

USAWC STRATEGY RESEARCH PROJECT

U.S. EXPORT CONTROLS FOR THE TWENTY FIRST CENTURY

by

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ABSTRACT

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Some members of the U.S. defense industrial base and foreign defense contractors have voiced concern that the U.S. Government, post 9/11, has moved to expand and more rigorously enforce export control policies and procedures regulating the disclosure or export of controlled information or defense material and services to foreign entities. They argue that a major consequence of these actions is the obstruction of foreign industry's ability to compete in the U.S. defense market, resulting in both lost sales and the inhibition to import new technology key to major weapon system development, adversely affecting both industry and the United States Government. U.S. and foreign firms contend that U.S. export control procedural requirements, combined with short contract solicitation deadlines, make it almost impossible to obtain technical data or other vital solicitation information needed to effectively compete for most major Department of Defense procurements. This study investigates the export control system to determine the existence of any specific export policy or process related impediments to U.S. and foreign industry's ability to effectively compete in major procurements. Consolidated findings from both industry and U.S. Government serve as the basis for recommended reforms.

U.S. EXPORT CONTROLS FOR THE TWENTY FIRST CENTURY

The United States Government monitors and controls the export of U.S. technologies and services as one of many methods to safeguard national security, promote national interests, and pursue foreign policy goals. The U.S. export control system is a critical component of the U.S. National Trade Policy and a major element of the financial and economic instruments of national power. Equally important, export controls are a critical component of the United States' policy of non-proliferation of weapons of mass destruction (WMD) and advanced conventional weapons. The current export control system follows a very detailed and complex process involving members of the legislative, judicial, and executive branches, each with a unique perspective. During the Cold War, the export control system followed a well established process based on relatively consistent global relationships. The United States could more clearly define those countries they would allow to import high technology goods and those they would deny. During this period, the United States was relatively successful controlling the export of technology because the Government, mainly the Department of Defense, funded and drove a significant portion of the high technology research and development efforts required in major defense weapon systems. The effects of globalization, combined with the end of the Cold War, proved to be a significant change agent. New strategic relationships accelerated research and development efforts away from government sponsorship and more toward private industry as free trade and international exchange spread across the globe.

While the export control system has transitioned in response to the strategic environment, many people in the defense community state it remains inefficient relative to the current industrial pace and only performs as well as it does due to the dedicated efforts of those few individuals who work the issues on a day-to-day basis. Some members of the U.S. defense industrial base and even foreign defense contractors have voiced frustrations that the U.S. Government has moved to expand and more rigorously enforce export controls regulating the disclosure and export of controlled information or defense material and services to foreign entities since the September 11th attacks. They complain that the export control system fails to keep pace with the current environment with respect to globalization and therefore neither provides its intended level of protection toward national security nor adequately enables the benefits of free trade for the private sector. This study examines U.S. export control policies in context to globalization and the current threat environment in an attempt to answer two questions: 1) Does the U.S. export control system hinder industry's ability to compete for U.S. Government contracts?; and 2) Does the U.S. export control system meet U.S. non-proliferation objectives?

Study Methodology

This study use a “multiple methods” approach to examine the U.S. export control of military and dual use items from a process perspective in context with the current strategic environment intent of providing valid and discernable insight to a complex system. Data input comes from three sources: current literature, U.S. private industry personnel, and U.S. Government personnel. Current literature provides background material, data, and issues involving today's export control system. Interviews and discussions with Defense Industrial Base members provide perspective from private industry, their views and positions, while interviews and discussions with U.S. Government acquisition and procurement officials provide the same from a government point of view.

Like all scholarly works, this study has both strengths and limits. Its major strength is that it captures candid input from both industry and U.S. Government personnel who are very familiar with the export control process. The industry participants include procurement professionals from both large corporations and small businesses as defined by the Federal Acquisition Regulations. They are all weapons systems developers or manufacturers who have significant experience contracting with the government and have extensive knowledge and experience with U.S. export controls. The U.S. Government participants include personnel either directly involved with procurement as an acquisition professional or involved with the export control process as a member of the interagency. The study is limited by its very small sample size due to the fact that it is the work of a single individual.

Early on during the data collection process, it became clear that the majority of those interviewed required they speak on a “not for attribution” basis only. As a means of obtaining honest and candid responses, this study granted anonymity to all interviewed individuals.

The Strategic Environment

Export controls must recognize and complement modern business practices.

- Hon. John J. Hamre, President and CEO,
Center for Strategic & International Studies,
and former Deputy Secretary of Defense,
February 2001.

