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Islamic State Financing Techniques

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Islamic State Financing Techniques

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To Grandma Sweetie

(December 24, 1936 - February 03, 2019)
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# GLOSSARY OF TERMS AND ABBREVIATIONS

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<th>Abbreviation</th>
<th>Full Title:</th>
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<tbody>
<tr>
<td>AML</td>
<td>Anti-money Laundering</td>
</tr>
<tr>
<td>AQI</td>
<td>Tandhim Al Qaeda fi Bilad al Rafidayn (2004-2006)</td>
</tr>
<tr>
<td>bpd</td>
<td>Barrels per day</td>
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<tr>
<td>BTU</td>
<td>British Thermal Unit</td>
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<tr>
<td>CAT</td>
<td>Center for the Analysis of Terrorism</td>
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<tr>
<td>CFT</td>
<td>Counter Financing of Terrorism</td>
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<tr>
<td>FAO</td>
<td>(United Nations) Food and Agriculture Organization</td>
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<tr>
<td>GC</td>
<td>The Global Coalition Against Daesh</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>IS</td>
<td>Islamic State (2014-present)</td>
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<td>ISIS</td>
<td>Islamic State in Iraq and al Shaam (2013-2014)</td>
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<td>ISI</td>
<td>Islamic State in Iraq (2006-2013)</td>
</tr>
<tr>
<td>NATO</td>
<td>North Atlantic Treaty Organization</td>
</tr>
<tr>
<td>OEC</td>
<td>Observatory of Economic Complexity</td>
</tr>
<tr>
<td>OPEC</td>
<td>Organization of the Petroleum Exporting Countries</td>
</tr>
<tr>
<td>RAND</td>
<td>Research and Development (Corporation)</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>WFP</td>
<td>World Food Programme</td>
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<tr>
<td>WTI</td>
<td>West Texas Intermediate (Crude Oil Benchmark)</td>
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CHAPTER 1: INTRODUCTION

On June 29, 2014, Abu Bakr al-Baghdadi delivered the Friday prayers at the Great Mosque in Mosul, Iraq, and declared the establishment of the worldwide Caliphate, and himself its caliph. Throughout the year, the Islamic State in Iraq and Syria (ISIS), also known by a variety of other names such as the Islamic State of Iraq and the Levant (ISIL), Daesh (or Daish) and simply, Islamic State (IS), captured the attention of the world as it seized large swathes of territory throughout Iraq and Syria. In addition to its rapid seizures of large amounts of territory, IS stunned the world with its ability to generate tremendous sums of money, from within and outside the Caliphate, through a variety of means that were both criminal and also disturbingly reminiscent of a legitimate government. By late 2014 IS controlled around 100,000 km² of urban and rural territory in Iraq and Syria, and there were approximately 11 million inhabitants of the Caliphate, 25,000 of which were IS fighters (Jones, et al. 2017; Callimachi 2018). IS also made its most money in 2014 bringing in $2.9 billion. Natural resource financing techniques alone generated 83% ($2.4 billion) of IS’s total 2014 income (Bindner and Poirot 5). It is clear that money has been vital to IS’s successes, and thus cutting off its funding may be the strategy used to bring the organization to its end.

The goal of this paper is to research and analyze the financing methods of the terrorist organization IS, and to have the findings of this research aid in supplementing the current available data and literature on IS financing. This information shows how terrorist organizations are financing themselves in the 2010s, and how their practices are modernizing and becoming diversified. Understanding how IS funds itself will be one of the principal pieces of information needed to apprehend terrorism financing across the world.
By cutting off IS’s financing techniques the allied nations of the GC could render the terror organization nearly obsolete and cut off the five principal ways it spends money: (1) paying the salaries of its fighters, (2) procurement of ammunitions and explosives, (3) paying off security forces, (4) creating and disseminating propaganda for recruitment and (5) funding public services.

(1) On average, IS fighters were paid $50-100/month as base pay in 2015, but were given bonuses of $35-50/month for every additional parent, wife, child, sibling and sex-slave that they were financially responsible for (Al-Tamimi 1-8). It is estimated that in 2015 IS spent around $50 million per month or $600 million throughout the entire year on its fighting forces. This spending alone accounted for nearly two-thirds of IS’s total expenditures that year (Solomon and Jones 2015). Across this time period, IS had between 10,000 and 30,000 total fighters to pay across its territories. Captured IS documents from 2016 have shown that its fighters’ salaries have been cut as much as 50% as the organization has lost a large amount of funding from natural resources such as oil (Pagliery 2016). Halving the salaries of IS fighters could have an effect on the group’s capability to retain its soldiers and recruit new ones.

(2) Additionally, it is estimated that IS spends hundreds of millions of dollars per year in procuring ammunition, explosives and other military equipment. The group spends upwards of $1 million/week on ammunition for offensive operations alone (Bindner and Poirot 22). Cutting IS funding would have a clear and direct impact on the group’s ability to effectively fight the GC both offensively and defensively. (3) IS also paid tens of millions of dollars in 2015 to religious police (hisbah), secret police (amniyat), and tax and fine collectors. These people are not a part of IS’s core group of fighters, but provide security and information needed by the group to maintain order within the Caliphate.
(4) There is less available evidence regarding how much money IS spent on creating and disseminating propaganda and funding public service operations, but it is likely that the group spent millions on these, especially in 2014 and 2015. In its attempt to resemble a legitimate government and state, IS has produced thousands of propaganda materials touting its strength and capability. Videos, magazines and other propaganda made by IS require expensive equipment (such as cameras, cranes and software) and people (e.g. translators, writers and special effects artists) that add up expenditures quickly. One central topic of much of IS’s propaganda is their ‘efficient’ governance. (5) This governance which includes “fixing power lines, digging power lines, painting sidewalks…running bus services” and running hospitals, necessitates large money outflows of its own. In declaring the Caliphate, IS took on the responsibility of running large territories in Iraq and Syria, and accordingly, the group has had to dedicate a fraction of its earnings to these state building and maintaining projects.

This paper analyzes the financing of IS by looking at the richest and most deadly evolution of IS, the most recent one from 2014 to 2017, and asses how its self-sponsoring techniques have changed. It does this using a descriptive analysis methodology in which all available information is investigated per financing technique, to deliver an inclusive case study of IS self-financing as a whole. In showing the progression of IS financing from its height through its downfall, this paper will largely explain: (1) how territory correlates to income generated from IS natural resource and extralegal revenue streams, (2) how particular financing techniques granted IS leverage, independent from money, over its enemies, and (3) what additional factors, outside of IS control, impacted the group’s financial network.
First, this paper theorizes that in the IS case, as the group lost revenue from natural resource financing techniques as well as natural resource specific territory, it was forced to resort to being a more ‘criminal’ organization by relying more heavily on extralegal funding practices. Although all IS financing techniques are technically extralegal, for the purposes of this paper extralegal will refer to funds generated from criminal origin (Bindner and Poirot 14). If this trend is correct, it shows that as IS lost oil, natural gas, phosphate and agriculture income, it effectively became a more lawless force towards the people it controls, the Caliphate’s inhabitants.

Second, this paper builds upon an idea presented initially by Yazid Sayigh in 2015 that IS natural gas control was more effective as an income denial mechanism against the Assad regime than it was a revenue stream for the group. This paper applies this theory to other resources and foes, such as oil and the Iraqi government. The theory is that each of these industries constitute large export markets for the Iraqi government and Assad regime, and that IS control of these industries weakens their enemy’s income and ability to fund their military to fight IS, and gives the terror organization leverage over their opponents.

Third, this paper suggests that the connection between world oil price and IS oil revenue is more closely connected than field experts have proposed. Even as the group lost a minimal amount of oil fields and processing territories between 2014 and 2015, IS oil revenue dropped tremendously. This paper concludes that world oil price had a large effect on IS oil revenue between 2014 and 2015, while controlled territory did not. As world oil price stagnated from 2015 to 2017 and territory began to decline rapidly, however, territorial decline became the principal cause of IS oil revenue loss.
CHAPTER 2: BACKGROUND

In order to study the financing of IS, it is necessary to first understand the organization itself. In knowing how the terror group achieved financial independence, we learn what makes IS a unique case study in terrorism financing. Even though IS has undergone many name changes and restructurings, it is useful to look at the history and current state of IS in terms of three main periods: Formation and Alignment with al-Qaeda (1999-2006), Development into the Islamic State (2006-2013), and ISIS Today (2014-present). The book *A Theory of ISIS: Political Violence and the Transformation of the Global Order* by Mohammad-Mahmoud Ould Mohamedou provides a succinct history of IS (see Figure 1). The following section will focus on the period “Development into the Islamic State,” by analyzing how AQI funded itself prior to becoming Islamic State.

