Middlebury Institute of International Studies Monterey, California

Reputational Risk & Human Rights: Analysis of Export Control Licensing Data to Assess Human Rights Scoring and the U.S. Export Control Regime and Application for Private Sector Risk-Scoring Methodologies

Julius Moye, Dennis Gable

This working paper is submitted in partial fulfillment of the requirements for a grade in Quantitative Analysis for Trade Policy.

Professor Rogowsky
May 15, 2020

Table of Contents

Introduction

Export control regimes are complex regulatory systems that take into account a variety of different factors to reach a variety of different ends. In essence, a country's export control system is somewhat akin to a national risk-rating system for end-users and shipping destinations. The concept of risk-rating will be a central element of this paper. As is the case in standard customer due diligence (CDD), this report will seek to extrapolate this notion to the national level and provide an additional metric for making such risk calculations. Using export control licensing data from the Bureau of Industry and Security (BIS) – the United States' administrating agency for the export of dual-use items – it will shed light on the process of risk-rating used by the United States government when controlling the export of particular goods to a country abroad.

This will be of benefit to a number of different stakeholders. First, this will be a key metric for the human rights community and other advocates of freedom and civil liberties abroad. It will allow human rights advocacy groups to add another datapoint to analyze a country's human rights record and better understand how it is perceived by the United States export control apparatus. This will highlight particular areas of concern, for it will also allow insight into how the two factors of export control regulations and human rights records are interrelated.

Secondly, this report will be of benefit to the private sector and those who are exporting or seeking to export goods abroad – particularly in "high-risk" jurisdictions. While this report is primarily focused on goods that are classified as "dual-use" and thus controlled by the U.S. export control regime, exporters in any sector will be able to utilize the findings in their own internal risk-rating procedures. As will be seen in the section below, analyzing those goods that are controlled for "reasons of Crime Control" will be the best measurement of the Department of Commerce's views towards a foreign nation state when using this data. This will therefore be able to provide exporters with an additional metric that can be used in "geographic risk-scoring" procedures as well as in assessing a particular transaction or business relationship's "reputational risk" – a concept that will be further elaborated on at length below.

It will be noted here that this report is not crafted with the purpose of assessing the efficacy of the U.S. export control regime. Rather, it seeks to provide both datapoints as well as a methodological procedure to allow exporters, human rights advocates and regulatory agencies such as BIS to conduct further research into their own interest areas and to their own ends. Furthermore, by providing an overview of the statistical trends of the preceding decade, it will allow for acumen into the impact that particular world events and regulatory changes may have had on the approval, denial and applications of dual-use goods being exported from the United States. This historical analysis can also prove useful to estimate impacts of forthcoming regulatory changes, such as the Export Control Reform Act (ECRA)[1] or the "U.S. Government Guidance for the Export of Hardware, Software and Technology with Surveillance Capabilities and/or parts/know-how" from the State Department in October 2019.[2] Hence, the aims of this paper are solely practical and analytical and do not attempt to make any value judgements nor recommendations for any U.S. regulatory authority.

Part I of this report will outline the role that human rights considerations play in export control regimes around the world and their prominence in the U.S. export control system in particular. It will then detail the perspective of human rights and export controls from both the public and private sector perspectives. For the former, it will demonstrate the steps taken by the United States to most effectively incorporate human rights considerations into its legislative and enforcements apparatuses. For the latter, it will detail the notion of corporate social responsibility and reputational risk in conducting business transactions abroad.

Part II of this report will provide the reader with an overview of the methodology developed from an exclusive BIS export licensing dataset to assist both the public and private sector a) better understand the impact of world events on the U.S. export control regime; b) provide insight into the U.S. export control

[1] Akin Gump, "The Export Control Reform Act and Possible New Controls on Emerging and Foundational Technologies", September 12, 2018 <https://www.akingump.com/en/news-insights/the-export-control-reform-act-of-2018-and-possible-new-controls.html>

[2] Lise Test & Kerry Contini, "State Department Issues Draft Guidance for the Export of Items with Surveillance Capacities". Baker McKenzie. September 20, 2019 <https://sanctionsnews.bakermckenzie.com/state-department-issues-draft-guidance-for-the-export-of-items-with-surveillance-capacities/>

regime as a decision-making apparatus and c) further refine risk management methods for transactional and reputational risk in particular jurisdictions abroad. It will employ a quantitative analysis of trends in the approval and denial of applications for the export of dual-use items from U.S. territory to an end-user abroad. Finally, Part III will conclude with an analysis of a select number of countries. This is in order to provide concrete examples of these methodologies' application as well as to serve as a prelude for further analysis in the future.

For ease of reference, this section will conclude with a table of the primary questions this report seeks to pose and address (see Figure 1.1).

Figure 1.1 – Guiding Research Questions

- How can data for the approval and denial ratings of goods classified as controlled for "reasons of crime control" serve as a proxy for insight into the Bureau of Industry and Security's own geographic and transaction risk-rating methodologies?
- Where have Crime Control ECCNs been denied at a rate that deviates from the average global denial rate to a significant degree? For which countries has this occurred and what might explain such deviations?
- How have large-scale events affected the denial rate of ECCNs related to human rights? From the supply side, how have they affected total application numbers?
- How might such quantitative analyses inform private sector entities creating their own geographic risk-scoring methodologies and "reputational risk ratings"?
- Is there a correlation between a country's human rights record and the denial rate of Crime Control ECCNs by BIS over time?

PART I

Export Controls & Human Rights: Legislative & Discursive Overview

1.1 Human Rights and the U.S. Export Control Regime

The utilization of export control systems to meet human-rights related ends is not a new one. In the context of the United States, the latter half of the 1970's saw the construction of the foundations for the current export control system. The Arms Export Control Act (ACEA) of 1976 and the Export Administration Act (EAA) of 1979 composed the initial steps toward the creation of this system. Even during this time, human rights were taken into consideration. Arthur Morrissey, former Senior Policy Analyst in the office of Science and Technology Policy, spoke to the importance of human rights in export control legislation at a 1980 meeting of the American Bar Association:

> *"The export control system has been called upon to do a variety of things. I have spoken specifically of the national security considerations, but limits on exports have also been used to foster or promote U.S. foreign policy interests, of which human rights is a very fundamental tenet for the Carter Administration."* [3]

As Roberta Cohen of the Brookings Institute noted, such considerations are tied into the fabric of the country because America "was founded on a constitution and bill of rights that proclaimed freedom and individual liberties."[4] There are a myriad of ways in which the United States works to protect human rights both at home and abroad. The Carter Administration made clear that one of those ways would be through export controls. The efficacy and focus with which this has been undertaken has certainly adapted since then.

Much has unfolded since the passing of the EAA and those goods that are connected with human rights concerns have also developed. This report does not seek to outline the entire legislative history of human rights and the U.S. export control regime but it is important to point out some recent instances that demonstrate their importance is only continuing to increase in modern days. Broadly speaking, a greater intermeshing of human rights concerns and export controls has occurred particularly since the Arab Spring and its aftermath in the early 2010's. Some indications of this include the incorporation of human

---

[3] Morrissey, Arthur. "EXPORT CONTROL AND HUMAN RIGHTS." *Jurimetrics*, vol. 21, no. 2, 1980, pp. 158–161. *JSTOR*, www.jstor.org/stable/29761741. Accessed 15 Apr. 2020.

[4] Cohen, Roberta. "Integrating Human Rights in Us Foreign Policy: The History, The Challenges, And the Criteria for an Effective Policy," pp. 2. The Brookings Institution. Accessed 9 May 2020.

rights language into the export policy of unmanned aerial systems on the U.S. Munitions List in 2015 and 2019 [5] and the U.S. State Department's issuance of draft guidance for the export of surveillance equipment and technology in September 2019.[6] Human rights have also been integrated into U.S. export control policy on a more ad hoc basis. In October 2019 the U.S. House of Representatives unanimously passed the McGovern Bill (H.R. 4270)[7] designed to prevent the export of U.S. crowd control equipment to Hong Kong following the crackdown on protesters during that same year.[8] 2019 proved to be a landmark year for human rights and foreign policy considerations in the context of strategic trade controls, making the methodology outlined in this report all the more timely. However, it is necessary to first analyze the underlying decision-making structure of the Bureau of Industry and Security as it relates to these principles.

1.2 Public Sector Export Control Decision Making with regard to Human Rights

Pursuant to Section 6 of the Export Administration Act of 1979 (as amended), the Bureau of Industry and Security oversees those export controls "in support of human right [and] controls the exports and re-exports of crime control and detection items throughout the world."[9] By controlling the export of products that can be used to physically harm citizens of foreign states or encroach on their privacy and fundamental civil liberties, the United States government has a much greater handle on this process. This is done by assessing both the threat posed from the product itself as well as the country and end-user that product is ready to be shipped to. In general, BIS considers such applications favorably. However, greater

[5] U.S. Policy on the Export of Unmanned Aerial Systems." United States Department of State, www.state.gov/u-s-policy-on-the-export-of-unmanned-aerial-systems/. Accessed 10 May 2020

[6] U.S. Department of State, Draft U.S. Government Guidance for The Export Of Hardware, Software and Technology With Surveillance Capabilities and/or Parts/Know-How. https://www.eff.org/files/2019/10/29/draft-guidance-for-the-export-of-hardware-software-and-technology-with-surveillance-capabilities.pdf. Accessed 10 May 2020.

[7] H.R. 4270, https://docs.house.gov/billsthisweek/20191014/BILLS-116hr4270-SUS.pdf

[8] House Passes McGovern Bill to Prevent Export of U.S. Crowd Control Equipment to Hong Kong." Congressman Jim McGovern, 15 Oct. 2019, mcgovern.house.gov/news/documentsingle.aspx?DocumentID=398401.

[9] 2017 REPORT ON FOREIGN POLICY-BASED EXPORT CONTROLS, U.S. Department of Commerce Bureau of Industry and Security. 20 January 2018.

scrutiny is given to those countries that have "a consistent pattern of human rights abuses" or civil unrest.[10] It also will take into account the end-user and end-use as stated in the license application. An application is required for the export of crime control items, related equipment, technology and software to all jurisdictions except Australia, India, Japan, New Zealand and members of NATO. However, some items (including restraint devices and stun guns) require a license for all destinations except Canada. This allows BIS to maintain detailed data on exports leaving the United States that may be used in violations of human rights.

When reviewing a country's human rights standing, BIS considers a variety of different data sources to make that assessment. Of primary importance are the statutory requirements outlined in the Export Administration Act and the License Exception Strategic Trade Authorization. BIS also heavily relies on the *Country Reports on Human Rights Practices* compiled annually by the U.S. Department of State. As BIS notes, "the factual information presented in these reports is a significant element in dual use export licensing."[11] Statutes in the International Religious Freedom Act of 1998 also inform BIS' licensing decisions of crime control items to countries that have engaged in violations of religious freedom. Additional data points taken into consideration are CIA analyses and country reports, U.S. embassies abroad, global media coverage and the Bureau's own Export Control Officers that are stationed in various foreign-based offices in several locations across the globe. When taken together, the Bureau of Industry and Security effectively acts as a data-synthesizing mechanism that reflects the U.S. government's perception of a country's human rights standing. In effect, BIS is taking a risk-based approach when assessing export license for crime control items by asking the following question: does the authorization of the export of this item undermine U.S. foreign policy objectives and/or the U.S. government's adherence to its values? As was written in BIS' 2017 Foreign Policy Report: "[d]enial of export license applications for crime-controlled items to such countries [that violate human rights] helps

[10] Id 9
[11] Id 9

to prevent human rights violations and clearly signals U.S. concerns about human rights in these countries."[12]

1.3 Private Sector Export Control Decision Making with regard to Human Rights

Of course, it is not only the U.S. government that has major decisions to make with regard to the export of products out of the country. There is an entire constellation of decision-making mechanisms that occur before an export license application arrives at BIS. Similar to how financial institutions are required to conduct transactions according to a risk-based approach, companies exporting products, services and technology abroad also must make such risk-based calculations before a sale takes place. Most evidently, an exporter is required to conduct a thorough examination of the end-user and end-use for any product under the jurisdiction of the Export Administration Regulations (EAR). These are known as know-your customer (KYC) requirements [13]. Such KYC requirements are baked into the legislation surrounding export controls and are a critical element in ensuring that dual-use goods are not used inappropriately. In fact, this KYC process on the side of the private sector is of the utmost importance in catching red flags that the U.S. government is able to follow up on in its export control enforcement efforts. Furthermore, by highlighting and weeding out suspicious customers and potential bad actors, the export system is able to operate more effectively.

However, private sector companies have an additional layer of decision-making apart from adherence to the regulations set forth by the export control regime. Corporate social responsibility (CSR) and reputational risk are among the chief concerns of any business entity exporting goods abroad – particularly to high-risk jurisdictions. Corporate social responsibility is defined internally by each organization and serves as one of the guiding principles for the decision-making process a company uses to determine whether or not to carry out a transaction or begin business in a particular jurisdiction.

---

[12] Id 9

[13] Know Your Customer Guidance." Www.Bis.Doc.Gov, www.bis.doc.gov/index.php/all-articles/23-compliance-a-training/47-know-your-customer-guidance. Accessed 10 May 2020.

Reflecting on Special Representative of the U.N. Secretary-General John Ruggie's 2008 report, Altschuller and Lehr indicate that CSR is a critical element of protecting human rights in a global context. As they note, CSR is not only important in maintaining a nation's duty to protect human rights, but it also "provides a baseline expectation for corporate behavior."[14] The current report will provide insights into the impact that global events have on this baseline of corporate behavior in the following sections. However, it is important to note that the collective decision-making process of U.S. firms is the first critical step in protecting human rights beyond what the export control regime would be able to accomplish.