The Defense Science Board Task Force on Globalization and Security describes globalization as the “...integration of political, economic, and cultural activities of geographically or nationally separated peoples.”¹ Tom Friedman, in his book *The World is Flat*, argues that around the year 2000 we entered into a new globalization era. Globalization 1.0 was from 1492 to the early 1800s and was characterized by countries globalizing; Globalization 2.0 was from

1820 to 2000 and was characterized by companies globalizing; Globalization 3.0 began in 2000 and will be driven by individuals going global.² Historian Robbie Robertson identifies three different waves of globalization as 1500 to 1800, the globalization of trade; 1800 to 1945, industrial globalization; and 1945 to present, the post-war “architecture of the new world order”.³ Others take a more short term approach, arguing that the collapse of Soviet communism and the end of the Cold War facilitated globalization as we know it today, spreading democratic ideals, capitalism, free trade, international exchange and the virtual reshaping of the world through faster and more efficient forms of communication and transportation.⁴ Regardless of the multiple views defining its characterization, globalization is now a standard term on every continent. It is a widely accepted world condition defining the mercurial trends of business, communications, transportation, national policy, and even war. Globalization is about change and connectivity. The issue today is that the rate of change has accelerated to the point that its impact is immediate and significant, demanding constant transformation. The choice for governments, businesses, and individuals is either adapt or suffer the consequences from those who have.

Whether measured in cross-border flows of goods and capital, foreign investment, international communications, or the number of internet hosts and online users, ideas, people, and economies are increasingly integrating worldwide.⁵ The effects of globalization continue to accelerate with the advent of more rapid capital flows, greater scientific and industrial collaboration, faster and more efficient forms of transportation, and increasing information flow and transparency.⁶ The economic landscape is now one with a distinct international flavor and its impact on national security is very evident to all and a critical concern of many.

Transnational business practices are now the norm. For example, the U.S. computer and communications satellite industries are now dependent on foreign markets for half their sales.⁷ Defense firms have increased the extent they cooperate internationally through cross-equity participation, joint ventures, teaming and joint bids, strategic alliances, co-production, mergers, and takeovers, all of which represent a shift from domestic demand-based production to international supply-based production.⁸ The U.S. Government has followed this trend as well. For instance, the U.S. Army has 29 co-production agreements with 13 countries and NATO with a value exceeding \$13 billion.⁹ In another example, Lockheed produces its F-16 not in one but a dozen countries, including Israel, South Korea, Turkey, and Taiwan.¹⁰ The point is clear, private industry and even the U.S. Government no longer center their business activities within the boundary of the United States but rather disperse them across both countries and continents. Advanced technology development and production is now a joint venture process

often requiring multinational government and industry partners. The net result is that the distinction between domestic and foreign affairs is diminishing; in a globalized world, many events beyond America's borders have a greater impact inside them.¹¹

Globalization, therefore, is not a policy option, political movement, or societal trend to monitor at the national level but rather a force of immense effect strategic decision makers must carefully consider.¹² It is a force that will continue to grow in both its magnitude and velocity enabling ever increasing potential for both opportunity and security challenges.

Twenty First Century Threats

The United States now faces a significant number of threats and challenges not experienced during previous periods. A 1998 Institute for National Strategic Studies report for the Department of Defense concluded that asymmetric WMD threats would pose the greatest military danger for the United States for at least ten years into the future.¹³ Today it is well understood that the current global environment incorporates an "arc of instability" stretching from the Western Hemisphere, through Africa and the Middle East and extending through Asia, serving as a breeding ground for traditional, irregular, catastrophic, and disruptive challenges to quickly emerge and transform into dominating national security threats.¹⁴ These threats come in many forms including traditional nation states, transnational terrorists, and rogue individuals. Regardless of their classification, they share similar traits in their ability to cause great harm in areas previously considered safe. Because of the effects of globalization, new threats will continue to emerge with increasing frequency. They will utilize the benefits of globalization to obtain information and technology (classic arms and information capabilities or WMD material) in attempts to gain strategic advantage and erode U.S. dominance. In spite of the significant technological, economic, and military advantage the United States currently maintains, the commercial availability of certain technologies gives a number of regional powers, transnational coalitions, and other potential adversaries the ability to place our nation and national interests at risk.¹⁵ The 2004 National Military Strategy recognizes that the global proliferation of technology and weaponry will affect the nature of future conflict.¹⁶ Therefore, the United States must have the ability to deny adversaries disruptive technologies and weapons in a feasible, reasonable, and acceptable manner.¹⁷ The United States has institutionalized its export control system as a core capability to serve this function.

