Department of State Diplomacy Laboratory Project 102

"Measuring the effect of USCG Port Security Advisory Notices On Trade and Port Security Procedures"

This is the author's manuscript of the article published in final edited form as:

Bureau of International Narcotics and Law Enforcement, Office of Criminal Justice Assistance and Partnership, United States Department of State, Diplomacy Laboratory Program. (2016). Project 102: Measuring the Effect of USCG Port Security Advisory Notices On Trade and Port Security Procedures.

Executive Summary

Overview: The United States Coast Guard's International Port Security (IPS) Program is the primary port security assessment office and was established in 2003 as part of the U.S. Maritime Transportation Security Act (MTSA) to reduce risks to U.S. ports and ships, and to the entire maritime transport system. Through the assessment of International Ship and Port Facility Security Code implementation and other measures in foreign ports, the International Port Security Program can determine whether or not there is a reasonable and acceptable level of port security at any given foreign port. This report is comprised of qualitative and quantitative research along with two case studies that compare and contrast two countries and/or ports that either succeeded or failed in complying with this program and received a Port Security Advisory (PSA).

Hypothesis: Port Security Advisories (PSA) are issued when a port does not meet the International Port Security Program code. They are an instrument to build and sustain port security practices and improvements. PSAs can give standard regulations for those who use ports in compliance with a PSA as well as create maritime security protocols for other countries that do not have strong port standards. As for the economic impacts, there can be both positive and negative factors depending on the country and the situation. However, we hypothesize that overall, PSAs do not significantly influence a country's volume of trade. Due to non-compliant countries in reporting, there is no discernable method for tracking or ensuring restrictions.

Methodology: We will observe quantitative measures of trade to identify negative impacts associated with the issuance of PSAs. We will also look at quantitative data to identify positive impacts associated with PSAs. We will be using USCG's HOMEPORT website to identify the PSAs and use COMTRADE to examine trade both before and after a PSA was issued. Trade will be compared to similar countries, those which have not received a PSA. Lastly, we will go over local and regional factors and determine what is currently working and what needs to be improved.

Conclusions: Our conclusion is that as a system the PSA process is not necessary an influence on trade. There may be correlations between countries with PSAs issued and changes in trade but there are a myriad of other factors that can impact this making the current methodology less than definitive. There also may be certain countries and/or ports where the correlation appears stronger (See Case Study #1); but overall, our conclusion is that PSAs have a negligible impact on a country receiving them in influencing their volume of trade.

Recommendations have been developed to try to clarify the data that would make this process more effective.

Project 102: "Measuring the effect of USCG Port Security Advisory Notices On Trade and Port Security Procedures"

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Situation

Since September 11th, 2001 there has been an increasing concern about weapons of mass destruction (WMD) and other dangerous components that could cause serious harm. The private sector plays a significant role in this concern because they are often the groups manufacturing and transporting individual packages that could potentially be used as a weapon if it were to get into the wrong hands. In order to prevent such an incident, both the private and the public sectors must have a functional relationship. That relationship today around the world, not just in the U.S., is not where it should be and is often riddled with suspicion and animosity towards one another. In order to prevent a future incident, lawmakers are requesting harsher regulations including increased port security, tighter export regulations, and a variety of other preventative measures. These types of increased measures are often difficult to follow for the private sector. The government and lawmakers are so focused on preventing a future terrorist incident that they often do not see they are causing more harm to corporate interests instead¹. In order to protect the world from potential dangers, there should be a healthy, established balance between the private and public sectors.

The United States has a multitude of maritime ports in which it conducts business in importing goods, exporting goods, and transportation- all via direct ocean border location or seaway access. With 182 ports handling over 250,000 tons of waterborne activity annually, these being the large ports only, mostly commodity dealings, there is a significant amount of

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¹ Finlay, Brian (2009, February 18). Minding Our Business: The Role of the Private Sector in Managing the WMD Supply Chain. Retrieved November 2016.

product tonnage being brought in and out of the United States.² There are various ways to measure which ports are central to maritime activity in our nation.

Port traffic is measured in twenty-foot equivalent units (TEUs), which refers to the standard size container. Ports in the US fall under an array of jurisdictions to include federal, state, local, public port authority entities, port navigation districts, and/or municipal port departments, all while still accommodating some international and foreign regulatory measures to ensure agreed upon trade practice.

Public ports work closely with the private industry both in the development and financing of marine terminals and other maritime-related facilities. The alignment of public and private interests determines the structure of port management and port development policies. They are used to manage port operations more efficiently and effectively. Although the private sector does not generally provide port security, they purchase and install their own equipment and are responsible for terminal operations.

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² Navigation and Civil Works Decision Support Center U.S. Army Corps of Engineers. (2015, July 15). The U.S.Waterway System Transportation Facts & Information 2014. Retrieved November 11, 2015.

Legislation/Policy

The International Maritime Organization (IMO) is a specialized agency within the United Nations created specifically to improve the safety and security of global trade and shipping.

Because shipping is an international industry, it is important for the United Nations and the IMO to adopt security and safety standards for all member nations to follow. Created in 1948 in Geneva, the IMO's purpose is to adopt and promote legislation, not enforce it. There are currently 171 member nations of IMO, and it is up to the governments of the member countries to make this legislation part of their own national laws and enforce it. In the 1970s, the IMO adopted a new and improved version of the International Convention for the Safety of Life at Sea (SOLAS). This became the world's most important treaty for maritime shipping safety and security³.

The International Convention for the Safety of Life at Sea (SOLAS) was adopted in November 1974. SOLAS created minimum safety and security standards for the building and operation of ships and port facilities. SOLAS was also later amended to include a special section dedicated to enhancing maritime safety and security⁴. This section is called the International Ship and Port Facility Security Code (ISPS Code).

On September 11, 2001, the world was changed forever when terrorists attacked New York City and Washington, D.C., and crashed a plane into a Pennsylvania field. Since the terrorists used commercial airliners, the fear was that other modes of transportation could be attacked or weaponized for use by terrorists. In October 2002, those fears were realized when

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³ International Maritime Organization. (2016). "About IMO: Introduction to IMO." Retrieved from http://www.imo.org/en/About/Pages/Default.aspx

⁴ International Maritime Organization. (2016). "International Convention for the Safety of Life at Sea (SOLAS), 1974." International Maritime Organization List of Conventions. Retrieved from http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx.

terrorists attacked the French tanker, the Limburg, in the Gulf of Aden off the coast of Yemen. Officials believe terrorists rammed the ship with a small boat armed with explosives, causing a large explosion that damaged the ship, killed one crew member, and spilled tens of thousands of gallons of oil into the Gulf of Aden⁵. These terror attacks brought scrutiny and attention to the need for stricter safety and security measures across different modes of transportation and trade, including international shipping.

After the terror attacks of 2001 and 2002, the International Maritime Organization amended SOLAS to include new comprehensive guidelines for safety and security in international shipping ⁶. The amendment, the International Ship and Port Facility Security Code (ISPS Code), is a set of guidelines for a comprehensive mandatory security system for global and international shipping. It is divided into two sections, Part A and Part B. The first explains the maritime and port security requirements that are mandatory for all nations, ports, and companies. Part B gives a set of recommendations on how to meet the requirements laid out in Part A. Essentially, the ISPS Code establishes an international framework to assess and detect threats to ships and ports, develops roles and responsibilities for all parties, provides a standard methodology for completing security assessments, and ensures that security measures in place are adequate.

The United States has been a member of the International Maritime Organization since 1950⁷. All IMO member nations are required to adopt IMO legislation as part of their own national laws and enforce them as well. The United States included the IMO's SOLAS and ISPS

⁵ BBC News. (October 16, 2002). "Yemen says tanker blast was terrorism." BBC News World Edition: Middle East. Retrieved from http://news.bbc.co.uk/2/hi/middle_east/2334865.stm.

⁶ International Maritime Organization. (2016). "About IMO: Introduction to IMO." Retrieved from http://www.imo.org/en/About/Pages/Default.aspx.

⁷ International Maritime Organization. (2016). "About IMO: Introduction to IMO." Retrieved from http://www.imo.org/en/About/Pages/Default.aspx

Code within the U.S. Code. The U.S. Code is the official compilation of all laws passed in the United States. Title 33 U.S. Code Chapter 1 implements the IMO's safety and security regulations found in SOLAS and the ISPS Code. The U.S. Code also ensures that the United States enforces SOLAS and ISPS Code requirements in a way that is compatible internationally and in a way that does not compromise the safety and security of the United States⁸. The U.S. Code chapter including SOLAS and ISPS Code also contains a law passed by the United States after the terror attacks on September 11, 2001.

