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Lindsay L. McCarl*

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The reality of exporting a massive U.S. military contract while fighting wars in Iraq and Afghanistan raised alarms. It was enough to transform champions of business competition into manufacturing protectionists.¹

I. INTRODUCTION

The United States ("U.S.") Air Force aerial refueling tanker contract is one of the largest in history,² making it the perfect opportunity to examine the role of international and domestic companies in U.S. Government defense spending. The aerial tanker provides mid-flight refueling capabilities for numerous U.S. military planes, including bombers, fighters, and surveillance aircraft.³ Produced between 1953 and 1963,⁴ the U.S. Air Force aerial refueling tanker⁵ fleet remains one of the oldest working combat weapon systems within the U.S. Department of

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³. JEREMIAH GERTLER, CONG. RESEARCH SERV., RE 34398, AIR FORCE KC-X TANKER AIRCRAFT PROGRAM: BACKGROUND AND ISSUES FOR CONGRESS 2 (2009).
⁴. Mike Benbow, Boeing Rallies Forces for Tanker Contract, HERALDNET (Sept. 27, 2010), http://www.heraldnet.com/article/20100927/BIZ/109279893/-1/RSS03.
⁵. Throughout this article, the aerial refueling tanker will be referred to as "aerial tanker," "tanker," or "KC-X," as consistent with descriptions of the aircraft by the Department of Defense and defense corporation officials.
Defense. Based on current estimates, the U.S. Air Force must plan to use the mission-critical tankers until they are over eighty-years-old.

As the aging tanker nears the end of its life, the U.S. Air Force has attempted for over a decade to award one of the largest defense contracts in history to a company that can replace the aerial tankers before critical military functionality is compromised. The decade-long attempt to award a successful contract has met devastating failure for several reasons. When the government held its third attempt to award the contract in 2010, the main competitors in 2010 were Boeing, a U.S. civilian and defense corporation, and European Aeronautic Defense and Space Company ("EADS"), a European-based conglomerate that includes subsidiary Airbus.

A. First Attempt Followed by Scandal

The Air Force initially attempted to lease tankers from Boeing. However, due to many concerns regarding avoidance of the traditional procurement process and enormous costs compared to purchasing the tanker, the Air Force tried to lease and buy 100 tankers from Boeing. This decision was later overturned in 2004 because of a conspiracy scandal that left officials of both the U.S.
Department of Defense and Boeing in prison. Following the scandal, interest in the global defense marketplace rose, leading Congress to lift a restriction that would open competition for the contract to major international defense companies, including EADS.

B. Second Attempt and Resulting Protest

The Air Force reopened the tanker contest in 2007 (hereinafter “the Second Attempt”). Boeing remained in the contest as one of the main competitors. The other consisted of a partnership between Northrop Grumman, a major U.S. defense company, and Airbus, a European subsidiary of EADS. The domestic-foreign partnership won the contract in February 2008. Boeing quickly protested the result claiming that the Air Force did not “assess the relative merits of the proposals in accordance with the evaluation criteria identified in the [contract bid] solicitation.” The U.S. Government Accountability Office sustained the protest, sending the Air Force back to the drawing room to draft yet another plan of attack.

C. Third, and Hopefully Final, Attempt

Before the Air Force released another competition bid in early 2010 (hereinafter “the Third Attempt”), the same contestants planned to compete
But upon seeing additional changes in the technical requirements and capabilities of the tanker, the Northrop Grumman–EADS partnership pulled out of the race believing the revised proposal clearly favored Boeing. Despite barriers to winning the contract, EADS reentered the contest solo after the Department of Defense indicated its interest in EADS’ participation.

Unlike prior efforts, the Third Attempt pitted a foreign company against a domestic company, and members of Congress raised concerns related to job creation, job protection, and national security. Although EADS had participated in the Second Attempt, it did so as a subcontractor to Northrop Grumman, a domestic company. Thus, the concerns raised by a foreign company winning the contract were alleviated by its partnership with a domestic company.

Because Boeing won the contract in early 2011, many of the national security and job loss concerns that arose during the decade-long contest are moot. However, officials implied that the decision was based primarily on price. No socio-economic factors or requirements were addressed in deciding whether the domestic Boeing should have won the contract over its foreign rival. Hopefully, the lack of consideration these factors received in the most recent contest encourage Congress to change existing defense procurement law and policy to ensure future contracts are awarded fairly and efficiently using domestic

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32. Pierre Tran, Europe to Challenge U.S. on Tanker Contest, DEF. NEWS (Mar. 11, 2010, 12:29), http://www.defensenews.com/story.php?i=4535135&c=EUR&c=AIR (quoting EADS Chairman Louis Gallois) (“If we want to stay in, we would have to find another American partner, because there is some extremely sensitive equipment in that plane which we can’t supply.”).


34. Benbow, supra note 4 (quoting numerous Congressmen stating concerns of job losses).

35. See Hensel, supra note 18, at 52-53.

36. Wayne, supra note 22.

37. Id. at 52-54.


39. See id. (noting that two of the three major considerations concerned the bidding price and the long-term operating and maintenance costs).

40. See Demetri Sevastopulo & Kevin Done, Congress Move may Force Pentagon Tanker Rethink, Fin. TIMES (July 30, 2008, 8:39), http://www.ft.com/cms/s/0/37698274-5e08-11dd-b354-000077b07658.html#axzz1AO53urXC.
preference policies,\textsuperscript{41} and to not leave major acquisition decisions to primarily price.\textsuperscript{42}

The national security and military concerns triggered by the possibility of a foreign company winning the contract to construct key military equipment brought up during debates on the Third Attempt arise in other government procurement contracts.\textsuperscript{43} One means of addressing these concerns is through domestic preference policies.\textsuperscript{44} Furthermore, a benefit of domestic preferences is the assurance of supply of critical goods and services during international crises, lending support to the United States' global military readiness.\textsuperscript{45} Additionally, large purchases of ammunition, clothing, and even food to support armed forces can, if awarded to domestic companies, create domestic jobs in the defense industrial base and civilian sectors alike.\textsuperscript{46} Each of these concerns is crucial to the United States' global military sovereignty and should be considered during the contract evaluation process.

This Comment argues that the U.S. Government should institute domestic preference policies when awarding major defense-related acquisition or procurement contracts. Part II provides a brief description of current laws and treaties that govern U.S. defense procurement.\textsuperscript{47} Additionally, Part II compares U.S. and international defense procurement policies. Part III analyzes the significant reasons for preferring U.S. domestic defense companies in major defense acquisition contract awards;\textsuperscript{48} specifically, to protect national security, advanced or sensitive technology, and jobs. Finally, Part IV offers several solutions that Congress and awarding agencies can implement to ensure the continuance of domestic preference policies.

\textsuperscript{41} See discussion infra Part IV.
\textsuperscript{42} See Drew, supra note 38.
\textsuperscript{44} See discussion infra Part III.A; see also William R. Hawkins, The Need for Socioeconomic Guidance in Defense Procurement, PROCUREMENT LAW. 8 (Summer 2005).
\textsuperscript{45} See discussion infra Part III.A.1; see also DEF. SCI. BD., U.S. DEP'T OF DEF., FINAL REPORT OF THE DEFENSE SCIENCE BOARD TASK FORCE ON GLOBALIZATION AND SECURITY 18 (1999).
\textsuperscript{46} See discussion infra Part III.B.2; see also ARIE REICH, INTERNATIONAL PUBLIC PROCUREMENT LAW: THE EVOLUTION OF INTERNATIONAL REGIMES ON PUBLIC PURCHASING 27 (1999).
\textsuperscript{47} While all federal agencies are subject to spending and procurement regulations, the U.S. Department of Defense represents seventy-five percent of all federal procurement and has its own policies and procedures. See OFFICE OF FED. PROCUREMENT POLICY, FEDERAL PROCUREMENT REPORT 17-18 (2007); see discussion infra Part II.B.1-3.
\textsuperscript{48} This Comment is limited in scope by analyzing and suggesting solutions applied only to major defense acquisition and procurement contracts that would help sustain the U.S. defense industrial base. Service-based contracts (as opposed to supply- or procurement-based contracts) and contracts of small pecuniary value (such as those exempted from the Buy American Act) are not explored.
II. CURRENT LAWS & TREATIES GOVERNING FEDERAL DEFENSE PROCUREMENT

Governments at the international, national, and local levels need goods ranging from office supplies and air conditioning equipment to data management services and fighter planes. In many countries, the government is the largest consumer of general goods. Some governments procure these items by acquiring them from the private sector, while others run state-owned factories to produce government-consumed items. This section provides an overview of the laws, regulations, and international treaties that govern defense-related procurement for the United States, the European Union, and the United Kingdom.

One of the most direct ways to enforce domestic policies in the realm of military contracts is by preferring domestic companies in contract awards via congressional acts. Government procurement from the private sector is often conducted via contracts similar to those used by other businesses. However, these government contracts are subject to many additional laws and regulations. These laws and regulations, which include treaties and international agreements, further domestic and foreign policy, particularly in the specialized realm of defense spending.

A. Why Defense Procurement Contracts Are Different

Defense industries are routinely excluded from numerous international procurement treaties that promote global trade and competition. The exemption reflects two fundamental differences between the defense industry and those of other public and private procurements: sensitive information pertaining to national security and protectionism. Often, government contracts involving the procurement of office supplies for education programs, air conditioners, or tires for automobiles, do not directly relate to issues of national security, because they do not involve sensitive information or threaten a country's people or assets either domestically or abroad. Arguably, these types of contracts are neither at

49. REICH, supra note 46, at 1.
50. Id.
51. Id.
52. See discussion infra Part IV.A.
53. REICH, supra note 46, at 2.
54. Id. at 2-5.
55. Id. at 2.
56. See infra Part II.B.3.
57. REICH, supra note 46, at 27-28, 32-34.
risk of sabotage by foreign countries, nor for other countries gaining access to sensitive information of technical defense systems. Conversely, a wide range of contracts involving secure computer systems, sensitive technologies used in armed conflict, and even clothing supplies for the armed forces, do present significant national security concerns.