U.S. Export Control Framework

The U.S. Constitution vests Congress with the power to "regulate commerce with foreign nations;" this includes controlling the import and export of goods and services.¹⁸ In theory, the

United States established its first export control policies in a 1775 act of the Continental Congress outlawing the export of goods from America to Great Britain. Additional export controlling legislation followed including the Embargo Act, the Trading with the Enemy Act, and the Neutrality Act. Congress formalized the export control system with the 1949 Export Control Act giving the Department of Commerce the primary responsibility of administering and enforcing export controls, and for the first time, defined three goals for controlling exports: to preserve national security, to advance foreign policy goals, and to prevent short supply.¹⁹

While there are many pieces of legislation impacting the U.S. export controls, two serve as the cornerstone for today's export control system: the Export Administration Act of 1979, which replaced the 1949 statute, and the International Security Assistance and Arms Export Control Act of 1976 (Table 1).²⁰

LEGISLATION	Corresponding Regulations	Control Lists	Controlled Items	Lead Agency
Export Administration Act (EAA) of 1979	Export Administration Regulations (EAR)	Commerce Control List (CCL)	Dual-use goods, technologies, and services	Department of Commerce
Arms Export Control Act (AECA) of 1976	International Traffic in Arms Regulations (ITAR)	U.S. Munitions List (USML)	Defense goods, services, and technical data	Department of State

TABLE 1: MAJOR EXPORT CONTROL LEGISLATION

The Export Administration Act kept the three goals established in 1949 and included a fourth: impose export controls for antiterrorism purposes.²¹ It expired by own its terms per a sunset clause on August 20, 1994 and was renewed in 2000 only to expire again in 2001.²² While not yet formally renewed by Congress, the provisions of the Export Administration Act remain in affect as a result of a presidential declaration of national emergency by President Bush under the National Emergency Act.²³ The Department of Commerce is the lead executive agency utilizing the Export Administration Act to control the transfer of technology and information having both civilian and military applications (dual-use items). The Department of Commerce developed and maintains the Export Administration Regulations (EAR) as its means of implementing the Export Administration Act.

The Arms Export Control Act is the primary statute authorizing the President to control exports of U.S. defense articles and services, including advanced weapons and technologies, to eligible countries through the government-to-government Foreign Military Sales Program and sales made directly by U.S. companies to foreign governments or persons.²⁴ The President delegated his statutory authority to promulgate regulations with respect to exports of defense

articles and defense services to the Secretary of State by Executive Order 11958. The Department of State developed and maintains the International Traffic in Arms Regulations (ITAR) as its means of implementing the Arms Export Control Act.

Export Controls Ends, Ways, and Means

The U.S. Government does not have a single specific strategy document defining its trade (or export control) policies, yet a somewhat ad hoc strategy has developed over time. In the recent past, the focus on export controls was to deny the transfer of technology and products to the “East”. Today the strategic intent of export controls is to promote national security by controlling the release of sensitive technology, goods, and services while supporting the U.S. National Trade Policy of regionally based free trade. The specific objectives of the U.S. Government’s export control system are to:

- Promote national security by limiting access to sensitive and cutting edge technology and weapons;
- promote regional stability;
- promote regional human rights;
- prevent proliferation of weapons and technologies, including weapons of mass destruction (WMD), to those states that sponsor or harbor terrorists or fail to meet their global responsibilities; and,
- promote and comply with international commitments, i.e. nonproliferation regimes and UN Security Council sanctions.²⁵

These objectives trace their genesis to the National Security Strategy (NSS) of the United States. Sections V and VI of the NSS provide the strategic level guidance for the export control portion of the objectives. Section V states that as part of the comprehensive strategy to combat weapons of mass destruction, the United States will “...strengthen nonproliferation efforts to prevent rogue states and terrorists from acquiring the materials, technologies, and expertise necessary for weapons of mass destruction. We will enhance diplomacy, arms control, multilateral export controls....”²⁶ Section VI identifies and provides the guidance for U.S. economic engagement policies concerning global free trade via regional initiatives.²⁷