Public Law 107-295, or the Maritime Transportation Security Act (MTSA) of 2002, was passed in November 2002 to amend the Merchant Marine Act of 1936. The Merchant Marine Act of 1936 was the most current law the U.S. had in regards to safety and security in U.S. ports until the MTSA. A lot changed in the United States between 1936 and 2002. For instance, in 2002, there were 361 public ports in the United States. These ports handle a variety of different types of trade including bulk cargo, containerized cargo, passenger transport, tourism, and many others. Due to their importance to international trade and the national economy, ports have frequently been the targets of various crimes such as drug trafficking, cargo theft, smuggling, and human trafficking, amongst others. Ports have constant traffic of cargo, equipment, and people, and they are often vulnerable and exposed to the elements, making them susceptible to threats. The goals of the MTSA are to increase United States port security while ensuring efficiency of shipping and trade. The MTSA helped to strengthen security requirements, invest in safety and security technology, increase collection of intelligence, support counter terrorism and law enforcement efforts, and much more?

⁸ Title 33 US Code Chapter 1 (from GPO) https://www.gpo.gov/fdsys/pkg/CFR-2003-title33-vol1/content-datail.html

⁹ Public Law 107-295 Maritime Transportation Security Act of 2002 (also from GPO) https://www.gpo.gov/fdsys/pkg/PLAW-107publ295/pdf/PLAW-107publ295.pdf

The MTSA was in part due to the fact that the IMO was also trying to strengthen maritime security legislation after the terror attacks in 2001 and 2002. To parallel the IMO's strengthening of legislation, the United States decided it was imperative to improve safety and security legislation as well. Perhaps one of the most important parts of the MTSA is the creation of the Foreign Port Assessment program. The Foreign Port Assessment program allows the Secretary of the Department of Homeland Security to assess the effectiveness of safety, security, and counter terrorism requirements at overseas ports.

When conducting these assessments, the Secretary must consider:

- Screening of cargo and baggage;
- Physical security/ restricted access to cargo, vessels, and dockside property;
- Additional security at ports and on vessels;
- Compliance certifications;
- Foreign port security management program;
- Counter terrorism measures ¹⁰.

The Secretary of Homeland Security, who is the principal federal officer in charge of the United States Coast Guard, is responsible for several components with Foreign Port Assessments. The Secretary must discuss the involved countries with the Secretary of Defense and the Secretary of State in order to identify which foreign ports have a high terror threat to international shipping and commerce. If the Secretary completes a Foreign Port Assessment on countries identified as a threat by the Secretaries of State or Defense, and consequently finds inadequate counter terrorism measures, the Secretary must notify the Departments of State and Defense immediately¹¹.

¹⁰ Public Law 107-295 Maritime Transportation Security Act of 2002 (also from GPO) https://www.gpo.gov/fdsys/pkg/PLAW-107publ295/pdf/PLAW-107publ295.pdf

¹¹ Public Law 107-295 Maritime Transportation Security Act of 2002 (also from GPO) https://www.gpo.gov/fdsys/pkg/PLAW-107publ295/pdf/PLAW-107publ295.pdf

In the event that a country's security measures are found "inadequate" by the Secretary, the Secretary is allowed to implement 'conditions of entry' on all ships going to or coming from that port. The Secretary may also deny entry to any vessels that originated or passed through a port with inadequate security measures ¹². If the Secretary deems that a country is insecure or inadequate in meeting international security standards, the Secretary must notify both the government of the foreign country as well as the U.S. State Department.

Perhaps the most important aspect of these assessments are that the Secretary may publish Port Security Advisories (PSAs) listing conditions of entry or denial of entry for ports that are deemed inadequate. These Port Security Advisories and potential sanctions generally take effect 90 days after notification of the foreign government, unless the foreign government immediately complies and resolves the issue. The PSAs may also take effect immediately if the situation at the foreign port creates an immediate threat to safety and security of vessels, crews, and passengers. Only when the Secretary deems it appropriate can a PSA be cancelled and the affected foreign country be removed from the PSA list¹³. These PSAs are intended to coerce foreign governments into complying with the international security standards established by the IMO.

¹² Public Law 107-295 Maritime Transportation Security Act of 2002 (also from GPO) https://www.gpo.gov/fdsys/pkg/PLAW-107publ295/pdf/PLAW-107publ295.pdf

Public Law 107-295 Maritime Transportation Security Act of 2002 (also from GPO) https://www.gpo.gov/fdsys/pkg/PLAW-107publ295/pdf/PLAW-107publ295.pdf

Geopolitical Implications

<u>Nigeria</u>

Nigeria is bordered by Benin, Niger, Chad, and Cameroon with an 853 km coastline. The country is divided into 36 states, with one Federal Capital Territory. Nigeria is the most populous country in Africa, nearing 170 million people. Demographically, it is composed of more than 250 ethnic groups; the most populous and politically influential are: Hausa and the Fulani 29%, Yoruba 21%, Igbo (Ibo) 18%, Ijaw 10%, Kanuri 4%, Ibibio 3.5%, Tiv 2.5%. This has allowed for a diverse religious makeup, primarily divided between Christianity in the South and Islam in the North, with a variety of other religious followings throughout. It is also home to the largest economy on the continent with an estimated gross domestic product (GDP) of \$1.1 trillion USD in 2015¹⁴.

That being said, Nigeria's economy is one based very heavily on petroleum and oil production. Nigeria entered OPEC in 1971. Recently, OPEC countries have been facing economic issues relating to the substantial downturn in oil prices. Not only that, but the US was the largest importer of Nigerian oil up to 2012, bringing in approximately \$22.3 billion in oil imports that year. This was a substantial part of Nigeria's economy before the recent surge in US petroleum and natural gas production. By 2015 the US had decreased annual imports of oil down to only \$1.9 billion¹⁵. This economic strain on the government has only been compounded by internal issues and political strife.

Nigeria's recent 2015 election of Muhammadu Buhari, a self-proclaimed reformed dictator now democrat, may cause the country to undergo drastic political changes as it

¹⁴ Central Intelligence Agency. 2016. *The World Factbook - Nigeria*. Retrieved (https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html)

Skills, UK Department for Business Innovation and. n.d. "International Trade in Goods Based on UN Comtrade Data." Retrieved December 8, 2016 http://comtrade.un.org/labs/BIS-trade-in-goods.

transitions to a democracy¹⁶. The Department of State (DoS) noted that Nigeria "faces formidable challenges in consolidating democratic order, including terrorist activities, sectarian conflicts, and public mistrust of the government. Nigeria has yet to develop effective measures to address corruption, poverty, and ineffective social service systems, and mitigate the violence¹⁷. Buhari ran on a platform of anti-corruption, advocating for defeat over Boko Harem. As of 2015, Nigeria has become one of the ten nonpermanent members of the UN Security Council, but problems with terrorist activity currently persist.

Boko Haram emerged in the region in 2002. They operate on Chaos theory, hoping to establish an African Islamic State. They want to destabilize the Nigerian government and any Western influences. Boko Haram literally translates to "Western education is forbidden." They were originally aligned with Al Qaeda, but have since pledged allegiance to ISIS. They are a major threat to Nigerian security, and are moving towards being capable of increasing the spreading violence throughout neighboring regions of Sub-Saharan Africa. By November of 2013 the DoS had designated Boko Haram as a Foreign Terrorist Organization. Although, the group has not been able to project force into Western countries, the intensification of their operations since 2013 has evolved the group to become a major terrorist threat to stability and security in region. Moving to 2014, Nigeria "witnessed the largest increase in terrorist deaths ever recorded by any country, increasing by over 300 percent to 7,512 fatalities" This upsurge in activity pushed Boko Haram to become the most deadly terrorist group in the world. They

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¹⁶ Smith, David. 2015. "Muhammadu Buhari: Reformed Dictator Returns to Power in Democratic Nigeria." *The Guardian*, March 31. Retrieved December 8, 2016 (https://www.theguardian.com/world/2015/mar/31/muhammadu-buhari-military-dictator-nigeria-new-democratic-president).

¹⁷ Anon. 2016c. "U.S. Relations with Nigeria." *U.S. Department of State*. Retrieved December 7, 2016 (http://www.state.gov/r/pa/ei/bgn/2836.htm).

¹⁸ Institute for Economics & Peace. n.d. *Global Terrorism Index Report 2015*. Retrieved http://economicsandpeace.org/wp-content/uploads/2015/11/2015-Global-Terrorism-Index-Report.pdf

have committed multiple human rights violations, and utilized tactics such as vehicle rigged IEDs on civilians. The group performed numerous large tactical assaults on villages, but the attention of the western world has grown substantially since they kidnapped over 300 school girls in the Chibok Abduction in April of 2014. Boko Haram's indiscriminate targeting of men, women and children continues to highlight the group's senseless brutality¹⁹. By May 15, 2014 Nigeria declared a state of emergency due to the continuous conflicts, but their role in the suppression of these conflicts caused great concern abroad. Securing foreign assistance has been problematic, as just a year earlier the DoS released a report noting credible allegations that Nigerian security forces had been committing gross human rights violations (Kerry 2013). By May 22, 2014, the UN Security Council listed Boko Haram as a security threat (Anon 2014a). The group executed another series of attacks in early January 2015, leaving as many as 2,000 dead in their wake. They are currently confined primarily to the Northern region of Nigeria, but they have been moving into neighboring countries, such as Chad and Cameroon. These countries have since reinvested in the Multinational Joint Task Force, which consists of forces from Benin, Cameroon, Chad, Niger, and Nigeria. This task force is aimed to counter and suppress Boko Haram, but the conflict continues. Currently, the DoS is providing approximately \$71 million worth of equipment, logistics support, and training to the MNJTF signatory countries, including Nigeria, but this is not the only regional group of concern that may hinder foreign relations and trade (Anon 2016b).