Also of great importance to private sector actors is reputational risk. Generally defined, reputational risk is the impact of a change in the perception of the public, key stakeholders, customers and regulators as the result of a company's action. Analysts at Marsh & McLennan wrote on the increasing importance of reputational risk in the recent decade as well as the difficulties in crafting a strategy to manage such risk:

> *Trust is the bedrock of any business relationship. As such, reputation risk has long been recognized as a key risk by business leaders and often tops the list of risks of most concern to senior executives. However, in the wake of the Great Recession and with the rise of social media, reputation risk has gained new importance in the corporate world… However, despite the increasing importance of the risk, the vast majority of firms do not have a well-thought-out strategic approach to reputation risk management.*[15]

1.4 Reputational Risk and Human Rights: Three Informative Case Studies

In the context of export controls, this concern is particularly pronounced. Not only must firms navigate the complexities of the export control regime, but there are also risks associated with otherwise completely legal transactions. This became most evident during the wake of the Arab Spring. Several European nations and large swaths of EU companies swiftly changed their export control policies to

---

[14] Altshculler, Sarah & Lehr, Amy. "Corporate Social Responsibility" The International Lawyer, Vol. 43, No. 2, International Legal Developments in review: 2008 (SUMMER 2009), pp. 577-588. https://www.jstor.org/stable/40708294 Accessed 10 May 2020

[15] Farha Ramy, Sekeris, Evan & Hermansson, Daniel. "The Hidden Cost Of Reputation Risk". Oliver Wyman. 2017. https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2017/jul/Reputational%20Risk.pdf

reflect the situation on the ground in the Middle East. However, this was also done with reputational risk in mind in both the public and private sectors. As Reuters reported in October 2011, Britain's move to tighten export controls after the Arab Spring was "a response to criticism during the Arab Spring uprisings that Britain had recently approved the export of crowd control equipment that could have been used against demonstrators in countries such as Libya and Bahrain."[16] The United States government and several firms selling arms and dual-use items in the Middle East came under public scrutiny. In particular, Combined Systems Inc., a Pennsylvania defense firm, came under fire when pictures began circulating on social media of their teargas cartridges being deployed by interior ministry troops in Tahrir Square in Cairo. As Jack Shenker and Luke Harding wrote in *The Guardian* in November 2011:

> *The export of teargas to foreign law enforcement agencies is not prohibited. CSI has also sold teargas to the Israeli police, where it has been deployed against Palestinian demonstrators, as well as, reportedly, to the regime of Tunisia's ousted dictator Zine El Abidine Ben Ali. Nevertheless, the revelation that people are being gassed and hurt by US-manufactured projectiles is embarrassing for the Obama administration.*[17]

This case aptly demonstrates the often augmented risk that is associated with selling such items abroad. Even though the transactions were completely legal and done with all the necessary vetting and licensing, the firm still found itself in the court of public opinion. Furthermore, this one instance highlighted a number of transactions that occurred independent of the transactional relationship for which the article was originally written.

Similar cases have occurred in the past decade all over the world. In 2013, a California-based firm found itself in hot water after *The Atlantic* reported that its technology was being used as a "brutal repression tool" in Azerbaijan. As protests began in Baku in March 2013, blog posts sprang up on the internet warning of "sonic weapons with a horrible acoustic effect" that may be used to disperse

[16]"UK Tightens Arms Export Controls after Arab Spring." Reuters, 13 Oct. 2011, uk.reuters.com/article/uk-britain-arms/uk-tightens-arms-export-controls-after-arab-spring-idUKTRE79C6EX20111013. Accessed 10 May 2020.
[17]"US Firm's Teargas Used against Tahrir Square Protesters." The Guardian, 21 Nov. 2011, www.theguardian.com/world/2011/nov/21/tahrir-square-us-teargas-used-egypt. Accessed 10 May 2020.

protesters.[18] These social media posts were in reference to a long-range acoustic device (LRAD) which has the capability to project pain-inducing 150-decible soundwaves for crowd control purposes. The LRAD documented in Baku was never deployed against protestors nor was it subject to export control regulations. Nevertheless, LRAD Corporation (rebranded as Genasys Inc. as of 2019) had to deploy its head of media and investor relations, Robert Putnam, to make its case for how the corporation balances profits and human rights considerations. This case highlights the fact that even when such items are not deployed against a population, their mere presence in sensitive foreign jurisdictions can have a negative media impact.

More recently, IBM Corporation became enmeshed in a public relations incident when it was reported that the company provided video surveillance equipment to Davao City, the Philippine municipality ruled over by then-mayor Rodrigo Duterte, the current president of the Philippines with an extensive record of human rights abuses. In March 2019, the *Intercept* published a report detailing a 2012 sale and installation of an "Intelligent Operations Center" (IOC) that was allegedly used to facilitate extrajudicial killings by the Duterte regime.[19] The sale of the IOC took place in 2012 and its installation in 2013. It wasn't until six years later, though, that the reputational risk associated with that transaction manifested. Edward Barbini, an IBM spokesperson, noted that the company "no longer supplies technology to the Intelligent Operations Center in Davao, and has not done so since 2012."[20] Despite not continuing an ongoing relationship with the client after the initial sale, this past transaction is one of IBM's largest reputational risk incident in modern history.

This report came in the midst of a flurry of publications from other outlets, such as *Foreign Policy* and *Biometric Update*, that highlighted how American surveillance technology was being

---

[18] Sindelar, Arifa Kazimova, Daisy. "This Pain-Inducing Acoustic Device Used to Control Crowds in Azerbaijan Might Be U.S.-Made." The Atlantic, 14 Mar. 2013, www.theatlantic.com/international/archive/2013/03/this-pain-inducing-acoustic-device-used-to-control-crowds-in-azerbaijan-might-be-us-made/274036/. Accessed 10 May 2020.
[19] Joseph, George. "Inside the Video Surveillance Program IBM Built for Philippine Strongman Rodrigo Duterte." The Intercept, 20 Mar. 2019, theintercept.com/2019/03/20/rodrigo-duterte-ibm-surveillance/. Accessed 10 May 2020.

[20] Id 19

exploited by dictatorial regimes in China. In fact, IBM again found itself featured prominently in another report from the *Intercept* titled, "How U.S. Tech Giants are Helping to Build China's Surveillance State".[21] Detailing IBM and Google's cooperation with Shenzhen-based company, Semptian, this article was published just a few months after the report regrading the Davao City transaction, illustrating how one piece of negative news can be a domino for further public relations issues. Taken together, these three cases are illustrative of the amorphous nature of reputational risk. There are several elements that make it particularly difficult to manage (see Figure 1.2).

Figure 1.2 – Reputational Risk Challenges

- Reputational risk is difficult to predict from where it may arise.
- It is most often entirely a product of public opinion and is independent of regulatory procedures and statutes.
- Scrutiny can highlight additional and unrelated transactions.
- The risk is not limited to controlled goods.
- The risk can be for a transaction of a much earlier time.
- One negative news report can serve as a catalyst for further scrutiny and can highlight actions of firms not party to the initially-reported transaction.

Every exporter will have its own internal systems in place for KYC and reputational risk management. Furthermore, there are great amounts of intelligence that a company can draw upon to better refine these internal risk-scoring methodologies. However, the next section will indicate an additional potentially valuable variable that industry can utilize to assess the risk associated with past, present and future transactions. It is additionally a methodology drawn from an exclusive dataset that can have a number of applications in risk-scoring as well as analyzing the broader U.S. export control regime as a whole.

[21] Gallagher, Ryan. "How U.S. Tech Giants Are Helping to Build China's Surveillance State." The Intercept, 11 July 2019, theintercept.com/2019/07/11/china-surveillance-google-ibm-semptian/. Accessed 10 May 2020.

PART II

Methodological Overview and Practical Applications

2.1 Relevant Dataset and Crime Control Items

This report will primarily utilize quantitative data provided from the Bureau of Industry and Security (BIS). The data analysis is limited to 20 export control classification numbers (ECCNs) or categories of controlled goods that have a scope defined by BIS. The items within these ECCNs include police helmets and striking weapons, tear gas, optical sighting equipment for firearms and more. It also includes the machinery and technology needed to develop such products. A full list of these items can be found in Appendix B. These ECCNs were chosen as they are all controlled for "Crime Control". This class of goods will herein be referred to as "CC Items". This is a designation from BIS, which gives a number of different reasonings for why a particular good or class of good may be controlled for export**.** The connection between CC Items and human rights is apparent. Each year BIS publishes an annual *Foreign Policy Report* [22] in which it outlines its operations and any regulatory changes for that fiscal year. In every report, Chapter 2 is aptly titled "Crime Control/Human Rights," indicating a clear connection between the products themselves and the concerns for which they are regulated. This

Furthermore, given that CC items are most often sold to foreign states and government agencies abroad rather than individual private sector entities, it can be assumed that the majority of cases in which CC items were approved or denied for export, the end-user was the government (or other institution overseen by the government) in the destination country. Hence, in an instance in which an export license was denied, that denial acts as a reflection of BIS' perception of the nation for which that item was destined for export. Finally, this is a particularly important category for analysis as it captures nearly all of the CC items that would be exported out of the United States. As mentioned in the previous section, CC items always require a license (except for certain designated jurisdictions) and there are no license exceptions. This means that the dataset captures nearly all of the CC license applications that were processed by BIS for the remaining jurisdictions.

[22] Id 9

The dataset used in this analysis has six variables that can be assessed. Those variables are the ECCN, the destination country, the number of applications, the year, the decision and the total value (see Figure 2.1 for a list of the dataset variables). The ECCN does not describe a particular product, rather a class of product that falls within certain parameters as outlined by the Bureau of Industry and Security. These parameters are generally built on technical specifications and the ECCN itself is designed as a five-character alphanumeric key within the Commerce Control List. The destination country is simply the location of the end-user listed on the export license application. The number of applications shows how many applications were processed by BIS for each ECCN in a given year. This variable is not disaggregated by applicant (U.S. exporter), but is rather the sum of the total number of applications received for a particular ECCN destined for a particular country in a given year. The year indicates the year in which the license application was processed, with a range from 2010 to 2018. Further information on the month or fiscal quarter in which the application was processed is unavailable. The decision is disaggregated into only one of two possibilities: approved or denied. Additional actions taken by BIS with regard to export license applications, such as RWA (returned without action), are not reflected in this dataset. Finally, the total value is the sum of the value of all licenses for a particular ECCN destined for a particular country in a given year. This is the value of the commodities as listed on the export license applications, not the price paid to the exporters (including insurance, freight, etc.) and is listed regardless of whether or not the goods were approved for export.

Figure 2.1 – Dataset Variables

1) Export Control Classification Number (ECCN) – as defined by Commerce Control List
2) Destination Country
3) Total Number of Applications
4) Year
5) Decision (Approved or Denied)
6) Total Application Value

2.2 Absolute and Relative Variables

In terms of analyzing the data, there are two distinct categories of computations that were made: those calculating what will herein be termed as "absolute" and "relative" variables. Both categories of figures are important and will serve distinct ends. Absolute variables are those that stand alone and are not compared relative to other variables within the dataset. These figures will help demarcate fluctuations in export licensing trends over time. These absolute variables will be most valuable for time series analyses that can provide answers to some of the key questions outlined above – namely, how have certain events affected BIS' willingness to approve or deny CC applications to the jurisdiction involved in that event? The three absolute variables calculated using this dataset were the total number of applications, the number of applications approved or denied and the U.S. dollar value of those applications. These variables, along with their analytical value, are also listed in Figure 2.2).

Figure 2.2 – Absolute Variables	
Variable	**Analytical Value**
1) Total Number of Applications	Evaluation of market fluctuations
2) Number of Applications Approved/Denied	Analysis of U.S. licensing decision fluctuations
3) Total Value of Applications Approved/Denied	Greater granularity in license contents

Each of these absolute variables helps to paint a picture when examining country data over the last decade. It also enables for an analysis of how the export control regime and the market responded to particular events during that time period. The total number of applications helps demonstrate how particular events have influenced the market for CC items. In other words, U.S. exporters' willingness to apply for licenses for such items can be tracked against events such as human rights issues abroad or internal U.S. policy changes. The absolute number of applications for CC exports that were approved or denied for a country in a given year is an initial indicator of how BIS licensing decisions may have been affected by particular events. Finally, the total value of applications approved or denied gives a greater

level of detail into what the aggregate of applications for an ECCN show in the dataset. For example, if we see an instance of a single application for ECCN 0A987 (law enforcement striking weapons) valued at $1,000,000, we cannot know precisely what striking weapons were exported. However, knowing the value of the license gives greater insight into how many striking may have been included in that license.

A deeper examination of the application of absolute variables in context will be reserved for Part III of this report via the country case studies. However, it can be seen how these variables played out for all countries during the period from 2010 to 2018. Figure 2.3 shows the total number of applications filed for CC items with the Bureau of Industry and Security during the relevant period. While CC items had around 9,600 applications in 2010, this number jumped up to around 13,000 applications for the following four years (2011 – 2014). Yet, after 2014, this number dropped by about 35% the following year and has continued decreasing into 2018. This is an indicator of the market response for exporters of CC items in the United States. This may demonstrate one of two things: either the market for CC items itself shrank in 2015 or the willingness of exporters of such goods decreased due to global events or legislative changes within the U.S. export control regime.

Figures 2.4 and 2.5 represent the total value of applications approved and applications denied during the same period. Similarly, in 2014 there is a large drop in approvals and a sudden increase in applications denied. This precipitous drop in applications and rapid rise in denials is most likely attributable to sanctions on the Russian Federation following the annexation of Crimea in 2014. However, it should be noted that attributions of statistically verifiable validity will be reserved for a future study and the process to do such will be outlined in the conclusion of this report. Finally, Figure 2.6 captures the value of applications sent out of the United States during this time period. This gives an overall sense of the market value of U.S. crime control items abroad as well as greater insights into the valuation of the aggregate of such items.

