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THESIS

THE COSTS AND BENEFITS OF MAINTAINING THE BUY AMERICAN ACT

by

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This thesis explores the costs and benefits of the Buy American Act (BAA). The BAA requires a domestic preference for all Federal Government purchases. The thesis uses accepted economic analysis on the gains from international trade to show that the costs of maintaining such protectionist legislation are potentially high relative to the uncertain benefits of maintaining excess industrial surge capacity. Moreover, surge capacity did not appear to be an issue in the debate over passage of the BAA in 1933. Passed at the trough of the depression, the Act appears to have been motivated by the mistaken belief that it would on net save U.S. jobs. In light of the declining real procurement budget for the Department of Defense, a relaxation of the BAA seems called for. This thesis concludes by recommending that the scope of the Buy American Act be narrowed.

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THE COSTS AND BENEFITS OF MAINTAINING THE BUY AMERICAN ACT

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ABSTRACT

This thesis explores the costs and benefits of the Buy American Act (BAA). The BAA requires a domestic preference for all Federal Government purchases. The thesis uses accepted economic analysis on the gains from international trade to show that the costs of maintaining such protectionist legislation are potentially high relative to the uncertain benefits of maintaining excess industrial surge capacity. Moreover, surge capacity did not appear to be an issue in the debate over passage of the BAA in 1933. Passed at the trough of the depression, the Act appears to have been motivated by the mistaken belief that it would on net save U.S. jobs. In light of the declining real procurement budget for the Department of Defense, a relaxation of the BAA seems called for. This thesis concludes by recommending that the scope of the Buy American Act be narrowed.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

BA	Budget Authority
BAA	Buy American Act
CICA	Competition in Contracting Act of 1984
DAD	Defense Acquisition Deskbook
DFARS	Defense Federal Acquisition Regulation Supplement
DoD	Department of Defense
DoDIG	Department of Defense Inspector General
EC	European Community
EV	European Union
FAR	Federal Acquisition Regulation
FY	Fiscal Year
GAO	General Accounting Office
HCF	High Carbon Ferrochrome
MOA	Memorandum of Agreement
NATO	North Atlantic Treaty Organization
O&M	Operations and Maintenance
op tempo	Operations tempo
R and D	Research and Development

U.S.	United States of America
VRA	Voluntary Restraint Agreement

I. INTRODUCTION

A. GENERAL

In an era of shrinking defense budgets, unprecedented peacetime military alliances, and the ever-increasing globalization of economies through free trade agreements, the U.S. Government cannot afford to cling blindly to the protectionist legislation of a bygone era. Established in 1933, the Buy American Act created a "domestic preference" in the procurement of goods and services for public agencies. Throughout its the 65-year-history, the law has seen periods of relaxation and amplification, with revisions to the Act inherently tied to times of economic crisis. Buy-national policies typically derive their support from the common belief that preferential treatment for domestic suppliers will ensure prosperity for the U.S. economy. By their very nature, protectionist policies increase prices and introduce marketplace inefficiencies that result in higher costs for the consumer and fewer overall goods purchased.

The discussion over the utility of the Buy American Act is typical of the debate over any economic program. The Government must concern itself with the cost-effective use of public funds, while "promoting the general welfare" by stimulating domestic economic growth with the award of potentially lucrative Government purchase contracts.

In his initiatives to reform the DoD acquisition process, Former Secretary of Defense William Perry continually encouraged the acquisition community to adopt the "best practices" of industry, and make DoD a "smart customer" in a fiscally restrained environment. As the Department of Defense (DoD) searches for more efficient ways to use its resources, it must look externally to the Buy American Act and the restrictions that the Act imposes on defense spending. The Act and its associated economic goals directly inhibit DoD's efforts to become a sophisti-cated customer and adopt "the best practices" of industry.

The DoD and Defense ministries from other North Atlantic Treaty Organizations (NATO) nations could capitalize on the free trade momentum gained by the North American Free Trade Agreement (NAFTA) and the General Agreement on trade and Tariffs (GATT), by working to reduce the impact of the buy-national policies on weapon systems procurements. By altering or eliminating buy-national practices, NATO members could realize the benefits of the "Law of Comparative Advantage" and maximize their buying potential.

B. OBJECTIVES

The purpose of this thesis is to analyze the current relevance of the Buy American Act. Established in 1933 to shield U.S. industry from the effects of international competition, the Act still survives today, although it is waived regularly, and invoked in an inconsistent manner. The objective of this thesis is to

identify and analyze potential changes in the Buy American Act that can benefit Department of Defense acquisitions as well as those of other NATO nations. The research includes an in-depth study of the origins of this legislation, an analysis of trends in current defense-related procurement spending, and a cost-benefit analysis of maintaining the current policy.

This research provides policy makers with a reference for discussion of the costs and benefits associated maintaining the Buy American Act in its current form. This research could indicate potential changes to the Act that would allow DoD to capitalize on the economic benefits of pursing free trade.

C. RESEARCH QUESTIONS

Primary Research Question: What are the costs and benefits of upholding the Buy American Act?

Secondary Questions:

1. What are the origins of the Buy American Act?
2. To what extent has the defense procurement budget declined?
3. What are the measures of costs and benefits?
4. Do the benefits of the Buy American Act exceed its costs?
5. What aspects of the Buy American Act could be modified to appropriately reflect the costs and benefits of maintaining the policy?

D. METHODOLOGY

The research for this thesis includes:

1. A literature search of books, magazine articles, and other library information resources.

2. Research on the established economic theory on foreign trade, tariffs, and quotas and the law of comparative advantage.

3. A baseline assessment of DoD procurement budgets over the last 20 years.

4. Research on economic supply and demand elasticity data on DoD-related raw materials whose trade is restricted by the Buy American Act.

5. An economic model illustrating the effect of tariffs (or quotas) on price and consumption of goods when they are used.

E. ORGANIZATION OF THE RESEARCH

Chapter II. History/Background of the Buy American Act

This chapter explores the history of the Buy American Act and its inherent tie to times of economic crises. The chapter includes a review of the circumstances surrounding the creation of the Buy American Act, as well as the history of subsequent amendments to the Act. A detailed look at the current version of the law frames the Chapter V discussion of any future changes to the Buy American Act.

Chapter III. Analysis of DoD's Procurement Budgets

This Chapter contains a baseline assessment of DoD procurement budgets over the last 20 years. The chapter presents current trends in the allocation of Department of Defense funds.

Chapter IV. Economic Theory and Cost-Benefit Analysis

This Chapter contains a review of economic theory on quotas, tariffs, and international trade. An illustration of the impact of tariffs on a defense-related good ties the economic theory to the Buy American Act.

Chapter V. Analysis

This chapter establishes the metrics for weighing costs and benefits of Buy American Act. A cost-benefit analysis of maintaining protectionist legislation will conclude this chapter.

Chapter VI. Conclusions and Recommendations

This Chapter includes a discussion of the current application of the law, as well as possible changes to the Buy American Act that reflect the political and economic realities of today.

F. SCOPE OF THE THESIS

The scope of the thesis includes: (1) a review of the circumstances surrounding the creation of the Buy American Act, as well as the history of subsequent amendments to the Act, (2) a study of Department of Defense (DoD)

procurement budgets for the last 20 years, (3) a review of economic theory on quotas, tariffs, and international trade, (4) an example of DoD-relevant goods and the costs and benefits of maintaining quotas and tariffs on for defense related materiel, and (5) a discussion of possible changes to the Buy American Act that would reflect the political and economic realities of today.

II. BACKGROUND/HISTORY OF THE BUY AMERICAN ACT

A. INTRODUCTION

This chapter explores the history of the Buy American Act and its inherent tie to times of economic crises. The chapter includes a review of the circumstances surrounding the creation of the Buy American Act, as well as the history of subsequent amendments to the Act. A detailed look at the current version of the law frames the Chapter V discussion of possible future changes to the Buy American Act.

The Buy American Act, and its subsequent revisions are historically associated with times of U.S. economic crisis. During these times, our traditionally American support for an open and competitive marketplace gives way to the social and political desire to find sources of blame for our economic woes. (Gerber, 1975) It was within this type of political environment that the Buy American Act first gained its support.

B. A RISE IN PROTECTIONIST SENTIMENT

In the early years of the great depression, a spirit of protectionism had taken hold in Congress. Concern for the dwindling American workforce was foremost on the minds of American politicians as unemployment levels approached twenty-

five percent. (Goehle, 1989, p. 11) The political resurgence of an American isolationist philosophy inflamed this protectionist attitude. (Gerber, 1975, p. 6) Political support for American buy-domestic policies increased in response to implementation of protectionist policies by other Governments, specifically Great Britain. The British Government began the dispute by placing 'buy-British' clauses in all public purchase and construction contracts. (Sherman, 1981, p. 265) A protectionist spirit also absorbed U.S. lawmakers as Congress passed the Smoot-Hawley Tariff Act of 1930, establishing the highest tariff levels in U.S. history. (Goehle, 1989, p. 10)

C. LEGISLATIVE DEBATE AND ENACTMENT

The precursor to the Buy American Act was first introduced during Congressional discussion of the Army's procurement budget in 1932. The result was an amendment to the Appropriations Bill that restricted War Department procurements to the purchase of only American-made products. (Sherman, 1981, p. 265) This legislative precedent continued into 1933 when Congress considered applying 'buy-American' restrictions to all Federal agency purchases.

During Congressional debate, Senator Hiram Johnson of California voiced concerns that heavy equipment purchases needed for completion of the Hoover Dam might go to German firms if Congress did not intervene. Senator Vandenburg of Michigan summed up Congressional sentiment by saying "The

American treasury is not the world's community chest." (Pomeranz, 1982, pp. 131-132) At the forefront of the buy-domestic movement were the electrical equipment and steel industries which lobbied extensively for the passage of the Act. (Goehle, 1989, p. 11) The protectionist cause gained further momentum when supporters entered an article from The Saturday Evening Post into the Congressional Record. The article suggested that support for American products was a matter of "national pride." Congress was promoting public sentiment that held the belief that being a "good" American meant buying only American-made products. (Gerber, 1975, p. 4)

On March 3, 1933, the Buy American Act passed as Public Law 428. (Sherman, 1981, p. 265) It passed as an attachment to the Treasury and Post Office Appropriation bill for Fiscal Year (FY) 1934. The law officially established a policy of 'domestic preference' in the procurement of materials for public agencies. President Hoover's approval was assured, given his stated belief that the War Department (and all other Federal agencies) was (were) obligated to show a preference for domestic materials. The result was a reduced "competitive marketplace for Federal procurement activities." (Gerber, 1975, p. 6)

D. THE SCOPE OF THE BUY AMERICAN ACT

The Buy American Act has five major sections. The first three sections were part of the original legislation of 1933. The fourth section was added in 1949

to clarify congressional intent. The fifth part is a result of Executive Order 10582, added in 1954, by President Dwight D. Eisenhower.

1. The Original Legislation of 1933

a. Section One

This section requires the procurement of *American* materials and manufactured items for public use. Exceptions to this general rule allow the procurement of foreign materials if:

- The procurement of domestic materials is inconsistent with public interest,
- The cost of domestic materials is determined to be unreasonable,
- The item is for use outside the United States, or
- The domestic materials are not available in sufficient commercial quantities and of satisfactory quality.

Section one establishes the agency head as the decision maker on issues of 'public interest' and 'cost reasonableness,' as well as on matters of 'sufficient quantity' and 'satisfactory quality.' (U.S. Code Title 41, Section 10a)

Although the initial legislation lacked a precise method for determining issues of cost reasonableness, the Treasury Department issued guidance in 1934, establishing a 'rule of thumb' for procurement officials of all agencies. The directive stated that prices for domestic goods could exceed foreign

goods by twenty-five percent before they should be considered unreasonable. (Pomeranz, 1982, p. 134)

b. Section Two

This section requires the use of American materials in all construction, alteration, and repair work, on public buildings or public work. Curiously, this section contains the only reference to a penalty (contractor debarment for three years) for violation of the Act. This section also reasserts the agency head as the decision-making authority on all matters of cost reasonableness and weighing public interest. (U.S. Code Title 41, Section 10b)

c. Section Three

This section defines the terms used in the first two sections. Specifically it defines "United States" as the U.S. and its territories, and it also defines the terms 'public building,' 'public use,' and 'public work.' (U.S. Code Title 41, Section 10c)

These three sections represent the original version of the Buy American Act. Although Congress has substantially modified the scope of the law, the original Buy-American language, definitions and exemptions still serve as the core of Part 25 (Foreign Acquisition) of the Federal Acquisition Regulation (FAR.)

