservative estimate, it also employed hundreds of thousands of workers, technicians, engineers, and managers, and others whose livelihoods depended on the industry.

The last factor is worth bearing in mind when considering why democratization failed to rein in the Soviet defense industry, as Gorbachev had hoped to do. Industry “company towns” did not just produce ships; they also produced social welfare, with self-contained housing, municipal services, education, health care, vacation facilities, and even dedicated agriculture and livestock (Gaddy 1996, 131-147). As Gaddy (130) puts it, “when Russians decided to become part of the labor force of a defense enterprise they were making a decision not merely to work in the plant, but to trust their entire lives to it.” It is not surprising, therefore, that shipbuilding industries would seek self-preservation through both lobbying and populist appeals designed to create political pressure against downsizing—and in favor of exports.

Domestic Politics: From Machine to Democracy

Gorbachev rose to power as a consummate Party man. He had to work within a Politburo oligarchy dominated by the military and the defense industry. Like Khrushchev, Gorbachev wanted to reduce the Soviet defense burden, but like all of his post-Stalin predecessors, he had to work inside a system rife with vested interests and Kremlin logrolling. As Gaddy (1996, 47) writes, “there was no doubt that the uniformed military and the military industry, and the political allies of both, would vigorously oppose a simple reduction of defense spending.” Gorbachev had to find a different way to tame the beast, and his initial efforts sought to coopt rather than to snub the military-industrial complex.102 When those efforts failed, Gorbachev pursued democratic reforms in a deliberate effort to break the military-industrial hold on the Soviet economy. Thus, the stories of excess capacity and Gorbachev-era Soviet political

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102 On Gorbachev’s consensus-building approach and tendency toward bureaucratic politics, see Zubok (2007, 278).
evolution are closely intertwined. In the end, the limited democracy that emerged under Gorbachev contributed to the counterintuitive warship sales that ensued.

The first steps of *perestroika* were tentative. Gorbachev knew that the defense industry was a powerhouse and that civilian industry was ineffective; yet given his political constraints, his initial steps were not to cut the defense budget, but rather to order civilian industry to emulate its military counterpart.\(^{103}\) He tried to figure out the secret of the defense industry, which seemed to work—mysteriously—while the rest of the economy did not. Thus, in 1986, Gorbachev directed the assignment of military quality-control inspectors to civilian factories, and tasked defense enterprises to assist the civilian sector in retooling for improved production quantity and quality (Campbell 1990, 149; Cooper 1990, 177-185; Gorbachev 1996, 222-232; Zubok 2007, 279). Moreover, Gorbachev systematically appointed defense insiders to senior positions in economic policymaking (1996, 56-57). Meanwhile, despite his policy of disarming to the point of “reasonable sufficiency,” the Five Year Plan for 1986-1990 *increased* planned defense expenditures (C. Davis 2000, 19).

In hindsight, the effects were unsurprising. Defense industry officials were only too happy to increase their power and prestige by “assisting” their civilian counterparts, but the application of zero-defect oversight to a civilian industry brought production lines crashing to a halt. Draconian quality control caused decreased output, exacerbating the paucity of civilian goods (Gaddy 1996, 58-59). “Output in the key civilian machine-building sector dropped drastically as quality inspectors shut down production lines for days. Worse still, workers and managers lost bonuses for quota fulfillment. Under overt and latent pressure, the [Soviet]

\(^{103}\) “I can understand the consumer who simply cannot grasp why we are able to produce spaceships and nuclear-powered vessels at the same time that we turn out defective household appliances, shoes, and clothing” (“The Unfading Traditions of Heroic Labor Exploits: Speech of M.S. Gorbachev 1985,” quoted in Gaddy 1996, 49).
leadership backed off from the experiment” (58-59). This pressure included strikes by civilian industry laborers and managers (ibid.).

Gorbachev’s attempt to capitalize on the defense industry’s “secret” was doomed to fail, because that secret was to “cannibalize” the rest of the economy (Gaddy 1996, 56). Defense enterprises enjoyed priority access to raw material, produced more than what was required, and then dumped rejected output onto civilian industries (ibid.). It was literally impossible to transfer these management practices wholesale to civil production. Gorbachev therefore ended defense-style reform of industry after the first few years (Gaddy 1996, 51-56; Gorbachev 1996, 223-224). Meanwhile, defense expenditures continued to soar (Gaddy 1996, 56).

In another attempt at restructuring the economy from within, Gorbachev directed military industries to increase production of civilian goods. Throughout Soviet history, the defense industry maintained a nominal capability to produce civilian wares, though in practice, the results were poor (Campbell 1990, 146-147). Some industries, such as the shipyards at Leningrad, had become powerful through specialization in prestigious military systems and thus had neither the institutional incentive nor ready technical means to comply with conversion directives (Ruble 1990). Others, as noted in chapter 1, engaged in malicious compliance—producing, for example, baby buggies constructed of expensive titanium. Gorbachev also seemed to ignore the fact that the defense industry had been churning out subpar civilian goods for

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104 The Soviet arms industry could succeed at civilian production when it wanted to—specifically, when it was enjoying untrammelled demand for its military wares, and could (in principle) gain even more prestige and influence by expanding into the civilian economy. Cooper (1990, 169) offers the example of “Fregat” irrigators produced by the Soviet shipbuilding industry, “now [in 1990] a quite common sight in the Soviet countryside.” Yet, this was at the whim of the Soviet elite, and not due to necessity—“until almost the end of the Brezhnev period, there were no further public appeals for a greater civilian role for the defense industry.”

105 More generally, Odom (1998, 224-225) notes that the Cold War competition with the West gave pride of place to military innovation, and thus the civilian production capabilities of defense industry stagnated. The inherent challenges of conversion were therefore exacerbated because industry did not have the tools to produce the civilian goods for which they were nominally responsible.
decades, and that Brezhnev had already tried (and failed) to improve the civilian economy through identical means in the 1970s (Gaddy 1996, 61).

Gorbachev concluded that reforming the command economy was a fruitless endeavor. Defense industry reductions proved even more politically challenging than cutting back military forces themselves (Odom 1998, 223). Meanwhile, events conspired to bring the economic crisis to a head. Between 1985 and 1988, a 40 percent decrease in the price of oil—the USSR’s chief revenue-generating commodity—drastically reduced Soviet national income (62).

In 1988, therefore, Gorbachev ordered a sweeping economic reform explicitly intended to foment defense conversion—fundamentally challenging machine politics-as-usual. The revolutionary January 1988 “Law on State Enterprises” reduced central economic planning in favor of new autonomy for all levels and sectors of industry, which Gorbachev encouraged to seek the most profitable types of production and avenues into which to channel their output. The law had a direct and deleterious effect on the defense industry, which could no longer rely on subordinate suppliers of raw materials (Gaddy 1996, 63). Additionally, upon his election as president in 1989, Gorbachev announced that “[the defense] ministries will no longer have the function of direct interference in the operative management of economic entities” (Gorbachev 1996, 293)—a clear swipe at the defense industry’s privileged role in the economy, and one that threatened to upset a centerpiece of the Soviet political and economic hierarchy.

The reaction from leaders of industry was sharp. Defense conversion was a leading topic of public debate in 1989, with articles and television broadcasts at least weekly (Gorbachev 1996, 64). The uproar peaked in September 1990, when a group of defense industry leaders published an open letter in Pravda. They disingenuously praised their own success at civil
production, and then lamented the current state of affairs as “a crisis situation moving out of control” (Gaddy 1996, 65; Wulf, *Arms Production* 1991, 308).

Well before the 1990 letter, however, Gorbachev concluded that *perestroika* was impossible under the existing political and economic system. As he accurately put it, “the *nomenklatura* sensed that its vital interests were at stake and put up ingenious resistance” (Gorbachev 1996, 244). He therefore decided to push for democracy. Democratization would replace a political base composed of defense-industry elites with one composed of a broader swath of the populace, whose dissatisfaction with the average citizen’s standard of living (in contrast to the privileges of defense industry elites) would result in popular support for economic reform. As the discussion of Boris Yeltsin’s tenure will show, however, democracy simply created a different pathway for the industry’s political activism.

Meanwhile, as Soviet fiscal straits worsened, spending on defense procurement dropped by more than 25 percent between 1990 and 1991 alone. Military research and development suffered even greater reductions. As Gaddy (1996, 66) writes, “the defense-industrial complex stepped up its own political activity in response. The culmination of that overt and desperate activity was the active participation of defense-industry representatives in the attempted coup against Gorbachev in August 1991.”

*Explaining Warship Exports, 1986-1991: The Eruption of Excess Capacity*

Gorbachev’s defense spending cuts between 1988 and 1989 created huge excess capacity in the Soviet warship industry—the first since Stalin rose to power six decades earlier.

Meanwhile, unilateral Soviet rapprochement with both the United States and China reduced the

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106 Coup supporters included “Oleg Baklanov, the Communist party’s top official in charge of defense industry; and Aleksandr Tizyakov, general director of a major manufacturer of sea-launched cruise missiles and antiaircraft missiles” (Gaddy 1996, 66). See also Cooper (1991, 86-88).
plausibility of balancing arguments. Indeed, is even conceivable that exports to longstanding strategic partners such as India actively undermined Gorbachev’s efforts at détente with China. Under conditions of high excess capacity, the main hypothesis implies a political economy explanation for strategically puzzling warship exports.

Table 3.5 lists Soviet warship recipients during Mikhail Gorbachev’s tenure in office.

Table 3.5. Recipients of Soviet warships, 1986-1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Allies</th>
<th>Shared Enemies</th>
<th>Non-aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>Bulgaria*&lt;br&gt;Poland*</td>
<td>Cuba</td>
<td>Cambodia&lt;br&gt;Seychelles</td>
</tr>
<tr>
<td>1987</td>
<td>India&lt;br&gt;Poland*&lt;br&gt;Vietnam</td>
<td></td>
<td>Guinea&lt;br&gt;Guinea-Bissau</td>
</tr>
<tr>
<td>1988</td>
<td>Yemen People’s Republic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Bulgaria*&lt;br&gt;Ethiopia&lt;br&gt;Romania*&lt;br&gt;Yemen People’s Republic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Bulgaria*&lt;br&gt;Ethiopia&lt;br&gt;Romania*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td></td>
<td></td>
<td>Iran</td>
</tr>
</tbody>
</table>

*Warsaw Pact member*  

The predominant impression conveyed by the table is one of inertia. All of the states in the ally and shared-enemy columns received Soviet warships in the Brezhnev era, as did all of the non-aligned states with the exception of the Seychelles (a socialist state that received competing aid from the United States, and in which the Soviets hoped to gain naval basing access [Ofcansky 1994]) and Iran (discussed at greater length below). Moreover, there was in theory no excess shipbuilding capacity until 1989. At first glance, this might appear to support the continued predominance of the external balancing and foreign policy leverage arguments.
Yet, on closer inspection, a different story emerges. Certainly, even though Gorbachev sought to reduce tensions with the United States, exports to the Warsaw Pact states and to small African clients can readily be seen as the products of business as usual. However, exports to India and Vietnam—previously explained as efforts to externally balance and gain an advantageous political position against China—are less explicable against the backdrop of Gorbachev’s Sino-Soviet peacemaking, beginning in 1985. In fact, the 1987 exports to India and Vietnam fall midway between Gorbachev’s 1985 overtures and the 1989 normalization of the Sino-Soviet relationship. While excess capacity had not yet taken hold in 1987, these exports hint at a growing discrepancy between Gorbachev’s strategy and Soviet export behavior.

When it comes to Iran, strategic arguments are even more problematic. A brief discussion of USSR-Iran relations in the 1980s provides the context. During the last six years of the 1980-1988 Iran-Iraq war, the Soviet Union provided substantial military and economic support to longtime client Iraq after Iran spurned offers of aid during an initial period of Soviet neutrality (Mott 2001, 93). However, Moscow was careful to seek “meta-stability” in the region by avoiding exports to Baghdad that would allow it to extend the conflict past the immediate fight, risking Washington’s ire (93-94). For example, the Soviet Union refrained from exporting anti-ship missiles that Iraq could use to attack tankers or foreign warships in the Persian Gulf (ibid.).

The Iran-Iraq war ended in 1988, and Iraq remained a major Soviet arms client (Mott 2001, 93-94). Three years later, however, on the eve of Soviet collapse, the USSR agreed to export Kilo-class submarines to Iran (SIPRI 2011)—stealthy warships designed for the specific purpose of menacing seaborne trade and foreign navies, including those of Iraq and the United States. Moreover, the Kilos could help Iran in its quest to control the Strait of Hormuz.

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107 SIPRI (2011) lists the year of the export decision as 1991. Detailed analysis suggests the timeline is more complicated, as I describe at greater length later—adding more evidence for the excess capacity hypothesis.
through which all seaborne traffic to the Persian Gulf must pass (Eisenstadt 2001). This stands in stark contrast to Soviet efforts from Brezhnev onward to establish naval bases on the Horn of Africa, which aimed at increased ability to project power in the very same region.\textsuperscript{108} To what end would the USSR agree to this strategically questionable warship export?

A detailed examination of the timing and circumstances of the \textit{Kilo} export suggests that strategy was not the primary motivating factor. It is true that newly-elected Iranian leader Hashemi Rafsanjani traveled to Moscow in 1989 and obtained a broad set of accords with the Soviet Union, including what the official Soviet news agency Tass called a readiness “to cooperate with the Iranian side in strengthening its defense capability” (quoted in Goldstein 1989). Yet, this general statement of support for Iran’s defense does not translate directly into a specific agreement to export strategically problematic weapons such as \textit{Kilo} submarines. Indeed, the submarines were not actually delivered until 1992-1993 (SIPRI 2011), meaning that Russia had to ratify the export on behalf of its predecessor, or at least decline to obstruct the sale. While the broad Soviet-Iranian relationship established in 1989 may lend some plausibility to a foreign policy leverage explanation for this export, the fact that the actual export post-dated the existence of the Soviet Union calls for a closer examination of the details.

There is in fact reason to believe that the arms export component of the 1989 agreement with Iran was motivated by the opportunity to subsidize the excess capacity of the struggling Soviet arms industry. Figure 3.4 shows that the Soviet defense budget decreased by over 60 percent from 1988 to 1989. It is highly plausible that arms exports—even to questionable customers, such as Iran—provided a cushion to soften the budgetary blow suffered by a defense industry saddled with enormous excess capacity.

\textsuperscript{108} Along these lines, Kroenig (2009, 2010) argues that states do not intentionally undermine their own power projection capability. For example, Russia’s nuclear assistance to Tehran did not commence until 1995, years after the Soviet collapse rendered global power projection moot (e.g., Kroenig 2009, 128).
There is also specific evidence that the Iranian Kilo export was the result of the warship industry’s struggle for self-preservation. In 1988, Gorbachev obtained a general consensus in the Politburo for defense industry reductions (Odom 1998, 229). This antagonized the industry—which was now empowered, thanks to Gorbachev’s reforms, to act in a more entrepreneurial fashion. In collusion with elements of the military, industry took advantage of looser economic controls to negotiate directly with foreign buyers, ingeniously packaging proposed arms deals in what Odom (1998, 229-230) calls a “staff swindle” so that they appeared (incorrectly) to have

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109 NMC data (Ghosn and Bennett 2003).
received comprehensive bureaucratic review. The deals therefore received a Politburo rubber stamp despite the lack of coherent strategic analysis. These devious exports enabled the defense industry to keep churning out military goods that the Soviet leadership did not want and the military could not afford to pay for. This was a boon to the industry, since its traditional metric for success in a command economy was the ability to produce at full capacity (ibid.).

By 1989, Gorbachev was receiving reports that the defense industry and the military were actively colluding to deceive him, selling arms abroad without his approval (Odom 1998, 229-230). Foreign Minister Eduard Shevardnadze reportedly “became so frustrated by his inability to influence Soviet arms exports that he wrote Gorbachev an ‘official protest,’ complaining that the VPK [i.e., defense industry ministry] was making agreements for arms deliveries that undercut Gorbachev’s foreign policy, giving the West reason to doubt his sincerity…Gorbachev directed an investigation, but nothing of consequence resulted” (Odom 1998, 143).

On a similar note, Gorbachev’s close assistant Georgi Shakhnazarov wrote a memo in 1989 “complaining about arms sales continuing to Eastern Europe and VPK construction of unauthorized new naval combatants and MiG-29 [fighter aircraft] transfers abroad. They…convey a picture of the VPK and the Ministry of Defense proceeding on their own course as if ‘new thinking’ and perestroika concerned them not in the least” (Odom 1998, 448n93). Not only does this provide additional support for the excess capacity hypothesis, it also suggests that even pre-1989 sales to longstanding customers may have resulted from excess-capacity entrepreneurship on industry’s part rather than a considered decision by top leaders.

It is especially noteworthy that the warship industry produced “unauthorized” naval combatants—evidence of not just excess capacity, but actual excess inventory. While the Gorbachev-Rafsanjani agreement of 1989 touched on arms exports, analysts believed that it
focused on fighter aircraft, tanks, and anti-aircraft missiles, with no mention of warships (I. Anderson 1997, 296). Thus, the Kilo export cannot be firmly tied to Gorbachev’s 1989 policy decision. Moreover, it was further reported that Iran in 1992 contracted directly with the Sudomekh shipyard in St. Petersburg, committing to pay $600 million each for the submarines (Cordesman 1999, 203).\footnote{SIPRI (2011) separately puts the deal at $750 million for both submarines.} This indicates that the money flowed into shipyard coffers rather than the central state account. What is more, this contract could not have come at a more opportune time for the shipyard, given the additional blow that the Russian defense budget absorbed on the heels of the Soviet collapse—a 65 percent reduction compared to the 1991 budget, leaving defense spending at only 15 percent of 1988’s level (figure 3.5).
Figure 3.5. Soviet and Russian defense expenditures, 1985-1999\textsuperscript{111}

The evidence suggests that the Iranian Kilo export was more closely tied to excess shipbuilding capacity than to any of the other competing explanations. First, there was incontrovertible evidence of excess capacity, as demonstrated by the unauthorized production of warships. Second, while Gorbachev had agreed to help Iran arm—potentially providing political cover for industry—the terms of the 1989 deal do not explicitly include the export of Soviet submarines to Iran. Third, the contract was reportedly signed between Iran and the shipyard itself, not the Soviet or Russian government. In fact, at least one contemporary news report stated

\textsuperscript{111} NMC data (Ghosn and Bennett 2003).
that the *Kilo* export had been initiated by the shipyard itself amid “an atmosphere of disorder and disintegration” (Ya'ari 1993).

The *Kilo* export to Iran, in other words, was not the result of strategic decisions. Rather, it was a direct result of excess shipbuilding capacity.

As discussed above, continued exports to allies and to Cuba may have been a form of strategic inertia, even though they had the potential to undermine Gorbachev’s changing foreign policy objectives: in 1990, Gorbachev was trying to defuse tension with the United States, not exacerbate it. As to the *Kilo* export, Iraq—the most direct target of potential Iranian balancing behavior—was a major Soviet client. It is unlikely that Gorbachev was attempting to balance either the United States or Iraq by providing advanced submarines to Iran. In short, while early warship exports under Gorbachev may have been a legacy of earlier balancing behavior, later exports—especially the Iranian *Kilos*—provide more support for the excess capacity hypothesis.

As in previous Soviet eras, exports to non-aligned states in 1986 and 1987 may have constituted attempts to curry strategic influence. Some analysts also suggest a foreign policy leverage explanation for the Iranian *Kilo* export. According to Michael Eisenstadt, Soviet and Russian “cooperation [with Iran] is driven as much by fear and mistrust as it is by opportunism and shared interests,” with arms exports intended to induce Iran to limit the spread of Islamic extremism into the Caucuses, and more generally to gain influence over Tehran as a hedging strategy against an uncertain future (Eisenstadt 2001; see also Fuller 1990, 61-63).

As the same analyst puts it, however, “Russia's conventional arms transfers and assistance to Iran's civilian nuclear program...(including] advanced naval mines, torpedoes, and *Kilo*-class submarines)...seem imprudent—to say the least” (Eisenstadt 2001). And as the

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112 The degree to which the Iranian *Kilos* concern the United States is evidenced by the fact that, after the first *Kilo* was delivered in 1992, the United States conducted its first deployment of a nuclear attack submarine to the Persian Gulf (Cordesman 1999, 203).
discussion earlier in this section shows, the details of the *Kilo* export provide more support for the excess capacity hypothesis than for a hypothetical Soviet attempt to gain influence over Iran.

* * *

In an effort to place the Soviet Union on a sustainable path, Mikhail Gorbachev attempted to reduce its untenable defense burden through unilateral détente. Without a realistic plan for defense conversion, however, Gorbachev’s initiatives were stymied by industry, military, and Party elites who colluded to foil them through bureaucratic politics and simple inertia. When Gorbachev’s massive budget cuts created gross excess capacity in the warship industry, shipbuilders resorted to strategically questionable and possibly unsanctioned exports.

As Boris Yeltsin would soon discover, the democratic reforms intended, in part, to break the Soviet defense industry’s hold on the economy merely required industry to adjust its tactics. Gorbachev believed that Soviet citizens would rally to his efforts to increase their standard of living through defense spending cuts. He underestimated, however, the degree to which the livelihood of so many Soviet citizens depended directly or indirectly on the defense industry.

Thus, industry elites were able to enlist democratically empowered citizens in defense of business as usual. During the last years of the Soviet Union, this meant that warship production continued apace, keeping shipyards fully employed despite Gorbachev’s defense reductions. Yet, the real defense cuts of the Gorbachev era also meant that the military could not afford to pay for the new warships that industry was producing. Thus, industry had to seek buyers abroad—leading to strategically puzzling exports such as the sale of *Kilo* submarines to Iran.
You can build a throne of bayonets, but you cannot sit on it for long.

- Boris Yeltsin

Russian President Boris Yeltsin’s August 1991 speech atop a tank in Moscow excoriated the reactionary elements—including the military and defense industry—that had conspired to foment a coup against Mikhail Gorbachev. Yeltsin was correct when he said that “the conspirators’ days are numbered” (Documents on Democracy 1991, 136). Yet, the sway held by the Russian defense industry would not dissipate in the wake of the Soviet collapse. Instead, industry would exploit democratic politics to preserve itself through warship exports. The “throne of bayonets”—the traditional seat of Soviet power—would survive the Soviet Union’s demise, contributing to the strategically puzzling warship exports of the Yeltsin era.

As the “first freely elected leader in Russia’s 1,100-year history” (Kort 1997, 29), Yeltsin’s primary objective after the fall of the Soviet Union was the consolidation of Russian democracy. This did not imply the automatic marginalization of military-industrial interests. Instead, Yeltsin chose to coopt them. Even before the Soviet collapse, the election of military officers to Gorbachev’s Congress of People’s Deputies “legitimized military participation in politics beyond the military domain” (Lepingwell 1992, 554). Yeltsin himself selected a military officer as his vice-presidential running mate (556). At the same time, the plummeting living standards of Soviet military personnel in the wake of Gorbachev’s cuts was spurring more and more vocal discontent. Clearly, Yeltsin could not afford to ignore military voices, nor the closely-linked desires of the Russian defense industry.

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113 Quoted in Documents on Democracy (1991, 136).
Furthermore, Russia’s democratization was accompanied by a move to a free-market economy and a loosening of restrictions on international trade. This bore two consequences for the warship industry. First, the loss of state orders—if uncompensated by exports—would lead directly to unemployment. No longer could defense industries be subsidized by artful manipulation of the command economy. Second, industry now had significantly greater incentives and opportunities to seek out foreign markets on its own initiative. Therefore, much as Yeltsin coopted the military-industrial complex into his democratic program, the Russian government also coopted the defense industry economically. In an attempt to gain control over the increasingly chaotic export processes evident in the late Gorbachev era, Russia in 1992 formed a state agency responsible for arms exports—Rosvooruzheniye (later renamed Rosoboronexport)—which quickly embarked on a “major export drive” (Kopp 2007, 250).

While the Russian government still held approval authority for warship exports, the reduced focus on foreign affairs in the wake of the Soviet collapse combined with increased economic incentives to result in strategic rationales that were flimsy at best. A Russian defense analyst therefore explains 1990s arms sales to China thus: “First of all, it’s money. Second of all, it’s money, and third of all, also money” (Felgenhauer, quoted in Wilson 2004, 100).

Yet, this overriding focus on money does not translate into a macroeconomic explanation for post-Soviet warship exports. Even official Russian explanations focus more narrowly on the perpetuation of the defense industry. In 2002, Russian Defense Minister Sergei Ivanov admitted that “Russia’s defense industry complex can be preserved only by supplying military equipment and arms to China” (quoted in Wilson 2004, 105). Moreover, the defense industry often circumvented the official bureaucracy to ensure that arms revenues would flow directly to defense enterprises without sacrificing a portion to the “notoriously corrupt” Rosvooruzheniye.
(ibid.). At best, warship exports to China were an instrument of state policy explicitly intended to sustain the warship industry in times of falling defense budgets. At worst, aspects of the Chinese exports—such as the unauthorized provision of classified production information for the Kilos (ibid.)—reflected industry actions lacking official sanction.

In short, Yeltsin’s warship exports—including the export of Kilos and Sovremennys to China—are best explained by the excess capacity theory. The following discussion provides evidence for this conclusion.

Background: Wavering Westward, Catering to China

Russia inherited Gorbachev’s objectives of reducing tension with the West and China. These became all the more pressing with the decrease in Moscow’s military and economic power after the Soviet collapse. Moreover, the move to a market economy gave Russia more incentive to promote integration with the capitalist West, as well as to deepen trade ties with China.

Yet, despite Russia’s aspiration to integrate more fully with the West, tension persisted—particularly in the wake of NATO’s eastward expansion. This ran afoul of Russia’s desire to control its “near abroad,” which it considered to be its “natural sphere of influence” (Lavoie and Levesque 2004, 60; Wilson 2004, 150-151). Though Russia sought better relations with former adversaries, it pursued a basically conservative approach to defense policy, with a continued emphasis on the projection of naval power into the Atlantic and Arctic Oceans, and the Baltic, Black, and Mediterranean Seas (D.-K. Kim 2000, 30-34).

From the outset, this militated against further reductions to Russian naval power. Indeed, after the Soviet Navy formally disbanded on 1 January 1992, Yeltsin fought to maintain control over the former Socialist Republics’ fleets—particularly that of Ukraine, which inherited most of
the ships not already in Russian hands, and maintained the strategically important Black Sea port of Sevastopol (Todd and Lindberg 1996, 12). Although Russia eventually had to concede to a partition of the fleet, it did manage to retain access to Sevastopol.\footnote{Russia ultimately obtained an agreement with Ukraine allowing the Russian navy to operate out of Sevastopol through at least 2017 (Anishchuk 2013). Notably, the Russian Black Sea Fleet based in Sevastopol participated in the 2008 Georgian conflict.}

Yeltsin also carried forward Gorbachev’s policy of rapprochement with China. During 1995 negotiations over border issues, Yeltsin stated that “China is a very important state for us. It is a neighbor, with which we share the longest border in the world and with which we are destined to live and work side by side forever” (Weitz 2011, 665). Border demilitarization and confidence-building measures\footnote{These included “arrangements to avert unauthorized ballistic missile launches, prevent the jamming of communications equipment, and warn ships and aircraft that might violate national borders” (Weitz 2011, 665).} continued through the 1990s, culminating in April 1998 with the establishment of a Sino-Russian presidential hotline (ibid.). As of 1996, the relationship had progressed (rhetorically) to a “strategic partnership of equality, mutual confidence and mutual coordination toward the twenty-first century” (Xinhua 1996, cited in Wilson 2004, 148).