Figure 1: The Evolution of IS
Prior to the declaration of the Islamic State in 2013, IS was known as al-Qaeda in Iraq or AQI. According to a classified US government report obtained by the *New York Times*, AQI was completely self-funded and self-sustaining by the year 2006 (Burns and Semple). The report estimated that AQI brought in anywhere from $70 million to $200 million a year. Similar to how it would fund itself in the 2014 to 2017 time period, AQI used oil smuggling, kidnap and ransom payments and charitable donations as its main sources of revenue. The report estimated that AQI had generated between $25 million and $100 million from oil smuggling, and as much as $36 million from kidnap and ransom payments. While this information was widely criticized as being a complete guess by US intelligence agencies, it noted AQI’s shift towards economic independence.

As AQI began generating money within Iraq, it relied less and less on outside funding and donations from Saddam Hussein loyalists and other private individuals and institutions from Gulf States such as Kuwait, Saudi Arabia and Qatar (Brisard and Martinez 3-4). According to the Department of Defense's Harmony database, which is a collection of al-Qaeda documents and letters, outside donations to AQI accounted for less than 5% of their operating budget between 2005 and 2010, and the loss of such revenue would have had no effect on AQI’s ability to sustain itself (Allam). Even though AQI was a subset under the larger al-Qaeda umbrella, it was the parent organization that was asking AQI for money. Since AQI used diverse revenue streams, in contrast to al-Qaeda’s heavy dependence on Gulf state donations, it was asked for money by its affiliate when its external donor accounts were frozen. A frequently documented example of this was when in 2005 al-Qaeda deputy leader Ayman al-Zawahiri had to ask AQI leader Abu Musab al-Zarqawi for money. He sent a letter asking for “a payment of approximately one hundred thousand” as al-Qaeda itself was unable to generate enough of its own funds to continue its operations (Levitt 9).
Almost a decade before AQI became the Islamic State, the group had achieved financial independence. From 2006 to 2013, AQI diversified its revenue streams by taking advantage of the instability generated from the Iraq War, and by moving into the oil smuggling and kidnapping businesses. AQI created a financial system that the US was not yet prepared to combat. In achieving this independence, AQI had no one to answer to except itself. There were no constraints or demands from wealthy donors that it had to follow, and it was free to pursue al-Zarqawi’s vision for a worldwide Caliphate.

2014 was the year in which an economic shift took place within IS, and made it unique from other radical Islamist organizations in how it funded itself. IS appointed a chief financial officer to oversee its income and spending, as the organization grew out of a donation-based enterprise into an industrial economy. IS commandeered the oil fields surrounding Mosul and built their own production sites, which allowed the group to pump and sell oil on a tremendous scale. The sale of oil powered the IS war machine, but taxation across their territory in Iraq and Syria, along with their auctioning of historical antiquities, helped to maintain authority and order over both its fighters and the civilians of the Caliphate. IS created its own school system, its own currency, and established social media systems to spread their propaganda and recruit foreign fighters. IS succeeded in building the foundation of its version of the Caliphate, and it received the international recognition that it sought. The international spotlight shined on IS in the summer of 2014, and the United States and its allies took notice and began to organize a coordinated military response to the terror group’s financial and territorial gains.
The response came on August 7, 2014, when then U.S. President Obama announced two targeted airstrikes in Iraq, sparking the American-led Global Coalition intervention (Obama 2014). At this time, IS was at the height of its revenue intake and it was making an average $240,000,000 per month. The terror organization continued to bring in fresh recruits both locally and abroad, as it expanded its territory into Iraq and Syria throughout 2015. The GC began attacking IS targets at the end of 2014 and into 2015 mostly in the form of airstrikes, but also by providing weapons, ammunition and intelligence to Iraqi troops and Kurdish militias. Also in 2015, Russia joined Asaad in the fight against IS with airstrikes and boots on the ground. The American-led coalition began finding success in reducing the territory of IS in 2015 when it reclaimed the strategic cities of Tikrit, Sinjar and Ramadi, in Iraq. The GC continued using airstrikes as its primary offensive capability in 2016, and it dropped an estimated 30,743 bombs in Iraq and Syria (Zenko 2017). The GC targeted IS oil fields, leadership, fighters, and transportation vehicles in what was a successful campaign to destroy both IS’s troops and finances. IS was ousted from its two ‘capital cities’ Mosul, Iraq, and Raqqa, Syria, in the middle of 2017, signifying to many the demise of IS.

Since 2014, IS has lost around 80% of its annual funding and 99% of the territory it once held, prompting the current U.S. President to declare the defeat of IS completely. Despite the words of the president, in early 2019 U.S. Director of National Intelligence Dan Coats insisted that IS remains a major threat. His office’s Worldwide Threat Assessment argues that “ISIS still commands thousands of fighters in Iraq and Syria, and it maintains eight branches, more than a dozen networks, and thousands of dispersed supporters around the world, despite significant leadership and territorial losses” (Coats 2019). By analyzing the financing of IS throughout its rise and fall, this paper will create a summary of IS income through individual financing techniques, and will provide suggestions for future research projects.
CHAPTER 3: LITERATURE AND SOURCE REVIEW

A few of the challenges of studying the financing of IS are the lack of literature and scholarly work on the issue. Because there is little data available and a deficiency of research projects, this paper has had to rely largely on government reports and news articles. This literature and source review will begin by covering the broader works on terror financing as a field. It will conclude by reviewing the more specific reports, articles and studies that have been essential to this paper in the absence of more traditional literature.

Before examining the specifics of IS financing, understanding both the field of terrorism financing as a whole and the self-funding practices of terrorist organizations that preceded IS is necessary. *Financing Terrorism: Case Studies* (2012) by Michael Freeman provides this understanding. Freeman offers an in-depth study of eleven terrorist organizations and their financing practices. Freeman’s terrorist organizations include groups from the Middle East, Asia, Europe, and the Americas. He finds that no matter the organization, money is essential to operation, and this money is commonly made through a few ubiquitous financing techniques such as extortion, kidnapping and ransom, and charitable donations. Because this book was published before the rise of IS to international popularity, many financing techniques used by the group are not mentioned in this book, providing a space for this paper to fill.

Freeman provides the best summary of terrorism financing both pre and post-9/11, but when *Financing Terrorism: Case Studies* was published in 2012, IS was not prominent enough to warrant its own case study. Dimitrios Stergiou’s picks up where Freeman left off in his work “ISIS political economy: financing a terror state”. Stergiou finds that “ISIS constitutes a phenomenon not only due to the extreme violence, instrumentalized via “marketing” methods but also on grounds of its declared aspiration to occupy and control land and population with ever expanding
borders” (Stergiou 189-190). Stergiou writes that while IS has impressed many with its ability to generate revenue, it runs a dysfunctional economy that could never successfully support a state. He supports this claim by arguing that IS finances itself through short-term funding techniques that will not be forever available to the group as they fight a war against the GC. He advocates that the reclamation of their territory in Iraq and Syria is the best way for the GC to neutralize IS financial operations. Through the reclamation of this territory, IS will lose a variety of funding methods (such as taxation), as well as legitimacy among its fighters and Muslims worldwide. Without this legitimacy, it will not be able to continue.

Agriculture and International Affairs experts Hadi H. Jaafar and Eckart Woertz used remote sensing to estimate IS crop production in 2014 and 2015. In their article “Agriculture as a funding source of ISIS: A GIS and remote sensing analysis,” Jaafar and Woertz found that crop production in IS held territory was sustained throughout 2014 and 2015, and that the group was able to profit greatly from agriculture in 2015, due to improved rainfalls. Their article further adds to the literature on remote sensing as a means to study conflicts and low-governance territories, as well as to the underwhelming amount of research done on the IS agriculture system. Jaafar and Woertz contribute useful information on IS agriculture production to this paper and the field as a whole, to be used in analyzing the income IS made from this financing technique, and the bigger implications that it had on the inhabitants of its territory and its enemies.