2. Modifications to the Buy American Act

a. Section Four

Section Four was added to the Act in 1949 to provide clarification of the original congressional intent for the law. The section reiterates that the use of American materials is a *requirement* unless the agency head determines that the use of foreign materials or manufactured items is in the public's best interest. "The Amendment provided that those goods manufactured from domestic raw materials and those manufactured from foreign materials, when domestic materials are not available, would have equal benefit under the act." (Sherman, 1981, p. 266) This clarification did not address the practical interpretation issues associated with defining the terms 'unreasonable costs' or 'inconsistent with public interest' that had become a problem for some agency heads. (Sherman, 1981, p. 266)

b. Executive Order 10582. Uniform Procedures for Determination

The most significant and practical alteration to the Buy American Act was established by executive order in 1954. Executive Order 10582 established interpretation guidelines for use when applying the Buy American Act to contract actions. The Order was primarily an effort to 'standardize' application across all Federal agencies. (Gerber, 1975, p. 9) Until this point, Federal agencies implemented the law through their own respective procurement regulations. Not surprisingly many of these agencies differed in their interpretation and application

of the law. (Goehle, 1989, p. 11) The Order establishes guidelines in three areas: Foreign Origin Determination, Unreasonable Domestic Bids, and Head of Agency Authority.

(1) **Foreign Origin Determination.** The Executive Order specifies that an item is considered to be foreign made if more than fifty percent of the value of the item comes from foreign materials. (U.S. Code Title 41, Ex.Ord 10582)

This is the first time in the history of the Act that the term 'substantially all' of a manufactured item is quantified. Prior to the Executive Order, common practice had required that seventy-five percent of its component cost must have originated in the U.S. (Gerber, 1975, p. 10)

(2) **Unreasonable Domestic Bid.** A contracting officer can award a contract to a foreign bidder (offeror) if the lowest domestic bid exceeds the foreign bid by six percent including duty or ten percent excluding duty. (U.S. Code Title 41, Ex.Ord 10582) An additional six-percentage-point differential is to be added to the foreign bid when the lowest domestic offer is from a small business. (FAR, 1997, Part 25.105) Defense Acquisitions follow the same procedure but require a fifty-percent price differential. (DFARS, 1998, Part 225.105)

(3) **Head of Executive Agency Authority.** This section grants the authority" to reject any bid or offer for reasons of national interest." Agency heads can give special consideration to "small business concerns" and suppliers who will "produce substantially all" of their product in a labor-surplus area. An agency head could also reject bids or offers of foreign materials to protect national security interests, after consultation with the President or his designated representative. (U.S. Code Title 41, Ex.Ord 10582)

With the addition of Executive Order 10582, the socio-economic influence of the Act expanded from labor and industry concerns to encompass the interests of small businesses and labor-surplus areas.

c. Balance of Payments Program

The scope of the Buy American Act expanded again in the early 1960s in response to growing concern over an unfavorable outflow of U.S. dollars as a result of a continued U.S. military presence overseas. Concern in the Eisenhower and Kennedy Administrations led to two Executive Orders establishing the Balance of Payment Program as a temporary measure in 1960 and 1962. (Ball, 1987, p. 8) The program applies only to foreign acquisitions for U.S. use overseas, and requires that a fifty-percent differential be added to all foreign bids (or offers.) (FAR, 1997, Part 25.302(c)) The differential allows bids from U.S. firms to exceed those of host country firms by as much as fifty percent and

still win the contract. Although the Balance of Payments Program was established in the early 1960s, the FAR still describes it as an "interim measure imposed to alleviate the impact of Government expenditures on the Nation's balance of international payments." (FAR, 1997, Part 25.302(a))

The current version of the FAR allows the purchase of Foreign end products and services when:

- The estimated cost is below the simplified acquisition threshold of $100,000.
- The item procured is perishable, and delivery from the U.S. would be impractical.
- The requirement can be filled only by a foreign source.
- The item is for resale in overseas commissary stores.
- Required by treaty or executive agreement between Governments.
- The item is a petroleum product.
- The item is procured with excess foreign currencies.[1]
- The origin of the item (or service) is from Panama and the item is to be consumed by U.S. forces in Panama.

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[1] The United States holds currencies of certain countries in amounts determined annually by the Secretary of the Treasury. Amounts held above these levels are published in OMB bulletins as excess foreign currencies. (FAR, 1997, 25.304 (a))

Balance of Payments Program restrictions have been drastically reduced by the Trade Agreements Act of 1979 and the NAFTA Implementation Act. Under each of these agreements, signatories agree to reciprocally waive buy-national preferences in the purchase of supplies and services for Government consumption.

E. SECRETARY OF DEFENSE AUTHORITY OVER THE INDUSTRIAL BASE

In several landmark legislative acts, Congress has authorized the President and Secretary of Defense to take actions to preserve the domestic industrial mobilization base. The National Security Act of 1947 and the Defense Production Act of 1950 each grant the President specific authorities in directing the preparedness and mobilization of the industrial base. Secretary of Defense Report, 1989, p. 5) This authority led to several major policy directives:

- Executive Order 11490, dated 30 October 1969. This order assigned the Secretary of Defense responsibility for developing plans to fulfill military requirements and maintain the mobilization base. It directs DoD to assess current capacity and take actions to overcome problems with the industrial base. Secretary of Defense Report, 1989, p. 25)

- Defense Mobilization Order II, "Maintenance of the Mobilization Base," dated 1 July 1980. This order directs contracting agencies to align "current procurements with industrial mobilization plans to the greatest extent possible." The objective of this order is to use current DoD funds to support the mobilization base during peacetime. (Secretary of Defense Report, 1989, p. 25)

- National Security Decision Directive No. 47, "Emergency Mobilization Preparedness," dated 22 July 1982. This directive established a program "to identify (domestic) production and supply deficiencies...and to initiate actions to overcome them." It also considers the impact of coproduction agreements, offsets with U.S. allies, and other reciprocal trade agreements, on the domestic ability to mobilize for war. Secretary of Defense Report, 1989, p. 5)

The Competition in Contracting Act of 1984 (CICA), which requires procuring agencies to ensure full and open competition through the use of competitive procedures, allows for specific exemptions to competition in the interest of preserving industrial mobilization objectives. (Secretary of Defense Report, 1989, p. 26)

Each one of these laws, executive orders, and directives, provides the President and the Secretary of Defense with the necessary authority to preserve the domestic industrial base in the interest of national security.

F. REVERSING THE TREND OF PROTECTIONISM

The implementation of the Balance of Payments Program in 1962 marks the last significant tightening of Buy American restrictions in U.S. legislation. Since then, the trend in legislation has been toward the relaxation of buy-national policies. Issues of interoperability with allies, a marked increase in the quality of the foreign designs of weapons, and a flurry of free-trade agreements have prompted legislative and policy adjustments from the early 1970s to the present.

1. Cooperation Among NATO Members (NATO RSI)

In the early 1970s, concern over the adequacy of NATO conventional forces (against Warsaw Pact forces) began to eclipse buy-national sentiments. The concept of Rationalization, Standardization and Interoperability (RSI) of NATO forces began to overshadow the protectionist concerns of individual countries. By pooling the national resources of all members, rationalization allows NATO to achieve the maximum defense capability while reducing redundant weapon systems. By pursuing RSI, NATO could conceivably increase both military effectiveness and cost efficiency across the entire alliance. Although NATO standardization had been a policy since 1949, few member nations embraced its objectives. Extensive barriers existed as NATO nations continued to adhere to buy-national practices. (Sherman, 1981, pp. 272-274) The biggest barriers to NATO RSI were (and continue to be):

- Most nations were not willing to make vital aspects of their security dependent on other countries.
- Frequent disagreements (within NATO) on the priority of military requirements.
- Many nations looked to the achievements in their defense sector as a source of national pride and prestige.
- Internal public pressure to maintain domestic employment and to maintain foreign exchange through military sales.

- A desire within Government for increased influence in countries outside the NATO arena which is gained through agreements to supply arms. (Sherman, 19 , p. 274)

Heavy U.S. emphasis on RSI in the 1970s, caused a shift in policy that allowed a "collective" NATO approach to military procurements to emerge.

The move toward NATO RSI began with a November 1971 memorandum from Secretary of Defense David Packard to the Service Secretaries. The memo instructed each of them to encourage U.S. industry to "form working relationships with foreign industrial concerns" in order to capitalize on improvements in foreign weapons technology. In 1975, the Culver-Nunn Amendment to Public Law 94-106 authorized the Secretary of Defense to waive the Buy American Act in an effort to maintain Rationalization, Standardization and Interoperability (RSI) within the North Atlantic Treaty Organization (NATO). (Ball, 1987, p. 10)

Congress again showed its support for NATO RSI by passing Public Law 94-361 in July of 1976. Then Law required that equipment procured for U.S. forces in Europe must be standardized (or at least interoperable) with other NATO equipment. The Law also required the Secretary of Defense to begin establishing procurement procedures that would ensure the interoperability and standardization of all future DoD acquisitions. These changes encouraged the Department of Defense to use the national-interest exception to the Buy American Act to enter

into Memorandums of Understanding (MOU) and Memorandums of Agreement (MOA) with allied nations.

These legislative actions reflected the mood in Congress that NATO forces would benefit from expansion of inter-allied procurement of arms and equipment. Congress wanted to see this inter-allied procurement advanced through the use of licensing and co-production agreements. (Sherman, 1981, p. 274) By this time, Congress was signaling a drastic departure from the protectionist practices that had shaped the Buy American Act.

The current version of the Defense Federal Acquisition Regulation Supplement (DFARS) states that it is "inconsistent with the public interest to apply restrictions of the Buy American Act/Balance of Payments Program to the acquisition of defense equipment which is manufactured in any of the qualifying countries. The DFARS lists seventeen countries (predominantly NATO countries) with which the U.S. has reciprocal defense acquisition agreements. (DFARS, 1998, Subpart 225.872-1) Manufacturers and suppliers in each of these countries can submit offers on defense contracts without application of the fifty percent differential that is mandated by the Buy American Act or the Balance of Payments Program. (DFARS, 1998, Subpart 225.872-4(b))

2. Trade Agreements

As Congress re-prioritized issues associated with defense spending, the trend of reciprocity in Government purchasing continually gained momentum. Throughout the 70s, the 80s and up to the present, several monumental Trade Agreements began to change the face of global trade. By signing each of these agreements, the United States has committed to waiving the Buy American Act among signatory nations. (Ball, 1987, p. 11)

a. Agreement on Government Procurement/Trade Agreement Act of 1979

The Trade Agreement Act of 1979 (which encompassed the 1979 Agreement on Government Procurement [AGP]) provided the first general attempt to reduce the barriers erected by the Buy American Act. (Sherman, 1981, p. 270) The AGP ensures that signatories will give equal treatment to foreign and domestic suppliers in competition for specific contracts. The purpose is for each country to open up lucrative Government markets to international competition. This agreement excludes the procurement of services, construction projects, "set asides" (small business, minority owned businesses, and firms operating in a labor surplus area), research and development, small purchases and matters of national security. The current version of the FAR establishes $190,000 as a threshold for supply and service contracts and $7,311,000 as a threshold for construction contracts. Buy-

American restrictions do not apply to contracting actions over these amounts. (FAR Part 25.402 (a) (1), 1997)

b. Agreement on Government Procurement/North American Free Trade Agreement

This agreement was followed by the Government Procurement Chapter of the North American Free Trade Agreement in December 1992, and the 1993 Agreement on Government Procurement. Each of these agreements hinges on the signatories' commitment to reduce existing preferences for domestic products in Government procurements. Like the 1979 agreement, the signing nations can expect other signatories to open their Government procurements to international competition. The 1993 AGP expands the 1979 agreement into procurements involving services, construction work, and state and local Governments. (Heldreth, 1994, p. 16)

The Government Procurement Chapter (Chapter Ten) of the North American Free Trade Agreement, closely mirrors the 1993 AGP because Mexico is not a signatory to either AGP. Each party is required to treat goods and services from NAFTA nations the same as domestic products. All three countries excluded these areas from consideration under Chapter Ten:

- State and local Government procurement,
- Public transportation,
- Government sponsored research and development projects,

- Public utilities and communications,
- Military related procurements,
- Government financial services,
- Canadian publication contracts. (Heldreth, 1994, p. 31)

Each NAFTA signatory has its respective small-purchase thresholds in the FAR. Offerors can compete for contracts above (FAR Part 25.402 (a) (3) (ii), 1997) the threshold amounts without application of Buy-American restrictions. The threshold for Canadian offerors is $25,000 for supply and services contracts. For Mexican supply and service contracts the threshold is $50,000. For offerors in both countries, the threshold for construction contracts is $6,500,000.

G. CONCLUSION

Since its enactment in 1933, The Buy American Act appears to have been poorly planned, hastily passed, and inconsistently enforced. The original Act lacked clear definition of key terms such as 'Cost reasonableness' and 'public interest.' (Sherman, 1981, p. 266) The Act also lacked standard rules for its application. Because of its vagueness, Congressional clarification to the intent of the Act was necessary in 1949. Implementation guidelines for the Act did not exist for a full twenty years after Congress passed the Act. Whether Congress ever really intended to strictly enforce the statute can also be questioned, considering

the obvious omission of penalties (except in section two) for violation of the Act. All of these factors contribute to the characteristic vagueness of the Act, and have led to inconsistent use of the Act since 1933.