"[W]hile civilian contracts are a normal part of any society, military contracts carry an additional burden: they are vital to national survival." The resources and industrial base must be available to support military actions, which would therefore enable a country to defend itself. Consequently, these defense-related contracts trigger a patriotic sense of acquiring goods and services from domestic sources.

B. United States Laws, Treaties, and Agreements Governing Procurement

Since the Revolutionary War, the United States has relied on the private sector to procure defense goods. The Department of Defense and other federal agencies are subjected to a labyrinth of laws, regulations, and policies that control the procurement of defense-related goods.

To ensure the effective implementation of these rules and policies, Congress requires the Department of Defense to conduct annual reviews of contracts awarded to foreign entities. A recent review of U.S. Department of Defense

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59. But see Steve Johnson, Fake Chips Threaten Military, PHYSORG.COM (Sept. 5, 2010), http://www.physorg.com/news203688486.html. Counterfeit goods are becoming more prevalent in government procurement. As stated in the article, "it's not just the military that's at risk. Chips perform key roles in countless commercial products, as well as phone links, banking networks, electronic grids and nuclear power plants."

60. See Spencer S. Hsu, Case Targets Microchips Sold to Navy, WASH. POST (Sept. 15, 2010), http://www.washingtonpost.com/wp-dyn/content/article/2010/09/14/AR2010091406962.html (suggesting that fake or defective computer chips could contain Trojan horses and other viruses that would allow hackers to exploit the systems with the installed chips).


64. See id.


67. See discussion infra Part II.B.1-3.

"prime" contracts valued at greater than $25,000 revealed that the Department of Defense procured less than one percent of defense components from foreign sources. This small percentage is primarily due to the United States' complex procurement policies and regulations. A large number of contracts within this one percent, totaling $1.57 billion, consisted of technical aircraft, ship, and munitions components. Of significance, the contracts for these goods received waivers of domestic preference regulations, including the Buy American Act.

Domestic preference regulations are meant to protect the U.S. industrial base and national security, yet many of the goods receiving waivers were procured from countries such as Bahrain, Canada, El Salvador, Germany, Jordan, and United Arab Emirates. The following sections describe the various acts, regulations, and international agreements in place to govern U.S. procurement, defense procurement, and in which circumstances waivers are given to foreign contractors.

1. **Buy American Act**

A common set of domestic preference regulations are contained within the Buy American Act. Enacted in 1933, the central purpose of the Buy American Act was to protect American jobs and wages during the Great Depression by staving-off foreign competition. The Act requires federal agencies to prefer American materials or products over foreign ones when buying these goods for public use. However, exceptions are made when 1) the cost of domestic goods is unreasonable, 2) the goods purchased are for use outside of the United States,
3) the purchase of domestic goods is inconsistent with public policy, or 4) the contract award value is less than $2,500.81 While the Act does not entirely preclude the procurement of public-use goods from foreign entities,82 it has produced the desired effect of granting a higher number of contracts to domestic entities, albeit at some cost.83

In purchasing foreign items for use by the Department of Defense, the most common method of waiving the Buy American Act occurs when the items procured will only be used outside of the United States.84 Over the past few years, the percentage of defense-related procurement from foreign suppliers receiving this type of waiver ranged between forty-four to eighty-one percent.85 The reasoning behind this exception lies in the low cost and quick procurement and transportation of certain foreign goods to support the localized armed forces.86 For example, under this exception, the U.S. Army can procure goods such as fuel, food, and construction materials from Saudi Arabia for use in the wars in Iraq and Afghanistan. Moreover, procurement from countries local to the conflicts is safer than if the same goods were purchased from a U.S. domestic company.87

In addition to the exemption for foreign use, agency leaders88 use the “unreasonable price” exemption as a method to waive the Act.89 Price differentials are added to the base sum of a contract bid submitted by a U.S.

81. 41 U.S.C. §§ 10a(a), 428(b), 428(f) (explicitly exempting from the Buy American Act purchases below the micro-purchases threshold amount of $2,500).
82. Id.
83. See Reich, supra note 46, at 36 (as a result of the number of contracts awarded to domestic entities, the annual cost of the Buy American Act in the 1950s was over $200,000,000 due to higher procurement costs and lost customs revenue).
84. Office of the Under Sec'y of Def., Report to Congress on Department of Defense Fiscal Year 2009 Purchases from Foreign Entities tbl.3 (2010) [hereinafter Foreign Entity 2009 Purchases] (30,837 of 44,054 waivers of the Buy American Act were due to the goods’ use outside the United States).
85. See Foreign Entity 2009 Purchases, supra note 84, at tbl.3; Office of the Under Sec’y of Def., Report to Congress on Department of Defense Fiscal Year 2008 Purchases from Foreign Entities tbl.3 (2009) [hereinafter Foreign Entity 2008 Purchases]; Foreign Sources 2007 Report, supra note 70, at 11. The current conflicts in Iraq and Afghanistan are the likely causes of the high number of waivers granted under this exception. See Foreign Entity 2009 Purchases, supra note 84, at tbl.1 (listing high number of contract actions awarded to Afghanistan, Bahrain, Iraq, Kuwait, Turkey, and United Arab Emirates).
86. Robert M. Friedman, Civilian Contractors on the Battlefield: A Partnership with Commercial Industry or Recipe for Failure? 12-13 (2002). For the dangers of transporting goods in the Middle East wars and conflicts, see Olivia Hampton, Pentagon Going Green, Because It has to: Officials, Physorg (Oct. 13, 2010), http://www.physorg.com/news/2010-10-pentagon-green.html (citing a September 2009 Army study that found one soldier or civilian is killed for every twenty-four convoys carrying fuel to bases in Iraq and Afghanistan).
87. Id. See also Pakistan Blocks NATO Supply Route to Afghanistan, NPR (Sept. 30, 2010), http://www.npr.org/templates/story/story.php?storyId=130234301. But see discussion infra Part III.A.1-3, discussing the consequences of such a reliance on foreign supplies, such as fuel, that are locally acquired near where armed forces are engaged.
88. The Secretary of Defense is one example of an agency leader.
89. Foreign Entity 2009 Purchases, supra note 84, at 2.
company.° The sum of the base amount and the price differential is then compared to bids submitted by foreign companies.° If that sum is greater than the foreign contract bid, the domestic contract cost is deemed "unreasonable."° The Department of Defense automatically uses a fifty percent price differential (also called an "offset"), one of the highest price differentials in federal procurement.° This high differential precludes nearly all foreign competition in military or national-security related contracts.°

However, this price differential does not apply when comparing domestic contract bids to those from Australia, Canada, and most of the European Union.° The waiver of price differentials for these countries resulted from actions performed by the U.S. Department of Defense after World War II, in which it believed the strength of U.S. allies was critical to the national security of the United States.° By decreasing direct barriers to U.S. contracts, trade between allies would increase and strengthen the allied nations against potential threats.°

2. Federal Acquisition Regulation & Defense FAR Supplement

In addition to the Buy American Act, federal acquisition procurement contracts are governed and implemented by the complex Federal Acquisition Regulation ("FAR"), which was established in the mid-1980s to provide "uniform policies and procedures for acquisition by all executive agencies."° FAR is codified in Title 48 of the Code of Federal Regulations. It incorporates domestic acts, such as the Buy American Act,° and international agreements and treaties, including the World Trade Organization Government Procurement Agreement.°

The Defense FAR Supplement° expands on Federal government rules for procurement performed by the Department of Defense.° The Defense FAR

° Id.
° Reich, supra note 46, at 12.
° Defense FAR Supplement, supra note 61, § 225.105.
° Reich, supra note 46, at 13.
° Id. at 150.
° Defense FAR Supplement, supra note 61, § 225.872-1. The list of countries currently excluded from Buy American Act price differentials includes Australia, Belgium, Canada, Denmark, Egypt, Germany, Finland, France, Greece, Israel, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.
° Knapp, supra note 77, at 432.
° Id. at 434.
° FAR 1.101; Keyes, supra note 63, at 4.
° FAR 225.403, 225.8.
Supplement also implements reciprocal defense trade agreements, which the United States forms with individual countries to increase collaboration of military and defense technology. Many of these trade agreements waive the Buy American Act price differential, which lowers the barriers for foreign companies to bid on U.S. contracts.


As a means to help govern the U.S. Government’s contract activities in the global market, the United States is a signatory to the main treaty that guides global government procurement: General Agreements on Tariffs and Trade (“GATT”) and the subsequent World Trade Organization Plurilateral Agreement on Government Procurement (“GPA”). GATT was designed to promote liberalized and expanded world trade practices, specifically by prohibiting, or at least, decreasing the incidents of foreign-discrimination policies. In doing so, the writers of GATT sought to increase transparency of the contract bid and award process so that bidders could recognize the specifications and procedures outlined by the government seeking solicitations. GATT requires the United States to waive Buy American Act requirements for contracts that foreign companies may bid on, if those companies’ governments are also signatories of GATT.

In most of the international treaties and agreements, contracts related to military arms, weapons, or other national security goods are exempt from the guidelines agreed upon by the signatories. The exempting provision in GATT

103. See FAR 201.301(a)(1).
105. Id. at 93-94.
106. Defense FAR Supplement, supra note 61, § 225.872-1. The list of countries currently excluded from Buy American Act price differentials includes Australia, Belgium, Canada, Denmark, Egypt, Germany, Finland, France, Greece, Israel, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.
110. Janik, supra note 100, at 491.
111. Id. at 491-92.
112. Id.
113. See, e.g., GATT, supra note 107, art. XXI.
lies in Article XXI(a)-(b), titled "Security Exceptions." The exemption precludes any requirement of a country to release information that, if disclosed, would be detrimental to the country's national security interests. In addition, GATT shall not be read to prevent a contracting country from performing an action the country deems necessary for the protection of national security, including actions related to the purchase of any goods or materials used for the "military establishment."