Another militant movement has emerged in Nigeria around the southern coast. Since the emergence of the group known as Movement for the Emancipation of the Niger Delta (MEND)

¹⁹ Kirby, John. 2015. "The United States Condemns Boko Haram Attacks in Cameroon and Nigeria." *U.S. Department of State*. Retrieved December 7, 2016 (http://www.state.gov/r/pa/prs/ps/2015/08/246644.htm).

around 2006, they have been to blame for the steady rise in piracy in the Gulf of Guinea. The group emerged as a localized militant organization to combat overseas oil interests and government corruption, which has led to numerous attacks on oil industry vessels and assets. Although MEND had an overarching objective, high unemployment was partially to blame for the uprising. Of Nigeria's 170 million over 62% people live in extreme poverty²⁰. In 2009 the expresident enacted an amnesty program with stipends, which pushed MEND to become mostly defunct.

Since then, continuous levels of high youth unemployment, along with other regional socioeconomic, and ethnic issues have fueled the emergence of another militant presence aimed to hinder foreign oil interests, known as the Niger Delta Avengers. These continuous attacks on trade and foreign interests have greatly hindered trade relations. In June, of 2013 Shell announced it was going to review operations in Nigeria²¹. This emigration of industrial resources had a direct effect on Nigeria's production capabilities throughout the year. News reports from mid-2016 indicate the group "targeted major platforms belonging to Shell and Chevron in the past few weeks, and its attacks have driven the country's oil output to a near 22-year low"²². Due to the prevalence of these attacks, compounded continuous piracy, which plagues the Gulf of Guinea, the Nigerian Maritime Administration and Safety Agency has had to enhancing trade security operations.

²⁰ Central Intelligence Agency. 2016. *The World Factbook - Nigeria*. Retrieved https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html

²¹ Anon. 2014b. "Stakes in Four Nigerian Oil Fields Being Sold by Shell." *Nigeria Sun*, August 28. Retrieved (http://www.nigeriasun.com/index.php/sid/225153307.

Quenot, P. 2016. Rise of New Rebel Groups, Backed by Local Ethnic and Separatist Movements Risk to Transform Oil Producing Niger Delta Regions into Hotbed of Insurgency. European Strategic Intelligence and Security Center. Retrieved <a href="http://www.esisc.org/upload/publications/briefings/rise-of-new-rebel-groups-backed-by-local-ethnic-and-separatist-movements-risk-to-transform-oil-producing-niger-deltaregions-into-a-hotbed-of-insurgency/Niger% 20Delta% 20Avengers% 20-% 20May% 202016% 20(2).pdf

The country has potential to prevail. Similar to up and coming BRICS countries (Brazil, Russia, India, China, and South Africa), economists predict that Nigeria may be part of another set of economically developing countries known as MINT, which symbolizes Mexico, Indonesia, Nigeria, and Turkey²³. After meeting newly elected Federal Republic of Nigeria President Buhari in early 2016, Secretary John Kerry "noted Nigeria's potential to enhance its agricultural production and infrastructure, and the potential of these industries to generate more employment opportunities, especially for Nigerian youth"²⁴. This may be essential for a country, whose economy has been reliant on fluctuating, oil-based trade. The country has much room for improvement, but is moving in that direction.

Nigeria's health care system has been on the rise. Although Ebola made its mark on the country, it was the first country to contain and eliminate the threat. Unlike the situation in Guinea, Liberia and Sierra Leone, all identified contacts were physically monitored on a daily basis for 21 days (WHO). The Nigerian Centre for Disease Control (NCDC), the Nigeria Field Epidemiology and Laboratory Training Programme and the State Ministry of Health, assisted by WHO, were very successful at quickly identifying issues. Even though their analysis revealed an alarming number of high-risk individuals near Port Harcourt, this allowed authorities to effectively mitigate issues before any further problems could emerge. Trade may have been slightly affected by these outbreaks, but piracy throughout the coast may have had a more significant impact on trade. Collaborations between the Nigerian Ports Authority and Port of Antwerp in Belgium, which is the second biggest port in Europe, have been helping to improve

²³ Anon. 2014c. "The Mint Countries: Next Economic Giants?" *BBC News*, January 6. Retrieved December 8, 2016 (http://www.bbc.com/news/magazine-25548060).

²⁴ Anon. 2016a. "Secretary Kerry's Meeting with Federal Republic of Nigeria President Buhari." *U.S. Department of State*. Retrieved December 7, 2016 (http://www.state.gov/r/pa/prs/ps/2016/03/255383.htm).

port related issues throughout the country. Until underlying socioeconomic issues are addressed, such as the high levels of unemployment, piracy and other targeted attacks on foreign interests may not concede.

Senegal

Geography

Senegal is a country in West Africa, bordered by The Gambia, Guinea, Guinea-Bissau, Mali, Mauritania, and the Atlantic Ocean. The Gambia is actually almost completely enveloped within Senegal. Senegal has a total land area of 196,722 square kilometers. The terrain is generally plains with foothills in the southeastern region of the country. The climate is hot and humid with a rainy season from May to November and a dry season from December to April. Fish, phosphates, and iron ore are among the most abundant natural resources in Senegal. About 43.8% of Senegal is forested land, and another 46.8% is agricultural land²⁵.

The capital of Senegal is Dakar, which is located near the western shore. It is currently the political capital, as well as a diverse cultural center and popular tourist destination²⁶.

History

Senegal used to be part of several ancient kingdoms and empires, including the Ghana and Djolof kingdoms before European contact²⁷. During the era of colonization, Senegal became a French colony. In 1960, Senegal gained its independence from France and formed a democratic government²⁸. In 1960, the United States established diplomatic relations with Senegal after it

²⁵ Central Intelligence Agency. (2016). Senegal. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html

²⁶ Camara, C., Clark, A., and Hargreaves, J. (2016). Senegal. Encyclopaedia Britannica. Retrieved from https://www.britannica.com/place/Senegal.

²⁷ Camara, C., Clark, A., and Hargreaves, J. (2016). Senegal. Encyclopaedia Britannica. Retrieved from https://www.britannica.com/place/Senegal.

²⁸ Central Intelligence Agency. (2016). Senegal. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html

gained independence²⁹. Senegal has remained a firm ally of France and the United States, and has a history of participating in peacekeeping missions and interregional mediation efforts³⁰. Senegal is a member nation of the United Nations, International Monetary Fund, World Bank, and the World Trade Organization³¹.

Demographics

Senegal's population in 2016 was about 14,320,055. There are many ethnic groups in Senegal, with the largest being the Wolof, who comprise 38.7% of the population. The Pular make up 26.5%, the Serer make up 15%, and several other ethnic groups make up the rest. Senegal's official language is French, although Wolof, Pulaar, Jola, and Mandinka are commonly spoken languages within their respective ethnic groups as well.

Senegal has several religions among its population, however most people are Muslims. Over 95% of the population is Muslim, while only about 4.2% are Christian. There is also a small percentage of people in Senegal who practice animism.

Since the 1989 border conflict with Mauritania, Senegal has taken in several thousand black Mauritanian refugees. Senegal has historically been a major destination for economic migrants, immigrants, and others.

The largest percentage of the population in Senegal is young people. 41.85% of the population is 0-14 years of age, and another 20.36% of the population is 15-24 years of age. The

²⁹ US Department of State. (2016). US Relations with Senegal Fact Sheet. Bureau of African Affairs. Retrieved from http://www.state.gov/r/pa/ei/bgn/2862.htm

³⁰ Central Intelligence Agency. (2016). Senegal. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html

³¹ US Department of State. (2016). US Relations with Senegal Fact Sheet. Bureau of African Affairs. Retrieved from http://www.state.gov/r/pa/ei/bgn/2862.htm

population is growing at a rate of 2.42%, with 34 births per 1,000 population, but only 8.3 deaths per 1,000 population³².

Economy

Senegal's economy mainly relies on mining, construction, tourism, fisheries, and agriculture. Their main export industries are phosphate mining, production of fertilizer, and agricultural products (CIA 2016). Senegal relies heavily on imports and donor assistance. Senegal is operating under the Emerging Senegal Plan (ESP), a plan created by their current president to reform and improve the economy.

Senegal's gross domestic product (GDP) was approximately \$36.69 billion USD in 2015, showing steady growth over the past few years.