III. THE DECLINING PROCUREMENT BUDGET

A. INTRODUCTION

As Department of Defense officials attempt to manage the contraction of the U.S. defense establishment that has occurred since 1985, the internal competition for shrinking DoD funds has become intense. As the total available DoD budget continuously declines, serious debates take place among defense planners over how to finance the current force structure and pay for an ever-increasing number of deployments. The answer has often been to "mortgage the future" in order to pay for the present. (Towell, 1994, p. 182)

This chapter examines the levels of the Department of Defense's total budget authority as well as DoD's procurement budget over the last 20 years. While procurement is strictly defined as the act of buying goods and services for a Government agency, the defense procurement budget is often viewed as an investment in the future of America's war-fighting forces. Reductions in procurement spending can have significant long-term effects on U.S. defense capability. This chapter addresses the question: To what extent has the defense procurement budget declined? Significant declines in the DoD procurement budget will underscore the need to find cost-effective solutions to military purchasing.

B. TOTAL DOD BUDGET AUTHORITY

The Department of Defense budget has continuously declined since 1985. Table 1 and Figure 1 illustrate that the DOD Budget Authority (1992 constant dollars) reached a high point of $366.4 Billion in 1985, and a twenty-year low of $221.6 Billion in 1997.

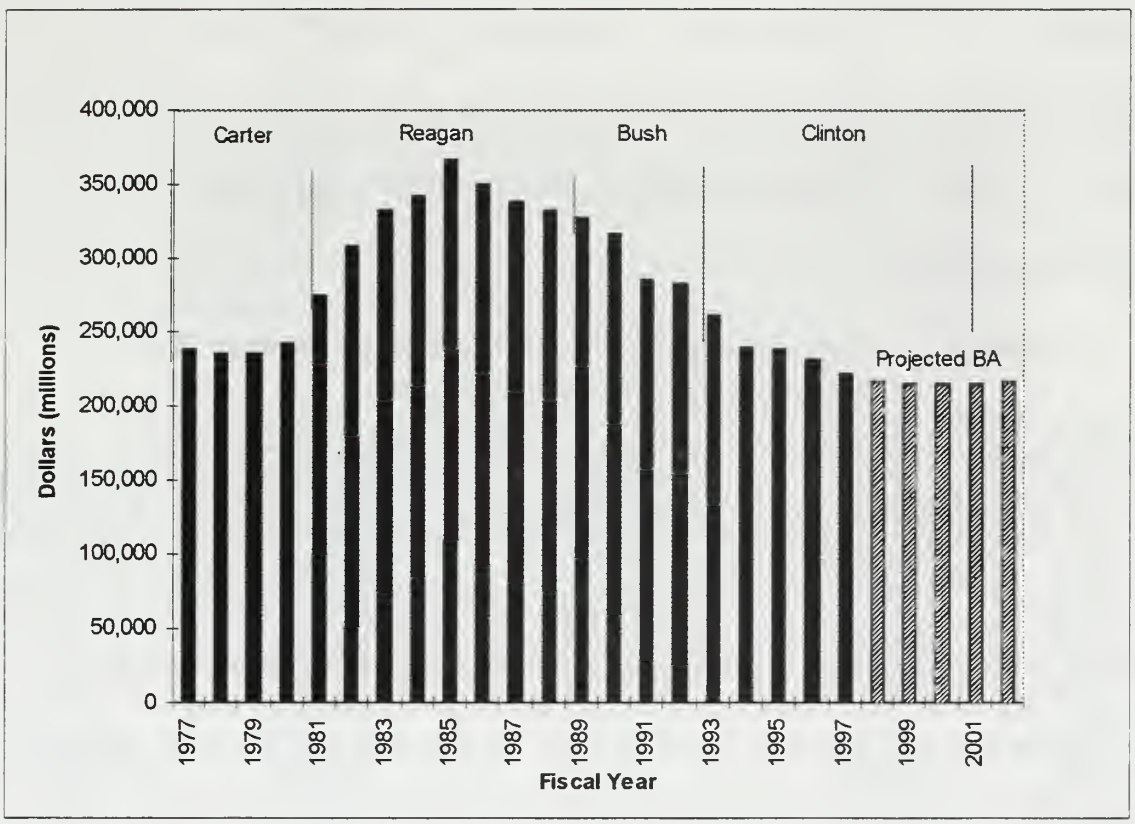
Table 1. U.S. Department of Defense Budget Authority 1992 Constant Dollars (In Millions)

Year	GNP Deflator	DoD Budget	DoD Budget in '92 $
1977	0.454	107,906	237,678
1978	0.4857	114,531	235,806
1979	0.5267	123,595	234,659
1980	0.5819	140,651	241,710
1981	0.6421	176,110	274,272
1982	0.6865	211,513	308,103
1983	0.7195	238,900	332,036
1984	0.7545	258,176	342,182
1985	0.7829	286,827	366,365
1986	0.805	281,436	349,610
1987	0.8273	279,469	337,809
1988	0.8546	283,755	332,033
1989	0.8902	290,837	326,710
1990	0.9257	292,999	316,516
1991	0.9695	276,208	284,897
1992	1	282,127	282,127
1993	1.0252	267,194	260,626
1994	1.0492	251,364	239,577
1995	1.0745	255,651	237,926
1996	1.0991	254,406	231,468
1997	1.1283	249,990	221,563

Table 1 (Continued)

Year	GNP Deflator	DoD Budget	DoD Budget in '92 $
1998*	1.1589	250,697	216,323
1999*	1.19	256,315	215,391
2000*	1.2222	262,767	214,995
2001*	1.2544	269,551	214,884
2002*	1.2863	277,496	215,732

Source: OMB, Budget of the U.S. Government: Historical Tables, FY 98
*Projected



Source: OMB, Budget of the U.S. Government: Historical Tables, FY98.

Figure 1. DoD Budget Authority, 1992 Constant Dollars

The Clinton Administration's long-term budget goals call for a further decline in the DoD budget, which is projected to level off at $214-216 Billion in Fiscal Years 1999-2002. (Historical Tables FY 98, p. 78)

C. THE PROCUREMENT BUDGET

As the total budget for DoD has declined, so too has the DoD's procurement account. Table 2 and Figure 2 show the trend in DoD procurement spending over the last twenty years. Procurement reached a twenty-year high of $123.7 Billion in 1985, and has steadily decreased to a *projected* low of $36.8 Billion in 1998. The drop represents a 70% decline in procurement funds over a thirteen-year period.

Table 2. Department of Defense Procurement Budget 1992 Constant Dollars (In Millions)

Year	GNP Deflator	DoD Proc Budget	Proc Budget in 92 $	Proc as % of DoD BA
1977	0.454	27,922	61,502	26
1978	0.4857	29,529	60,797	26
1979	0.5267	31,428	59,670	25
1980	0.5819	35,283	60,634	25
1981	0.6421	48,025	74,794	27
1982	0.6865	64,462	93,899	30
1983	0.7195	80,355	111,682	34
1984	0.7545	86,161	114,196	33
1985	0.7829	96,842	123,697	34
1986	0.805	92,506	114,914	33
1987	0.8273	80,234	96,983	29
1988	0.8546	80,053	93,673	28

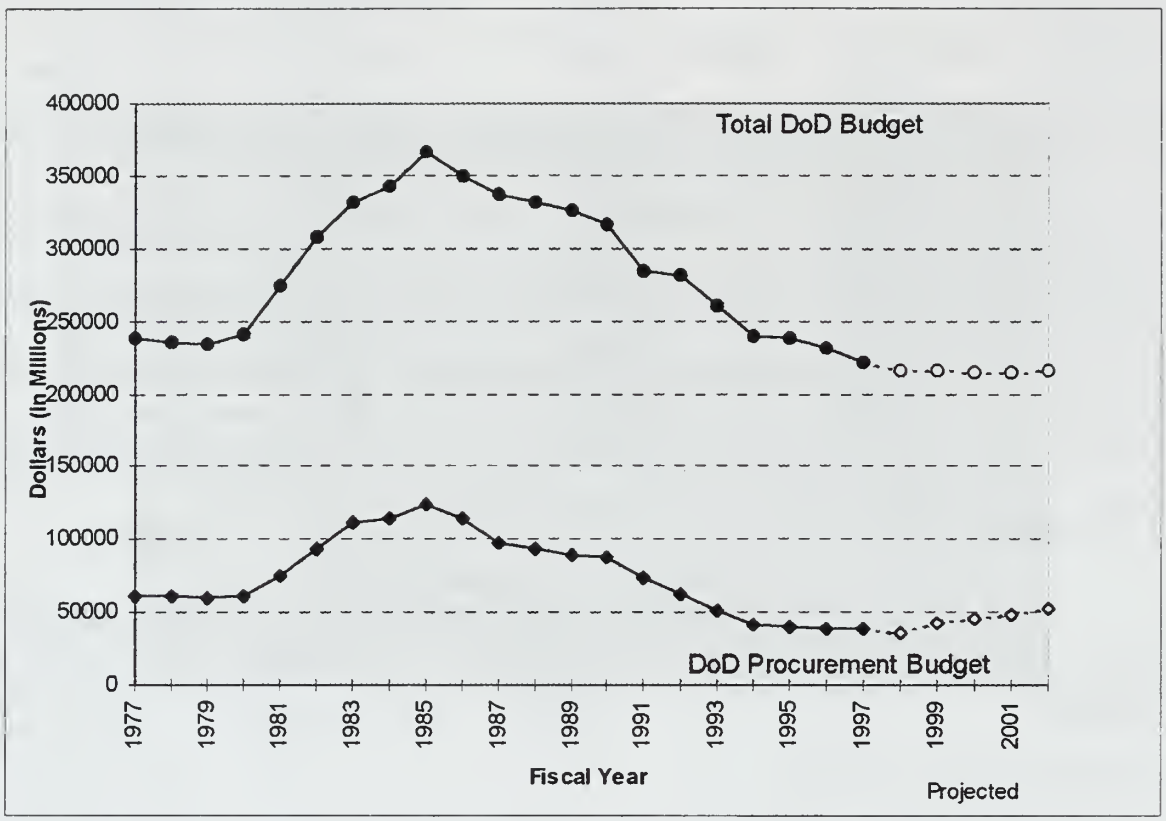
Table 2 (Continued)

Year	GNP Deflator	DoD Proc Budget	Proc Budget in 92 $	Proc as % of DoD BA
1989	0.8902	79,390	89,182	27
1990	0.9257	81,376	87,908	28
1991	0.9695	71,740	73,997	26
1992	1	62,952	62,952	22
1993	1.0252	52,789	51,491	20
1994	1.0492	44,141	42,071	18
1995	1.0745	43,571	40,550	17
1996	1.0991	42,417	38,592	17
1997	1.1283	44,156	39,135	18
1998*	1.1589	42,606	36,764	17
1999*	1.19	50,716	42,618	20
2000*	1.2222	56,997	46,635	22
2001*	1.2544	60,662	48,359	23
2002*	1.2863	68,336	53,126	25

Source: OMB, Budget of the U.S. Government: Historical Tables, FY98.
* Projected

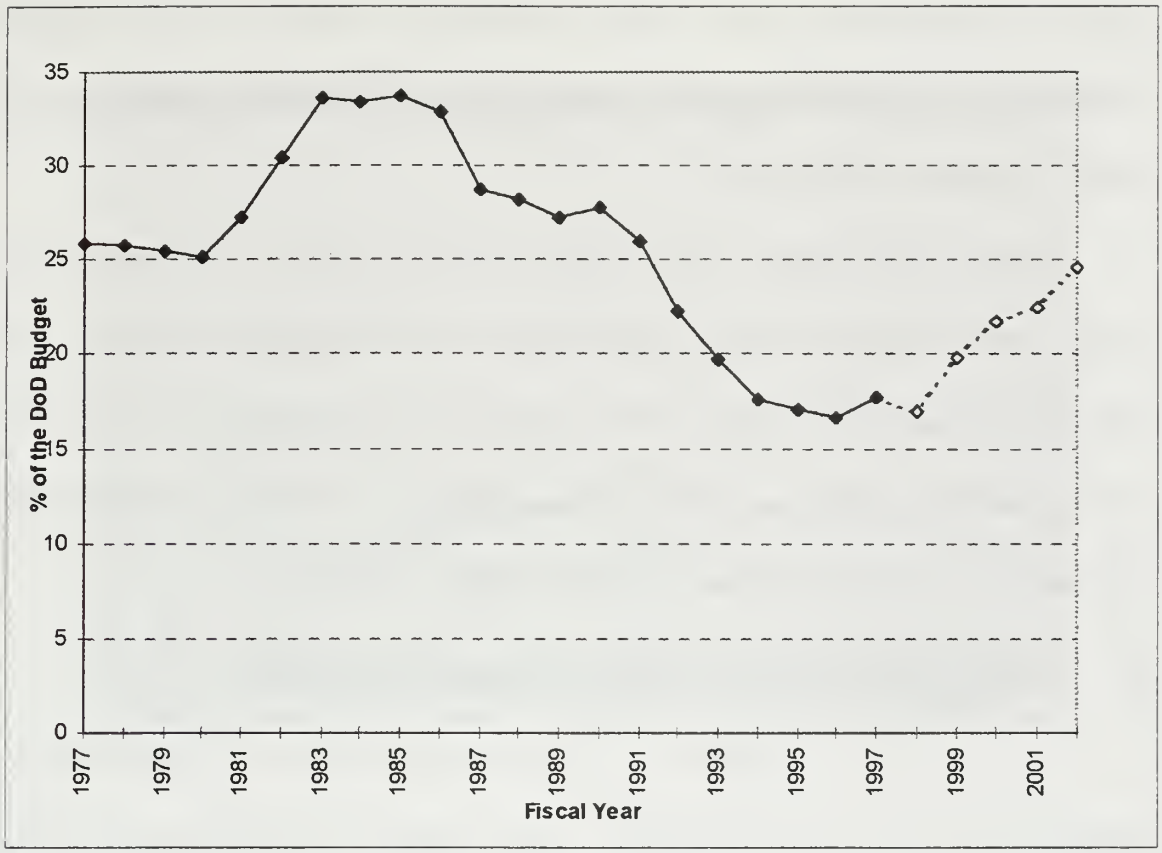
When the DoD budget and the procurement budget are viewed together, (Figure 4) the downward trend in procurement spending appears to mirror the trend of total DoD spending.