Russian officials insinuated Sino-Russian balancing in response to NATO’s eastward expansion. In February 1996, Russian Defense Minister Pavel Grachev stated that “if [the West goes] east, we also will go east and find new allies” (Felgenhauer 1996, cited in Wilson 2004, 150). Yet, there were limits to the partnership. Most importantly, China did not appear to share Russia’s eagerness to balance. As Chinese Foreign Minister Qian Qichen argued in May 1997, “there can be no talk about a union between Russia and China….Our countries have gone through quarrels and unions, but neither brought any luck” (Interfax 1997, cited in Wilson 2004, 151). Thus, the Sino-Russian relationship retained much of the one-sided character that it had during the Gorbachev era.
Naval Shipbuilding Capacity: The Struggle for Survival

Russia’s naval industrial base suffered major economic blows upon the dissolution of the Soviet Union. The 1992 defense budget cuts reduced military spending by over 60 percent (on top of the 60 percent cuts of 1988), leaving major warships rusting half-completed in shipyards. It is difficult to estimate the resulting excess capacity directly, but the change in the size of the Russian Navy provides a rough benchmark for reduced state demand. Whereas 1991’s navy included 967 surface warships and 317 submarines, its 2009 counterpart had only 186 and 61 respectively—a decrease of over 80 percent for both surface ships and submarines (Vego 2009, 224). Correspondingly, a warship industry capable of churning out tens, if not hundreds of warships every year produced only two ships for the Russian Navy in the five years from 1992 through 1997 (ibid.). Similarly, Donaldson and Donaldson (2003, 713) report that, as of 1996, only 10 percent of the defense industry’s overall capacity was employed. In short, excess capacity in the warship industry hit an all-time high almost as soon as Russia became an independent state, thanks to the immediate reduction in domestic demand.

Fortunately for industry, Yeltsin’s move to a capitalist economy and emphasis on international trade provided the means to avoid painful downsizing. As Kopp (2007, 249) relates, “the three most significant results of the changed environment faced by Russian industry were…a large-scale shift to export business over domestic production, large-scale privatization and consolidation of many defense industry entities, and the virtually complete removal of Soviet era restrictions on which technologies could be exported and which could not” (emphasis added). For example, Yeltsin-era exports to China included not just Kilo submarines, but also

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116 As Davis (2000, 34) relates, it was not just capitalism and trade that came to the defense industry’s aid. Despite the Russian government’s official reluctance to subsidize the defense industry, Russia “has been unwilling to close even those [plants and shipyards] declared insolvent. Enterprises have been given hidden subsidies (e.g. tolerance of nonpayment of gas and electricity bills), subsidized credit from state-controlled banks, and tax relief. In consequence, soft budget constraints have been maintained.”
Sovremenny destroyers—“arguably the most heavily armed surface warship in operational use” (259). Moreover, sales to India in the 1990s included Kashin destroyers, Krivak frigates, and the 45,000-ton aircraft carrier Admiral Gorshkov (ibid.). These exports stand in contrast to the USSR’s typical practice of exporting less-capable ships such as older-model submarines and small escort ships.

**Domestic Politics: Shock Therapy**

A key defining moment for newly-independent Russia came on January 2, 1992, with the introduction of Yeltsin’s “shock therapy” approach to economic reform. In contrast to Gorbachev’s evolutionary approach, shock therapy involved an immediate and uncompromising switch from a command economy to laissez-faire capitalism—and one that encompassed the traditionally privileged defense industries. In short, shock therapy “rejected the need for government to guide the economic transition” (Arbatov 2001, 171).

Unfortunately, shock therapy “ignored the requirements for Russian enterprises to make the adjustment to a market system. Little attention was paid to the immediate needs of the people. Education, health, science, and culture all fell victim to fiscal austerity, which included long delays in payment of salaries and nonpayment of government contracts” (Arbatov 2001, 71; see also Kort 1997, 32). Kort (1997, 35) provides a picture of the consequences: “for millions of ordinary Russians…the negative effects of uncontrolled prices outweighed the positive ones….unemployment began to spread as businesses of all kinds tried to cut costs.”

Political and societal reaction to Yeltsin’s economic policies was sharp, resulting in tough electoral battles against opponents ranging from Communist traditionalists to the neofascist Russian nationalists of Vladimir Zhirinovsky’s ironically-named “Liberal Democratic” party. By
1995, elections in the wake of continued economic crisis—compounded by the conflict in Chechnya—led to Communist control of Russia’s parliament (Kort 1997, 38-39). Among the key supporters of the Russian Communist party—which “owed its origin, at least in part, to the growing tensions within the defense industry that arose from conversion”—was the St. Petersburg defense industry complex, and particularly the Severnaya Verf destroyer shipyard (J. Cooper 1990, 73). Severnaya Verf’s affiliated party organization had been one of two that convened the April 1990 “initiative congress” for the new Communist Party formation (ibid.). Yeltsin managed to win presidential reelection in 1996, partly thanks to “lavish promises” made to the Russian electorate and to the Communist-controlled parliament—and thus, by extension, to the shipbuilding industry (Kort 1997, 39-40).

As this brief recapitulation of economic policy and domestic politics suggests, Yeltsin was poorly positioned to cross the interests of the defense industries and their hundreds of thousands of employees, and indeed he showed no inclination to do so. Shortly after Russian independence, Yeltsin “began urging arms producers to seek out foreign customers, noting that ‘the weapons trade is essential for us to obtain the foreign currency which we urgently need and to keep the defense industry afloat’” (Wilson 2004, 108). Moreover, in 1993 Yeltsin signed Presidential decrees exempting defense enterprises from immediate privatization, effectively subsidizing excess capacity despite the move to market economics.117

*Explaining Warship Exports, 1992-1999: Stratospheric Excess Capacity*

Yeltsin’s Russia was saddled with enormous excess shipbuilding capacity. It is quite plausible that any warship export—whether strategically motivated or not—would therefore be motivated at least in part by the economic concerns of the naval industry. However,

117 For a detailed overview of this process of political accommodation, see Blank (1995).
unambiguous support for the excess capacity hypothesis requires the identification of Russian warship exports that cannot be convincingly explained by the strategic hypotheses. The chapter began by arguing that Russia’s warship exports to China provided just such an example. The following analysis builds the case for that conclusion.

Table 3.6 summarizes Russian warship recipients under Yeltsin.

<table>
<thead>
<tr>
<th>Year</th>
<th>Allies</th>
<th>Shared Enemies</th>
<th>Non-aligned</th>
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<tr>
<td>1992</td>
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<td>Lithuania</td>
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<td>1993</td>
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<td>China</td>
<td>Vietnam</td>
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<td>1997</td>
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<td>India</td>
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<td>1998</td>
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<td>Vietnam</td>
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</table>

Table 3.6 immediately reveals that warship recipients were no longer allies or states sharing common enemies with Russia. In stark contrast to the Soviet era, balancing does not provide a ready explanation for warship exports—just as the excess capacity hypothesis predicts.

Of the five distinct warship recipients in table 3.6, two (India and Vietnam) were former Soviet allies and longtime warship customers, so path-dependency effects make their reappearance unsurprising from a demand-side perspective. As the discussion of Gorbachev-era exports explains, however, there is little reason to believe that these exports were motivated primarily by strategic considerations. It is particularly implausible that Russia expected policy leverage over India as a result of its warship exports, considering that India, along with China,  

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118 As chapter 2 noted, warship customers are likely to favor existing suppliers back so as to avoid the costs associated with integrating different and potentially incompatible equipment, training, and logistics into their fleets.
“was the main source of financial support for some of Russia’s largest arms producers” (Wilson 2004, 105). Russia, in other words, needed India more than India needed Russia. There was no obvious basis for Russian influence over a paying customer.\textsuperscript{119} The fact that Indian (and to a lesser extent Vietnamese) purchases were keeping the Russian warship industry alive does, however, lend support to the excess capacity argument.

Exports to Iran need only be touched on here in light of the Gorbachev-era discussion. The 1993 export consisted of a third Kilo submarine to accompany the two already sold to Iran. Moreover, this export shows that Russia was willing to hold up delivery until payment was received—delaying the Kilo’s arrival in Iran until 1997, after agreeing to the export in 1993 (Cordesman 1999, 203). The quid pro quo that Russia expected from Iran, in other words, was money rather than influence. And though Yeltsin’s personal advocacy of arms exports to ease Russian economic straits lends rhetorical support to a macroeconomic argument, the aforementioned evidence that Iran contracted directly with St. Petersburg’s Sudomekh shipyard indicates that the proximate cause of the export was excess submarine-building capacity.

This leads to the 1993 export to China of four Kilo submarines. The bird’s-eye view of deepening Sino-Russian partnership, presented earlier, masks the difficulties that characterized the relationship from 1992 to 1993—the period in which the Kilo export agreement was reached. During this time, Yeltsin and the Chinese government directed at one another a series of diplomatic snubs. Meanwhile, Russian Foreign Minister Andrei Kozyrev tried to push Russia toward alignment with the West rather than China (Wilson 2004, 24-26). A breakthrough in the Sino-Russian relationship was not on clear display until September 1994—\textit{after} the Kilo deal

\textsuperscript{119} To reiterate Betts’ (1980, 99) quote cited in chapter 1, “grants may buy influence because beggars can’t be choosers, but with cash sales the debt is usually paid with the invoice….”
was concluded—when Chinese leader Jiang Zemin and Yeltsin held a summit culminating in a statement of “constructive partnership” (27).

In addition, as Jeanne Wilson (2004, 94) notes, “at the same time that…Kozyrev was seeking to distance Russia from China, the members of the Russian military were making plans to confirm Russia’s commitment to the fulfillment of military-technical agreements negotiated by the Gorbachev leadership.” The 1993 Kilo sale appears to have been an outgrowth of this effort, yet it is implausible that the military’s fealty to the foreign policy of a defunct government explains their salesmanship. A more convincing explanation can be found in the confluence of military and industrial interests in Yeltsin’s administration from 1992 to 1996.

As Tor Bukkvoll (2002, 34-35) explains, there was a powerful military-industrial lobby within the Russian government during those years. A group of officials and academics with close ties to the defense industry rose to senior levels of the government bureaucracy (e.g., as Deputy Minister for Foreign Trade), and exchanged political support for Yeltsin’s economic reforms in return for defense sector subsidies. Moreover, military-industrial interests also formed an explicit lobbying group, the League for the Support of Military Industry, to harness the power of defense industry workers’ votes (34). This lobby declined in relative stature with the rise of the oil and gas lobby beginning in 1993, but this was accompanied by a simultaneous shift in arms-export policy control from the bureaucracy to Yeltsin’s administration itself (35). The responsible officials, Aleksandr Kotelkin and Boris Kuzyk, were staunch export advocates, and foreign sales duly increased through 1996 (ibid.). From 1992 onward, in short, defense industry interests held powerful sway over arms export policy—whether through bureaucratic influence, democratic pressure, or direct control over the policy itself.

120 See also Sergounin and Subbotin (1999, 23-24) on logrolling and lobbying by military-industrial interests.

121 Sergounin and Subbotin (1999, 22) note that competition from the energy sector added another incentive for the defense industry to seek exports—the desire to prove its worth as a contributor to the economy.
The 1993 export of *Kilo* submarines to China is therefore best understood as the result of excess shipbuilding capacity. Yeltsin’s own public statements support the excess capacity explanation for warship exports, including the strategically puzzling sale of *Kilos* and *Sovremennys* to China. *Izvestiya* (1992) reports a Yeltsin comment that “the weapons trade is essential for us to obtain the foreign currency which we urgently need to keep the defense industry afloat” (cited in Sergounin and Subbotin 1999, 16; emphasis added). This reflects a sectoral rather than a macroeconomic justification for exports.122

Sergounin and Subbotin (1999, 24) provide even more evidence that the permissive arms export policy reflected parochial interests:

The government used the arms trade as a bargaining instrument in its relations with the military-industrial complex. The latter was perceived by the “democratic faction” of the Yeltsin team as a major source of internal threat to democratic reforms in the country and as a potential base for nationalist and pro-communist forces. Providing it with more access to the world arms market could appease and divert it from confrontation with the government. Under pressure from the military-industrial complex, Russia resumed or enhanced military ties with former adversaries or “rogue states” (China, Iran, Iraq and North Korea). Even security concerns stemming from the transfer of advanced technology were overruled in certain cases…. In other words, arms exports directly neutralized threats to Yeltsin’s domestic agenda, overrunning strategic caution in the process.

Against this backdrop the export of two *Sovremenny* destroyers to China in 1996 requires little elaboration. The troubled *Severnaya Verf* shipyard in St. Petersburg—hotbed of anti-Yeltsin political activity—reported in March 1996 that 60 percent of its workers were on “temporary” leave, and the rest largely engaged in the manufacture of furniture and steel sinks (Katz 1996). The subsequent sale of the destroyers, agreed to in December 1996, was a clear boon to the

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122 Blank (2007, 14) offers an additional reason why Yeltsin may have supported unconstrained arms exports: “it is well-known that, for both Presidents Boris Yeltsin and Vladimir Putin, the arms sales organization served as a slush fund by means of which unaccountable funds went straight to the President for unspecified political purposes.”
ailing shipyard (Wilson 2004, 96). Excess capacity again led to warship exports, eliminating a political threat to Yeltsin’s agenda of reforms. As Sergounin and Subbotin relate (1999, 19), “in early 1995 the Russian Defense Industry Workers’ Union urged its members to prepare for action aimed at forcing the resignation of the government and the president” over back pay, low wages, and underfunding of defense conversion efforts. This caused Yeltsin considerable concern in advance of elections for parliament and the presidency in 1995 and 1996. The sale of Sovremenny destroyers helped neutralize the political threat posed by disaffected Severnaya Verf shipyard workers and managers.

In sum, Russia’s perplexing warship exports to China in the 1990s are best explained by excess capacity in the naval shipbuilding industry. Due to the lack of state orders, shipyards were vulnerable to outright collapse in the wake of Gorbachev-era and post-Soviet budget cuts, especially the one-two punch of successive 60 percent reductions in 1989 and 1992. The lack of meaningful exports constraints was related to the need to appease both political elites and democratically empowered warship industry employees. The failure of shipyards like like Krasnoye Sormovo and Severnaya Verf would generate elite opposition to Yeltsin’s program of economic and democratic reform, as well as electoral repercussions from legions of unemployed shipyard workers and managers.

Yeltsin did not export warships to allies or states sharing enemies with Russia. Moreover, Moscow was ill positioned to demand policy concessions or other quid pro quos in return for warships, since it was patently obvious that the Russian warship industry needed foreign investment to survive. Indeed, Russian news reports in January 1992 plaintively observed that “the Krasnoye Sormovo works in Nizhniy Novgorod is looking for buyers for diesel submarines” (Russia's Radio 1992). Similarly, Russia’s ambassador in China stated, “China has been and I
hope it will be our partner. Our defense industry needs some impulse” (Sergounin and Subbotin 1999, 17). Last but not least, the Kilo exports reportedly “prevented the financial collapse of the factory and a strike in the Krasnoye Sormovo plant” (20). This added a specific motivation for the Kilo export as a means of preserving excess shipbuilding capacity. 60 percent unemployment rates at the Severnaya Verf shipyard provide a similar incentive for the Sovremenny sales.

As discussed earlier, some analysts have speculated that the Sino-Russian rapprochement might represent nascent external balancing behavior—perhaps against the United States. However, the fraught relations between Russia and China in 1992 and 1993, combined with the Foreign Ministry’s move to distance Russia from China in favor of greater integration with the West, argue against the external balancing hypothesis. Moreover, even when Russia and China signed a treaty of friendship in 2001, the military component of the new alliance was “weak and vaguely worded” (Donaldson and Donaldson 2003, 717). Whatever the state of bilateral relations, it is implausible that Russia in 1993 would expect China to rally to its support in a conflict with the United States or another rival. External balancing does not provide a credible counterweight to the excess capacity hypothesis in the case of Russian warship exports to China. Russia could benefit strategically from reduced tensions with China, but—again—actively arming China incurred military risks with no clear security benefits.

As noted above, it strains credulity to suggest that Russia could have expected to gain strategic influence over a warship customer at the same time that it loudly proclaimed its desperate need for the resulting revenues. If anything, foreign warship customers enjoyed substantial leverage over Russia. The single plausible exception is Lithuania. The former Soviet republic purchased in 1992 two small surface warships, plus a survey ship for ad hoc use in a coastal patrol role. Moscow spent much of the 1990s attempting to consolidate its influence over
its former republics to forestall NATO encroachment in its “near abroad.” Exports to Lithuania may therefore have been intended to keep Lithuania in Moscow’s court. The warships exported to Lithuania were secondhand Soviet-vintage units, and therefore do not provide a great deal of support for the excess capacity argument (though repair parts and supplies could provide a revenue stream for elements of the shipbuilding industry). In any case, if this was indeed an attempt to prevent defection, it was unsuccessful - Lithuania joined NATO in 2004.

Conclusion

This chapter examines Soviet and Russian warship exports over a span of 50 years, building upon the statistical analysis in chapter 2. It lends additional support to the argument that states export warships in response to excess shipbuilding capacity. The detailed qualitative analysis presented here complements the broad, probabilistic statistical findings by examining individual exports—validating the plausibility of the theorized causal logic, and revealing that excess capacity can explain warship exports that seem inexplicable from a strategic perspective.

The case study traced the intertwined trajectories of Soviet and Russian strategy, political economy, and naval shipbuilding capacity. It demonstrated that there was little or no excess shipbuilding capacity before 1989, and therefore—as the excess capacity hypothesis would predict—no strategically puzzling exports. Indeed, warship exports under Stalin, Khrushchev, Brezhnev, Andropov, Chernenko, and during the early Gorbachev years can be readily explained by Soviet balancing strategies and the Cold War contest for international influence. Later, however, Gorbachev’s massive budget cuts and the subsequent collapse of the Soviet Union created titanic excess capacity—with as much as 90 percent of the warship industry left idle. As
a direct result, the Soviet Union and Russia exported warships to strategically baffling recipients: Iran and especially rising challenger China.

Moreover, the excess capacity theory’s political accountability mechanisms are evident in the logrolling behavior that foiled Khrushchev’s attempted naval reductions. Consistent with the theory presented in chapter 1, the warship industry and its political beneficiaries mobilized to protect the shipbuilding capacity that Khrushchev wanted to dismantle. In effect, they were able to preclude the emergence of excess capacity by reversing Khrushchev’s budget cuts and then applying political pressure that caused Khrushchev to increase the defense budget. The scale of the excess capacity that later emerged under Gorbachev and Yeltsin was directly affected by the activism of defense industry elites under Khrushchev. The counterintuitive exports to China and Iran may therefore owe as much to the political machinations of the 1950s and 1960s as to the budget cuts of the 1980s and 1990s—lending additional credibility to the excess capacity theory’s supporting regime-type hypothesis.

The dying Soviet Union’s 1991 export of Kilo submarines to Iran reveals a growing sectoral motivation to export—propelled by Gorbachev’s defense budget cuts and enabled by his economic and political reforms. There is compelling evidence that the deal had its roots in opportunistic action by a warship industry with not just excess capacity, but an actual excess inventory of completed ships. Moreover, Gorbachev’s economy-driven rapprochement with China—a case of the means shaping the ends—set the stage for Russian warship exports to a longtime enemy and rising world power.

The export of Kilo submarines and Sovremenny destroyers to China in 1993 and 1996 represents the victory of excess capacity over strategy. During that period, there was no clear evidence of Sino-Russian balancing behavior, nor could warship exports plausibly generate
Russian policy leverage over China. Instead, Russian leaders openly praised arms exports to
China in terms of their economic benefits to the defense industry. Russia’s export of warships to
longtime enemy China kept a submarine shipyard from going under, and helped a destroyer
shipyard alleviate a 60 percent “temporary layoff” rate and the ignominy of producing kitchen
furniture. By doing so, it forestalled elite and electorate political pressure that had the potential to
derail Boris Yeltsin’s central agenda of capitalist and democratic reform.

The cost of protecting Yeltsin’s political objectives, however, was the arming of an
increasingly powerful and historically hostile neighbor—and the preservation for eternity (so it
would seem) of an anachronistic defense industry, which even by 2007 was reported to be
operating at only 20 to 30 percent capacity (Blank 2007, 20).

Russia’s warship exports to China present a particularly stark historical example of the
military-industrial tail wagging the dog. During the Cold War, the Soviet Union maintained an
enormous warship industry at an exorbitant and ultimately unsustainable cost to its economy. Its
extravagant size, purported strategic value, and continental scope gave rise to an equally
expansive set of political actors, ranging from Politburo power players to shipyard laborers
newly possessed of a vote and a lobby. These actors applied political pressure on Soviet and
Russian leaders, first thwarting attempts to rein in the naval shipbuilding industry, and then
inspiring full-throated official support for the export of advanced warships to a longtime enemy
without even the flimsiest of strategic rationales.

In short, a sector of the economy designed to support national security ended up
subverting national security—due to the political implications of excess capacity in the naval
shipbuilding industry.
CHAPTER 4: BRITISH, GERMAN, CHINESE, AND JAPANESE WARSHIP EXPORTS

The evidence presented in the preceding chapters provides both quantitative and qualitative support for the excess capacity theory of warship exports. The statistical analysis in chapter 2 shows that states are more likely to export when budget cuts threaten their naval industries, and the detailed study of Soviet and Russian warship exports in chapter 3 reveals that Moscow exported warships to strategically puzzling customers such as China and Iran when excess capacity appeared—and abstained from problematic exports when it did not.

There remain reasons to ask whether this evidence is persuasive. Perhaps the statistical association between budget cuts and warship exports is spurious, and the Soviet-Russian case study’s support for the excess capacity theory is merely coincidence. Investigation of other states’ warship exports might find no connection to excess naval shipbuilding capacity, or could discover that the relationship is real but follows an unanticipated causal path. Moreover, the implosion of a superpower is a rare event. What if the Russian case involved levels of excess capacity so extreme that its findings have no practical implications for most other states? And what about states with substantial warship industries that have not engaged in strategically puzzling exports? It is important to examine such cases to determine whether the lack of puzzling exports corresponds to an absence of excess capacity, or, on the other hand, to a different and perhaps unforeseen variable that acts as a constraint on warship exports.

This chapter addresses these concerns by analyzing the warship exports of countries that varied widely in their export behavior. The four short case studies presented here include both within-case and between-case variation on the dependent and key explanatory variables, strengthening the qualitative support for the excess capacity theory of warship exports. The
analysis of four geographically, culturally, and politically distinctive states helps allay the concern that the Soviet/Russian case might be unique. I examine capitalist democracies Britain, Germany, and Japan alongside authoritarian, communist China. I study Britain—a former global power in decline—alongside states with constitutionally constrained military-strategic interests (Germany and Japan) and a burgeoning military-economic power (China). The cases include states from both the winning and losing sides of World War Two, with Germany and Japan having undergone postwar occupation and the reconstruction of their defense industries. They include states that engaged in strategically puzzling exports (Britain, Germany and China) and a state that has not (Japan). In short, these four cases provide significant variation not only on the explicitly theorized variables, but also on numerous other political and historical factors to improve the robustness of the qualitative conclusions.

To preview the chapter’s findings, the first two cases provide unambiguous support for the excess capacity theory of warship exports. The British study asks why a state that once ruled the waves would expedite its decline by selling warships to avowed rival Argentina—concluding that the preservation of shipyard jobs trumped strategic caution. The German case asks why a country with a policy of restraint in arms sales—and a strict injunction against exports to “areas of tension”—would rise to become a top-five arms exporter, let alone sell warships to numerous states embroiled in regional conflicts. The answer, again, is jobs. In both cases, excess capacity placed shipyard jobs at risk, creating a political problem most easily solved through exports.

The Chinese case is more nuanced. It asks why Deng Xiaoping’s China—in contrast to Mao’s—would begin demanding cash payment for warships, subordinating foreign policy

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1 This chapter examines the warship exports of West Germany and, after the Cold War, reunified Germany. For brevity, both are referred to as “Germany” throughout the chapter. I do not analyze East German warship exports.
leverage to economic considerations.\(^2\) As expected, the answer is excess capacity. Deng’s defense spending cuts forced China’s arms industry to attempt conversion to civilian production in the face of declining military orders. When conversion proved untenable amid China’s ongoing market reforms, the industry sought and received government permission to enter the export business to finance its own survival. After 1978, China’s arms sales proceeded at industry’s initiative—distinct from foreign policy motivations—and on a largely cash basis, bringing in more money than China spent on its own weapons (Cheung 1988, 38). Indeed, by the late 1980s Chinese arms sales in the developing world exceeded those of leading exporters Britain, Germany or France (Lewis, Di and Litai 1991, 103).

The Japanese case concludes the chapter by pondering the absence of puzzling exports, and indeed, Japan’s low level of warship exports overall. It finds, as expected, a corresponding lack of excess naval shipbuilding capacity. However, it also reveals that Japan may be transforming from a dog that did not bark into a “growling dog.”\(^3\) Against the backdrop of declining defense budgets, increasingly expensive weapons, and determined defense industry lobbying, in 2011 Japan began backing away from its longstanding principles of arms export restraint. As Japanese national politics become increasingly contentious with the end of Liberal Democratic Party domination (Reed, Scheiner and Thies 2012, 353)—thus, potentially, even more vulnerable to defense industry influence—Japanese warships may begin to proliferate more widely in an increasingly tense Asian security environment.

* * *

The four case studies below follow the methodology established in chapter 3, examining warship exports in light of each state’s evolving strategy, political economy, and naval

\(^2\) As discussed in chapter 1, most analysts conclude that selling arms for money largely negates the prospect of foreign policy leverage. In short, the debt is paid in cash rather than compliance.

\(^3\) I borrow the “growling dog” term from Kroenig (2010, 130).
The shipbuilding industry over a half-century span. Together, they present evidence that strategically puzzling warship exports result from excess naval shipbuilding capacity, and that states conform to strategic logic in their export behavior when no excess capacity exists.

I begin by examining the warship exports of the United Kingdom.

**Rue, Britannia: The United Kingdom’s Warship Exports, 1950-2000**

*When Britain first, at Heaven's command / Arose from out the azure main;  
This was the charter of the land, and guardian angels sang this strain:  
"Rule, Britannia! Rule the waves!"*

- Traditional

*We don't live in a perfect world, unfortunately.*

- Dick Purvis, director of a British defense manufacturers’ trade group, after the Falklands war

Britain’s victory over the combined French and Spanish fleets off Trafalgar on October 21, 1805 ushered in a century of British maritime supremacy. The Royal Navy remained undisputed ruler of the waves until other rising powers in Europe and elsewhere began producing modern fleets at the turn of the twentieth century (Kennedy 1976, 123-238). During this period, Britain “had so developed its maritime strength…that it [was] extremely difficult for other, lesser states to undertake maritime operations or trade without at least its tacit consent” (9). Over the next 50 years, however, two world wars would end in an “illusory victory” for the United Kingdom: the defeat of Britain’s enemies was accompanied by “a collapse of her independent national power” (322-323).