Senegal has a relatively high unemployment and poverty rate. The 2011 estimate showed 46.7% of the population living below the poverty line. Unemployment rates reached 48% in 2007.

Senegal exports much less than they import. The 2015 estimates show \$2.31 billion USD worth of exports, and \$4.918 billion USD worth of imports to Senegal³³.

Security Issues

The Casamance region in the southern part of Senegal had a history of violence since the 1980s due to separatist groups³⁴. The Gambia and Guinea Bissau have had issues with separatist

³² Central Intelligence Agency. (2016). Senegal. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html

³³ Central Intelligence Agency. (2016). Senegal. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html

³⁴ US Department of State. (2016b). Senegal 2016 Crime and Safety Report. US Department of Diplomatic Security. Retrieved from https://www.osac.gov/pages/ContentReportDetails.aspx?cid=19480.

violence, raids, and arms smuggling across their Senegalese borders³⁵. In recent years however, violence and like kind activity has decreased slightly.

In 2014, Senegal confirmed its first and only Ebola case, and quickly responded to the ensuing public health threat. The case was quickly closed and Senegal's Ebola crisis ended quickly.

The threat of terrorism is real, despite no direct terror attacks in Senegal. Although Senegal is fairly stable, other countries nearby are less stable, and there are many porous borders in the region³⁶.

Trade surrounding major events

The first year of trade data available was 2007, which shows Senegal's trade at 424,457 TEUs. The next year, 2008, Senegal's trade drops from 424,457 TEUs to 347,483 TEUs. This could potentially be explained by the elections Senegal saw in 2007, although it is unknown whether this is actually the case. President Abdoulaye Wade was elected in 2000 after 40 years of Socialist Party rule. He was reelected in 2007 to a second term and amended the Senegalese Constitution to give the executive branch more power. He ran for a third term in 2012, but was defeated by the current president, Macky Sall³⁷. The trade in TEUs in 2012 was 396,822,455 TEUs, much higher than in 2008, however, after Macky Sall's election, trade grew significantly to 428,171,428 TEUS. Although trade in TEUs mostly rose from 2007-2014, these significant decreases and increases could be a result of the political atmosphere surrounding the elections.

Cote D'Ivoire

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³⁵ Central Intelligence Agency. (2016). Senegal. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html

³⁶ US Department of State. (2016b). Senegal 2016 Crime and Safety Report. US Department of Diplomatic Security. Retrieved from https://www.osac.gov/pages/ContentReportDetails.aspx?cid=19480.

³⁷ Central Intelligence Agency. (2016). Senegal. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html

Geography

Cote D'Ivoire is a country in western Africa, bordered by Burkina Faso, Ghana, Guinea, Liberia, Mali, and the Atlantic Ocean. The total land area is 322,463 square kilometers. Cote D'Ivoire's terrain is mostly flat plains with mountains in the northwest region of the country. The climate is tropical on the coast, semi-arid in the norther region, and there are generally three seasons throughout the year.

There are a variety of natural resources found in Cote D'Ivoire, including petroleum, natural gas, diamonds, manganese, iron ore, cobalt, bauxite, copper, gold, nickel, and much more. Cote D'Ivoire's land is 32.7% forested and 64.8% agricultural land.

History

In the era of colonization, Cote D'Ivoire became a French colony. Cote D'Ivoire gained their independence from France in 1960, after they became the most prosperous West African state due to their cocoa production exports.

However, in 1999, a military coup overthrew the government and set off over a decade of turmoil and conflict. The Junta leader Robert Guei rigged the 2000 elections to win, but protest led to Laurent Gbagbo taking power. This led to a failed coup attempt in 2002 that led to civil war, which ended in 2003 with a ceasefire. In 2007, President Gbagbo compromised with the rebel resistance leader, Guillaume Soro, to integrate the rebels into the armed forces and have Soro join Gbagbo's government. When the elections came around in 2010, Gbagbo lost and Alassane Dramane Ouattara won the presidential election. However, Gbagbo refused to give up power, leading to a standoff that only ended in 2011 after UN and French forces forced him from

office³⁸. The United Nations and French peacekeeping forces have remained in Cote D'Ivoire since 2011 to assist President Ouattara in rebuilding Cote D'Ivoire after years of conflict. Former president Gbagbo is waiting to go to trial in The Hague for crimes against humanity³⁹.

The United States has a friendly relationship with Cote D'Ivoire and is committed to helping the country move beyond its history of conflict, restoring peace, and supporting a legitimate democratic government⁴⁰.

Demographics

The population of Cote D'Ivoire is 23,740,424. There are many ethnic groups that make up the total population. Akan makes up 32.1% of the population, Voltaique or Gur makes up 15%, Northern Mande makes up 12.4%, and many other groups comprise the rest. The official language is French, but over 60 native dialects are spoken. Cote D'Ivoire is also religiously diverse. Muslims make up 40.2% of the population, Catholics make up 19.4%, Evangelicals make up 19.3%, Christians make up 4.5%, and many other religions exist in small percentages.

Most of Cote D'Ivoire's population are younger people. The growth rate is 1.88%, with a birth rate of 28.2 births per 1,000 population, and a death rate of just 9.5 deaths per 1,000 population⁴¹.

Economy

The economy of Cote D'Ivoire is dependent upon agriculture, where almost two-thirds of the population works. Cote D'Ivoire is the world's largest producer of cocoa beans, and is a

³⁸ Central Intelligence Agency. (2016). Cote D'Ivoire. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/iv.html

³⁹ Central Intelligence Agency. (2016). Cote D'Ivoire. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/iv.html

⁴⁰ US Department of State. (2015). US Relations with Cote D'Ivoire Fact Sheet. Bureau of African Affairs. Retrieved from http://www.state.gov/r/pa/ei/bgn/2846.htm.

⁴¹ Central Intelligence Agency. (2016). Cote D'Ivoire. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/iv.html

major producer of coffee and palm oil- meaning Cote D'Ivoire's economy depends significantly upon the international demand and prices for these items. Since 2011, Cote D'Ivoire has experienced more foreign investment and has seen significant economic growth.

The gross domestic product, or GDP, for Cote D'Ivoire is \$78.62 billion USD, which is an increase from the last several years. They are also exporting more than they are importing. In 2015, they exported \$11.98 billion USD, but only imported \$8.609 billion USD⁴².

Security Issues

There have been many security concerns due to Cote D'Ivoire's long history of political conflict, insurgency, and civil war. This began in 1999 and was not stabilized until 2011.

Trade Surrounding Major Events

No trade data is available for Cote D'Ivoire in 1999, so it is difficult to know if the military coup affected trade in Cote D'Ivoire. However, trade data for the years during and after Gbagbo's removal and Ouattara's election is suggestive. In 2010, Cote D'Ivoire's trade in TEUs was 607,730 TEUs. In 2011, it was 642,370.61 TEUs. In 2012 after the transfer of power, it was 690,548.406 TEUs. By 2014, it was 783,101.918 TEUs, a large increase in trade compared to before the elections. This does not mean that the coup and elections affected trade, but it is suggestive that changes were occurring in the country at that time that did affect trade.

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⁴² Central Intelligence Agency. (2016). Cote D'Ivoire. The World Factbook. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/iv.html

Challenges and Issues

Although some countries face different issues when it comes to port security, most countries face similar issues as well. All cargo going in and out of ports could be targeted by smuggling, terrorism and theft. As long as these threats still exists, port security will be a necessity. Organized crime groups exploit weaknesses in the security of each port in order to achieve their goal. Due to this, port security must remain of upmost importance.

As crime and criminal activity evolves, security must evolve as well. For an example, crime does not just occur at the port of a country. Now, there is evidence of crime happening in the waters themselves as in the case of sea robbery. Port security must now regulate and protect land and water, which means more personnel, time and money. However, due to a lack in financial resources that most countries face, this can be a difficult task. Ports can hurt financially by direct loss due to crime and costs for hiring and training personnel. Some non-monetary costs that ports may see due to criminal activity are time loss due to time spent with police and attorneys, loss of life and loss in productivity.

Besides financial resources acting has a hindrance to port security, coordination, cooperation and communication with international government can present barriers as well⁴³. Multiple government agencies must work together in order to provide effective port security. Language barriers play a huge part in this hindrance.

Besides present day challenges, it is important that ports look to the future and try to get morph and evolve in advance of coming challenges. The world is always changing and updating which in turn brings changes in technology and innovation. Having the most up to date technology will help improve security and access to the country's port. However, with the

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⁴³ US DOT, 1997 - http://ntl.bts.gov/lib/16000/16900/16918/PB2000106164.pdf

evolution of technology, countries must also be aware of hackers and criminals who can get into a ports system and send false communication in order to redirect cargo. In order to help fight against this type of crime, the United Nations World Ministerial Conference on Organized Transnational Crime drafted recommendations to protect their technology.