When procurement dollars are analyzed as a percentage of total DoD spending, it becomes apparent that procurement spending is decreasing more rapidly than the DoD budget. Figure 3 illustrates this relative drop in procurement spending. In real terms, the DoD procurement budget has borne a disproportionate amount of the total Defense budget reduction over the last ten years.



Source: OMB, Budget of the U.S. Government: Historical Tables, FY98.

Figure 2. Total DoD Budget Levels & Corresponding Procurement Budget Levels, 1992 Constant Dollars



Source: OMB, Budget of the U.S. Government: Historical Tables, FY98.

Figure 3. Procurement as a Percentage of the DoD Budget

The heavy cuts in procurement were intentional, however, as the Clinton Administration, Congress, and the DoD sought to shield Operations and Maintenance funds from the drastic effects of the decline in the defense budget. Operations and Maintenance funds are largely viewed as "readiness" funds, because they fund the operations tempo, or "op tempo" of operational units in the U.S. military. Robust O&M funding ensures near-term readiness. The Clinton Administration's stated strategy in 1994 was to cut procurement funding "to keep

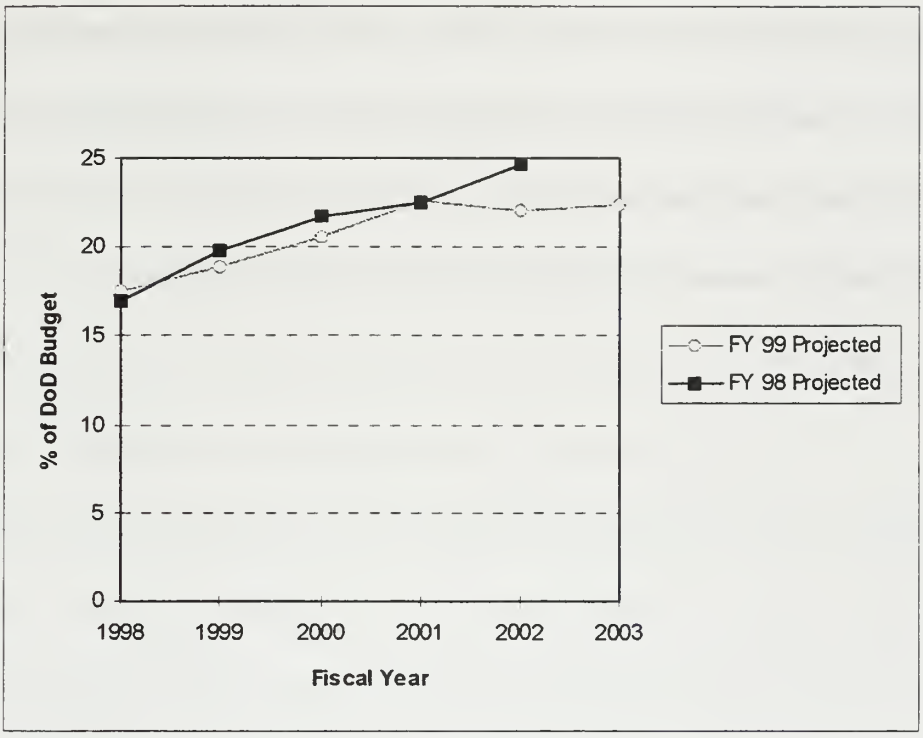
the total defense budget within limits. Meanwhile, the services will have to live off the large inventories of modern weaponry amassed during the flush years of the 1980s." (Towell, 1994, p. 335)

In his 1994 testimony before Congress, then-Secretary of Defense William Perry, warned Congress of the implications of stabilizing O&M funding at the expense of procurement funding: "our equipment will be aging year for year. In time we will have equipment which becomes difficult to maintain, and that in itself will become a readiness problem." (Towell, 1994, p. 336)

D. THE FUTURE OF THE PROCUREMENT BUDGET

The Clinton Administration projects an improvement in the procurement budget for the fiscal years 1999-2002. These planned "out-year" improvements can be seen in Figures 4 and 5. While former Secretary Perry accepted the near-term cuts in procurement funds during his tenure, he was ever mindful of the increase in procurement that should come in the near future. He told the Senate Armed Services Committee on February 8, 1994: "There will come a time when we have used up that excess inventory, and then we will have to start building at higher rates than we now are building." (Towell, 1994, p. 335) That future increase in procurement spending may be coming more slowly than former Secretary Perry anticipated, as the President's FY 1999 budget submission further

delays recovery for the procurement budget. Figure 4 portrays the revised direction of the procurement budget between FY98 and FY03.



Source: OMB, Budget of the U.S. Government: Historical Tables, FY98 and FY99.

Figure 4. Future Years Projected Procurement Budget as a Percentage of the DoD Budget

E. CONCLUSION

With overall Defense dollars declining and operational tempo increasing, the trend has been to pay for the increasing Operations and Maintenance costs by "dipping into" the procurement budget account. This tendency has caused alarm

among those familiar with the Defense budget. One official from the private Defense Budget Project characterized the trend as "mortgaging (the) future" to pay for current force structure. (Towell, 1994, p. 182) Whatever the purpose for the decline, it is clear that the DoD must take a critical look at how it spends its scarce resources and make conscious decisions to spend its procurement dollars wisely. One way to maximize Pentagon spending power may be to reduce (or eliminate) Buy American requirements. Such a reduction would be harmonious with the tenor of free trade agreements that the U.S. has recently signed.

IV. THE ECONOMICS OF INTERNATIONAL TRADE

A. INTRODUCTION

This chapter explores the widely-accepted economic theory that justifies the reduction of barriers to international trade. A reduction in trade barriers may help the DoD and other allies stretch limited defense procurement funds. Tariffs and other forms of protectionism produce marketplace inefficiencies that result in losses to consumers (in public procurements, the Government is the consumer). Economists often agree that protectionist policies can be bad for everyone.

B. THE THEORY OF COMPARATIVE ADVANTAGE

International trade theory has its historical and logical roots in the theory of comparative advantage. The theory was first set forth by Adam Smith in The Wealth of Nations and has direct implications for protectionist policies, such as the Buy American Act:

> It is the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make than buy.... If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage (Dolan, 1983, p. 693) (Gwartney and Stroup, 1995, p. 463).

Smith's ideas were formalized by David Ricardo into the Theory of Comparative Advantage. Using a simple numerical example, Ricardo

demonstrated how it was to the benefit of both countries for England to export wool to Portugal, and import wine in return, even though both products could be produced at a lower cost (in terms of labor hours) in Portugal. (Dolan, 1983, p. 693)

This theory is extremely relevant in today's globally linked economy. By relaxing buy-national practices and tariffs, the economies of each country will expand, reaping the benefits of free trade.

The implication of this theory is that countries with industries efficient at producing airplanes could specialize in the manufacturing of airplanes for other nations, while countries that have an abundance of raw materials would become the supplier for other nations. In the short run, each country's economy would experience cyclical problems as inefficient industries are shut down and labor and resources transition to industries where the country has its comparative advantage. In the long run, free trade can expand total consumption to points beyond the production possibilities of all participating countries.

1. An Illustration of Absolute and Comparative Advantage

The following example draws heavily on the illustrative techniques found in Basic Economics by Edwin G. Dolan and Macroeconomics: Private and Public Choice by James D. Gwartney and Richard L. Stroup. This model focuses on two countries, England and Portugal, and the production of two goods, wool and wine.

For simplicity, labor is the only factor of production considered in the production of these commodities. To accentuate the potential gains from free trade, we will assume that Portugal is the most efficient producer of both products. The law of comparative advantage will illustrate how both countries can gain from trade even when one of them can produce both products more efficiently than the other country. Table 3 presents a situation in which Portugal has an absolute advantage in the production of both goods (Columns a and b).

Table 3. Gains from Specialization and Trade

	Output per Worker Day		Potential Change in Output	
	(a)	(b)	(c)	(d)
Country	**Wool**	**Wine**	**Wool**	**Wine**
England	2	1	+6	-3
Portugal	3	9	-3	+9
Change in Total Output			+3	+6

Whether it is due to more experience or highly skilled workers, Portugal can produce three bushels of wool per worker day, compared with two bushels per worker day for England. Additionally, Portuguese workers are capable of producing nine gallons of wine per worker day, where English workers are able to produce only one gallon per worker day. (Gwartnry and Stroup, 1995, p. 466)

There are two differences in the cost structures of the two countries. While Portugal clearly has lower per unit labor costs for each item, England has a lower relative cost for wool. In England, a reallocation of labor to produce one more

bushel of wool means giving up the opportunity to produce one half of a gallon of wine. Conversely, a reallocation of Portuguese labor to produce one more bushel of wool means giving up the opportunity to produce three gallons of wine. In terms of the opportunity cost of producing wine, wool is cheaper in England than in Portugal. When the cost of each good is considered, not in terms of its labor inputs, but in terms of the other good, a comparative advantage can be ascertained. (Gwartney and Stroup, 1995, p. 467)

If England shifted three workers to the wool industry (Columns c and d), it could expand its wool output by six bushels (two units per worker). The associated loss of shifting those workers away from the wine industry is three gallons of wine (one unit per worker). If Portugal were to reallocate its labor in the opposite direction, moving one worker to the production of wine (away from wool) the result would be an increase in nine gallons of wine while wool production will drop three bushels. This reallocation of labor between the two countries has increased their joint output by three bushels of wool and six gallons of wine. As each country focuses its resources on the production of those goods that it can produce at a relatively low cost, the aggregate output of both countries expands. (Gwartney and Stroup, 1995, pp. 466-467)

But why would Portugal be interested in opening its markets to foreign trade if it already has the absolute advantage in producing both goods? A superficial look at labor costs shows that Portugal can produce everything at home more cheaply than it is produced abroad. A closer analysis proves that absolute

advantage is unimportant in analyzing patterns of trade. Only comparative advantage is important. If an enterprising British wool exporter brings one bushel of wool to a market in Portugal, Portuguese merchants would be accustomed to paying three gallons of wine (or its monetary equivalent) for that one bushel of wool. The British exporter would be accustomed to getting only one half a gallon of wine for his product. Any trading price between these two extremes (such as 1 gallon of wine for a bushel of wool) would result in a beneficial outcome for both parties.

2. Comparative Advantage and Expanding Consumption Possibilities

As the trading nations jointly expand their output, they are also expanding their consumption possibilities. A production possibilities model shows how this is possible. This model assumes that Portugal has 25 million workers and England has 100 million. With these worker populations and the productivity information given in Table 3, the production possibilities of each nation are presented in Figures 5 and 6.

Without trade, each country's consumption is confined by its production possibilities, such as points E1 and P1. Free trade can expand the consumption possibility for both countries. Assume both countries agree upon an inter-mediate price of one bushel of wool for one gallon of wine. When England specializes in the production of wool (point B) and trades half its wool for wine, it

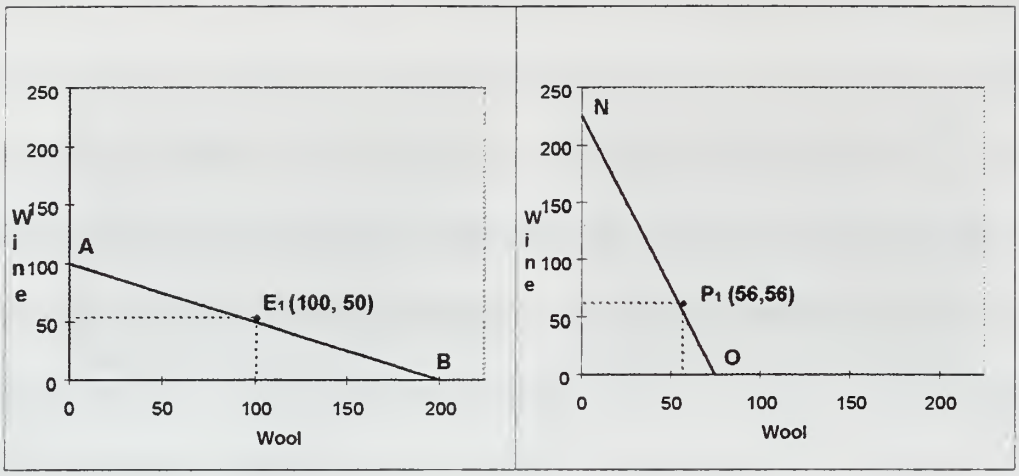


Figure 5. Production Possibilities, England

Figure 6. Production Possibilities, Portugal

can consume at a point (E2) well above its production possibilities line of AB. Free trade and specialization now allows England to consume along line BC (Figure 7).