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4 Frankel (1982).
Yet, British statesmen did not act as if their country’s new, lower position in the global pecking order was a foregone conclusion. Instead, the decades after World War Two found British leaders caught between economic and military realities on one hand, and the entrenched strategic habits of a global power on the other. To quote Kennedy (1976, 326) once again, “there were no considered long-term assessments of Britain’s place in the world…and of the changing global military balance.” As a result, the United Kingdom strove with increasing difficulty to maintain control over far-flung territories ranging from Malaysia to the Falklands. The strain was compounded by the declining strength of the Royal Navy. Why, then, would Britain exacerbate its relative naval decline and risk its sprawling global interests by exporting warships—especially to states such as Argentina, which posed explicit threats to British territory?

Excess capacity in the British naval shipbuilding industry provides the most convincing answer to this puzzle. Before World War Two, Britain boasted the world’s leading navy, with a shipbuilding industry to match. At war’s end, however, the Royal Navy “fought and lost a budgetary war and was dramatically whittled down in consequence” (Todd and Lindberg 1996, 15). Combined with the dramatic downturn in European civil shipbuilding that followed the rise of Asian builders in the 1970s, naval spending cuts left British shipyards idle—threatening to generate significant job losses (Wulf 1993, 155). Early postwar warship exports had a patina of strategic logic: policymakers argued that the exports were “a gateway to the continued exercise of political influence” by a weakened state (Phythian 2000, 2). Yet, as British Defense Secretary Denis Healy remarked in 1966, “[Britain] must also take what practical steps [it] can to ensure that this country does not fail to secure its rightful share of [the] valuable commercial [arms] market” (quoted in ibid., 1). It was not long before the slippery slope of economic opportunism led to shipyard jobs—not strategy—forming the main justification for exports.
Background: Managing Decline

After World War Two, Britain faced a strategic dilemma posed by the juxtaposition of expansive global obligations and declining military and economic means. On one hand, it habitually acted as if it were still a coequal member of the wartime “Big Three” along with the superpowers, the United States and Soviet Union (Kennedy 1976, 324). On the other, it did not have the economic wherewithal to afford a superpower navy. As a result, according to a 1965 UK Defense White Paper, “the present Government has inherited defense forces which are seriously overstretched…there has been no real attempt to match political commitments to military resources” (quoted in W. S. Johnson 1973, 12). British leaders were not oblivious to this quandary, and took steps to lessen the strategic burden. For example, Britain departed from India in 1947 (Kennedy 1976, 325), and Labour Party governments between 1966 and 1974 withdrew other British forces from “east of the Suez” (Hanrieder and Auton 1980, 212). Yet, subsequent Conservative governments re-emphasized global commitments, perhaps reflecting “the psychological unwillingness of Englishmen [sic] to abandon a global role that for so long had been a source of pride and prestige” (214).

Warship exports offered a tempting means of addressing Britain’s strategic predicament. They could serve as a “useful foreign policy lever” (Willett 1996, 11) while simultaneously subsidizing Britain’s own naval procurement through economies of scale (Phythian 2000, 2). They could also serve as a tool of external balancing against the Soviet bloc or other regional adversaries. And warship exports could substitute for Royal Navy presence in former imperial territories, such as India, which leaders still felt obliged to defend (W. S. Johnson 1973, 14).

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5 As noted in chapter 3, this inspired the Soviet Union to seek foreign policy leverage through warship exports in former British protectorates in the Middle East and Africa.
The British government took a proactive stance on warship exports in response to these strategic incentives. As early as 1965, the British administration directed the Ministry of Defense to ensure that its own requirements were compatible with those of the export market (Phythian 2000, 1). Later, in the 1970s, the government engaged directly in salesmanship, showcasing British naval wares to international customers at Royal Navy Equipment Exhibitions. Over time it developed a permissive bias on arms exports that led one analyst to argue that “[the] lack of public accountability and transparency in the arms sales decisions making process, the drive for new arms markets and the general laissez-faire approach of the government combined to produce an unrestrained arms export system which encouraged abuse and corruption within the system” (Willett 1996, 13). Though warship exports purportedly supported British strategy, the strategic constraints on exports appeared to be eroding.

What encouraged this laissez-faire approach? Willett (1996, 15-16) argues that “the drive for export orders was closely linked to the fate of the UK’s defense industrial base...at the highest political level ministers became active in arms export promotion, and arms sales support institutions were charged with the mission of maximizing arms sales...export guidelines [became] only as effective as the government of the day intend[ed] them to be.” In other words, excess shipbuilding capacity caused the government to seek foreign outlets for the warship industry’s productive potential, and the export imperative made export controls dependent on the needs of industry rather than vice versa.

A brief consideration of British shipbuilding lends additional support to the excess capacity argument. The British warship industry in the twentieth century included both private and public-sector producers, in addition to government shipyards and design facilities (Ball 1983; Todd and Lindberg 1996, 77). Excess capacity emerged almost immediately after World
War Two as naval construction was cut back in favor of social programs and investment in the growing Royal Air Force (Humble 1986, 137-138). As an indirect measure of reduced demand, it is noteworthy that between 1953 and 1962, the Royal Navy scrapped or sold 830 warships, while the British warship industry built only 370 new ones (Humble 1986, 179). Moreover, the new warships were generally smaller than the old ones, leaving substantial productive capital idle. A full 75 percent of the ships disposed of by the navy were medium types such as destroyers or frigates, while only 16 percent of the new ships were at least that size (180).

For a time, British leaders could turn a blind eye to the hardships of the warship industry. Through the 1950s, the civil shipbuilding sector was doing relatively well, offering alternative employment for shipyard laborers (McGoldrick 1983, 197). By the early 1960s, however, demand for British commercial ships began to decline. And in the 1970s, a Europe-wide commercial shipbuilding crisis struck as cheaper Asian-built ships flooded the market (Wulf 1993, 155). Civil shipyards began to seek military business, exacerbating the already-significant excess capacity problem. This worried politicians, since sectoral job losses were a high-visibility problem amid efforts to boost a national economy decimated by World War Two. An “obsession with full employment regardless of efficient manning levels” arose, as the traditional “dockyard matey” was transformed “into a privilege-conscious ‘civil servant,’ whose alienation spelled immobility for the Fleet” (Humble 1986, 162). Industry had achieved the upper hand.

Labour Prime Minister Harold Wilson’s experience with the Polaris missile submarine program provides additional support for this claim, even as it exacerbated excess capacity in the warship industry. Wilson’s Conservative predecessor, Harold Macmillan, negotiated a deal with US President John F. Kennedy to purchase submarine-launched nuclear ballistic missiles—the Polaris system—to be deployed in British-built nuclear submarines (Haddon 2007, 28). Like
Khrushchev and Eisenhower, Macmillan saw nuclear weapons as a means of reducing the need for conventional forces, and consequently the overall defense burden. Wilson, in contrast, entered office in 1964 on an anti-Polaris platform, pledging in a pre-election interview that “Britain will cease this pretense of being a nuclear power” (Associated Press 1965). Yet, “within six weeks of taking office Wilson and his colleagues became champions of the Polaris program they had scorned in opposition” (Neustadt 1985, 167).

Excess capacity—or, more accurately, the anticipation of excess capacity—explains why. Members of parliament concerned about jobs—together with defense officials who favored Polaris—inspired Wilson’s turnabout. Wilson’s administration proceeded with a naval procurement program it had opposed in order to avoid putting shipyards out of work.

Ironically, this tactical move to pacify industry advocates aggravated the overall excess capacity problem since it drained naval funds that could otherwise have been applied to conventional (non-nuclear) warship construction (Humble 1986, 182, 191). Because nuclear submarines are far more expensive to build than most conventional warships, the Polaris funds could have supported many more shipyard jobs had the program been cancelled. In fact, the continued emphasis on Polaris over conventional warships contributed directly to what Humble (1986, 193) calls the “long bleed” of British naval shipbuilding from 1966 to 1982. During the 1970s the Royal Navy “steadily reduced in strength,” with an increasing proportion of its dwindling funds allocated to Polaris submarine construction (Koburger 1983, 18).

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6 On Labour’s historical anti-nuclear stance, see also Gill (2011, 251).
7 On the influence of the Ministry of Defense in the Polaris case, see Neustadt (1985, 172). On the importance of the jobs factor, see Humble (1986, 182). Based on archival research, some historians argue that Wilson never intended to cancel Polaris—contending that his campaign promises were empty, designed to capture the votes of Labour’s substantial anti-nuclear faction (Haddon 2007, 28). Whatever the timing of his decision, the official Labour line on the post-election turnabout was the necessity to “[keep] on with weapons whose production had passed a ‘point of no return’” (Neustadt 1985, 167)—implying that the political costs of cancellation outweighed the strategic benefits.
8 Notably, these years bracket the sale of Type 42 destroyers to Argentina in 1970.
Figure 4.1 illustrates Britain’s excess capacity problem by displaying British defense spending from 1965 through 1975—bracketing the year, 1970, in which Britain agreed to export Type 42 destroyers to Argentina. British defense spending was essentially static in the years leading up to the sale. This meant, at a minimum, that the excess capacity problem was not getting any better: without spending increases, Britain could not afford to increase its naval procurement. What is more, additional pressure on the budget arose from the factors discussed above: the increased budgetary emphasis on the Royal Air Force at the navy’s expense; an emphasis on Polaris within the navy’s own budget; and the burgeoning civil shipbuilding crisis. Taken together, these factors led to an increase in excess capacity through 1970.

![Figure 4.1. United Kingdom defense expenditures, 1965-1975](source: Correlates of War National Military Capabilities dataset (Ghosh and Bennett 2003)).
The naval and civil shipbuilding train wreck of the 1970s led to the temporary nationalization of shipbuilding. The state-owned corporation British Shipbuilders was “set up by the Labour Government in 1977 from a series of companies brought together and nationalized in an effort to slow down the fall of a declining industrial sector” (Taylor 1992, 86). The government of the day was clearly determined to avoid the hemorrhage of jobs from the shipbuilding sector. Yet, despite a trend of increased defense spending in the 1980s, naval funds remained insufficient to subsidize the warship industry through increased procurement. Margaret Thatcher’s Conservative government re-privatized shipbuilding based on a commitment to free-market economics, retaining the laissez-faire arms transfer control approach so conducive to exports. Indeed, “laissez-faire” may be too generous: by the 1990s, warship exports to states outside the oil-rich Middle East often involved 100 percent trade offsets—underwriting Britain’s shipyards at no net gain to the state (Willett 1996, 20).

*Explaining British Warship Exports, 1950-2000: High Excess Capacity*

Excess capacity in the British warship industry steadily increased from the 1950s onward. According to UK Ministry of Defense statistics, the proportion of defense production for export rose to nearly 40 percent by the mid-1990s (Phythian 2000, 31). Moreover, Willett (1996, 17) estimates that 100,000 British jobs were reliant on arms exports by that time. According to the main hypothesis, this should lead to exports that are difficult to explain in strategic terms.

Table 4.1 presents a yearly typology of British warship export recipients, distinguishing between allies, states sharing a common enemy with the United Kingdom, and non-aligned

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10 On the nationalization and subsequent privatization of British shipbuilding, see McKinlay and Taylor (1994, 294).
states. The first two columns facilitate an assessment of the external balancing hypothesis, and the “non-aligned” column identifies states requiring more detailed analysis to discriminate between the excess capacity and foreign policy leverage hypotheses. The rest of this section surveys the qualitative evidence summarized in the table, with a focus on the export of Type 42 warships to Argentina in 1970.

\[\text{11} \quad \text{Alliance data is drawn from the Correlates of War dataset (Gibler and Sarkees 2002), and includes defense pacts, neutrality and non-aggression pacts, and ententes. To ensure a robust test of the main hypothesis relative to the external balancing hypothesis (i.e., to err in favor of the latter), states are coded as sharing enemies based on either (or both) of Colaresi et al. (2007) or Klein et al. (2006).}\]
<table>
<thead>
<tr>
<th>Decade</th>
<th>Allies</th>
<th>Shared Enemies</th>
<th>Non-aligned</th>
</tr>
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<tbody>
<tr>
<td>1950s</td>
<td>Australia, Belgium, Canada, Denmark, France, Italy, Netherlands, New Zealand, Norway, Pakistan, Portugal, Turkey, West Germany</td>
<td>Japan, Yugoslavia</td>
<td>Argentina, Brazil, Chile, Ecuador, Egypt, Ghana, India, Indonesia, Israel, Myanmar, Peru, South Africa, Sri Lanka, Uruguay, Yugoslavia</td>
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<tr>
<td>1960s</td>
<td>Australia, Canada, Denmark, France, Iran, Libya, Malaysia, Netherlands, New Zealand, Pakistan, Portugal, Thailand, United States, West Germany</td>
<td>Brazil, Chile</td>
<td>Argentina, Finland, Ghana, India, Israel, Kenya, Nigeria, Peru, Singapore, South Africa, Yugoslavia</td>
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<tr>
<td>1970s</td>
<td>Australia, Denmark, Iran, New Zealand</td>
<td>Brazil, Israel</td>
<td>Argentina, Bangladesh, Chile, Egypt, India, Ireland, Kenya, Malaysia, Mexico, Nigeria, Oman, Qatar, Singapore, Tunisia, United Arab Emirates, Uruguay, Venezuela</td>
</tr>
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</table>
Table 4.1 (continued). Recipients of British Warships, 1950-2000

<table>
<thead>
<tr>
<th>Decade</th>
<th>Recipients</th>
<th>Recipients</th>
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</tr>
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<tbody>
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<td>1980s</td>
<td>Denmark</td>
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<td>United States</td>
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<tr>
<td>1990s</td>
<td>Canada</td>
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<td></td>
<td>Greece</td>
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</table>

Table 4.1 shows that British exports to non-aligned states outnumbered exports to allies and enemies-of-enemies in almost every decade of the postwar era. Of course, this does not in itself provide conclusive evidence that excess capacity played a role. As noted earlier, Britain had far-flung strategic interests, and sought to use arms exports rather than an unaffordable military buildup as a means of maintaining international leverage. Decolonization and other Cold War dynamics spurred foreign demand for warships, and British leaders rationalized that exports
to non-aligned countries around the world would enhance the United Kingdom’s strategic influence—particularly given the Soviet Union’s competing export drive (Phythian 2000, 3, 10).

Despite the initial plausibility of the foreign policy leverage argument, a closer look at the historical record shows that excess naval shipbuilding capacity is a more convincing explanation. Excess capacity increased steadily in the decades following World War Two, while employment opportunities in the commercial ship industry declined. Correspondingly, export barriers progressively lowered. In 1955, for example—near the beginning of the period under analysis—shipyard workers could shift over to the booming civil shipbuilding industry when naval orders lagged. Consequently, a 1955 UK White Paper titled *Export of Surplus War Material* noted the economic value of arms exports, but deemed them permissible only if they provided clear strategic benefits (Phythian 2000, 3-4). As time went on, however, the growing troubles of the warship industry began to trump strategic logic—allowing Britain’s customers to apply political leverage.

Submarine exports to Chile in the 1970s provide an example. Even as the Chilean secret police tortured and murdered British citizens, the United Kingdom delivered two submarines—according to a member of parliament—“so as not to affect Britain’s reputation as a dependable arms supplier” (Phythian 2000, 110). Chile felt free to do as it pleased without risking stoppage of arms deliveries as a consequence—in fact, Chile did not even keep up payments on the submarines (ibid.). Warship exports to Malaysia in the 1990s provide further evidence. Inquiries by suspicious officials revealed that foreign aid was being used as a “sweetener” to induce various states to buy British arms (Chaudhary and Beavis 1994). As just one example, in 1998 the United Kingdom financed a £234 million dam in Malaysia in return for a secret commitment

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12 It is noteworthy, however, that the strategic considerations mentioned in the white paper included the prevention of Soviet penetration of arms export markets (Phythian 2000, 3-4).
to purchase £1 billion worth of military equipment, including two warships.\textsuperscript{13} The aid was intended for poor nations, but was switched to wealthier Malaysia to influence arms procurement decisions. Britain then set up a clandestine government office to work out the details of the deal (Hencke, “MoD Admits Secret Arms Office Exists” 1994). In effect, Britain had to bribe Malaysia to buy warships—rather than using warships as leverage for some other policy goal.\textsuperscript{14}

By the 1990s, excess capacity led to exports that were both strategically shaky and economically counterproductive. With international demand tamped down by the end of the Cold War, prospective customers had Britain over a barrel. Some desperate companies accepted bananas, vodka, and spiral staircases in lieu of cash to close sales; and in one case, had to buy back aircraft previously exported in the 1960s as a condition of a new sale (Phythian 2000, 26).

What explains these nonstrategic—not to say bizarre—export conditions? As Phythian (2000, 29) writes, “the preferred way of justifying some of Britain’s more problematic arms sales relationships has been through the invocation of the number of jobs dependent on arms export success.” Politicians have deployed extremely tenuous logic to link the apples of strategy to the oranges of labor economics. In a 1997 parliamentary debate, for example, Conservative MP Olga Maitland argued that “[Britain has] a very clear policy on arms sales abroad: they are for defense and for friendly nations. We will not sell to a country that will use arms for an improper purpose.... Such a policy would kill jobs—and that would be on Labour party’s conscience” (quoted in ibid., 29). Similarly, in an inquiry into arms sales to Iraq prior to the 1991 Gulf War,

\textsuperscript{13} Moreover, as the Guardian reports, “the [secret] memorandum of understanding...reveals that the Government was prepared to set up cheap loans for the Malaysians to subsidize their purchase of British defense exports. The Government would pay the difference between the banks' commercial rates and the concessionary rate it was offering, involving potential subsidies worth tens of millions of pounds” (Hencke, “Thatcher's Secret Arms Deal” 1994).

\textsuperscript{14} Adding insult to injury, Malaysia at one point threatened to renege on its commitment to buy arms—after receiving the aid money (Macaskill 1994). Moreover, promised Malaysian orders for additional submarines never materialized (Hencke, “Thatcher's Secret Arms Deal” 1994).
Conservative politician Geoffrey Howe stated that “the question was not ‘shall the Iraqis or the Iranians get this or that?’ but rather ‘Shall we or shall we not stop British factories and workers from having the opportunity to supply?’” (30).

Thus, throughout the latter half of the twentieth century, growing excess capacity led Britain to increasingly disregard strategic concerns in favor of preserving shipyard jobs. And nothing reveals how political-economy pressures trumped strategic concerns better than Britain’s most disastrous export: the sale of destroyers to Argentina, which fought against British forces in the Falklands war.

*Excess Capacity Leads to Strategic Disaster: Britain’s Exports to Argentina*

The export of the Type 42 destroyers that fought against British forces in the Falklands stands as perhaps the clearest case of Britain putting shipyard jobs before its own defense. A brief review of British-Argentine relations and warship exports since World War Two builds the case that the pressure of excess capacity trumped strategic restraint.

The sovereignty of the Falkland Islands has been a bone of international contention since Spain, Portugal, and Britain staked rival claims in the sixteenth century. As a self-proclaimed heir to the Spanish empire, Argentina regularly contests Britain’s assertion of dominion (White 2012). Britain has traditionally responded with vigor. Remarkably, even during the depths of World War Two—with national survival hanging by a thread—Britain committed scarce funds to Operation Tabarin: the deployment of naval forces to South Atlantic and Antarctic in 1943-1945 to contest Argentine “encroachment” (Dodds 1994, 279). Later, Juan Perón’s emphasis on Argentine sovereignty over the Falklands increased tensions yet further (274). In 1951, Winston Churchill ordered British infantry to the islands in response to Perón’s deployment of six ships in
the region (281). And in 1952, Argentine forces fired on British personnel establishing a new base in the Antarctic after Argentine troops occupied the previous British station (ibid.). No one in the defense ministries of either Britain or Argentina should have found it surprising that the Falkland Islands might erupt into further conflict.

Somewhat amazingly, however, Britain soon began selling warships to Argentina—and not just small ones. In 1958, it sold Argentina the aircraft carrier Independencia (formerly Her Majesty’s Ship Warrior), based on Foreign Secretary Selwin Lloyd’s hopeful assessment that the Argentines were “pursuing a less aggressive policy” (quoted in Dodds 1994, 284). Yet at the very same time, the Foreign Office was “convinced that Argentine territorial militarism could derail the [then-ongoing] Antarctic Treaty negotiations” and that Argentina could use that multilateral treaty to press its Falklands claim (285). It would be generous to call Britain’s Argentina policy ambivalent; and it is interesting to speculate that Lloyd’s wishful thinking in advance of the aircraft carrier sale was colored by the benefits accruing to British industry as a result of pre-sale refit of the carrier. In any case, warship sales to Argentina continued in the 1960s, with the United Kingdom refitting six secondhand minesweepers for export (to the direct benefit of shipyard workers) even as tensions continued to simmer (SIPRI 2011).

This leads to the Type 42 destroyer sale. The contract was signed on May 18, 1970, between the Argentine government and Vickers Shipyards of Barrow-in-Furness, United Kingdom (J. Moore 1978, 26). The first ship (the future ARA Hércules) would be built in Britain, and the second (Santisima Trinidad) at Argentina’s Rio Santiago Shipyard in a co-production arrangement. Hércules arrived in Argentina on August 20, 1977, and Santisima Trinidad was commissioned in November 1980 (BBC Summary of World Broadcasts 1981).15

15 The delay in completing Santisima Trinidad was due to sabotage by left-wing guerrillas during construction.
The 1970 export decision is puzzling enough from a strategic perspective, given the preceding decades of Anglo-Argentine tension. Yet, it is the events that occurred between 1970 and the 1977 delivery of *Hércules* that make the sale’s consummation truly startling. In 1975, relations became so strained that the British and Argentine ambassadors were mutually recalled over the Falklands dispute, and in February 1976 the Argentine destroyer ARA *Almirante Storni* fired on the British Royal Research Ship *Shackleton* as it conducted survey operations near the Falklands (Koburger 1983, 10). One wonders what went through the Royal Navy sailors’ minds as they delivered *Hércules* to Argentina the very next year. What is more, only three months after the delivery, Britain sent warships to the South Atlantic to deter Argentina from attempting to take the Falklands by force (Fenton 2008; Koburger 1983, 10).

As this brief narrative shows, Britain’s export of destroyers to Argentina is not only puzzling in the hindsight provided by the 1982 Falklands conflict. Why did Britain deliver *Hércules* even after Argentina threatened a British government ship with destruction in 1977? And why did British shipworkers continue to labor on *Santisima Trinidad* at Rio Santiago even as their leaders sent warships to deter Argentina from invading the Falklands?

The answer lies in jobs and defense industry revenue. As Phythian (2000, 19) writes, “the 1970s were lean years for British arms exporters…[and] Latin America continued to be a valuable market for naval vessels.” Table 4.1 bears this out, with warship exports to Brazil, Chile, Uruguay, and Venezuela in addition to Argentina. Government officials did not apologize for this victory of excess capacity over British security, even after the Falklands war dramatically demonstrated the potential for strategic blowback. Facing criticism in the summer of 1982 over what opposition party leader Michael Foot called the “absolute obscenity” of British warships in the Argentine armada, Defense Secretary John Nott “said Britain has to seek foreign sales
because the demand from its own armed services is not adequate to support the nation's extensive defense industry” (Frankel 1982, emphasis added). Even more ironically, Nott was speaking at an arms exposition just two months after the war, at which the British delegation stressed the excellent performance of British weapons in the Falklands “in hopes of boosting Britain's share of the world arms market as a lucrative spinoff of the war” (ibid.).

In any case, it did not take long to return to business as usual after the Falklands conflict. In September 1982, three months after the war, the United Kingdom agreed to honor a contract to supply British engines and helicopters—among other equipment—for German-built destroyers destined for Argentina (Phythian 2000, 125-128).

* * *

Excess naval shipbuilding capacity explains Britain’s strategically damaging warship exports to Argentina—and exports to many, if not most of its other non-aligned customers as well. Indeed, government officials’ apparent fatalism regarding warship exports is tangible evidence of analyst Susan Willett’s (1996, 25) conclusion that “substantial vested interests in the defense industrial base…have over time developed a powerful lobbying force able to exert considerable influence over government decisions.” The effects of excess capacity have been so powerful, it would seem, that British political leaders saw the invasion of the Falkland Islands from a British-built ship as simply the cost of doing business.

Exceptions as a Rule: German Warship Exports, 1950-2000

If we weren't interested in selling German armaments to friendly nations, then we could shut down our defense industry...but we want to hold on to the jobs.

- Elke Hoff, Free Democrat Party, 2010

16 Quoted in Der Spiegel (2010).
Defeat in World War Two led to the decimation of Germany’s arms industry. The victorious Allies destroyed production facilities and jailed industry executives, and renowned arms firms such as Krupp vowed to stop manufacturing weapons in the face of international and domestic condemnation of their perceived contribution to German militarism (Brzoska 1983, 111, 167). However, West German disarmament was short lived. In 1955 the new Federal Republic of Germany gained its sovereignty, joined NATO, and with US encouragement began equipping its armed forces to contribute to the defense of central Europe (Hanrieder and Auton 1980, 4). Meanwhile, a combination of conservative fiscal policies and liberal international trade led to industrial resurgence and a West German “economic miracle” (31-33). The international arms trade contributed to this so-called miracle, and by the end of the 1960s West Germany was among the top five arms exporters in the world (SIPRI 2013).17

Germany’s warship exports might seem unsurprising. Arms exports contributed to Germany’s economic recovery and helped strengthen the NATO alliance during the Cold War. Moreover, Germany’s focus on defending its land frontier meant that warship exports did not pose a significant threat to its own military strategic objectives. There is, however, an important twist to the story. Germany’s postwar political culture was shaped by the “lessons” of Wilhelmine and Nazi militarism, and the revelation of relatively unrestrained German arms exports to international “crisis areas” in the 1960s created a major domestic backlash. German weapons were perceived to have exacerbated conflicts between India and Pakistan; Arabs and Israelis; and African states—and to have armed Algerian fighters warring against Germany’s NATO ally, France (Brzoska 1989, 167; Pearson 1986, 525). German weapons were employed

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17 Along with West Germany, the other four top exporters of the 1960s were the USSR, United States, France, and United Kingdom. These states held the top five positions for the entire duration of the Cold War (SIPRI 2013).
on both sides of the 1967 Arab-Israeli War, aggravating both the Arabs and the Israelis and making the arms industry seem like war profiteers (Pearson 1986, 532). In view of public opinion, therefore, the coalition Social Democrat—Free Democrat government elected in 1969 promised to eliminate arms transfers to the developing world (Brzoska 1989, 165-166; Hanrieder and Auton 1989, 19). Once in office, the government banned arms exports to “areas of tension” and allowed exports outside NATO only on a case-by-case basis (Brzoska 1989, 169).

Yet, warship exports outside of NATO not only continued—they increased (SIPRI 2011). What is more, original analysis presented in this section shows that Germany sold warships to a plethora of states involved in ongoing rivalries or militarized disputes, directly contradicting the spirit of the ban on exports to “areas of tension.” In fact, no less than 62 percent of German warship exports from 1970 onward went to states involved in rivalries or disputes.

Germany ranks among the top five exporters. The other four—the USSR, United States, Britain, and France—were either superpowers or aspirants to major power status. Germany was neither, although it did rise to become a top-five economy during this period. So, what explains this mismatch between Germany’s restrictive export policy and its actual export behavior?