Figure 2.3

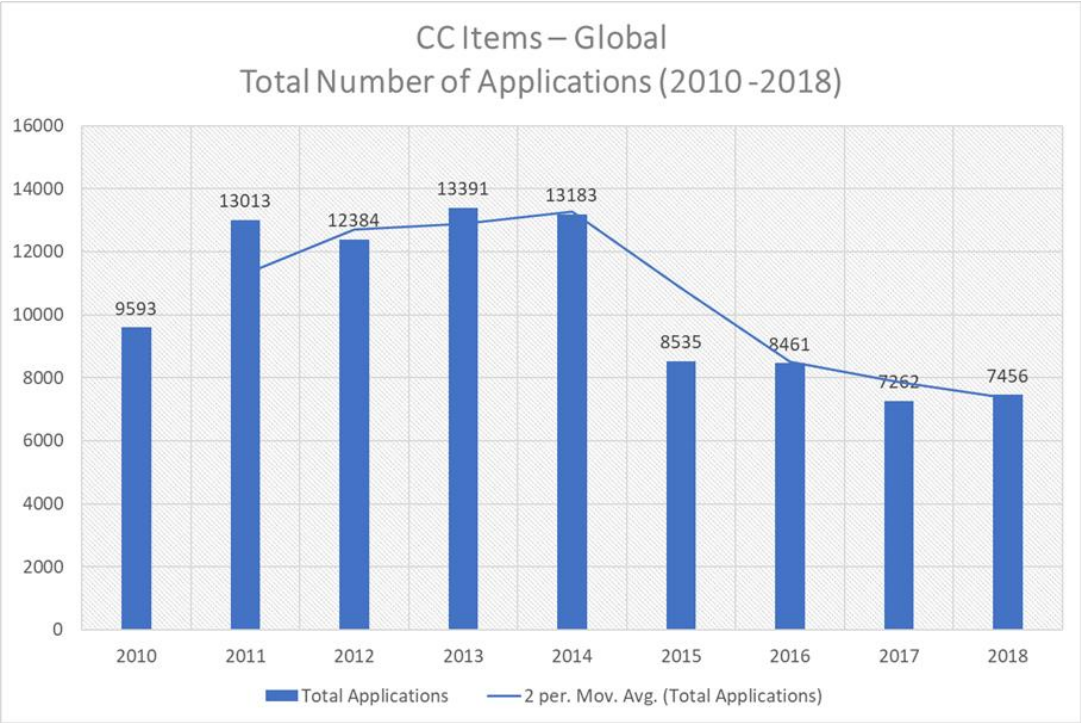


Figure 2.4

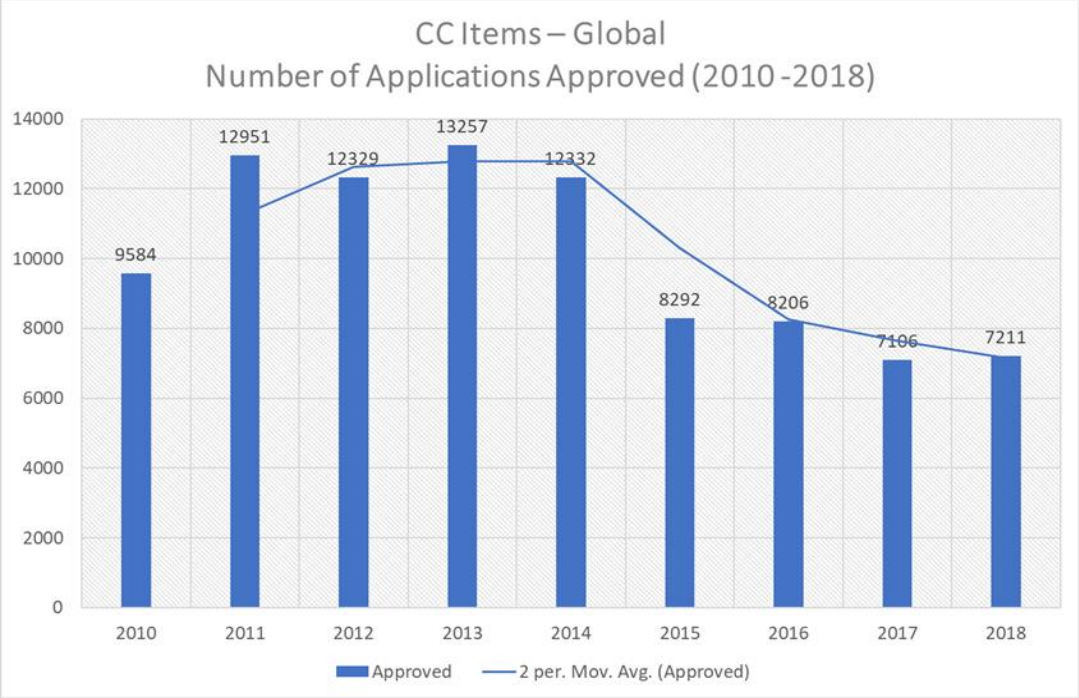


Figure 2.5

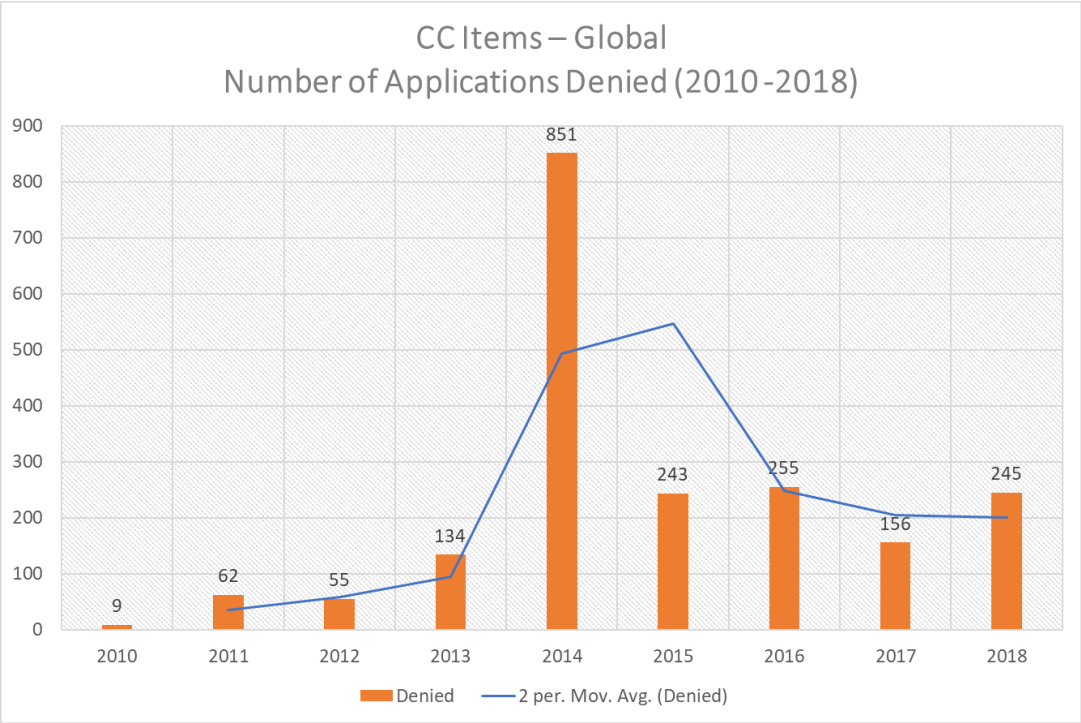
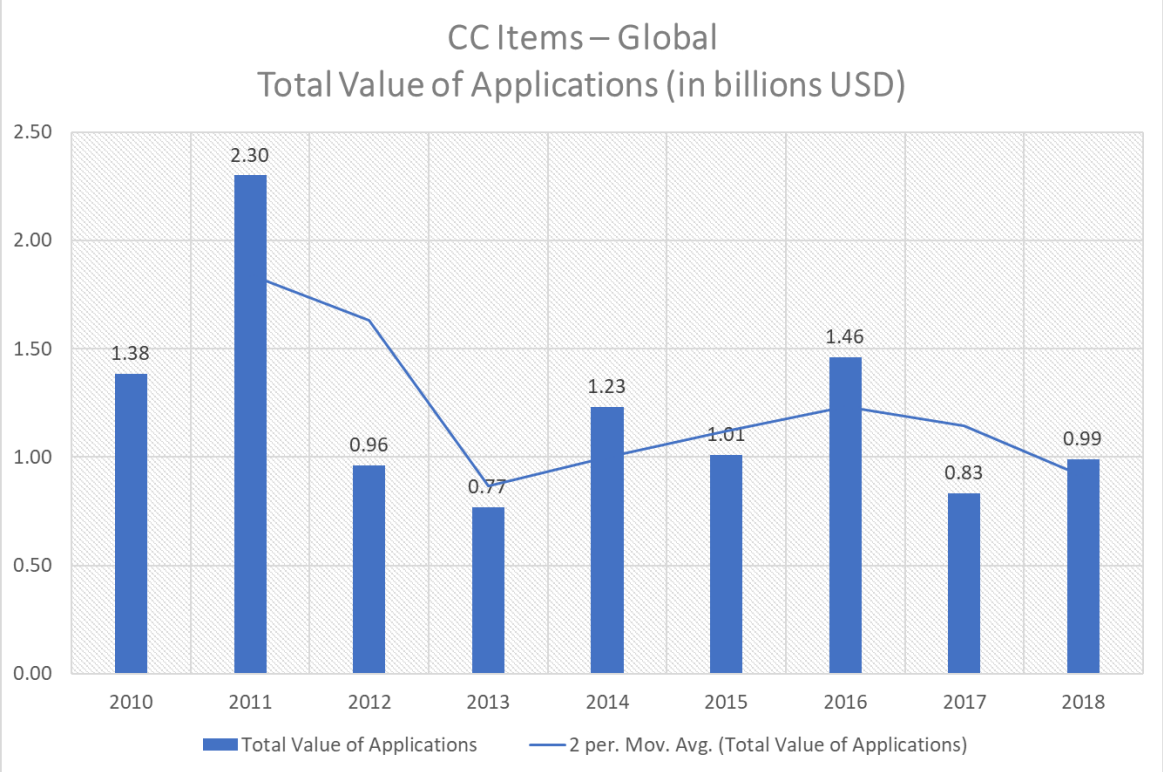


Figure 2.6



While absolute variables provide information regarding fluctuations over time, relative variables allow for insights into the rate of denial independent of changes in the absolute number of applications sent into BIS on the front end. A list of relative variables can be found in Figure 2.7 below. This led primarily to the creation of the denial rate variable (the number of applications denied divided by the total number of applications). So while there was a large drop in the total number of applications after 2014, calculating the denial rate (as a percentage) will allow for an observance of how many applications out of those in 2015 and beyond were denied. Similar to the reasoning for tracking the value of the license applications among the absolute variables, determining the value of those licenses denied relative to those approved gives greater clarity into the nature of the products behind the ECCN. This variable is deemed the "denial value ratio" and is represented as a percentage. Finally, the third relative variable of importance is the denial rate deviation. This was calculated by determining the denial rate across the examined time period for CC items across all countries. This enabled a benchmark to be created against which individual countries could be compared. By finding areas for which there are significant deviations from that benchmark, such calculations can be useful metrics for human rights organizations to add further insight into their country scoring or private sector entities creating geographic risk models.

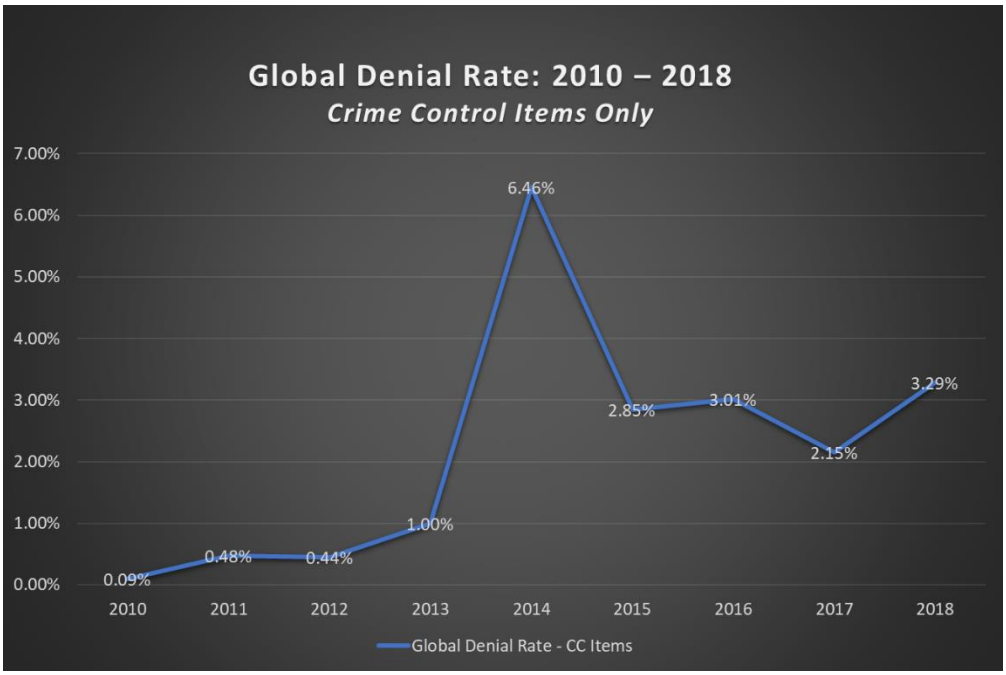
Figure 2.7 – Relative Variables

Variable	Calculation	Analytical Value
1) Denial Rate	Total # Applications Denied / Total # of All Applications	Evaluation of BIS licensing decisions independent of market fluctuations
2) Denial Value Ratio	Total $ Value of Applications Denied / Total $ Value of All Applications	Greater granularity in denied license contents
3) Denial Rate Deviations	Denial Rate (Country X) compared to Denial Rate (All Countries)	Evaluation of trends in licensing decisions for a particular country relative to the global average

The relative variables assessed in this iteration of analysis have provided the first step in gaining significant clarity into the process of BIS licensing for these items as well as their use in private sector

applications. In order to give a concrete illustration of these variables applied to the dataset, the following graphs will be informative. Figure 2.8 shows the denial rate of CC items for all countries during the period of 2010 to 2018. Displayed as a percentage, the denial rate for each year is represented by the total number of crime control ECCNs denied for all destination countries within a single year over the total number of set same set of ECCNs submitted to BIS for all destination countries (both approved and denied) in that same year. For instance in 2010, only 0.09% of applications were denied globally. This percentage began to rise until 2014, when it rose to 6.46%. This coincides with the trends in the absolute variable data, where the number of denied applications went from 134 in 2013 to 851 the following year. Thus, those 851 denied licenses during 2014 composed 6.46% of the total number of applications for that year (13,183).

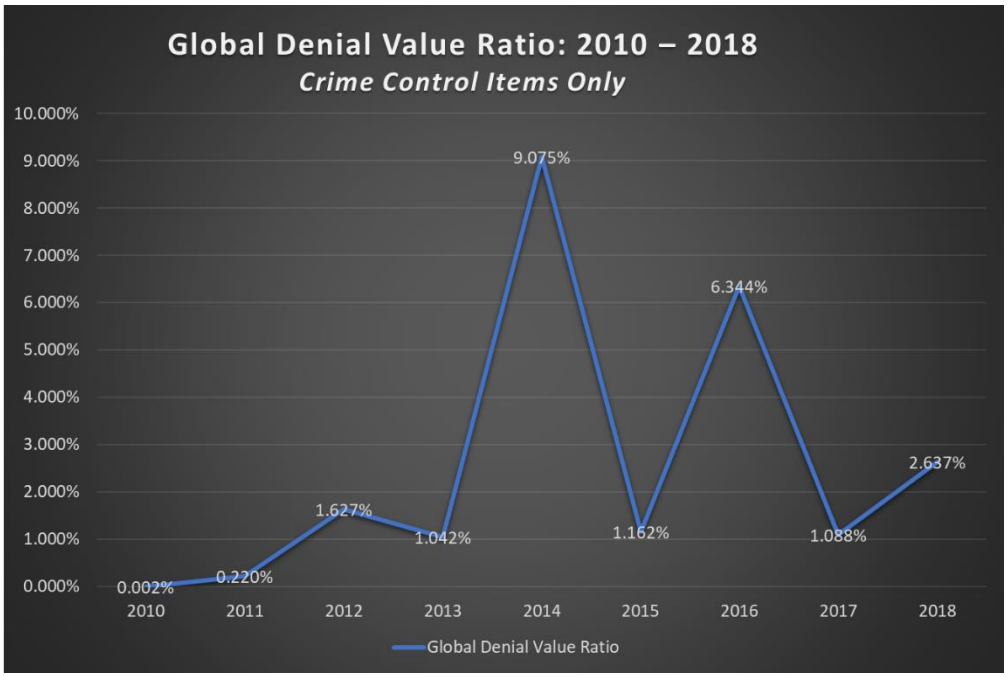
Figure 2.8



The following graph (Figure 2.9), serves the same purpose of calculating the value denied in the previous set of variables. It gives greater clarity into the nature of the products that are represented by the licenses. Given that data are unavailable for the specific products for which an application was processed and both exporter and end-user are classified, this is the best way to get a sense of the type and quantity of

the product. It also serves as a helpful variable in estimating the economic impact of BIS licensing decisions on the U.S. crime control market. For instance, 2014 and 2016 saw about 9% and 6% of the value of CC items denied for export respectively.