At the same time, Portugal is specializing in the production of wine (point N). With specialization and free trade (Figure 8), Portugal can produce the good that it has the comparative advantage in, and trade one gallon of wine for one bushel of English wool. With trade, Portugal can now consume along line NQ.

The results of unrestricted trade are attractive. Portugal can produce 225 million gallons of wine, export 100 million gallons to England (for 100 million bushels of wool) and still maintain 125 million gallons of wine for domestic consumption. Concurrently, England can produce 200 million bushels of wool, export 100 million bushels to Portugal (for 100 million gallons of Wine) and retain

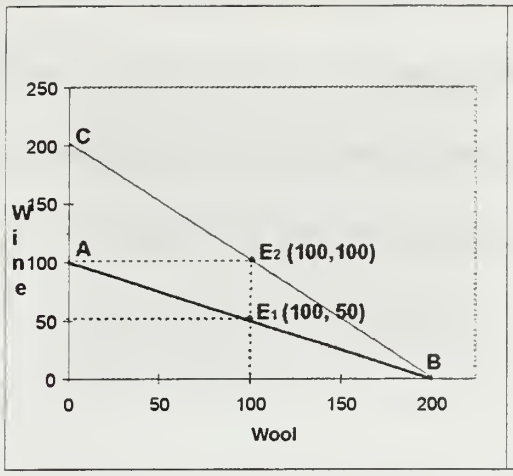


Figure 7. Production Possibilities, England

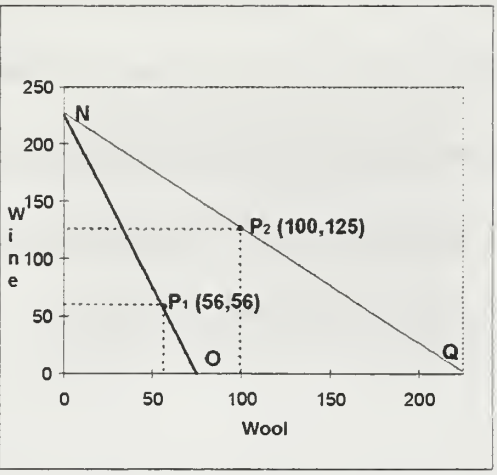


Figure 8. Production Possibilities, Portugal

100 million bushels of wool for domestic use. Both countries are consuming at points above their production possibilities (E2 and P2). Specialization and unrestricted trade allow both countries to expand their joint output, and increase their consumption of both products. (Gwartney and Stroup, 1995, pp. 467-468)

"The implications of the law of comparative advantage are clear; trade between nations will lead to an expansion in total output and mutual gain for each trading partner when each country specializes in the good that it can produce at a relatively low cost. Each country will use the proceeds to purchase the goods that it could produce only at a high cost." (Gwartney and Stroup, 1995, pp. 469-470)

C. THE ECONOMICS OF TARIFFS AND QUOTAS

A tariff is simply a tax on foreign imports. High tariffs can have a substantial impact on the forces of supply and demand, significantly altering the price a particular good. Figure 9 llustrates the impact of tariff on the price

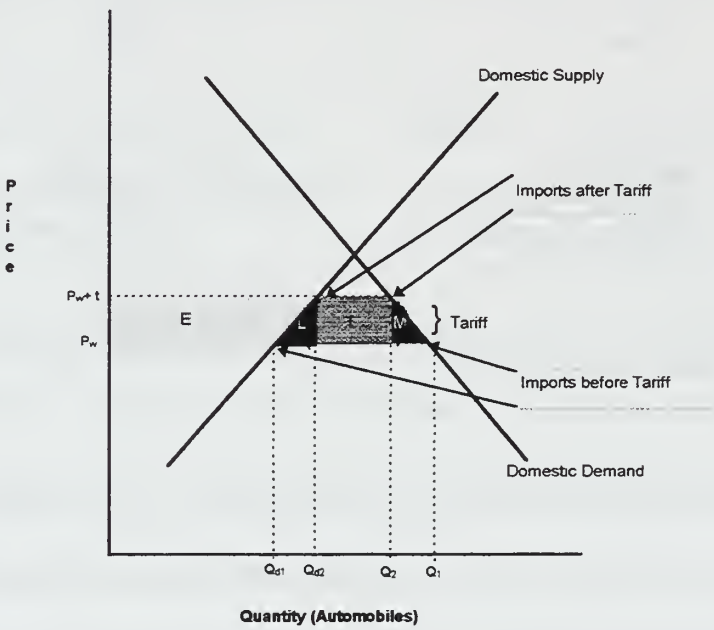


Figure 9. Impact of a Tariff

and volume of automobiles produced. In the absence of a tariff, the world price of automobiles (P_w) prevails in the U.S. and abroad. At this price, U.S. consumers are willing to purchase a quantity of Q_1 automobiles.

Q_{d1} represents the quantity of automobiles that domestic suppliers would sell at that price. Foreign suppliers would provide the rest of the automobiles (Q_1-Q_{d1}) demanded by U.S. consumers at price P_w. When the U.S. imposes a tariff (t)

on automobiles, consumers must pay P_w +t for foreign automobiles. At the new domestic price P_w+t, U.S. consumers are only willing to purchase a quantity of Q_2 automobiles. Q_{d2} represents the quantity of automobiles that domestic suppliers would sell at that price. Foreign suppliers would provide the rest of the automobiles (Q_2- Q_{d2}) demanded by U.S. consumers at price P_w +t. The end result is higher prices and fewer automobiles purchased.

Domestic producers and the Government benefit from the tariff at the expense of consumers. At the protected market price of Pw +t, domestic producers will be able to expand their output from Q_{d1} to Q_{d2}. In effect, the tariff acts as a subsidy to domestic producers. Area E represents the gain that domestic producers will enjoy in the form of additional net revenues. Area T represents additional tax revenues that the Government will collect. A loss of market efficiency is represented by areas L and M. The entire area E+T+L+M is paid by consumers as a result of artificially raised prices.

The tariff causes a diversion of resources away from domestic industries, where we have a comparative advantage, towards an industry where we are a high-cost producer. The gains from specialization and free trade go unrealized.

Similarly, quotas are designed to protect domestic industries from foreign competition. Quotas also result in inequities and a loss of marketplace efficiency. A quota places a limit on the quantity of a foreign good that can be sold

domestically. Figure 10 illustrates the impact of a quota on the price and amount of peanuts sold in the U.S. If the quota were not present, the world price

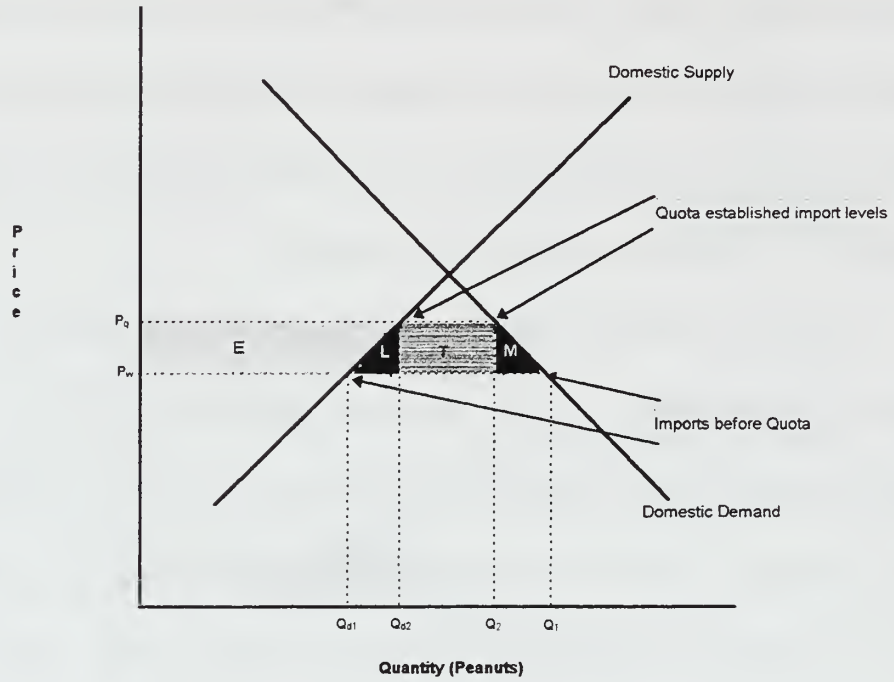


Figure 10. Impact of a Quota

of peanuts (P_w) would dominate. At this price, U.S. consumers are willing to purchase a quantity of Q_1 peanuts. Q_{d1} represents the quantity of peanuts that domestic suppliers would sell at that price. Foreign suppliers would provide the balance of the peanut demand (Q_1 - Q_{d1}).

When a U.S. imposed quota limits peanut imports to Q_2 - Q_{d2} (well below free trade import levels) the price of peanuts increases from P_w to P_q. At the higher domestic price P_q U.S. consumers are willing to purchase a quantity of only Q_2 peanuts. Q_{d2} represents the quantity of peanuts that domestic suppliers would gladly sell at the inflated price. As with tariffs, the entire cost of area E+T+L+M

is borne by consumers. Area E represents the additional revenues that domestic producers will gain due to the market protection that the quota provides. A loss of market efficiency is again represented by areas L and M.

One difference between quotas and Tariffs is the beneficiary of the area T. In the case of tariffs, the Government is the beneficiary of the area represented by T. The Government reaps those benefits in the form of higher revenues resulting from the tariff. If quotas are used, Area T represents a benefit to the foreign producers that hold import permits from the U.S. Government. The right to sell goods at a artificially high price (P_q) is a prized privilege. Many foreign producers heavily lobby the U.S. Government to secure the ability to sell in the U.S. market at a protected price. Quotas reward domestic and foreign importers with higher prices at the expense of consumers.

D. THE MYTH OF "JOB PROTECTION"

It is a common belief among many people that trade restrictions "protect" domestic jobs. While this may be true for the industry being shielded, this protectionism always costs jobs in more efficient industries.

One side effect of protectionism is the associated loss in foreign sales of domestic-made goods. U.S. purchases of foreign goods provide foreigners with the U.S. dollars needed to purchase American goods. If that initial sale is restricted, foreigners have fewer dollars available for the purchase of American goods and the subsequent demand for American-made goods declines. The result

is fewer export sales and less employment in U.S. export industries. This loss of jobs offsets any jobs saved in the protected market. (Gwartney and Stroup, 1995, p. 477)

The discouragement that trade restrictions bring drives manufacturers toward more expensive factors of production. Instead of buying the best-priced machine tools, raw materials, and labor, manufacturers are directed towards more inefficiently-priced (and perhaps uncompetitive) domestic goods. These expensive inputs serve to make domestic products more costly and less competitive. This combination tends to further reduce domestic employment in the long run. (Gwartney and Stroup, 1995, p. 477)

Restrictions on imports "direct resources away from areas where domestic producers have a comparative advantage and into areas where domestic producers are relatively inefficient." (Gwartney and Stroup, 1995, p. 477) The net effect is a loss of output. Fewer resources are employed in the production of goods in our efficient industries, while more resources are squandered in an attempt to produce goods that we make poorly (proven by our inability to compete on the world market.) The result is a lower per capita output due to trade barriers. (Gwartney and Stroup, 1995, p. 477)

A familiar model demonstrating the benefits of free trade is the unrestricted trade among the fifty states. Free trade is recognized as a major source of prosperity for each of the states. Citizens from Michigan do not complain about the loss of agricultural jobs due to "imports" of citrus fruits from Florida or grains

from Kansas. If there are jobs lost in Michigan, the effects are not long lasting. The loss of jobs due to "imports" releases workers for employment to more efficient Michigan industries, such as, the automobile industry. In the more efficient industry, a worker from Michigan can produce more value and generate more income. By allowing the free market to direct the efficient flow of resources, each of the states is allowed to "specialize" in its most efficient industries while relying on the other states to supply its other demands. Just as the fifty states benefit from free trade, so too can nations that reduce or eliminate barriers to free trade. (Gwartney and Stroup, 1995, p. 477)

Caution must be exercised in the removal of trade barriers. The trauma of cyclical unemployment and idle capital (and resources) could cause a recession as less competitive industries are shut down and factors of production transition to employment in more efficient industries. The removal of trade barriers must be gradual to minimize the "shock effect" and spread out the costs associated with relocation. (Gwartney and Stroup, 1995, p. 477) Spreading the costs over several years may prove more expensive, but a gradual lifting of tariffs and quotas may allow domestic producers enough time to adjust to the new competitive marketplace and avoid the trauma of plant closings.

E. THE COSTS AND BENEFITS OF PROTECTION IN TWO INDUSTRIES

In their book, Measuring the Costs of Protection in the United States, Gary Clyde Hufbauer and Kimberly Ann Elliot analyze twenty-one "protected markets."

The metrics that the authors use to measure the costs and benefits of protection in an industry are:

- The projected number of lost jobs if trade were liberalized.
- The decrease in costs that would result if trade were liberalized.