The United States uses several ways to execute its export control system. The two primary methods are either by a unilateral exclusion or as a member of a multilateral nonproliferation coalition. The United States will unilaterally deny export to countries based on specific foreign policy reasons. For instance, the United States will deny the export of controlled technologies to those countries identified as destabilizing or dangerous to international peace,

those who represent a direct threat to U.S. Security, as well as those engaged in terrorist activities, or human rights violations.²⁸ The United States is also a member of several multilateral nonproliferation associations and arrangements with the collective purpose of regulating the export of sensitive and dual-use technology at the international level. The four predominant multilateral associations include the Nuclear Suppliers Group (NSG), the Zangger Committee, the Missile Technology Control Regime (MTTCR), and the Australia Group (AG). The Nuclear Suppliers Group focuses on the nonproliferation of nuclear weapons by establishing and implementing guidelines for controlling nuclear technology related exports. The Zangger Committee assists in implementing the Nuclear Nonproliferation Treaty via its "Trigger List" of nuclear safeguards that recipients must apply prior to receiving a nuclear related export. The Missile Technology Control Regime attempts to regulate all key technology related to missile development in addition to restricting the transfer of missiles. Finally, the Australia Group focuses on controlling the technology related to chemical and/or biological weapons. In addition, the United States is a member of the Wassenaar Arrangement (WA). This association contains the broadest set of technology control items as it includes all weapons, dual-use items, and other technologies that may enhance a country's military capabilities.

The U.S. Government utilizes many of its interagency members to include the Department of Energy, the Department of Homeland Security, and NASA as its principal means of executing and enforcing export controls; however, the majority of effort lies with the Department of State, the Department of Commerce, and the Department of Defense (DoD). The Directorate of Defense Trade Controls (DDTC) within the Department of State is the lead agency regulating arms control for the United States. The DDTC administers the export licensing system and provides export licenses using the ITAR as its implementing regulations. The ITAR includes a comprehensive listing of those categories of equipment and technologies, the U.S. Munitions List (USML), subject to export control. In addition, the ITAR contains a list of those countries prohibited from receiving U.S. defense related technology. The Bureau of Industry and Security (BIS) within the Department of Commerce is the lead for regulating the export and re-export of commercial and dual-use items. The BIS uses the Export Administration Regulations to implement its export licensing decisions. The Export Administration Regulations contain the Commerce Control List (CCL), identifying several thousand items controlled as a matter of U.S. policy in support of anti-terrorism, crime control, and firearms conventions, as well as regional stability efforts, and United Nation Sanctions.²⁹ The Department of Defense does not have specific statutory authority with respect to the administration of U.S. export controls, however;

because of its involvement in developing advanced military application technologies, it does play a significant role in export decisions.³⁰ Both the Department of State and the Department of Commerce refer export applications to the Department of Defense if they decide a Defense Department review is necessary. The Department of State will typically refer all applications involving new weapon systems or technical data to the Department of Defense.³¹ For example, in 2003, State referred 17,122 cases (approximately 32%) to the Department of Defense out of 54,736 received.³²

Private Industry Perspective

The norm for many years has been for industry associations and lobby groups to argue for the relaxation of export controls. The recurring theme of industry complaints is that the system has increasingly hindered their ability to conduct business in the global market place. Many anecdotal articles and discussions voice complaints about the export control system as being too slow and overbearing for both U.S. vendors as well as foreign contractors. All the private industry individuals interviewed during the course of this study had strong views pertaining to U.S. export control policies and processes. Some of their personal experiences aligned with the public anecdotal complaints but there was also deviation. The common findings from private industry interviews were:

- The export licensing process takes too much time.
- Contract competitions are not necessarily lost due to the export license approval turn around time but approval time does hinder the ability to compete.
- The cost to register and monitor their export control process is prohibitive to small business firms.
- Export controls are necessary for national security purposes.

All of those interviewed stated that the licensing process turn around time was too long given the time constraints of current business practices and thus impeded both U.S. and foreign firms when competing for U.S. contracts.³³ The major concern focused on the contract bid proposal process where delays in the licensing approval resulted in dead space during the proposal response time. Those companies teaming with foreign vendors have less time to develop and submit a proposal, thus placing them at a significant disadvantage. The same responses applied when a U.S. company desired to compete internationally. From the industry perspective, the average time to receive a license approval for export-controlled information, goods, or services is between 60 to 70 days.³⁴ Approval times for Technical Assistance Agreements (TAAs) are much longer; one source stating that the average time exceeded three

months. All of those interviewed stated that the key to expediting a license approval was to establish a good working relationship with the responsible action officers. It is possible to speed up the license process and make necessary corrections or adjustments without having to return the application when a firm can work with an action officer on a one-on-one basis.³⁵ However, even those companies stating they had such relationships desired a much shorter turn around time.