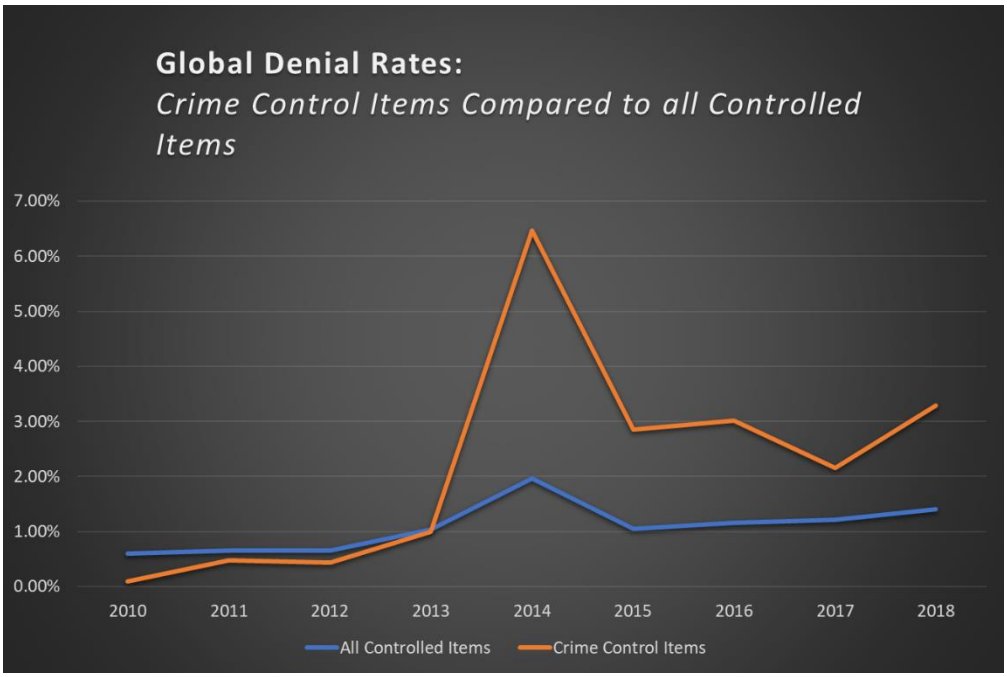
Figure 2.9



Both the denial rates and the denial value ratios provide valuable insights into the nature of the BIS licensing process and how it is impacted by external factors. This can have application for the public sector (U.S. government, academia and human rights advocates) to examine the sensitivity of the BIS licensing decision-making apparatus to these factors. This is an area that the authors of this study seek to explore in more depth in future iterations of research and a proposed methodology to do such will be proposed at the conclusion of the current report. Currently, however, the following section seeks to provide a methodology for potential application primarily in the private sector. This can be done with the final of the three aforementioned relative variables: denial rate deviations. By using the global denial rate for CC items as a benchmark, any country can be compared to this global standard as well as to any other country or set of countries. To get a better sense of the crime control denial rate in a more complete

context, Figure 2.10 shows how the CC denial rate itself deviates from the global denial rate for all items controlled by BIS. After 2014, crime control denials remained above the global average for all controlled items. This will be applied on a country-by-country basis in a following section.

Figure 2.10



There are several other ways denial rate deviations can provide insights into the export control regime. While outside the scope of this paper to go into them in detail presently, Figure 2.11 provides some other possible applications for denial rate deviations derived from this dataset. Such analysis can be conducted in a customized manner to highlight specific interests or areas of relevance.

Figure 2.11 – Denial Rate Deviations: Additional Potential Applications
1) Comparing countries to each other
2) Comparing particular ECCNs relative to their export control category (nuclear, electronics, marine, etc.)
3) Comparing particular ECCNs relative to their export control product group (equipment, material, software, etc.)
4) Comparing particular ECCNs relative to other products controlled for the same reason for control (crime control, anti-terrorism, national security, etc.)

2.3 Utilizing Denial Rate Deviations to Inform Geographic & Reputational Risk Calculations

Part II of this report will conclude with an example of how the variables extracted from this data can be applied by the private sector. Harkening back to U.N. Secretary-General Ruggie's 2008 report, by having a private sector that is better informed of the risk associated with particular jurisdictions (and end-users within them), not only are corporate interests served but the market for dual-use items becomes increasingly self-regulating. This is already a critical element and is executed exceptionally well by such firms. However, the denial rate deviations presented above can further refine this process. Furthermore, given that reputational risk is such an amorphous one, this increased clarity can prove to be valuable for exporters transacting internationally. The following section will present a sample methodology derived from the dataset that can be customized and applied to a private sector enterprise.

The concepts underpinning this methodology are borrowed from the financial sector and the discipline of anti-money laundering (AML) and financial crime management. Primarily, this is process of geographic risk-scoring. The Wolfsberg Group, an association of thirteen global banks that develops financial industry AML standards, classifies the process and importance of geographic risk-scoring as follows:

> *Identifying geographic locations that may pose a higher risk is a core component of any inherent risk assessment and the business division, unit or business line will seek to understand and evaluate the specific risks associated with doing business in, opening and servicing accounts, offering products and services and/or facilitating transactions involving certain geographic locations.*[23]

This principle similarly holds true for the wide array of industries dealing in dual-use goods. In fact, any enterprise in any industry can utilize geographic risk-scoring to understand the nature of the jurisdiction with which they are trading.

---

[23] "The Wolfsberg Frequently Asked Questions on Risk Assessments for Money Laundering, Sanctions and Bribery & Corruption". The Wolfsberg Group. 2015 https://www.wolfsbergprinciples.com/sites/default/files/wb/pdfs/faqs/17.%20Wolfsberg-Risk-Assessment-FAQs-2015.pdf

There are a variety of variables that can be used in geographic risk-scoring and are common among those industries and companies that engage in this modeling. For instance, indicators such as the Worldwide Governance Index and Ease of Doing Business Index published by the World Bank serve as crucial datapoints for business entities assessing potential markets abroad. Furthermore, the Corruption Perceptions Index from Transparency International and the High Intensity Drug Trafficking Area (HIDTA) and High Intensity Financial Crimes Area (HIFCA) indicators used by U.S. law enforcement are critical for enterprises to make informed decisions. Depending on the institution, a number of different variables can be selected to best suit its risk-scoring needs. The following example does not provide guidance for the overall risk-scoring methodology a company should employ. Every company has its own risk threshold and relationship to risk. It is also idiosyncratic across companies, and even within companies, the methods by which risk is calculated. However, the following example gives an illustration as to how BIS licensing decisions can serve as an additional datapoint in a company's overall risk-scoring framework.

2.3.1 Calculating Deviations from the Global Average Over Time

A sample of 14 countries was selected. 9 of these countries were chosen due to important regional events (i.e. the Arab Spring, the annexation of Crimea) and alleged human rights abuses. 3 countries, also NATO allies, were selected as controls. An additional 2 countries (Iraq and Afghanistan) were chosen as controls to assess the export license application decision-making process for jurisdictions in which the U.S. had an active military presence. Further elaboration on the country selection process will be provided in Part III of the present report. First, the global denial rate for the years 2010 – 2018 was averaged over the same eight-year period (2.20%). Using this average as a benchmark, the denial rates were then calculated for each of the countries selected. Finally, the denial rates for these countries was individually averaged and compared to the 2.20% global denial rate benchmark. Figure 2.12 shows the results of this process. The greater the deviation in a positive direction, the higher the risk. The greater the deviation in a negative direction, the lower the risk. Values shaded in red indicate denial rate deviations above the

global benchmark (riskier) and values shaded in green indicate denial rate deviations below the global benchmark (less risky).

Figure 2.12 – Denial Rate Deviations from the Global Average

Country	2010 – 2018 Average	Deviation from Global Average (2010 – 2018)
Global	**2.20%**	**---**
Egypt	**22.18%**	**19.98%**
Bahrain	**38.51%**	**36.31%**
Saudi Arabia	**0.27%**	**-1.93%**
Afghanistan	**1.19%**	**-1.01%**
Iraq	**0.00%**	**-2.20%**
China	**12.84%**	**10.64%**
Hong Kong	**5.43%**	**3.23%**
Taiwan	**0.15%**	**-2.05%**
Ukraine	**14.55%**	**12.35%**
Russia	**45.14%**	**42.94%**
Philippines	**0.20%**	**-2.00%**
France	**0.95%**	**-1.25%**
Spain	**0.58%**	**-1.62%**
United Kingdom	**0.00%**	**-2.20%**

These figures do not serve as explanatory variables for the reasons why there are deviations from the global 2.20% benchmark. However, if we view the Bureau of Industry and Security as a competent data-synthesizing apparatus, these deviations can prove to be useful. BIS, when taking in a variety of data about a jurisdiction and an end-user, is conducting its own risk-scoring assessment about a country. While each individual license application is viewed on a case-by-case basis, the aggregate denial rate for a country can serve as the risk score computed by the BIS decision-making mechanism. This is particularly poignant with regard to crime control items and the reason this study examined this control category.

If a private sector entity were follow up with this process, it could then take these deviations and run them in their own internal risk-scoring calculations. A sample risk-scoring methodology is outlined below. In order to rank the selected jurisdictions based on the denial rate deviation variable, categories are

created for the percentage deviation from the global average. The company can then create a "risk threshold", a trigger mechanism for which transactions in a country with a denial rate deviation of 5% or greater would prompt additional scrutiny. Figure 2.13 gives an example of this ranking. Deviations of -2.20% indicate a denial rate of 0% across all eight years. Of course, the most important datapoint for a company is to assess the end-user and end-use of a potential transaction. Furthermore, this data should be coupled with additional intelligence and variables such as those mentioned above. For example, when taking a 5% risk threshold, Hong Kong would remain below that trigger at 3.23% even though it has become the subject of sectoral export controls for CC items specifically in recent years. More data on the export licensing decisions in recent years would further refine this process. Similarly, contextual data is greatly important. The Philippines have a very low risk score based on the licensing decision data alone, but it is also a jurisdiction with a notoriously bad human rights record and has been the source of reputational risk for American companies. Therefore, deeper analysis is required.

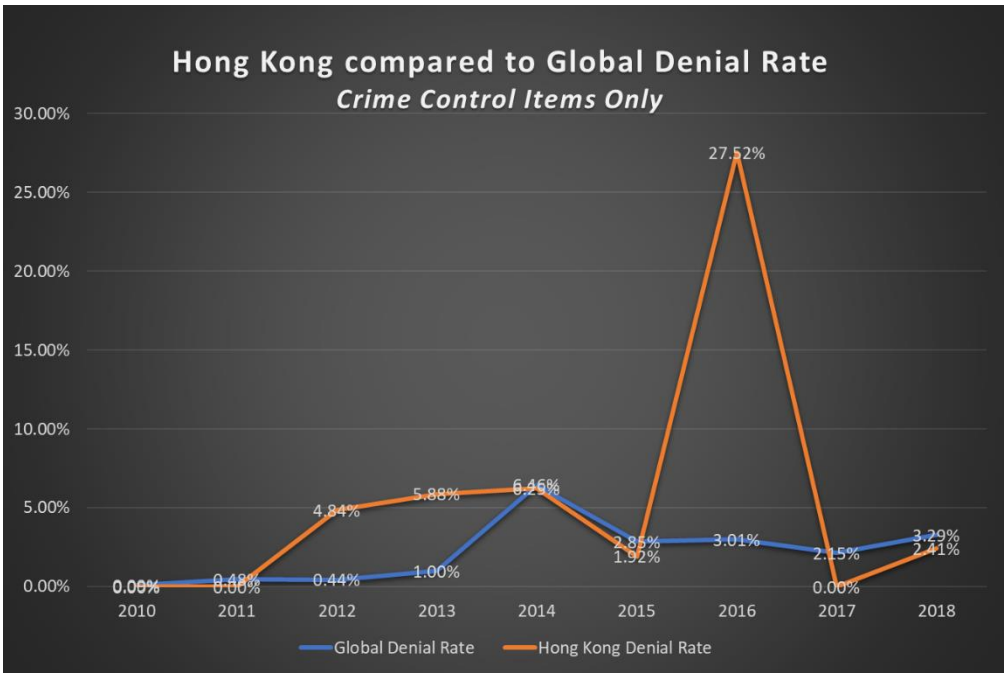
Figure 2.13

Rank (High Risk to Low Risk)	Country	Deviation from Global Average (2010 – 2018)
1	Russia	42.94%
2	Bahrain	36.31%
3	Egypt	19.98%
4	Ukraine	12.35%
5	China	10.64%
6	Hong Kong	3.23%
	Global Benchmark (2.20%)	0%
7	Afghanistan	-1.01%
8	France	-1.25%
9	Spain	-1.62%
10	Saudi Arabia	-1.93%
11	Philippines	-2.00%
12	Taiwan	-2.05%
13	Iraq	-2.20%
14	United Kingdom	-2.20%

2.3.2 Using Denial Rate Deviations to Inform Risks of Past Transactions

While the data for denial rate deviations can provide insights into geographic risk-scoring methodologies for future transactions, they also have potential for companies to assess risk associated with transactions conducted in jurisdictions in the past. In the example of IBM's sale of surveillance equipment to the Philippines, the lag between the transaction (2013) and the reputational impact of negative news reports (2019) was six years. This means that companies which have exported CC items abroad must remain vigilant for instances in which their product may have been used in an unintended way, even long after the initial sale. By conducting a retrospective risk-scoring, a company may be able to stay ahead of the curve and brace for negative news. Figure 2.14 shows denial rate deviations for Hong Kong during 2010 – 2018.

Figure 2.14



The spike in the denial rate in 2016 indicates an important juncture, particularly from the vantage point of 2020. Hence, those in the crime control market transacting with Hong Kong, particularly during

2016 and beyond, should maintain heightened awareness. While the sale of crime control items inherently carries reputational risk by virtue of the products, this methodology can also be extrapolated to other product categories with less apparent human rights connections (electronics, computers, etc.). This is another area for which further analysis is required and more variables (such as regional stability and human rights indicators) would be necessary to make such retrospective analysis more robust. However, this report hopes to establish a framework for which this can be done in future iterations.

2.4 Conclusion of Part II

This section sought to highlight a number of different uses for which this dataset could serve. The most apparent use is for an analysis of the U.S. export control regime as a whole. By reviewing changes in the absolute variables over last decade, fluctuations can be observed and contextualized in history. This helps to give estimates to the responsiveness of the export control system to these events. While this was limited to 20 ECCNs regulated for reasons of crime control, expanding this analysis to include all ECCNs makes it even more valuable for such analyses. This can also be done for individual sectors such as semiconductors, unmanned aerial vehicles or telecommunications equipment. By reviewing changes in relative variables, such analyses can first give a more granular assessment of the export control regime. It also has potential to be applied to a variety of risk-scoring functions that private sector entities can use to minimize risk and screen transactions past, present and future. For all of the proposed frameworks, however, proper contextualization is essential for effective application. Part III will pair the data with a historical analysis for the countries selected in order to provide further clarity into these potential implementations.

