

# ITAR Reforms for Dual-Use Technologies

## A Case Analysis and Policy Outline

Harrison G. Wolf, USC Aviation Safety & Security Program

**Abstract**— Unilateral export controls in United States policy have not been adequately modified during the last decade to keep up with change in global markets as more nations become competitors. Sensitive dual-use technologies – those technologies with both civil and military purposes – are among those most regulated by an outdated and opaque administrative agency without deference to commercial business necessities. This paper examines the failures of the dual-use export control regime of the United States to offer a recommendation for a more effective and efficient export control regime that enables greater transparency and access demanded by market forces to keep the United States technology industry’s information safe and competitive.<sup>1 2</sup>

**Index Terms**—ITAR, Government Regulations, Reforms, Dual-Use Technologies

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### I. INTRODUCTION

A new environment for international trade has created enormous problems for dual-use export policy. The old divisions and certainties of the Cold War have degraded into global ambiguities between nations leading to proliferation of supposedly secured, and managed dual-use technologies. Persistent problems plague the construction of effective export control as emerging nations seek to increase their own market shares in the technology industries, leading to greater proliferation of arms internationally – diminishing both the security of American military interests as well as the market dominance of American companies. Just as these foreign nations foster greater market involvement, the strict, yet outdated, definitions and systems inherent in the U.S. export control regime negatively affect domestic productive competitiveness. It is clear that the mission of the Department of Commerce, which is to “advance U.S. national security,

foreign policy, and economic objectives by ensuring an effective export control and treaty compliance system and promoting continued U.S. strategic technology leadership...” is not being accomplished and that great change is necessary.

The Department of Commerce’s Bureau of Industry and Security (BIS) mission outlines both a national security and economic leadership, dual goal vision. It is important to recognize that these goals exist in a give and take relationship. As national security interests are promoted through harsher tariffs, more vague definitions incorporating a greater variety of products, and identifying more “suspect nations” for end user licensing, the economic competitiveness of American industry diminishes, negatively affecting the second goal of BIS. It is this balance that must be kept in mind in creating a policy that is effective in accomplishing the goals of the BIS – promoting American competitiveness as well as maintaining technological leadership in military industries while ensuring national security is developed in limiting access of volatile technologies to terrorist groups or unfriendly nations. It may also be mentioned that promoting American competitiveness and dominance in the technology sector is directly correlated to long-term national security interests. An argument exists that if American dominance of military grade technologies and medical grade technologies falters, America is in a much worse position for negotiation internationally. I will not be focusing on this argument, as I believe it works for the same goal as my initial assumption – the goals of the BIS are legitimate and are not being met. Including a further argument in support is not necessarily helpful in providing policy recommendations; however more research is encouraged along these lines for more philosophical, long-term analyses. Suffice to say that this argument is a valid one, and backs up the research being done here.

In order to develop a dual-use export regime that reduces economic loss to American industry while maintaining the interests of national security, measurements for success are necessary for policy examination, implementation, and evaluation. The export control regime currently suffers from the bureaucratic mechanisms often found in overwhelming government failure. Oversights for decisions are massively ineffective, the legal framework is mired in caustic time-consuming bureaucracies, and there is little enforcement of the measures that tend to be most effective.<sup>1</sup> These deficiencies are exacerbated by the characteristics of the international system that have developed since the end of the Cold War; mainly: more potential suppliers of dual-use technologies in the world not party to international control regimes, the weakened ability of governments to control suppliers based within their territories as a result of the Internet and

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globalization, the formation and power accumulation of non-state actors, and the newly determined biotechnology definitions that now include a vast array of dual-use medical/military technologies without the required “infrastructure or network linking the security community to the relevant industries to assist in formulating an acceptable control regime.”<sup>2</sup>

Measures for evaluating how well the policy options will alleviate the issues plaguing the current dual-use export control regime are vital in finding the most efficient and effective policy recommendation. Neena Shenai of the American Enterprise Institute bases the measures developed for this purpose upon extensive research. These measures are the need to: pare down the lists of products controlled by export control, curtail turf battles between cabinet agencies, ensure sensitive technologies are kept out of the hands of adversaries, is invariably transparent, accessible, and certain.<sup>3</sup> The need for implementation of this policy requires a measurement of feasibility for any policy option in order to ensure success of any recommendation given. These are the measures used as a guideline for evaluating policy options for implementation.

The final policy recommendation includes proposals for specific reforms to include the added administrative safeguards provided in a specialized legal framework for dual-use export control, a proposal for limited judicial review in the case of licensing disputes, a streamlined and more responsive mechanism for decision enforcement, and a close Private-Public Partnership between the U.S. Government and the technology industries of the United States.

*Statutory Background* - Dual-use export control in the United States has a long history in cultural practice and statutory cases. Though prior statutes did exist to the Cold War, the precursor to the today’s export control regime was the Export Control Act of 1949 (ECA) enacted in the very beginning of the Cold War. This statute, originally designed to be temporary in nature and thus exempt from the Administrative Procedures Act (APA)<sup>4</sup>, required no explicit mechanism for judicial protection for the public in government decisions. The APA established the framework for U.S. Administrative law and provided for a variety of protection to the public. Among these protections in administration of trade licensing were procedural requirements in agency adjudication, and “notice-and-comment” safeguards for most rulemaking functions. Most importantly perhaps, the APA established an “arbitrary and capricious” standard for adjudicating the legitimacy of government decisions. These decisions may pertain to any administrative decision to include licensing and export/import ratios.

It is important to note that while initially supposed to be temporary in nature, the ECA has been renewed multiples times, and still serves as the basis for the current export regime – it is still exempt from standards described in the APA; most notably judicial oversight.