This section illustrates the results of their analysis on the U.S. machine tool and ball bearing industries in 1990.

1. The Machine Tool Industry

In 1986, the Reagan Administration sought to protect the domestic Machine Tool industry by limiting imports through "voluntary" export restraint agreements (VRAs). The U.S. received agreements (both formal and informal) from Japan, Taiwan, Brazil, Italy, Korea, Singapore, Sweden, the United Kingdom, Germany, and Switzerland. The VRAs were in addition to an existing four percent (average) ad valorem tariff. The Hufbauer and Elliot analysis estimated that the VRAs carried the equivalent effect of a 46.6 percent tariff on foreign machine tools.

To present the impact that trade liberalization has on both the domestic market and the import market, Hufbauer and Elliot present partial equilibrium models for each market (Figures 11 and 12).

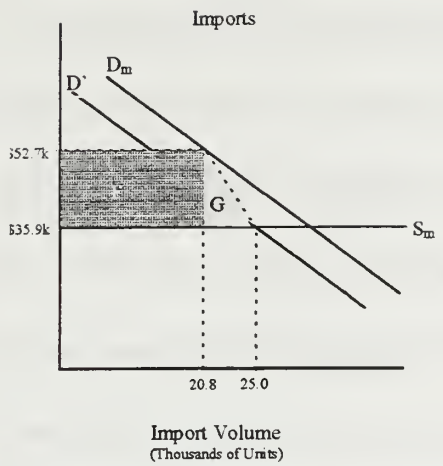


Figure 11. Effects in the Import Market of Removing a Trade Barrier

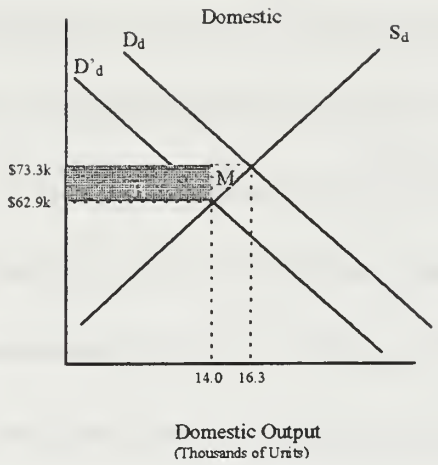


Figure 12. Effects in the Domestic Market of Removing a Trade Barrier

With the trade barrier in place, the average price of an import is $52,721 in the protected market. At this price, U.S. customers import 20,800 units of various types of machine tools (Figure 11) In the protected domestic market (Figure 12), the average price of a U.S. made machine tool is $73,304. At this price, domestic quantity demanded is 16,300 units. If the VRAs were lifted and the tariff remained in place, the price for the imported good would immediately fall to the world price of $35,952 (Figure 11) In response to the dropping price in the import market, the demand for the domestic substitute (Figure 12) falls, shifting the demand curve from D_d to D'_d. The quantity of U.S.-made machine tools demanded would fall to 14,000 units at the lower price of $62,924. Responding to

a drop in price in the domestic market, demand for imports (Figure 11) will shift from D_m to D'_m and the quantity demanded at the world price will be 25,000 units.

The changes in price and quantities result in a gain of consumer surplus in both the import and domestic market. According to Hufbauer and Elliot, consumer surplus gains total $542 million. This gain is illustrated by areas E, F, G, and M in Figures 11 and 12. Area F represents the $350 million quota rent gain that is transferred to consumers from foreign interests that were permitted to sell (below the VRA quantities) in the U.S. market. Area G represents a $35 million recovery of deadweight loss that occurred from an inefficient allocation of resources due to the VRA. The consumer surplus gain of $157 million in the domestic market (areas E and M) is offset by a domestic producer surplus loss of the same amount. The end result is a welfare gain of $385 million. This gain to U.S. consumers comes at the cost of 1,534 jobs in the machine tool industry, or $251,000 per unemployed worker. (Hufbauer and Elliot, 1994, pp. 31-34 and 91-93)

2. The Ball Bearing Industry

The Smoot-Hawley Tariff Act of 1930 initially established a forty-five percent plus a ten-cent-per-pound tariff on ball and roller bearings. Several rounds of negotiations and trade concessions have reduced the tariff since 1930. Multilateral trade negotiations in 1980 allowed the U.S. to maintain an ad valorem tariff on ball bearings of eleven percent. (Hufbauer and Elliot, 1994, p. 46)

Using an analysis similar to that in the machine tool example, we can see the impact that trade liberalization would have on both the domestic and the import markets for ball bearings. Hufbauer and Elliot's partial equilibrium models for each market are presented in Figures 13 and 14.

With the tariff in place, the average price of a pound of imported ball bearings is $1.47. At this price, U.S. customers import 331 million pounds of ball bearings (Figure 13). In the protected domestic market (Figure 14) the average price of a pound of U.S.-made ball bearings is $3.33. At this price, domestic quantity demanded is 416 million pounds. If the tariff were lifted, the price for the imported good would immediately fall to the world price of $1.32 per pound (Figure 13). In response to the dropping price in the import market, the demand for the domestic substitute (Figure 14) falls, shifting the demand curve from D_d to D'_d. The quantity of U.S.-made ball bearings demanded would fall to 412 million pounds at the price of $3.30 per pound. Responding to a drop in price in the domestic market, demand for imports (Figure 13) will shift from D_m to D'_m and the quantity of imported ball bearings demanded at the world price will be 340 million pounds.

The changes in price and quantities result in a gain of consumer surplus in both the import and domestic market. According to Hufbauer and Elliot, consumer surplus gains total $64 million. This gain is illustrated by areas E, F, G, and M in

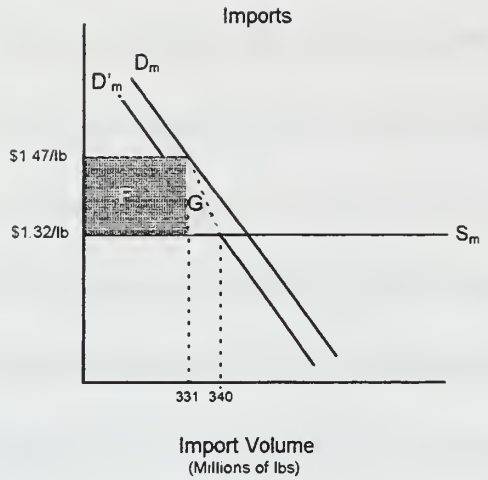


Figure 13. Effects in the Import Market of Removing a Trade Barrier

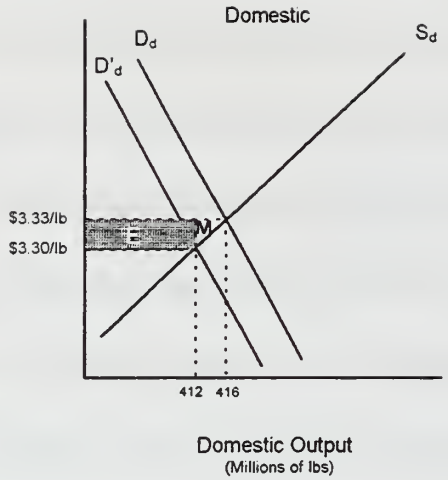


Figure 14. Effects in the Domestic Market of Removing a Trade Barrier

Figures 13 and 14. Area F represents a $50 million transfer from the U.S. Government to consumers in the form of lost tariff revenues. Area G represents a $1 million recovery of deadweight loss that occurred from an inefficient allocation of resources. The consumer surplus gain of $13 million in the domestic market (areas E and M) is offset by a domestic producer surplus loss of the same amount. The end result is a welfare gain of $51 million. This gain to U.S. consumers comes at the cost of 146 jobs in the domestic ball bearing industry. That represents a consumer surplus gain of over $349,300 per unemployed worker. (Hufbauer and Elliot, 1994, pp. 31-34, 47)

F. CONCLUSION

The preponderance of economic theory and analysis suggests that protectionist practices result in market inefficiencies and a misallocation of resources. In the markeplace, quotas and tariffs often benefit a very narrow range of workers and producers, while the costs of protecting that industry are spread across a broad base of consumers. In the arena of public procurement, the entire cost of protecting American industry is paid by just one consumer, the U.S. Government. As DoD strives to become a more "sophisticated customer," we cannot ignore the benefits that can be achieved by allowing the competitive forces of the marketplace to work in the consumer's favor.

The economic theory discussed in this chapter yields several points that are relevant to future discussions of the Buy American Act. They are:

- Unrestricted trade and specialization among trading partners allows participants to expand their joint output and increase consumption.
- Tariffs and quotas causes a diversion of resources away from domestic industries where we are competitive, towards inefficient domestic industries.
- Tariffs and quotas benefit a narrow range of producers (domestic and foreign) at the expense of consumers while saving some jobs in the protected industry.
- Protectionism lowers the overall output of the domestic economy, and prohibits job creation in offices and industries that are competitive in the world market.

V. ANALYSIS

A. INTRODUCTION

While erecting trade barriers can be politically popular, restrictions can carry high hidden costs. As illustrated in the previous chapter, protectionism benefits a very narrow group of producers while the costs are widely dispersed over a largely-ignorant consumer population. In the case of a Government buyer, the effects of price increases are borne by the lone consumer. This chapter will juxtapose the benefits achieved by the Buy American Act with the costs associated with protection. This analysis explores both quantitative and qualitative arguments surrounding the Buy American Act.

B. MEASURING COSTS AND BENEFITS

The most meaningful measure of costs is the increase in prices associated with a mandatory domestic preference. Another measure of costs is the change in procurement lead times that results from the requirement to "Buy American."

Measuring the benefits of the BAA is much more difficult. The primary benefit of the BAA is the nation's ability to mobilize its industrial base in the event of a national emergency. Finding a measure of such an intangible asset is difficult.

C. INDICATORS OF U.S. COMPETITIVENESS IN SEVERAL INDUSTRIES

Table 4 presents data for several industries covered by the Buy American restrictions. The direct and indirect DoD demand (column b) are estimated from the Defense Economic Impact Modeling System (DEIMS). DEIMS is an input-output model of the economy that translates defense budget data into demand on the U.S. economy. It is useful because it is the only measure of the sizable indirect demand resulting from the complex systems that DoD typically procures. (Secretary of Defense Report, 1989, p. 51)

Table 4. U.S. Industry Indicators

(a)	(b)		(c)	(d)	(e)	(f)
	DoD Demand (Millions of $)		DoD Demand as % of Industry	Import	Exports as	Capacity
Industry	Direct	Indirect	Shipments	Penetration %	% of Imports	Utilization %
Food	1,005	1,547	0.8%	0.9%	424.5%	71%
Clothing	434	673	1.9	25.7	6.2	73
Fabrics	95	850	1.7	7.7	36.9	76
Hand Tools	194	177	6	21.4	34.9	68
Ship Construction	8,086	24	91.7	0	NC	58
Coal Mining	1	1113	4	0.4	40.2	NA
Mortars and Ammunition	5,234	787	124.8	3.1	420	DW
Machine Tools	1580	1465	17	16.8	2.6	67
Administrative Vehicles	85	6	0.1	32.8	15.5	78
Valves	105	523	5.8	11	63.2	54
Ferrous Forgings	14	550	21.7	2	132.1	47
Nonferrous Forgings	13	390	37.1	0	NC	65
Antifriction Bearings	23	431	12.6	16.1	1.5	62

Notes:
NA- Not Available
NC- Not Calculable
DW- Data witheld by Department of Commerce due to unreliability

Source: Secretary of Defense Report, 1989, p. 52.

Column (c) presents DoD demand as a percent of total demand on the industry. This information suggests the extent to which the industry may be dependent on defense procurements. In many cases, DoD demand is such a small

part of total industry shipments that Buy American restrictions appear to have little positive impact in assisting the industry. In the few industries where DoD demand is a relatively high percentage of output, the Buy American Act has a greater influence. (Secretary of Defense Report, 1989, pp. 51, 65)

Columns (d) and (e) provide some useful insight into the competitiveness of these U.S. industries in the world marketplace. A low import-penetration percentage and a high export percentage indicates an internationally-competitive domestic good. This is clearly the case in the food, munitions, and ferrous forging markets. The market data for valves, fabrics, and hand tools are less straightforward, but the high percentages of exports in column (e) suggest that these industries can compete on a global scale. For industries with high import-penetration percentages and low export percentages "the cost impact of Buy American restrictions is likely to be higher." (Secretary of Defense Report, 1989, p. 51)

D. THE COSTS OF "BUYING AMERICAN"

This section details the liabilities of the Buy American Act and protectionism in general. Both this section and Section D serve as a backdrop for discussion of the primary research question: "What are the costs and benefits of upholding the Buy American Act?"