Yezid Sayigh’s article titled “The War Over Syria’s Gas Fields,” postulates that control of natural gas fields in Syria offers IS more as a resource/revenue denial to the Assad regime than it does a money-maker for the Caliphate. Sayigh’s theory that natural gas could be used by IS as a resource denial mechanism was an addition to the literature in and of itself. This idea was extremely useful to the section on natural gas in this paper, and it is extended in the “Inclusive
Analysis” section of this paper to apply to other IS natural resource revenue streams. Sayigh mentions how “over 90 percent of Syria’s natural gas production was used to generate electricity” in Syria, and this paper builds on this idea by suggesting how other IS “resource denials” may affect its foes (Sayigh 2015). Ultimately, this article provides a look at an often-overlooked financing mechanism of IS, and it proses an original ‘bigger picture’ argument as to how the group’s self-funding techniques may hurt its enemies through resource denials more than it helps itself with large sums of money.

“How Much Oil Is the Islamic State Group Producing? Evidence from Remote Sensing,” Do, et al. adds valuable information to the literature on IS financing through the production and sale of oil. The researchers combine “multi-spectral satellite imagery with available production data [which] enables transparent and reproducible estimation of oil production in Daesh-controlled areas” (Do, et al. 2). The oil production estimates made by Do, et al. are often lower than many of the estimates made by experts in the field at RAND Corporation and other organizations, but these researchers to do not attempt to estimate revenue generated from their production estimates, as it is out of the scope of their research. The biggest contributions are (1) how remote sensing is useful in assessing the extractive industries in low-governance regions, and (2) how the capture and management of natural resources shape conflicts. Presenting a new way to estimate IS oil production with a 95% confidence interval, and the estimates themselves that IS produced “56,000 barrels per day (bpd) from July-December 2014…35,000 bpd throughout 2015, before further sinking to approximately 16,000 bpd in 2016,” exemplify how this paper contributed to the present research on IS financing and to this paper.
CHAPTER 4: METHODOLOGY AND DATA

This paper follows the research process of an intrinsic-instrumental case study because the phenomenon of IS’s financing between 2014 and 2017 was the initial subject of interest, not any theory or larger theme. The uniqueness of the case of IS income and self-funding techniques is what inspired this case study, and through exploration and analysis of a multitude of sources, what lies below documents some novel and interesting associations and trends. This paper primarily used a descriptive analysis method in examining all relevant books, studies, reports, articles and more, in constructing a comprehensive case study of IS self-financing techniques.

Research for this case study was done using the University of Colorado: Boulder’s University Library, Google Scholar, and many other websites including those of the Global Coalition Against Daesh and RAND Corporation. Government reports provided broad knowledge and information on the numerous diverse self-financing techniques used by IS, and academic journal articles and research projects provided the more specific data regarding individual financing techniques. This case study on the financing of IS was conducted by looking in depth at each major funding technique used by the terror organization between 2014 and 2017 separately and chronologically. This paper has identified the eight principal sources of revenue for IS, four that fit into a “Natural Resource” chapter (oil, natural gas, phosphate and agriculture) and four that fit into a “Extralegal Activities” chapter (extortion, kidnap for ransom, antiquities trafficking and foreign donations). These revenue streams were chosen as they proved to be the most profitable for IS throughout the specified timeframe. Revenue generated from the production of cement was a valuable source of income for the group in 2014 and 2015, but did not remain through 2016 and 2017, so it is not covered in this case study.
Each of the eight sections of analysis was conducted by compiling all available credible information and data on the selected financing techniques, and combining it to tell the story of IS financing. A summary is provided for each of these sections, detailing how IS generated money via oil, kidnapping, etc. and how much money the group made from each financing technique year-by-year. Then, having provided adequate background information regarding each financing technique, this paper proves in-depth analysis of each of IS’s revenue streams. The sources of these “larger picture” analyses differ for each technique. In the section “Oil,” for example, the average price per barrel of crude oil between 2014 and 2017 is analyzed with IS oil income, thereby documenting the extent to which price fluctuations as opposed to changes in the control of volumes of oil supplies has affected IS revenue. Analyzing each financing technique individually and in chronological order within each, combines for a complete study of IS’s entire self-funding network, as well as a larger look at the effect this financing has on the group itself and its foes.

In analyzing IS natural resource and extralegal financing techniques, its urban and rural territory, and factors outside of the group’s control such as world oil price, this paper identifies three trends that warrant further research and investigation. These trends will be outlined here and examined individually in detail in the following pages. Although there are no currently available data to prove causal relationships in each of these findings, identifying areas of probable trend and inspiring future research projects is important. As more information is extracted from IS documents as the group is defeated, the data necessary to perform these research projects may present itself.
I. Finding 1: Natural Resource vs. Extralegal Activity Income:

In 2014, IS made 83% ($2,403,500,000) of its overall income from its natural resource funding techniques, and only 17% from extralegal activities. IS was able to generate tremendous sums of money from natural resources due to the key territorial gains of oil and gas fields, phosphate mines and farm land, as previously described. As IS began to lose these territories increasingly from 2015 on, however, the group’s ability to make money from natural resources diminished. Natural resource revenue accounted for just 60% of overall revenue in 2015, and just 43% in 2016. As this was happening, IS resorted to extralegal activities, chiefly extortion, in order to make ends meet. Extralegal activities accounted for 17% of the group’s overall funding in 2014, 40% in 2015 and 57% in 2016. As IS lost natural resource income, it effectively became a more violent and criminal group (see Figure 10). This is unfortunate for civilians under the group’s territorial control, but also a necessary first step in cutting the groups funding entirely.

This paper suggests that as IS lost rural territory needed for its natural resource funding techniques, it concentrated on its urban territories where the majority of its extralegal funding techniques are practiced. It did this by focusing its troops around large population centers where IS was able to use citizens as both a shield from airstrikes and as its money-making machine. The group was unable to completely make up for their natural resource funding losses with extortion, kidnap for ransom, antiquities trafficking and donations, but it was able to remain extremely rich because of these systems.
Figure 2: IS Natural Resource and Extralegal Financing Techniques Income and Territory Percent Change Since 2014

It is most likely that IS suffered tremendous losses in its natural resource income between 2014 and 2016 because identifying and destroying natural resource production facilities and transport systems was more accessible to the GC than curbing criminal activities in dense cities was. The GC was extremely efficient in detecting IS oil, gas, phosphate and agriculture territories, and was swift in destroying them with airstrikes between these years. On the other hand, the GC has been slower in disrupting IS extortion and kidnapping practices, as this requires a military defeat of IS in urban warfare settings with high risk of civilian casualties. IS prolongs their defeat by taking hostages, setting booby traps, and blending in with civilians, making for a bloody counterinsurgency process. Studying the shift of the majority of IS funding from natural resource
to extralegal activity techniques with regard to territory, could lend insight into how to combat other terror organizations in the future.

II. Finding 2: Gaining or Denying a Revenue Stream:

As noted in the “b. Natural Gas” section, IS benefitted from commandeering gas fields in Syria by both making money from gas sales and by having leverage over Assad. Since over 90% of Syria’s natural gas is used to produce electricity for the country, IS held control of Damascus and the rest of the country’s means of electricity generation (Sayigh 2015). This paper suggests that more research be done into how IS was able to have even more leverage over the Iraqi and Syrian government with its control of phosphate mines and its control on agriculture.