PART III

Country Case Studies

3.1 Human Rights Watch/BIS/Department of State Correlation.

When we look at the approval/ denial rate for each evaluated country we can compare it to perceived human rights violations over time. One relationship we have observed is the correlation between The Human Rights Watch and U.S. approvals of Crime Control ECCNs (See Appendix B) for export to certain evaluated nation states. For this comparison we compared the ECCNs and nations listed below. Each relationship has approval/denial rates and values compared with concurrent events monitored by The Human Rights Watch.

For this analysis we reviewed events for the years 2010-2018 recorded annually by the Human Rights Watch as well as state policy published by the BIS. We used the analysis program Tableau to organize and visualize the ECCN dataset and produced approval/denial graphs that reflected approval rates and values annually for the designated states that we identified for analysis. Egypt, Bahrain, Saudi Arabia, Syria, Iran, Afghanistan, Iraq, China, Hong Kong, Taiwan, Russia, Ukraine, Philippines, France, Spain, and UK. France, Spain, and the UK have been used as controls for comparison. With the complied data we then looked at corresponding events to specific spikes in data as well as the overall conditions in each country during the same timeframe.

This data does not prove a direct relationship between the U.S. policy makers and apparent human rights, rule of law, or international conflict. The data only describes approval and denial rates during and immediately after recorded events in the nation of interest. The data does not account for changes in what is considered to be a human rights violation in the view of the United States from year to year. This level of scrutiny would require a more focused assessment of U.S. policy and political views of the various administrations.

3.2 Country Reports

i. Egypt

Egypt had a very consistent human rights record until 2011 when President Hosni Mubarak was supplanted for a military rule. From 2012 on there were increases in prosecutions and torture used by the police during investigations that resulted in an estimated 11 deaths in 2012. [24] The military courts sentenced 800 people to death between 2013 and 2018, even though only 25 sentencings have been carried out.[25] Since 2013 incidents of police violence against protestors has also increased Since 2013. The continued disturbance in the Sinai was another point of contention as the region became a dark zone for media and reports of dead military and civilian combatants are difficult to verify.

Approval/ Denial For Egypt 2010-2018

Graph 1

[24] Human Rights Watch: World Report, Egypt 2013 https://www.hrw.org/world-report/2013/country-chapters/egypt.
[25] Human Rights Watch: World Report, Egypt 2018 https://www.hrw.org/world-report/2018/country-chapters/egypt.

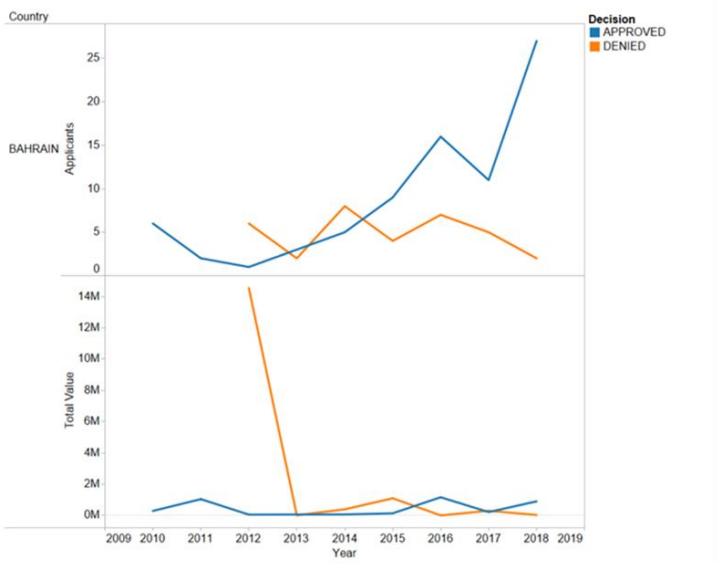
As described in Graph 1 There is a significant increase in total applications for police and security related ECCNs in Egypt after 2015. However, with the exception of 2011, there is a relatively steady relationship between approval and denial rates after 2012 until 2017. It can be surmised that the spike in applications, approvals, and denials can be part of the response to the activity in the Sinai. In 2017 the trade value of approvals was $11.1 million and the value for denials was $1.4 million.

ii. Bahrain

In 2011 Bahrain's Ministry of Social Development cancelled the presidential election and reinstated the previous president. At the same time as many as 26 protesters died as a result of teargas use by authorities.[26] Several peaceful protesters were arrested in 2011 and remain in custody as of 2019. Reports of the Bahrain government stripping as many as 258 people of their citizenship for acts of human rights activism continue in 2018 bringing the total to 764.[27]

Approval/ Denial For Bahrain 2010-2018

Graph 2



[26] Human Rights Watch: World Report, Bahrain 2013. https://www.hrw.org/world-report/2013/country-chapters/bahrain#.
[27] Human Rights Watch: World Report, Bahrain 2019. https://www.hrw.org/world-report/2019/country-chapters/bahrain.

2012 showed a substantial spike in denials for Bahrain in quantity and value. In 2012 the U.S. denied 6 applications for 0A984, and 0A985 for a total value of $14.5 million. This is concurrent with the use of teargas to control crowds that killed several protesters. Thought the value decreases significantly after 2012, the number of applicants denied remains relatively consistent. On the other side there has been a significant number of approvals for Bahrain since the low in approvals after the incidents of 2012. This culminated in a high of approved applicants in 2018 of 27 applications valued at $899,000

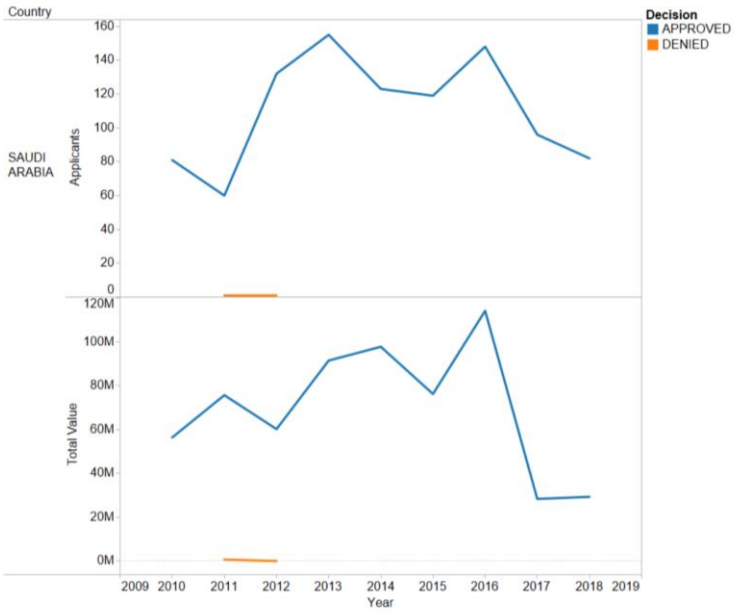
iii. Saudi Arabia

Saudi Arabia experienced an increase of arrests of protesters as well as the perception of a lack of support for women's rights. However, there was also an increased effort to observe women's equal rights during this time. The most public example was the inclusion of women in the 2012 summer Olympics.[28] Saudi Arabia has a common practice of detaining and torturing adults and citizens, many times resulting in a punishment of thousands of lashes without due process.[29] The 2018 murder of Saudi journalist Jamal Khashoggi brought Saudi Arabia under intense scrutiny. During this time there was also an increase in arbitrary arrests, continued mal-treatment of women by authorities and a military campaign against the Houthie rebels that included what are considered to be unlawful airstrikes.[30]

[28] Human Rights Watch: World Report, Saudi Arabia 2013 https://www.hrw.org/world-report/2013/country-chapters/saudi-arabia.
[29] Id 5
[30] Human Rights Watch: World Report, Saudi Arabia 2019 https://www.hrw.org/world-report/2019/country-chapters/saudi-arabia.

Approval/ Denial For Saudi Arabia 2010-2018

Graph 3



Only one ECCN, 0A985, has been denied in Saudi Arabia. One denied in 2011 for a value of $650,000 and one in 2012 for $1,800. After the low in 2012 of 60 approvals for a value of $77.7 million, Saudi Arabia maintained annual approvals of over 100 applicants until 2018. 2018 saw a significant decrease in approvals and applicants to 82 at a value of $29.3 million.

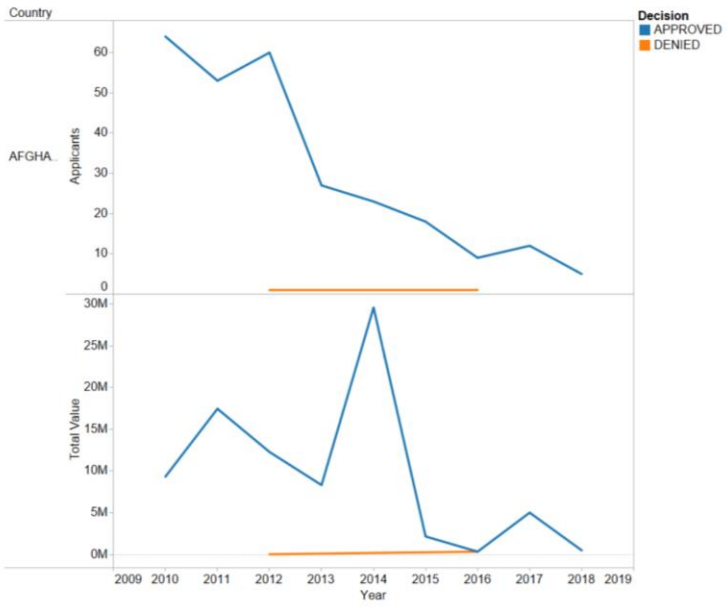
iv. Afghanistan

Continued conflict between coalition forces and The Taliban increased through the 2014 agreement to withdraw allied troops. Instead of a full withdrawal allied forces established a new advise and assist operation. Efforts to build a self-sufficient security force in Afghanistan met with several issues including attrition, insurgent infiltration, and illiteracy and substance abuse among recruits.[31] Fighting between Afghan forces and the ISIS contingent ISKP continued to increase through 2018 as coalition

forces continued their advise and assist mission. As many as 10,000 civilians were killed during conflicts between January and February 2018.

Approval/ Denial For Afghanistan 2010-2018

Graph 4



Graph 4 indicates a steady decline in applications with only two applications declined in 2012 and 2016. Of note, the highest value of applications approved came in 2014 for $29.6 million during the coalition forces change of mission from a tactical offensive operation to an advise and assist posture. The steady decline in applications is concurrent with the reduction in U.S. forces. The number of applications during this time went from 64 at a value of $9.9 million in 2010 to 5 at a value of $504,000 in 2018.

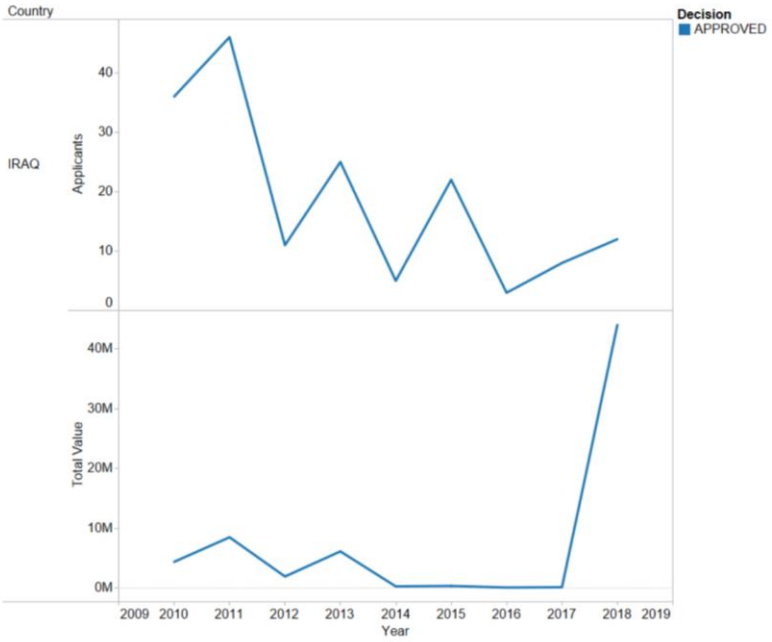
v. Iraq

After the U.S. forces withdrew in 2010, conditions for detainees, journalists, activists, and women and girls remain poor. Arbitrary detentions by Iraq security forces are common as well as torture and

death. 70% of the prisons are over capacity.[32] By 2015 ISIS had taken over several key areas of Iraq including Mosul. The result was that Iraqi government forces began attacks on several Sunni and mixed Sunni/ Shia targets arbitrarily.[33] By 2018 the conflict between coalition forces and ISIS in Iraq had settled down and Iraq judges began to enforce the rule of law on captured ISIS fighters. This was done on many occasions without due diligence. Iraq authorities often used torture to gather information and in many cases this resulted in death of the detainee.[34]

Approval/ Denial For Iraq 2010-2018

Graph 5



Though there has been a steady decrease in applications and approvals to Iraq, there is an outlier in 2018 of an increased value of $44 million for 12 approvals. This increase is concurrent with the steadying of the conflict between the Iraqi government and the ISIS threat. Up to this point the decline in applications is consistent with the withdrawal of troop by the U.S. in 2010.

[32] Human Rights Watch: World Report, Iraq 2011. https://www.hrw.org/world-report/2011/country-chapters/iraq.
[33] Human Rights Watch: World Report, Iraq 2015. https://www.hrw.org/world-report/2015/country-chapters/iraq.
[34] Human Rights Watch: World Report, Iraq 2019. https://www.hrw.org/world-report/2019/country-chapters/iraq.

vi. China

U.S./China relations have always had some turbulence. "Following the 1989 military assault on demonstrators by the PRC government in Tiananmen Square, the U.S. Government imposed constraints on the export to the PRC of certain items on the Commerce Control List. Section 902(a)(4) of the Foreign Relations Authorization Act for Fiscal Year 1990,1991, Public Law 101-246, suspends the issuance of licenses under Section 6(n) of the EAA for the export of any crime control or detection instruments or equipment to the PRC. The President may terminate the suspension by reporting to Congress that the PRC has made progress on political reform or that it is in the national interest of the United States to terminate the suspension. The President has not exercised his authority to terminate this suspension."[35] Early Human Rights Watch reports show China having small but consistent improvements in human rights violations beginning in 2008, but as of 2007 China still leads the world in prisoner executions with between 3,000 and 10,000 annually. [36] In 2011, China proposed a plan to no longer admit evidence acquired through torture of prisoners, but was not to be adopted until 2012. Despite these early efforts by the Chinese government to observe human rights related matters, as of 2018 China is still reported to severely control media, arrange for the elimination of certain church gatherings (including systematic abuses against the 13 million Turkic Muslims, including Uyghurs and ethnic Kazakhs, in China's northwestern Xinjiang region.) [37], several accounts of detention of human rights activists, and several violations of discrimination against women and women's rights activists.