C. How Foreign Governments Address Defense Procurement

1. Current Climate of Defense Procurement Globalization

There is continual tension between the competing values of globalized trade and domestic preference policies for defense-related goods. Benefits of globalized competition include lowering the cost of goods, technological specialization among nations, and improved productivity. High-export countries such as China, Germany, and Japan remain steadfast proponents of open global trade to protect their interests in the global economy for all types of goods.

However, as a result of the global financial crisis that began in 2008, domestic preference policies have gained momentum in political discussions, especially for goods related to national security and defense. Many countries, including the United Kingdom ("U.K."), United States, India, and France, recognize the importance of maintaining sovereignty within their defense industrial base. In case of a war or major conflict, a country must be able to support its armed forces; and global politics surrounding the conflict may threaten the international supply of goods and services required to sustain

114. GATT, supra note 107, art. XXI.
115. Id. at art. XXI(a).
116. Id. at art. XXI(b).
117. Globalization is the "growing economic interdependence of countries world-wide through the increasing volume and variety of cross-border transactions in goods and services and of international capital flows, and also through the more rapid and widespread diffusion of technology." TERRENCE R. GUAY, STRATEGIC STUDIES INST., GLOBALIZATION AND ITS IMPLICATIONS FOR THE DEFENSE INDUSTRIAL BASE 1 (2007) (quoting International Monetary Fund, World Economic Outlook, 45 (May 1997)).
120. See, e.g., Now U.S. Congress Buys Only "Made in America" Goods, supra note 43 (quoting Congressman Larry Kissel in referring to requiring the U.S. Department of Homeland Security to buy only goods made in the United States, "We can protect our American economy while also protecting our national security and borders. The only way to ensure this is the case is to make these items right here at home.").
121. See infra Part II.C.2.
Some countries, especially those within the European Union, have developed partnerships and defense contract preference policies among only their closest allies, assuming those allied supply lines will remain open during military conflict.2

2. Specific Examples of Foreign Government Defense Procurement Policy

The push towards globalization, not only commercially but in the defense industry as well, has gained significant momentum in the last few decades. This section provides a background of the laws, policies, and practices of the European Union and the U.K, which does not always enforce the same procurement policies as the European Union. These two entities' defense industries are the most comparable to that of the United States, and thus are presented to highlight the differences and similarities in defense acquisition policies.

a. European Union

The underlying goals of the European Union are to encourage open trade among its members, and defense items are no exception. Due to decreasing budgets and increased pressure to perform collaborative defense procurement agreements among European Union members, many member states have

122. See, e.g., MINISTRY OF DEFENCE, DEFENCE INDUSTRIAL STRATEGY: DEFENCE WHITE PAPER, 2005, Cm. 6697, at 7 (U.K.) [hereinafter U.K. 2005 DEFENCE WHITE PAPER] (“to maintain... the sovereign ability to use our Armed Forces in the way we choose, we need particular industrial capabilities in the UK”).

123. Hawkins, supra note 44, at 12. For example, while the European Union has a “Buy European” protectionist policy, the environment is still collaborative within the community's individual countries.

124. Id. (“Such practices are considered safe because 'none of the identified foreign sources constitutes a foreign vulnerability that poses a risk to national security.'”).

125. GUAY, supra note 117, at 2, 17.

126. Other countries, such as China, Russia, and India, have almost nothing in common with the U.S. defense industry. China and Russia's defense industries, for example, are controlled by their governments. See China's Military Modernization and U.S. Export Controls: Hearing Before the U.S.-China Econ. and Sec. Review Comm'n (2006) (testimony of Roger Cliff, Senior Analyst, The RAND Corp.); Andrew Liaropoulos, The Russian Defense Reform and Its Limitations, 2 CAUCASIAN REV. OF INT’L AFF. 42, 47 (2008). India is similarly incomparable because India’s defense industry is in its infancy stages compared to those of the United States. See Defense Production and Procurement Policy out in January 2011; Drastic Steps for Indigenization Promised, INDIA DEF. (Oct. 10, 2010), http://www.india-defence.com/reports-4775 (noting India imports more than sixty-five percent of its defense goods). India relies heavily on foreign import of defense items. Id. Therefore, defense acquisition policies and procedures of these and other similarly situated countries are not included in the analysis.


128. Christopher R. Yukins, The European Defense Procurement Directive: An American Perspective, 51 NO. 41 GOV'T CONTRACTOR & 383 (2009) (“Under the new European defense directive, all but the most sensitive defense and security procurements in Europe will have to be conducted under rules consistent with the new directive.”).
awarded an increasing number of contracts to foreign, but intra-European entities. The collaborative and synchronized nature of the European defense strategy attempts to realize various objectives, including risk spreading, greater technological innovation despite decreased research and development budgets, and reduced unit costs.

Yet at the same time intra-Europe defense contracting has flourished. U.S. defense firms have been awarded a fewer number of defense contracts from European governments. From just 2000 to 2003, the dollar value of contracts awarded by European governments to U.S. defense companies fell from $3.5 billion to a mere $1.4 billion. Though the European Union encourages defense procurement from other foreign firms, such firms are generally within the European Union umbrella. The policy has appropriately earned the nickname “Buy European.”

While European countries increasingly favor procuring defense goods from within the European Union, European defense companies are looking outside of the European Union to sustain their business. Specifically, European defense companies hope to secure additional work from the U.S Department of Defense to compensate for the deflating defense budgets within the European Union. There simply are not enough European defense contracts to sustain its own defense industrial base.

b. United Kingdom

The United Kingdom’s defense procurement market is one of the largest in the world. Recognizing the benefits of a competitive market, the United Kingdom has worked for years to ensure its armed forces receive the best products at a lower cost to tax payers by operating its defense procurement


131. See Fortresses & Icebergs, supra note 129, at 13.


133. Id. This decrease remarkably occurred at the same time that the International Security Assistance Forces began and were building operations in Afghanistan. History, Int’l. Sec. Assistance Force: Afghanistan, http://www.isaf.nato.int/history.html (last visited Nov. 2, 2010). The International Security Assistance Force: Afghanistan (“ISAF”) was created in December 2001. NATO assumed leadership of ISAF in August 2003, at which time operations were expanded.

134. Hawkins, supra note 44, at 12.

135. Id.

136. Id.

137. Id.

138. See id.

process as one of the most open to the global market.¹⁴⁰ The United Kingdom has two main goals in preserving their defense industrial base: operational sovereignty and specialized research and development spending in niche technologies.¹⁴¹ These two policies have resulted in the gradual retreat from globalization.¹⁴² The historic openness of defense procurement has closed slightly over the last few years as the Ministry of Defence shifts its policies to ensure that the United Kingdom retains an edge in certain technological niches¹⁴³ and sustains its research and development base, while also maintaining operational sovereignty.¹⁴⁴

One of the Ministry of Defence’s growing concerns is maintaining operational sovereignty, which is the delivery assurance of ongoing contracts and the ability to maintain military readiness.¹⁴⁵ When deciding whether outsourcing contracts will ensure operational sovereignty, the Ministry of Defence takes into account international political negotiations, national security sensitivities, freedom to conduct military operations, and global competition.¹⁴⁶

The second concern is maintaining technological innovation and specialization within certain niches.¹⁴⁷ While the U.K.’s Ministry of Defence still desires to maintain sovereignty in the defense industry, it recognizes that it can only do so within select niches of technology.¹⁴⁸ Therefore, although U.K. defense companies invest heavily in the U.S. defense market,¹⁴⁹ the Ministry of Defence is concerned that these investments will result in detrimental effects on the United Kingdom’s local defense base, especially when such investments result in the off-shoring of research and development funds.¹⁵⁰ The concern that awarding additional contracts to U.S. companies would result in less U.K. innovation, as well as losing operational sovereignty,¹⁵¹ has led the United Kingdom trending towards a closed defense market.¹⁵²

¹⁴⁰. Id. at 15.
¹⁴¹. Id. at 15, 17, 76, 78, 92.
¹⁴². See FORTRESSES & ICEBERGS, supra note 129, at 25.
¹⁴³. Some examples of niche technologies include: sensor algorithms, data fusion, knowledge-based systems, armored fighting vehicles, and helicopter rotor blades. U.K. 2005 DEFENCE WHITE PAPER, supra note 122, at 15, 17, 76, 78, 92.
¹⁴⁴. FORTRESSES & ICEBERGS, supra note 129, at 25.
¹⁴⁶. Id.
¹⁴⁷. See id. at 15-18.
¹⁴⁸. Id. at 15, 16.
¹⁴⁹. Id. at 26.
¹⁵⁰. Id. at 27.
¹⁵¹. Id.
¹⁵². FORTRESSES & ICEBERGS, supra note 129, at 25.
c. Why the United States' Defense Base Is Unparalleled

The defense acquisition and procurement policies of the European Union and the United Kingdom may be considered when exploring options to weaken or strengthen domestic preference policies in the United States. These policies exist for defense industries that are dissimilar as compared to the industry in the United States in both number and technological diversity of defense companies and the size of military budgets.

Though the European Union and their multinational defense industry is the closest comparison to the United States, there are still significant differences between the individual European countries that leave it difficult to compare the policies of each with the United States. Not only does the United Kingdom spend a fraction of what the United States does on defense goods, but the United Kingdom also has only one major domestic defense firm: BAE Systems. The United Kingdom therefore can only support its goal towards operational readiness by ensuring it has control over certain niches in advanced technology, whereas the United States has the industrial base to support technological superiority and cradle-to-grave solutions in all areas of the defense market. The United Kingdom and other individual European countries must look outside of their borders for defense goods because they cannot support the defense industrial base within. However, the United States has enough defense companies to support the needs of the Department of Defense, and is therefore the only country that is not required to look outside its borders to award defense contracts.