As the dual-use export control regime developed throughout the Cold War, the main components of the system remained much as the ECA had outlined. The two most important statutes defining the U.S. export control system are the Export Administration Act (EAA)<sup>5</sup> of 1979 and the Arms Export

Control Act of (AECA)<sup>6</sup> of 1976. The EAA administers the export of United States dual-use commodities – items that have both commercial and military applications; administered under the BIS. This statute first expired in 1989 and has been in constant lapse since 2001 only continued by an annual Presidential renewal given authority under the International Emergency Economic Powers Act. The AECA statutorily identifies that the Department of State has the sole responsibility to designate defense articles and services and thus is exempt from judicial review. The International Trafficking in Arms Regulations identifies this relationship as, “...a foreign affairs function encompassed within the meaning of military and foreign affairs exclusion of the [APA].” These two statutes both maintain exemptions from the APA for differing reasons with the same results: both the Department of Defense and the Department of State are authorized to “grant deny, revoke, suspend or amend licenses for defense articles and services without any form of review.”<sup>7</sup> The only instances in which judicial review is given to those who have been affected by Department of Defense or Department of State decision making is during criminal proceedings in which case the defendant is given full protection of law, and when the ITAR<sup>8</sup> statute allows for perfunctory administrative review.

There are efforts currently to write a new EAA in Congress, however the political environment is saturated with partisan fighting and inattention to commercial interests. A Presidential change will be required in order to undo the damage of the EAA. The EAA is implemented through the Export Administration Regulations (EAR) that also maintains the list of items controlled under export regulation – this list is known as the Commerce Control List (CCL).<sup>9</sup> The Bureau of Industry and Security within the Department of Commerce actively processes licenses through a very specific interagency process, which includes the Department of State, Defense, Energy, and others as they pertain to the product requiring licensing for export. Eventually an application for Commodity Classification Automated Tracking System Licenses (CCATS) is required for exporters looking for official classification of technology. The result of this application is not public, nor precedential – introducing speculation into the system and producing uncertainty in the industry trade environment. The BIS is exempt from all administrative and judicial process requisite provisions of the APA.<sup>10</sup> Ultimately, a dispute over a BIS decision can take two methods of review dependent on the circumstances; one requires a dispute between licensing agencies and is not subject to judicial review after a committee has reviewed the licensing decision and appealed through the chain of command through to the cabinet level position and to the President of the United States, the other method allows a license applicant the ability to appeal a decision when there is no interagency dispute directly to the Under Secretary for Industry and Security (BIS Under Secretary) who is not required to resolve the issue – also his decision is final without applicable judicial review.<sup>11</sup> This is notably a negative reassessment only used to diminish the likelihood of requiring a license. The only time an agency is likely to have a dispute with another over the license is if one agrees to license the

product and the other does not. This should not be seen as a right for the entity seeking the license but a protection of the US agencies' ability to prevent licensing.

## II. POLICY PROBLEMS

Overwhelming and debilitating government failure is at the heart of the problems surrounding the current United States dual-export control regime. As the United States Department of Commerce and Department of Defense continue to focus on outdated definitions of international trade, high-tech research and development as well as the manufacturing of "volatile" technologies are driven out of the United States and to more amenable export control systems. There are many examples of this capital flight, and it is directly in line with macroeconomic theory illustrating that the openness of markets contributes greatly to the company investment. The result of ITAR – perhaps the most important statute when examining military production in the United States – has been an immediate "decline in market share directly, and primarily, due to the fact that the U.S. sector is now operating under a stricter export regulatory environment than its competitors."<sup>12</sup> Uncertainty is a key element in the problems that exist in the export control system of the United States as well; causing problems for competitiveness of U.S. manufacturers and developers internationally.

### A. Procurement Failures

Uncertainty in this system destroys any dependability of U.S. companies to export a product on time, without reservation. When a consumer or purchaser cannot rely on their supplier, that purchaser has one of two options – potentially lose money because of missed deadlines, rejected licensing applications, and rejected end-user licensing or, more likely, find a less technologically advanced but more dependable supplier. Thankfully, the United States still leads the World in technological development and research, however this is also changing. As demonstrated in the commercial satellite industry, American export control restraint is dramatically, and negatively, affecting foreign investment into the U.S. According to the Satellite Industry Association, U.S. exports of telecommunication technology saw slow growth of 2.4% in 2010 following a steeper decline of 8.2% the year previous. The growth rate of the industry internationally in 2010 was 5%. This continued a downward trend

*A quantitative case against strict export control: ITAR's consequence on the commercial satellite industry* - Ryan Zelnio, of George Mason University in Washington, D.C., examined the effects of tightening the restrictions on the commercial satellite industry internationally by moving the jurisdiction of all satellites from the Department of Commerce to the Department of Defense. Zelnio concludes that the "U.S. manufacturing sector still retains a clear dominance in satellites... with dominance being eroded as foreign manufacturers are beginning to build more satellites." He goes on to show, through cross-tabulation of manufacturing and

developing across borders and relationships with U.S. suppliers, that "a significant correlation [exists] between the country of origin of satellite customers and the ability of a domestic manufacturer's ability to win a given contract... that in the era of commerce export jurisdiction, the domestic manufacturers were able to maintain a significant lead in the market place and that after the move to ITAR, there was a large decline in this lead as competitiveness of foreign providers grew."<sup>13</sup>

The movement of jurisdiction of commercial satellite licensing from the Department of Commerce to the Department of Defense and State under the ITAR agreement significantly affected the ease of access to export licensing. Once moved to the ITAR system of licensing, the commercial satellite industry worked under the designation of "munitions." The author identifies the differences in mission between the Department of Commerce and the Department of Defense are very significant. The author argues that because of the nature of the DoD, it is more likely to prevent exportation while the DoC is much more likely to promote exportation. His methodology and analysis supports this finding, and while not directly important to my paper, is an interesting finding. It also shows how bureaucracy affects the nature of the export regime, and how uncertainty based on factors such as the nature of the agency and the reaction of purchasers is an outcome of inefficient practices. The ITAR regime restricted the licensing of commercial satellite technology for export – reclassifying the technology as munitions. This distinction placed greater hurdles before licensing, and thus put the industry at a disadvantage in the name of national security; attempting to limit the proliferation of satellite technology to China and ex-Soviet nations in 1992.