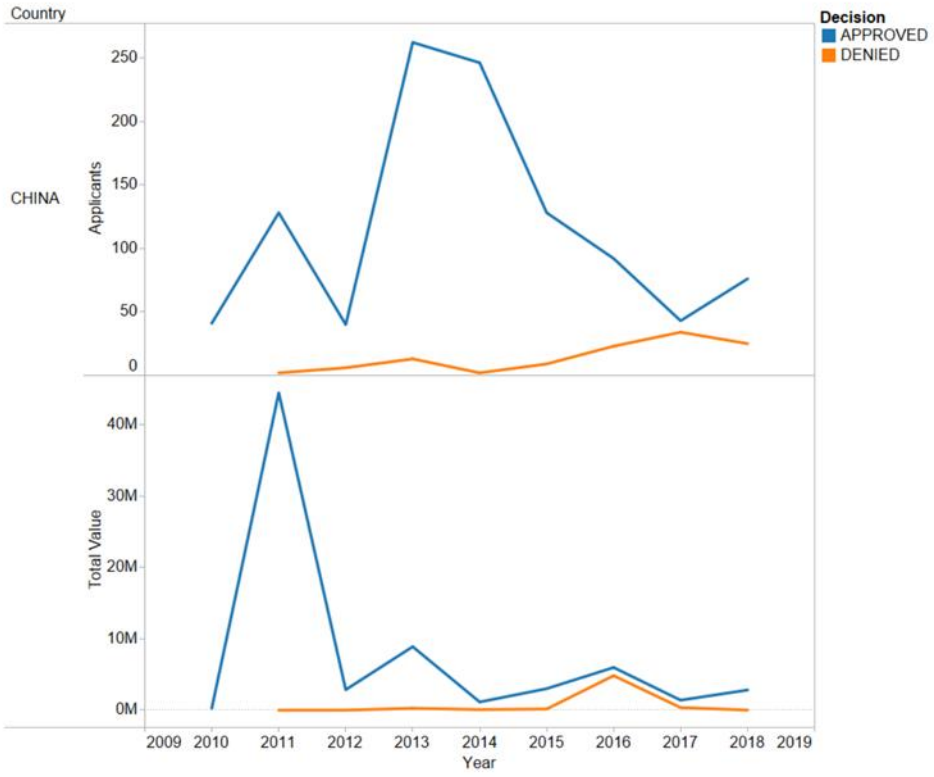
Approval/ Denial For China 2010-2018

Graph 6

[35]2017 REPORT ON FOREIGN POLICY-BASED EXPORT CONTROLS, U.S. Department of Commerce Bureau of Industry and Security. 20 January 2018. file:///C:/Users/degab/OneDrive/Desktop/Quant%20An/BIS%20report%202017.pdf.

[36] Human Rights Watch: World Report, China 2010. https://www.hrw.org/world-report/2010/country-chapters/china-and-tibet.

[37] Human Rights Watch: World Report, China 2019. https://www.hrw.org/world-report/2019/country-chapters/china-and-tibet.



Graph 6 shows an early reaction of increases in applications with a total value of applications of $44.5 million. There is a significant drop off in application totals starting in 2013 with a steady increase in denials for the same time period. It can be surmised that this correlation is concurrent with the lack of implementation of new human rights awareness by the Chinese government after the initial push for such legislation starting in 2008.

vii. Hong Kong

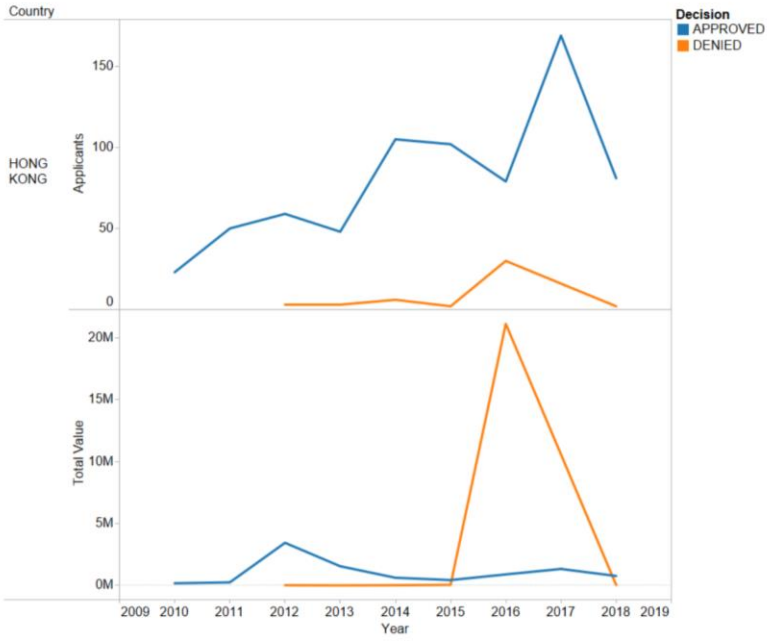
As of 2016, the U.S. has placed Hong Kong on The Entities List as well as persons in Hong Kong on the basis of their attempts to procure items, including U.S.-origin items, for an Iranian party associated with the Iran defense industry.[38] Hong Kong and persons in Hong Kong were placed on the list

[38] 2017 REPORT ON FOREIGN POLICY-BASED EXPORT CONTROLS, U.S. Department of Commerce Bureau of Industry and Security. 20 January 2018. Pg 100, 101. https://www.bis.doc.gov/index.php/documents/pdfs/2083-bis-foreign-policy-report-2017/file

for contributing to the situation in Ukraine as per executive order 13660. Moreover, Hong Kong has been the center of attention in 2019 following the protests and subsequent crackdown. This has resulted in additional export control legislation for crime control items (such as the McGovern Act) that are not captured in the timeframe of this dataset.

Approval/ Denial For Hong Kong 2010-2018

Graph 7



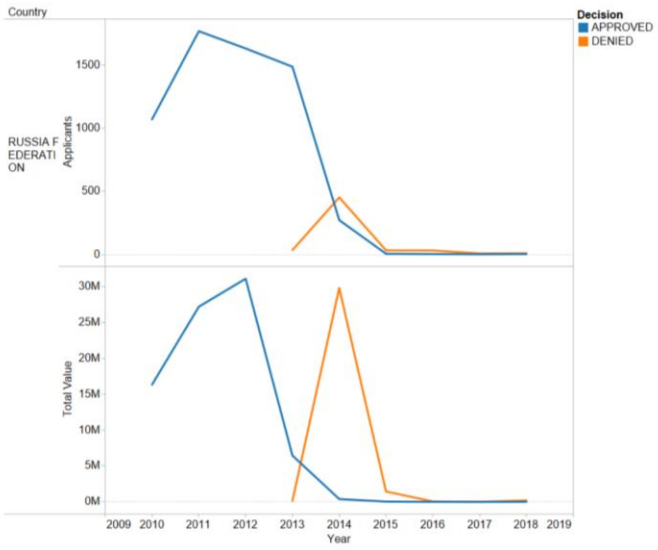
Hong Kong showed steady growth in approvals from 2010 until 2016. 2015 and 2016 show a decline in approvals for Hong Kong dropping from 105 valued at $622,000 in 2014 to 79 valued at $892,000 in 2016. This timeframe also shows an increase in denials to 30 valued at $21.1 million in 2016. These changes are concurrent with the change in policy with the BIS adding Hong Kong to the Entities List.

viii. Russia

By 2011 Russia had increased willingness to work with the international community to improve human rights and rule of law. This effort was mainly in commitment only as Russian authorities renewed attacks on human rights defenders.[39] Russian backed forces invaded and annexed Crimea from Ukraine and by 2014 the Russian government controlled the narrative claiming that it was in support of Russian citizens. Russian authorities regularly detain peaceful protestors. During 2018, thousands of protesters were detained including children in over 27 cities. Russia has taken control of the media inside the country and controls reports leaving the country as President Putin continues to run for office unopposed.[40]

Approval/ Denial For Russia 2010-2018

Graph 8



Graph 8 shows an initial increase in applications from 2010 to 2011 followed by a slight decline through 2013. 2014 shows a dramatic drop in approvals and substantial increase in denials from 34

[39] Human Rights Watch: World Report, Russia 2011. https://www.hrw.org/world-report/2011/country-chapters/russia.
[40] Human Rights Watch: World Report, Russia 2019. https://www.hrw.org/world-report/2019/country-chapters/russia.

denials with a value of $132,000 to 272 denials with a value $29.8 million. This period of time corresponds with the incident in Crimea and subsequent sanctions placed on the country. Since then there have been relatively low applications with the largest amount of approvals since 2014 being in 2015 with a total of 5 and a value of $36,000.

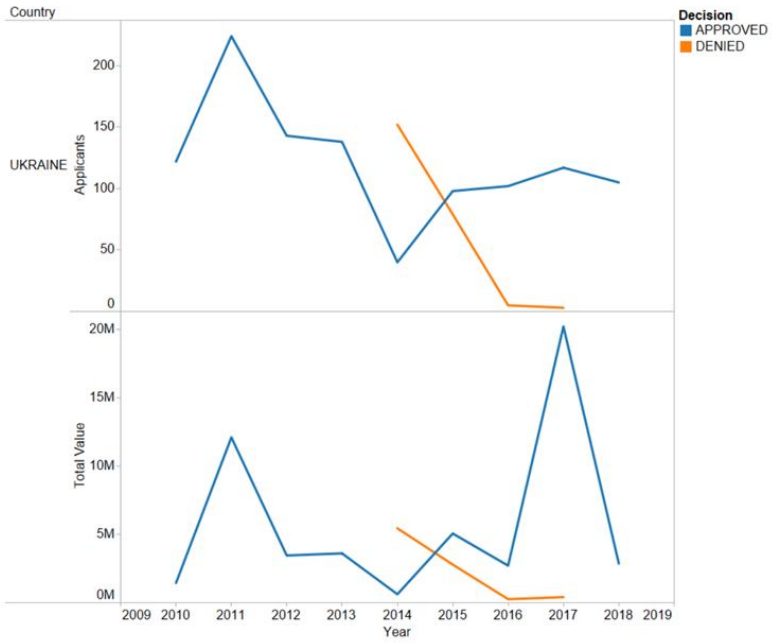
ix. Ukraine

As of 2008, Ukraine was recognized as having an improving human rights policy, however they were still reported to have several cases of detention without due process and interrogation with the use of torture. In 2009 Ukraine had more than 50 enforcement personnel convicted of abuse of power.[41] From 2009 to 2013 there were continued efforts by the Ukrainian government to improve human rights policy, but at the same time there were consistent reports of hate crimes/discrimination and rule of law concerns. 2013 began an era of violence in Ukraine with clashes between police and street fighters that resulted in 100 killed between 19 and 20 February.[42] During this timeframe, supposed Russian-backed security forces seized key locations in Crimea and essentially annexing Crimea from Ukraine. Events in Crimea escalated in subsequent years with 9,000 killed and 20,000 wounded and an estimated 1.5 million displaced.[43] The 2019 Human Rights Watch details a major reduction in the violence in 2018 with relatively moderate reductions in violence between enforcement officers and civilian protesters.

41 Human Rights Watch: World Report, Ukraine 2010. https://www.hrw.org/world-report/2010/country-chapters/ukraine.
42 Human Rights Watch: World Report, Ukraine 2015. https://www.hrw.org/world-report/2015/country-chapters/ukraine.
43 Human Rights Watch: World Report, Ukraine 2016. https://www.hrw.org/world-report/2016/country-chapters/ukraine.

Approval/ Denial For Ukraine 2010-2018

Graph 9



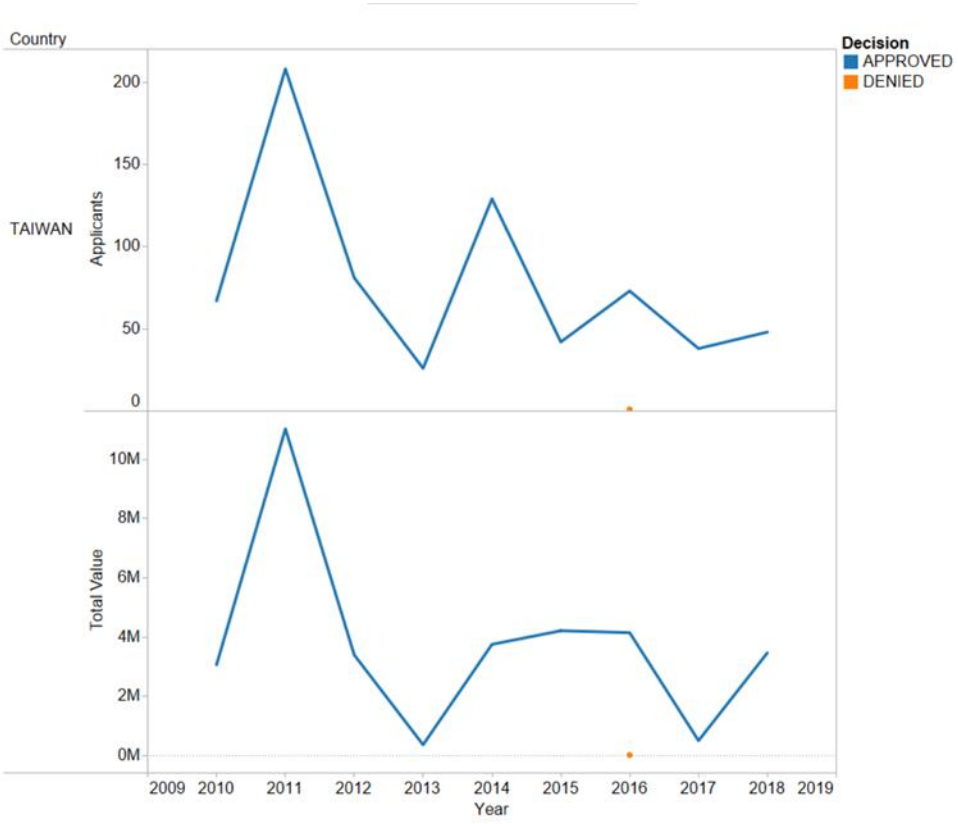
Graph 9 details an initial increase in ECCN applications and approvals in 2011 only to be followed by a period of decline in approvals and the introduction in denials for the first time in 2014 during the height of the Crimea conflict. Of note the value of denials in 2014 were $5.4 million and approvals fell from $3.6 million in 2013 to $618,280 in 2014. 2014 was also the first year that applications for these ECCNs were denied. 2017 showed a continued increase in applications approved after the 2014 low and the largest value of applications for Ukraine at $22.2 million.

x. Taiwan

As of 2016 BIS added persons in Taiwan to the Entities List for involvement in the shipment or attempted shipment or transshipment of U.S. origin parts and components to Iran without notifying the U.S. [44]

Approval/ Denial For Taiwan 2010-2018

Graph 10



For the Taiwan data we can see that the first and only denial came after the information regarding Taiwanese shipments led to the placement of persons in Taiwan to the entities list. After this denial there

[44] 2017 REPORT ON FOREIGN POLICY-BASED EXPORT CONTROLS, U.S. Department of Commerce Bureau of Industry and Security. 20 January 2018. Pg 100, 101. https://www.bis.doc.gov/index.php/documents/pdfs/2083-bis-foreign-policy-report-2017/file

was a sharp decline in approvals for the next year with a rebound of approvals to the positive by 2018. We can surmise that the significant data points here correspond with the BIS assessment of trade activities in Taiwan.

xi. Philippines

In September of 2013, fighting erupted in the southern city of Zamboanga between a faction of the Moro National Liberation Front (MNLF), and the Philippine military and police. 161 people were reported killed on all sides and an estimated 120,000 people were displaced. During this time the Philippines were considered to be the most dangerous place for journalists. Many journalists were killed during this time. Some were assassinated in the open public with little to no recourse.[45]

In 2016 President Rodrigo Duterte took office that reportedly resulted in several instances of violence in the country. During this time, Duterte removed The Philippines from the ICC and initiated a war on drugs that resulted in many deaths and became more impactful in 2018. From 2016 to 2018 an estimated 4,948 suspected drug users and dealers died during police operations.[46]

[45] Human Rights Watch: World Report, Philippines 2014. https://www.hrw.org/world-report/2014/country-chapters/philippines.
[46] Human Rights Watch: World Report, Philippines 2019. https://www.hrw.org/world-report/2019/country-chapters/philippines.