The only valid comparison the United States has with any other country or group of countries is that of the European Union. Like the United States, the European Union has a number of European defense firms to procure from, including EADS, BAE Systems, Finmeccanica, and Thales, all of which are

155. See id. In 2010, the United States is estimated to have spent $698 billion in military expenditures. In contrast, the United Kingdom spent only $59.6 billion, less than nine percent of the United States.
156. JACKSON, supra note 153, at 2 (BAE Systems).
158. In cradle-to-grave projects, all stages of the product’s lifecycle are supported, including initial system engineering and planning, manufacturing, testing, delivery, operation and maintenance, and finally the disposal of the product. See generally DEF. ACQUISITION UNIV., DEFENSE ACQUISITION GUIDEBOOK 395 (2010).
159. U.K. 2005 DEFENCE WHITE PAPER, supra note 122, at 21 (“[N]o country outside the US can afford to have a full cradle to grave industry in every sector.”).
160. Id.
161. Id.
within the top ten largest defense contractors in the world. But the European Union is experiencing massive military budget cuts. These cuts are much more extensive than those expected to occur in the United States. While the European Union is highly encouraging of internal, multi-national cooperation with defense contracts, this coordination stops at the continental borders. The European Union may believe that to obtain military sovereignty, European-preference policies should be used to guarantee that military contracts are awarded to European companies, which will help not only individual countries but the continent as a whole.

The European Union uses some of the same domestic preference policies that the United States itself enforces, such as price differentials and increased funding for specific advanced technology. However, these policies are not necessarily followed by individual countries, including the United Kingdom and France. Thus, because the United States has an unparalleled defense industrial base to support its armed forces, it stands out from the crowd as the only individual country that can rely solely on domestic goods and can successfully enforce domestic preference policies in military-related procurement contracts.

The U.S. Government can learn from a certain few mistakes of European countries, such as the United Kingdom's drive towards globalization that weakened their own defense industrial base. But the United Kingdom also has
stark differences that would not allow the United States to accurately follow the United Kingdom’s drive towards a globalized defense procurement market.

III. WHY THE DEFENSE CONTRACT BIDDING PROCESS SHOULD FAVOR DOMESTIC COMPANIES

When applying the cost benefit analysis of enforcing domestic preference policies in defense contract awards, no single factor below should stand alone.\textsuperscript{172} The risk of harm to the U.S. national security is a paramount concern, but it should not be examined in isolation.\textsuperscript{173} Similarly, socioeconomic factors including a contract’s effect on the domestic industrial base, employment, and the risk of the United States losing its technological edge must be weighed in a holistic manner.\textsuperscript{174} By analyzing these factors cumulatively, the U.S. Government will not only ensure global military superiority, but will do so in a way that promotes long-term goals of employment stability and prosperity.\textsuperscript{175}

Many of these factors were at issue during the tanker bidding process though precluded from consideration, in both the Second Attempt and Third Attempt. The Second Attempt pitted two major U.S. defense corporations against each other.\textsuperscript{176} The guaranteed win by a U.S. company would have alleviated many of the concerns set forth by Congress. For the Third Attempt, however, there was no assurance that the national security concerns would be satisfied.\textsuperscript{177} Furthermore, the Third Attempt contract, if it had been awarded to EADS, would no longer support and create thousands of jobs for Americans.\textsuperscript{178}

A. Pulling the “National Security Risk Card”\textsuperscript{179}

Whether made during the peak of tensions during the Cold War or in the years after the September 11 attacks, one of the most compelling reasons for preferring domestic companies in defense-related contracts is to protect national

\textsuperscript{172} Mackenzie M. Eaglen & Eric Sayers, \textit{Maintaining the Superiority of America's Defense Industrial Base}, \textsc{Backgrounder} (The Heritage Foundation), May 22, 2009, at 12.

\textsuperscript{173} See Hensel, \textit{supra} note 18, at 50. National security should not be used lightly or as merely an “excuse” to award a contract to a domestic company.

\textsuperscript{174} See Eaglen & Sayers, \textit{supra} note 172, at 10.

\textsuperscript{175} See Hawkins, \textit{supra} note 44, at 13.


\textsuperscript{177} See Hensel, \textit{supra} note 18, at 53-54.

\textsuperscript{178} See id. at 46.

It is ‘obvious and unarguable’ that no governmental interest is more compelling than the security of the Nation. There are specific national security concerns driven by policy set forth by Congress, which states what the national defense industrial base must be capable of:

(1) Suppling and equipping the force structure of the armed forces; (2) Sustaining production, maintenance, repair, and logistics for military operations of various durations and intensity; (3) Maintaining advanced research and development activities to provide the armed forces with systems capable of ensuring technological superiority over potential adversaries; (4) Constituting within a reasonable period the capability to develop and produce supplies and equipment; (5) Providing for the development, manufacture, and supply of items and technologies critical to the production and sustainment of advanced military weapon systems within the national technology and industrial base; and (6) Maintaining critical design skills to ensure that the armed forces are provided with systems capable of ensuring technological superiority over potential adversaries.

Maintaining sovereignity of a defense industrial base by awarding contracts to companies that align with U.S. defense policies helps to ensure these congressional requirements are met. However, there may be instances in which awarding contracts to foreign entities, even those who are allies of the United States, may destroy the U.S. armed forces’ supply chain of goods, military readiness, and superiority in times of war or national emergency. Therefore, the easiest way to achieve this objective is to award major defense acquisition and procurement contracts to companies that are owned and operated within the United States.


The continued supply of goods, including food, fuel, ammunition, and other defense items critical to military success, remains a serious concern in the ongoing conflicts in the Global War on Terror. Too much reliance on a host
nation, or any foreign entity, to provide goods and services to the U.S. armed forces may result in disrupted supply and consequently a weakened military force.\textsuperscript{187} As tensions escalated in Iraq in 2004, the United States found itself in the precarious position of being short on supply of certain types of ammunition precisely because the domestic production base was “maxed out.”\textsuperscript{188} The U.S. federal government was fortunate that it was able to import ammunition from Canada and Israel.\textsuperscript{189} If the United States or NATO had to rely on a less devoted “ally,” the results may have been vastly different.\textsuperscript{190}

In relying on other countries for goods that directly support U.S. armed forces, international politics may undermine immediate military goals.\textsuperscript{191} While foreign support of the United States’ campaign in the Middle East started high at the beginning of the Global War on Terrorism, many countries have withdrawn support from the NATO mission in Afghanistan.\textsuperscript{192} Other countries’ populations have outright declared opposition to continued U.S. action in the country.\textsuperscript{193} If the United States were dependent on defense supplies from such a country, or a company headquartered in that country, the opposing country could potentially limit the supply of goods as a means to enforce their own military or international goals and policies.\textsuperscript{194} Countries could use the military contract as a “bargaining chip” for international conflicts or policies unrelated to the war.\textsuperscript{195} By awarding U.S. defense companies contracts that are critical to sustaining armed forces campaigns around the world, the U.S. federal government would protect itself from foreign policy exploitation.\textsuperscript{196} This concern is particularly relevant for the tanker contract given the mission-critical aspects of the aging tankers currently

\begin{itemize}
\item \textsuperscript{187} DEF. SCI. BD., supra note 45, at 18. See also FRIEDMAN, supra note 86, at 12-14.
\item \textsuperscript{188} Hawkins, supra note 44, at 10.
\item \textsuperscript{189} Id.
\item \textsuperscript{190} See, e.g., Pakistan Blocks NATO Supply Route to Afghanistan, supra note 87.
\item \textsuperscript{191} See McLEAN, supra note 118, at 5 (citing a Swiss company refusing to sell components for bombs to the United States due to Switzerland’s policies regarding the war in Iraq).
\item \textsuperscript{193} PEW RESEARCH CTR., supra note 192, at 24.
\item \textsuperscript{194} GRASSO, supra note 183, at 8.
\item \textsuperscript{196} GRASSO, supra note 183, at 8-9. It is unlikely domestic companies would use contracts as bargaining chips given their significant reliance on the U.S. Government for continued operations. See discussion infra Part III.B.2.
\end{itemize}
used by the military. The U.S. armed forces cannot be placed in a situation where differences in policies between the United States and France seriously limit the availability of the new tanker to support the ongoing conflicts in the Middle East.

Another supply concern arises in long-term contracts. Many of the major acquisitions contracts awarded by the U.S. Department of Defense are expected to span years, if not decades, in operation and maintenance. The Air Force tanker contract, for example, is expected to include an additional $60 billion in maintenance and parts over a period of ten to fifteen years to support the initial tanker contract. The risk of dependency on declining European defense companies is a major long-term consideration in the continued operation and maintenance of U.S. defense projects. If the U.S. Government were to award an extensive and long-term contract to a foreign entity, not only are the concerns of international politics triggered, but there is also an inherent risk that the foreign company might dissolve.

The U.S. Government has some protection against this risk if it awards contracts to U.S. companies. Whereas the United States has the power to legally require domestic companies to stay in business in order to continue supplying the Department of Defense with mission-critical components, it cannot exert such power over foreign entities.

Congress has also enacted measures over the last eighty years in an attempt to stave off supply concerns, including the Buy American Act. But these measures often fall short of full protection of defense supplies because these acts do not apply in a large number of situations or are often exempted. For example, the Buy American Act only applies to contracts carried out within the

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197. 154 CONG. REC. S6,180-02 (daily ed. June 20, 2008) (statement of Sen. Patty Murray) ("Our aerial refueling tankers-the ones we are talking about with this contract-are the backbone of our global military strength."); see also GERTLER, supra note 3, at 7 (quoting Department of the Air Force) ("The KC-X remains the Air Force’s highest procurement and recapitalizing priority.").


199. Hensel, supra note 18, at 51.


203. But see David E. Sanger, For U.S. and Carmakers, Many Potential Pitfalls, N.Y. TIMES, Mar. 31, 2009, at A18 (arguing that previous attempts to bailout the steel and railroad industries were met “with little success,” and addressing additional issues arising from the U.S. Government’s involvement with private industries).