One way that this could be done simply, is by using international trade data from the Observatory of Economic Complexity (OEC) of the Massachusetts Institute of Technology, specifically looking at Iraqi and Syrian exports and how much money these governments may have lost due to IS. For example, 48% of Syrian exports are vegetable products, accounting for $301 million in 2017. Similar information from previous years, combined with the aforementioned satellite imagery and remote sensing data from Hadi H. Jaafar and Eckart Woertz, may be used in estimating how much money IS actually denied the Syrian government. Analogous estimates could be made using OEC data on Iraqi crude oil exports in 2014, which accounted for 98% of the country’s total exports, and data on IS oil production from the World Bank’s “How Much Oil is the Islamic State Group Producing? Evidence from Remote Sensing”. This research could determine how much money IS denied the Iraqi government, and the larger implications of this denial than simply income for IS.
Due to the scope of this paper, conclusions cannot be made regarding how the denial of resources affected IS’s state-building project between Iraq and Syria, but it would provide for an interesting research project of its own. Having a deeper understanding of how leverage and bargaining power stem from the group’s control on natural resources should highlight the importance of denying terrorist organizations access to strategic territories. With regard to IS specifically, as the group further loses territory in 2019, it is important for the Iraqi and Syrian governments to bolster their military presence in these rural areas to prevent a similar territorial rise of IS as was witnessed in 2014.

III. Finding 3: IS Oil Revenue and World Oil Price:

The third trend found by this paper that warrants more research is that between IS oil income and the world oil price. It is evident that along with the tremendous drop in world oil price from $93.17 to $48.72 per barrel, IS oil income dropped from about $1.1 billion to $600 million between 2014 to 2015. Martin Reardon, Senior VP of the Soufan Group, a strategic intelligence consulting firm, confirmed that as world oil price goes down, so too do the prices that IS can charge per barrel of oil (Gusovsky 2015). No studies have proved the relationship between world oil price and IS oil revenue, but as this paper mentioned in the “a. Oil” section, more information on this relationship could aid in GC AML/CFT strategies going forward. For example, using the world oil price and intelligence on the territory under IS control, the GC could create real time estimates of how much money IS or other terror organizations with access to oil production are making per month. This could guide policy suggestions and prioritize AML/CFT strategies that combat this financing technique.
Also, it may be important for researchers to look at how declining (or rising) oil prices could affect IS and other organizations. Even though groups such as IS would make less money themselves from a major decline in the per barrel world oil price, so too would their foes, i.e. the Iraqi government (Gusovsky 2015). As mentioned in the following oil analysis section, if 98% of Iraqi exports are oil, then a 52% decline in world oil price in one year, as was the case from 2014 to 2015, may hurt the Iraqi government’s capacity to fund its military and fight IS effectively, perhaps more so than it hurts IS’s ability to pay its fighters and fund its own operations. The relationship between IS oil revenue and the world oil price is more important than many experts realize, and should be investigated to recognize how influential the price per barrel of oil actually is on both IS’s capacity to operate and on GC member nations’ ability to combat the terror organization.

Studying the unique financial case of IS shows how one terrorist organization went to great lengths in diversifying its revenue streams to make billions of dollars. The IS financial case is not one that can be applied easily when looking at other terrorist groups, but the knowledge gained from this case study shows how terrorism funding in the 2010s is rapidly changing and modernizing. The following section will describe and analyze these self-funding techniques.
CHAPTER 5: ANALYSIS

I. NATURAL RESOURCE FINANCING TECHNIQUES:

a. Oil

Revenue generated from oil production was consistently IS’s most lucrative natural resource income stream throughout the entire 2014 to 2017 timeframe, and in 2014 it was the group’s main source of income overall. IS was able to generate terrific sums of money from oil production by seizing 42 oil production sites at its height, 8 in Iraq and 34 in Syria (Do, et al. 4). Although oil production was a large piece of the group’s funding during the AQI era, IS stepped up its production tremendously in 2014 when it began rapidly capturing and controlling oil production sites, first in eastern Syria, and then in Iraq. In analyzing how IS generated revenue and financed its operations from the production and sale of oil, it will be important to examine the group’s barrel per day (bpd) production numbers, the specifics of the group’s territorial control (see Figure 3), and the world price per barrel of oil.

By late 2014, IS had taken control of seven key oilfields in Syria in the oil rich Deir ez-Zor and Raqqah provinces. Among these, IS captured the major oilfields Al-Omar (the largest Syrian oilfield) on July 3, and the Tanak oil field on July 4, along with the less productive oilfields Jafra, Izba, Sijan and Abu Hardan, a short time later. Across the border in Iraq, IS commandeered control of 13 oilfields in the governates of Nineveh, al-Anbar, Salaheddiin and Kirkuk (Brisard and Martinez 6). The 7 Syrian oilfields and the 13 Iraqi oilfields were each capable of producing a maximum 60,000 bpd, combining for a potential oil production of 120,000 bpd by IS. According to the authors of “How Much Oil is the Islamic State Group Producing? Evidence from Remote Sensing”, who studied satellite data to measure IS oil production, IS likely produced 86,000 bpd by late 2014 (Do, et al. 13).
During this same time, IS gained control of two oil refineries in Syria and one in Iraq, as well as pumping stations in both countries. As IS confiscated these oilfields, storage facilities, and refineries, it forced the trained and experienced personnel to work for it, ensuring little lag in oil production and quality. In 2014, IS sold its crude oil and refined products both on the local black market and in export markets to Jordan, Iran, Kurdistan and Turkey (Brisard and Martinez 7). The average WTI closing crude oil price for 2014 was $93.17 a barrel for 2014, but estimates for the price at which IS sold a barrel of oil are much lower (Crude Oil Prices - 70 Year Historical Chart). Experts note that price per barrel of IS oil throughout 2014 to 2017 depended largely on which
oilfield the oil came from. In 2014, a common estimate for the average price per barrel of oil was between $25 and $50 depending on the quality. In the oil field this is known as the quality differential. Using these figures, it is estimated that IS made a total of $1,102 million in 2014 from oil sales, averaging just over $3 million a day (Brisard and Martinez 7).

Research by Center for the Analysis of Terrorism (CAT) found that in 2015 IS oil production fell by almost half, to an average of 40,000 bpd (Bindner and Poirot 9). Similarly, the World Bank Group’s satellite research estimated that average IS oil production in 2015 was 35,000 bpd, even though it spiked significantly to 72,000 bpd late in the year (Do, et al. 13). From 2014 to 2015, IS lost about 14% of their overall territory, shrinking from around 90,800 km² to 78,000 km² in total. It is important to note, however, that while the group lost territory overall, it did not lose much territory necessary for the production of oil. In fact IS held 15 oilfields in Syria and 10 oilfields in Iraq in 2015, as opposed to 7 and 13 respectively, in 2014 (Bindner and Poirot 9). Many experts attribute this fall in IS oil revenue to the GC and Russian airstrikes that targeted IS oil transportation and sales more than production sites. And while these attacks likely did have a significant impact on IS ability to sell the oil it produced, it would be misleading to assume that airstrikes alone led to a 46% reduction in IS oil income in 2015 (Bindner and Poirot 10).

In examining this significant decrease in IS oil revenue, looking at world oil price can provide a reasonable explanation as to why the group did not make as much money as its territory suggests it might have. From 2014 to 2015, the WTI average closing price for a barrel of crude oil fell from $93.17 to $48.72, or a 52% reduction (Crude Oil Prices - 70 Year Historical Chart). As this paper has already noted, IS does not sell its barrels at the world oil price, but the price at which it does sell its barrels is dependent on the world price. Due to the fact that any oil it produces is deemed illegal and must be sold on the black market, IS must sell at a discounted price. In 2015 it
often sold this oil at the Turkish border, where the price would be bartered based on its quality and location discount to the world oil price of that day (Martin and Solomon 36). Taking this information into account, it can be reasonably inferred that not only was IS oil revenue halved in 2015 due to GC/Russian airstrikes and disruptions to their production and supply lines, but also due to the largest collapse of world oil prices since 1986 (Baumeister and Kilian 131). IS suffered both a reduction in the overall oil that it was able to sell in 2015, and a reduction in the money it made per barrel, resulting in a significant decrease in its overall oil profit. In all, IS oil revenue fell to second place among its most profitable means of funding, shrinking from 38% of its funding in 2014, to just 25%, or $600 million in 2015.