None of the individuals interviewed could detail an incident where their firm lost a U.S. Government contract competition solely because of the export licensing process. When their firms did lose competitions, the interviewees agreed that there were other performance related factors involved. The license approval time requirements did sometimes constrain their ability to develop proposals in some instances but were not considered complete show-stoppers. The industry participants agreed that U.S. contracting officials would listen to arguments and provide relief when a potential offeror provided reasonable evidence that the processing time placed them in a disadvantaged position with respect to the competition. This claim was substantiated during a major procurement action conducted by the U.S. Army Armaments Research Development and Engineering Center for a family of small arms weapons. In this case, at least two U.S. vendors teaming with a foreign contractor requested additional time to develop and submit their proposals. The Government granted the longer of the two requested time extensions.³⁶

Two small business firms provided responses to this study. Both highlighted costs related to export controls as an issue of concern. One owner of a very small but innovative business stated that the cost of registering was somewhat prohibitive given the size of his business.³⁷

When questioned on the necessity of export controls, all of the firms agreed that an export control system was necessary to maintain national security but desired improvements to the process. Based on consolidated interviews, three recommended license approval improvements came to light: (1) review the control lists (USML and CCL) and exempt or remove those items that are widely available on the international market, (2) centralize the export license process under the leadership of a single oversight agency, and (3) provide additional action officers involved in license application processing to reduce turn around time.³⁸

U.S. Government Perspective

Those members of the executive branch interviewed during the course of this study were all directly involved with the contracting process (contracting officers, chiefs of contracting divisions) or directly involved with the material development process, serving as program or

product managers (PMs), or within Program Executive Offices (PEOs). All were very much aware of the constraints the export control system places on both U.S. and foreign contractors. The common findings from the government interviews were:

- Those government personnel involved in a supporting role desire a greater level of information access or system transparency throughout the process.
- The license application process does not impact the ability to compete.

Those PMs and PEO staff members interviewed stated that while they receive relatively few review requests in any given year, those requests normally arrived only via an email message. Typically the staff members are requested to review the sensitivity of a specific technology on face value alone.³⁹ They did not know the history of the request, its intended application, or any previous determinations except those maintained within their personal files. Questions were handled either by email or by phone. To complete the action, they provided their position as a reply to the requesting office using the original email. Their concern was that they were providing input to a critical process using a black box type of approach. Their only connection to the process was their individual link to the requesting office.

The contracting personnel interviewed stated that they were sensitive to the requirements of the export control system when developing their requests for proposals. With respect to U.S. contractors teaming with foreign subs, the contracting officers would try to offer extended proposal submission times given the time constraints of the acquiring agency. The position of the government was that under normal circumstances, the time required to process a license challenged but did not prevent a contractor's ability to compete on an equal basis. With respect to proposal time, the decision for the PM sponsoring the contract was a potential trade-off of additional time for possible significant technology gains. The consensus of the contracting officers was that they tried to develop work-around solutions to assist foreign firms participating in a competition.⁴⁰ For example, during a competition for small arms weapons systems involving foreign prime contractors, one contracting agency required sample hardware as part of the evaluation. The work-around solution was for the foreign firms to provide the samples as a loan only so that there would not be a true transfer of the item from the foreign firm to the U.S. Government.⁴¹

Significant Findings

The U.S. export control system worked well during the Cold War period and proved consistent and complementary with the National Security Strategy of the time. However, the current system seems challenged in its ability to meet both its intended non-proliferation

purpose and the desires of industry given today's strategic environment. Data gathered during the course of this study revealed three significant findings:

- The U.S. export control system follows a complex process and lacks information transparency. It involves many agencies with independent processes and interests, and thus suffers from bureaucratic inefficiencies and lack of unity of effort.
- The export license application processing time is a major concern of private industry and is perceived to impact the ability of those firms who team with foreign partners from competing in U.S. Government procurements.
- Given the conditions of globalization, the export control system slows but does not completely prevent the proliferation of sensitive technologies.

The export control system involves almost every agency or department within the interagency with the Department of State, Department of Commerce, and Department of Defense as the principals for the licensing process. Other agencies and departments including the Departments of Treasury, Energy, and NASA also have licensing functions aligned with their specific technology expertise. The large number of independent agencies involved adds complexity to the export control system. Two underlying issues tend to compound the export control process. The first is that each agency has its own mission focus and license review process. Even the individual services within the Department of Defense maintain unique review systems. Instead of a true system of systems approach where the various agencies are interconnected and mutually supporting, the agencies are loosely connected independent nodes. The net result is a lack of transparency, consistency, and unity of effort over the entire process. This is not a new issue but rather a recurring theme often noted in studies on the export control system. For example, a Center for Strategic and International Studies report conducted in 2000 highlighted this concern:

The current system is characterized by a lack of transparency in the governmental decision making process. There is no explicit method for industry to determine in advance the problems they might encounter when they submit a license or the reasons for rejection of a license. There is no explicit tracking and reporting system associated with license applications.⁴²

The second issue compounding the export process is the volatile nature of technology itself. Rapid advancements in specific technology areas such as computers and new developments in dual-use type technologies aggravate the problem of defining the exact technologies to be restricted from export and then aligning them with the appropriate agency. To help with this issue from a defense material perspective, the Department of Defense developed and maintains the Military Critical Technologies List (MCTL) for technologies of

significant importance to national security. The MCTL provides input for both the USML and the CCL. However, deciding which list, the USML or the CCL, should control certain technologies remains a contentious issue because many in industry and government view the CCL under the EAR as less constraining than the USML administered under the ITAR.⁴³ While many in the Government tend toward the conservative, major industry associations lobby for relief. It is not unknown for items to transfer from one list to the other. A license application denied by the Department of State as a defense related item maybe approved by the Department of Commerce as a dual-use commercial item on a later date.

License application processing time has always been an issue both with private industry and government. This was noted in a recent report on the current arms control process, where the Government Accountability Office (GAO) determined that the median time to approve a license staffed by State or Commerce to the Department of Defense is approximately 50 days as seen in Figure 1.⁴⁴

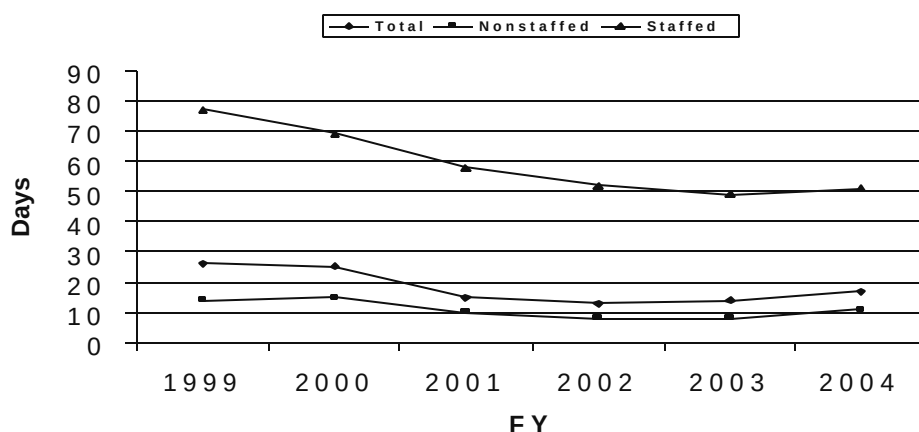


FIGURE 1: MEDIUM LICENSE PROCESSING TIMES 1999-2004⁴⁵

Industry's ability to compete for market share is directly related to their ability to act in a timely manner. Their complaints are based on the argument that in today's business environment, agreements are initiated and finalized in days or weeks vice months. If a firm can not commit to a specific agreement because of a time constraint, their potential business partners will look toward less restricted sources. Industry's complaint is that the government, in this case DoD, typically allows (on a broad average) only 75 to 90 days for contractors to develop a proposal to respond to the request.⁴⁶ Therefore, those foreign contractors and U.S.

contractors who wish to team with a foreign subcontractor have less than one month to reply, given the 50 days required for license approval. The net result is that the time required to process a license may exclude or dissuade foreign vendors from competing within the United States, if the timelines are not adjusted. The same issue plays out when a U.S. firm desires to compete overseas. The U.S. firm must first receive an export license to incorporate any sensitive technological information required within their proposals or as a deliverable to the contract. Foreign governments tend to use timelines similar to those of the U.S. Government and therefore, U.S. firms feel excluded from the competition by default of the wait time.