204. Borich, supra note 201, at 654. See also DEF. SCI. B.D., supra note 45, at 20-21 (citing a recent example of the U.S. Government legally compelling a flat-panel display supplier to remain in business).

205. GRASSO, supra note 183, at 7. But see FRIEDMAN, supra note 86, at 19 (suggesting the high costs associated with such a policy).

206. GRASSO, supra note 183, at 7.
United States, and therefore, does not cover contracts performed in the current war in Afghanistan.207

2. Safety Measures and Quality Assurance

During a military conflict, it is imperative that the procurement of defense goods is guaranteed.208 But the supply of defense items is moot if the items themselves do not meet required quality standards.209 Over the last few years, the U.S. Department of Defense has experienced a number of setbacks in receiving defective or counterfeit components and goods that support the armed forces, including fake computer chips bought by the U.S. Navy.210 The civilian sector has also seen incidents involving faulty or defective goods. For example, consumers have opened new iPods and audio CDs only to find computer viruses, Trojans, and worms infecting their computers.211 And the defense industry is not immune from similar incidents. The Congressional Research Service recently reported that the Stuxnet virus, a computer worm that sent Iran’s nuclear facilities spiraling in late 2010, could be altered in order to attack similar facilities in the United States.212 If military-related items were procured from foreign nations, there is the likelihood that foreign countries and companies could introduce exploitation software to hinder U.S. defense efforts or to gain access to U.S. defense systems.213 Thus, it is important to keep as much production and manufacturing within the United States to ensure the safety and quality of defense components.214

207. Id.
208. See discussion infra Part III.A.1; see also Pakistan Blocks NATO Supply Route to Afghanistan, supra note 87.
209. Borich, supra note 201, at 654 (citing the DoD’s potential loss of control over system design, performance, and cost when contracts are awarded to foreign suppliers).
210. Hsu, supra note 60. The fraudulent chips were shipped from China.
213. See, e.g., id.
214. In addition, or alternatively, the U.S. Government can enforce more strict quality controls for any imported goods that will be used as components in defense goods.
3. Sensitive Technology, Classified Information, and Data Export Controls

In awarding defense-related contracts, an additional national security concern is the release of classified information and technology. With the help of extensive export controls, the U.S. Government has attempted to prevent the transfer of sensitive technology and weaponry to foreign entities. But by awarding contracts to foreign companies, even those that may only be subcontractors, the relationship between the companies and the U.S. Government may result in the release of sensitive information necessary for companies to complete the contract. This may result in the release of current or proposed U.S. capabilities that could threaten the lives and safety of troops in the combat theater and citizens at home.

The U.S. Government limits companies from exporting products or sensitive information to foreign entities. Furthermore, the United States has also considered taking punitive measures against companies that export defense goods and advanced technology to specific countries, like China. Thus, due to export rules for the international use of U.S. defense information and technology, U.S. defense companies must carefully review export laws before participating in a foreign market to prevent the release of potentially sensitive technology.

Most of these export laws were established during the Cold War. During this period, the United States enforced expansive export controls on sensitive and
defense-related goods, technology, and information based on national security concerns over the rise of communism.\footnote{See Lichtenbaum, supra note 222.} If the United States strictly adhered to the export control and licensing requirements, it was less likely for the Soviet Union to learn of the United States’ technological “edge.”\footnote{Id. at 322 (“Extensive licensing requirements applied to exports in order to ensure that commodities and technology would not be diverted to the Soviet Bloc.”).} The goal of the Cold War export controls was simple: limit the transfer of materially useful military technology to the U.S.S.R. in case of a prospective World War III.\footnote{Noah J. Richmond, The Wassenaar Arrangement and Its Implementation in Europe, in EXPORT CONTROLS AND THE U.S. DEFENSE INDUSTRIAL BASE app. E, at E-1 (2007); Paul Collopy, Impact of U.S. Export Controls on the U.S. Machine Tool Industry, in EXPORT CONTROLS AND THE U.S. DEFENSE INDUSTRIAL BASE app. C, at C-24 (2007) (“In the cold war, the West was outnumbered in soldiers and conventional equipment by the Eastern Bloc. The US pursued a strategy of maintaining a one or two generation lead in critical technologies to compensate for the deficiency in quantity. Our superior technology would provide kill ratios that would balance out the enemy’s tanks and troops. Midway through the cold war, US thinking evolved toward believing that protecting manufacturing know-how was more critical than protecting the design of weapon systems themselves. A technology lead in manufacturing technology was critical to securing the nation.”).} While some of these concerns still linger today,\footnote{And albeit in a less dramatic manner. See Jeremy Page, A Chinese Stealth Challenge?, WALL ST. J. (Jan. 5, 2011), http://online.wsj.com/article/SB1000142405270330870457606167416605408.html?mod=WSJ_WSJ_News_BlogsModule (noting that China for years reverse engineered Russian technology).} especially in the context of international terrorism,\footnote{Tom Bowman, Thousands of U.S.-Bought Weapons Lost in Iraq, NPR (Oct. 30, 2006), http://www.npr.org/templates/story/story.php?storyId=6407177 (noting that the United States cannot account for thousands of weapons in Iraq, and that such weapons could end up in the hands of insurgent terrorists).} they are no longer the only concerns considered by the U.S. Government in determining the policies of defense-related exports.\footnote{See Lichtenbaum, supra note 222, at 322 (stating the U.S. Government export policies must take into account economic concerns, especially now that there is no longer a consensus among Western countries that communism is a “monolithic and direct threat”).} 

Interestingly enough, export control policies do not only apply to transferring goods outside of the United States.\footnote{Id.; see also, FAR 4.402; 32 C.F.R. §§ 2001.40, 2001.55 (2011) (governing the release of sensitive and classified information to foreign governments).} The United States also has in place numerous laws, regulations, and policies limiting the release of sensitive defense, military, and national security information to foreign entities.\footnote{See, e.g., FAR 4.402; 32 C.F.R. §§ 2001.40, 2001.55 (governing the release of sensitive and classified information to foreign governments).} Specifically, the Secretary of Defense reserves the right to withhold any sensitive information from public release, including the release of information to foreign nationals present in the United States,\footnote{See Exec. Order No. 12968 § 2.6, 60 Fed. Reg. 40,245 (Aug. 2, 1995) (ordering that foreign nationals may be granted limited access to classified material in limited circumstances, and only “where there are compelling reasons in furtherance of an agency mission.” In addition, such “individuals shall not be eligible for access to any greater level of classified information than the U.S. Government has determined may be releasable to the country of which the subject is currently a citizen.”).} if the information or data is not exportable under
various provisions of law.\textsuperscript{232} The “export” of defense items and information to foreign nationals\textsuperscript{233} located within the United States is also a concern,\textsuperscript{234} especially after the September 11 attacks.\textsuperscript{235} Foreign nationals may repatriate sensitive technology to their home country unbeknownst to the United States.\textsuperscript{236} Alternatively, terrorists operating within U.S. borders may exploit the access and use of these materials to conduct attacks against the United States or its allies.\textsuperscript{237}

Many of the sensitive technology and export control concerns involved with the Air Force tanker were at least partially mitigated when EADS was partnered with Northrop Grumman.\textsuperscript{238} In the Second Attempt, the bid proposal by the two-company team stated that all classified technology would be installed by Northrop Grumman after the aircraft assembly was completed in the United States, ensuring that EADS would not handle any of the classified items.\textsuperscript{239} Once Northrop Grumman dropped out of the race for the Third Attempt, the concern that sensitive technology could fall into the wrong hands arose again.\textsuperscript{240} Moreover, Congress raised the question of who would perform the job of installing the sensitive technology: foreign individuals or U.S. citizens?\textsuperscript{241}

\subsection*{B. Protectionism and Economics}

Protecting jobs is one of the most common reasons cited for implementing domestic preference policies, especially for the defense industry.\textsuperscript{242} But other economic arguments support preferring domestic companies in military

\footnotesize{232. 10 U.S.C. § 130(a) (2006). Items and data may include “blueprints, drawings, plans, instructions, computer software and documentation, or other technical information that can be used, or be adapted for use, to design, engineer, produce, manufacture, operate, repair, overhaul, or reproduce any military or space equipment or technology concerning such equipment.” § 130(c). A D.C. Circuit case involved one example of a court recognizing the valid withholding of detailed naval torpedo schematics from public release. Colonial Trading Corp. v. Dep’t of Navy, 735 F. Supp. 429, 431 (D.D.C. 1990).

233. Including researchers at academic and government institutions and within the private industry. Lichtenbaum, supra note 222, at 323.

234. \textit{Id.}

235. \textit{See id.} (stating that the United States is facing “a particular threat today from terrorist groups, who may be operating within our borders,” much like the 9/11 terrorists were).

236. \textit{Id.}

237. \textit{Id.} (illustrating the importance and effect of foreign nationals on the U.S. national security).

238. Tran, supra note 32 (quoting EADS Chairman Louis Gallois) (“If we want to stay in, we would have to find another American partner, because there is some extremely sensitive equipment in that plane which we can’t supply.”).

239. Hensel, supra note 18, at 54.

240. Hill, supra note 179.

241. \textit{See} Gordon Lubold, \textit{Congress, Boeing Riled by Huge Defense Contract for Foreign Firm}, CHRISTIAN SCI. MONITOR (Mar. 7, 2008), http://www.csmonitor.com/USA/Military/2008/0307/p02s01-usmi.html (quoting U.S. Sen. Patty Murray) (“We are hemorrhaging manufacturing jobs to foreign countries already, so I cannot imagine why . . . our government would decide to take 44,000 American jobs, good jobs, and give them to the Europeans.”).

242. REICH, supra note 46, at 27.}
contracts. For instance, one argument is that awarding defense contracts to domestic companies provides revenue that will, both directly and indirectly, be returned to U.S. taxpayers and consequently stimulate the U.S. economy.