In early 2016, IS continued producing around 50,000 bpd, as it had been in late 2015, but this production fell sharply early in the year. By the end of 2016, it is estimated the IS averaged just 16,000 bpd oil production compared to the 35,000 bpd it averaged in 2015. IS territory also shrunk throughout the year, from around 78,000 km² to 65,600 km², and unlike the previous year, much of this territory was directly related to oil production. Chiefly due to GC and Russian airstrikes, by late 2016 IS held just three of the principal oilfields in obtained in Syria in 2014, and IS no longer held any oil production facilities in Iraq (Rudaw 2016). Over the course of the year, the average closing price for a barrel of crude oil continued to fall, but much less significantly than between 2014 and 2015. The price dropped just 11%, from $48.72 to $43.58 (Crude Oil Prices - 70 Year Historical Chart). IS oil production and oil revenue dropped greatly in 2016, but analyzing what led to this significant reduction can show how the IS oil income drop of 2015 to 2016 was different than that of 2014 to 2015.

The decline of the average world oil price from $48.72 to $43.58 likely had little effect on the revenue generated from oil by IS. As previously stated, not only does the group not sell oil at
these prices, but it can be assumed that a drop of just $5 in the price of oil per barrel did not carry enough weight to greatly influence buying and selling prices within the Caliphate or at the Turkish border. Therefore, the loss of IS controlled oil producing territory must be studied to explain this shift in funding. IS lost 16% of its territory between 2015 and 2016, which alone cannot explain a 50% reduction in IS oil income, but looking at GC and Russian airstrikes can lend insight into what may have caused this sharp drop-off (see following paragraph). The limitation of looking solely at IS oil producing territory and world oil prices is that it excludes the money IS lost due to the added costs for distribution and logistics caused by destroyed oil tankers and transportation convoys, and refineries. There is no comprehensive data available on how much oil was lost by IS between production and sale, nor for the added costs due to destroyed infrastructure, however, data does exist about the airstrikes that targeted these shipments.

In total, the GC and its allies carried out 4,589 airstrikes across Iraq and Syria, with the majority targeting key oil production, transportation and selling points. These include the Deir ez-Zor, Raqqa, and Hasakah regions. The GC executed its most airstrikes per month by far in August and September of 2016, carrying out 1,755 (or 57 attacks/day) and 1,531 (or 51 attacks/day) attacks respectively (Coalition Strikes per Month, in Iraq and Syria). It cannot be assumed that all or even the majority of these airstrikes targeted oil production and transportation, but following the literature on GC airstrikes and their effect on oil revenue, one can predict that a significant increase in number of airstrikes did have a substantial impact on the income of IS via oil sales (Daiss 2016). This, in addition to an insignificant change in the world oil price, shows that in 2016 the loss of territory specific to the production, transportation and sale of oil, had a larger negative impact on IS revenue than in years prior. IS made just $300 million in 2016, or 27% of the oil income it generated two years earlier.
In 2017 IS generated just 5% compared to the amount of money it made from oil in 2014. The group was estimated to make $60,000,000 in the entire year, or ~$164,400 a day, compared to its $3,000,000/day just three years earlier. Broadly, IS oil revenue in 2017 dipped 80% year over year from $300,000,000 in 2016, while its territory dropped 63% year over year from 65,500 km² to 24,086 km² in 2017 (Abdelillah 2018). Over the same time, the average closing price for a barrel of crude oil rebounded 17% from $43.58 to $50.84 (Crude Oil Prices - 70 Year Historical Chart). The GC was successful in destroying more than 2,500 oil transportation tankers, in addition to pushing IS from the Deir ez-Zor region (Michaels 2017). Given this information, it is evident that despite any increase in the price at which IS sold its oil due to the rise in world oil price, that was offset by the group’s loss of a vast amount of territory used in oil production, along with increased transportation and logistics costs. Oil was no longer a plausible financing technique on the behalf of the organization.

In the existing literature on IS’s use of oil in funding itself, territory is often regarded as the most important cause of IS oil income increases and decreases. Many experts in the field claim that taking away IS oilfields is the sole manner in which to take away the group’s oil revenue. Although this argument is largely true, this paper argues that there is more that must be looked at than only territory. From 2014 to 2015, IS lost a small amount of its territory overall, gaining in some areas and losing in others. Regarding oil producing territory, IS remained largely the same and even gained a few oilfields. So why then, did IS oil revenue drop nearly 50%? Looking at the percent declines in IS oil income and world oil price in 2014, it can be seen that they both dropped by 54% and 52% respectively. There is no evidence that this decline in world oil price was orchestrated by OPEC to combat IS. Due to the Shia-Sunni differences within OPEC, the topic of
IS and its oil production was avoided by the organization entirely. Instead the price decline was caused by OPEC’s decision to maintain production for global competition (Critchlow 2015).

Figure 4: Oil Revenue, Territory and World Oil Price, Percent Changes Since 2014 Maximums

These results do not mean that the tanking of the world oil price was the sole reason that IS oil revenue declined between 2014 and 2015. It is important to remember that between these two years, IS oil production fell from ~80,000 bpd to ~40,000 bpd, despite the group’s maintenance of its oilfields. This drop in daily production could be attributed to a variety of things that we do not have the information to determine. Rather than conclude any causation between IS oil revenue, IS territory and world oil price, this paper suggests that are likely trends between all three, and that further research needs to be done on how the world oil price has influence on IS and other terror groups self-financing operations through oil. World oil price has been largely neglected by experts who study the financing of IS, and terror financing as a whole, but this paper shows the importance
that world oil price may play in terror financing, even as groups sell at discounted black-market prices.

b. Natural Gas

Natural gas accounted for roughly 17% of IS funding from natural resources in 2014. The group collected around $489,000,000 that year by extracting the natural gas and selling it to those with the means to process and turn the gas into electricity, according to Bindner and Poirot (11). In Iraq, IS took control of large parts of al-Anbar province in May 2014, including Iraq’s largest natural gas reserve, the Akkas gas field, which contained almost 160 billion cubic meters of natural gas (Rasheed 2017). The group also gained control of the Ajil and Himreen fields near Tikrit, Iraq, in the Saladin province (Bindner and Poirot 11). In July 2014, IS overtook part of the giant Jabal Shaer gas fields in central Syria, which gave it access to 3,000,000 cubic meters of gas production per day, or 20% of the country’s daily gas production at the time (Sayigh 2015). IS gained four more wells by October of the same year, before the Assad regime retook the area. As IS lost its hold of the Shaer gas fields, the group shifted its focus to the fields of Palmyra, just southeast of Shaer (see Figure 5). In March 2015, IS seized control of the Palmyra area which included the Arak and Hail gas fields among various others (Sayigh 2015). These fields included the largest reserves in the area, and the capture and control of them gave IS the ability to produce 9,000,000 m$^3$ of gas per day, accounting for half of Syria’s overall natural gas output (Sayigh 2015).
Although IS made substantial gas field gains in Syria in 2015, it lost control of the Ajil and Himreen fields in Iraq. Thus, the group made less money from the sale of natural gas in 2015, making around $350,000,000 or just 72% of what it made the year prior (Bindner and Poirot 12). The Henry Hub Natural Gas Spot Price, posted for deliveries of gas at the Sabine Hub in Louisiana, is one of the most important global price assessment locations, or benchmarks. Data shows that between 2014 and 2015 the Henry Hub world average price per 1,000,000 BTU (British Thermal Unit) of natural gas fell 40% from $4.37 to $2.62 (Natural Gas Prices - Historical Chart). IS
revenue from natural gas production was reduced by insignificant numbers in 2016 and 2017. The Assad regime along with its Russian allies were successful in regaining control of the Palmyra gas fields in March 2016, cutting off IS’s primary natural gas revenue stream (Dearden 2017). IS was momentarily successful in retaking the fields again, but was ousted by Assad one more time in March 2017 (Dearden 2017). Also, in Iraq the Akkas gas field was recaptured by Iraqi forces in late 2017, reducing IS oil field control to nearly nothing (Rasheed 2017). IS generated ample sums of money from natural gas production in 2014 and 2015, and far less so in 2016 and 2017, but the more interesting discovery found in analyzing this IS revenue stream is how the control on natural gas production in Syria allowed IS to win leverage over the Assad regime. It has been determined that this control of gas fields has allowed IS to negotiate “an exchange: continued flow of gas from eastern fields to regime power plants in return for payment or electricity supply. This is the sort of deal that has allowed continued operation of the Euphrates dam near Raqqa, held by the Islamic State but maintained with technical assistance from the regime” (Sayigh 2015). This is just one example of the potential that IS leverage has as a result of its natural gas resource denial.