The answer lies in the political imperative to protect the shipbuilding sector, especially during the commercial shipbuilding downturn of the 1970s. The unbridled exports of the pre-restriction 1960s created substantial excess capacity in the naval industrial base, generating productive potential far beyond what Germany’s own navy required. While politicians took a tough rhetorical line on export controls, they failed—or more likely, declined—to create sufficiently powerful legal and bureaucratic mechanisms to actually stop problematic exports. They were thereby able to retain the political support of shipyard workers and warship
manufacturers, even as they paid lip service to domestic opponents of the arms trade. As a result, the warship industry was able to run roughshod over the ineffectual arms export controls.

*Background: Erosion of Restraint*¹⁸

Just as in 1919, German disarmament was a leading priority of the postwar victors. The burgeoning Cold War, however, changed the strategic calculus. The most likely path for a Soviet assault on Western Europe lay across the inter-German border; therefore, the rebirth of the West German army became a priority for the US-led alliance (Hanrieder and Auton 1980, 3-4). Germany played a limited naval role within NATO, focused on defensive operations in the North and Baltic Seas (Ehle 1998, 66). Its revitalized warship industry consequently focused on the production of modestly sized frigates, fast attack craft, mine warfare ships, and submarines—which were, coincidentally, attractive commodities on the international market given their relative affordability and simplicity.

Other than strengthening the NATO allies who would assist in combating a Soviet invasion, West Germany seemed to have few if any strategic incentives for exporting warships. Its foreign policy was neither global nor militarized. Indeed, with the exception of German economic affairs and inter-German issues, or Östpolitik, “West Germany sought refuge in the relative anonymity of European community and NATO foreign policy pronouncements on key issues” (Pearson 1986, 542). Arms exports in the 1950s and 1960s therefore appear to have resulted from basic, firm-level commercial motivations rather than state decisions. As Brzoska (1989, 167) argues, the initial lack of any arms export principles in official West German policy stemmed from a simple (if inexplicable) failure to anticipate a resurgent arms industry.

¹⁸ I borrow the term from Brzoska (1989).
As discussed earlier, arms export constraints did emerge in the late 1960s as a result of public furor over controversial exports in Asia, Africa, and the Middle East. The policy of banning exports to “areas of tension” seemed to be affirmed by the 1969 victory of the Social Democrat-Free Democrat coalition (Brzoska 1989, 168). Yet, there was conflict within the government bureaucracy, and it began to erode export constraints almost as soon as they were created. Though the Ministry of Defense wanted even tighter rules, including an outright prohibition on exports outside the NATO alliance, the Foreign Office pushed for the “selective use of arms transfers as a foreign policy instrument” (169). More importantly, officials recognized that by the late 1960s the German warship supply had outstripped state demand (168). German Type 209 submarines and Lürssen-class fast attack craft were sought-after in the developing world (ibid.), and restrictive policies would result in lost jobs. Heavily concentrated in northern Germany (Voß 1992, 131), the warship industry consisted primarily of privately or publicly held firms, with very little state ownership or crossover with civilian shipbuilding to provide a cushion against lost orders (Brzoska 1983, 131; Pearson 1986, 538).

The German government found a compromise solution to this political problem, issuing in 1971 a set of “internal guidelines” that reaffirmed the prohibition of arms exports to “areas of tension” but allowed exports outside NATO on a case-by-case basis (Brzoska 1989, 169). The guidelines, however, contained gray areas—including what kind of equipment constituted weapons per se. The guidelines also generated a clear conflict of interest in that they left it to the Foreign Office—the key government proponent of sales—to define “areas of tension.” Moreover, the guidelines did not have the force of law, giving the warship industry ample incentive and opportunity to lobby for exceptions (169-170). Adding to the tension between

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19 Also, some German states (i.e., regional governments) invested in shipbuilding firms, creating vested interests distinct from (but probably aligned with) the electoral consequences of shipyard fortunes (Pearson 1986, 539).
rhetoric and reality, public sentiment against arms exports—while real and significant—had no focused organization through which to channel opposition to the focused efforts of the arms industry and labor union lobbies, which interacted with the government on a daily basis.

The power of these lobbies was reflected not only in warship exports, but also in the way that the government covertly subsidized those exports. In the 1970s and early 1980s, while government credits were ostensibly prohibited from supporting defense sales, “key exceptions were made…chiefly for ship sales” (Pearson 1986, 536). Similarly, in the early 1990s, a classified German Ministry of Finance memorandum revealed that 10 of 17 government export credit programs, totaling 2.26 billion marks, were for arms exports (Wulf 1996, 78).

In 1982, a conservative government won election to power. Less electorally beholden than the Social and Free Democrats to export restraint proponents, it replaced the injunction against exports to “areas of tension” with a focus on the “vital interests” of West Germany. Notably, however, these vital interests were explicitly limited to “foreign policy, alliance policy and security policy but not economic policy” (Brzoska 1989, 171). Specifically, “jobs in the arms industry do not qualify as such vital interests” (Wulf 1996, 33, emphasis added). Thus, while the conservative government opened the aperture for strategic exports, it placed an even stricter limitation on economic rationales for warship sales. These limitations continued in principle throughout the rest of the twentieth century; indeed, as of 2010, German regulations stipulated that “employment policy should not play a decisive role” in arms export decisions (Der Spiegel 2010). Yet, as the introductory epigraph demonstrated, rhetoric and reality remain at odds. Jobs continue to form a key element of German arms export decisions.
On its face, the history of German arms export constraints implies a straightforward (if counterfactual) pattern of warship exports. Until 1969, there were effectively no constraints. Exports should have been more or less unhindered—as indeed they were—with shipbuilders producing warships for NATO allies and almost any other paying customer that came calling. From 1970 onward, warships should have been exported only to NATO allies except where clear strategic logic dictated external balancing against some third-party adversary, or the need for German policy leverage. There should have been no exports to states in “areas of tension,” nor should jobs have formed an explicit export justification.

Clearly, actual German warship exports did not comport with the official policy line. The preceding discussion noted several reasons why this might be so. There was disagreement within the government on just how tight the export constraints should be, and significant pressure from shipbuilders and labor unions to safeguard revenues and employment. The export restrictions did not have the force of law, and therefore it is logical that actual outcomes would reflect the interplay of political dynamics. The question, then, is: what factor played the most decisive role in German warship export behavior?

This section argues that excess capacity was pivotal. As a qualified proxy for excess capacity, figure 4.2 displays German defense spending from 1970 through 1990—bracketing the years in the mid-1980s during which the most dramatic erosion of export restraint took place. As the figure notes, the increasing expenditures of the 1970s belie the excess capacity that emerged, in part, as a result of the unrestricted warship exports of the 1960s. But the implications of the 1980s defense cuts are clear. They exacerbated the excess capacity problem, contributing to the
most ironically puzzling stage of German exports: jobs-related exceptions to the arms export rule that forbade jobs-related exceptions.

Table 4.2 lays out Germany’s exports from 1950 through 2000. Unsurprisingly, Germany did export to a number of NATO allies. Some of these were engaged in rivalries or militarized disputes, but it is understandable that NATO alliance dynamics might supersede the “areas of tension” injunction—particularly since strengthening NATO was a primary goal of German rearmament in the first place. The “shared enemies” column is entirely empty, which is logical

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NMC data (Ghosn and Bennett 2003).
because Germany did not have any rivals besides East Germany. Any “enemies of enemies” were therefore likely to be NATO allies.

*Table 4.2. Recipients of German warships, 1950-2000*

*Engaged in rivalry or conflict with a third party at time of export*

<table>
<thead>
<tr>
<th>Decade</th>
<th>Allies</th>
<th>Shared Enemies</th>
<th>Non-aligned</th>
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<tr>
<td>1950s</td>
<td>Greece* Norway*</td>
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<td>Indonesia*</td>
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<tr>
<td>1960s</td>
<td>Denmark Greece* Portugal Turkey*</td>
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<td>Argentina* Brazil* Ecuador* India* Israel* Peru* Saudi Arabia* Sweden Tanzania Tunisia</td>
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<tr>
<td>1970s</td>
<td>Denmark France Greece* Turkey*</td>
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<td>Argentina* Bahrain Brazil* Colombia* Ecuador* Ghana* Indonesia Iran* Malaysia* Nigeria* Peru* Philippines Singapore South Africa* Spain* Sweden Thailand* United Arab Emirates Venezuela*</td>
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Table 4.2 (continued). Recipients of German warships, 1950-2000

* Engaged in rivalry or conflict with a third party at time of export

<table>
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<th>1980s</th>
<th>Greece*</th>
<th>Norway*</th>
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<th>Australia</th>
<th>Bahrain</th>
<th>Brazil*</th>
<th>Chile*</th>
<th>Colombia*</th>
<th>India*</th>
<th>Indonesia*</th>
<th>Kuwait*</th>
<th>Malaysia</th>
<th>New Zealand</th>
<th>Oman</th>
<th>Poland</th>
<th>Saudi Arabia*</th>
<th>Singapore*</th>
<th>South Korea*</th>
<th>Taiwan*</th>
<th>Thailand*</th>
<th>United Arab Emirates</th>
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<tr>
<td>1990s</td>
<td>Greece*</td>
<td>Italy</td>
<td>Spain*</td>
<td>Turkey*</td>
<td>United Kingdom*</td>
<td>United States*</td>
<td>Brazil</td>
<td>Cape Verde</td>
<td>Chile*</td>
<td>Colombia*</td>
<td>Estonia</td>
<td>Georgia</td>
<td>Indonesia</td>
<td>Israel*</td>
<td>Latvia</td>
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<td>Malta</td>
<td>South Africa</td>
<td>South Korea*</td>
<td>Tunisia</td>
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</table>
The “non-aligned” column is by far the most heavily populated category, especially from 1970 onward. Moreover, 62 percent of these exports went to states involved in rivalries or militarized disputes—contrary to government promises to eliminate such exports.\footnote{I derive the 62 percent figure from the dataset described in chapter 2. It represents the total number of post-1969 dyad-years in which Germany exported warships to states engaged in rivalries or militarized disputes, as a proportion of Germany’s total warship exports in those years. Table 4.2 lists recipients only once per decade for brevity, and cannot be used to directly reproduce the 62 percent result (which refers to annualized data).}

What explains this discrepancy? There may be some cases in which foreign policy leverage played a role (consistent with the Foreign Ministry’s desires). The clearest examples are exports to Israel. German military aid to Israel has been called a “‘special’ special relationship…involving preference and based on both morality and pragmatism” (Feldman 1985, 122, 138). From 1961 to 1972, Israel received more than 30 percent of all German military exports outside NATO (125-126). The rationale, according to former Minister of Defense Franz Joseph Straus, was that “if…the Federal Republic of Germany can make a modest contribution to keeping the peace in the Middle East…then this goes some way towards reparation in the very sphere in which Germany committed some of her worst crimes” (quoted in ibid., 132). On a more hardheaded note, Germany also “expected [arms sales to influence] Israel to distinguish the new Germany from the old at the time of the Eichmann trial in 1961” (ibid.).

In most other cases, however, it is very likely that strategic motivations were at best a face-saving rationalization for excess-capacity-related exports. For example, warship sales to Saudi Arabia in the 1980s “hint[ed] at the need for secure oil supplies, call[ing] the [export] agreement an ‘expression of [Germany’s] vital interest in the stability of the Gulf region’” (Wulf 1996, 36).\footnote{See also Pearson (1986, 542-543).} Yet, Saudi Arabia was a paying customer, and as Brzoska (1989, 165) argues, “West German arms [were] easily substituted,” and the sales were paid for in cash—leaving little debt, whether monetary or political, to Germany. Even when there seemed to be a clear foreign policy
component to an export—for example, Germany’s “special relationship” with Shah of Iran, a warship recipient, in 1970s—the actual export deals were initiated by industry, not the government (Brzoska 1989, 173).

Some exports contravened not only German guidelines but also United Nations embargoes thanks to industry subterfuge. For example, the 1978 export of a mine countermeasures ship to South Africa was described as an “oil rig supply vessel” (SIPRI 2011). Similarly, the Howaldtswerke shipyard sold submarine plans worth $25 million to South Africa in a plot worthy of a spy novel, with blueprints delivered on microfilm to the South African embassy in Bonn, whence they proceeded by diplomatic courier to Pretoria (Tagliabue 1987).

In short, Germany’s post-1969 warship exports make a powerful case for the excess capacity hypothesis. As described above, the 1950s and 1960s saw excess capacity grow as a result of relatively unconstrained exports. Until 1969, Germany treated warship exports like any other economic transaction. As a result, industrial capacity grew—not just in accordance with increasing German Navy demand, but also due to increasing international demand. When the government imposed new arms export constraints in 1969, it was immediately faced with a political dilemma: whether to actually enforce those restraints, thus generating lost jobs.

The dilemma became acute in the early 1970s. A “catastrophic crisis” for civilian shipbuilding hit Germany hard, and continued through the early 1990s (Brzoska 1989, 171; Tagliabue 1980; Voß 1992, 131; Wulf 1993, 155). Germany’s civilian shipyards were hit even harder than most of their European competitors, and found themselves operating at only about 65 percent capacity by 1978 (Lukomski 1978). As in the British case, naval production was seen as a way out of this quandary. Civil shipyards reoriented themselves to produce warships (Tagliabue 1980; Brzoska 1989, 71). By 1980, the naval shipbuilding industry increased from
two percent to 10 percent of total German shipbuilding (Brzoska 1983, 123). Already carrying excess capacity by the late 1960s, the warship industry took on even more capacity in the 1970s by providing a cushion for civil shipbuilding losses.

When it could, the government took steps to subsidize this jobs program through various means, including the purchase of warships in excess of planned naval procurement (Voß 1992, 132). Shipbuilders took full advantage. “By stressing the employment effect…producers were successful in political circles in pushing through domestic programs,” including the purchase of six *Bremen*-class frigates in the late 1970s and early 1980s (Brzoska 1983, 116). The frigates’ construction was spread between five different shipyards to manage employment, at an estimated premium of $114 million (Brzoska 1983, 134). “Shipbuilding along the German coast was experiencing a crisis and the idea was not to let one yard prosper while others would have to cut employment” (ibid.).

There were limits to the government’s largesse, however—especially during the mid-1970s economic crisis, which placed a damper on German growth and made shipbuilding sector unemployment even more politically salient (Brzoska 1989, 168). Increased German defense spending was insufficient to address the problem. Warship producers floated the idea that exports offered a way out of the crisis, and “public response showed that…the arms industry had found a weak spot in the political opposition against arms transfers in the Third World. Employment became its catchword with every proposed export deal” (ibid.). Brzoska (ibid.) illustrates the victory of concentrated lobbying over diffuse anti-export sentiment:

> Although opponents argued that even a large expansion of arms exports would not create many new jobs, and that arms exports to the Third World occurred at the expense of civilian exports to exactly these countries, the employment argument became a very effective instrument of arms trade expansion.
Shipyard labor union representatives lobbied for relaxed export restrictions, and the warship firms themselves developed a more “self-assured and demanding lobby” in the form of the Industrialists’ Organization (*Bundesverband der Deutschen Industrie*) (Brzoska 1983, 135, 168). Their efforts were reflected in the permissive policy of 1982’s conservative government (166).

Meanwhile, excess capacity grew to the point that by 1977, two of the three largest warship producers—Howaldstwerke/Deutsche Werft AG, builder of submarines, and Lürssen, builder of fast attack craft—focused largely on exports (Brzoska 1983, 128, 132). Lürssen in particular was nearly 100 percent export-dependent (Voß 1992, 133). Several classes of light frigates and submarines were expressly designed for export rather than for Germany’s navy (Pearson 1986, 540). Partly as a result of the civil shipbuilding downturn, warships were in the vanguard of German arms exports—by 1979, in fact, two thirds of all approved arms deliveries were warships (531). Warship exports maintained this leading role, accounting for about 70 percent of total German arms exports through the 1980s (Voß 1992, 132).

Arms exporters did seek to minimize conflict with export regulations, if only to avoid the cost expended in lobbying the government bureaucracy. Hence, exports “chased” markets that were not designated as areas of tension—so, for a time in the late 1960s and early 1970s, sales shifted away (somewhat) from the Middle East in favor of Latin America and Asia (Wulf 1996, 35). Exports to the Middle East revived, however, after the 1970s oil boom increased petroleum-rich states’ demand for warships. Thus, despite the official preference for intra-NATO sales, exports to developing states increased to four times those to NATO in the 1970s (36).

Arms industry pressure led to copious violations of the spirit of the 1969 guidelines almost from the start. As a result of the shipbuilding crisis, the late 1970s and early 1980s saw the export of fast attack craft to Kuwait, submarines to Indonesia, and a frigate to Argentina—all
to safeguard jobs, despite official designations as areas of tension (Brzoska 1989, 171).

Nevertheless, through 1981 the government still tried to portray German export policy as principled and restrictive (ibid.). The “image was finally shattered in 1980” when a secret government ruling was leaked to Der Spiegel, revealing several controversial exports including the sale of Type 209 submarines to Chile (ibid.). Pinochet’s regime “was considered an outcast by German Foreign Policy” (Wulf 1996, 34), and the export, “in the interests of German shipyards,” had not been fully coordinated within the government (Pearson 1986, 532). Recalling the Soviet “staff swindles” of the Gorbachev years, this revealed that sectoral pressure, not official policy, was driving exports. Defense analyst Herbert Wulf (1996, 41) explicitly ascribes these politically awkward sales to excess capacity in the shipbuilding industry.

German defense spending peaked in 1980 and then began five years of overall decline. Against this backdrop, in 1982 the new conservative government bowed to the reality of excess capacity, replacing the injunction on exports to “areas of tension” with the ambiguous formulation referring to “vital interests.” As a result, while “a restrictive arms export policy was proclaimed… fewer goods and areas were actually restricted” (Brzoska 1989, 172). For example, Association of Southeast Asian Nations (ASEAN) members received an exemption from individual export licensing. In effect, they were granted blanket approval for German arms exports (ibid.). This was directly at odds with the previous policy, which had forbidden exports to some ASEAN nations because of the “danger of an outbreak of armed conflict” (Feazel 1985). Moreover, despite the official line that jobs did not constitute a vital German interest, warship export licenses in particular “—although officially called an exception to the rule—were usually granted with the explicit public reasoning that jobs in the yards were at stake” (Wulf 1996, 34;
see also Pearson 1985, 535). And by 1987, the German government began assisting industry in its marketing efforts, using navy ships as demonstrators for interested buyers (Tagliabue 1987).

In short, excess capacity had a dramatic effect—not just on German warship sales, but on German arms export policy itself. A coalition of shipyard unions and industry lobbies pressed the government to permit exports to officially verboten customers, ultimately causing a change in the export policy. And after 1982, in the face of continued jobs-related pressure, Germany—in richly ironic fashion—granted copious exceptions to the rule forbidding jobs-related exceptions.

As Brzoska (1989, 173) puts it,

The expansion of arms exports was a dynamic interactive process between politicians, the arms export bureaucracy, the foreign policy elite and the arms industry, with the last providing more and more of the momentum over time. Actual policy was determined mostly by arms exporting firms…(emphasis added).

It is difficult to imagine a more clear-cut case of excess capacity driving warship exports.

* * *

Postwar Germany was a state with circumscribed strategic interests, but a major political interest in propping up its sizeable warship industry. Indeed, its warship industry was used as a jobs cushion for the civil shipbuilding industry during lean times. As a result of excess supply and limited domestic demand, Germany became (and remains) a profuse exporter of naval ships—even ignoring its own explicit arms trade restrictions to protect shipyard jobs.

With maritime tensions on the rise around the world, Germany’s export of increasingly advanced warships, especially submarines, has the potential to raise the stakes. For example, the Howaldtswerke shipyard sought to sell advanced Type 214 submarines to Pakistan in 2009 (Der Spiegel Website 2009), while also discussing sales of the same submarine class to India in 2012 (Kazim 2012). The potential for German arms to boomerang against allies is clear. Type 209 submarines in the Argentine armada carried out (unsuccessful) attacks on British ships in the
Falklands war (Koburger 1983, 38), during which Argentina was expecting delivery of even more West German submarines—which the German Foreign Office had argued “were unlikely to be relevant to Third World warfare” (Pearson 1986, 535). In short, Germany presents perhaps the clearest case yet of excess capacity trumping strategic restraint on a large scale.


[China’s] large defense industry, with its excess capacity, has few viable alternatives for survival apart from foreign arms sales.23

“Business deals and diplomatic relations are two different things.”
- People’s Liberation Army arms sale agent, 198724

China’s military and economic power has been on the rise since the end of World War Two. As part of this growing national power, China has put to sea an increasingly large, modern, and capable navy (Cole 2001; Xin 2011). It is therefore tempting to ascribe China’s warship exports—which are primarily focused in the developing world—to a quest for foreign policy leverage by a state with growing ability to project soft power. The fact that the People’s Liberation Army Navy (PLAN) has grown by leaps and bounds in recent decades implies a robust naval industrial base; one that China’s government can use to churn out warships for use as bargaining chips.

Indeed, Mao’s China did just that, “providing military assistance gratis to selected countries and organizations...to support the ‘just struggle of the revolutionary people of the world’”—and to strengthen fellow adversaries of the Soviet Union (Lewis, Di and Litai 1991, 103-104). Strangely, though, since 1979 China has not typically given away warships. In fact, it

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23 Hyer (1992, 1116).
24 Hyer (1992, 1114).
has insisted on cash payment (ibid.). As Betts (1980, 99) writes, “grants may buy influence because beggars can’t be choosers, but with cash sales the debt is usually paid with the invoice.” Why, then, did China shift from comradely aid to a focus on hard currency?

The post-Mao shift from grants to cash sales was the direct result of Deng Xiaoping’s defense budget cuts—that is, Chinese warship exports from the late 1970s onward were primarily driven by excess capacity, not strategy. Deng sought to strengthen China’s economy by reducing military spending, creating excess capacity. At the same time, Mao’s demise meant the end of personalist dictatorship in China. In the machine politics of Deng era,25 organizations with China’s highly factionalized military establishment—including the defense industry—acquired much more latitude for independent action, as well as opportunity to logroll for desired ends. Thus, China’s warship industry responded to declining naval budgets by building and exporting ships for cash—with Deng Xiaoping’s blessing, but without substantive input from the foreign ministry or other agencies charged with upholding China’s strategic interests. Interestingly, however, these nonstrategic sales contributed to China’s contemporary naval power by preserving the warship industry during the lean years of the late 1970s and early 1980s.

Background: Evolution of Chinese Strategy, Politics, and Warship Industry

Mao consolidated his victory over Chiang’s Nationalists in early 1950, establishing himself as China’s dictator. Though the United States was communist China’s first chief adversary, the Soviet Union soon superseded it in China’s pantheon of enemies. Mao believed that the USSR posed a threat of amphibious assault against the Chinese mainland; hence, he directed the People’s Liberation Army Navy (PLAN) to develop a coastal defense capability. But

25 Though Deng Xiaoping died in 1997, for ease of reading I refer to the period from Mao’s death through 2000 as the “Deng era.”
since the Chinese warship industry that Mao inherited was “virtually dormant” (Collins and Grubb 2009, 346), the PLAN was initially forced to rely on equipment imported from its main enemy, the USSR,\(^\text{26}\) and ex-US ships captured from the Nationalists (Cole 2009, 322-326).

The withdrawal of military aid after the Sino-Soviet split left China’s nascent warship industry in disarray (Cole 2009, 326). Moreover, China’s navy lacked strategic coherence beyond a general orientation toward coastal defense and the consolidation of control over offshore island territories. As in the Bolshevik Soviet Union, early PLAN leaders were often army officers assigned for reasons of political reliability rather than naval expertise (Cole 2009, 321). As a result, “the PRC Navy did not inherit a national maritime strategy” (Muller 1983, 44) and it “was unable to project power across even the narrow Taiwan Strait” (Cole 2009, 320).

On top of the PLAN’s limited mandate and lack of capable leadership, Mao’s Cultural Revolution of 1966-1976 prioritized revolutionary ideology over technical development, and created long-lasting economic turmoil—further hampering the progress of the naval industrial base (Cole 2009, 327, 329). Meanwhile, the diplomatic opening with United States in 1972 reduced the need for a navy to oppose American aggression (Muller 1983, 168), and allowed China to view the US as an offshore balancer, reducing the need for an anti-USSR navy (Cole 2009, 328-329). Mao therefore cut the PLAN’s budget, especially from 1971 through 1974, forestalling warship industry expansion (Muller 1983, 169-172).

In a relatively rare example of successful defense conversion (albeit under a dictator), the productive capital idled by Mao’s cuts was absorbed into the civil shipbuilding industry, precluding the emergence of excess capacity. This was made possible by two key factors. First, there were no politically empowered warship industry advocates to obstruct conversion, since

\(^{26}\) This is, of course, another notable instance in which warship exports came back to haunt the exporter (notwithstanding the original strategic rationale).
dissenting military voices had been purged or intimidated over the course of the Cultural Revolution (Muller 1983, 172). Second, Chinese naval vessels of the early 1970s were “technologically closer to commercial vessels than military ships by Western standards of the day”—minimizing the practical challenges of conversion (Collins and Grubb 2009, 351). As a result, the warship industry remained small in size and scope, and development efforts begun in the mid-1960s did not result in production prototypes until the 1980s (Friedman 1997, 65).

Nevertheless, by 1975 Mao began to change course on naval strategy—directing modernization in view of the increasing threat posed by the growing Soviet navy (Cole 2009, 328). Deng moved out even more firmly after rising to power in 1978, committing to “building up a powerful navy that has modern combat capabilities” beyond mere coastal defense (Cheung 1990). Since then, China has developed an increasingly modern navy featuring nuclear submarines and major surface warships, including an aircraft carrier. The naval shipbuilding industry has correspondingly expanded at a “measured pace” (Cole 2001, 27).

This thumbnail sketch of the evolution of China’s warship industry—insignificant under Mao, and increasing in the Deng era—has not yet accounted for the excess capacity created by Deng’s defense cuts. As figure 4.3 demonstrates, Deng cut military spending by 14 percent in 1979, and an additional 5 percent in 1980. After three years of modest growth that failed to return spending to pre-cut levels, by 1985 defense spending plummeted to only 18 percent of 1978’s level. This generated substantial excess naval shipbuilding capacity. Indeed, with annual defense spending from 1985 through 1990 at less than one-fifth that of 1978, how did China’s warship industry survive, let alone grow?
In keeping with the theory developed in chapter 1, the defense industry mobilized for self-preservation in response to Deng’s cuts. Communist Party cadres who relied on their defense industry positions for continued influence and prestige were threatened by industry downsizing and sought to preserve the flow of funds by any means necessary (Lewis, Di and Litai 1991, 101). The machine-politics dynamic was similar to that of the Khrushchev-era Soviet Union, with the key difference that Deng had enough personal authority to make his budget cuts stick (102). He did not, however, have enough sway over each element of the highly factionalized defense establishment to prevent a concerted drive for cash-and-carry warship exports intended

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27 Source: Correlates of War National Military Capabilities dataset (Ghosn and Bennett 2003).
to keep the industry alive in the face of his cuts. Moreover, the military itself joined the fray when it became evident that industry salesmanship could work to its benefit. “The PLA leaders decided not only to sell their excess or outmoded weapons but also to produce new weapons for export—rather than for China’s armed forces—as a means to acquire the additional money required to maintain the drive for military modernization. From 1984 through 1987, the Chinese launched an aggressive campaign that resulted in arms sales worth more than $8.2 billion in hard currency” (102-103). This goes some way toward explaining how the warship industry survived Deng’s plunging defense budgets.