Protecting sensitive and advanced technology is another common economic reason to enforce domestic preference policies, as the release (or export) of sensitive technology could seriously deter the United States' competitive and technological superiority in the defense industry. If U.S. defense companies lose the technological edge they currently have over foreign companies, both the U.S. defense companies and civilian companies alike will no longer be as competitive in the domestic or global market, causing further decline in the U.S. economy from lost sales. While other industries may be harmed by protectionist policies, the defense industry is the best candidate for implementing and enforcing economic-related policies that prefer domestic companies in major defense procurement contracts because this industry is heavily dependent on government funding. While a functioning government still exists, the government will need defense goods to protect the country from foreign threats. Accordingly, as long as the U.S. Government remains, so will a market for defense goods.

1. Protecting Technology

   a. Encouraging High Levels of Innovation

The defense industry has some of the most advanced technology of any industry within the United States. The advanced technology seen in the military
has been funded for decades by the federal government both directly via specified contracts, and indirectly as companies invest profits from contract awards in innovation.\(^{251}\) By preferring U.S. companies for defense contracts, the revenue and profits derived from these contracts can be used for in-house research and development.\(^{252}\) Among the top five defense companies in the United States, the average annual spending on independently-funded defense-related research and development was $710 million in 2009.\(^{253}\) Boeing alone spent over $1 billion in 2009.\(^{254}\) The creation of new technologies increases a company’s global dominance and additional offerings for the U.S. armed forces.\(^{255}\)

New military technology can help the domestic civil sector as well.\(^{256}\) Industry-wide innovation abounds in the entire economy when contracts are awarded to companies that use the most advanced technologies.\(^{257}\) Often, companies awarded the contracts are able to use similar advanced technology in the civilian market.\(^{258}\) The federal government, therefore, subsidizes the manufacturing base by not only providing direct financial support to the production of goods via contracts, but also by indirectly supporting the overall economy by encouraging innovation within the civilian sector.\(^{259}\)

A competitive contract process is necessary to encourage high levels of innovation in the defense industry.\(^{260}\) But that competition need not come from

\(^{251}\) See, e.g., RAYTHEON CORP., RAYTHEON 2009 ANNUAL REPORT 11 [hereinafter RAYTHEON 2009 ANNUAL REPORT], available at http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MDE5NDE3NDF8Q2hpGRJRD0tMXXxUEB1PTM=&t=1 (differentiating between independently-funded research and development and that which was funded directly by the U.S. Government).

\(^{252}\) Id.


\(^{255}\) See NORTHPROP 2009 ANNUAL REPORT, supra note 23, at 10 (“Our success in the competitive defense industry depends upon our ability to develop and market our products and services, as well as our ability to provide the ... technologies ... needed to deliver those products and services with maximum efficiency.”).

\(^{256}\) See, e.g., Tom A. Peter, Military Inventions Hit the Civilian Market, CHRISTIAN SCI. MONITOR (June 19, 2008), http://www.csmonitor.com/Innovation/Tech-Culture/2008/0619/built-for-battle-but-perfect-in-peace\(\text{time}.\)

\(^{257}\) REICH, supra note 46, at 4.

\(^{258}\) Peter, supra note 256 (“After more than five years, the wars in Iraq and Afghanistan have begun to leave their footprint on science history, generating everything from thermal imaging devices to video-game-like training platforms that are already trickling into daily life.”). See also REICH, supra note 46, at 16.

\(^{259}\) REICH, supra note 46, at 16.

\(^{260}\) JEREMIAH GERTLER, CONG. RESEARCH SERV., RL 30563, F-35 JOINT STRIKE FIGHTER (JSF)
foreign companies; there are sufficient competitors in the U.S. domestic defense industry to provide the federal government an abundant of suppliers to choose from. Where demand from a national customer can sustain only one or two national firms, the participation of foreign competitors can help sustain a competitive framework and the innovation ... it can bring. Because the U.S. Government is able to sustain a large number of national companies, including seven of the top ten defense companies in the world, the influx of foreign competition may not provide a meaningful increase of real competition that would result in greater levels of innovation. Competition for U.S. Department of Defense contracts remains fierce between domestic companies because the United States has an unrivaled breadth and depth of choices in domestic companies. In terms of top global defense companies, the U.S. Government has more options in choosing a domestic company for a defense-related contract than that of the European Union. As a result, whereas the European Union countries must look outside their borders to other European firms to engage in any meaningful competition, the U.S. Government has the equivalent of its own "European Union" of companies to select from when awarding defense contracts.

b. How Export Controls Go Hand in Hand with Procurement Policy

In addition to encouraging the development of new technology, the U.S. Government can protect its current technological edge by the continued enforcement of export controls. Sensitive or advanced technology transfer has always been a concern of the Department of Defense. While rules and regulations control the export of these goods to foreign entities, the United States loses effective control over continued or further dissemination once the technology has been transferred to a foreign company or if the item is manufactured overseas. The possibility that the U.S. Government may lose control of goods once they have left U.S. shores means the strict adherence of

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261. U.K. 2005 DEFENCE WHITE PAPER, supra note 122, at 25 ("US companies continue to dominate the global defence industry ... 7 out of the top 10 defence companies are now US-based.").

262. FORTRESSES & ICEBERGS, supra note 129, at 11. The report cites a national security caveat to supplementing national competition for defense contracts with foreign entities.

263. GUAY, supra note 117, at 7-8. Other studies show that at least seven of the top ten worldwide defense companies are based in the United States, however the individual ranking of each of those companies differs slightly depending on the year the study was conducted and the exact financial figures used. See, e.g., U.K. 2005 DEFENCE WHITE PAPER, supra note 122, at 26; JACKSON, supra note 153, at 2.

264. JACKSON, supra note 153, at 2; U.K. 2005 DEFENCE WHITE PAPER, supra note 122, at 25 ("the defence industrial, technological, and military gap between the USA and the rest of the world continues to grow").

265. U.K. 2005 DEFENCE WHITE PAPER, supra note 122, at 26 (seven of the top ten global defense companies are in the United States, whereas Europe only has three).

266. MCLEAN, supra note 118, at 6.

267. Id. at 7.
export laws for contracts won by foreign companies may not be effective in controlling advanced or sensitive technology. Indeed, Boeing expressed concern to lawmakers in 2006 that EADS had an unfair advantage because EADS would not be subject to the same, strict export controls as Boeing.\textsuperscript{[6]} This suggests that EADS would not be subject to penalties for releasing sensitive technology to the detriment of the United States.\textsuperscript{[6]} On the other hand, if the contract were awarded to Boeing, the domestic company would have increased incentive to protect such technology.\textsuperscript{[7]}

This loss of technology, and loss of the knowledge and skills necessary to create it, not only undermines domestic companies' strategic advantage in the global marketplace, but may also result in the technology ending up in the hands of U.S. adversaries.\textsuperscript{[7]} Numerous examples exist where China and other military-based rivals have reverse engineered U.S. defense technology, including components of the U.S. Air Force F-16 jet fighter aircraft.\textsuperscript{[2]} By exploiting defense technology, U.S. adversaries can significantly alter international military strategies, as well as harm U.S. national security by using the exploited technology against U.S. assets and personnel domestically and abroad.\textsuperscript{[2]}

2. Protecting Jobs: Avoiding the Outsourcing of American Jobs

In its Second Attempt, the Air Force awarded the tanker contract to the partnership of EADS and Northrop Grumman.\textsuperscript{[2] This in that partnership, Northrop Grumman stated that the United States could expect the creation or support of 48,000 jobs.\textsuperscript{[2] This number was similar to what Boeing promised.\textsuperscript{[2]}}

\begin{footnotesize}
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268. \textit{Tanker-Contest Fairness Concerns Boeing CEO}, \textit{Seattle Times} (July 19, 2006), http://seattletimes.nwsource.com/html/businesstechnology/2003136325_mcnerner19.html (quoting James McNerney, Boeing Corp. Chief Executive) ("[EADS has] to jump through far fewer hoops. If they have a legal entity in this country soliciting defense business . . . they should follow the same business transparency laws as we do.").
269. \textit{See id.}
270. \textit{See id.}
271. \textit{McLean}, supra note 118, at 6-7 (in discussing the undesirable transfer of technology to People's Liberation Army (PLA) of China, Richard Fisher of the Center for Security Policy stated, "Once the EU embargo [with China] is lifted, it can be expected that many European defense companies that now cooperate with U.S. defense companies will seek cooperative alliances with PLA-controlled companies. Such moves should be viewed with concern in Washington as these alliances could prove to be very useful avenues for future PLA espionage against U.S. defense technology.").
272. \textit{Id. at 7-8.}
273. \textit{See Page, supra note 226 (noting that China for years reverse engineered Russian technology, and also noting the likelihood of bolstered concerns "among U.S. officials and politicians about China's military modernization."}; see also supra Part I.A.3.
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partnership between EADS and Northrop Grumman dissolved, EADS continued to tout that the same number of jobs would be created if the U.S. Government awarded the contract to it instead of Boeing.\(^\text{277}\) Congress questioned whether this job figure was feasible, given that the company planned to build many of the components in Europe with only the final assembly to be completed in the United States.\(^\text{278}\)

The importance of job creation and keeping jobs within the United States has been at the forefront of the Air Force tanker contest, especially after Northrop Grumman dropped out of the race.\(^\text{279}\) At a time when the manufacturing and industrial bases have decreased precipitously\(^\text{280}\) within the United States due to companies transferring plants to developing countries where manufacturing costs are much lower,\(^\text{281}\) it remains crucial to maintain at least some level of an industrial base within the United States.\(^\text{282}\) The industrial base not only ensures operational sovereignty in case of military conflict,\(^\text{283}\) but also provides an opportunity to develop a skilled labor force to the public.\(^\text{284}\) The defense industry

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280. MCLEAN, supra note 118, at 6 (“With respect to workers, globalization of markets has led to many lost U.S. jobs. Congressional leaders point to a loss of . . . 2.4 million [manufacturing jobs] lost in the United States between 1998 and 2003.”).