Even though IS produced between 40% and 50% of Syria’s natural gas in 2014 and 2015, it lacked the means to process and refine the gas for use. Senior Associate at the Carnegie Middle East Center in Beirut, Lebanon, Yazid Sayigh notes that “in contrast to oil, which can be refined through rudimentary processes in makeshift installations, gas requires sophisticated purification equipment and specialized pipelines for transport” (Sayigh 2015). IS did hold one processing plant in the Deir ez-Zor province, known by its nickname “Conoco” (based on the American company that built it), but it sold the majority of its natural gas to Assad out of necessity. The majority of the specialized processing and electricity generating plants lie in western Syria, under the control of Assad, and IS had no other way to make use of its natural gas than to sell it to their enemy
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(Sayigh 2015). Assad was in a similarly difficult predicament, as 90% of Syria’s electricity is generated via natural gas, and half of Syria’s natural gas was held by IS (Sayigh 2015). The mutual dependence of these two groups on each other made for an interesting relationship in which the Assad regime agreed to buy IS-produced natural gas in exchange for money and electricity.

By no means were the two groups allies, they were both vying for control of Syria but they had to work together to achieve their goals. Sayigh argues that while natural gas was a money maker for IS, it gave the group leverage over the Assad regime worth more than the money it made (Sayigh 2015). Control over Syria’s natural gas production provided IS with influence over Damascus, and allowed the group to compete with Assad for power in Syria, from a distance. By experts in the field, natural gas is often regarded as less important than oil as one of IS’s natural resources, chiefly because it generates much less revenue. This should not be the common opinion, however. Gas production could be thought of as a shield—if Assad knocked offline the means of gas production, Syria would be directly and adversely affecting its own ability to generate electricity.

c. Phosphate

Phosphate is described as “unprocessed ore and processed concentrates that contain some form of apatite, a group of calcium phosphate minerals that is the primary source for phosphorus in phosphate fertilizers” (Jasinski 2015). As IS took control of oil and gas fields in al-Anbar province in Iraq in 2014, the group also gained access to region’s Akashat phosphate mine. IS was also able to capture the al-Qa’im processing plant, also in al-Anbar province, which allowed it to process its own phosphate before sale. Across the border in Syria, in addition to the natural gas fields captured by IS during the group’s takeover of Palmyra in 2015, IS commandeered the Khunayfis phosphate mines, the second largest in the country (Islamic State Looks to Captured
Phosphate Mines for Funding 2015). Experts estimate IS was able to generate around $300 million (11% of revenue) in 2014 and $250 million (10% of revenue) in 2015 (Bindner and Poirot 12). Raw phosphate rock is largely useless, which gave IS the options to sell and/or process the ore.

Similar to IS Syrian gas field control, this meant less in terms of revenue generation for IS than it did in terms of revenue prevention and leverage over the Assad regime. The capture of these mines was a “strike at the heart of the Syrian economy…[as] The production of phosphate was among the last exports generating flow of foreign currency into the war-torn economy” writes journalist Sarah J Cohen (2015). Despite controlling the al-Qaim processing plant in Iraq, IS did not have the personnel and resources needed to turn their phosphate mines into a profitable business. Without sufficient processing plants the group could have sold the unprocessed ore in bulk at Syria’s ports, but due to the great distances between its mines and the ports, in addition to the low international price for unprocessed phosphate, there is no evidence of the group selling in this manner.

Despite the lack of revenue made from phosphate, the natural resource remained an important part of the conflict between IS and Assad into 2017. In an attempt on the behalf of the Assad-Russia alliance to retake the phosphate mines in Khunayfis and Palmyra, the Kremlin offered mining rights as an incentive to private security firms to recapture the territory from IS. According to the *New York Times*, the Russian energy company Stroytransgaz, owned by the US-sanctioned Russian Gennady Timchenko, won the phosphate mining rights in Syria (Kramer 2017). Under the condition that the company captured and guarded the territories using private security contractors, the company was granted access to the mines and its minerals. In sum, while phosphate accounted for just 10% of total IS revenue from natural resources in 2014 and 2015, the group generated hundreds of millions of dollars and exerted influence over Assad with the
resource. IS’s ability to finance itself from natural resources has been vital to the group’s ability to operate. When analyzing its control of phosphate mines, however, it is evident that the group benefited just as much if not more from its ability to take away a primary income source of the Asaad regime.

d. Agriculture

Agriculture to IS was both a means of income and of self-preservation. The IS Ministry of Agriculture, led by experienced former Ba’ath officers of Suddam Hussein’s Iraqi government, use agriculture, to feed the Caliphate’s inhabitants and fighters, to construct propaganda showcasing the capability of IS to govern, and to make money outside of the Caliphate (Jaafar and Woertz 17). Over the course of its territorial takeover in 2014, IS targeted productive farmland, silos and agricultural machinery, understanding their strategic value (Humud, et al. 12). IS confiscated 1 million tons of grain in 2014, leading to estimates that the group was able to make $200 million in agricultural revenue in 2014 (Solomon and Jones 2015). This accounted for 7% of the group’s overall revenue in 2014. In both Iraq and Syria, wheat and barley constitute the most essential and profitable crops for IS, accounting for about 60% of their monthly agricultural income (Jaafar and Woertz 17). IS revenue from agriculture extends beyond these crops, however, and includes cotton, fruit and livestock as well. The IS appropriation of these crops and territories have created food security issues both within and outside of IS territory in Iraq and Syria, generating a bigger problem for the Iraqi and Syrian governments to address (FAO and WFP 2015). Despite the negative impact from war on agriculture production in Iraq and Syria, using satellite imagery and remote sensing, Hadi H. Jaafar and Eckart Woertz concluded in their article “Agriculture as a funding source of ISIS: A GIS and remote sensing analysis,” that IS maintained
near pre-conflict production levels in their territories across both nations. This allowed the group to generate revenue and effectively govern its territories inhabitants.

In Syria in 2014, IS took control of large parts of the northeastern al-Raqqa, al-Hasakah, Deir ez-Zor and Aleppo provinces, granting the organization access to nearly 75% of the country’s wheat crop and 72% of the country’s barley (Jaafar and Woertz 17). In Iraq, IS seized control of the Nineveh, Saladin and al-Anbar provinces, which produce 30% of the country’s wheat and 40% of the country’s barley (Humud, et al. 12). These provinces, known as the upper Mesopotamian region, are extremely fertile due to their erosion features and proximity to the Euphrates and Tigris rivers (see Figure 6).

Figure 6: Study area, ISIS influence area (US Department of Defense, April 2015) and distributions of cultivated lands (Landsat 30 m Global Land cover dataset) and irrigated lands (Jaafar and Ahmad, 2015a) in Syria and Iraq.

Source: Jaafar and Woertz 2015, pg. 17
In order to estimate IS agriculture production throughout 2014 and 2015, Jaafar and Woertz used the Enhanced Vegetation Index and other remotely-sensed deriver vegetation indices, and correlated it with pre-conflict government reports. In doing this, Jaafar and Woertz were able to determine with confidence IS agriculture production in Iraq and Syria. Their study found that “Winter crops production of wheat and barley has held up remarkably well in ISIS territory, despite military conflict, displacements of farmers and disruption of supply chains and subsidized procurement schemes” (Jaafar and Woertz 23). Further, they concluded that the only crop that suffered lower production levels in IS territory were irrigated summer crops, chiefly cotton. Even though IS produced near pre-conflict levels of wheat and barley, it is likely that the Iraqi and Syrian population under IS control has experienced lower individual consumption levels, as the group sold much of the crop surplus to generate money (Jaafar and Woertz 23). It is estimated that IS made $200 million dollars from its agricultural activities in 2014, and $155 million in 2015 (Bindner and Poirot 14). In 2016 and 2017, IS lost much of the fertile territory it held in the years prior, including many of the same provinces in which it held oil production facilities, and experts estimate that their agricultural production and revenue dipped to insignificant funding levels.