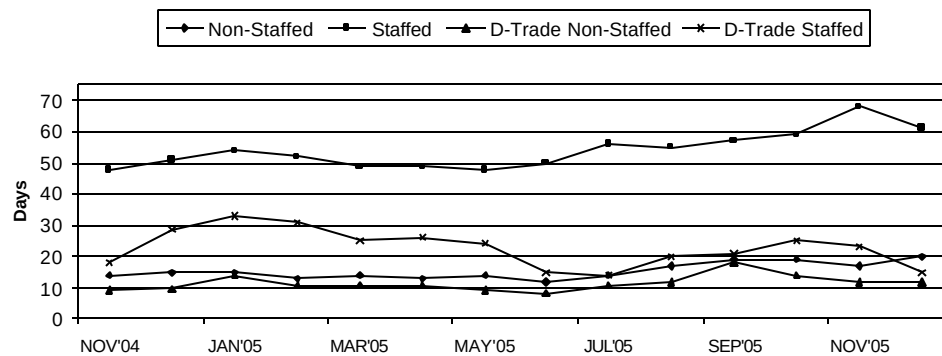


FIGURE 2: MEDIAN LICENSE PROCESSING TIMES FOR 2005⁴⁷

The argument that export licensing has become more restrictive as a result of the Global War on Terrorism deserves further review. On average, license approval times have experienced a downward trend since 9/11 (Figure 1). However, one can easily argue that while processing times have improved, they were much too long prior to 9/11 and are still inadequate given the conditions of globalization and the government's own requirements for quicker response times in support of the Global War on Terrorism. As shown in Figure 2, the median number of days required to process a license application staffed to an outside agency (i.e. DoD) remained in the mid-fifties throughout 2005 and even displayed a slight upward trend during the last few months of the year. However, in cases where business submitted their applications using the electronic means, in this case D-Trade, the medium processing time for both non-staffed and staffed cases averaged only between two to three weeks. The obvious lesson for industry and government is to submit and process applications using electronic means.

Many argue that given the conditions of globalization, a unilateral arms/technology control strategy is not feasible. The Defense Science Board identified this issue in a report investigating the globalization and the U.S. export control system:

The reality is that the U.S. capability to effectively deny its competitors access to militarily useful technology will likely decrease substantially over the long term...the utility of export controls as a tool for maintaining the U.S. global advantage is diminishing as the number of U.S.-controllable militarily useful technologies shrink...Equally obvious, shutting U.S. companies out of markets served by foreign firms will weaken the U.S. commercial advanced technology and defense sectors upon which U.S. economic security and military-technical advantage depend.⁴⁸

Even the United States, with one of the most stringent export control systems, approves the vast majority of all its export license applications (Figure 3), thus promoting proliferation at some level. There are just too many work-around solutions for countries seeking to gain access to sensitive and dual-use technology. Globalization also plays a significant role.

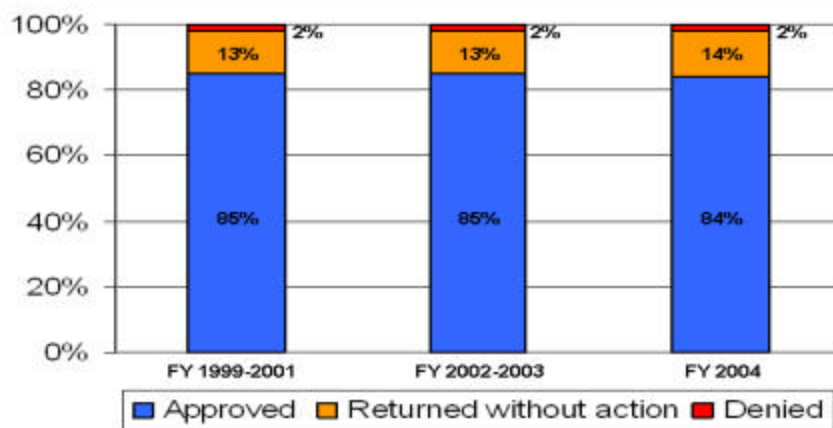


FIGURE 3 DISPOSITIONS OF U.S. EXPORT LICENSE APPLICATIONS⁴⁹

First, the trend now is for transnational corporations to globalize their supply chains and research and development centers. This significantly challenges the ability to define country of origin and complicates who has rights for export control. The U.S. Government has very little ability to control the sales of items manufactured overseas. Second, U.S. Government controlled technology continuously transfers to other countries via inadvertent leakage, industrial espionage, or deliberate distribution through unauthorized third party sales. For example, a military official from Pakistan, a U.S. ally in the War on Terror, allegedly claimed that

the Chinese reverse engineered an F-16 that Pakistan secretly traded to them during the 1980s to produce several components of their new J-10 supersonic fighter.⁵⁰ Finally, while many countries share the same view as the United States on what countries should not receive specific technologies, others do not. While the United States maintains coordination with other like minded governments, it is not always in a position to impose its will with respect to all exports. For example, the Europeans as a group view China's strategic threat through a different lens than the U.S. and therefore do not hesitate to sell to the Chinese market.⁵¹ Even countries belonging to the same multilateral export control association may deviate from their agreements without much fear of recourse from the other members. Russia, a member of the Wassenaar Arrangement, announced in 2000 that it would resume arm sales to Iran after previously pledging not to do so.⁵² On the 3rd of December 2005, Russia's Foreign Ministry confirmed it had signed a \$1B contract with Iran to provide tactical surface-to-air missiles and other defense related hardware stating the contract was in full compliance with their international obligations, to include non-proliferation obligations.⁵³ Such events are more the norm than the exception demonstrating that the arms/technology trade is a business. There are always available sources for those willing to pay.