284. See, e.g., NORTHROP 2009 ANNUAL REPORT, supra note 23, at 10 (“Our ability to successfully compete in the information and services markets depends on a number of factors; most important is the capability to deploy skilled professionals. . . . Accordingly, we have implemented various workforce initiatives to ensure our success in attracting, developing and retaining sufficient resources to maintain or improve our competitive position within these markets.”).
is the perfect place to create and maintain long-term manufacturing, mechanical, scientific, and engineering jobs for a number of reasons, including the longevity and sensitive nature of defense contracts. The necessary security clearances to work on many of these large-scale defense contracts often require U.S. citizenship. Indeed, the defense industry is perhaps one of the few industries where protectionist policies would actually help maintain employment levels for these reasons.

This anomaly in protectionism analysis stems from the nature of the United States’ defense industry, which is based on major companies and corporations deriving most of their revenue from the federal government itself. In its 2009 Annual Report, Northrop Grumman stated it depended “heavily on a single customer, the U.S. Government, for a substantial portion” of its business. In fact, close to ninety-two percent of Northrop Grumman’s 2009 revenues were derived from the U.S. Government. Northrop Grumman also expressed concern that increased competition from foreign and international firms may significantly reduce its revenues and market share, and negatively impact its ability to provide goods and services to the U.S. Government using U.S. employees. Like Northrop Grumman, U.S. defense corporation Lockheed Martin derives eighty-five percent of its revenue from federal government contracts. Based on the heavy reliance on government contracts, receiving future defense contracts is imperative for the continuance of these companies.

Companies like Northrop Grumman and Lockheed Martin may not survive if a major portion of those revenues and profits were shipped offshore. If, as in the case of the Air Force tanker contract, a domestic company were to lose a future contract to a foreign company, not only would thousands of jobs be lost to other countries in the short term, but for large-scale contracts that span decades, those jobs would be lost forever. The loss of major contracts would further hinder the domestic defense industry’s ability to compete both domestically and

285. See GUAY, supra note 117, at 52-54.
286. REICH, supra note 46, at 27.
287. Id.
289. Id.
290. Id. at 12.
291. See id. at 10 (noting that one of the most important factors is the “capability to deploy skilled professionals, many requiring security clearances,” which often are only available to U.S. citizens); see also Security Clearance Jobs, CLEARANCEJOBS (Sept. 9, 2010, 4:57 PM), http://www.clearancejobs.com/faq-pro/index.php?action=article&cat_id=014&id=42&lang=.
292. LOCKHEED 2009 ANNUAL REPORT, supra note 253, at 4. By contrast, only half of Boeing’s business is based on U.S. Government contracts because Boeing has a large civilian component responsible for building civilian aircraft for worldwide customers. Press Release, Boeing Corp., supra note 253, at 3-4, 7.
294. See generally McLEAN, supra note 118, at 6.
globally as a result of lost revenue, profits, research and development funding, and an employment base, further eroding the strategic advantage companies such as Northrop Grumman and Lockheed Martin maintain. Preferring domestic corporations (like Boeing) for the award of large-scale acquisition contracts (like the tanker contract) ensures that the U.S. defense industrial base will remain intact, including the hundreds of thousands of jobs that support it, especially when defense budgets are decreasing at staggering rates throughout the world.

3. **Protectionism in an Economic Crisis: Keeping the Dollars Within Borders**

Less funding and contracts are available for the companies supporting the world’s militaries primarily due to the economic crisis that reverberated throughout the world in the late 2000s. U.S. defense companies remain concerned that global competition, the European defense market favoring European companies such as EADS and BAE, and the decline of foreign defense budgets, will significantly decrease revenues and profits from foreign entities. Given these concerns, the U.S. Government should not send large profits and revenues to foreign competition when the demand for defense goods is shrinking both globally and domestically. The scarcity of demand may lead the defense market to shrink at a rate similar to that after the Cold War, which could result in fewer jobs for U.S. workers and less competition within the United States.

To help offset the potential loss of U.S. employment and profits for U.S. defense companies, the U.S. Government can add price differentials, or premiums, via the Buy American Act to the base bid amount of foreign competitors. However, because these premiums are often not used when foreign competitors are allied governments, the premium polices used to help

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295. Id.
299. See Lubold, *supra* note 241 (quoting Sen. Patty Murray) ("Instead of securing the American economy and our military while we are at war, we are creating a European economic stimulus plan.").
300. Hawkins, *supra* note 44, at 10 ("Over one million jobs were lost in defense-related sectors, hundreds of companies left the business, and a major consolidation took place among the largest contractors.").
301. See discussion *supra* Part II.B.1.
302. FOREIGN SOURCES 2007 REPORT, *supra* note 70, at 11. A number of contracts were awarded to the United Kingdom and Germany, both of which house some of the world’s top ten defense companies, including BAE Systems and EADS. Id. at 10.
offset job losses within the U.S. defense industry are essentially ineffective methods of defense industrial base preservation.\textsuperscript{303}

When comparing bids between U.S. and foreign companies, the U.S. Government should also take into account the various subsidies that foreign companies receive from their respective governments. This concern is especially relevant for companies based in Europe, whose governments provide subsidies called “launch aid” to help individual companies gain a competitive bidding edge.\textsuperscript{304} Many countries provide subsidies directly to domestic companies to help “launch” new products, including subsidies to support a new aircraft designed by Airbus (a subdivision of Boeing’s main competitor, EADS).\textsuperscript{305} The government subsidies, and similar financial support in the form of long-term loans, help foreign companies bid at lower rates than non-subsidized companies.\textsuperscript{306} Boeing claims that the subsidies provided to Airbus are a major reason the company has surpassed Boeing in both domestic and global dominance in the civilian aircraft sector, which has resulted in domestic job layoffs.\textsuperscript{307}

In preferring U.S. defense companies over subsidized foreign companies, the U.S. Government would be leveling the playing field with foreign competition.\textsuperscript{308} With the help of launch aid, foreign corporations are able to bid at lower prices, but they should not be rewarded for undercutting the bid price, and the foreign companies’ bid price should be adjusted accordingly.\textsuperscript{309} In awarding contracts to U.S. companies, profits and revenue earned would be analogous to foreign subsidies, as many U.S. defense corporations use profits for internal research and development, technological innovation, and testing and development.\textsuperscript{310} These same activities are conducted by non-U.S. corporations using foreign national subsidies.\textsuperscript{311}

Lastly, the possibility of a company moving its headquarters should continue to drive the U.S. federal government to prefer domestic companies in defense contract awards. As one of the most open defense markets, the United Kingdom consistently awarded contracts to foreign companies instead of BAE Systems,

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\item[303.] See discussion infra Part IV.A, suggesting that Congress and U.S. Government agencies cease waiving price differentials.
\item[304.] GUAY, supra note 117, at 58-61.
\item[305.] MCLEAN, supra note 118, at 6.
\item[306.] GUAY, supra note 117, at 58-59.
\item[307.] MCLEAN, supra note 118, at 6.
\item[308.] Hensel, supra note 18, at 50.
\item[309.] GUAY, supra note 117, at 58. One such method may include ensuring price differentials are not waived, even for countries with which the U.S. Government has reciprocal agreements. See discussion infra Part IV.A.
\item[310.] See, e.g., NORTHROP 2009 ANNUAL REPORT, supra note 23; LOCKHEED 2009 ANNUAL REPORT, supra note 253.
\item[311.] GUAY, supra note 117, at 58 (“Launch aid is money given to Airbus [EADS] partners to develop new plane models . . . including development, testing, and actual manufacturing.”).
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United Kingdom's "national champion" of defense companies.\(^{312}\) In a move to increase global share of defense contracts, BAE Systems aggressively began bidding and winning foreign contracts.\(^{313}\) With increased global share and lower domestic preference in the United Kingdom, BAE Systems considered moving its headquarters from the United Kingdom to the United States, which may have had a profound impact on the United Kingdom's domestic defense industrial base.\(^{314}\) The threatened move forced the U.K. government to adjust its defense procurement policy in 2006, including promises to award an increasing number of procurement contracts to BAE Systems.\(^{315}\) While this issue has not yet presented itself in the United States, this type of threat by any of the major U.S. defense companies could be devastating to the United States, especially if one of the "big three" defense players—Boeing, Northrop Grumman, and Lockheed Martin—\(^{316}\) carried out such a threat and moved its headquarters to another nation. Not only could this type of move reduce taxable profits by the U.S. Government, but it could also cut jobs held by U.S. citizens.