Revenue generated from agricultural productions accounted for just 7% of IS’s overall income from natural resources in both 2014 and 2015, but something that is commonly overlooked by those who study IS financing is how agriculture played a part in the organization’s propaganda machine. In 2016, Time magazine reported on how IS operated even more effectively as a government than the Iraqi government, and how some residents embraced the group’s ability to organize and activate basic city services such as trash pickup (Cambanis and Collard 2015). In a similar manner, IS subsidized the cost of bread produced from its wheat crops, creating a level playing field for all of the Caliphate’s inhabitants access to basic food (Humud, et al. 12).
Additionally, IS worked directly with farmers and instead of confiscating their land entirely, provided them incentives to continue their normal production levels. In another attempt to please farmers in their territories, IS bought farmers wheats “at rates considered generous and above normal market rates” (Food and Agriculture Organization of the United Nations 8).

Figure 7: ISIS Agriculture Propaganda

![ISIS Agriculture Propaganda](image)

Source: Tomson (2017) from IS linked Amaq News Agency (وكالة أخبار الإخبارية)

Although it cannot be quantified, these services have played a role in IS’s abundant propaganda network. IS used agriculture in making photo and video reports, showcasing the group’s successes in governing the Caliphate and generating abundant amounts of food for its loyal members (Winter 30). The information provided in these recruiting videos and reports were clearly embellished by IS, yet nonetheless the group attracted a tremendous number of foreign fighters from around the world. It is exceptionally difficult to assess the influence that IS agriculture production had on the ‘hearts and minds’ of those within the Caliphate and those seeking to join the cause around the world, but it is worthy of further research to look deeper into how the socialist system of food and resource sharing played into foreign fighter’s decisions to join the organization.
II. EXTRALEGAL ACTIVITY FINANCING TECHNIQUES:

a. Extortion (Taxes, Fees, Looting, Confiscations and Fines)

Extortion took over as the primary revenue source for IS in 2015, and it remained so through 2016. Extortion is defined as “the gaining of property or money by almost any kind of force or threat of violence, property damage, harm to reputation, or unfavorable government action” (“Extortion”). IS extortion revenue is generated from a variety of practices including: taxes and fees, looting, confiscations and fines. For the purposes of this paper, this section will outline and describe these practices in two sections before analyzing them as a whole at the end of the section. Income made by extralegal activities and extortion are especially interesting to study because they are largely impervious to airstrikes, unlike the natural resource funding methods previously discussed.

Taxes and Fees

As IS took over territories and populations in 2014, it implemented two forms of taxation known as “zakat” (traditional Muslim tax on wealth) and “jizya” (a tax on non-Muslims living in Muslim lands) (Clarke, et al. 8-9). IS taxed nearly everything under its control including income, property, vehicles entering IS territory, businesses, water and electricity, agriculture and ‘protection.’ A normal “zakat” tax is about 2.5% of an individual’s wealth, but IS increased this to 10-50% for ‘wartime purposes’ (Solomon and Jones 2015). Moreover, business taxes were set at 10-15%, sales taxes at 2%, bank withdrawals of cash at 5%, and pharmaceutical drugs ranged from 10-35% (Mendelsohn 2016). The salaries of those in IS controlled areas generated $1 billion in 2015; therefore it is estimated that IS made around $300 million, or 12% of its overall income from salary taxation alone. IS also generated more than $250 million from its “zakat” tax on
customs duties and trucks entering their territory, and an estimated $20 million from the sale of grain and cotton at market in IS territory (Solomon and Jones 2015).

 Territory is essential to IS’s capacity to generate revenue from taxation. The trend between tax income and territory is similar to that between oil and territory, but the types of territory could not be more different. In making money from natural resources, the territory where there is fewer people is more profitable. This includes oil and gas fields, farms, and mines. For taxation, however, metropolitan cities with more inhabitants, local businesses and vehicles, are much more lucrative. Mosul was especially profitable for IS throughout the 2014 to 2017 period, as thousands of people, properties and vehicles were heavily taxed for years. Overall, it is estimated that IS generated $300-400 million in 2014, $400-800 million in 2015, and $200-400 in 2016 (Caliphate in Decline 9). The Credit Bank in Raqqa is responsible for collecting much of these taxes. Businesses and individuals must pay their taxes monthly, and they receive receipts with the IS logo to prove that they did. If they do not pay, they risk being kidnapped or killed (Hubbard 2014). It can be reasonably inferred that IS made significantly more money from taxation in 2015 than 2014, even as it lost territory overall, because the group consolidated its control around population centers and further exploited their inhabitants. In 2016, however, the loss of major cities and transit points led to a drop in IS taxation revenue (Caliphate in Decline 7). Through mafia-style “protection for money” taxation, IS produced between $350-800 million, or 12% and 33% of its overall revenue, from 2014 to 2017.

Confiscations, Fines and Looting:

Confiscations, fines and looting account for less overall IS funding through extortion, yet they must be analyzed as they provide insight to how the group made money in diverse ways. IS carried out confiscations of money and property of dignitaries and the people who fled the
Caliphate. IS set up ‘war spoils offices’ in each “wilaya” (province), in which the group would sell the confiscated items. Soldiers of IS could buy anything they wanted at half-price, and could essentially confiscate anything they wanted. A shopkeeper that lived on the Syrian-Iraqi border explained that “You could buy anything: doors for a house, refrigerators, washing machines, cars, cows, furniture…All of that is pure profit” (Solomon and Jones 2015). Higher price items included TVs, power generators and motorcycles. The group also imposed a strict set of fines based on rules of sharia law. If citizens were found smoking, wearing clothing out of regulation, or women were in public without their husband, they were fined anywhere between $100 and $500 (Bindner and Poirot 17). IS also successfully stole millions of dollars in cash from banks in Iraq and Syria as it overtook various cities. Most notably in 2014 when IS captured Mosul, the group stole $425 million from the city’s central bank (McCoy 2014). In addition to this robbery, it is likely IS stole millions of more dollars from the banks within its territory. Looting represents a particularly unsustainable revenue stream for IS, as the group stole most everything it could in 2014. Confiscations and fines persist until today, however, even though they produce an insignificant amount of money for the most part. In total, IS made between $500 million and $1 billion (52% overall) in 2014, 200-350 million (21% overall) in 2015, and $110-190 million (22% overall) in 2016 from confiscations, fines and looting according to Heibner, et al. (Caliphate in Decline 9).
Since 2014, extortion has been one of the principal manners in which IS has financed itself and its operations. Departments like the “Diwan al-Khadamat” (Services Department) in Raqqa, are specifically in charge of managing IS taxation systems, and ensuring that wherever the group decides to steal money, the story can be skewed as positive propaganda. RAND Corporation researchers agree that while extortion has generated millions for IS, it is unlikely to be a viable long-term revenue source (Bindner and Poirot 18). As IS loses territory, residents flee the Caliphate, and Iraqi salaries are no longer paid by the government, the organization continues to lose money. Simultaneously, in losing revenue from natural resource income sources, IS must rely on their extortion systems to pay their fighters and finance their terror.

An interesting trend can be found when looking at IS territory and income from extortion between 2014 and 2016. There is not sufficient data to prove that there is a relationship between the two, but it is evident that as IS loses territory, revenue from extortion grows as the group’s primary source of funding (see Figure 9 [page 43]). When paired with the existing literature on IS extortion, data explains how the terror organization has been consolidating its Caliphate among cities and population centers, and giving up its rural, resource rich oil and gas fields. IS has been resorting to urban warfare guerilla tactics, and it can be assumed that as the group continues to do this, extortion specifically will continue to grow as the group’s chief mode of income. More research needs to be done exploring the relationship between IS rural and urban territory and its income from extortion. If this could be done with data on the number of inhabitants under IS rule over time (of which there is none currently available), it would make for a particularly compelling research project in and of itself.
b. Kidnap for Ransom

The beheading of American journalist James Foley on August 19, 2014 by British IS foreign fighter Mohammed Emwazi (also known as “Jihadi John”) was both the first IS terrorist attack against the United States and the first high-profile kidnap for ransom case by the group (Holt and Welker 2014). Even though the $130 million requested by IS for Foley’s release was not paid by the US government, over the years the group has managed to make millions of dollars through targeted kidnappings and ransom payments. IS has kidnapped hundreds of individuals from a variety of identities including Iraqis, Syrians, ethnic minorities, and Westerners. The group primarily targets politicians, foreigners, businessmen, religious leaders and others that are likely to have their expensive ransom demands paid (Bindner and Poirot 18). Kidnapped individuals provide IS not only with the opportunity to make money from ransom payments, but also the ability to send a message. High value targets such as Westerners are often killed on video when the groups
ransom demands are not met, which IS then publishes online as propaganda showing their dedication to their ideology and their seriousness regarding the timely payment for such individuals.