As with other aspects of the world, privatization has become more and more popular. Privatization of ports increases productivity and decreases handling times in cargo handling and ship turnaround. Competition has also decreased port fees and increased supply. However, with privatization comes its own set of issues and complications. Privatization has seen relaxation of controls and fewer cargo inspections, meaning it is now easier to smuggle illegal items from these ports.

When thinking about security in general, say in terms of TSA at an airport, it is easier to handle issues and be more thorough when the amount of people in the airport is manageable. When the airport gets crowded with people, it creates a more hectic environment for TSA to manage. The same can be said for port security. When there is congestion at the port, security must be prepared to deal with any and all issues, especially criminal, resulting for this congestion. A common government response to congestion in a port is to relax customs inspections in order to get the cargo out of the port faster⁴⁴. As one can imagine, this creates issues in security as it allows more opportunities for unauthorized access to cargo and allows more opportunity for criminals to smuggle in items such as drugs or weapons.

Many ports have a "worst case scenario" report. For an example, the Port of Savannah released its report stating that if a nuclear device was sent by shipping container and it exploded, it would destroy both the port itself and over 60,000 people would die immediately. Not only

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⁴⁴ US DOT, 1997 - http://ntl.bts.gov/lib/16000/16900/16918/PB2000106164.pdf

would this be devastating due to loss of life, but it would also cause environmental disaster and a disruption in economy, both in the United States and in the rest of the world. It is important to remember that ports are an attractive location for any terrorist attack. Taking into account all the damage that can be done to a port and the effects on that country and the rest of world, terrorists would be willing to do anything to destroy a port.

What prompts a PSA?

In an effort to restrict terrorism or smuggling of illegal items into the United States, the Maritime Transportation Security Act mandated that the United States Coast Guard evaluate the effectiveness of anti-terrorism measures in foreign ports and monitor shipments that come in from these countries. Since the Coast Guard is in charge of maintaining the security in the ports of the United States, it is up to them to monitor who is allowed to send shipments to the US based on these inspections of other countries ports. If a port is deemed ineffective, a PSA is then given to the country.

After 9/11, the International Maritime Organization added the International Ship and Port Facilities Security Code to the International Convention for the Safety of Life at Sea which gives agencies a foundation for deciding which ports allow potential threats and vulnerability of the ships that dock there⁴⁵.

What does a PSA mean for that country?

Those countries that do not pass inspection of anti-terrorism measures will receive a PSA, or a Port Security Advisory, letting the country know which of its ports are not up to par in their security measures. Furthermore, the PSA will tell the country what these ports need to do in

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⁴⁵ Lundquist, E. (2011) "International Port Security Program: The Coast Guard's watchful eye of ports Overseas. Defense Media Network. March. Retrieved from http://www.defensemedianetwork.com/stories/international-port-security-program/

order to be able to ship into the United States. A re-inspection can be conducted in an effort to lift the PSA on those ports.

Not only are the PSAs given to the country, but they are accessible to the public so that we know whose ports are not maintaining effective anti-terrorism measures ⁴⁶. In addition to the country receiving the PSA, the Coast Guard, with the Department of State, will mandate that the country establish training programs to assist the countries in their security efforts. Additionally, if a PSA issue has not been rectified and the country removed from the list, then that country will appear on the next announcement. For this reason, quantifying PSAs is done by the count of the periods the PSA has been active, not by the count of the "number" of PSAs for a given country.

Current Actions

The Port Security Program is designed to reduce risk to U.S. maritime interests, including U.S. ports and ships. The goal is to have confidence in the effectiveness of a ports implementation of the ISPS Code and for the maritime security standards and security measures to not only meet the requirement, but to exceed the minimum requirements of the ISPS Code. The U.S. Coast Guard has liaison officers all over the world in the trading nations. These officers are to report and communicate with their respective Embassies, maritime professionals, port officials, port security, and other government authorities.

When the Coast Guard visits a country they meet with the ISPS Code Designated Authority, visit the ports, and meet with the U.S. Embassy to discuss and coordinate their efforts.⁴⁷ There are many different factors that the Coast Guard uses when enforcing and

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⁴⁶ Lundquist, E. (2011) "International Port Security Program: The Coast Guard's watchful eye monitors security of ports Overseas. Defense Media Network. March. Retrieved from http://www.defensemedianetwork.com/stories/international-port-security-program/

⁴⁷ USCG Activities Far East. (n.d.). Retrieved November 17, 2016, from https://www.uscg.mil/d14/feact/Security.asp

implementing the ISPS Code. For one, they use the Port Security Risk Assessment Tool. This is to enable users to assess terrorism risks within their area. Another major focus is access control. Not all practices are used at each facility, but some methods are Biometric cards used to access facility, done by the Port of Buenaventura, Columbia, or color changing visitor ID badges, as used by AC Auckland, New Zealand. Electronic surveillance is highly advanced as well. In Kandia, India they use portable explosive vapor detectors, which allows guards to use the machine to test for chemicals associated with weapons. Other methods have been 24 hours per day security guards, water patrols, better lighting towers, and improved perimeter control. In the Ports of Arsew and Bethious in Algeria there are guards stationed at the gas transfer pier twentyfour hours a day. 48 These are just some of the current actions taken today by various ports regarding port security. If the ISPS team or Coast Guards realize that the port security measures are not being followed, then they will work with the country to identify actions that are needed to be made to correct and achieve compliance. If the conditions are not met in the next ninety days, then ships arriving in the U.S. from that port may see a delay in cargo operations or denial of entry. 49

Based on looking at the PSAs issued to our countries of study, it appears that the current actions do not have a strong impact. In Liberia, there have been PSAs for nearly every period. In Cote D'Ivoire and Nigeria the PSAs have come in recent years. Nigeria had much lower numbers in terms of export and import before the year 2004, when they received their first PSA. In the years since the numbers have gone up, but it is still to be seen what the numbers will be in the future since Nigeria have has PSAs issued against them since 2014. As for Cote D'Ivoire, their

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⁴⁸ US Coast Guard Home Port. (n.d.). Retrieved November 17, 2016, from http://homeport.uscg.mil/mycg/portal/ep/home.do

⁴⁹ Lawrence, J. A. (n.d.). International Port Security Program (ISPS): Global Implementation of International Maritime Security Standards. 6-7. Retrieved November 17, 2016.

import and export numbers are roughly the same, maybe slightly higher after receiving their first PSAs. It is hard to tell if the use of PSAs and the consequences of failing to comply is really working and deterring countries from breaking the rules.

Recommendations/Best Practices

Throughout the statistical analysis we found PSAs to be ineffective. The data is not being reported correctly and there is not a checks and balance system on making sure the correct numbers are being presented. As mentioned previously, there are many concerns when it comes to securing ports around the world. Although it may be improbable that all security issues will be fixed, the government should strive to fix or improve as many issues as possible. If the government was to release best practices for port security and response to threats, each country would have a framework to follow on where their security should be focused.

Recommendation #1- A way to increase the likelihood of PSAs being effective would be to track the trade other countries are reporting with the country that has been issued the PSAs. Sanctions on these countries that are willing to trade with countries who have been flagged could decrease the amount of under the table and illegal trade that is happening.

Recommendation #2- Countries with rare natural resources need to be regulated more closely than countries without them. These types of resources show a much higher chance of trade partners engaging in illegal trade⁵⁰. Tracking of where resources came from in countries that do not produce those resources themselves could also be a way of cutting down on illegal trade. If a country has several ores that they do not produce, then it is likely they received them from someone who has been sanctioned and that is a way of tracking their illegal trade activities.

⁵⁰ Feldman, D. L. (2003). "Conflict Diamonds, International Trade Regulation, and the Nature of Law". University of Pennsylvania Journal of International Economic Law. *24:4*. 835-874.

Recommendation #3-Lastly, it is a well-known fact that numbers are not being reported accurately. It should be required to utilize a standard application to track and report trade volumes, and if it is not done accurately, sanctions should be handed down. When it comes to technology, countries have a wide variety of accessibility. Wealthier countries may use the most expensive (most accurate) technology to track shipments where less fortunate countries may be forced to use less reliable technology. These different technologies may not be compatible, meaning the information that one country has may not be able to share it with another country because their technology will not be able to receive it, essentially making the information useless.

In addition to improving the effectiveness of the PSA process, we find there are numerous actions that could be taken to prevent PSAs from needing to be issued at all. Reducing that administrative burden would be the first step.

Recommendation #4- Develop standard operating procedures (SOPs) to ensure that port security and other personnel are prepared to effectively respond to any situation. These SOPs could be disseminated by the International Maritime Organization to all participating nations.

Along those same lines, it is important that those security agents are able to remain calm during a response in an effort to limit any panic in the port, both of the government and of the citizens.