Deng’s role in these exports was relatively passive, but when it became clear that the defense industry was losing critical experts to the civilian sector, he became personally engaged: “[goading industry] to become entrepreneurial—to make money by any means possible, including arms sales. He worried little about the details of the sales, caring only about their profitability” (Lewis, Di and Litai 1991, 102). In short, Deng’s concern for defense industry jobs played a key part in promoting Chinese warship exports, albeit due to his unease over the loss of technical capability rather than political unrest.28

28 For an overview of Chinese labor politics in the 1980s and 1990s—and the limited impact of labor activism on Chinese national leaders—see Blecher (2002).
Table 4.3. Recipients of Chinese warships, 1950-2000

<table>
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<tr>
<th>Decade</th>
<th>Allies</th>
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<th>Non-aligned</th>
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<td>1980s</td>
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At first glance, table 4.3 may seem equivocal in its support for the excess capacity hypothesis. The prevalence of developing states in the non-aligned column is intuitively aligned with a foreign policy leverage argument, given the Sino-Soviet competition for international influence described in chapter 3. Nevertheless, the contrasting economic components of Mao’s and Deng’s warship exports argue in favor of the excess capacity explanation.
Mao was not concerned with the fate of his warship industry, choosing instead to focus on his larger agenda—including the economically and societally disruptive Cultural Revolution. As in Stalin’s Soviet Union, Mao’s personalist dictatorship precluded industry mobilization. There could be no export push from below when he cut naval spending in the early 1970s. Moreover, the undeveloped state of Chinese naval technology at the time meant that warship production capital and labor could be easily absorbed into China’s growing civil shipbuilding sector—forestalling the emergence of excess capacity. According to the main hypothesis, any exports under these conditions should be readily explained in strategic terms.

Indeed, the external balancing and foreign policy leverage arguments explain Mao’s warship exports. In the 1960s and early 1970s, China exported warships to its ally North Korea, which was also a co-balancer against a mutual rival, the United States. China also exported warships to Pakistan, which shared a common enemy, India (the latter a recipient of warships from another key enemy of China, the Soviet Union). Such exports were typically free of charge, or provided at “friendship prices” (i.e., below market value) (Byman and Cliff 1999, 27-28; Jammes 1983, 273). Mao’s China received strategic, not economic value from these exports. China was, in fact, “heavily burdened by this free military assistance” (Hyer 1992, 1102).

An examination of the non-aligned states supports the foreign policy leverage hypothesis during Mao’s tenure. As chapter 3 described, Vietnam was a battleground in the Sino-Soviet contest for leadership of the communist bloc (Morris 1999). From the 1950s through the early 1970s, Chinese warship exports helped shore up Vietnamese loyalty. The exports ceased once Vietnam shifted its allegiance to the Soviet Union following Nixon’s opening with China—indicating that Mao could switch off warship exports when it suited his strategic objectives. 29 As

29 As Morris (1999) and Wolff (2000, 32) explain, Chinese largesse was trumped by Nixon’s opening with China—which caused Vietnam to question its ideological and strategic bona fides.
noted in chapter 3, Albania and Romania were states in which China opportunistically sought anti-USSR political leverage through arms exports.

Foreign policy leverage—colored with a “decidedly ideological tinge,” particularly during the Cultural Revolution (Bitzinger 1992, 85)—provides an equally straightforward explanation for the remaining states in the non-aligned column through the end of the Mao era. As Richard Bitzinger (ibid.) explains, “in its attempt to become a major player in the Nonaligned Movement and to bolster Third World solidarity against both US and Soviet ‘imperialism,’ China provided arms to several African and Asian states” including Tanzania (also the recipient of the Chinese-built Tanzania-Zambia railway, the single largest PRC assistance effort of the time), along with the Democratic Republic of Congo and Sierra Leone. Exports to each of the remaining non-aligned states during Mao’s era can similarly be explained as efforts to purchase loyalty and impede Soviet strategies throughout the developing world and around the Mediterranean coast (Byman and Cliff 1999, 7).

In short, Mao’s warship exports were strategic. This supports the main hypothesis’ implication that a lack of excess capacity should lead to a lack of nonstrategic exports.

For positive support for the excess capacity hypothesis, I turn to the Deng-era warship exports. From Deng’s 1978 ascent onward, Chinese warship exports took on an economic quality that largely trumped strategic considerations (Byman and Cliff 1999, 27-30). In the face of excess capacity created by his own defense budget cuts, Deng both authorized and then encouraged the defense industry and PLA to export arms for cash with which to prevent industry collapse, discourage defense industry “brain drain,” and fund continued Chinese military procurement (ibid.; Vogel 2011, 548-551). Though sales to allies and states with shared enemies still bear the hallmarks of strategic exports—for example, the 1988 sale of frigates to Thailand
was reportedly at a “friendship price” of 10 percent of the market value (Cheung 1988), and warship sales to Pakistan were also conducted at a discount (Hyer 1992, 1104-1105)—the sales to non-aligned states assumed a decidedly economic cast.

In particular, “with a few notable exceptions such as [Cambodia’s] Khmer Rouge, free military assistance to the Third World ended….In 1977, China's arms exports to the Third World were valued at US $114 million. This rose to $459 million in 1978 and to a high of over $3.5 billion in 1988” (Hyer 1992, 1102). Egypt was an important cash-and-carry customer, purchasing various fast attack craft, frigates, patrol craft and submarines from China in the 1980s (SIPRI 2011; Hyer 1992, 1103). Iran was a major cash customer of Chinese arms during and after the Iran-Iraq war, with the 1992 purchase of Chinese fast attack craft coming not long after the conflict ended (SIPRI 2011; Hyer 1992, 1104).30 Similarly, the military regime in Myanmar (Burma) purchased $1.2 billion in arms from China between 1988 and 1992, including 10 patrol craft (SIPRI 2011; Hyer 1992, 1105). Even states that had previously received warships for free under Mao were now charged for Chinese exports: “the Central Military Commission gave priority to the implications of Deng's new economic policies and reversed the policy of providing arms free of charge” (Lewis, Di and Litai 1991, 104). In short, “at this point, the Chinese arms-export corporations started selling as many arms as possible to foreign countries” (ibid.).

The domination of economic motivations in Deng-era arms sales is best captured in an anecdote regarding the sale of Chinese ballistic missiles to Saudi Arabia—a deal to which China’s foreign ministry objected on strategic grounds. Though it does not involve warships, it does lay bare Deng’s basic arms export calculus. According to Lewis et al (1991, 96),

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30 China was a major arms supplier of both sides during the Iran-Iraq war, with “Iranian and Iraqi purchases [accounting for almost 50 percent of the US$21.7 billion China earned from arms exports” during the 1980s (Hyer 1992, 1104).
The dispute rose to Deng Xiaoping, who asked only one question: “How much money did you make?” The [PLA arms export] officer answered, "two billion dollars," and Deng replied, “bushao” (not little). The matter was thereby closed, and the ministry lost the argument.31

And there are even more examples of arms export agencies running roughshod over the Chinese foreign ministry. In a rather chilling instance (at least from a US perspective on civil-military relations), a PLA arms export official reportedly responded as follows to foreign ministry criticism of a proposed sale: “we are determined to devote ourselves to raising funds for promoting the four modernizations of China…right now the Ministry of Foreign Affairs should review how to serve this mission” (Lewis et al. 1991, 95).

China’s warship industry benefited directly from—in fact, owes its continued existence to—Deng’s permissive export policy. Exports were the primary means by which the industry survived the massive excess capacity problem generated by the steep defense cuts of the early 1980s. Foreign policy leverage may not have been entirely absent from Chinese officials’ minds when executing Deng-era exports to non-aligned states, but it took a back seat to defense industry economic incentives. As Hyer (1992, 1109) writes, for China’s defense industries “marketing their products abroad became the most attractive option in order to achieve financial solvency. They could not have survived Deng Xiaoping's strategic development shift if they had not rapidly entered the international arms market.”

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31 Lewis et al (1991, 95) cite additional instances of arms export agencies running roughshod over the Chinese foreign ministry. In a rather chilling example (at least from a US perspective on civil-military relations), a PLA arms export official reportedly responded as follows to foreign ministry criticism of a proposed sale: “We are determined to devote ourselves to raising funds for promoting the four modernizations of China…. Right now the Ministry of Foreign Affairs should review how to serve this mission” (ibid.).
Under Mao, China had no excess naval shipbuilding capacity, and therefore engaged only in strategic warship exports. Under Deng, excess capacity—combined with machine politics—led to warship exports motivated primarily by sectoral economic concerns rather than strategy.

Even readers persuaded by the excess capacity explanation of Deng-era warship exports might ask how much this really matters from a Chinese strategic perspective. After all, Deng’s warship customers—primarily developing nations—were in essence not much different from Mao’s. Indeed, many of them were the very same states. It was the economic character of the transactions, not the customers, that made the exports analytically interesting. Nevertheless, the earlier case studies hold clear implications for the future trajectory of China’s warship exports, suggesting a less benign strategic outlook.

China’s warship industry has been deliberately shifted into the private sector as part of the country’s move to managed capitalism.32 If China’s naval modernization falters—or if warship demand by strategically innocuous customers decreases—the by-now familiar mechanisms of industry logrolling and lobbying may take hold, leading to exports that run counter to Chinese strategic interests. As a ruthless dictator, Mao could simply flip the export switch to “off.” Deng proved unable to do so, and it is unlikely that present or future Chinese leaders will find it any easier. In short, the ascent of China’s warship industry—buoyed by exports—may have planted the seed for China’s future naval decline.

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32 In 1982, China placed all naval and commercial shipbuilding under the aegis of the China State Shipbuilding Corporation (Collins and Grubb 2009, 350). This conferred wide economic latitude even within the communist economy, including ability to conclude export sales through associated China Shipbuilding Trading Company (ibid.). On the emergence of “capitalism with Chinese characteristics,” see, for example, Karmel (1994). Frieman (1997, 79-80) explains the incorporation of Chinese defense industries in this economic model.

Aspiring sincerely to an international peace based on justice and order, the Japanese people forever renounce war as a sovereign right of the nation and the threat or use of force as a means of settling international disputes.

In order to accomplish the aim of the preceding paragraph, land, sea, and air forces, as well as other war potential, will never be maintained.

- Article IX of the Japanese Constitution, 1947

The defense industry is the basis for Japan’s national interests.

- Keiro Kitagami, member, Japanese House of Representatives, 2012

Despite having a vibrant naval shipbuilding industry, Japan has exported relatively few warships since regaining its sovereignty after the Allied occupation ended in 1952. Moreover, the naval ships that it did export were generally support vessels such as tankers or transports rather than combatant ships, except where postwar reparations programs directed the sale of combatants to Japan’s World War Two victims (SIPRI 2011). It is tempting to ascribe this relative restraint to Japan’s pacifist constitution and strict arms export control principles. Yet—as always—the reality is not so straightforward.

The excess capacity theory provides a better explanation for Japan’s warship export restraint. Japan’s naval shipbuilding industry had a difficult time keeping up with domestic demand as Japan re-armed during the Cold War, especially since the commercial shipbuilding industry was booming, making shipbuilders reluctant to shift resources to less-profitable warship construction. In other words, there was no excess capacity. A decline in worldwide demand for commercial ships during the late 1970s and early 1980s caused manufacturers to shift resources to naval sector, which—as in the United Kingdom and Germany in the mid-1970s—thereby

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34 For an argument along these lines, see Anthony (1991, 103).
absorbed excess commercial capacity. Unlike the British and German examples, however, this new naval shipbuilding capacity found a ready customer in the Japanese navy, whose demands continued to outpace supply. Therefore, there was no sectoral imperative to sell warships abroad.

If this were the end of the story, it would be difficult to discern whether Japan’s restraint resulted from the lack of excess capacity or from its rigorous export principles. However, two factors combine to suggest that the excess capacity theory is more persuasive. First, since 1946 there has been a vigorous Japanese industry lobby—the Keidanren—that has continuously pressed for either a relaxation of arms exports restrictions, or for increased weapons procurement by the Japanese government (Drifte 1986, 26). Until the twenty-first century, Japan was largely successful in accommodating the industrial lobby through domestic purchases, which tends to obscure the role of industry pressure. The second factor is Japan’s evolving reconsideration of its strategic position. As regional tensions increase and weapon systems become progressively more expensive, Japan has become concerned about its ability to continue underwriting its defense industry. This marks a change from the past, and reveals that Japan’s compliance with export restrictions has not yet received the severe political test of excess capacity, in contrast with the other countries examined so far.

It turns out, then, that Japan’s experience may yet come to resemble Germany’s—with Japan finding its principled stance on arms exports trumped by the economic realities of excess capacity in the warship industry. The analysis below builds the case for this conclusion.

**Background: Domestic Demand and Export Constraints in Harmony**

Japan’s defense industry was effectively “reset” after World War Two. Article IX of the 1947 constitution drafted by the Allies specified that Japan could not maintain “war potential”
(Green 1995, 9). Japan therefore embarked on a pacifist strategy of economic reconstruction under the umbrella of a US security guarantee (Mochizuki, “Japan's Changing International Role” 2007, 1-2). Even before Japan regained sovereignty in 1952, however, the Cold War calculus spurred the United States to recast Japan as a potential source of allied military strength in East Asia (Green 1995, 34).

The Korean War was a key factor in Japan’s rearmament. When war broke out, “the United States committed itself to reviving Japan’s prewar heavy industries and created a *tokuju* (special demand) for war materiel that soon accounted for 70 percent of Japan’s total exports” during the war (Green 1995, 10). This had little to do with Japan’s own strategic outlook; rather, “the United States used Japan as a large workshop to produce supplies for US troops in Korea” (Drifte, *Arms Production in Japan: The Military Applications of Civilian Technology* 1986, 9). Indeed, the United States gave orders directly to industry, bypassing the Japanese government (Ikegami-Andersson 1993, 321). Nevertheless, this spurred the revitalization of a Japanese armaments industry largely destroyed in World War Two.

Despite the postwar interregnum leading up to 1950, Japan enjoyed substantial latent defense industry potential. The rapid militarization of the late 1800s had shaped the very essence of Japanese heavy industry (Green 1995, 8; Norman 1940, 133), and by the 1920s private industry outstripped the government as a producer of weapons—including warships (Ikegami-Andersson 1993, 321). Early 1900s Japanese warships were largely procured from Britain (Green 1995, 8), but Japan quickly developed an indigenous production capability that was given a major boost by World War Two, during which almost 90 percent of state spending went to the military (Ikegami-Andersson 1993, 321). Thus, though the warship industry suffered great
physical damage during the war and was forbidden from reconstructing itself immediately thereafter, it retained immense potential for which the Korean War provided a catalyst.

In 1953, capitalizing on its Korean War recovery, the defense sector formed the Defense Production Committee (DPC) within the Keidanren (Ikegami-Andersson 1993, 322). When demand decreased after the Korean War, “most of the small military-related industries were eliminated, and major arms industries secured a position as rationalized and oligopolistic arms producers” (ibid.). As chapter 1 observed, defense oligopolies hold a powerful position relative to government customers, and indeed the DPC—which included the Japanese Shipbuilding Industry Association—became politically influential.\(^{35}\) In fact, a reassessment of the historical record in light of the DPC’s post-Korea activism suggests that Japan’s assistance to the US wartime effort was not innocent of industry incentives. As it turns out, the Keidanren mobilized to “[pull] the US government into Japan’s domestic political debate” in the early 1950s, thereby garnering critical US support for Japanese industry’s role in producing Korean War armaments (Green 1995, 34-38).

The restoration of Japan’s own military through 1954’s Defense Agency Establishment and Self-Defense Forces Laws provided even more impetus to the Japanese defense sector (Green 1995, 10). Though Prime Minister Yoshida resisted American calls for rearmament, Japan ultimately succumbed to US criticism of “free riding” and began to rebuild its self-defense capability (Mochizuki 2007, 2).\(^{36}\) This reinvigorated Japan’s traditional quest for defense autarky, termed kokusanka or “national production-ization [sic]” (Green 1995, 2). Conservative politicians, abetted by the defense industry, cited autarky as a way to retain some independence

\(^{35}\) For example, one analyst concludes that missile technology built for the Japanese Self Defense Forces was more the result of industry activism than government demand (Ikegami-Andersson 1993, 338).

\(^{36}\) On US calls to “assume more responsibilities for the support of the international system on which Japan’s success in achieving first economic and now financial superpower status is based” see Drifte (1990, 1).
within the US-Japan alliance (3-4). Many other politicians, as well as the Ministry of Finance, remained opposed to rearmament due to concern over rekindled militarism and the economic burden of equipping an armed force (37). Nevertheless, the defense industry’s courtship of US policymakers “came to fruition in 1954 with the signing of the US-Japan Mutual Defense Security Assistance Agreement. The injection of capital and technology represented by US security assistance was something Japan’s financial and industrial leaders could not refuse…US security assistance in turn allowed Japanese industry to bypass the Ministry of Finance in efforts to broaden the defense industrial base…” (38).

The shipbuilding sector was a key beneficiary of kokusanka. Though Japan purchased or otherwise received an estimated $10 billion worth of US arms from 1950 through 1983, by 1986 the Japanese government was able to report that it procured 99 percent of its naval vessels from domestic industry (Drifte 1986, 11-13).37 Even by end of the 1950s, Japan had become world’s leading commercial shipbuilder, and all Japanese Maritime Self-Defense Force (JMSDF) warships were domestically produced (though often with US weapons and sensors) (43).

Despite industry productivity, however, JMSDF procurement plans continually outstripped warship building capacity (Drifte 1986, 14).38 This resulted, in part, from the shipbuilding industry’s preference for commercial construction. Warship production entailed exacting (therefore expensive) standards, and absorbed too much time, dock space, and labor that could be applied to more-profitable commercial construction (43-44). So, even though the defense industry writ large agitated for more arms procurement, naval shipbuilding continued to

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37 Though they lagged naval shipbuilding, other defense subsectors demonstrated similar progress. By 1992, Japan’s ratio of foreign to domestic defense procurement climbed from 34 percent in 1950-54 to 92 percent in 1992 (Green 1995, 15).
38 Nevertheless, Japan possessed a considerable naval force—ranking fourth in the world in terms of tonnage by the mid-1980s (Drifte 1986, 18).
lag domestic demand due to the competing economic imperatives of commercial shipbuilding. In other words, there was no excess capacity.

Two additional points reinforce this conclusion. First, naval shipbuilding industry formed a relatively small proportion of total Japanese shipbuilding, accounting for only four to nine percent of ship construction between 1979 and 1989 (Ikegami-Andersson 1993, 335). Second, beginning in the late 1970s the naval shipbuilding industry was put to work absorbing excess commercial capacity when South Korean and Chinese shipyards began to dominate the market. Unlike most European shipbuilders—which often specialized almost entirely in either the military or civil sector—Japan’s warship producers were typically part of larger conglomerates, including household names such as Mitsubishi and Kawasaki (337). As commercial demand remained stagnant into the 1990s (Baker 1996), the concurrent JMSDF buildup provided a means of accommodating some of the shipbuilding labor and capital that would otherwise have been idled (Drifte 1986, 45). In short, the government exploited the warship industry’s undercapacity to help alleviate the problem of commercial shipbuilding overcapacity.

The lack of excess warship capacity led to a harmonious state of affairs relative to Japan’s highly restrictive arms export policy, codified in the 1949 Export Trade Control Order and strengthened by a 1967 edict from Prime Minister Sato (Drifte 1986, 74). As noted earlier, postwar pacifism did not prevent the defense industry from advocating its own economic interests. Green (1995, 49) writes that “stability of demand became a primary political goal…for the defense industry,” and thus the DPC lobbied through the early 1960s for both increased domestic procurement and a less restrictive export policy. Moreover, there was an abortive push by US policymakers for Japan to become the Cold War “arsenal of Asia” (41). These factors

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39 See Ikegami-Andersson (1993, 337), and Drifte (1986, 44), who reports that “from 1975 to 1984, employees in shipbuilding decreased from roughly 256,000 to 148,000—a decline of 42%.” Similarly, Igarashi (1987) notes that by 1986 commercial shipbuilding employment had decreased to only 40 percent of its peak level.
spurred a political backlash, however, since “a majority of public opinion and opposition parties [were] fundamentally opposed to arms exports” (Drifte 1986, 78). Sato’s declaration of 1967 nixed the subject, it would seem, for good (Green 1995, 50). “Japanese industry was stuck with what demand it had at home” (ibid.). Fortunately for Japan’s government, there was no excess warship production capacity to test the limits of arms export restraint.

*Explaining Japanese Warship Exports, 1950-2000: No Excess Capacity...Yet*

Japan had no excess naval shipbuilding capacity, and domestic pressure for arms export restraint counteracted strategic rationales for warship exports. Figure 4.4 provides further support for the absence of excess capacity during the period under examination, demonstrating a consistent upward trend in defense spending from 1950 through the final Japanese export in the twentieth century.42

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40 Public opposition to arms exports was heavily influenced by Japan’s material support—at the United States’ behest—for the US war effort in Vietnam (Drifte 1990, 15).
41 See also Drifte (1986, 73) on Japan’s effectively total ban on arms exports per se.
42 The last Japanese export in the twentieth century, to the United Kingdom, occurred in 1996.
In keeping with this assessment, table 4.4 demonstrates that Japan has exported warships to relatively few states compared to the other countries examined thus far. Moreover, a detailed consideration shows that most of these exports appear to have involved ships that were not classified as “arms” per se. As a result, the majority of Japanese warship exports likely resulted from transactions outside of the state export control framework, driven by basic profit motives rather than excess naval capacity.

Figure 4.4. Japanese defense expenditures, 1950-1996\textsuperscript{43}

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\textsuperscript{43} NMC data (Ghosn and Bennett 2003).
There was no excess capacity in Japan’s warship industry from 1950 to 2000. Beginning in 1954, Japan’s rearmament consistently generated higher levels of warship demand than industry preferred to supply, given the opportunity for more-lucrative commercial production.

At first glance, the prevalence of non-aligned states in table 4.4—combined with Japan’s strict arms export prohibitions—might seem to contradict the theory’s implication that the absence of excess capacity should correspond to a lack of puzzling warship exports. Closer analysis, however, reveals that each of the exports is linked to one or more of three contingent factors: Japan’s postwar reparations, US Cold War policy, and finally, the gray area represented by naval ships not intended for use in direct combat operations. The first two factors are somewhat unique and have few clear implications for the broader universe of warship exports. The third factor (often occurring in combination with the first two) moves the applicable transactions—for practical purposes—outside the regulatory framework of arms exports, as I

44 For a discussion of Japan’s postwar reparations approach, see Berger (2012, 151-156).
explain in more detail below. In short, every one of Japan’s warship exports to non-aligned states can be explained by a combination of contingent historical factors and basic, demand-based market logic largely distinct from the realm of arms exports. In the absence of excess capacity, Japan did not export any warships in contravention of strategic logic.

A brief review of the historical circumstances of Japan’s warship exports supports this conclusion. First, every state in table 4.4 with the exception of Taiwan received vessels that could only broadly be described as warships. The relevant clause of the 1949 Export Trade Control Order forbade the export of goods “which are to be used by military forces and directly employed in combat” (Anthony 1991, 105). These exports complied with the letter of the law. For example, Brazil received personnel transport ships, the Philippines received a presidential yacht and coast guard patrol vessels, China and Uruguay received oil tankers, and the United Kingdom received a cargo ship (which was in fact leased from a third-party civilian owner in Belgium or Luxembourg after production by Japan) (SIPRI 2011). All of the other states (other than Taiwan) received landing craft (ibid.), which despite their potential role in amphibious assaults are effectively no more than transport ships. Even the landing ship exported to Iran was “delivered for civil use but taken over by the navy” (ibid.). Moreover, many of these vessels were sold to coast guards rather than navies—that is, for law-enforcement and maritime safety use, rather than combat—as with the exports to the Philippines and India (ibid.).

In addition, several Japanese exports to non-aligned states were either explicitly or implicitly part of Japan’s postwar reparations. The presidential yacht and coast guard patrol vessels exported to the Philippines were specifically designated as reparations (SIPRI 2011). Moreover, Article 11 of the Potsdam Declaration specified that Japan should maintain its domestic industries so as to “sustain her economy and permit the exaction of just reparations in

45 See SIPRI (2011) for a complete list of the naval vessel types exported by Japan.
kind” (quoted in Berger 2012, 151). Helping rebuild the navies of such recipients as Indonesia, Myanmar, and Taiwan (in addition to the Philippines) comported with both objectives.

Finally, Taiwan—which received the only unambiguous ships-of-war via Japan’s 1957 export of Fuh Chow fast attack craft—was not a customer independently sought out by Japan. Instead, this export was an element of the US Cold War strategy. The United States worked to strengthen Taiwan’s ability to oppose communist China by purchasing ships for the Republic of China Navy from Japanese industry (SIPRI 2011; Green 1995, 35).46 In any case, Japan also owed Taiwan reparations in the wake of the World War Two occupation by Japanese forces.

* * *

Japan has exported relatively few naval vessels, and with a single exception—the fast attack craft purchased by the United States for Taiwan—these ships only marginally qualify as warships. Each transaction can be understood as a result of either postwar reparations dynamics, or market demand for essentially non-military ships whose export was in accord with Japanese regulations. In keeping with the excess capacity theory, the absence of excess naval shipbuilding capacity corresponds to a lack of strategically puzzling warship exports.

There is, however, an important postscript to the story of Japan’s warship exports. It is reasonable to ask whether Japan’s history of restraint was due not to the absence of excess capacity, but rather to highly effective export controls. Perhaps Japan has abstained from exporting destroyers (for example) for fear of a domestic political backlash. In other words, does the Japan study illustrate in important scope condition for the theory of warship exports? Is this a case in which domestic political pressure for arms export restraint is a primary causal factor—more important, in fact, than excess capacity?

46 See Tucker (1994, 72) on the broader outlines of US assistance to Taiwan in the 1950s, including the employment of Japanese intermediaries.
Recent evidence suggests that the answer is no. As in the other four case studies presented in this dissertation, growing excess capacity in Japan’s military industrial base is eroding postwar arms export restraint. With Japanese military spending on the decline in the late 1990s and largely stagnant in the early twenty-first century, there have been repeated calls by the Keidanren’s DPC to ease export restraints (The Nikkei Weekly 2004). In the past, the Japanese government has been willing to forego the economies of scale associated with export production—accepting, for example, tanks that cost three times as much as their US equivalents (Ikegami-Andersson 1993, 339). But as Japan’s military budget shrinks, creating excess capacity in the defense industry, cracks have appeared in the export control regime.

Early examples consisted of a loosened approach to the letter of the law. In 2006, for example, Japan exported armed patrol craft to Indonesia, declaring, “the ban is exempted…because the Indonesian government has agreed that the boats will be used only for limited purposes such as tackling terrorism or piracy” (Kyodo News Service 2006). In other words, the customer’s stated intentions overtook the ships’ inherent qualities as the criteria by which to judge the appropriateness of the proposed export.