The final implications of restricting the satellite industry, Zelnio argues, is that "not only have ITAR controls not worked in stopping the proliferation of satellite technology, but that it has had the effect of driving increased competitiveness on the part of foreign competitors that have achieved an advantage in this highly competitive market place."<sup>14</sup> This examination into the policy problem by Zelnio is a good example of how markets are affected by the government failure in the export control regime. This not a malicious attempt by government to control markets; this is the nature of government agencies with separate visions illustrating that overbearing behaviors towards markets does not necessarily work in achieving even one of its goals.

There are two goals of dual-use export controls. The first is to protect U.S. national security and the second is to promote market leadership for American companies. Neither of these goals is being met. The commercial satellite case analysis is one example of how government intervention at home has caused an exodus of technology contracts domestically. American satellite companies are losing their comparative advantage for administrative reasons.

### B. Failures in Proliferation

The fear that dual-use technologies may diffuse to the enemies of the United States demands export controls in keeping the nation safe – this fear has been the underpinning of the export control regime since the Cold War. During the Cold War, "the

official lists of goods requiring export licenses effectively defined the boundary between militarily useful and purely civilian technologies. These lists still exist but they are less relevant for proliferation control.”<sup>15</sup> What we see is that the current regime is failing to control the proliferation of sensitive technologies internationally. The failure of the current regime to control international proliferation of sensitive material is because the export control system is severely outdated. The United States is using a system of export controls that are based upon an outdated vision of the world; that in terms of competition the United States is the only option. We no longer exist in markets that have one leader or two leaders, as was the case during the Cold War and shortly after. Between 1950 and 1991 a bipolar system of animosity existed – the export controls worked as they were geared toward keeping Soviet hands from grasping Western technologies.

The American policies of the Cold War were aimed at keeping Western technologies a secret from Soviet industries; the system worked. After the fall of the USSR, America maintained technological leadership in a unipolar world that demanded foreign investment into a US led technology industry. The level of complexity that is the nature of sensitive technologies ensured a U.S. control over most materials, however faults in the regime were beginning to surface. In place of an international system neatly bisected into two competing camps, the U.S. is now competing in an era where the enemy is widely diffused in many countries, and the number of suppliers of sensitive technology is growing at vigorous pace. Where the United States could previously demand adherence to international agreements on international trade controls such as the Wassenaar Arrangement, it now has to participate rather than moderate as the number of suppliers of sensitive technology are many. The monopolistic nature of Cold War industries in biotechnology, satellites, munitions, computing, etc. no longer exists, and the United States export control regime must reflect this change in the nature of international economics.

According a Government Accountability Office (GAO) report issued in 2007, “The technologies that underpin U.S. military and economic strengths continue to be targets for theft, espionage, reverse engineering, and illegal export.”<sup>16</sup> The GAO is responsible for determining the efficacy of government programs; most specifically the agencies that carry out legislation. Often the GAO looks at the mission of the organization being examined as well as the use of funds in completing that mission. They are basically the auditors of the Federal government though it should be acknowledged that they are responsible to legislators and often seen as swayed by current political balances in Congress. In 2008 the GAO reexamined any changes to the export regime finding that both the Department of State and the Department of Defense “have not managed their respective export license processes to ensure their effective operations.”

The effects that outdated export controls are having cannot be quantified across all dual-use technology industries; the ripple effect of patronage loss, removal of funding, or dispersion of industry across the globe simply cannot be determined. It is, however, easy to determine the effects on industry using macro level economic theory to explain the overall market distortion by ineffective trade barriers.

To reiterate, the goals of the dual-export regime are to both foster economic dominance in advanced technologies internationally, and to prevent the proliferation of dangerous technologies from America’s enemies. This paper has demonstrated that the prevention of proliferation of dual-use technology has not been successful. This section will examine the economic models that exist prevalent to trade barriers and the dramatic loss incurred by ineffective and overbearing systems.

*Uncertainty as marginal cost* - Uncertainty in markets is often a great cause of worry and risk to investors. It can have the effect of preventing investment, increasing costs of insurance, and promoting disinterest or disdain by long term investors looking for a stable environment for assets.<sup>17</sup> Environments with greater volatility or questionable variables are often left with less investment as the cost of operating there is unknown. Developing nations often have this problem as corruption or political unrest can change the operating environment quickly and without deference to international pressures. The cost of operating in the areas can be increased dramatically. To a lesser extent, the infrastructure and ease of operation in the United States export control regime is hindering foreign investment and promoting capital flight to other nations.

For this economic model it is sufficient to understand that through ineffective infrastructure and bureaucracy that results in export licensing declinations, revocations, or suspensions without transparent descriptions as to why; the costs of operating in the U.S. increases as uncertainty increases. Licensing through the Department of Defense and the Department of Commerce, as they are not held accountable to APA standards, are not held to a precedent based decision process and thus foreign direct investment risk in the dual-use technology industry increases. It is this uncertainty – business risk – that acts to increase operating costs within the U.S.