Recommendation #5- Develop standard operating procedures for emergency responses. When dealing with large ports, or several ports in one cluster, response to an emergency can be a daunting task. For instance, consider the ports in Los Angeles and Long Beach; where multiple emergency response agencies would be involved in responding to a disaster. In fact, 15 different federal, state and local agencies would respond if an issue was to arise at one, or both, of these ports. While having so many trained personnel would be helpful; no one particular agency would

be completely in charge if a disaster or terrorist attack were to occur making coordination a logistical challenge. One possible solution would be to create a security committee, to coordinate responses at locations with port in close proximity. In this committee, representatives from certain key agencies would create a plan that would provide for better coordination. This committee would communicate the appropriate chain of command for emergency response.

Recommendation #6- Focus on threat prevention. A container of goods makes approximately 17 different stops along the way in making it to its destination country⁵¹. At many of these stops, the container is at rest, making it accessible for criminals to get into, especially if the container is only closed and not sealed. Maintaining consistent oversight of containers in transit decreases the active threat, therefore reducing the burden of security in port and the PSA issuance and review process.

⁵¹ Haveman, J.D., Shatz, H.J. (2006). *Protecting the Nation's Seaport: Balancing Security and*Policy Institute of California. Retrieved from
http://www.ppic.org/content/pubs/report/R 606JHR.pdf.

Conclusion:

As we have seen throughout comparing PSAs and the effect they have on various ports throughout the world, the results are not always as clear as would be hoped. Comparing trade between countries confined to the continent of Africa seemed to be a fantastic way of narrowing down trade data into one specific population; but once that trade data is studied more in depth it is not as simple as it seems. Africa is still a very large continent and comparing two ports is not always like comparing New York and New England and more like comparing Miami and Anchorage. The hypothesis that PSAs are not effective in decreasing trade appears to be proven when looking at the statistical data collected.

However, PSAs appear to have an effect on trade under certain circumstances within Liberia. Liberia, a country with 28 periods of open PSAs left unresolved, presents incomplete or faulty trade data suggesting some reduction took place ⁵². The question becomes whether or not the case is truly that they are not trading goods or that they are just not reporting the trade that is happening. But, Cote D'Ivoire, another country that spent a large amount of time with PSAs left unresolved from 2011 to March of this year, continued to report all their data. Using Cote D'Ivoire as a model, there was no significant negative change; in fact, there was a steady gain throughout those years ⁵³. This leads us to believe that the trade is not being affected, it is just being underreported. Regulations do not seem to be taken seriously, which is a scary thought especially with the likelihood of attack in this day and age.

The effects of PSAs become even less apparent when a country such as Sierra

Leone is compared with a country like Ghana. Ghana has not been issued a PSA and has had a

⁵² Table 1

⁵³ Table 12

steady growth rate of import and exports over the past 15 years⁵⁴. Sierra Leone was issued PSAs, then resolved them, then with new ones issued on multiple occasions has not reported much trade data at all. But, by researching what other countries have reported with Sierra Leone, a completely different story emerges. We found that trade increased from 2001 to 2002 by approximately 20% in Sierra Leone⁵⁵. There was no PSA issued before this so a major reason for the change appears to be the ending of the Civil War, plus a mining community development fund, that returns a portion of diamond export taxes to diamond mining communities. That raised the local communities' stakes in diamonds and gave them a reason to market their diamonds to legitimate trade rather than diamond smugglers⁵⁶.

The period we looked for from the issuance of Sierra Leone's first PSA was from 2003 to 2004. From the countries that reported trade with Sierra Leone, it was actually determined that there was almost a similar trade value between the two years. Since the end of the civil war in 2002 Sierra Leone's economy profoundly recovered with a GDP growth rate between 4 and 7%. The issue with issuing a PSA to a country like Sierra Leone is that their most important exports are 29% diamonds and 14%, both of which are highly desirable. These are rare and valuable commodities and issuing PSAs does not diminish other countries' interest in obtaining these resources.

Another possibility for the skewed trade data is that many of the countries have underreported trade. The rationale for this may be that many of these countries have sanctions on their trade due to the PSAs, which forces them to engage in illegal trade. The question is then proposed: are PSAs then more of an encouragement for illegal trade? Does the issuance of PSAs

⁵⁴ Table 18

⁵⁵ Table 22

⁵⁶ Feldman, D. L. (2003). "Conflict Diamonds, International Trade Regulation, and the Nature of Law". University of Pennsylvania Journal of International Economic Law. *24:4*. 835-874.

actually force countries who worked to create safer ports, into illegal trade causing an unsafe trade environment and increasing the likelihood of terrorist activity? The data suggests a correlation between countries who have PSAs and the lack of reporting trade data, some of it becoming illegal trade.

An example of illegal trade is the illegal seafood imports to the United States. In an article estimating the illegal and unreported fish in seafood imports to the US the authors found that the illegal trade is estimated between \$1.3 and \$2.1 billion⁵⁷. The authors discovered that between 20%-32% of wild-caught seafood trade is illegal, likely because of altered chain of custody documents which facilitate these products into US markets. This same method could be used to import any product illegally. They also stated that another method used is the large number of opaque supply chain companies. There are so many products being moved that it is very difficult to validate every item being moved. If ports that have a PSA currently issued and wish to get a product shipped, it is definitely not unheard of that documents are altered. This is just one possibility from a large variety of reasons why trade may not be reported properly.

However, correlation may not imply causation. Just because a country shows a large drop in trade or in gain in trade in a certain year does not mean the PSA issued or not issued caused that. Many of these countries are third world and there are a variety of economic reasons behind a change of data. While PSAs may cause inconvenience and create the need for countries to go around the regulations and sanctions that are placed on them, they are not working to prevent these countries from doing so⁵⁸. Many of these countries, especially in Africa, have significant

⁵⁷ Pramoda, G., Nakamurab, K., Pitchera, T.J., Delagranc, L. (N.D.) "Estimates of illegal and unreported fish in seafood imports to the USA". Fisheries Centre, University of British Columbia, Vancouver, Canada V6T 174.

⁵⁸ Feldman, D. L. (2003). "Conflict Diamonds, International Trade Regulation, and the Nature of Law". University of Pennsylvania Journal of International Economic Law. *24:4*. 835-874.

goods that cannot be obtained anywhere else in the world. While the PSA regulations create restrictions on the ports within their country, they do not account for other countries who work with the governments to get these products in by other ways.

Future research that could be beneficial to measure effectiveness of PSAs would be to study countries that do not have highly valuable trade commodities. Let us say for example that Australia had nothing available for trade that could not be found elsewhere in the world. Then, Sydney was issued several PSAs for lack of anti-terrorism measures. The hypothesis would be that their trade would drop drastically, because the countries that trade with them would be able to acquire the same product elsewhere without having to deal with the PSAs.

Throughout the statistical analysis we found PSAs to be ineffective. The data is not being reported correctly and there is not a serious check and balance to make sure the correct numbers are being reported. A way to increase the likelihood of PSAs being effective would be to track the trade other countries are reporting with the country that has been issued the PSAs. Sanctions on these importing countries who are willing to trade with countries who have been flagged with PSAs could decrease the amount of illegal trade also⁵⁹. Countries with rare natural resources need to regulated more closely than countries without them. These types of resources show a much higher probability of trade partners engaging in illegal trade. Tracking of where resources came from into countries that do not produce those resources themselves could also be a way of cutting down on illegal trade. All of this helps paint a little better "common operating picture" of the effectiveness of PSAs.

⁵⁹ Feldman, D. L. (2003). "Conflict Diamonds, International Trade Regulation, and the Nature of Law". University of Pennsylvania Journal of International Economic Law. *24:4*. 835-874.

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Table 1: Open PSA periods by Country

Port Security		Cote						Sierra		
Advisory #	■ Date Beni	in 🔼 D'ivoi	Ghana	▼ Guinea	▼ Liberia ▼	Nigeria ▼	Senega ▼	Leone	▼ Togo	▼ Total
1-04	9-Sep-04	✓		✓	✓	√		~		5
2-04	1-Oct-04	~		· ·	4			4		4
3-04	9-Nov-04	✓			✓		·	¥		3
4-04	29-Dec-04	и			~					2
2-05	20-May-05	_			<i>\</i>					1
3-05	30-Aug-05				-					1
1-06	24-Jan-06				<u> </u>					1
1-07	21-Nov-07				~					1
1-08	25-Feb-08				/					1
2-08	6-Mar-08				4					1
5-08	11-Apr-08				✓					1
6-08	12-Jun-08				4					1
7-08	24-Oct-08	,			✓	<u>'</u>				1
1-09	16-Jan-09				~					1
7-09	1-Sep-09				✓					1
10-09	20-Nov-09				~					1
3-10	14-Apr-10				~					1
2-11	5-Apr-11				~					1
3-11	27-May-11	✓			✓					2
4-11	14-Oct-11	~			~					2
1-12	5-Sep-12	✓			✓					2
2-12	27-Nov-12	~			~					2
2-14	12-Jun-14	✓			✓	✓				3
3-14	15-Sep-14	~			~	\				3
1-15	25-Mar-15	✓			✓	✓				3
2-15	13-Apr-15	~			4	~				3
3-15	22-Jun-15	✓			✓	✓				3
1-16	17-Mar-16	~			~	~				3
Total		4 10	0	2	28	7	0	3	0	