Approval/ Denial For Philippines 2010-2018

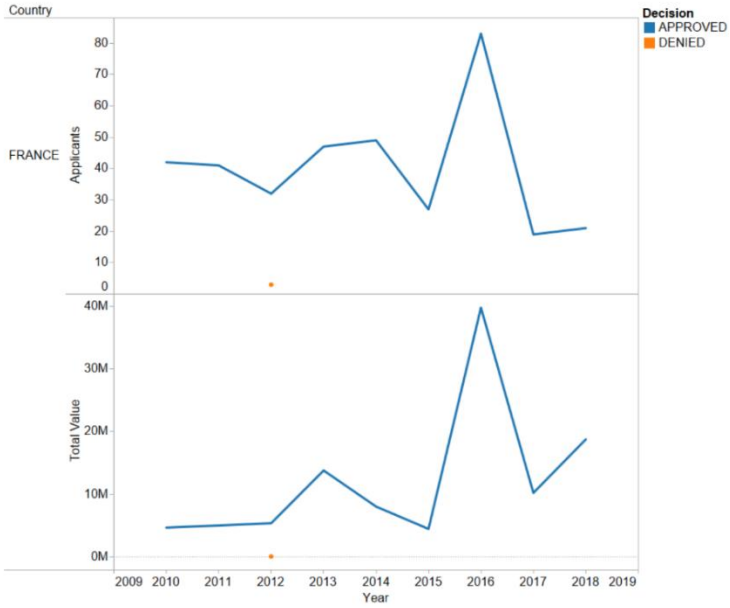
Graph 11

Looking at Graph 11 we see that there is a large drop in approvals between 2012 and 2014 after an increase from 2010 to 2012. This movement corresponds with the increased police violence and displacement of citizens. However, we do not see denials in the Philippines until 2017 which is one year after the election of President Rodrigo Duterte. From 2016 to 2017 we see a decline of approvals from 228 at a value of $63,378,266 to 172 at a value of $6,463,047. In 2017 we also see the first denial of 1 application valued at $23,800. This increases in 2018 to 3 denials valued at $261,019. The increase in denials occurs simultaneously to the increase in the drug war activity. However, there is also an increase in approvals from 2017 to 2018.

France (Comparison)

Approval/ Denial For France 2010-2018

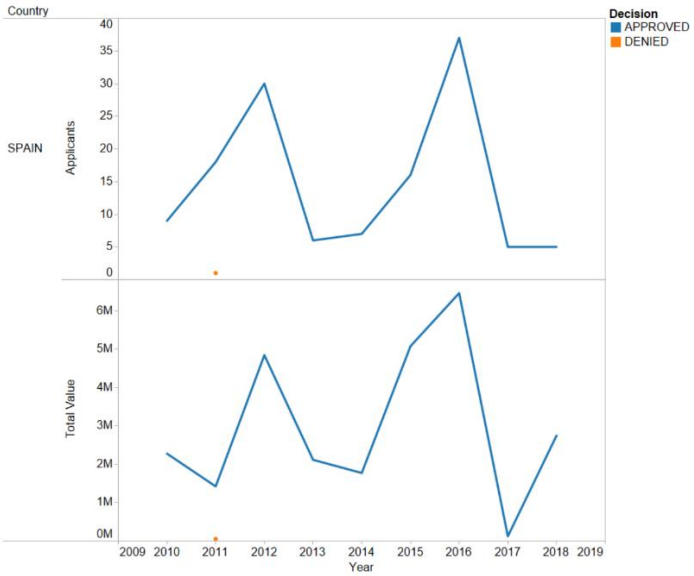
Graph 12



Spain *(Comparison)*

Approval/ Denial For Spain 2010-2018

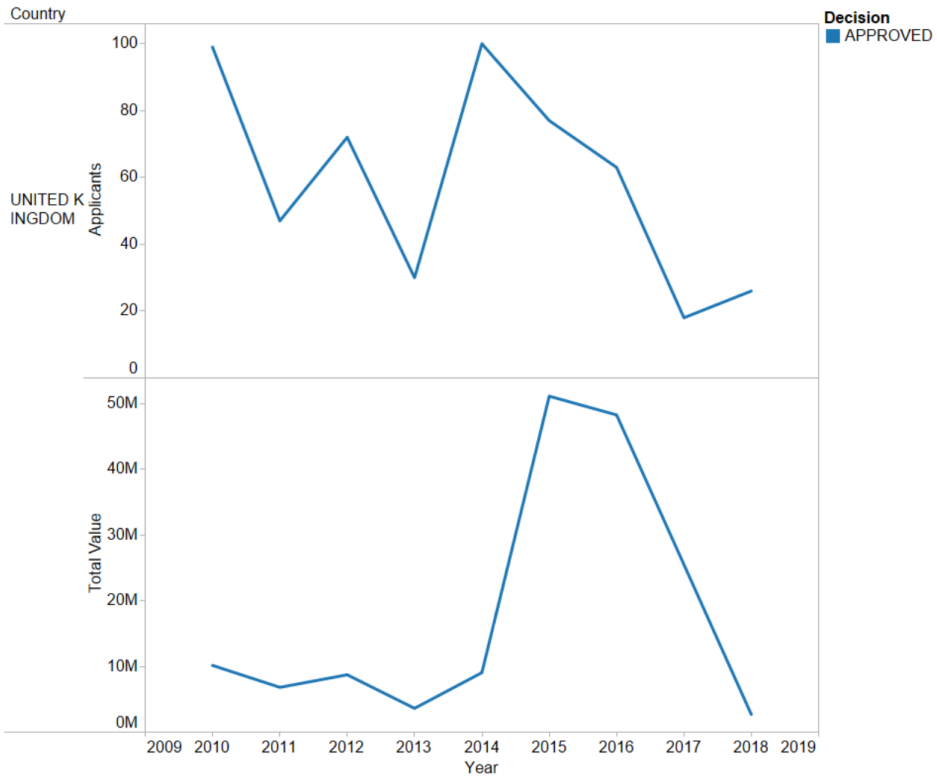
Graph 13



UK *(Comparison)*

Approval/ Denial For UK 2010-2018

Graph 14



When we look at France, Spain and The UK, we see some spikes in approvals between 2014 and 2017. This is consistent in number and in value for all three nations. Spain has the sole denial during this timeframe in 2011 for one application valued at $54,000. However, it is also important to note that the licensing process for crime control ECCNs to these nations differs from those of other nations. Since there are built-in license exception mechanisms for NATO allies, there are likely additional exports of CC items not captured in the dataset. Nevertheless, this data is important to see fluctuations in those exports that did require licensing.

Part IV

Conclusion and Future Research

4.1 Conclusion

Given the complexities of the export control system, this report was crafted with the intention to provide possible applications to better understand and navigate the system. Its primary aim was to explore avenues for which further analysis can be conducted to aid in this process from both the public and private sector perspectives. Human rights were chosen as the conceptual framework both because of their relevancy in the export control system over the last decade (and increasingly in the last year) as well as a limiting scope for which to introduce the methodologies discussed in the previous sections. Furthermore, the ECCNs associated with them serve as the ideal proxy in the dataset for U.S. government perception of countries abroad, since foreign governments themselves are most typically the end-users of these products. The importance of human rights has also become an increasingly central pillar of the private sector's considerations of corporate social responsibility and reputational risk.

The first section of this report detailed the role that human rights considerations have played in the U.S. export control regime since its inception. It went on to discuss the decision-making processes behind the U.S. government's export control system in the context of human rights and the associated "crime control" items. By gaining insight into this decision-making apparatus, not only is there opportunity to improve these public sector foreign policy objectives, but the private sector can also benefit by enhancing its risk-mitigation strategies. This section highlighted trends into why this has become progressively more important since 2010 and several instances where human rights, export controls and reputational risk intersected quite conspicuously.

The second section introduced a methodological framework that can be used to augment the management of this risk by adding an additional variable to risk-scoring calculations. This has applications for both the public and private sectors. By assessing export control data under this framework, there are also implications for deeper analysis of the export control system and its sensitivity to various events throughout recent history. The third section gave specific examples by which this methodology has been applied and tracked changes in the export licensing application data to events during the period between 2010 and 2018.

This report only analyzed 20 ECCNs controlled for reasons related to crime control. However, the methodology developed has applicability for a variety of sectors when used with other ECCNs. For instance, trends in any sector can be viewed when running relevant ECCNs through this model. Furthermore, expansion to the entire dataset (all ECCNs for which a license was required and applied for export between 2010 and 2018) will give further refinement to the framework established. The following section will briefly detail some additional ways in which this model can use logistic regression so as to improve the analytical value for application by any stakeholder. However, it will be instructive to conclude this section by briefly revisiting the initial research question posed in the introduction of this report (see Figure 4.1 below).

Figure 4.1 – Guiding Research Questions and Answers

Q: How can data for the approval and denial ratings of goods classified as controlled for "reasons of crime control" serve as a proxy for insight into the Bureau of Industry and Security's own geographic and transaction risk-rating methodologies?

A: These ECCNs are typically sold to foreign government end-users (federal and local). Thus, by evaluating the decision-making process of the Bureau of Industry and Security with regard to CC items and comparing it across countries over time, we better understand the level of risk it associates with particular jurisdictions.

Q: Where have Crime Control ECCNs been denied at a rate that deviates from the average global denial rate to a significant degree? For which countries has this occurred and what might explain such deviations?

A: There are many countries for where this is the case. Such deviations are caused by various internal events, regional instability and U.S. foreign policy considerations. (See Section III for more detail).

Q: How have large-scale events affected the denial rate of ECCNs related to human rights? From the supply side, how have they affected total application numbers?

A: In the cases evaluated, they have caused significant increases in the denial rates. These spikes generally coincide with the events rapidly and are prone to relatively large fluctuations. In a global context, the total number of applications for all ECCNs declined significantly after 2014.

Q: How might such quantitative analyses inform private sector entities creating their own geographic risk-scoring methodologies and "reputational risk ratings"?

A: Assessing trends in the export control application data for relevant jurisdictions can prove valuable for private sector application. By comparing against the global average and combining this data with additional intelligence, risk-scoring can be done to suit the needs of an enterprise transacting internationally.

Q: Is there a correlation between a country's human rights record and the denial rate of Crime Control ECCNs by BIS over time?

A: There is likely a correlation to some degree. However, further analysis is required to a) make a reliable composite variable to capture "human rights record" and b) determine the correlative relationship between specific events and changes in the export licensing data. Furthermore, additional data is needed to answer this question adequately. (See Section 4.2 for greater detail).

4.2 The Way Forward

We have determined that the use of the BIS approval rating for crime control ECCNs can be an effective indicator for the determination of reputational risk in a given nation. The availability of more data would certainly improve the value of this indicator. We propose that with more specific data on the specific products that are exported after an ECCN is approved by year could have a significant impact on the validity of the indicator and shed more light on the effectiveness of the denial rate as an variable of reputational risk. To complete the indicator, more specific data from the target country will be required. Much of the information that we were able to collect with respect to human rights, was not referenceable to a specific source, and varied sources have different assessments. We have identified several indicators that can be used for the purpose of developing a model to interpret ECCN approval rating as an indicator of potential reputational risk.

A review of recorded human rights concerns in the 14 countries researched revealed some common events that we have decided will make excellent variables in our model. The 10 variables listed below are regularly referenced when researching reputational risk in a target country.

1. Sanctions (comprehensive and/or sectoral)
2. If a coup or sudden change in governmental regime has occurred
3. CPI/TRACE
4. International conflict
5. Violent police action against protestors resulting in deaths and or injury.
6. Number of deaths of detainees (for non-violent crimes) while in custody.
7. Use of torture during interrogation.
8. Security force violence against religious gatherings or sects.
9. Government type
10. Use of death penalty

We have surmised that with sufficient data in each of these variables and the ECCN approval rate, we can use a logistic regression to determine the likelihood of approvals or denials in a particular

country. The logistic model (or logit model) is used to model the probability of a certain class or event existing such as approval or denial. The equation for the "Logistic Curve" is as follows.

$$P = \frac{e^{a+bX}}{1+e^{a+bX}}$$

> *where P is the probability of a 1 (the proportion of 1s, the mean of Y), e is the base of the natural logarithm (about 2.718) and a and b are the parameters of the model. The value of a yields P when X is zero, and b adjusts how quickly the probability changes with changing X a single unit (we can have standardized and unstandardized b weights in logistic regression, just as in ordinary linear regression). Because the relation between X and P is nonlinear, b does not have a straightforward interpretation in this model as it does in ordinary linear regression.*[47]

What can we do with this regression? A logistic regression is designed to determine the likelihood of one of two events. In this case the approval or denial of an ECCN or potentially an individual product if that information becomes available. We can determine which of the above listed variables can be used to help predict the approval of a rating. If a variable is a no or does is not available for any of the years available in the data set then we simply remove that variable from a specific nations model as it has no impact. This is the benefit of the logistic regression. We can interchange and add to variables that will impact the income. Currently we do not have access to the data required to make our variables statistically relevant. While we do have individual country data about potential human rights violations, it is essentially "headline information". Much of the information that we are able to gather is unsourced and the numbers accounted for in these events is varied dependent on the source. While we believe that the events that we have identified have had a significant impact on BIS approval policy, our ability to accurately predict what similar events will cause in the future is limited.

[47] Logistic Regression http://faculty.cas.usf.edu/mbrannick/regression/Logistic.html.

To complete this regression and further the research there are several data sets that would be required. Our current numbers have been pulled from The Human Rights watch. Much of this data is not referenced to a source that we can confirm. If we are to provide the most accurate data we recommend national level data as well as data collected but the sources used in the BIS determination of approval or denial. We also recommend that the exact products that have been approved under each ECCN be used to define the results more narrowly. There is a significant difference between many of the products under the same ECCN. For example, ECCN 0A982 Law enforcement restraint devices includes leg irons, shackles, and handcuffs; strait jackets; stun cuffs; shock belts; shock sleeves; multipoint restraint devices such as restraint chairs; and "specially designed" "parts," "components" and "accessories," (See Appendix B). Approval for some items on this list may have a much more significant impact on the effectiveness of a security force and in countries where human rights are in question, facilitate a greater risk to United States business interests with regards to Reputational risk.