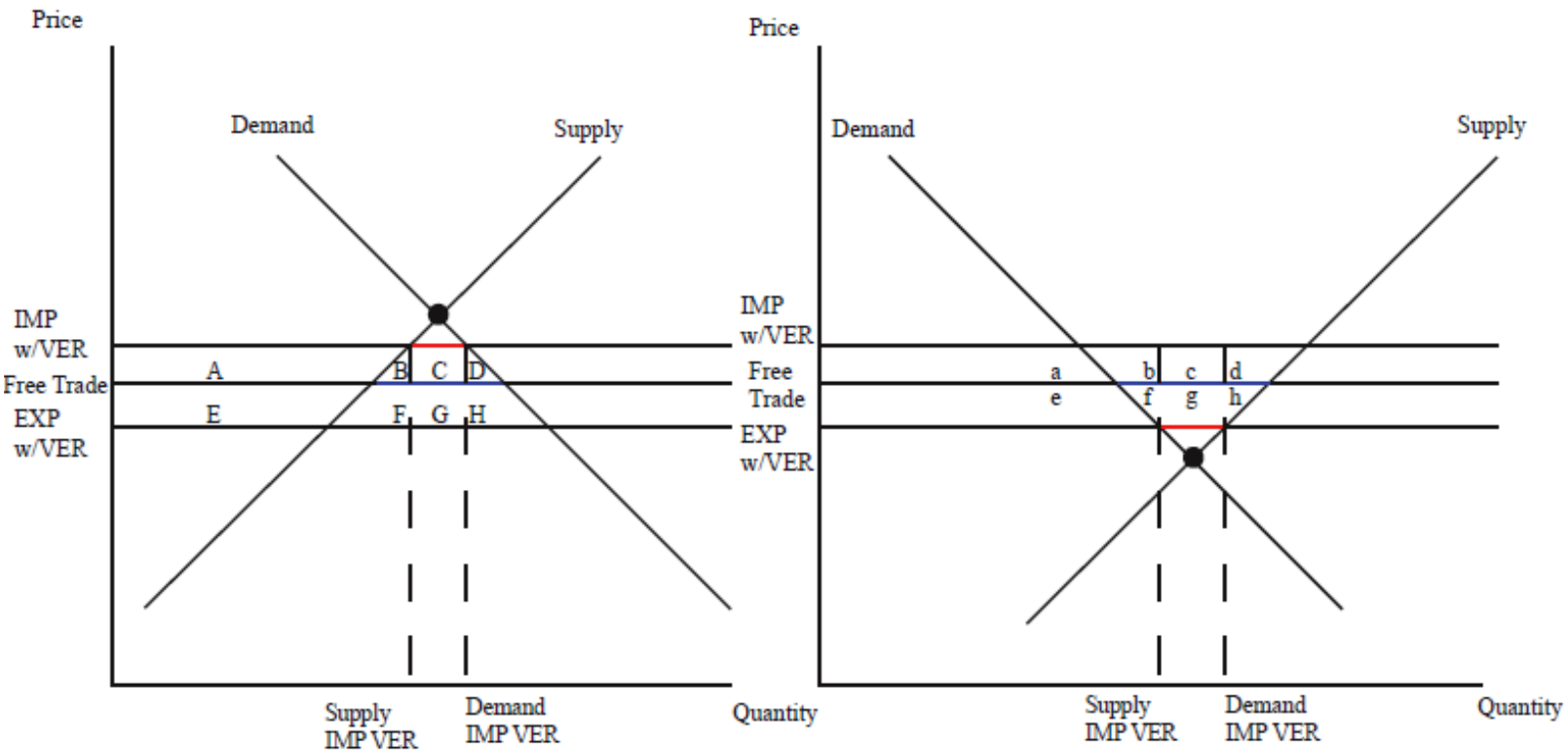
Increasing the operating cost of foreign investment through the exportation of American dual-use technologies, therefore, acts as a Voluntary Exportation Restraint.

*Voluntary Export Restraint* - Voluntary export restraint impacts are hard to quantify in a perfectly competitive market; they are nearly impossible to quantify in an imperfect market condition like the global technology market. However, we can examine the impact of VERs on perfect competition to indicate the likely impacts on the international dual-use markets. Economic models are helpful in examining the impact that Voluntary Export Restraints have on exporting country economies as shown in Figure 1.1.

### C. Economic Loss

### Dual-Use Tech Importing Country

### Dual-Use Tech Exporting Country



● Equilibrium price, domestic markets

IMP w/VER: Price of Imports with Voluntary Export Restraints      Supply IMP VER: Supply Level with Voluntary Export Restraints  
 EXP w/VER: Price of Exports with Voluntary Export Restraints      Demand IMP VER: Demand Level with Voluntary Export Restraints  
 Free Trade: International Equilibrium Price without Voluntary Export Restraints

Figure 1.1: Effects on Domestic and International Markets for Dual-Use Technology Importing and Exporting Countries

The welfare effect for an exporting country that implements Voluntary Export Restraints is shown in Figure 1.1.<sup>1</sup> The quantity of imports and exports at the free trade level – without any export restrains or tariffs imposed on the products - are shown on this graph in blue. This is the horizontal distance between the intersections of the supply and demand curve to the **equilibrium world** price. The domestic equilibrium price is given as the identified blackened dot – this is the supplied and demanded quantities within the country.

If the exporting country places a binding VER such that it reduces the quantity of a product exported per year, the supply of the product for export drops. It is important to note that the quantities of an item produced within the country will not immediately change. Thus, a surplus develops reflecting a price at the level of the red line. The importing country will see a price increase for the product as the supply is

diminished; there is an equally negative change in demand then as the price increases.

As prices recalibrate, there is a decrease in demand for that exporting nation’s products, leading to a fall in prices for exports. The price in the exporting nation will fall until it becomes equal to the price at the VER level for exports. Meanwhile, domestically, the exporting nation’s price for the dual-use product decreases as supply increase with overproduction.

In this situation, the welfare effect on the exporting country consumers is increased as the prices fall with international demand diminishing – this is the only group of individuals that stand to gain. In this sense, the domestic consumers gain with VER implementation. This resembles the actions and effect of an imposed tariff upon an exporting nation looking to increase government revenues through taxation of an industry with extensive comparative advantage; such as the United States enjoys with advanced technology and research.

The reason that this situation acts more as a Voluntary Export Restraint, rather than a tariff, is that there is no *national* welfare gain with export controls rather than export tariffs even though both effectively increase costs of exports. With an export tariff there would be revenue gain from

<sup>1</sup> Legend for Figure 1.1: S – supply, D – Demand, PEX/Ver – Price of exports with VERs, Pft – Price of good in free trade, PIM/VER – Price of imports with VERs

taxation. In this instance, and in the example of VERs, administrative costs and procedural ambiguities lead to increased costs in the forms of uncertainty and cost of operation. As recognized with the satellite industry responding to ITAR, the cost of operation becomes so great, it makes sense for foreign investors to seek out alternative investments and supply chains.