Moreover, with military spending still stagnant and Japan experiencing a broader economic slowdown, pressure to export has risen. As a result, in December 2011, “Prime Minister Yoshihiko Noda's administration chose economic efficiency and the domestic arms industry over the nation's pacifist Constitution in deciding…to ease the weapons export ban” (Asahi Shimbun 2011). Future Japanese exporters, in other words, will not need to rely on subterfuge to sell warships. They will be more likely to receive official sanction as a direct consequence of excess naval shipbuilding capacity.
It may be some time before the excess capacity theory is tested more robustly by Japan’s warship export behavior. Yet, the 2011 easing of Japan’s arms export restrictions is highly suggestive. It illustrates the efficacy of industry pressure in reducing political barriers to arms exports when the potential for lost jobs looms. Moreover, to answer the question posed above, it suggests that Japan’s historical warship export restraint was actually contingent on the absence of excess capacity. As with the other countries examined in this dissertation, Japan’s long-term warship export behavior may end up being dictated at least as much by the political pressure of excess capacity as by Japanese strategic interests.

Conclusion

This chapter analyzed the warship exports of four states between 1950 and 2000: the United Kingdom, Germany, China, and Japan. Despite many differences between—and, over time, within—these countries’ political systems, economic circumstances, and strategic objectives, the analysis revealed a key regularity. Strategically puzzling warship exports are more likely when there is excess naval shipbuilding capacity, and less likely when there is not. States can and do export warships when it would benefit their strategic position, either through external balancing or foreign policy leverage; moreover, strategically beneficial customers (such as allies) can serve as a relatively safe outlet for the pressure of excess capacity. Yet, the states examined in this chapter were often willing—if not fatalistically resigned—to exporting ships to almost any paying customer when shipyard jobs were on the line.

Collectively, these cases also help disentangle microeconomic from macroeconomic factors through between-case comparison. Chapter 3 finds that the Soviet Union and Russia exported warships to risky customers when economic collapse led to excess shipbuilding capacity. Skeptics might therefore contend that macroeconomic pressure ultimately explains
puzzling warship exports. Yet, the German and Chinese cases reveal that excess capacity can coexist with robust economic growth. Thus, the microeconomic pressure of excess naval shipbuilding capacity remains a more persuasive explanation.

The chapter also shed light on the variety of ways in which warship exports—and arms exports more broadly—can be “strategically puzzling.” As a result of excess capacity, the United Kingdom—a onetime superpower struggling to defend its sprawling strategic interests—exported warships to rivals such as Argentina that posed a real threat to those very interests. Germany’s warship exports, in turn, are puzzling because they contradict its own explicit arms control injunctions. For Germany, a commitment to strict export controls turned out to be nothing more than cheap talk when excess capacity placed jobs at stake. China shifted from a policy of arms-for-influence to one of arms-for-cash because its warship industry would not have survived otherwise. And the Japanese case suggests that a non-barking dog is beginning to growl as excess capacity blossoms due to rising warship costs and stagnant military spending.

In addition to providing support for the excess capacity theory of warship exports—thus demonstrating that the quantitative analysis was not spurious, and the Soviet-Russian experience not unique—this chapter reveals several additional patterns, suggesting paths for future research.

First, it shows that states do not merely become passive facilitators of warship exports when excess capacity runs high. Instead, they often proactively assist their arms industries by showcasing their wares abroad, through state financing of arms control expositions and foreign port visits by the state’s own warships. When this vigorous salesmanship drums up questionable customers, however, leaders resolve the strategic dissonance by adopting a fatalistic tone (as in British officials’ statements after the Falklands war), or by reversing strategic logic so that a customer’s willingness to purchase arms is portrayed as friendliness.
Second, the chapter demonstrates that states ignore not just generic strategic concerns, but active, ongoing conflict and self-imposed constraints to export warships under conditions of excess capacity. Chapter 3 showed that the Soviet and Russian exports to Iran and especially China contradicted longstanding strategic interests. Despite the evidence presented in that chapter, skeptics might still argue that those exports simply reflected Gorbachev’s and Yeltsin’s reformulated strategic viewpoints. The British and German case studies, however, show that states export warships to problematic customers without the slightest strategic fig leaf when excess capacity runs high. Britain, for example, delivered destroyers to Argentina mere months after a British ship was fired upon by an Argentine warship, and shortly before deploying a Royal Navy task force to the South Atlantic for the express purpose of deterring Argentine aggression. Similarly, Germany managed to grant itself jobs-based exceptions to the very arms export rule that forbade jobs-based exceptions. These examples suggest that leaders weigh the political costs of job losses in the shipbuilding sector against the costs of strategic inconsistency—and find the former more intimidating.

Third, these cases suggest a new way of looking at states’ arms export control regimes. Export regulations lay out specific rules intended to govern arms exports: what equipment can or cannot be exported, and what countries can or cannot be recipients. Yet, the German case shows that when noble intentions meet political reality, exceptions become the rule. And the Japanese case reveals that growing excess capacity can lead to a reversal of the rules themselves, even when they are broadly supported by the public and among political elites. In other words, variations in excess capacity may drive not only compliance with arms export controls—but also the constitution of the controls themselves.
Fourth and finally, this chapter sheds new analytic light on the decline of naval powers. States with extensive global commitments—such as the Soviet Union and Britain—often build world-spanning navies with shipbuilding industries to match. In a microcosm of Paul M. Kennedy’s (1987) depiction of the rise and fall of great powers, these states find that their strategic commitments outstrip their fiscal ability to sustain their own military spending. Thus, when their economic power begins to wane, they expedite their own decline by selling warships to the very rivals that their shipbuilding industry was intended to confront.

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The next chapter concludes the dissertation, summarizing and synthesizing the analysis presented in chapters 2 through 4 and elaborating on its implications for the warship trade and the arms trade more broadly.
CHAPTER 5: UNDERSTANDING AND INFLUENCING WARSHIP EXPORTS

Indonesia is buying submarines from South Korea and coastal radar systems from China and the United States. Vietnam is getting submarines and combat jets from Russia, while Singapore—the world’s fifth-largest weapons importer—is adding to its sophisticated arsenal. Wary of China and flush with economic success, Southeast Asia is ramping up spending on military hardware to protect the shipping lanes, ports and maritime boundaries that are vital to the flow of exports and energy. Territorial disputes in the South China Sea, fuelled by the promise of rich oil and gas deposits, have prompted Vietnam, Malaysia, the Philippines and Brunei to try to offset China's growing naval power....

This dissertation began with a simple question: why would a state export warships, thereby empowering potential adversaries? Why would Russia export to rising challenger China, and Britain to its enemy Argentina—eventually facing down its own warships in battle over the Falkland Islands? Moreover, why would states such as Germany or Japan violate or rescind their own principled arms export restrictions? These questions are of more than just theoretic significance. As the epigraph demonstrates, the warship trade is a conspicuous facet of increasing international friction in the twenty-first century. Warship exports add fuel to the fire of regional tensions, increasing strategic risk to the seller—and to other states as well.

Analysts have proposed a variety of explanations for warship exports—arguing that arms transfers can be used to gain influence over recipients, maximize the collective strength of a military alliance, or impose strategic costs on a mutual enemy. Others argue that states export warships to stimulate flagging national economies. Still, most scholars and practitioners have held to Richard Betts’ (1980, 82) admonition: “do not give weapons to an enemy.” This consensus notwithstanding, the examples in this dissertation clearly demonstrate that states do

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1 O'Callaghan (2012).
not always follow Betts’ sound advice. Moreover, previous explanations overlook a powerful political economy factor—the effect of excess naval shipbuilding capacity.

As the dissertation’s statistical analysis and case studies demonstrate, worldwide warship exports from 1950 onward evince facets of several of the arguments sketched out above. For example, states do sell warships to allies, and they do export warships in an attempt to gain policy leverage over recipients. The main analytic contribution of this dissertation, however, is in asking what conditions would cause a state to sell warships in contravention of its security interests and arms export principles. Based on quantitative and qualitative analysis, the dissertation concludes that the protection of shipyard jobs is the most important causal factor in cases of warship sales to risky—or even antagonistic—customers, as in Russia and Britain; and warship exports in direct violation of strict arms control principles, as in Germany. In other words, strategically puzzling warship exports are more likely when there is excess capacity in the naval shipbuilding industry. States engage in risky warship exports when jobs are at stake.

The dissertation also reveals an important condition for this conclusion. The theory advanced in chapter 1 holds that excess capacity causes the warship industry to mobilize for self-preservation, generating political pressure on state leaders responsible for export policies. Intuitively, this pressure should be ineffectual (or even impossible) in states with abject dictatorships that are invulnerable to pressure from below—states such as Stalin’s Soviet Union and Mao’s China. The empirical analysis in chapters 2 through 4 confirm this intuition, demonstrating that it is primarily regimes accountable to the public (democracies) or to civilian elites (machines) that engage in risky exports as a result of industry pressure. Moreover, these
export-prone states have an outsized impact on warship proliferation—with democracies and machines accounting for 94 percent of the exports in the dataset.²

This dissertation contributes an improved understanding of the global warship trade—a phenomenon that lies at the nexus of security and political economy. It also suggests avenues for future research, and holds policy implications that are increasingly relevant as interstate tensions rise in the dwindling wake of the post-Cold War “end of history.” The concluding chapter therefore begins by reviewing the security consequences of warship exports—not just from the exporter’s perspective, but also in terms of the exports’ systemic implications. It then summarizes the theory and main empirical findings, discussing their contribution to scholarship on the world arms trade. Next, it outlines areas for future research suggested by the insights developed through the course of the dissertation. It closes with a consideration of the dissertation’s main policy implications.

**Risky Business: Warship Exports and Security**

States sail into perilous waters when they export warships. Increasing the naval strength of an adversary can have serious strategic repercussions, as the United Kingdom discovered when it faced an Argentine fleet equipped with British destroyers during the Falklands war. Moreover, warship exports can threaten not only the seller, but also its close allies. The Royal Navy did not just face British ships in the Falklands: it also fought against German-built submarines. And even warships sold to allies can result in unseen dangers, just as calm blue waters may conceal rocks and shoals that can rip the bottom out of a ship at sea. The Soviet

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² Democracies and machines conducted 1,369 of the 1,459 warship exports in the quantitative dataset.
Union, for example, nearly came to blows with a Warsaw Pact ally when, as a result of intra-bloc disputes, Khrushchev sent his navy to take back submarines previously exported to Albania.

It is puzzling, therefore, that states seem to willfully ignore these risks. Britain resumed its sales of warship components to Argentina a mere three months after the Falklands conflict. Germany regularly exported warships to “areas of tension” in spite of strict, self-imposed prohibitions against doing so. And post-Soviet Moscow sold advanced destroyers and submarines to a rising China, even as Russia’s military potential relative to its longtime adversary plummeted to ever-lower depths. The dissertation addresses this perplexing behavior, and I will shortly return to the central analysis with a summary of the theory and main empirical findings. But first, I revisit the question of the warship trade’s contemporary significance.

It is undoubtedly true that states do not expect warship exports to boomerang, harming their security interests. Yet, Britain’s Falklands experience—among other examples—suggests that policymakers may delude themselves regarding the risks of warship exports. What makes this even more critical as of this writing is that both Cold War strategic clarity and the glow of post-Cold War “convergence” (misleading as both of these may have been) are receding into history. In particular, shifting power dynamics in Asia are leading regional states—many of which are boosting their military spending—to adopt confrontational positions on territorial and political sovereignty. There are numerous states engaged in disputes over islands and resources in the South China Sea, for example; and Japan’s increasingly forward-leaning defense policies concern many of its neighbors. The potential for miscalculation during naval interactions at sea is likely to increase, particularly considering that gunboat diplomacy is becoming increasingly prevalent as a component of maritime territorial disputes.
In short, regional naval competition is bringing security dilemma dynamics back into the foreground after a post-Cold War hiatus. Warship exports add fuel to this volatile mix, complicating the security calculus of states with contested maritime claims, as well as countries—like the United States—with binding alliances and other strategic interests enmeshed in those regions. The strategic consequences of any particular warship export are becoming less predictable by the day, even as many states—like Russia—feel continued pressure to export in response to excess shipbuilding capacity. Against this backdrop, the importance of understanding the warship trade becomes quite clear.

**Review of the Theory and Main Findings**

Puzzling warship exports result from the political economy of shipbuilding in states with democratic or elite-constrained regimes. When supply exceeds demand, shipbuilding industries lobby for export, typically emphasizing potential job losses. And since excess capacity often results from defense cuts, export pressure is most acute when a state is least able to subsidize its naval industry. In short, *strategically puzzling warship exports are more likely when there is excess naval shipbuilding capacity*. States discard strategic restraint when jobs are at stake.

I define excess capacity as the physical and human capital specific to a state’s naval shipbuilding industry, over and above what the state itself employs. For example, if a state procures two ships from its domestic industry in a given year and then reduces its procurement to one ship the next, the idled shipbuilding capital is excess capacity. I draw on a substantial body of political economy scholarship, with a particular focus on defense economics, to demonstrate that excess capacity is an acute political problem most readily solved by exporting—even when warship exports contradict state security interests or self-imposed export constraints.
The empirical analyses in chapters 2 through 4 support the argument that excess capacity leads to otherwise-puzzling exports in democracies and machine regimes. Barring the unmistakable danger signs of full-scale war or membership in opposing Cold War alliance blocs, the powerful logic of political economy—especially the preservation of shipyard jobs—predominates. Neither interstate rivalry nor disputes short of war systematically constrain the export pressure of excess capacity. In particular, chapter 2’s statistical analysis finds that warship exports are more likely when defense spending falls. This result holds controlling for a variety of strategic, economic, and demand-side factors, including alliance and common enemies, and remains consistent throughout numerous quantitative model specifications and a variety of other statistical robustness tests. Statistical analysis therefore supports the hypothesis that warship exports are more likely when there is excess capacity in the naval shipbuilding industry.

Excess capacity is not the only determinant of warship exports. The statistical analysis also supports the external balancing hypothesis: states are more likely to export warships to counterparts with whom they share an alliance or common enemies. This is unsurprising. What is more surprising is that the substantive effect of excess capacity is on a par with that of shared enemies. This demonstrates that domestic political factors can have as much influence as strategic motivations, even in a realm ostensibly dominated by strategy.

The case studies in chapters 3 and 4 lend weight to this conclusion by further establishing the link between excess capacity and exports, and by disentangling balancing, foreign policy leverage, and macroeconomic motivations from the microeconomic pressures of the warship industry. Chapter 3 examines Soviet and Russian warship exports, demonstrating that there was no excess shipbuilding capacity before 1989—and therefore no strategically puzzling exports. Near the end of the Soviet Union, however, as much as 90 percent of the warship industry was
left idle. As a result, the USSR (a machine trending toward democracy under Gorbachev) and Russia (a new democracy) exported warships to problematic recipients Iran and China. In particular, Russian leaders praised exports to China for their benefits to the defense industry. These exports mollified elites and voters who threatened to derail Boris Yeltsin’s reform agenda—at the price of arming an increasingly powerful and historically hostile neighbor.

Chapter 4 analyzes the warship exports of the United Kingdom, Germany, China, and Japan. Despite wide variation between and within these countries’ political systems, economic circumstances—ranging from stagnation to robust growth—and strategic objectives, chapter 4 finds that strategically puzzling warship exports are consistently more likely when there is excess naval shipbuilding capacity. Indeed, Britain and Germany were often willing—if not fatalistically resigned—to export ships to risky or off-limits customers when shipyard jobs were on the line. As a result of employment pressures the United Kingdom sold warships to rivals such as Argentina that posed a threat to its far-flung strategic interests. Germany, for its part, contradicted its own strict export controls—which turned out to be nothing more than cheap talk when excess capacity placed jobs at risk. China, in turn, shifted from a policy of arms-for-influence to one of arms-for-cash to ensure its warship industry’s survival and prevent “brain drain” as naval construction specialists found themselves out of work. Finally, the Japanese case reveals that a dog that has not barked is nevertheless beginning to growl as excess naval shipbuilding capacity blossoms.
Back to the Future: The Dissertation’s Scholarly Contribution

This dissertation makes several contributions to scholarship on the international arms trade. At the broadest level, it represents a relatively rare investigation of the political economy of security. Moreover, it brings the study of the major conventional arms trade “back to the future” after a post-Cold War hiatus. Its empirical findings lend independent support to the theories of authors whose works influenced its development, and shed light on the naval aspect of national decline. I touch on each of these contributions in turn.

Proceeding from the basic intuition that warship industries operate at the intersection of economics and strategy, the dissertation employs the theory of trade policy coalitions to understand why and how industries threatened by declining defense spending mobilize to lobby for exports. By synthesizing the insights of the international relations subfields of political economy and security, the dissertation arrives at a theory that can explain how sectoral economic pressures trump strategic restraint—leading to warship exports that run counter to state security interests. Along the way, the dissertation engages recent research on regime types to explain why some states are more likely than others to engage in risky exports.

The dissertation also constitutes a unique empirical contribution to post-Cold War conventional arms trade scholarship. First and most obviously, I have found no previous social-science analysis of the warship trade. Moreover, much of the scholarly analysis of the trade in major conventional arms (warships, aircraft, tanks, and so on) was conducted during the Cold War. These studies typically consist of qualitative analysis focused on just a few major exporters. They do not often incorporate rigorous hypothesis testing, or an examination of the full range of potential exporters in the international system. Fortunately, however, they do provide a wealth of qualitative evidence that I draw upon in the dissertation’s case studies.
The focus of conventional arms trade research changed after the Cold War. With the threat of major power war seemingly in decline, analysts shifted their attention to topics such as the flow of small arms (rifles, pistols, etc.) to developing nations, and its consequences for human security. While extremely valuable in their own right, these studies have little to say about the causes of major conventional weapons exports. They do, however, provide key methodological insights. In particular, the end of the Cold War coincided with a shift in the US academy toward more pervasive employment of quantitative tools (Mansfield and Pevehouse 2008, 487). Scholars such as Kinsella (2001) and Blanton (2005), among others, make extensive use of statistical models incorporating a range of economic and strategic variables. Together with Kroenig’s (2010) analysis of nuclear weapons technology transfer, these studies were highly influential in developing the dissertation’s quantitative chapter. Thus, I am able to apply contemporary methods to a security problem that has received insufficient attention in light of growing tensions in the international maritime arena.

In sum, the dissertation’s empirical contribution is twofold. First, it brings Cold War scholarship’s focus on major conventional weapons “back to the future.” It thereby addresses an issue that is becoming increasingly relevant with declining defense spending in the West, combined with the resurgence of interstate military friction, particularly in Asia—an area of intensifying policy focus, especially for the United States. Second, it applies modern analytic tools to warship exports spanning the Cold War and beyond, systematically assessing a half-century of data that has not previously received such scrutiny. By doing so, it builds upon and adds to the qualitative work that prevailed during the Cold War, generating new insights and conclusions through its systematic analysis of global warship exports.

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3 The large body of research on the collapse of the Soviet defense complex is an exception to this rule (e.g., Davis 2000 and Odom 1998, inter alia). However, these studies examine the former USSR in isolation, and do not include statistical analysis of the sort presented in chapter 2.
The dissertation also contributes to the broader body of international relations scholarship by lending support to theories outside the realm of the conventional arms trade. Two in particular stand out. First, Jessica Weeks (2008, 2012) moves beyond the traditional democracy/autocracy dichotomy by arguing that some autocracies are more domestically accountable than others. Her empirical focus is on conflict initiation, and she finds that machine regimes—like democracies, and unlike other authoritarian polities—are less likely to start wars, due to their higher level of domestic accountability (2012, 339). The dissertation’s finding that democracies and machines are more likely than other regime types to engage in risky warship exports due to increased political vulnerability is in full agreement with Weeks’ empirical analysis.

Second, Matthew Kroenig’s (2010, 10-49) theory of sensitive nuclear technology transfer argues that power-projecting states are averse to nuclear proliferation, since nuclear weapons in the hands of adversaries would negate their ability to project conventional military power. This theory hinges on the argument that weapons exports are influenced by the relative conventional power of seller and customer. Superpowers strive to prevent nuclear proliferation because it renders their conventional advantage potentially useless. As Kroenig (182-185) points out, similar strategic logic suggests that powerful states should be more likely than weaker states to export conventional weapons—since less-powerful states would find their military forces disproportionately constrained by conventional proliferation. I build on this logic in chapter 1, arguing that states that are weaker than, or evenly matched with prospective customers stand to negate whatever naval strength they have by exporting warships. Larger powers will suffer less marginal impact from warship sales, and thus should be more likely to export.
My statistical findings align with Kroenig’s prediction. The probability of warship export increases in proportion to the exporter’s power advantage over the customer. Given this finding, however, Russia’s sales of submarines and destroyers to China in the 1990s are all the more perplexing. At the time of these exports, Russia was far weaker than China—and growing more so by the day. Russia’s warship sales are therefore an exception to the probabilistic “power rule,” suggesting the importance of another dynamic: my theory of excess capacity.

The dissertation also addresses the heretofore-unexplored effects of nuclear weapons possession on conventional arms exports. It reveals that nuclear superiority leads to a higher probability of export, possibly because states with nuclear weapons are less threatened by conventional proliferation. Moreover, nuclear parity also increases the probability of transfer. This is consistent with Kroenig’s (2013) argument that nuclear powers generally resolve conflicts through crisis bargaining rather than warfare, suggesting a reduction of the strategic risk posed by warship exports. (Indeed, Russia’s nuclear superiority over China’s smaller arsenal may have helped excess capacity trump strategic restraint in the Kilo and Sovremenny exports.)

Finally, the dissertation sheds new—and perhaps disturbing—light on what one can expect from naval powers in decline. States with extensive commitments around the world build global navies with correspondingly vast shipbuilding industries. These maritime powers may suffer overstretch, finding their strategic commitments outpacing their finances. When their national power falters, they may expedite their own decline by selling warships to the very states that their shipbuilding industry was built to confront.

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4 The finding that a superpower defense pact makes states more likely to export warships is also congruent with the argument that superpowers are less threatened than other states by conventional weapons sales.
The Political Economy of Arms Exports: A Research Agenda

The dissertation suggests several avenues for future research. The most obvious is the extension of its methodology to the broader universe of major conventional arms exports, incorporating weapons such as fighter aircraft, bombers, armored vehicles, anti-aircraft systems—and perhaps emerging technologies such as cyber-warfare systems. Using many of the same sources, especially the SIPRI arms transfer database, analysts could test the excess capacity theory’s validity against a larger set of empirical data.

In addition to supporting or challenging the theory itself, such analysis could yield insights into the differential effects of weapon type. For example, chapter 1 notes that naval shipbuilding firms tend to be distinct from commercial producers (with key exceptions, as chapter 4 noted in Japan’s case)—making their productive capital extraordinarily immobile. On the other hand, military aircraft firms are often heavily invested in the commercial aviation industry. Indeed, the aircraft themselves often share a great deal of commonality with their civil counterparts. Lockheed’s P-3 Orion antisubmarine aircraft, for example, is based on the L-188 Electra airliner (GlobalSecurity.org n.d.); and its modern successor, Boeing’s P-8 Poseidon, is a modified 737 (Boeing 2009). The aviation industry may be less vulnerable to the pressures of excess capacity given its greater ability to shift capital and labor between military and civil production, resulting in fewer strategically puzzling exports.

Another area for future research stems from the case studies, especially chapter 4’s examination of Germany and Japan. Germany’s compliance with its own, self-imposed arms export controls was contingent on the absence of excess capacity. Ultimately, the German government bowed to the pressure of growing excess capacity, weakening the controls (and then proceeding to ignore even the watered-down version). Japan is undergoing a similar dynamic as
its defense budget stagnates and weapons costs increase in the twenty-first century, generating excess capacity. Chapter 4 therefore suggests that state export controls may be affected by the export imperative, rather than vice versa. In other words, arms export regulations are just cheap talk when shipyard jobs are on the line—and not just in terms of compliance. In a reversal of strategic logic, the very constitution of export controls reflects rather than constrains industry preferences. Scholars could formalize this argument, making export controls and compliance the dependent variable, and then investigating the effects of excess capacity.

What is more, the notion of export controls eroding in response to excess capacity may even translate to the realm of nuclear weapons, if and when nuclear-armed states undergo budget crises or otherwise find their nuclear complex an untenable economic burden. Contemplating the French government’s nuclear export control policy, Bujon de L’Estang (1985, 139) notes that “industry’s role in formulating foreign policy on export matters is only as large as the government allows it to be” (quoted in Kroenig 2010, 107). It may seem farfetched that a government would ever find political pressure to export more menacing than the strategic risks of nuclear proliferation, but there is evidence that employment is never far from politicians’ minds—even when it comes to nuclear weapons. As Senator Max Baucus put it in response to a June 2013 presidential proposal to reduce the US nuclear arsenal, “maintaining a strong nuclear deterrent keeps America safe and supports good-paying American jobs” (Golan-Vilella 2013, emphasis added). It remains an open question whether there is a “taboo” against nonstrategic nuclear proliferation, or if the limits of restraint simply have not been tested by excess nuclear capacity. The capital mobility of the nuclear weapons complex is likely much more constrained than that of the warship industry, suggesting that analysts should keep a careful eye on this potential nuclear proliferation dynamic—however unlikely it may appear.
Next, while the dissertation is motivated by the potential risks of warship exports, its central focus is on causes rather than consequences. Some of those consequences are self-evident and straightforward. As Britain discovered in the Falklands, for example, warships can boomerang against the seller. Other consequences, however, are less obvious—and may call for an even deeper foray into international political economy.

A key question worth asking, for instance, is how competition in the international warship market affects the security arena. Competition—combined with states’ quest for military superiority—drives warship producers to continually improve their wares. Submarines with modern air-independent propulsion (AIP) systems are a key example. Chapter 1 noted that submarines of any type pose a strategic risk because their submerged stealth significantly affects an opponent’s operational calculus. Most submarines are not able to remain submerged for very long due to the need to recharge their batteries using air-breathing diesel engines, which mitigates somewhat the threat that they pose.\(^5\) AIP submarines, however, can remain underwater and un-located for weeks rather than hours (Eshel 2012, 35). Security-conscious customers desire the most advanced warships available on the market, and basic commercial logic suggests that producers will strive to meet demand. Thus, more and more states—including every state examined in chapters 3 and 4, with the exception of Britain—produce and export highly capable AIP submarines. This increases the latent operational risk of future naval conflicts, and as such, analysts should examine this aspect of market competition in more detail.

Finally, there are aspects of defense economics besides the warship trade that could be examined systematically through the political-economy lens developed in this dissertation. Weapons exports can threaten a state’s security by strengthening adversaries, but there are also

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\(^5\) This limitation does not apply to nuclear submarines, but only a few states possess them: the United States, Britain, France, Russia, China, and India.
other internal state dynamics that run counter to strategic interests. The present-day United States provides suggestive examples. Even as the US military seeks to conserve its combat strength in a time of steep budget cuts, politicians effectively force it to retain unneeded infrastructure and to procure unwanted weapons—protecting jobs in their communities (e.g., Maze 2012). Thus, in addition to examining the effect of excess industrial capacity on arms exports, scholars could systematically analyze the effects of excess infrastructure, weapons procurement, and troop strength on the execution of state security strategies. Whereas dictatorships might be easily able to shut down unneeded bases to reap savings for weapons procurement, for example, democracies and machine regimes are likely to find it far more difficult in the face of consequent regional unemployment. This could result in differing levels of state ability to reorient their security strategies—with democracies potentially suffering the greatest disadvantage. These political-economy dynamics merit scrutiny in light of their security implications.