While the use of this data will complicate the process, the model will likely be much more precise than our current model and give the user information as to the likelihood of a BIS denial given certain circumstances, but also increase the users understanding of threats to reputational risk in a given country. This could potentially be a powerful tool allowing a country to avoid potential pitfalls, but also prepare an exports profile for ECCNs manufactured that considers the possibility of denial by the BIS and export more efficiently. This model will also be flexible as more data is gathered that can take into account the ever-changing perception of "what is a human rights violation?" and changes in administrations. Our current data set has allowed us to determine that the BIS approval rate can be an indicator of reputational risk, but it is also clear that we have only scratched the surface. security force and in countries where human rights are in question, facilitate a greater risk to United States business interests with regards to Reputational risk.

Works Cited

2017 REPORT ON FOREIGN POLICY-BASED EXPORT CONTROLS.

Avenue, Human Rights Watch | 350 Fifth, et al. "World Report 2010: Rights Trends in China." Human Rights Watch, 20 Jan. 2010, www.hrw.org/world-report/2010/country-chapters/china-and-tibet. Accessed 10 May 2020.

---. "World Report 2010: Rights Trends in Ukraine." Human Rights Watch, 20 Jan. 2010, www.hrw.org/world-report/2010/country-chapters/ukraine. Accessed 10 May 2020.

---. "World Report 2011: Rights Trends in World Report 2011: Iraq." Human Rights Watch, 24 Jan. 2011, www.hrw.org/world-report/2011/country-chapters/iraq. Accessed 10 May 2020.

---. "World Report 2011: Rights Trends in World Report 2011: Russia." Human Rights Watch, 24 Jan. 2011, www.hrw.org/world-report/2011/country-chapters/russia. Accessed 10 May 2020.

---. "World Report 2013: Rights Trends in World Report 2013: Bahrain." Human Rights Watch, 10 Jan. 2013, www.hrw.org/world-report/2013/country-chapters/bahrain#. Accessed 10 May 2020.

---. "World Report 2013: Rights Trends in World Report 2013: Egypt." Human Rights Watch, 10 Jan. 2013, www.hrw.org/world-report/2013/country-chapters/egypt. Accessed 10 May 2020.

---. "World Report 2013: Rights Trends in World Report 2013: Saudi Arabia." Human Rights Watch, 9 Jan. 2013, www.hrw.org/world-report/2013/country-chapters/saudi-arabia. Accessed 10 May 2020.

---. "World Report 2014: Rights Trends in World Report 2014: Philippines." Human Rights Watch, 21 Jan. 2014, www.hrw.org/world-report/2014/country-chapters/philippines. Accessed 10 May 2020.

---. "World Report 2015: Rights Trends in World Report 2015: Iraq." Human Rights Watch, 11 Jan. 2015, www.hrw.org/world-report/2015/country-chapters/iraq. Accessed 10 May 2020.

---. "World Report 2015: Rights Trends in World Report 2015: Ukraine." Human Rights Watch, 7 Jan. 2015, www.hrw.org/world-report/2015/country-chapters/ukraine. Accessed 10 May 2020.

---. "World Report 2016: Rights Trends in Ukraine." Human Rights Watch, 5 Jan. 2016, www.hrw.org/world-report/2016/country-chapters/ukraine. Accessed 10 May 2020.

"DRAFT U.S. GOVERNMENT GUIDANCE FOR THE EXPORT OF HARDWARE, SOFTWARE AND TECHNOLOGY WITH SURVEILLANCE CAPABILITIES AND/OR PARTS/KNOW-HOW." U.S. DEPARTMENT OF STATE. U.S. DEPARTMENT OF STATE. file:///C:/Users/degab/OneDrive/Desktop/Quant%20An/ECCN%20project/draft-guidance-for-the-export-of-hardware-software-and-technology-with-surveillance-capabilities.pdf.

"EZproxy Login - MIIS Library." Login.Proxy.Miis.Edu, www-jstor-org.proxy.miis.edu/stable/pdf/40708294.pdf?ab_segments=0%252Fbasic_SYC-5152%252Fcontrol&refreqid=excelsior%3A38490eb8a84ebad286860509119400ba. Accessed 10 May 2020.

Gallagher, Ryan. "How U.S. Tech Giants Are Helping to Build China's Surveillance State." The Intercept, 11 July 2019, theintercept.com/2019/07/11/china-surveillance-google-ibm-semptian/. Accessed 10 May 2020.

"House Passes McGovern Bill to Prevent Export of U.S. Crowd Control Equipment to Hong Kong." Congressman Jim McGovern, 15 Oct. 2019, mcgovern.house.gov/news/documentsingle.aspx?DocumentID=398401.

INTEGRATING HUMAN RIGHTS IN US FOREIGN POLICY: THE HISTORY, THE CHALLENGES, AND THE CRITERIA FOR AN EFFECTIVE POLICY STATEMENT BY: ROBERTA COHEN NONRESIDENT SENIOR FELLOW, THE BROOKINGS INSTITUTION FOREIGN SERVICE INSTITUTE, 2008. 2008.

Joseph, George. "Inside the Video Surveillance Program IBM Built for Philippine Strongman Rodrigo Duterte." The Intercept, 20 Mar. 2019, theintercept.com/2019/03/20/rodrigo-duterte-ibm-surveillance/. Accessed 10 May 2020.

"Know Your Customer Guidance." Www.Bis.Doc.Gov, www.bis.doc.gov/index.php/all-articles/23-compliance-a-training/47-know-your-customer-guidance. Accessed 10 May 2020.

"Logistic Regression." Usf.Edu, 2020, faculty.cas.usf.edu/mbrannick/regression/Logistic.html.

Morrissey, Arthur. EXPORT CONTROL AND HUMAN RIGHTS. 1980, www.jstor.org/stable/29761741. Accessed 15 Apr. 2020.

"Myanmar (Burma)." Human Rights Watch, 8 May 2019, www.hrw.org/asia/myanmar-burma.

Sindelar, Arifa Kazimova, Daisy. "This Pain-Inducing Acoustic Device Used to Control Crowds in Azerbaijan Might Be U.S.-Made." The Atlantic, 14 Mar. 2013, www.theatlantic.com/international/archive/2013/03/this-pain-inducing-acoustic-device-used-to-control-crowds-in-azerbaijan-might-be-us-made/274036/. Accessed 10 May 2020.

"State Department Issues Draft Guidance for the Export of Items with Surveillance Capacities – Sanctions & Export Controls Update." Sanctionsnews.Bakermckenzie.Com, sanctionsnews.bakermckenzie.com/state-department-issues-draft-guidance-for-the-export-of-items-with-surveillance-capacities/. Accessed 12 May 2020.

Stein, William, and Alexander Diaz-Lopez. "William Stein Interview." Notices of the American Mathematical Society, vol. 65, no. 05, 1 May 2019, p. 1, www2.itif.org/2019-surveillance-technology-state-department.pdf, 10.1090/noti1673. Accessed 10 May 2020.

Suspend the Rules and Pass the Bill, H.R. 4270, with Amendments (The Amendments Strike All after the Enacting Clause and Insert a New Text and a New Title) 116TH CONGRESS 1ST SESSION A BILL.

"The Export Control Reform Act and Possible New Controls on Emerging and Foundational Technologies." Akin Gump Strauss Hauer & Feld LLP, www.akingump.com/en/news-insights/the-export-control-reform-act-of-2018-and-possible-new-controls.html. Accessed 12 May 2020.

THE HIDDEN COST OF REPUTATION RISK AN APPROACH TO QUANTIFYING REPUTATION RISK LOSSES.

The Wolfsberg Frequently Asked Questions on Risk Assessments for Money Laundering, Sanctions and Bribery & Corruption.

"UK Tightens Arms Export Controls after Arab Spring." Reuters, 13 Oct. 2011, uk.reuters.com/article/uk-britain-arms/uk-tightens-arms-export-controls-after-arab-spring-idUKTRE79C6EX20111013. Accessed 10 May 2020.

"US Firm's Teargas Used against Tahrir Square Protesters." The Guardian, 21 Nov. 2011, www.theguardian.com/world/2011/nov/21/tahrir-square-us-teargas-used-egypt. Accessed 10 May 2020.

"U.S. Policy on the Export of Unmanned Aerial Systems." United States Department of State, www.state.gov/u-s-policy-on-the-export-of-unmanned-aerial-systems/. Accessed 10 May 2020.

"World Report 2013: Egypt." Human Rights Watch, Human Rights Watch, 2013, www.hrw.org/world-report/2013/country-chapters/egypt#. Accessed 15 Mar. 2020.

"World Report 2018: Rights Trends in Egypt." Human Rights Watch, 18 Jan. 2018, www.hrw.org/world-report/2018/country-chapters/egypt.

"World Report 2019: Rights Trends in Bahrain." Human Rights Watch, 17 Jan. 2019, www.hrw.org/world-report/2019/country-chapters/bahrain.

"World Report 2019: Rights Trends in China." Human Rights Watch, 17 Jan. 2019, www.hrw.org/world-report/2019/country-chapters/china-and-tibet.

"World Report 2019: Rights Trends in Iraq." Human Rights Watch, 17 Jan. 2019, www.hrw.org/world-report/2019/country-chapters/iraq.

"World Report 2019: Rights Trends in Philippines." Human Rights Watch, 22 Jan. 2019, www.hrw.org/world-report/2019/country-chapters/philippines.

"World Report 2019: Rights Trends in Russia." Human Rights Watch, 17 Jan. 2019, www.hrw.org/world-report/2019/country-chapters/russia.

"World Report 2019: Rights Trends in Saudi Arabia." Human Rights Watch, 17 Jan. 2019, www.hrw.org/world-report/2019/country-chapters/saudi-arabia.

Appendix A

Denial rates against the world average.

China			
Year	Global Average	National Denials	Percentage Denials
2010	0.09%	0	0
2011	0.48%	2	1.54%
2012	0.44%	6	13.04%
2013	1.00%	13	4.73%
2014	6.46%	2	0.81%
2015	2.85%	9	6.57%
2016	3.01%	22	19.30%
2017	2.15%	34	44.16%
2018	3.29%	25	24.75%

Iraq		
Year	Global Average	National Denials
2010	0.09%	0
2011	0.48%	0
2012	0.44%	0
2013	1.00%	0
2014	6.46%	0
2015	2.85%	0
2016	3.01%	0
2017	2.15%	0
2018	3.29%	0

Afghanistan			
Year	Global Average	National Denials	Percentage Denials
2010	0.09%	0	
2011	0.48%	0	
2012	0.44%	1	1.64%
2013	1.00%	0	
2014	6.46%	0	
2015	2.85%	0	
2016	3.01%	1	1%
2017	2.15%	0	
2018	3.29%	0	

France			
Year	Global Average	National Denials	Percentage Denials
2010	0.09%	0	
2011	0.48%	0	
2012	0.44%	3	8.57%
2013	1.00%	0	
2014	6.46%	0	
2015	2.85%	0	
2016	3.01%	0	
2017	2.15%	0	
2018	3.29%	0	

UK		
Year	Global Average	National Denials
2010	0.09%	0
2011	0.48%	0
2012	0.44%	0
2013	1.00%	0
2014	6.46%	0
2015	2.85%	0
2016	3.01%	0
2017	2.15%	0
2018	3.29%	0

Egypt			
Year	Global Average	National Denials	Percentage Denials
2010	0.09%	0	
2011	0.48%	0	
2012	0.44%	1	6.67%
2013	1.00%	11	36.67%
2014	6.46%	9	24.32%
2015	2.85%	7	43.75%
2016	3.01%	6	23.08%
2017	2.15%	38	49.33%
2018	3.29%	6	15.79%

Appendix B: Crime control ECCN identification Chart

ECCN	Description
0A978	Law enforcement striking weapons, including saps, police batons, side handle batons, tonfas, sjamboks, and whips.
0A979	Police helmets and shields; and "specially designed" "components," n.e.s.
0A981	Equipment designed for the execution of human beings as follows (see List of Items Controlled)
0A982	Law enforcement restraint devices, including leg irons, shackles, and handcuffs; straight jackets; stun cuffs; shock belts; shock sleeves; multipoint restraint devices such as restraint chairs; and "specially designed" "parts," "components" and "accessories," n.e.s.
0A983	"Specially designed" implements of torture, including thumbscrews, thumbcuffs, fingercuffs, spiked batons, and "specially designed" "parts," "components" and "accessories," n.e.s.
0A984	Shotguns with barrel length 18 inches (45.72 cm) or over; receivers; barrels of 18 inches (45.72 cm) or longer but not longer than 24 inches (60.96 cm); complete trigger mechanisms; magazines and magazine extension tubes; complete breech mechanisms; buckshot shotgun shells; except equipment used exclusively to treat or tranquilize animals, and except arms designed solely for signal, flare, or saluting use.
0A985	Discharge type arms and devices to administer electric shock, for example, stun guns, shock batons, shock shields, electric cattle prods, immobilization guns and projectiles; except equipment used exclusively to treat or tranquilize animals, and except arms designed solely for signal, flare, or saluting use; and "specially designed" "parts" and "components," n.e.s.

ECCN	Description
0A987	specific sighting devices, their associated optical elements, and adjustment mechanisms
0E982	"Technology" exclusively for the "development" or "production" of equipment controlled by 0A982 or 0A985.
0E984	"Technology" for the "development" or "production" of shotguns controlled by 0A984 and buckshot shotgun shells.
1A984	Chemical agents, including tear gas formulation containing 1 percent or less of orthochlorobenzalmalononitrile (CS), or 1 percent or less of chloroacetophenone (CN), except in individual containers with a net weight of 20 grams or less; liquid pepper except when packaged in individual containers with a net weight of 3 ounces (85.05 grams) or less; smoke bombs; non-irritant smoke flares, canisters, grenades and charges; and other pyrotechnic articles (excluding shotgun shells) having dual military and commercial use, and "parts" and "components" "specially designed" therefor, n.e.s.
1A985	Fingerprinting powders, dyes, and inks.
3A980	Voice print identification and analysis equipment and "specially designed" "components" therefor, n.e.s.
3A981	Polygraphs (except biomedical recorders designed for use in medical facilities for monitoring biological and neurophysical responses); fingerprint analyzers, cameras and equipment, n.e.s.; automated fingerprint and identification retrieval systems, n.e.s.; psychological stress analysis equipment; electronic monitoring restraint devices; and "specially

	designed" "components" and "accessories" therefor, n.e.s.
3D980	**"Software" "specially designed" for the "development," "production" or "use" of commodities controlled by 3A980 and 3A981.**
3E980	**"Technology" "specially designed" for "development," "production" or "use" of commodities controlled by 3A980 and 3A981.**
4A980	**Computers for fingerprint equipment, n.e.s.**

4D980	**"Software" "specially designed" for the "development," "production" or "use" of commodities controlled by 4A980.**
4E980	**"Technology" for the "development," "production" or "use" of commodities controlled by 4A980.**
9A980	**Nonmilitary mobile crime science laboratories; and accessories, n.e.s.**