1. Increased Costs

Both economic theory and procurement experience show that protectionist practices lead to increased costs. The true extent of these price increases has proven difficult to capture. "There has always been an assumption that the increased costs associated with Buy American restrictions are acceptable and will pay off in the long term" (Secretary of Defense Report, 1989, p. 7). This section explores a range of possibilities concerning the extent of price increases that DoD pays as a result of the Buy American Act and other protectionist practices.

a. Increased Costs in the Anchor Chain and Mooring Chain Industry

A sole-source situation in the Navy's procurement of anchor and mooring chain permits a direct analysis of increased costs and the number of U.S. jobs actually protected. The Navy reports it is paying prices about 30 percent above market price in mooring chain, and 40 percent in anchor chain prices, to maintain a low-rate/high-capacity, or "warm," production capability in the U.S. These increased prices were projected to cost the Navy $6.8 million in just mooring chain purchases between FY 86 to FY 90. The restriction is credited with keeping the sole-source provider (Baldt) in business, saving 100 jobs in Chester, PA. In this instance, protection in the highly-competitive world market for anchor and mooring chain costs the Government $680,000 in increased prices per American job saved over that four year period. (Secretary of Defense Report,

1989, p. A-65) The unique situation of a lone U.S. production source and a highly competitive world market allow us to directly associate the costs of protection with the benefits of U.S. jobs retained. Making the same comparisons with other defense industries has proven difficult, although a 1989 report from the Secretary of Defense to Congress concludes that Buy American restrictions have had similar effects in the machine tool industry (Secretary of Defense Report, 1989, p. A-90) and negatively impacted other industries as well.

b. Price Increases in the Ball Bearing and Machine Tool Industries

Although it is difficult to determine a specific cost impact that is directly attributable to the Buy American Act, we can use specific examples in related industries to capture a realistic range of price increases resulting from protectionist practices. From analysis of industries conducted by Hufbauer and Elliot, we know that trade restrictions cause a thirty-five percent price increase in the machine tool market and a four percent price increase in the ball bearing market. (Hufbauer and Elliot, 1994, pp. 47, 93)

Table 5. Price Increases as a Direct Result of Trade Restrictions

	Import		Domestic		$(P_m*Q_m)+(P_d*Q_d)$	Change
	P_m	Q_m	P_d	Q_d	Q_m+Q_d	
Machine Tools						
Without Restriction	35.9	25	62.9	14	45.6	
With Restriction	52.7	20.8	73.3	16.3	61.8	**35%**
Ball Bearings						
Without Restriction	1.32	340	3.3	412	2.4	
With Restriction	1.47	331	3.33	416	2.5	**4%**

c. Price Implications for the Department of Defense

An examination of industry prices yields a wide range of possible price increases:

- High-Carbon Ferrochrome (discussed later in Chapter V) prices increased 2%.
- Ball Bearing prices increased 4%.
- Mooring Chain prices increased 30%.
- Machine Tool prices increased 35%.
- Anchor Chain prices increased 40%.

Using a range from two percent to forty percent, we can assess the possible impact of price increases on DoD's annual procurement budget.

Table 6. The Possible Impact of Increased Prices on DoD Procurements

Year	DoD's Proc BA	Impact of an Increase in Price Levels (Billions of $)					
	(Billions)	2%	4%	10%	20%	30%	40%
1996	42.4	0.848	1.696	4.24	8.48	12.72	16.96
1997	44.2	0.884	1.768	4.42	8.84	13.26	17.68
1998	42.6	0.852	1.704	4.26	8.52	12.78	17.04

Even at the very lowest levels of price increases, it is clear that protecting domestic industries comes at a very significant price.

2. The Cost of Preserving an Industrial Base Can Be Prohibitive

As DoD Procurement budgets drop (DoD's demand), the costs of maintaining a "warm" production base are becoming prohibitive. Protectionism

can serve to save jobs in the short run, but it also postpones innovation (or makes it unnecessary.)

For decades, France has grappled with government's role in subsidizing its industrial base, specifically with the aerospace corporation Aerospatiale. After continual losses, France is now looking to divest itself of the corporation. Due to years of "government sponsored inefficiencies" virtually the entire French aerospace industry requires "major government support in the form of cash infusions to periodically bail out their balance sheets." (Augustine, 1996) A balance between competitive forces of the marketplace and maintenance of a strategic industrial base must be maintained to ensure that industry could respond effectively upon full mobilization.

3. Redundant Research and Development Projects Among Allies

In 1992, a pair of DODIG audits examined the potential savings that could be achieved if current U.S. Research and Development (R&D) programs merged with international cooperative research and development projects. The reports conclude that "the Military Departments have not taken full advantage of foreign Nondevelopmental Items to meet U.S. military needs." (DODIG, 1992, pp. i, 5) The October 1992 report estimates that the DoD could have saved as much as $10 Billion (FY 92 -FY 97) on 150 different R&D programs if "fully effective international cooperative research and development programs" were established.

(DODIG,1992, pp. i, 10) The reports conclude that the U.S. is missing many opportunities to lower the defense budget and improve interoperability and standardization among its allies. (Frasier, 1993, p. 20) (DODIG, 1992, p. 10) (DODIG, 1992, p. 11) Combining procurement efforts would allow the U.S. and its allies to effectively spend limited procurement dollars. The combined efforts would also allow allies mutual access to technological advances.

4. Determining "Foreign Origin"

The Buy American Act requires suppliers to certify that an item provided to the Government meets the "fifty percent components test," which means that more than fifty percent of the value of the item's components must be of domestic origin. With this requirement comes the additional administrative burden (and associated costs) of tracking the origin of all components of the end item. Contracting agencies typically experience delays in procurements because of the requirement to determine origin. (Secretary of Defense Report, 1989, p. A-8) In an era of multi-national corporations, it is mandatory that a prime contractor must track the national origin of components made by manufacturing concerns within its own corporation.

In 1986, the House Armed Services committee estimated that even with the Buy American Act in place, Asian nations already supply U.S. industry with eighty percent of the military's silicon chips. Market forces have caused U.S.

manufacturers of military equipment to turn to foreign sources of supply because of price and quality. (Ball, 1987, p. 18)

There is also a considerable amount of confusion surrounding the application of the rules of origin. This confusion can often cause significant time delays in procurements. Because the rule fails to take into account the cost of labor, the true origin of a good may be difficult to determine. In testimony before Congress, a representative from a computer industry association demonstrated how a U.S. made product could fail the rule-of-origin test. A product with $90 in labor costs, $20 for U.S.-made computer boards, and $30 for Japanese-made chips would be classified as a foreign product, because over 50% of its physical components are of foreign origin. (Frasier, 1993, p. 12) For this reason, a 1993 reform panel recommended that the "fifty percent components test" be replaced by a test of "substantial transformation." (DAD- Pilot Program Contract Formation and Administration, 1998) As the name implies, a rule of "substantial transformation" would allow commercial sellers to use the most efficient facilities, employees, and supplier networks, (regardless of nationality) in the development of a product for a Government contract. The only requirement would be major assembly (or substantial transformation) would have to take place in the United States.

The requirement to certify that products are of domestic origin adds significantly to the bureaucracy that accompanies the award of a government

contract. Eliminating such a requirement would reduce the administrative burden on the contractor, and could ultimately lead to lower prices for the buyer.

5. Trade Retaliation

The existence of the Buy American Act (BAA) signals discrimination to our trading partners, and declares the U.S. to be a closed market. It is clear that European Community (EC) members often view the U.S. market as closed. EC negotiators frequently point to the BAA as a barrier during trade talks. In 1993, the European Community proposed the Buy European Act. Similar in structure to the Buy American Act, the Buy European Act required the addition of a three percent "leveling factor" to all foreign bids on public procurements. (Frasier, 1993, p. 15)

Recent Senate debate over BAA authority, caused Senator John McCain to remark "If we continue this Buy American foolishness we will harm U.S. trade...I wouldn't blame our allies for retaliating." (Finnegan, 1996, pp. 5-11) When considering strict enforcement of the Buy American Act, lawmakers must ask themselves "What will happen to the jobs supported by exports to foreign markets?" (Franklin and Gay, 1996)

The short term benefits of enforcing protectionist statutes are overshadowed by the longer term effects that trade retaliation can bring. Domestic companies that are competitive in international markets are the first to feel the repercussions of trade retaliation. Trading partners that perceive that their goods are being

discriminated against in our markets are quick to reciprocate with trade restrictions of their own. Given our apparent comparative advantage (Table 4, column e) in armaments and forgings (both significant goods in the public purchase market), brandishing buy-national policies may be a "self-inflicted" wound in the long-run.

6. Increased Lead Time

BAA requirements increase lead time for two reasons;

- Procurement lead times increase due to additional regulation requirements and larger Contract Administration workloads. (Secretary of Defense Report, 1989, p. A-89)

- Production lead times increase because mandatory purchases are placed on domestic production capabilities that have eroded due to intense competition on the world market.

In the struggling domestic machine tool industry of the early 1980s, a high level of unfilled orders caused delivery times to increase rapidly. Buy American restrictions caused the average delivery time to rise to two years in 1980, compared with a two-month average delivery schedule for foreign tool builders. (Secretary of Defense Report, 1989, p. A-75) According to the National Machine Tool Builders' Association NMTBA, "the limited capacity of the (domestic) machine tool industry would be a bottleneck in any major mobilization effort" (Secretary of Defense Report, 1989, p. 56) It is important to note that this erosion of production capability occurred while the Buy American Act and tariffs were firmly in place.

A dramatic erosion of production capabilities in the domestic woolen market caused production lead time on woolen products to increase from 180 days to 365 days. (Secretary of Defense Report, 1989, p. A-8)

Because of DoD's huge stockpiles of the past, high lead times may have been invisible to the user. Following DoD's reduction of its logistics infrastructure, it is more likely that these increased lead times would begin to affect operational units.

7. Public Demand for Quality

As annual budgets continue to decline, the American public is demanding more value for its tax dollar. The United States taxpayers are demanding greater efficiency and solid economic decision making in Federal procurements. This demand is often at odds with the strategic goal of keeping a "warm" production base in critical technologies. (Ball, 1987, p. 20)

When the U.S. tax dollars are spent for weapons that will equip the Armed Forces, taxpayers are rightfully adamant about quality. By closing weapons acquisitions to foreign makers, America is creating a separate market where quality is outweighed by political considerations. In the end, the military has fielded inferior equipment, and taxpayers have paid more for less. (Franklin and Gay, 1996) Very few people could argue against acquiring the very best weapons at the very best price, regardless of the nationality of the manufacturer.

E. THE BENEFITS OF "BUYING AMERICAN"

This section details the arguments for maintaining the Buy American Act. This section continues the background discussion of the primary research question: "What are the costs and benefits of upholding the Buy American Act?"

1. It Maintains the U.S. Industrial Base

Awarding contracts to foreign manufacturers chips away at an already deteriorating manufacturing sector. The U.S. Department of Defense should focus on U.S. firms when choosing contractors for weapon systems. Should the United States need to mobilize industry in time of war, a well-maintained industrial base would be in a position to immediately respond and continue to sustain the U.S. Armed Forces throughout any conflict. Many European countries already maintain their defense industrial base by subsidizing industry. France has heavily subsidized its aerospace industry, putting many U.S. firms at a disadvantage when competing head to head for public or private contracts.

2. National Security

An additional argument for maintaining a defense-oriented industrial base is the issue of national security. If the U.S. were to rely on foreign suppliers for defense-related material, nations that oppose U.S. policy could withhold shipment of crucial materials or manufactured items. While the national security argument has some validity, it is often abused by special interests seeking protection for their industry. Relatively few industries could seriously be considered vital to our

national defense. (Gwartney and Stroup, 1995, p. 478) BAA restrictions should be imposed only in very narrow instances, where the President or the Secretary of Defense has determined that a domestic production capacity is vital to U.S. interests.

3. The Industrial Base, National Security and the High-Carbon Ferrochrome Industry

There have been instances where Buy American restrictions were employed successfully, effectively preserving the domestic industrial base and ensuring national security. In 1984, a Department of Commerce (DOC) investigation concluded that the domestic High-Carbon Ferrochrome (HCF) industry had been adversely impacted by (foreign) Government subsidized imports. The DOC recommended that "action be taken to preserve U.S. HCF processing capability." (Secretary of Defense Report, 1989, p. B-11) The main domestic HCF producer, Macalloy, Inc., had declared bankruptcy one year earlier, and was uncompetitive in the world market. The President and Secretary of Defense determined that maintaining a domestic HCF production capability was a matter of national security, and they implemented very narrowly-focused Buy American provisions that would supplement and sustain U.S. production for ten years (1984-93.) The plan worked: the guaranteed demand for domestically produced HCF was enough to maintain an efficient rate of production at the Macalloy plant until commercial demand could recover from a deep recession. The producer is once again

competitive on the world market. The restriction allowed the producer to escape bankruptcy and survive a recession, while maintaining a solid production base in the U.S. The cost of implementing this restriction was negligible (only a two percent increase in price) while the benefits were substantial. (Secretary of Defense Report, 1989, pp. B-11-B-32) When this authority is carefully and deliberately used in conjunction with an industry action plan or other industry specific remedies, Buy American restrictions can have the positive effect of protecting U.S. industry while enhancing its ability to compete in the future.

Future use of Buy American restrictions should be directed, deliberate, and short term. They should be used carefully by the Executive Branch in situations where a critical capability is in danger of being lost. BAA restrictions should be a part of a broad plan to return the industry in question to a competive force in the world market. The plan should establish a definite end time to prevent the industry from becoming dependent on Government protection.