Further, this gain in welfare may not be applicable in an imperfect competitive market. It is important to remember that the Cold War encouraged foreign nations to purchase dual-use technologies in a more monopolistic market and thus it cannot be said that the prices would have dropped as dramatically as Figure 1.1 shows. As there were no competitors for sensitive technologies, the effect was that foreign nations would pay for increased costs and greater innovation. The same need to purchase these technologies no longer exists as there are more nations offering high-level dual-use technologies.

The welfare effect on producers is the more important effect here, and a focus of this paper. The producers in an exporting nation implementing VERs will see a negative economic effect. This diminished standing is a symptom of reduced international demand driving prices down, increased international competition, and a corresponding glut in supply. This price decline also “induces a decrease in output, a decrease in employment, and a decrease in profit and/or payments to fixed costs.”<sup>18</sup> A graphical representation of the overall wellbeing outputs of VER impacts can be found in Table 1.

**Table 1: Welfare Effects of a Voluntary Export Restraint (as per Figure 1.1)**

	VER Effect on Exporting Country
Consumer Surplus	+e
Producer Surplus	-(e+f+g+h)
National Welfare	-(f+g+h)

As Table 1 shows, the overall welfare effect is greatly negative. The sections f g and h are negatively correlated to the VERs. This is the loss to national welfare with falling industry prices and lowered international demand. Referring back to Figure 1.1, both the Importing and exporting countries show the same “tightening” of imports and exports for the dual-use product respectively. The red line represents that diminished international trade, with blue line representing the original trade without the voluntary export restraint.

*The U.S. Export Regime as a function of (In)Voluntary Export Restraints* - The Voluntary Export restraint shares the very same cost increasing characteristics that do ineffective, inefficient export controls like those imposed by the Department of State and the Department of Defense. The economic environment in which the United States operates is not the same environment that existed during the Cold War, and thus the “perfect competition” models are not sufficient. Further, there is no data available as to the impact of export control regimes as a function of economic loss as described in this model because the problem is too complex to quantify;

however, it is widely agreed that the overly restrictive nature of the export regime is leading to a fall in national welfare.<sup>19</sup>

National security as a benefit of these VERs is an important factor in the decision to reform dual-use export controls. The economic theory of “second-best” helps to explain how national security can be quantified and represented in our analysis of dual-use export controls. The theory of “second best” acknowledges that public goods must be considered a market imperfection, a market failure, and therefore may be excluded from traditional representational model; as national security is a public good, this theory then applies.<sup>20</sup> This market imperfection – this public good – must be examined then as a “non economic objective.” This examination is precisely what is done in the Failures in Proliferation section of this paper – an examination of the success of VERs as a national security measure.

The most important practice in evaluating the U.S. export regime must be a balanced approach to the benefits and costs of the overall technology controls; examining the imperfection of the market, the overreaching arm of government control, and the unknowable dollar figures for economic loss. It is impossible to know even an accurate cost of the dual-export regime at this point. There is no comparison point for the current performance of dual-use exports. While we would be able to examine the fluctuations of purchasing, the economic environment – as discussed previously – has changed dramatically. Dual-use export controls have been in existence, and evolving, for 50 years. The dual-use technologies have barely been in existence that long, and the government tracking of such material only began with this control regime. Thus, the precise costs of the export regime can only be estimated based upon recognized trends in markets: capital flight, investment loss, reduction in U.S. patronage, and overall loss in market share from nearly complete to at risk of a minority position. Table 2 is the cost benefit graphic for the current dual-use export control regime based upon economic theory discussed here.

**Table 2: Costs and Benefits of Current U.S. Dual-Use Export Controls**

Costs	Benefits
Reduction in price of U.S. goods	Retention of U.S. technological advantage
Patronage loss from foreign investors	Moderate national security success
Reduction in foreign direct investment	Political use of licensing for international aims
Increased domestic operating costs	Security of domestic technologies
Capital flight by U.S. companies	
Increased dependency upon government subsidies	

### III. POLICY GOALS

The options to be introduced will be evaluated based upon only criteria that we are deeming policy goals. These goals are both the pursuit of nationally secure dual-use technologies and

the promotion of U.S technology competitiveness internationally. Both goals are directly related to the problems discussed previously. These are the best criteria for evaluating policy options because they are stated mission of the current export control regime, and thus are the two most significant, qualitative measures of the success of policies. As the two main goals of the export regime, they stand to be the best criteria for evaluating policy reforms.

To operationally examine the policy options within the context of these two goals, more specific and quantitative methods are offered. To examine the effectiveness of each option’s impact on national security, each option must include the level of protection from foreign acquisition, and the continuance of domestic dominance in the face of reverse engineering. To examine the impact of each variable on U.S. economic competitiveness the following criteria will be used: the implementation of positive business strategies; the promotion of industry-government interaction; the elimination of operation costs for foreign investment. A final goal, political feasibility, will assess the likelihood of systematic success using regulatory environment, power interests, and budgetary constraints as criteria. Using these indicators, each policy option will be subject to analysis. A final recommendation will be offered only after each option is closely considered for goal success.

**Table 3: Current Control Regimes Similar in Demand to Dual-Export Control**

<b>Regime Type</b>	<b>Responsible For</b>
Nuclear Regulatory Law Regime	Exportation of nuclear products
U.S. Trade Remedy Law Regime	Administration of antidumping and countervailing duty proceedings
U.S. Customs Law Regime	Oversight of U.S. customs

#### IV. POLICY OPTIONS

##### A. Status Quo

To keep the dual-use export controls administered in the same manner is the first option to be explored. While this paper clearly outlines the need for changes in the dual-use export control regime, the option to continue using the same system that has been evolving – adapting to market challenges – without extensive overhaul is an attractive option. While there are deficiencies in the current system, the cost of dramatic change is apparent. This export licensing system affects a global audience, and it has for sometime. As the leading technology sector nation for 50 years, changing the United States export regime for these sensitive, and vital, technologies may have extensive repercussions.