Table 2: PSAs Issued by Open Period

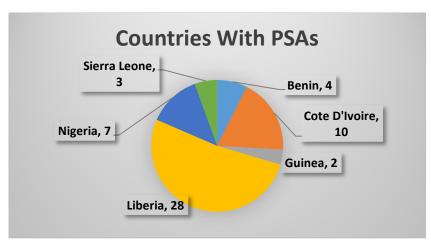


Table 3: PSAs Issued by Open Period

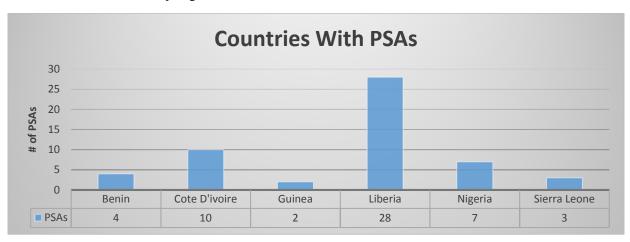


Table 4: Port list-Selected Countries

Country	# of Ports	Port Name
Cote D'ivoire	4 ports	Espoir Terminal
		Port Bouet Tanker Terminal
		Port of Abidjan
		Port of San Pedro
Guinea	2 Ports	Port of Port Kamsar
		Port of Conakry
Senegal	4 Ports	Port of Dakar
		Port of Kaolack
		Port of Lyndiane
		Port of Ziquinchor
Liberia	4 Ports	Port of Cape Palmas
		Port of Greenville
		Port of Buchnan
		Port of Monrovia
Sierra	3 ports	Port of Freetown
Leone		
		Port of Pepel
		Port of Sherbro

Country	# of Ports	Port Name	
Benin	1 port	Port of Cotonou	
Ghana	2 ports	Tem a Port	
		Takoradi Port	
Togo	2 ports	Port of Lome	
		Port of Kpeme	
Nigeria	6 ports	Lagos Port Complex	
		Tin Can Island Port Complex	
		Rivers Port Complex	
		Delta Ports Complex	
		Calabar Port Complex	
		Onne Port Complex	

Table 5: Nigeria v. Algeria Global Trade

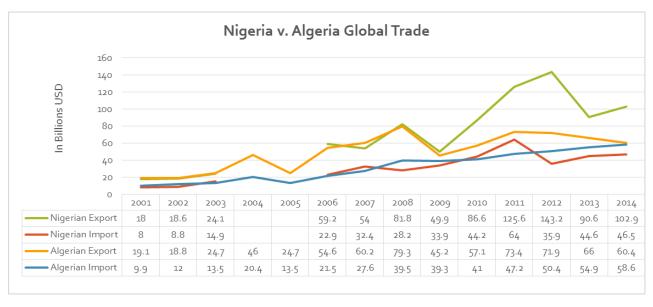


Table 6: Nigeria v. Algeria US Trade

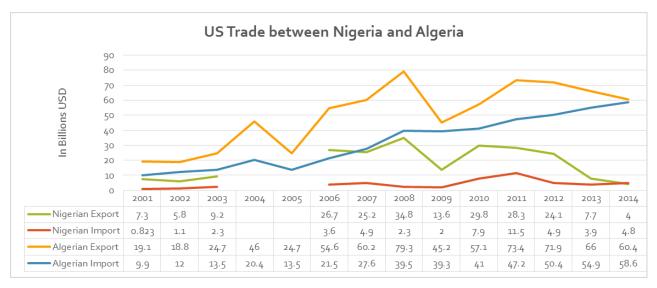


Table 7: Beninese Imports

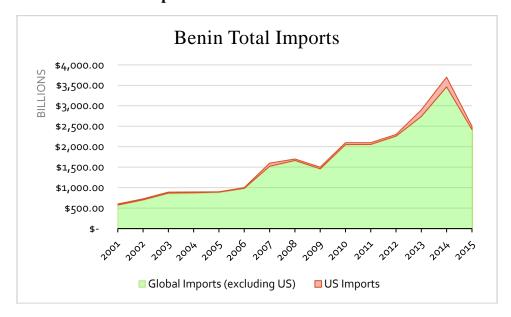


Table 8: Nigerian Global Trade

	Nigeria Global Trade Report			
Year	Export (in Billions USD)	Import (in Billions USD)	Container port traffic (TEU: 20 foot equivalent units)	
2001	18	8		
2002	18.6	8.8		
2003	24.1	14.9	588,478	
2004			512,610	
2005				
2006	59.2	22.9		
2007	54	32.4		
2008	81.8	28.2	72,500	
2009	49.9	33.9	87,000	
2010	86.6	44.2	101,007	
2011	125.6	64	839,907	
2012	143.2	35.9	877,679	
2013	90.6	44.6	1,010,836	
2014	102.9	46.5	1,062,389	

Table 9: Nigerian/US Trade

	Nigeria US Trade Report			
Year	Export (in Billions USD)	Import (in Billions USD)		
2001	7.3	822.8 MM		
2002	5.8	1.1		
2003	9.2	2.3		
2004				
2005				
2006	26.7	3.6		
2007	25.2	4.9		
2008	34.8	2.3		
2009	13.6	2		
2010	29.8	7.9		
2011	28.3	11.5		
2012	24.1	4.9		
2013	7.7	3.9		
2014	4	4.8		

Table 10: Algerian Global Trade

	Algeria Global Trade Report				
Year	Export (in Billions USD)	Import (in Billions USD)	Container port traffic (TEU: 20 foot equivalent units)		
2001	19.1	9.9	311,111		
2002	18.8	12			
2003	24.7	13.5			
2004	46	20.4			
2005	24.7	13.5			
2006	54.6	21.5			
2007	60.2	27.6	200,050		
2008	79.3	39.5	225,140		
2009	45.2	39.3	250,095		
2010	57.1	41	279,785		
2011	73.4	47.2	295,733		
2012	71.9	50.4	317,913		
2013	66	54.9	343,028		
2014	60.4	58.6	360,522		
2015	34.8	51.8			

Table 11: Algerian/US Trade

Algeria US Trade Report			
Year	Export (in Billions USD)	Import (in Billions USD)	
2001	2.7	1	
2002	2.6	1.2	
2003	4.9	709.3 MM	
2004	7.6	1.1	
2005	10.6	1.4	
2006	14.9	1.4	
2007	18.1	2.1	
2008	19	2.2	
2009	10.4	2	
2010	13.8	2.1	
2011	15.1	2.2	
2012	10.8	1.8	
2013	5.3	2.4	
2014	4.8	2.9	
2015	2.2	2.7	

Table 12: Cote D'Ivoire Global Trade

	Cote D'Ivoire Global Trade Report				
Year	Export (in Billions USD)	Import (in Billions USD)	Container port traffic (TEU: 20 foot equivalent units)		
2001	3.6	2.5	543,845		
2002	5	2.6	579,060		
2003	5.3	3.3	612,546		
2004	6.6	4.7	670,000		
2005	7.2	5.9	710,000		
2006	8.1	5.8			
2007	8.1	6.7	590,306		
2008	9.8	7.9	713,625		
2009	10.3	7	677,029		
2010	10.3	7.8	607,730		
2011	11	6.7	642,370		
2012	10.9	9.8	690,548		
2013	12.1	12.5	745,102		
2014	13	11.2	783,102		
2015	11.8	9.5			

Table 13: Cote D'Ivoire/ US Trade

Cote D'Ivoire US Trade Report				
Year	Export (in Millions USD)	Import (in Millions USD)		
2001	272.7	133.8		
2002	374.7	89.8		
2003	389.9	114.1		
2004	669.2	133.7		
2005	1 bn	119.3		
2006	739.4	135.1		
2007	547.2	180		
2008	945.1	209.1		
2009	800.3	228.3		
2010	1.1 bn	235.7		
2011	1.3 bn	128.2		
2012	877.9	254.4		
2013	741	291.6		
2014	1.1 bn	385.9		
2015	962.1	417.4		

Table 14: Senegalese Global Trade

	Senegal Global Trade Report				
Year	Export (in Billions USD)	Import (in Billions USD)	Container port traffic (TEU: 20 foot equivalent units)		
2001	782.4 MM	1.7			
2002	694.7 MM	2			
2003	1.2	2.4			
2004	1.3	2.8			
2005	1.5	3.5			
2006	1.5	3.7			
2007	1.5	4.9	424,457		
2008	2.2	6.5	347,483		
2009	2	4.7	331,076		
2010	2.2	4.8	349,231		
2011	2.5	5.9	369,137		
2012	2.5	6.4	369,822		
2013	2.7	6.6	428,171		
2014	2.8	6.5	450,008		
2015	2.6	5.6			