4. Public Scrutiny

It is often difficult for politicians and acquisition managers to justify the expenditure of American tax dollars to support foreign industry and foreign jobs. The American public is reluctant to hear that American products are not of sufficient quality to equip our soldiers, sailors and airmen. The "Buy American" argument plays well in the political forum, especially when elections draw near.

Very few public officials want to be put in the unsavory position of explaining why tax dollars are being spent overseas, while businesses and industry in the U.S. are continually "downsizing."

F. MEASURING THE BENEFITS OF THE BUY AMERICAN

The difficulty in quantifying the benefits of the Buy American Act comes in determining the likelihood that a surge production capability will be needed in the event of a full mobilization. If such a likelihood could be fixed, we could then determine the value of maintaining a surge capability. Expected Benefits would be reduced to the equation:

Expected Benefits =(Probability that a surge capability is needed) X (Value of capability if it is needed).

To solve for the lowest possible value of maintaining this surge capability, we would find the point where Costs are equal to benefits:

Costs= (Probability that a surge capability is needed) X (Value of capability if it is needed)

Because the specific costs of the Buy American Act can't be isolated, solving this equation becomes impossible.

Future attempts to measure the costs and benefits of the Buy American Act should focus on establishing a more specific range of price increases directly attributable to the BAA. Once these "costs" are established, a realistic probability that a surge capacity is needed would assist in isolating the inherent value of maintaining excess surge capacity.

G. THE IMPLICATIONS OF COSTS AND BENEFITS

The Buy American Act is protectionism in its purest form. Its history reveals that the original intent of the Act was to prevent foreign firms from profiting on the expenditure of U.S. public funds. Politicians of the time were explicit about the purpose of the law: They wanted to protect American jobs and American firms from foreign competition.

Economic theory and empirical studies show us the devastating effects that protectionist policies have on the domestic economy. Shielding domestic firms from foreign competition results in marketplace inefficiencies and ultimately results in uncompetitive domestic firms that produce inferior goods at higher prices.

The 1994 analysis of Hufbauer and Elliot shows that erosion still occurs in the protected industry, just at a slower pace. (Hufbauer and Elliot, 1994, p. 6) The 1989 Secretary of Defense report indicates the same type of erosion is occurring in our industrial base despite Government protection from international competition. Shielding the domestic mobilization base from foreign competition forestalls innovation and the need to modernize: "Buy American restrictions often provides protection and guaranteed business to U.S. industry without a corresponding incentive to modernize and become competitive on the world market." (Secretary of Defense Report, 1989, p. 5) Domestic firms that are

considered part of the defense industrial base are incentivized to hold onto excess production capacity, which ensures high overhead rates and noncompetitive prices for DoD.

Economic theory also illustrates the gains that could be achieved through free and open competition. As trading partners lift restrictions, the forces of the marketplace begin to direct manufacturing specialization, and comparative advantages among trading partners begin to emerge. If such free trading were to take place among allies, the whole alliance would benefit from the expanding production possibilities. One additional benefit from free trading among allies would be an inherent commonality in products manufactured by members of the alliance, for the alliance. This type of commonality has been sought by NATO since the 1970s, under its policy of Rationalization, Stabilization and Interoperability (RSI).

As the U.S. DoD procurement budget remains low, we must continually seek methods for spending our available resources effectively. Combining U.S. procurement efforts with those of our NATO partners would surely begin to stretch DoD's dollars. Allowing NATO partners to compete their new or existing systems against our emerging technologies would encourage innovation and modernization on both sides.

H. CONCLUSION

While many current socio-economic programs associated with Government procurement support viable objectives, the Buy American Act was initially established on the flawed premise that protectionism would save American jobs. The complete truth is that while some jobs are saved, others are lost, and the customer bears the cost for supporting those jobs through higher prices. In the end, the economy suffers as the consumer (in this case the Government) buys fewer goods at higher prices.

A more formidable argument for maintaining the Buy American Act is that it protects the domestic industrial base's surge capability in case of a national emergency. Issues of national security and maintaining the domestic industrial base will keep protectionist practices alive in defense procurement policy. Buy American restrictions can be effective when used deliberately and sparingly. Targeting a specific industry for a designated period of time may be a effective method of "protecting" domestic producers until they can regain their competitive abilities. This type of "closed-end" protectionism could ensure that domestic producers continually innovate to stay competitive on the world market.

VI. CONCLUSIONS AND RECOMMENDATIONS

The principal conclusions and recommendations drawn from this research are presented below, followed by answers to research questions and topic areas recommended for further research.

A. CONCLUSIONS

Buy American restrictions are a conglomeration of legislation that was designed to protect and strengthen the defense industrial base. The laws have had little positive impact. Protectionist legislation serves as a disincentive for domestic producers, eliminating the need to modernize, innovate, and compete. The Act has resulted in increased costs and increased procurement time, and has angered allies who are upset by our closed markets. The Buy American Act has had the following negative effects on Department of Defense purchases:

- Procurement and delivery delays when domestic products are not available, requiring approval of a waiver and a new solicitation.
- Confusion and administrative delays due to the need for industry and DoD to adjust to the requirements of the restriction.
- Cost increases for DoD procurements.
- Potential for protected industries to become dependent on DoD procurements and fail to take measures necessary to restore their competitive position in a free market environment.
- Potential duplication of investments already made by allied and friendly nations, leading or contributing to excess production

capacities (which may be beneficial for critical items during surge or mobilization, but is expensive in peacetime).

- Impediments to technological cooperation with U.S. allies and to the flow of modern technology to the United States.

- Resentment on the part of U.S. allies, which can lead to reciprocal buy national measures or other retaliatory actions. (Secretary of Defense Report, 1989, p. iii)

Because our national military strategy recognizes the necessity of U.S. forces fighting as part of an international coalition, (Joint Chiefs of Staff, 1995, p. 8) the need to sustain a uniquely American industrial base for military goods has become less critical. As we conduct more and more military operations with international coalitions, the need for jointly-developed weapon systems that enhance allied interoperability will become critical. Jointly developed weapon systems could also help allies realize cost savings through economies of scale, i.e. more production copies will lower individual unit costs. The declining defense procurement budget does not afford us the luxury of sustaining a large, mostly-idle production capability. The DoD pays for this excess capacity in high overhead rates and noncompetitive prices. The U.S. and its allies should capitalize on this era of coalitions, and pool their resources in order to efficiently update their respective armed forces.

Thus far, any successful implementation of Buy American restrictions has come at the direction of the Secretary of Defense. Using authority granted by the

National Security Act of 1947, the Defense Production Act of 1950, and the Competition in Contracting Act of 1984 (CICA), the SECDEF has the ability to protect industries that are vital to U.S. national security and the domestic mobilization base. (Secretary of Defense Report, 1989, p. iv) When this authority is used in conjunction with an industry action or other industry specific remedies, Buy American restrictions can have the positive effect of protecting U.S. industry while enhancing its ability to compete in the future.

B. RECOMMENDATIONS

Congress has often expressed its concern over the Defense industrial base by protecting U.S. industry from worldwide competition. "Initiatives that enhance the domestic and alliance defense industrial base--rather than encourage small, protected national defense markets--are in the long-term best interest of the United States." (Secretary of Defense Report, 1989, p. 12) Congress should take the following actions to enhance the U.S. defense industrial base (Secretary of Defense Report, 1989, pp. 12-13).

1. Abolish Most Congressionally Mandated Restrictions

Congress should not maintain a separate (and often counter-productive) set of restrictions that coddle U.S. industry. Broad-based restrictions should be abolished and replaced with specifically targeted and more effective methods that assist U.S. industry on a case-by-case basis. The reduction of Buy American

restrictions could be coordinated with trading partners (allies) to gain reciprocal removal of similar buy-national restrictions, granting U.S. firms access to foreign markets. (Secretary of Defense Report, 1989, p. 12)

2. Avoid Future Use of Buy American Restrictions

"The Congress should avoid future use of Buy American restrictions in Defense procurement." (Secretary of Defense Report, 1989, p. 12) If future restrictions are considered, the Congress should:

- Identify and target nations with unfair trade practices, rather than restrict products from all U.S. trading partners.
- Implement restrictions for a limited period of time (3 to 5 years), rather than continuing protection indefinitely.
- Periodically review the effectiveness of the restrictions.
- Serve notice of intended restrictions and provide the opportunity for all effected parties to comment. (Secretary of Defense Report, 1989, p. 13)

3. Rely on OSD Authority

The Congress should strengthen laws that give the Secretary of Defense the discretion to maintain the U.S. defense industrial base, and then monitor DoD's use of that authority. "The Congress should support the Secretary of Defense in developing an industrial base policy to resolve the problems of defense-critical industries identified over the past decade, including steps to develop a better process for identifying;

1. The role of basic suppliers/industries and defense needs at the supplier levels,

2. Domestic industry capacity to meet those needs, and

3. A policy framework to help those industries to become economically self-sufficient competitive.

C. ANSWERS TO RESEARCH QUESTIONS

1. What are the origins of the Buy American Act?

The Buy American Act is rooted in the protectionist sentiment of the 1930s. A growing isolationist philosophy and the economic hardships of the Great Depression inflamed the popularity of protectionist practices. The Smoot-Hawley Tariff Act of 1930, which established the highest tariff levels in U.S. history, paved the way for further restrictions on foreign trade, such as the Buy American Act. The Act requires the procurement of *American* materials and manufactured items for public use.

2. To what extent has the defense procurement budget declined?

In 1985, the DoD procurement budget was at a high of $123.7 Billion. It has steadily decreased to a *projected* low of $36.8 Billion in 1998. The drop represents a 70% decline in procurement funds over a thirteen-year period.

When procurement dollars are analyzed as a percentage of total DoD spending, it becomes apparent that the DoD procurement budget has borne a disproportionate amount of the total Defense budget reduction over the last

thirteen years. The heavy cuts in procurement were intentional, as the DoD sought to shield Operations and Maintenance funds (largely viewed as "readiness funds)" from the drastic effects of the decline in the defense budget.

3. What are the measures of costs?

The best measures of increased costs associated with the Buy American Act are the increased costs associated with a mandatory domestic preference, and the number of jobs that would be lost if the preference were removed.

- In the Machine Tool industry, protectionism results in an increase in prices of roughly $385 million. If the preference were removed 1,534 jobs in the machine tool industry would be lost. This equates to a cost of $250,978 per unemployed worker.

- In the Ball Bearing industry, protectionism results in an increase in prices of roughly $51 million. If the preference were removed 146 jobs in the ball bearing industry would be lost. This equates to a cost of $349,300 per unemployed worker.

- In the Mooring Chain market, the Buy American Act results in a $6.8 million price increase for the Navy. If the preference were removed 100 jobs in the chain industry would be lost. This equates to a cost of $680,000 per unemployed worker.

The change in procurement lead times resulting from increased administrative burden to monitor compliance with the Buy American Act can also help us measure the costs and benefits of this policy.

- In the Machine Tool Industry, the average delivery time rose to as high as two years in 1980, compared with a two-month average delivery schedule for foreign tool builders.

- In the domestic woolen market, production lead time increased from 180 days to 365 days.

4. What are the measures of the benefits?

The Buy American Act protects a domestic surge capability in the event of a threat to our National Security. The value of this maintaining this capability is difficult to quantify.

5. Do the benefits of the Buy American Act exceed its costs?

While a large body of research and economic theory supports the view that protectionism (such as the Buy American Act) leads to unnecessarily high prices, it is difficult to quantify the primary benefit of the Act which is: the value of retaining a "warm" domestic production capability. The inability to determine the value of such a capability makes a Cost-Benefit determination troublesome.

As our defense strategy embraces coalition-building and worldwide consensus before undertaking military action, the need to sustain a uniquely American industrial base for military goods appears to be less critical.

6. What aspects of the Buy American Act could be modified to appropriately reflect the costs and benefits of maintaining the policy?

Broad-based restrictions should be abolished and replaced with specifically targeted and more effective methods that assist U.S. industry on a case by case basis. The Congress should only use Buy American restrictions in defense procurement only when;

- Specific recovery goals for the industry are established, or
- Uncooperative trading partners are identified for retaliatory trade restrictions.

The Congress should strengthen laws that give the Secretary of Defense the discretion to maintain the U.S. defense industrial base, and then monitor DoD's use of that authority.

7. Primary Research Question - What are the costs and benefits of upholding the Buy American Act?

While the actual increases in costs for every industry are impossible to derive, economic theory and empirical research on the costs of protection in the United States show that trade restrictions do artificially raise prices in a protected market. The restrictions also serve to stifle innovation and competitiveness in protected domestic markets. In addition to these costs, other costs identified in this analysis are:

- Redundant research and development projects among allies lead to higher costs for everyone.
- The increased administrative burden of determining "foreign origin."
- Restrictions on trade invite retaliation from allies.
- Restrictions cause increases in production lead time due to mandatory orders on an already incapable production base.

The primary benefit of the Buy American Act is the industrial base can retain a surge capability in the interests of national security.

D. AREAS FOR FURTHER RESEARCH

- What lessons about Government subsidies can be learned from France's support of Aerospatiale?

- Will the EU adopt the Buy European Act as EU public procurement policy?

- How much should the Government incentivize producers for idle production capacity?

- Is the Secretary of Defense's authority over the industrial base adequate to monitor domestic production capability?

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