Recommended Reforms

The current export control system is a fairly complex process involving most of the members of the interagency. The system is inefficient because the process is not a single integrated process but rather a set of individual practices loosely connected between the agencies, mostly the Department of State, Department of Commerce, and the Department of Defense. Even within the Department of Defense, the individual services follow different methods to determine an export decision. The export control system also does not meet the realities of the current global environment with respect to business practices or security concerns. The time for reform is now. Reform; however, does not necessarily mean reducing control of our technology or consolidating the export control process under a single agency. Instead, there are several short and long-term reforms that will improve our export control system both from an internal efficiency perspective and from a national security perspective.

Develop a National Trade Strategy. For years the U.S. Government controlled exports of technology, goods, and services for national security, foreign policy, and nonproliferation reasons yet never developed a formalized strategy. The U.S. Government should develop a specific National Security Strategy for Trade that provides the upper level guidance for its export control policies. The strategy should align with the other pertinent national strategies (National

Security, Homeland Security, Combating Terrorism, Combating Weapons of Mass Destruction, etc.) to insure a consistent set of national objectives and the guidelines for achieving unity of effort to achieve them. The strategy should formally establish agency responsibilities for policy development and effort integration. Most importantly, the strategy must establish the basis for a distinct and non-redundant export control process between the interagency members.

Field an Electronic Export Control Management System. The U.S. Government must improve the laborious export control process and systems currently in use. Today's export control system is still defined by labor intensive actions on the part of those individuals working the system. The inability to effectively share information results in a lack of information transparency and interconnectivity between the various agencies. While several agencies have their own electronic management or license processing systems they remain mostly independent. Therefore, the United States should develop a distributive common electronic export control management system as the single management system for all the interagency participants. To manage an efficient export control process, the United States must have an export control system architecture that provides a common operating picture and is accessible via any computer linked into the government network. The system must integrate the licensing process, the export tracking and disposition process, and the end user compliance process, and provide a common operational picture. The system must utilize a "rules-based" process for determining individual export decisions on a case-by-case basis, and continuously integrate current updates from the different communities (Intelligence, Defense, Commerce, Human Rights, etc.) that help determine the decision to export. The system must provide appropriate level of information transparency to all the interagency members as well as private industry and serve as a central database for all export controls. This electronic system should be the single point for non-exportable technology lists, and countries, corporations, or individuals prohibited from receiving or exporting controlled items or services.

Establish an Interagency Process Improvement Task Force. The Departments of State, Commerce, and Defense all have process improvement initiatives specifically dealing with the export control system to include reviewing and revising legislation, control lists, and electronic licensing. Individually, each agency is very dedicated to improvement. However, from the perspective of this study, it seems that each agency is working their initiatives independently and with little coordination. At a minimum, these three agencies should establish an interagency process improvement organization to coordinate and synchronize process improvement within an over-arching framework in order to gain unity of effort and identify the best of breed processes to adapt. The focus of the Task Force should be process improvement

of the export control system with respect to the administrative, training, and support aspects. It should not be a policy making body.

Conclusions

Export controls are crucial in maintaining the national security interests of the United States. They remain and will continue to remain a very important component of U.S. policy for non-proliferation of weapons of mass destruction (WMD), advanced conventional weapons, and key technologies. The difficulty lies in balancing an export control system that protects the security interests of the United States while maintaining the viability of U.S. industry and relationships with friendly nations. The current system is viewed by many to be too complex and time consuming given current business processes. The perception of private industry is that it does impact their ability to compete for contracts when foreign sub-vendors are involved, and should be reformed.

The associated issues of globalization and new world threats are significant issues that can not be ignored. They are inter-related and significantly challenge both the national security establishment and the industrial base, including the export control system, to constantly adapt in order to maintain dominance, and in some cases even survive in a world characterized by volatility, uncertainty, complexity, and ambiguity. Given the conditions of today's global environment, the export control system can not completely prohibit the proliferation of all controlled technologies. Therefore, the export control system must also continue to transform to meet these future challenges as well. The easy reforms are those described in this study – relating to process improvement using an incremental approach. The true challenge to reforming export controls is to create a dynamic system that enables the United States to continue its role as a world leader in exporting technologies that promote peace and security while controlling those that don't. In today's global environment it is almost impossible to tell the difference between the two.

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