Table 15: Senegal/US Trade

Senegal US Trade Report			
Year	Export (in Millions USD)	Import (in Millions USD)	
2001	2.5	71.9	
2002	1.1	35.	
2003	8.1	86.3	
2004	2.8	88.4	
2005	16.2	140.9	
2006	6.6	116.7	
2007	9.4	105.3	
2008	11	129.2	
2009	4.4	131.8	
2010	4.6	127.5	
2011	4.4	287.2	
2012	10	174.5	
2013	29.4	152.1	
2014	33.8	142.5	
2015	63.8	139	

Table 16: Beninese Global Trade

	Benin Global Trade Report				
Year	Export (in Millions USD)	Import (in Millions USD)	Container port traffic (TEU: 20 foot equivalent units)		
2001	204.2	601.5	_		
2002	241.7	725			
2003	271.5	892			
2004	298.3	893.8			
2005	288.2	898.7			
2006	224.6	1 bn			
2007	274.4	1.6 bn			
2008	421.1	1.7 bn	300,000		
2009	425.3	1.5 bn	272,820		
2010	533.9	2.1 bn	316,744		
2011	388.6	2.1 bn	334,798		
2012	460.3	2.3 bn	359,908		
2013	602	2.9 bn	388,341		
2014	968.3	3.7 bn	408,146		
2015	625.6	2.5 bn			

Table 17: Beninese/US Trade

Benin – US Trade Report		
Year	Export (in Thousands USD)	Import (in Millions USD)
2001	147.7	26
2002	358.9	21
2003	739	25
2004	285.4	18.2
2005	124.4	9.8
2006	179.7	14.4
2007	162.5	77.9
2008	483.2	34.9
2009	205.5	38.3
2010	105.3	46.3
2011	312.7	45.9
2012	1.9MM	41
2013	3.3MM	161.8
2014	11.7MM	235.6
2015	4.4MM	80.7

Table 18: Ghana Global Trade

	Ghar	na Global Tra	de Report
Year	Export (in Billions USD)	Import (in Billions USD)	Container port traffic (TEU: 20 foot equivalent units)
2001	1.7	3.2	_
2002		2.7	
2003	2.3	3.2	
2004	2.5	4.1	
2005	3.1	4.9	
2006	3.6	5.3	
2007	3.5	7.3	544,294
2008	3.8	8.5	612,847
2009	5.1	6.5	557,323
2010	5.2	8.1	647,052
2011	18.1	12.6	683,934
2012	15.8	13.6	735,229
2013	12.6	12.8	793,312
2014			833,771
2015			

Table 19: Ghana/US Trade

Ghana – US Trade Report		
Year	Export (in Millions USD)	Import (in Millions USD)
2001	120.8	216.2
2002		202.3
2003	67.7	225.8
2004	66.7	362.8
2005	83.5	345.6
2006	106.3	352.3
2007	83.9	555.8
2008	108.1	653.5
2009	100.8	522.9
2010	102.8	1.1BN
2011	444.9	1.3BN
2012	296.7	1.6BN
2013	362.2	1.3BN
2014		
2015		

Table 20: Guinea Global Trade

Guinea Global Trade Report		port
Year	Export (in Millions USD)	Import (in Billions USD)
2001	574.9	600.8
2002	525.4	666.5
2003		
2004	628.7	955
2005	795.7	1.6 bn
2006	770.5	1.1 bn
2007	1.1 bn	1.3 bn
2008	1.4 bn	1.8 bn
2009		
2010		
2011		
2012		
2013	1.8 bn	2.4 bn
2014	1.9 bn	2.5 bn
2015	1.6 bn	2.1 bn

Table 21: Guinea/US Trade

Guinea – US Trade Report		
Year	Export (in Millions USD)	Import (in Millions USD)
2001	96.9	42.7
2002	46.3	55.2
2003		
2004	93.8	73.2
2005	79.5	109.3
2006	79.6	57.6
2007	145.5	78.5
2008	96.1	95.1
2009		
2010		
2011		
2012		
2013	74	72.6
2014	108.2	45.1
2015	84.2	57.2

Table 22: Sierra Leone Global Trade

Sierra Leone Global Trade Report		de Report
Year	Export (in Millions USD) Import (in Millions USD)
2001		
2002	41.4	352
2003		
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012		
2013		
2014	279.3	2.1 bn
2015	93.3	1.8 bn

Table 23: Sierra Leone/US Trade

Sierra Leone – US Trade Report		Report
Year	Export (in Millions USD)	Import (in Millions USD)
2001		
2002	425.6T	17.4
2003		
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012		
2013		
2014	1.3	44.5
2015	756 T	45.3

Table 24: Togo Global Trade

Togo Global Trade Report		
Year	Export (in Millions USD)	Import (in Millions USD)
2001	220.2	355
2002	250.6	405.3
2003	494.6	568.4
2004	389.6	557.8
2005	359.9	592.6
2006		
2007	280	787.1
2008	562.8	1.2 bn
2009	640.2	1.2 bn
2010	648.3	1.2 bn
2011	852.3	1.8 bn
2012	960.9	1.7 bn
2013	1.1 bn	2 bn
2014	803.8	1.8 bn
2015	671.9	1.7 bn

Table 25: Togo/US Trade

Togo – US Trade Report		
Year	Export (in Millions USD)	Import (in Millions USD)
2001	15.5	21.1
2002	3.13	21
2003	12.1	17
2004	1.97	24.8
2005	8.66	27.9
2006	2.75	108
2007	6.59	249
2008	11.5	106
2009	6.6	116
2010	9.27	171
2011	29.9	201
2012	48.2	409
2013	8.41	832
2014	5.32	1.01 bn
2015		

Table 26: Nigeria Imports and Exports 2015

\$34,795,951,495
\$51,803,071,086
-\$17,007,119,59
30.53%
31.98%

Table 27: Algeria Imports and Exports 2015

otal Trade	
Total Exports (2015)	\$11,844,759,193
Total Imports (2015)	\$9,532,205,628
Trade Balance (2015)	\$2,312,553,568
Exports of goods and services (% of GDP) 🐧	45.4%
Imports of goods and services (% of GDP) 🐧	42.42%

Table 28: Cote D'Ivoire Imports and Exports 2014

Total Exports (2014)	\$102,878,499,707
Total Imports (2014)	\$46,532,265,38
Frade Balance (2014)	\$56,346,234,326
Exports of goods and services (% of GDP) 1	18.44%
Imports of goods and services (% of GDP) (1)	12.45%

Table 29: Senegal Imports and Exports 2015

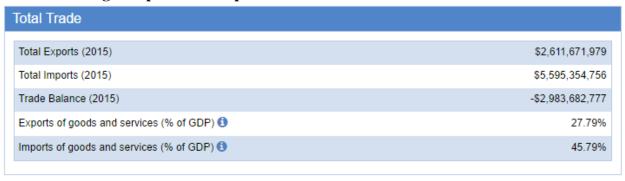


Table 30: Benin Imports and Exports 2015

Total Trade	
Total Exports (2015)	\$625,577,920
Total Imports (2015)	\$2,474,735,507
Trade Balance (2015)	-\$1,849,157,587
Exports of goods and services (% of GDP) 1	26.88%
Imports of goods and services (% of GDP) 1	35.88%

Table 31: Ghana Imports and Exports 2013

Total Trade	
Total Exports (2013)	\$12,643,899,368
Total Imports (2013)	\$12,787,233,395
Trade Balance (2013)	-\$143,334,027
Exports of goods and services (% of GDP) 1	44.06%
Imports of goods and services (% of GDP) 1	54.77%

Table 32: Guinea Imports and Exports 2015

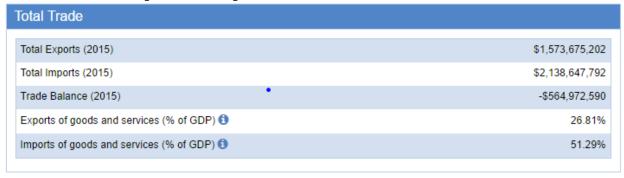


Table 33: Sierra Leone Imports and Exports 2015

Total Trade	
Total Exports (2015)	\$93,257,543
Total Imports (2015)	\$1,759,408,489
Trade Balance (2015)	-\$1,666,150,946
Exports of goods and services (% of GDP) 1	19.81%
Imports of goods and services (% of GDP) 1	39.37%

Table 34: Togo Imports and Exports 2014

\$671,927,173
\$1,732,128,782
-\$1,060,201,609
45.82%
60.77%

Source Data:

Michigan State University. (2016) *Global Edge TradeData: Your Source For Global Business Knowledge*. http://globaledge.msu.edu/.

Republic of Benin. (N.D.) *National Institute of Economic Analysis and Statistics (INSAE)* http://www.insae-bj.org/.

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United Nations. (2016). Comtrade Database https://comtrade.un.org/