Taking the Helm: Policy Implications

What does this dissertation imply for policymakers interested in steering the ship of state away from risky arms sales? The question is timely, especially for the US government. With the looming prospect of $500 billion in defense cuts over the next decade, US defense heavyweights from Lockheed Martin to Northrop Grumman are mounting “an increasingly aggressive industry push to make up overseas for the sales that are declining at home” (Adams 2013). What should policymakers in the United States and countries facing similar challenges do to remain clear of the perilous waters of the warship trade?

The theory and empirical analysis reveal two key factors that combine to cause strategically problematic warship exports: excess naval shipbuilding capacity, and the political
accountability that exposes leaders to electoral or elite blowback resulting from lost jobs. Of the two, only the first—excess capacity—is within leaders’ scope of influence. In this final section of the dissertation, I therefore suggest measures that policymakers can take to control the proliferation of warships due to excess capacity.

First, policymakers must acknowledge that when they cut warship procurement budgets, shipbuilding industries will naturally try to enter foreign markets—creating strategic risk. States seek to prevent problematic warship exports through domestic regulatory frameworks. But preventing exports—something that states practically never do for any non-defense commodity—entails the political risk of lost jobs, exacerbated by the immobility of warship industry capital and compounded by the strategic cost of defense industry decline, which industries exploit with rhetorical abandon.

This dilemma is straightforward. Yet, surprisingly, discussion of the export pressures arising from spending cuts is conspicuously absent from national dialogues on fiscal austerity. The United States may be hit hard—in strategic terms—by this oversight. Historically, advanced US warships have been out of reach of many prospective customers due to their high cost and technical complexity. This may change as defense spending and naval modernization by other states increases, particularly in Asia. At the same time, drastic defense cuts exemplified by 2013’s fiscal “sequestration” will place severe pressure on the US defense industry. If US leaders do not adopt a more clear-eyed appreciation of the consequences of defense cuts, they may end up unprepared to fend off political pressure to export to customers with uncertain strategic pedigrees.

Along the same lines, leaders should avoid using the threat of defense budget cuts as political theater. Industry will not hesitate to seek alternative outlets, even before cuts take effect.
(e.g. Adams 2013). Politicians should threaten to cut defense spending only when they really mean it—and they should have a plan to control, or at least influence, the export consequences. This leads to the next policy implication. When excess capacity emerges, what can decision makers do about it? One suggestion is to take a lesson from the US experience with military base closures. Politicians often try to take proposed closures off the table for fear of lost jobs. How has the US government gotten around this impediment? As it turns out, it costs money to save money. In order to mitigate the political (and human) costs of lost jobs, the US Department of Defense (DoD) invests substantial sums in job placement programs—as well as grants to affected communities (United States General Accounting Office 1997). To prevent hazardous warship exports, therefore, policymakers should budget for similar mitigation measures designed to reduce the human impact of budget cuts.

States could also defuse export pressures arising from excess physical capital by paying industries to keep it in mothballs. This will diminish net savings, and may seem anathema to market logic, but the investment will pay strategic dividends by reducing the likelihood of risky exports. Moreover, this type of strategic investment is not as unprecedented as it may seem—consider, for example, the roughly analogous function of the US Strategic Petroleum Reserve (SPR): the US government effectively pays to keep a strategic asset off the market to reduce future risk. And risk is not just reduced by abstaining from exports; like the SPR’s potential to forestall a US energy crisis, mothballed warship production capital would allow the US to unleash a major construction program should rising international tensions dictate.

Even leaders who comprehend the excess capacity equation may decide that intra-alliance warship exports offer a cheaper alternative to buying down the sectoral effects of defense cuts. In other words, rather than paying money to save in the long run, they could engage
in vigorous official advocacy of warship sales to allies. What could go wrong? The warship industry receives needed funds, and collective alliance strength increases.

The problem with this approach is that it exacerbates the long-term excess capacity problem. Five or 10 years after an intra-alliance sale, the productive capacity will still exist—but the ally may not need any more ships. Warships, after all, often serve for 30 years or more. Policymakers will once again face the dilemma of permitting risky exports versus paying the political costs of obstructionism. Thus, when contemplating intra-alliance sales, the deciding factor should be a hardheaded assessment of whether the sale really confers strategic benefits. If the main motivation is to provide a relief valve for excess capacity, it may be better to bite the bullet and deal with the problem directly—through subsidies for defense conversion, as discussed above—rather than punting strategic risk to future leaders, who may have to operate within an even more challenging geopolitical and fiscal environment.

The dissertation has one final policy implication. Presuming that responsible leaders really do want to strike a reasonable balance between security and jobs, what can they do to make state export controls more effective? A key observation regarding the Russian, British and German export control regimes is that shirking, opportunism, corruption, and lack of coordination run rampant when export controls and related bureaucracies are decentralized or undergo frequent reorganization (as in Yeltsin’s Russia). Moreover, case-by-case review processes intended to focus on strategic factors can be hijacked for political and economic purposes. Drawing on these findings, policymakers interested in taking firmer control of warship exports should design export controls that leave minimal room for interpretation, and reserve the adjudication of case-by-case exceptions to the highest level of government—and never on a “silence is consent” basis that promotes laissez-faire exports.
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Warship exports, and the conventional arms trade more broadly, will remain a feature of international relations for the foreseeable future. Excess capacity will likely continue to be a key driver of those exports, particularly in strategically puzzling cases. That does not mean, however, that security is doomed to play a perpetual second fiddle to jobs. This dissertation has, I hope, shed light on the political economy of warship exports to help illuminate the way forward for policymakers interested in finding a responsible balance.
APPENDIX A: NAVAL POWER AND WARSHIP EXPORTS

Navies allow states to project power beyond their own shores. Few maritime states would prefer to wait passively for enemies to swarm over their coasts; thus, the ability to put ships to sea is important whether a state’s strategic goals are offensive or defensive. The relationship between warships and naval power calls for a detailed consideration of how exports could threaten security, leading to reduced probability of exports. This appendix supplements chapter 1’s discussion of relative naval power—a key control variable in the analysis of warship exports.

Home and Away Games

The essential attribute of power projection, whether for the purpose of fighting a full-scale war or in the service of more limited objectives, is a state’s ability to overcome the practical challenges of applying military power beyond its own borders. Borrowing from Matthew Kroenig (2010, 15), I define the core elements of power projection capability as “the geographical position, force posture and military capabilities” that allow a state to achieve desired military objectives against enemy opposition. Naval forces provide a subset of those capabilities; moreover, their seaborne mobility—combined with their ability to transport troops, weapons and supplies—serves a critical role in the conduct of military operations away from one’s own coastline. Indeed, the greater a state’s naval capabilities, the more it will be able to overcome the “tyranny of distance” associated with power projection. Moreover, warships are

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1 Kroenig (2010, 14) measures power projection capability against the criteria of “the ability to fight a full-scale, conventional, military, ground war on the territory of a potential target state.” This is a suitable benchmark for the strategic impact of nuclear weapon assistance, which could negate wholesale the exporting state’s conventional warfighting advantage (14-22). For my purposes, it is not necessary to take such a comprehensive view of power projection, since even smaller maritime states have a significant strategic stake in the naval balance. Similarly, my analysis focuses on the balance of power projection capability between two states rather than making a qualitative distinction as to whether or not a state is a “power-projecting state” (47).
intimately related to two conceptual subcomponents of power projection, which might informally be called the “away game” and the “home game.” I consider each in turn.

The most straightforward interpretation of naval power projection is the ability to undertake offensive actions “away,” near an enemy’s home shores or another distant area of strategic interest, such as contested island territories or shipping routes traveled by a state’s merchant vessels. In this case, the effects of distance—supply challenges, the lack of nearby facilities to repair battle damage, and so forth—redound to the offense’s disadvantage, thanks to “the stopping power of water” (Mearsheimer 2001, 41; see also Levy and Thompson 2010, 11).

Consider the disadvantages suffered by the Russian fleet during the 1905 Russo-Japanese war, which involved a renowned naval battle near Tsushima: an island situated between Japan and the Korean peninsula. The Russian and Japanese fleets were roughly equivalent on paper, with four modern battleships and a similar number of supporting ships apiece. Yet, the effects of distance created a significant disadvantage for the Russians. Though some of the Russian fleet sailed from the Pacific port of Vladivostok, a significant proportion of the Russian ships in the May 1905 battle had just arrived after a marathon voyage from the Baltic Sea. This seven-month expedition involved a slogging circumnavigation of Europe, Africa and Asia—a voyage that was “both an epic and a nightmare” due to breakdowns and logistical challenges (Spector 2001, 5). Once they arrived at the scene of action, “overloaded by extra coal and supplies, their metal hulls fouled by marine growths acquired during the long voyage through tropical waters, even the newest Russian battleships could not hope to match the speed of their Japanese opponents…. [and] in addition to decreasing their speed, the overloading of the Russian

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2 I use the term “offensive” for illustrative purposes, to indicate operations at a distance from home ports. Politically speaking, in the case of contested island territories far from either state’s home shores, the distinction between “offense” and “defense” may be highly relative. Moreover, from a narrowly military perspective, any given instance of combat will necessarily entail elements of both offense and defense—see, for example, Corbett (2004 [1911], 30).
battleships also made them less stable and more likely to capsize” (8). These disadvantages contributed to an overwhelming Russian defeat. And not only did Russia lose the war, but at Tsushima alone, the human toll of 5,000 dead Russian sailors outnumbered Japanese deaths by a ratio of more than 42 to one (21).

The implication for warship exports is clear. Exports hazard the ability to win future “away games” in distant waters. The less substantial the would-be exporter’s power projection advantage, therefore, the less likely exports should be. By the same token, the greater the exporter’s power projection advantage, the less the marginal impact of exports on the away game. Hence, exports should be more likely.

The second component of power projection is the “home game,” which is to say the ability to defeat potential adversaries in or near one’s own territorial waters—far from the enemy’s home shores. States with coastlines are vulnerable to amphibious assaults or other acts of war such as interdiction of coastal merchant shipping. Navies offer states the ability to project combat power into their immediate neighborhood, including their own home waters, to defend against these possibilities. Though powerful countries such as the United States may prefer to play defense as an “away game” by stopping potential adversaries and protecting seagoing trade far from their own shores, it is a minimal military requirement that states be prepared to defend their coasts and shipping, or break blockades of their ports.

In these circumstances, the effects of distance act in the defender’s favor. Nevertheless, after accounting for distance effects, logic identical to that of offensive power projection applies. Prospective exporters with a great home-game power projection advantage should be more likely to export, whereas those with a more tenuous advantage—and especially those already at a defensive disadvantage—should be more restrained.
Control of the Seas

The discussion so far has concentrated on a theoretical perspective on relative naval power. To more closely specify just what it is that warship exports hold at risk, I now turn to a brief consideration of naval strategy.

American naval historian Captain Alfred Thayer Mahan was among the first to distinguish naval strategy as a field of study, asserting in his seminal *The Influence of Seapower Upon History, 1660-1783* (1918 [1890], iii) that “historians generally have been unfamiliar with the conditions of the sea, having as to it neither special interest nor knowledge; and the profound determining influence of maritime strength upon great issues has consequently been overlooked.” Mahan’s admonition—combined with his historical analysis—stimulated a vibrant discourse that ultimately settled on *sea control* as the foundation of naval strategy. This core imperative is derived from three elemental principles of naval strategy.

First, the ultimate purpose of sea control is to influence events on land. As Paul Kennedy (1976, 2) writes, “the sea is not, like the land, of much use to man in itself…it is, instead, a medium through which he travels from one land position to another….”\(^3\) The sea is, in other words, a “great highway” or “a wide common, over which men may pass in all directions” en route to destinations (or military objectives) ashore (Mahan 1918 [1890], 25; see also Posen 2003). The aim of naval strategy, then, is not merely to destroy enemy ships, but rather to support a state’s broader national strategy.

The national strategy in question may involve activities ranging from the defense of one’s own shores, to the protection of merchant shipping, to demonstrations of resolve (“gunboat diplomacy”), all the way through actual offensive combat operations (e.g., Corbett 2004 [1911],

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\(^3\) Obviously, this assertion could be qualified in light of sea-based economic activity such as fishing and oil and gas extraction. However, the general principle still applies.
14). This suggests that sea control is a concern for all states with oceanic shorelines—not just the most powerful. All oceangoing states rely to some degree on access to the maritime commons for their security and prosperity.

A second principle of naval strategy is that, to fulfill the mandate of influencing events on land, “the object of naval warfare must always be directly or indirectly either to secure the command of the sea or to prevent the enemy from securing it” (Corbett 2004 [1911], 87, 90-91). Indeed, this is a primary function, if not the primary function of navies. To be sure, navies can and do project combat power directly onto enemy shores. History is replete with examples, including Allied and British amphibious assaults during World War Two, the Korean War, and the Falklands conflict, and more recently, cruise missile and carrier-based aircraft strikes in the Afghanistan and Iraq wars. But sea control is a prerequisite for such power projection. Offensive action (other than long-range strategic bombing or ballistic missile attacks) cannot proceed if an enemy is able to interdict the maritime lines of communication leading to the attacker’s objective. The Battle of the Atlantic between Hitler’s U-boats and Allied convoys presents a clear example. The D-Day amphibious assault would not have been possible had Germany succeeded in cutting off the Atlantic convoys supporting the US buildup in England.

Moreover, naval defense—safeguarding one’s own shores and maritime commerce—is equally rooted in sea control, since it denies enemy use of the sea. Indeed, sea control promotes strategic flexibility. As the United States’ first Secretary of Defense, James Forrestal, averred, “as long as we can outproduce the world, can control the sea and can strike inland with the atomic bomb, we can assume certain risks otherwise unacceptable” (Gaddis 1982, 62).

The third principle is that sea control is not the same as “command of the sea.” Even for maritime superpowers such as nineteenth century Great Britain and the present-day United

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4 Notably, the war in Afghanistan has involved operations by carrier-based aircraft over a landlocked country.
States, sea control does not imply “a total possession of oceanic waters” (Kennedy 1976, 2). As Kennedy (ibid.) writes, “this is both physically impossible and strategically unnecessary.”

Rather, all sea control is local, and its duration limited (Corbett 2004 [1911], 88-90; Hughes 2000, 10; Kennedy 1976, 2-3).

The scale and duration of sea control is, in other words, proportional to the desired strategic effect. For example, in World War Two, Allied operations against Japan progressively established sea control from Hawaii and Australia all the way to Japan’s shores. Each stage of the campaign rendered ever-larger areas of the ocean safe for Allied operations. Yet, while a comprehensive approach to sea control was essential to a strategy aiming for the wholesale defeat of Japan, more limited objectives imply a more limited scope and duration for sea control. In the 1982 Falklands campaign, the British objective was limited to regaining the islands from the Argentine forces. To that end, sea control operations were limited to the immediate surrounding waters, and constrained to the time required to obtain British objectives. Once Argentina conceded control of the Falklands, active sea control operations concluded. Had Argentina been fighting for national survival, Britain’s sea control problem would have expanded significantly in time and geographic scope.

The principle that the scope and duration of sea control are proportional to strategic objectives strengthens the conclusion that sea control does not become irrelevant merely because a state is too weak to “command” the seas. A disadvantageous local naval balance poses a strategic problem even if it does not represent an existential threat. Consequently, states must consider the effects of warship exports on the naval balance.

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5 Similarly, Posen (2003, 7) argues that even the world’s present-day leading power cannot expect to attain sea control everywhere and at all times—rather, there are “arenas of military action where adversaries continue to be able to fight US forces with some hope of success….”

6 Corbett (2004 [1911], 87) writes that “the most common situation in naval war is that neither side has the command; that the normal position is not a commanded sea, but an uncommanded sea.”
This has implications for the strong as well as the weak. Because all sea control is local, it is the local balance that matters. States with global strategies that export warships to smaller states with powerful local interests may encounter strategic challenges when their interests clash in the smaller state’s neighborhood. This is compounded by the tactical asymmetries inherent to modern naval warfare: a single diesel submarine poses a meaningful threat even to a powerful US carrier strike group. As Chairman of the US Joint Chiefs of Staff General Martin Dempsey puts it (Department of Defense 2012, 2), “the diffusion of advanced technology in the global economy means that middleweight militaries and non-state actors can now muster weaponry once available only to superpowers.”

In sum, the strategic imperatives of sea control mean that warship exports have meaningful repercussions for all maritime states, whether large or small, and whether possessing ocean-spanning navies or limited coastal defense forces.

**Capabilities vs. Intentions: The Cautious Logic of Defense Planners**

Finally, I argue that the security input to the export decision calculus generally proceeds in accordance with the tenets of “capabilities-based planning,” which set aside potential adversaries’ presumably unknowable intentions in favor of a focus on material capabilities.

The World War One alliance between the United States and Britain, for example, did not stop interwar US naval planners from preparing “War Plan Red” to cover the possibility of a mid-twentieth century war with the United Kingdom. Writes Christopher Bell (1997, 789-790),

> The plans of the US and British navies for an Anglo-American war have received little attention because most historians accept the premise that such an event was “unthinkable”; that the likelihood of war between the United States and the British Empire was so remote as to have become an absurdity. For planners in the armed services, however, who accept as a matter of course that states use force
whenever necessary to further their interests, it was natural to assume that any other state would, in certain circumstances, resort to war.

International relations scholars expound upon the capability-centric leanings of defense planning and its academic counterpart, strategic studies, as well as the challenges of injecting nuanced perspectives into the policymaking process. In a survey of the strategic studies subfield, Robert Ayson (2008, 567) writes of an

obvious bias toward material understandings of power in international politics, not least because of the importance of physical military capabilities…[moreover,] students of strategy generally treat armed conflict as an underlying, and sometimes unavoidable, reality of the international system…this helps make realism a natural partner of strategic studies, in terms of its emphasis on the material basis of power and the competition for influence and security within a largely anarchic international system.\(^7\)

Pointedly, Ayson (ibid.) goes on to note that “the many scholars of the subject who have been asked to provide strategic advice to politicians…will be aware that there is a limited appetite in these circles for intricate and self-reflective theoretical disposition.”

Thus, it is likely that a capabilities-based conservatism heavily informs the defense input to the warship export decision-making process. Combined with the preceding observations on power projection and sea control, this reinforces the argument that both military logic and the habitual practices of defense planners dictate an abundance of caution when contemplating warship exports. This, in turn, should constrain states against exporting when they do not enjoy a significant power projection advantage.

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\(^7\) For a similar argument, see also Betts (1997, 9).
## APPENDIX B: POTENTIAL WARSHIP EXPORTERS

*Table B.1. Potential warship exporters*

<table>
<thead>
<tr>
<th>State</th>
<th>Navy?</th>
<th>Navy Termination</th>
<th>Warship Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Algeria</td>
<td>1962-</td>
<td>-</td>
<td>1983</td>
</tr>
<tr>
<td>Argentina</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Australia</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Bahrain</td>
<td>1974-</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1972-</td>
<td>-</td>
<td>1972</td>
</tr>
<tr>
<td>Belgium</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Brazil</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Brunei</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Yes</td>
<td>-</td>
<td>1959</td>
</tr>
<tr>
<td>Canada</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Chile</td>
<td>Yes</td>
<td>-</td>
<td>1968</td>
</tr>
<tr>
<td>China</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Colombia</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Croatia</td>
<td>1991-</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Cuba</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Denmark</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Ecuador</td>
<td>Yes</td>
<td>-</td>
<td>1986</td>
</tr>
<tr>
<td>Egypt</td>
<td>Yes</td>
<td>-</td>
<td>1975</td>
</tr>
<tr>
<td>Eritrea</td>
<td>1996-</td>
<td>-</td>
<td>No</td>
</tr>
</tbody>
</table>

1 The “Navy?” column denotes the first year that the state possessed a navy, according to the *Jane’s Fighting Ships* annuals, if the year is after the country’s first entry in the Correlates of War (COW) database (Ghosn and Bennett 2003). “Yes” means the country already had a navy in 1950 (or the year it entered the COW database). Each entry is footnoted with its source and a brief explanation. See bibliography for a complete list of *Jane’s* volumes consulted. Additional information on Albania is drawn from Soper (1994, 222).

2 Where applicable, the “Navy Termination” column denotes the year in which a state’s navy was disestablished.

3 The years listed in the “Warship Industry?” column denote the first year that the state possessed a shipbuilding industry, if the year is after 1950. (“Yes” indicates that the industry predated 1950.) The basic list is drawn from Todd and Lindberg (1996, 87). Because Todd and Lindberg do not provide chronological data regarding industry inception, I draw on the *Jane’s Fighting Ships* annuals, which list the country of origin of each ship described, thus indicating whether warships were being imported or produced domestically. I used additional sources where *Jane’s* was inconclusive. I consulted the following sources: *Jane’s* 1951-52 (Blackman 1951), 1960-61 (Blackman 1960), 1970-71 (Blackman 1970), 1980-81 (Moore 1980), 1990-91 (Sharpe 1990), 2000-01 (Sharpe 2000), Stephen D. Olynyk’s (1997) “Ukraine as a Post-Cold War Military Power,” and Richard A. Haggerty’s (1993) “National Security” in *Venezuela: A Country Study* (Haggerty, 1993).


5 Bangladesh established its navy and commissioned its first ships (both domestically built and procured from the Soviet Union) in 1972, a year after its independence (Moore 1973).

6 After Eritrea gained independence from Ethiopia in 1993, “all vessels of the former Ethiopian Navy were put up for sale at Djibouti from 16 September 1996. All were either taken over by Eritrea, sold to civilian firms or scrapped” (Saunders 2001, 195).
<table>
<thead>
<tr>
<th>State</th>
<th>Navy?</th>
<th>Navy Termination</th>
<th>Warship Industry?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>Yes</td>
<td>1993</td>
<td>No</td>
</tr>
<tr>
<td>Finland</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>France</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Georgia</td>
<td>1993</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Germany (East)</td>
<td>Yes</td>
<td>1990</td>
<td>Yes</td>
</tr>
<tr>
<td>Germany (West/Unified)</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Greece</td>
<td>Yes</td>
<td>-</td>
<td>1975</td>
</tr>
<tr>
<td>India</td>
<td>Yes</td>
<td>-</td>
<td>1966</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Yes</td>
<td>-</td>
<td>1968</td>
</tr>
<tr>
<td>Iran</td>
<td>Yes</td>
<td>-</td>
<td>1987</td>
</tr>
<tr>
<td>Iraq</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Israel</td>
<td>Yes</td>
<td>-</td>
<td>1966</td>
</tr>
<tr>
<td>Italy</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>1996</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Kenya</td>
<td>1964</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Kuwait</td>
<td>1962</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Libya</td>
<td>1966</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1958</td>
<td>-</td>
<td>1984</td>
</tr>
<tr>
<td>Morocco</td>
<td>1960</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>North Korea</td>
<td>Yes</td>
<td>-</td>
<td>1957</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Norway</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Oman</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Pakistan</td>
<td>Yes</td>
<td>-</td>
<td>1994</td>
</tr>
<tr>
<td>Peru</td>
<td>Yes</td>
<td>-</td>
<td>1959</td>
</tr>
<tr>
<td>Poland</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Portugal</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Qatar</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
</tbody>
</table>

7 Ethiopia became landlocked following Eritrea’s independence in 1993.
8 Georgia’s Navy and Coast Guard were formed on July 7, 1993 following Georgia’s 1991 independence from the USSR (Saunders 2001, 245).
9 Kazakhstan’s “naval flotilla” was established on August 17, 1996 following independence from the Soviet Union in 1991 (Saunders 2001, 402).
10 Kenya’s Navy was founded on December 12, 1964, the first anniversary of independence (Blackman 1970, 210).
12 The Libyan navy was created in November 1962, with the assistance of a “British Naval Mission” that trained Libyan recruits at Royal Navy facilities on Malta and in England (Blackman 1970, 217). Libya procured its first ships from Britain in 1966 (Blackman 1969, 202).
13 Malaysia gained independence from the British Empire in 1957; however, the first ships transferred from Britain to Malaysia did not arrive until 1958 (Blackman 1961, 154).
14 Four years after its 1956 independence, Morocco procured its first naval ships from France (Blackman 1961, 156).
### Table B.1 (continued). Potential warship exporters

<table>
<thead>
<tr>
<th>State</th>
<th>Navy?</th>
<th>Navy Termination</th>
<th>Warship Industry?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romania</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Russia/Soviet Union</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>1960(^{15})</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Singapore</td>
<td>1967(^{16})</td>
<td>-</td>
<td>1968-</td>
</tr>
<tr>
<td>South Africa</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>South Korea</td>
<td>Yes</td>
<td>-</td>
<td>1971-</td>
</tr>
<tr>
<td>South Vietnam</td>
<td>1955(^{17})</td>
<td>1975</td>
<td>No</td>
</tr>
<tr>
<td>Spain</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Sweden</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Syria</td>
<td>1957(^{18})</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Yes</td>
<td>-</td>
<td>1975-</td>
</tr>
<tr>
<td>Thailand</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Tunisia</td>
<td>1959(^{19})</td>
<td>-</td>
<td>1986-</td>
</tr>
<tr>
<td>Turkey</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>UAE</td>
<td>1976(^{20})</td>
<td>-</td>
<td>1996-</td>
</tr>
<tr>
<td>Ukraine</td>
<td>1996(^{21})</td>
<td>-</td>
<td>1991-</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>United States</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Venezuela</td>
<td>Yes</td>
<td>-</td>
<td>1975-</td>
</tr>
<tr>
<td>Vietnam (North/Unified)</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Yemen Arab Republic</td>
<td>1968(^{22})</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Yemen People’s Rep</td>
<td>Yes</td>
<td>1990</td>
<td>No</td>
</tr>
<tr>
<td>Yugoslavia</td>
<td>Yes</td>
<td>1992</td>
<td>Yes</td>
</tr>
</tbody>
</table>

---

\(^{15}\) Saudi Arabia’s first naval vessel was a patrol craft transferred from the US in 1960, ten years after Saudi Arabia’s emergence as a state (Blackman 1961, 198).

\(^{16}\) Following independence, Singapore acquired its first warship from the UK in 1967 (Blackman 1970, 275).

\(^{17}\) French advisers administered the RVN Navy until August 1955 (Goldrick and McCaffrie 2013, 181).

\(^{18}\) Though a state since 1950, Syria did not maintain a navy until it procured used torpedo boats from the Soviet Union in 1957 (Blackman 1963, 237).

\(^{19}\) Following its independence in 1956, Tunisia formed a navy in 1959 through acquisition of ex-French ships (Blackman 1961, 233).

\(^{20}\) Unification of the UAE member states’ armed forces in 1976 followed five years after the establishment of the UAE in 1971 (Saunders 2001, 747).

\(^{21}\) Russia’s transfer of ex-Soviet warships to Ukraine did not occur immediately upon the dissolution of the USSR in 1991. Rather, the former Soviet Black Sea Fleet was operated jointly (following an initial period of confusion) until “the division of the Fleet” was agreed upon in 1995, per an August 3, 1992 agreement between Russia and Ukraine (Saunders 2001, 738). This division was implemented in stages between 1996 and 1997 (ibid.)