Allowing the current regime to move forward without change would not alter the current environment of technological exportation or investment. While the trend is for newly competitive nations to gain ground in the technology market the United States will remain an important, if not the

biggest, player in the industry. However, the long-term effect is obviously negative as administrative costs deter international corporations. As the United States companies are mired in ineffective government administration, and the system becomes overwhelmed with more advanced technologies, the United State market share will continue to diminish.

The two goals of dual-use export control regime are not being accomplished. Important sensitive technologies are not being effectively kept from America’s stated enemies, nor are U.S. industry leaders able to remain competitive in the developing international marketplace. While more money could be thrown at the problem in the form of more licensors, an expansion of bureaucracy to help facilitate licensing, or a modernization effort, the problems with the dual-use export control regime is systematic and requires structural change.

##### B. Develop a new court system modeled after other U.S. legal regimes

The United States dual-use export regime does not contain the regulatory framework to maintain a dependable, business friendly environment promoting national security as well. As explained, the export control regime, under the EAA, is completely APA exempt in relation to the judicial overview of case decisions (licensing declination). While these export regimes are unique in characteristic, there are other legal regimes that do effectively manage similar concerns, and which may be used as examples for developing a better system. Table 3 offers three regimes operating within the United States Federal Government that effectively administer similar controls. It is the second policy option to investigate these four regimes and model the dual-export control regime – namely EAA and ITAR – after one of these working systems.

The most prevalent aspect of all three regimes listed in Table 3 is responsibility in foreign affairs and national security. These regime types are all also important systems in economic relations, maintaining enforcement of a variety of products and transportation methods. These regimes are all APA compliant; allowing judicial review through the APA procedures or respective governing statutes. Elements of all three systems could be adapted for implementation in reforming the legal infrastructure of the export control system.

*Nuclear Export Control Regime* - The nuclear export control regime is a multifaceted, complex system for preventing nuclear proliferation, monitoring international nuclear developments, and ensuring managed delivery of nuclear assets domestically and internationally. The similarities with the dual-use export control regime are extensive involving the Department of Energy, Department of State, and Department of Commerce in administration of export licensing by the Nuclear Regulatory Commission. Authorized under the Atomic Energy Act of 1954, the NRC is responsible for controlling the export of nuclear equipment, components, and materials.<sup>21</sup> Further, all decisions and actions taken by the AEA are “subject to the procedures of the APA, and classified and business proprietary information are given full protections from disclosure.”<sup>22</sup> After close consideration of any application



at the NRC, a public export licensing decision is published, and applicants who have been denied a license or whose license has been revoked has the right to request an administrative hearing.<sup>23</sup> Important for the discussion of dual-use export controls, the regulations detail procedures by which parties and counsel may request security clearances and be granted access to classified information specific to dealing with their case.<sup>24</sup> In essence, the nuclear export control regime serves as a perfect system to deal model dual-export control over as it is subject to the APA's "arbitrary and capricious" standard of judicial review, allows for secure discussion, and demands business participation.

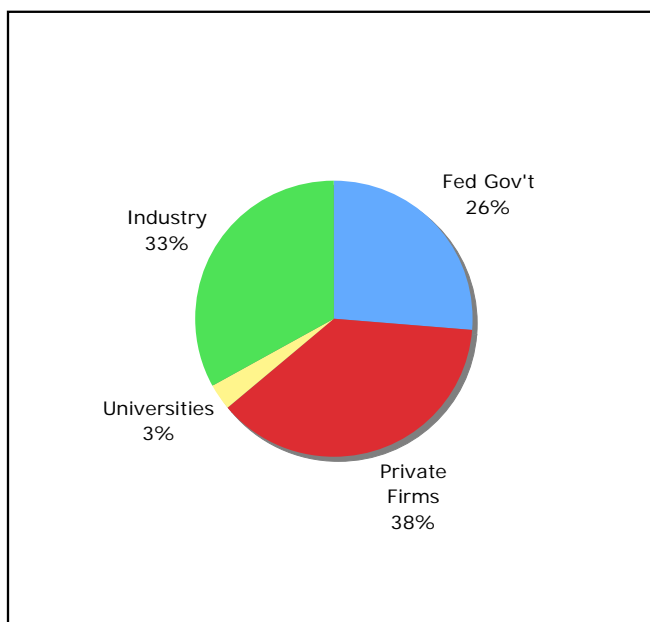
*U.S. Trade Remedy Law Regime* - Trade administration of the U.S. trade remedy laws – especially antidumping and countervailing duty proceedings – are governed by a combination of APA review and statutorily<sup>25</sup> defined administrative procedures which "provide for the creation of an administrative record as the basis for published decisions."<sup>26</sup> Proprietary business information that must be included into this administrative record is protected by an administrative protective order (APO) procedure.<sup>27</sup> These procedurally protected pieces of information can only be viewed by authorized counsel and cannot be shared even with their clients. This secretive proceeding should be seen as much more constrictive than the Nuclear Law Regime model and may have the effect of allowing more uncertainty into the business environment of operation.

*Customs Law Regime* - is regulated under the Customs Modernization Act of 1993 (Mod Act) with enforcement responsibility given to the U.S. Customs and Border Protection Agency (CBP). The Mod Act places the "legal burden" on importers to classify and value products, and these importers can request a "pre-importation" ruling from the CBP. This initial "pre-request" is a way to diminish licensing strain, and reduce the time it takes for processing of imports – something that may be possible to implement for dual-use controls. If the importers disagree with the CBP's decision, an appeal can be made. There are many steps along the process of "pre-licensing," actual importation, and disbursement to appeal a decision of refusal to import and this agency should be identified as having a very open, and accessible review system.