IV. SOLUTIONS FOR CONGRESS

As stated by Yale Historian Paul Kennedy, the summarized factors that led to England's fall included:

a failure to invest sufficiently in new plant and laboratories, and in entire new industries; an inadequately trained work-force, and an insufficient supply of engineers and scientists as compared with foreign rivals . . . a social culture which accorded far greater prestige to the professions and service industries (law, medicine, merchant banking, stock-brokering) than to the business of building ships, turbines, machine tools and other manufactures.\(^{317}\)

The U.S. Department of Defense and Congress can perform many acts to ensure major defense acquisition and procurement contracts are awarded to domestic companies instead of foreign entities.\(^{318}\) Such procedures, policies, and lawmaking can help preserve the U.S. defense industrial base, technological

\(^{312}\) Id. at 64.
\(^{313}\) Id.
\(^{314}\) Id.
\(^{315}\) Id.
\(^{316}\) Id. at 8.
\(^{317}\) Hawkins, supra note 44, at 8 (quoting Paul Kennedy, The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000 (1987)).
\(^{318}\) Id. at 8-9
superiority, and U.S. employment, thereby preventing a decline in military prowess as was seen in Great Britain.319

A. Direct Domestic Procedures

In determining whether defense procurement contracts should be awarded to domestic or foreign companies, the agency responsible for the decision should be allowed to take into account socioeconomic factors in its analysis.320 Socioeconomic factors include the location where a majority of the goods will be produced or manufactured,321 the effect on the U.S. defense industrial base,322 and whether profits will end up in the United States or in foreign countries.323 Because current U.S. procurement law prevents these considerations in awarding contracts, Congress attempted to introduce legislation in 2008 that would have forced the Department of Defense to consider these socioeconomic factors in the Air Force tanker contest.324 Though unsuccessful, this groundbreaking legislation would have solved many of the concerns present in the current tanker contract war, and Congress should continue to update procurement law so that these factors are considered in defense contract awards.325

In addition, if after socioeconomic factors are considered there is still a significant benefit to awarding the contract to a foreign company, Congress can include stipulations in appropriations bills to ensure that a certain amount of the product is produced or manufactured within the United States.326 These types of stipulations would ensure some jobs, especially those of a specific technical skill, remain or are created within the United States.327 Such a stipulation could also require that all sensitive or classified components should be installed by U.S. companies that meet required security protocols.328 Both of these problems were overcome in the Second Attempt, when EADS was partnered with the U.S. corporation Northrop Grumman.329 Northrop Grumman would have been responsible for assembling a majority of the aircraft in the United States, and would also have been in charge of installing all classified and sensitive materials.330 Given that EADS was no longer partnered with a domestic company

319. Id.
320. Id. at 10.
321. Hensel, supra note 18, at 53.
323. Congress Weighs in on Tanker Decision, Boeing Protests Award, 50 GOV'T CONTRACTOR ¶ 85 (2008).
324. Sevastopulo & Done, supra note 40.
325. See Congress Weighs in on Tanker Decision, Boeing Protests Award, supra note 323.
326. GUAY, supra note 117, at 67.
327. Id.
328. See Hensel, supra note 18, at 53.
329. See id. at 53-54.
330. Id.
to alleviate these concerns in the Third Attempt,\textsuperscript{331} Congress could have mandated that EADS find a U.S. subcontractor to perform the same work Northrop Grumman was expected to complete within the United States by U.S. citizens.\textsuperscript{332}

On an international level, the U.S. Government can reign in the exemptions of the Buy American Act, and Congress can amend the statute so that it applies to some major contracts conducted outside of the United States,\textsuperscript{333} such as those supporting the armed forces in the current Middle East conflicts. In connection with these conflicts, nearly $5.8 billion dollars in contracts were granted to foreign entities under the Buy American Act exemptions, mainly because of the product's intended use outside the United States.\textsuperscript{334} Moreover, another large award of contracts, both in number and in value, were to countries with which the United States has reciprocal agreements, specifically countries whose defense companies compete directly with U.S. companies.\textsuperscript{335} By decreasing the number of available waivers and exemptions, more contracts can be awarded to U.S. companies instead of their foreign competitors.\textsuperscript{336}

B. Competition, Research & Development, and Higher Education

In addition to measures that will directly affect individual defense procurement and acquisition contracts, Congress should adopt indirect policies and programs that will strengthen the defense industrial base. Congress should explore options to increase the number of defense companies by not allowing major mergers or acquisitions.\textsuperscript{337} To increase technological innovation, Congress can increase tax credits for companies performing in-house research and development activities within the United States.\textsuperscript{338} Additionally, Congress should

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    \item \textsuperscript{331} Press Release, Northrop Grumman Corp., \textit{supra} note 31.
    \item \textsuperscript{332} \textit{GUAY}, \textit{supra} note 117, at 67 (suggesting that the employment of workers, rather than the nationality of the bidding firm, should be a driving factor in determining which company to award contracts to). Because of the sensitive nature of various technologies and contracts, many of these components require security clearances that are much easier to obtain as a U.S. citizen.
    \item \textsuperscript{333} \textit{See} Lichtenbaum, \textit{supra} note 222, at 321 ("only about 30 percent of defense procurements [are] off limits to foreign firms").
    \item \textsuperscript{334} \textit{FOREIGN SOURCES} \textit{2007 REPORT}, \textit{supra} note 70, at 10.
    \item \textsuperscript{335} \textit{id.} A number of contracts were awarded to the United Kingdom and Germany, both of which house some of the world's top 10 defense companies, including BAE Systems and EADS. \textit{JACKSON}, \textit{supra} note 153, at 2.
    \item \textsuperscript{336} \textit{See} GRASSO, \textit{supra} note 183, at 8-9. This policy may frustrate international politics, trade agreements, and military operations given a number of these countries are U.S. allies in the Global War on Terror. \textit{See} Miller, \textit{supra} note 104, at 110. However, given the current nature of Europe's closing defense market, it is unlikely that any consequential retaliation will occur.
    \item \textsuperscript{337} \textit{See} Hawkins, \textit{supra} note 44, at 10 (noting the reduced competition within the United States as a result of significant consolidation of the defense industrial base during the 1990s).
    \item \textsuperscript{338} \textit{See}, \textit{e.g.}, \textit{GUAY}, \textit{supra} note 117, at 54; \textit{GOV'T ACCOUNTABILITY OFFICE, MANAGING THE SUPPLIER BASE IN THE 21ST CENTURY} \textit{9} (2006); \textit{U.K. 2005 DEFENCE WHITE PAPER}, \textit{supra} note 122, at 35.
\end{itemize}
increase the availability of scholarship and academic programs meant to encourage U.S. citizens to obtain math, science, and engineering degrees. These indirect procedures can help ensure the United States retains a technological edge in the global defense market.

A common theme found in arguments for globalization is that increased competition will drive the market to produce the best product in terms of affordability and quality. A healthy amount of competition already exists among the U.S.'s defense industrial base, but the competition has decreased since the consolidation of companies in the defense industry after the Cold War. To prevent a reduction of competition within the United States, Congress must remain vigilant in reviewing and denying the merger or acquisition of U.S. defense companies. This vigilance is especially necessary where the consolidation of defense companies may result in a single-source supplier. If this happened, the U.S. defense market would devolve to that of the United Kingdom, which has a single domestic company to award contracts to and thus no competition within its domestic market.

Another way to maintain or increase technological innovation is through increased research and development spending. A number of studies have found U.S. military technological dominance waning over the last decade due to decreased spending on research and development. The decreased efforts of research and development, and thus lack of innovation, can easily be corrected by investing directly into government-funded projects targeted at specific niches of technology that can be carried out by U.S. defense companies and the...
commercial/civilian sector alike. An additional method for encouraging innovation includes research and development tax credits. These tax credits should be awarded to help fund for research conducted at facilities located within the United States employing U.S. citizens.

Furthermore, the number of graduating students in the United States with math and engineering degrees is declining when compared to other countries. By investing in a technologically-driven education system, the United States can prevent a "brain drain" as a large portion of its workforce retires in the next decade. The U.S. Government has an even smaller pool of talent to draw from, as many engineering and science students in U.S. universities are foreign citizens and, therefore, unable to obtain a security clearance necessary to work on sensitive contracts with the Department of Defense. With less knowledge and skills available, defense contractors will continue to move operations offshore in order to attract and retain their necessary employment base. For specific areas of engineering and science that meet a high-value "national need," Congress can set up a number of education loan and scholarship programs to encourage U.S. citizens to pursue technical degrees that will support the defense industrial base. As stated in his 2011 State of the Union address, U.S. President Barack Obama observed, "if we want to win the future—if we want innovation to produce jobs in America and not overseas—then we also have to win the race to educate our kids."

V. CONCLUSION

The U.S. defense industrial base is unparalleled in size and diversity. To maintain this sovereignty, the U.S. Government should continue to implement or strengthen domestic preference polices in the award of major military procurement and acquisition contracts. The Department of Defense must realize that decisions regarding large-scale contract awards cannot rely solely on price mechanisms, as in the Third Attempt. Additional factors concerning national security implications and protectionism must be considered in all major defense

350. See, e.g., GUAY, supra note 117, at 54; GOV'T ACCOUNTABILITY OFFICE, supra note 338, at 9.
352. GUAY, supra note 117, at 55 (identifying an increasing amount of U.S. research and development funds being spent in "innovation centers" located in China and India).
353. Id. at 51.
354. Id.
355. Id. at 53.
356. Id. at 54.
357. Id. at 68.
358. Obama, supra note 341.
360. Drew, supra note 38.
acquisition contracts to ensure the stability and strength of the U.S. defense industrial base.

There are a number of reasons why the U.S. Government should prefer domestic companies when awarding defense procurement contracts. During a major conflict in which U.S. national security may be compromised by awarding contracts to companies controlled by hostile countries, the U.S. armed forces could secure the supply of goods with domestic producers. In addition, where jobs are at stake in a global recession, the U.S. Government could award more defense-related contracts to domestic suppliers such as Boeing in an attempt to maintain, or even expand, the industrial base.

Congress can take a number of proactive steps to ensure the Department of Defense continues to award major defense contracts to domestic companies, such as Boeing's successful bid in the Third Attempt. Procurement laws should be updated so that the defense agencies are allowed to take socioeconomic factors into account. In the event a major contract is awarded to a foreign corporation, Congress can require the company to produce a significant portion of the contract to be fulfilled (or the item to be produced) within the United States, which would ensure domestic industry sustainment. Congress should permit fewer mergers between U.S. defense companies, as a larger number of defense firms would create more internal competition for military contracts. Lastly, Congress must remain vigilant in funding research and development, and in increasing the number of science, math, and engineering education opportunities for U.S. citizens. Without the engineers to create new technology and sustain the production of advanced military equipment, the domestic defense industrial base will lag behind other countries. Given the importance of protecting national security and the defense industrial base during major conflicts in the Middle East, "I can't imagine a worse time in our history to outsource our national defense."

361. DEF. SCI. BD., supra note 45, at 18.
362. REICH, supra note 46, at 27.
363. Drew, supra note 38.
365. GUAY, supra note 117, at 67.
366. See Borich, supra note 201, at 656.
367. GUAY, supra note 117, at 68.
368. See id. at 54.
369. Carpenter, supra note 1 (quoting Kansas Governor Kathleen Sebelius).