\(^{22}\) The Yemen Arab Republic received its first warships from the USSR in 1968 (Moore 1984, 764; SIPRI 2011).
APPENDIX C: EXPORTS FROM STATES WITH NO WARSHIP INDUSTRY

Table C.1 describes the six exports from states without domestic warship industries (0.4 percent of the export cases). Most of these instances are contextually and theoretically distinct from the vast majority of exports. (Two of the exports, for example, represent the back-and-forth transfer of secondhand Soviet ships between the same pair of states.) Nevertheless, including them in the analysis ensures that the model results do not hinge on the inaccurate assumption that exports from non-industry states are impossible rather than just highly improbable.

Table C.1. Exports from states without warship industries

<table>
<thead>
<tr>
<th>Year</th>
<th>Exporter</th>
<th>Importer</th>
<th>Warship(s)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td>Israel</td>
<td>Sri Lanka</td>
<td>Frigates</td>
<td>Surplus Israeli frigates, originally obtained as surplus from the United Kingdom. Israel developed its domestic warship industry by 1966 (see appendix B)</td>
</tr>
<tr>
<td>1969</td>
<td>Syria</td>
<td>Egypt</td>
<td>Fast attack craft</td>
<td>Surplus Syrian ships (ex-Soviet surplus). Syria’s sole warship export</td>
</tr>
<tr>
<td>1978</td>
<td>Libya</td>
<td>Malta</td>
<td>Patrol craft</td>
<td>Surplus Libyan ship (originally procured new from the United Kingdom), provided as aid to Malta. Libya’s sole warship export</td>
</tr>
<tr>
<td>1979</td>
<td>Pakistan</td>
<td>Iran</td>
<td>Supply ships</td>
<td>Cargo, ammunition supply and mine-laying ships constructed in Pakistani civilian shipyard for Iran. Not substantially different from a civilian ship. Pakistan’s sole warship export</td>
</tr>
<tr>
<td>1986</td>
<td>Yemen People’s Republic</td>
<td>Ethiopia</td>
<td>Fast attack craft</td>
<td>Surplus Yemen People’s Republic ship (ex-Soviet surplus). YPR’s sole warship export</td>
</tr>
<tr>
<td>1987</td>
<td>Ethiopia</td>
<td>Yemen People’s Republic</td>
<td>Fast attack craft</td>
<td>Originally imported from Yemen People’s Republic in 1986, then returned to YPR in 1987. Ethiopia’s sole warship export except for transfer of attack craft to Eritrea following dissolution of their federation (after which Ethiopia became landlocked)</td>
</tr>
</tbody>
</table>

APPENDIX D: STALIN’S HIGH-SEAS FLEET AND SOVIET DEFENSE ECONOMICS

Josef Stalin planted the seeds of Russia’s warship export dilemma. His expansive vision of a blue-water Soviet Navy\(^1\) and his structural bifurcation of military supply and demand set in motion dynamics that would collide in the late 1980s, leading to strategically-puzzling warship exports. This appendix supplements the Soviet Union/Russia case study, examining these factors in more detail as background to chapter 3’s analysis.

Stalin’s High-Seas Fleet and its Industrial Base

Stalin’s fleet was a direct reflection of its Tsarist forerunner. On the eve of the October Revolution, the Russian navy was typical of a European World War I great power. Centered on battleships and heavy cruisers, with various submarines, destroyers, minesweepers, and other smaller ships in supporting roles, the Russian fleet was intended to confront its chief seagoing adversaries—Germany and Turkey—on the high seas.\(^2\) The Russian and Soviet naval experiences in both world wars suggest that the fleet’s composition was mismatched with its real wartime requirements, which were effectively limited to coastal defense and near-shore support to the army—tasks for which large battleships and cruisers were impractical (Hauner 2004, 90). Yet despite the strategic argument for smaller and cheaper warships, archival evidence suggests

---

\(^1\) The term “blue water” is traditionally used to describe the high seas, in contrast to near-shore or “green water” coastal areas. Blue-water operations are typified by the 1905 battleship actions of the Russo-Japanese War’s Battle of Tsushima, or the World War Two carrier battles between the United States and Japanese Navies, including the Battles of the Coral Sea, Midway, and the Philippine Sea.

\(^2\) On the constitution of the Tsarist fleet, see Vego (2009, 203). For a discussion of pre-Revolution naval strategy, see Hauner (2004). On pre-World War I defense industry mobilization and Russia’s wartime expropriation of private defense industries (the precursor to Bolshevik nationalization of all industries), see Sokolov (2008, 32). In a foreshadowing of things to come, Sokolov notes that pre-World War I Russian naval industry mobilization was particularly pronounced in the case of submarine construction. (The Soviet Union and Russia would become prolific exporters of submarines—including the Kilos sold to China in 1993.)
that Stalin desired a power fleet for reasons of national prestige.\(^3\) Whatever Stalin’s reasons, he committed the Soviet Union to developing an expansive warship industry.

**The Interwar Period**

The Red Navy emerged from the 1917 Revolution in tatters. Manpower was reduced from 180,000 to 35,000, and the Bolsheviks neglected the navy in favor of the People’s Army (Vego 2009, 202-206). By the mid-1920s, as Commissar for the Army and Navy M.V. Frunze bluntly put it, “we had no Navy” (Rohwer and Monakov 2001, 7). By 1921 the Soviet naval industry was producing only eight percent of 1913’s level of output (ibid.).

Upon ascending to power, Stalin therefore embarked “on a huge naval buildup, including gigantic shipyard construction” (Vego 2009, 208).\(^4\) Rather than merely defending Soviet shores, Stalin’s high-seas fleet was intended to defeat enemies in four maritime areas of Soviet strategic interest—the Baltic and Black Seas and the Arctic and Pacific Oceans.\(^5\) Due to a false start on military modernization in the Soviet Union’s first Five Year Plan (1927-1932), a warship industry capable of producing “reasonably modern weaponry in significant quantity” emerged

---

\(^3\) Natalia Yegorova (2005, 158 and passim) describes how Stalin overrode other voices in the Soviet elite and ordered the interwar construction of an ongoing fleet of heavy warships. There were, of course, strategic incentives for the Soviet naval construction program before World War Two, though as noted earlier, these could well have been met with smaller ships requiring a less extensive industrial base. According to Rohwer and Monakov (2001, 222), “…Stalin felt that the Soviet Union was becoming increasingly surrounded by possible enemy states. This led him to want to build up the military strength of the Soviet Union to a level superior to that of his neighbours…especially the Japanese in the Sea of Japan and the Germans in the Baltic, and to a lesser extent the Germans and their allies in the Arctic, and the Romanians, the Turkish and the Italians in the Black Sea.” See also Vego (2009, 207-208), who argues that Stalin was spurred on by the Japanese and German naval buildups of the 1930s. Returning to the prestige factor, however, Rohwer and Monakov (2001, 223) also argue that “in the late 1930s to Stalin…a battleship, a dreadnought, was a direct historical predecessor to the atomic bomb, a symbol of the highest grade of power, a most powerful and mobile instrument of power politics, that the world had ever known.”

\(^4\) This was part and parcel of Stalin’s overriding emphasis on developing Soviet heavy industry, a term that would become practically synonymous with “defense industry” during the Soviet era (McCauley 1995, xi).

\(^5\) On Stalin’s interwar naval strategy, see Rohwer and Monakov (2001), Vego (2009), and Yegorova (2005). In particular, Stalin used his personal authority to quash (by reassignment or arrest) the “Young School” of Soviet naval strategists whose voices were dominant in the early 1930s (Rohwer and Monakov 2001, 104). Inspired by the French Navy’s *jeune école*, these navalists argued for a fleet of small ships focused on defense against an amphibious invasion (Vego 2009, 206).
only in the mid-1930s (Odom 1998, 55). Nevertheless, by 1935 the navy’s budget increased to 41 percent of all defense allocations and 5 percent of the entire state budget (Vego 2009, 208). And by 1937, Stalin’s submarine fleet outnumbered that of any foreign competitor.

Industrial preparations for a major warship construction program proceeded swiftly throughout the 1930s. Soviet archives reveal that the naval shipbuilding industry rapidly spread tentacles across the entire expanse of the Soviet Union (Rohwer and Monakov 2001). 1930, for example, saw increased emphasis on the Arctic and Pacific fleets in addition to the traditional Baltic and Black Seas fleets. This provided the impetus for a large buildup of the shipbuilding industry in those areas. The Second Five Year Plan (approved in 1933) correspondingly emphasized the development of heavy industry in the eastern part of the Soviet Union. The buildup of the warship industry was not limited to coastal areas; warships were also built well inland, at shipyards such as those in Gorky (later renamed Nizhniy Novgorod) on the Volga River, and Komsomolsk, 300 miles up the Amur River from the Pacific Ocean (Moore 1975, 53; Rohwer and Monakov 2001, 42). Components, or even whole warships, were constructed at landlocked facilities and shipped by rail to Soviet seaports. Finally, by the late 1930s, responsibility for warship design had been split from naval shipyards and assigned to various Central Design Bureaus.

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6 Though Soviet planners had incorporated investments in the basic scientific and engineering techniques required for modern armaments, “neither Stalin nor his economic and military advisers seem to have understood initially that expansion of the industrial base had to come before significant modern arms production was possible” (Odom 1998, 55). The military cart, in other words, was put before the industrial horse.

7 For a comprehensive, minutely detailed survey of the Soviet Union’s defense industry complex from 1917 through 1991 based on Soviet archives, see the dataset compiled by Dexter and Rodionov (2013).

8 For example, on 25 July 1932, the USSR “decided to start building a gigantic yard at Molotovsk near Arkhangelsk [on the Arctic Ocean coast], capable of constructing the biggest ships in roof-covered drydocks” (Rohwer and Monakov 2001, 43). The continued emphasis on the traditional Black Sea fleet was reflected in the construction of new shipyards at Kiev and Sevastopol in Ukraine (45, 53).

9 “Urgent measures” were undertaken to build up construction and repair yards in Vladivostok and Khabarovsk (Rohwer and Monakov 2001, 42).

10 “…it was decided in December 1931 to build small and medium-sized submarines in Leningrad and Nikolaev, to be transported in sections or with the whole pressure hull by rail on the [Trans-Siberian Railroad] to the assembly yards at Khabarovsk and Vladivostok” (Rohwer and Monakov 2001, 42).
This size, geographic scope, and increasing specialization of the 1930s warship industry were omens. After Stalin’s death, warship design and production enterprises and the defense industry hierarchy evolved into political actors with which the Soviet and Russian leadership had to reckon carefully. Leaders needed to take seriously the interests of the defense industry, which became a major power player in post-Stalin political logrolling.

*World War Two through 1950*

Soviet shipbuilding capacity had increased significantly by the time the *Wehrmacht* stormed across the USSR’s border on June 22, 1941. The Soviet Navy had nearly nine times as many warships in 1941 as it had in 1931 (Rohwer and Monakov 2001, 135).

World War Two placed a temporary damper on Stalin’s naval ambitions. The overriding imperative to repel Germany’s overland assault relegated the navy to the back burner. Naval operations were limited to defending the Red Army’s coastal flank from German amphibious attack (Vego 2009, 213). By July 19, 1941, just four weeks after the invasion, Stalin had ordered his shipyards to complete only those ships that were nearly done, cease work on the rest, and put a stop to any new construction plans (Rohwer and Monakov 2001, 145-146). Moreover, by 1942, Nazi forces had overrun the Soviet Union’s Black Sea shipyards and naval bases, and the Baltic yards at Leningrad were under siege (145, 148). By this time, over half of the shipyards’ capacity was being reoriented to produce goods for the army (148).

After the Allied victory, however, Stalin renewed his focus on building a blue-water navy. ¹¹ With the experience of invasion fresh in his mind, he envisioned extending the Soviet defensive perimeter beyond traditional coastal boundaries, by projecting naval power through the

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¹¹ Oddly, given the minimal role played by the Soviet Navy in World War Two, Stalin in a May 1945 speech singled out the navy—along with tank formations—as the two types of forces that would not be reduced in the postwar demobilization (Rohwer and Monakov 2001, 185).
Black Sea to Mediterranean (Vego 2009, 213-214). As in the interwar period, his appetite exceeded the available resources—particularly since wartime devastation had been especially damaging to the warship industry.\textsuperscript{12} Thus, a postwar naval buildup got underway, beginning with the restoration of the bombed-out Baltic and Black Sea shipyards and the construction of new or larger yards on the Arctic and Pacific coasts (Polmar 1979, 56). Moreover, the USSR “allocated considerable resources to stimulate the engineers and technicians of the military shipbuilding industry,” and allocated extra benefits to shipyard workers (Yegorova 2005, 165). No effort was spared in rebuilding the naval industrial base.\textsuperscript{13} Stalin’s ruthless dictatorship could hardly have been more beneficial to the warship industry, with the costs of Cold War military mobilization extracted from the long-suffering Soviet citizen—whose standard of living quickly “plummeted to a level below that of the vanquished Germans” (Zubok 2007, 53, 55).

Though they would ultimately lead to massive warship production capacity, Stalin’s early Cold War naval ambitions were at first constrained by the need to invest in the army, air force, and nuclear weapons (Rohwer and Monakov 2001, 216).\textsuperscript{14} The scope of Stalin’s naval ambitions was clear, however, in the shipbuilding plan he approved on November 27, 1945: though never fully realized, the plan envisioned a construction program producing 5,850 combatant and auxiliary warships by 1955 (188).\textsuperscript{15} At the same time, “the plans for 1946 also included forty new naval bases”—even as the Red Army dropped by almost two-thirds, from 12.5 to 4.5 million by September 1946 (Zubok 2007, 52-53).

\textsuperscript{12} As of 1945, the shipbuilding industry was reduced to about 60 percent of its 1940 capacity, with 45 percent of the 1940 labor force, and production below 1938 levels (Rohwer and Monakov 2001, 186). See also Vego (2009, 226).
\textsuperscript{13} See, for example, Nikita Khrushchev (1990, 71) on the priority accorded to rebuilding Soviet defense industries.
\textsuperscript{14} The Soviet strategic focus in the early Cold War was on the anticipated clash of armies in Germany (Zubok 2007, 81). Because of US nuclear superiority, Soviet deterrence was founded on the ability to “maintain an armored force in East Germany capable of delivering a lightning blow to NATO armies and occupying Western Europe all the way to the English Channel” (ibid.).
\textsuperscript{15} Amazingly, this figure—developed in consultation with warship producers and the defense ministry—was explicitly designed \textit{not} to tax the recovering warship industry (Rohwer and Monakov 2001, 188)!
To some degree, Stalin did temper his naval objectives in light of resource constraints. In the late 1940s, he temporarily focused naval construction on small ships suitable for coastal defense, commensurate with the limited capacity of the recovering shipbuilding industry. Nevertheless, in seeming contravention of this pragmatism and “against the wishes of his admirals, he demanded his beloved battlecruisers, the remnants of his great ocean-going fleet” (Rohwer and Monakov 2001, 224). And in 1950, he decisively moved to expand the navy beyond a limited defensive role—ordering extensive construction programs for heavy cruisers, destroyers, submarines, and various smaller warships (Holloway 1994, 241). Stalin’s high-seas fleet, and a sprawling warship industry that to build it, were on their way back with a vengeance.

**Soviet Defense Economics**

The excess capacity theory of warship exports argues that naval shipbuilding industries lobby for self-preservation in lean times. Skeptics might question the theory’s applicability to command economies such as the Soviet Union’s. When the state owns the means of production, there would seems to be little room for warship industries to have interests distinct from those of the state, let alone lobby to protect them. Yet, the practical realities of the Soviet defense industry—even under Stalin’s iron fist—resulted in just such a separation of interests, along with the means to pursue those interests.

To begin, it is necessary to challenge the notion of a unitary Soviet “military-industrial complex.” US President Dwight D. Eisenhower (1961) coined the term in his farewell speech, famously warning against the “acquisition of unwarranted influence” by the “conjunction of an immense military establishment and a large arms industry.” The Soviet Union seemed to exemplify such a conjunction, since both the military (under the Ministry of Defense) and the
arms producers (under various industrial ministries) were branches of the state. Indeed, in the midst of the Cold War, some analysts went so far as to propose that while “the USA has a military-industrial complex, the USSR is a military-industrial complex” (Agursky and Adomeit 1978). Closer examination made possible by scholars’ post-Cold War access to Soviet archives reveals a more nuanced reality. In fact, the Soviet Union’s military and its arms industry were quite distinct from one another—and their interests frequently clashed (Harrison 2003, 338).

The bifurcation of the military and its arms producers stemmed from Politburo decisions in the 1920s to delegate military planning to the Soviet War and Navy Ministries, and all aspects of industrial production to various ministries under the central coordination of the State Committee for Planning, or Gosplan (short for Gosudarstvenniy Komitet po Planirovaniyu). Under this arrangement, which persisted until the end of the USSR, the Defense Ministry provided its “Plan of Current Military Orders” to Gosplan. Gosplan, in turn, instructed the arms industries to produce the necessary warships, tanks, aircraft, and so on, via a “Plan of Gross Output of Defense Industry” (Markevich 2008, 84).

In practice, the system was not so tidy. For one thing, a plan that looked good on paper could easily break down in execution. Both the Defense Ministry and Gosplan relied largely on assumptions and guesswork, and when these proved inaccurate, delay and inefficiency resulted. For example, “factories always began the year or quarter with only the most general plan

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16 In 1953 the War and Navy Ministries merged into a single Defense Ministry (Harrison and Markevich 2008, 67).
17 Gosplan prepared and oversaw the execution of the Five Year Plans. See, for example, Sokolov (2008, 33, 36).
18 The Soviet defense industry ministries emerged from the state’s original, monolithic production arm of the 1920s, called the Supreme Council of the National Economy (VSNKh) (Harrison and Markevich 2008, 59). In December 1936, following a series of VSNKh divisions, the defense industry gained its own distinct ministry (ibid.). Then, in January 1939, “the defense industry was shared out among four new ministries for the aircraft, armament, and shipbuilding industries” (ibid.). Eventually, the individual defense industry ministries came under the aegis of the state Military-Industrial Commission (VPK), but at all times the shipbuilding industry remained a distinct organizational entity within the state’s broader production arm (e.g., Odom 1998, 52). (VPK, despite its suggestive title, remained organizationally completely separate from the military itself.)
indicators, and these were preliminary and subject to further change” (Markevich 2008, 89, 98). This created a disconnect between supply and demand, despite the appearance of a unified plan.

To manage this reality, Moscow relied on an official “quasi-market” in military goods between the Ministry of Defense and the arms industries (figure D.1). “Each year Stalin gave the Army a bag of rubles and told it to buy the guns it needed from Industry” (Harrison and Markevich 2008, 67). This entailed a process of contracting between the defense ministry and industry, in which each side had ample opportunity to pursue its own parochial interests—which were not necessarily aligned with the strategic interests of the state, let alone with one another.  

![Diagram of military supply and demand](image)

**Figure D.1. Relationship of Soviet defense and industrial ministries**

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19 There were also unofficial markets in addition to the officially sanctioned military-industry exchange. Though Gosplan’s “Plan of Gross Output” was (literally) the law of the land, “…agents at lower levels might have to break the law to comply with a superior’s command. For example, to fulfill a production quota, managers often had to go into illegal (but ‘real’) markets or bribe suppliers to obtain the necessary supplies…[officials] might find it hard to tell whether the purpose of the lawbreaking was to support the plan or subvert it” (Harrison and Markevich, Hierarchies and Markets 2008, 54).

20 Indeed, contrary to a unitary interpretation of the Soviet military-industrial complex, there was even a state apparatus—Gozarbitrazh—responsible for arbitrating contract disputes (Harrison and Markevich 2008, 73).

21 Reproduced from Harrison and Markevich (2008, 68 fig 3.7). The note is mine.
The warship industry’s incentives emerged from the fact that Gosplan and the Politburo evaluated the Ministry of Shipbuilding on its ability to meet production targets, not its theoretical contribution to national defense.\(^{22}\) Success in filling quotas underpinned the prestige and political power of defense industry elites (of whom future General Secretary Leonid Brezhnev was a notable example).\(^{23}\) As noted earlier, quotas established in the Five Year Plans were often mismatched with the military’s evolving needs. Typically, military requirements exceeded industry’s quotas, setting up a persistent tension between the military and the defense industry. If the Shipbuilding Ministry agreed to produce more warships, the difference between new construction plans and existing quotas might be perceived as a failure to meet production goals—which were taxing enough, given Stalin’s appetite for warships. In other words, the warship industry had a clear incentive to balk at navy requests that exceeded established planning targets.

Because the Defense Ministry had no choice but to buy from the Shipbuilding Ministry, the quasi-market reduced to a face-off between the military and a monopolistic seller. Moreover, the rapid growth of the warship industry under Stalin created “a shortage economy of generalized excess demand” (Markevich 2008, 100). The dynamic that emerged was exactly as described in

\(^{22}\) As McCauley (1995, xvi) writes, Gosplan “found it extremely difficult to promote innovation and risk-taking. Throughout the Soviet period, quantitative plan fulfillment was more important than qualitative.”

\(^{23}\) On Brezhnev’s association with the defense sector, see Cooper (1990, 166). Similarly, Dmitri Ustinov—arms industry minister under Stalin—“rose to become one of a handful of aging relics that ruled Brezhnev’s Politburo in the 1970s” (Harrison and Markevich, Hierarchies and Markets 2008, 52).
chapter 1’s discussion of defense economics. Industry had the upper hand. If the navy sought more ships, industry inflated prices (sometimes by developing newer and more costly models on its own recognizance), resulting in fewer ships for the ruble (ibid.). In short, industry took action—distinct from the presumed interests of the state—to safeguard its own interests.

The bifurcation of defense and industry interests was not only a structural legacy of the Bolshevik era—it was also a tool of Stalin’s trademark “divide-and-rule” approach to domestic politics (Harrison 2008, 3). In his quest to personally control every aspect of government, Stalin kept the military and defense industry “at arm’s length” from one another to prevent collusion (Gregory 2008, x). Stalin embraced compartmentalization and secrecy, ensuring that one hand did not know what the other was doing.

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24 Chapter 1 also discusses the implications of monopsony, i.e., a single buyer. As one would expect, monopsony was characteristic of the Soviet system. Even during periods in which the army, navy, and state security services (e.g., KGB) fell under separate ministries, scholars have found “no evidence...that these three ever competed in the sense of bidding against each other for scarce goods or services” (Harrison and Markevich 2008, 69). In principle, this should have given the Defense Ministry some advantage in a price negotiation with industry—but since the Soviet Union strove for defense and economic autarky (e.g., Dohan 1976; Mott 2001, 1), the military could not plausibly take its business to foreign suppliers. Nor could it threaten to not purchase goods at all (not that it would matter to the defense industry, whose quotas came from Gosplan rather than the military). Foreshadowing the post-Soviet future, however, it is easy to see that if the Russian navy were forced by budgetary constraints to procure fewer ships for less money, and industry’s incentive was switched from production targets to revenue, the warship industry should seek to escape domestic monopsony by seeking foreign buyers.

25 In this regard, the defense industry differed little from the prototypical view of inefficient, poor-quality Soviet civilian production. “One might expect that defense’s high priority and intense scrutiny would have prevented the abuses of low quality, manipulation of statistics, and waste that characterized civilian production. But the story...is similar to that of the civilian sector: defense industry leaders and managers also behaved opportunistically, sought a wide degree of independence, and followed their own narrow interests” (Gregory 2008, xi).

26 “The dictator personally disliked it when his agents colluded with each other rather than with him, and took steps to break up and punish collusion when it was identified” (Harrison 2003, 338). Stalin apparently succeeded at preventing high-level collusion between the military and industrial ministries during his tenure. Indeed, relations between the two were characterized by “mutual tensions, frustrations, suspicions, and conflicts” (333). Collusion did take place at lower levels—but all to the benefit of industry. “Producers tried to inflate prices and persuade the consumer to accept and pay for products that fell below contractual standards. Defense ministry regulators in industrial establishments struggled to secure information about costs and verify claims about deliveries and quality standards. Collusion took the form of military regulators accepting bribes from producers to make decisions in favor of industry rather than the armed forces” (ibid.).
The defense industry, ironically, turned these to its own advantage—even exploiting hierarchy and distance from Moscow to defy Stalin’s intent. To explain how, it is worth quoting at length from the historian Martin McCauley (1995, xi):

[Centralized] planning favored the emergence of large enterprises and each one tried to become a monopoly. A ministry in Moscow [e.g., the Ministry of Shipbuilding] was responsible for all the enterprises [e.g., shipyards and design bureaus] in its sector. A major problem for Stalin was to discover each plant’s reserves and its true potential since each had a vested interest in concealing both in order to ensure a “soft” plan. One of the tasks of the Party official was to collect such information and also to ensure that the enterprise fulfilled its plan. If it did not, both he and the enterprise would be punished…Ministries enhanced their power during [World War Two], when about a third of Soviet industry was moved from European Russia to the east. Local enterprises collaborated for their mutual benefit…. after the war, ministries consolidated their position as the economy expanded and the Cold War got underway. The latter increased secrecy and made it easier for ministries and enterprises to conceal information.

Even under Stalin’s iron dictatorship, therefore, the Soviet defense industry emerged as an increasingly independent actor, able to exploit the secretive and cartelized domestic system to its own advantage. Stalin’s death would clear the way for even more industry subterfuge and Kremlin logrolling. As long as the Politburo was willing to pay any price for defense, this independent streak was largely limited to shirking in the face of military demands that exceeded...

27 “…as the economy became more complex Moscow’s ability to regulate it declined” (McCauley 1995, xi). This did not preclude attempts to do so: “the hotel menu in Tbilisi, Georgia, was set in Moscow.”
28 As Harrison (“Secrecy” 2008, 250) writes, “the managers of defense plants…exploited secrecy to conceal and exaggerate their true costs and extract a surplus from the [defense ministry].”
29 Oppressive secrecy persisted until the final days of the USSR. In a telling anecdote, Mikhail Gorbachev (1996, 147) writes: “I must say that many ‘secrets’ of the budget were so well kept that I found out about some of them only on the eve of my stepping down as President.” He goes on to describe the result: “I knew the greatest ‘secret’, namely that our budget was full of holes. It was being continually replenished by the savings bank, in other words money was drawn from the savings of the citizens and by raising the internal debt. Meanwhile, it was officially proclaimed that the revenues always exceeded the expenditure and that all was very well balanced.”
30 Stalin’s policy of preventing independent action by subordinates required active management—for example, by ensuring rapid “circulation” (reassignment) of the nomenklatura (members of the Communist Party hierarchy) to reduce opportunity for establishing horizontal bonds of trust and collaboration. He also executed those who developed “the independence to stand up to him or the potential to join against him” (Harrison, Afterword 2008, 255). This practice largely ended with his death, setting the stage for increased industry lobbying and logrolling (Harrison 2003, 337-338). As Sergei Khrushchev (The Military-Industrial Complex, 1953-1964 2000, 253) writes, “military-industrial development agencies [began] to work their will, guided by selfish motives…far removed from the real interests of the state. State structures [such as the Defense Ministry], deprived of a choice due to the absence of competition, fall into complete dependence on such agencies.” While inefficient from both a strategic and economic perspective, this did provide “a comfortable life for the designers and producers of arms.”
planning targets. But as successive Soviet leaders would discover, the defense industry’s political savoir-faire could also be deployed to foil attempts to reduce shipbuilding capacity.


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