The option to develop a new court system within the current dual-export control regime is included because it considers a great problem of the current system. Currently those involved in disputes over licensing and exportation of sensitive material are at a loss to the bureaucracy without recourse or challenge to decisions. In these models presented, foreign affairs and national security considerations are all considered, yet judicial review of agency determinations are available. In these cases due process of law is promoted even while maintaining classified and confidential information. Within the nuclear regulatory complex, sensitive goods and technologies may be exported and licensed with full protection of the APA. In all three models, agency decisions and classified information is accessible in a secure way – compiling decisions, and establishing precedent thus diminishing uncertainty; a crucial step in promoting a positive economic environment.

*C. Increase levels of Federal support for technology development to offset economic losses due to the administrative process*

As the competitiveness of United States companies shrinks, the government must maintain a very high level of support for funding; welfare for scientists will become the norm. Already the United States research and development core of the technology industry is federally funded. In a paper conducted on the early level of investment for new technologies, the National Institute for Standards and Technology estimated that government funding was nearly equal to industrial investment.<sup>28</sup> Figure 3 shows recent funding levels for early-stage technology investment by funding type: educational, federal, private firms (IE investment firms), or intra-industry.



**Figure 3: Funding for Early-Stage Technology by Type**

The amount of federal investment in early-stage technology is a very large percentage. As seen in Figure 3, the federal government accounted for over one-fourth of the overall investment in advanced technologies. Considering most funding at the university level – especially state schools – is in the form of student loans, federal resource allocations, and federal grants the number is very near 30% of the total U.S. States funding. Clearly the United States government understands that long-term success of the nation relies upon investment to developing new technologies. If the United States regulatory agencies retain an unchallengeable licensing process, as seen by a lack of judicial review and very little transparency, an option to continue investment would be to subsidize all technological research; or at minimum repay company losses due to capital flight as a result of overbearing export restraints.

To move from a heavy investment in the technology industry to a complete investment in the technology would not



be an enormous leap. A market-based understanding of ownership, then, fits for the government investment and export control; their investment means their plans. Profits and decision making for the dual-use industry could be managed by a central authority with a long-term, strategic vision as the investment would all be in one place. In the imperfect market scenario described in the economic loss section, economies of scale could be better reached in the technology industry if the investment and planning were all in one place.<sup>29</sup> With a strategic vision and control over technology investment, a new national program for innovation may take place. Of course, diseconomies of scale would most likely be the result as the government takes control of a national industry of technology. Innovation would be stymied without incentive through profit, and the “invisible hand” of market forces – that has ensured American ingenuity and industry leadership for 50 years – would disappear.<sup>30</sup>

## V. POLICY RECOMMENDATION

The above options list three separate ways in which the government can mold the future of the United States dual-use technology sector. All three come from very different models of philosophical thinking. The first option is a status quo option representing the current, depreciating value of American technology exports as a result of ineffective and inefficient export controls discussed earlier. The second option is a practical model for reforming the administrative process of these export controls designed after one of three federal regulatory models; resulting in greater transparency and industry involvement in licensing decisions – reducing the costs of operating in the United States, and encouraging foreign direct investment. The third option offers a model of nationalization that seems antithetical to American scientific development; however it is certain that government involvement and subsidies drive much of the important work conducted throughout the United States. After incorporating philosophy, economics, and statutory analysis into the discussion of the proper role for dual-use export control, a new administrative process in line with option 2 must be implemented. A matrix graphically representing the manner by which these options were evaluated is given as Appendix I.

Fostering greater transparency for licensing decisions and maintaining judicial review in accordance with the APA will be crucial in moving to maintain U.S. technology advantage in the decades to come. A strong suggestion would be to encourage this transparency, while maintaining national security in its patent structure and military complex, by modeling a new judicial process after the Nuclear Export Control Regime. This model is already actively working to promote nuclear development internationally in a safe, business friendly, secure method. The dual-use nature of nuclear science and engineering are similar to the more general dual-use technology being discussed as nuclear technologies have both military and non-military applications. By incorporating an outlined and mandatory judicial review process, promoting industry understanding of regulations, and issuing statements upon every licensing decision in a manner consistent with security clearance – these goals of

transparency with security will be accomplished. The ability for “special counsel” to attain temporary security clearances when necessary is very important in this restructuring.

By modeling the new dual-use export control regime after the nuclear control regime, the United States does not seem capricious or arbitrary in its reformation methodology. The nuclear regime has been highly successful in non-proliferation goals. The federal government also maintains the ability to use licensing as leverage for political gains that might be lost in a completely free market option. By promoting transparency and adopting a system by which industry can appeal bureaucratic decisions, and be involved in the hearing process, uncertainty will be diminished and the operating costs associated with arbitrary license rejections or suspensions negated.

Any policy recommendation adopt must help accomplish the dual purpose of maintaining national security interests in the short run and promoting American technology dominance through innovation and elimination of virtual voluntary trade restrictions in the long run. It must protect the national security interests of the United States by still controlling export licensing, developing classified qualifications for legal processes, maintaining leverage over market forces in dual-use technologies, and promoting interest from foreign investors in American technologies which continues the market presence of American technologies thereby promoting long term national security gains.

## VI. IMPLEMENTATION

This policy makes sense. Modeling the administrative review after the nuclear controlling agency’s APA compliant regime gives the appropriate foundation for acceptance and support from both political parties as well as an appropriate framework for regulatory implementation. As the standards already exist and have been seen as effective in accomplishing both goals necessary for dual-use technologies; the judicial process used in the nuclear control regime is an appropriate regime type model.

This is the perfect time for reforming the dual-use technology export control regime. The export control regime is controlled by an Executive Order that has been renewed each year, and at any time another Executive Order could be issued for reforming the structure, goals, application, and enforcement of export licenses. On January 27<sup>th</sup>, 2010, President Barack Obama noted a desire for the United States government to institute reforms on a “out of date and ineffective” export licensing regime for “dual-use industries” to promote U.S. competitiveness.<sup>31</sup> There is current support by the executive branch and the same party is in control of the Senate. The Republican Party has shown mild support for restructuring and reforming the ITAR regime, and if the debate were phrased in a pro-business manner there may be greater support in the future.

Implementation of the proposed policy, however, will require complex change in decision-making process of the export control regime. No longer will unsubstantiated decisions in the name of national security be acceptable and a method for reporting decisions with processes will be

necessary; public internet filings, industry reports, or federal databases would work fine. Decisions that require secrecy can be made through appropriate channels, and through counsel with security clearances as to promote national security goals.

Some opposition may be met from the government agencies that currently reign over export licensing; most specifically the Department of Defense, Department of Commerce, and Department of State. Luckily, the change agent leadership responsible for large-scale developments within those departments serves at the pleasure of the President, and may be replaced if unwilling to participate in implementing these new changes. To implement these changes, and ensure success, the leadership of each organization may choose to follow Kotter's 8 Steps for Reorganization.<sup>32</sup>

## VII. EVALUATION

Evaluating the success of implementing these policies will be found in the economic development of the dual-use technology industry within the United States. Noticing an increase in patronage to the United States manufacturing would be significant, as would a perceived reduction in operating cost for foreign investment. If increasing judicial review and making the EAA APA compliant develops trust internationally in the United States technology markets, investment will be positive.

It will be difficult to determine the impact of these policies for quite some time. Economic cycles do exist, and often the technology industry will fall prey to international fluctuations. Only after long-term trends are examined can the evaluation of implemented restructuring of the export control regime be determined. It is important to note that because these policies are based on sound economic theories, the effects will be only positive. There can be really no negative effects by creating greater transparency while still maintaining industry security.

If, however, there becomes a gap in the protection of industry secrets due to increased transparency and judicial

review of licensing decisions, then the economic gains may be negated by the loss of national security interests. In this case, further tightening measures may be necessary.

As of lately the Obama Administration has been very vocal about updating the ITAR regime. President Obama addressed the concern of an outdated ITAR regime in his second State of the Union Address and issued the President's Export Control Reform to "streamline" and "promote" American competitiveness in the technology industry. His Export Control Reform Initiative is intended to be implemented in three phases, eventually leading to a "single control list, single licensing agency, unified information technology system, and enforcement coordination center."<sup>35</sup> These would all be great steps for simplifying the very complex, multi-tiered, control licensing lists, however bureaucratic pushback is developing. Thus far, only two changes have been proposed and are currently being held as Notice of Proposed Rule Makings (NPRMs). These NPRMs propose to "amend Parts 123 and 126 of ITAR to reflect new policies regarding coverage of replacement parts/components and incorporated articles. While this might be helpful, the reforms miss the mark – instead of trying to find the root problem within ITAR, only the latest problems of "end-user licensing" is being addressed.<sup>34</sup> The final section of the NPRM is perhaps the most telling as it is taken for granted that these "proposed amendments involve a foreign affairs function of the United States and, therefore, are not subject to the procedures contained in 5 U.S.C. 553 and 554," Administrative Protection Act. Nor are they subject to the Regulatory Flexibility Act, nor any other public oversight and protection of industry statute. For now, the U.S. technology sector will have to "go it alone" until ITAR is reformed for the betterment of security and economic interests internationally.

## VIII. APPENDIX

Goals	Impact Category	Alternative		
		Status Quo	Reform Framework	Legal Nationalized Investment
National Security	Protection from enemy acquisition	Out of date, poor definitions, sufficient in practice for protection	Promotes domestic investment keeping protection and control domestic	Very high, national model for political gains
	Protection of industry secrets	Industry help is lacking, overbearing licensing	Temporary security clearances, protection of intellectual property	Very high, complete control of export strategy
	Positive business strategies	Works against industry, stifles innovation through diminished investment	Judicial review and transparency increase long term investment	Very low, innovation and wealth production elimination
Technology Sector Competitiveness	Industry-government interaction	Lack of transparency, hurts business	Capitalist model of wealth creation, helps industry operations	Very high, the government runs the industry
	Reduction of operating costs	Increasing operating costs, diminishes foreign investment	Appeal process, licensing streamlining, and transparency	Very low, Operating costs will increase as foreign investment will be replaced by federal investment
	Elimination of uncertainty	Maintains the framework of secrecy	Transparency and decision review	Very high, certainty in government dominance, uncertainty in trading
Political Feasibility	Power interest acceptability	No change, current agencies keep power, lack of industry power	Agency power grab possible, Reduce workload, no political interests otherwise	Very low, nationalization of the tech industry would be fought by all in the industry
	Budgetary constraints	None, no new funds necessary	May cost money, welfare gain would outweigh costs	Very high, we are running a significant national debt
	Regulatory environment	No change, simply continue updating Executive Order	Executive Order for restructuring, modeled after another agency so greater legitimacy	Executive Order would be Constitutional, Most likely this would be met with much hostility

**Table 2: Matrix for Predicting Impacts of Alternative Policies for Reforming the Dual-Use Technology Export Controls of the United States**

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**Harrison G. Wolf** is the Officer of Special Programs and Contract Course Coordinator for the University of Southern California Aviation Safety & Security Program at the Viterbi School of Engineering. He received his Masters Degree of Public Policy (M.P.P.) at the Pepperdine University School of Public Policy in 2010 where he specialized in Economics and International Relations. The author received his Bachelor's Degree in Arts (B.A.) from California Polytechnic State University San Luis Obispo in December 2007 in Political

Science with a Minor in English.

He has spent the last two years developing curriculum for the USC Aviation Safety & Security Program to include Unmanned Aerial Systems and is proposing the development of an Aerospace safety program for commercial operations. He developed his international business understanding in Dhaka, Bangladesh with the Grameen Bank - helping to expand the micro-finance operations in the region through eliminating inefficiencies in cultural replication processes. The Author has also written on Organizational Behavior in large and complex system development companies such as Aerospace, Aviation, and Rail. He is an expert in Government Regulation Theory.