Estimates vary greatly on how much money IS made between 2014 and 2017 from ransom payments, chiefly because governments and private organizations choose to conceal these transactions (FAFT 18). For 2014, mid-range estimates for IS revenue from kidnap and ransom are between $20 and $40 million, and a high-end estimate from the RAND Corporation was $120 million, or 4% of the group’s overall revenue for this year (Bindner and Poirot 18). Estimates vary greatly as some solely record ransom payments, while others include the sale of women and children as slaves in their numbers. In 2015, IS did not capture as many foreigners as the previous year, and there is a general consensus among estimates that their kidnap and ransom revenue fell in this year. Foreigners, which are “more readily ‘monetizable’” had already either already escaped IS territory, or had already been released or executed by the group by 2015 (Heibner, et al. 8).

RAND estimated that IS income from ransom payments dipped to around $100 million (4% of revenue) in 2015, based on various high-profile kidnapping cases such as that of the Yazidis of northern Iraq (Bindner and Poirot 19). In this case, IS released about 200 kidnapped women and children of the Yazidi people, who are a religious minority that practice Yazidism, speak Kurmanji and often identify as ethnic Kurds (Hanna and Razek 2015). A UN Secretary Council report detailed that the Yazidis were released for roughly $4,000 per person, effectively giving IS $850,000 in a single day (UN Security Council 2016). Examples like this show the effectiveness of kidnap and ransom financing methods. Although they are not regarded as sustainable practices, they can provide quick, large amounts of money in a short time, and with little overhead. Despite other notorious kidnapping cases, IS made much less money from ransom payments in 2016. The
most infamous IS kidnapping case of 2016 was that of the Assyrian Christians, in which IS abducted 230 men, women and children, and negotiated their release for just under $10 million (The Associated Press 2016). According to estimates, IS made as much as $30 million in 2016, although it is possible that the group made much more than researchers could identify (Heibner, et al. 18).

It is unclear how much revenue IS generated from kidnap and ransom payments in 2017, however, it is evident that as the group was pushed out of its territories in Iraq and Syria, it abducted many women and children to use as bargaining tools (Hall 2018). There is no obvious trend between IS ransom payment income and its controlled territory, yet even as IS has lost territory, the group has continued to kidnap anyone it can to make money and slow its military defeat. Even in 2019 IS continues to use civilians both as shields and negotiating devices. As the organization has lost its natural resource funding techniques, IS has had to result to more violent criminal techniques such as extortion and kidnap for ransom. It is likely that until the groups defeat, it will continue to use the only resources it has available, chiefly civilian women and children, to make money through extortion, as well as kidnap and ransom.

c. Antiquities Trafficking

Money made by IS from the sale of cultural artifacts accounted for less than 1% of the group’s overall funding between 2014 and 2017, yet it has received widespread media coverage. Rather than making money from actually selling the antiquities in its territory, IS sells digging permits and charges transit fees instead (Heibner, et al. 8). The fact that in 2015 IS controlled around 2,500 archaeological sites in Iraq and 4,500 in Syria, drew much media attention, but in reality, the group was incompetent in turning these sites and their relics into significant money
makers. GC airstrikes were successful in destroying the transport of many of the excavated artifacts, and the group’s income diminished to insignificant numbers in 2016 and 2017. With the loss of key archaeological territories, such as in Palmyra that has artifacts and ruins from almost 12,000 years ago, IS has been further unable to generate revenue from antiquity sales. In the near future it is not likely that IS will be able to make money in this way, but in contrast IS may seek foreign donations as they continuously lose territory (FAFT 2015).

d. Foreign Donations

Money made by IS from foreign donations also accounted for less than 1% of the group’s overall funding between 2014 and 2017. This is in part due to the fact that IS has been financially independent of donors since its days as AQI in 2006. It is interesting to note; however, how useful donations can be to small, unorganized terror organizations. Former U.S. Navy Admiral and NATO Supreme Commander James Stavridis explained: “These rich Arabs are like what 'angel investors' are to tech start-ups, except they are interested in starting up groups who want to stir up hatred” (Windrem 2014). Once a terrorist organization like IS has its initial funding, it can move to develop other, more complex and self-sustaining financing techniques like oil production and extortion. It is often overlooked, but these donations to IS must continue to be watched closely as the group attempts to rebuild in 2019. Although the group has not relied on charitable donations for over a decade, as the groups income diminishes to a small fraction of what it was in 2014, it is possible that it may reach out to its sympathizers in Gulf states and its affiliate groups in Africa, the Philippines and Bangladesh, for money.
CHAPTER 6: CONCLUSION

To bring IS’s reign of terror to an end, the GC allies, along with the Assad and Putin regimes, must undercut the terror organization’s ability to operate. Of the most effective ways to do this is detecting and rendering useless IS revenue streams and self-funding techniques. At the time of this writing in March 2019, IS holds less than 1% of the territory it controlled in 2014 and its financial empire has collapsed. This near victory is in large part due to the GC’s ability to cut IS income. The most radical IS soldiers will go into hiding or fight until the death, despite lack of financial reward, yet nonetheless ending IS funding has proved largely effective in terminating IS ability to function and terrorize the world.

This paper provided a case study of the financing techniques of IS between the years 2014 and 2017. These were the years in which the IS financial empire reached its height and experienced its demise. The purpose of this case study was to analyze an atypical example in the field of terrorism financing, discover new findings, and identify areas for further research. This paper analyzes IS modes of income by investigating each technique individually, seeking to understand how they contribute to the group’s overall income per year, how they gained the group leverage, and what outside factors affect the financing technique (e.g. world oil price). In addition to analyzing each specific financing technique on its own, territory is analyzed in relation to each funding technique as well, which clarifies how territory is used in the financing of terrorism more generally.

This case study, guided by an interest in the unique financial case of IS, allowed this paper the freedom of navigation unhindered by initial hypotheses that led to three key findings and areas of interest for further research. It is important to note that these three findings represent trends and potential relationships, but do not prove causality.
1. This paper theorizes that in the IS case, as the group lost revenue from natural resource financing techniques as well as natural resource specific territory, it was forced to resort to be a more ‘criminal’ organization by relying more heavily on extralegal funding practices (see Figure 2). If this trend is correct, it shows that as IS lost oil, natural gas, phosphate and agriculture income, it effectively became a more violent force towards the people it controls, the Caliphate’s inhabitants.

Figure 2: IS Natural Resource and Extralegal Financing Techniques Income and Territory Percent Change Since 2014
2. This paper builds upon an idea presented initially by Yazid Sayigh in 2015 that viewed natural gas control as a denial mechanism to its foes. This paper goes further, arguing that it is likely that all IS natural resource revenue streams, and even the extra-legal stream extortion, exemplify large income and leverage denials to the Iraqi and Syrian governments. The theory is that each of these industries constitute large export markets for the Iraqi government (oil) and Assad regime, mostly phosphate and agriculture products and by-products, and that IS control of these industries weakens their enemy’s income and ability to fund their military to fight IS. This gives the terror organization leverage over its opponents.

3. This paper suggests that the trend between world oil price and IS oil revenue is more closely connected than field experts have proposed. Even as the group lost a minimal amount of oil fields and processing territories between 2014 and 2015, IS oil revenue dropped tremendously. This was most likely as a result of increased GC and Russian airstrikes, but revenue still decreased more than would have been expected when examining territory alone. When observed in relation to world oil price, however, it is clear that the decrease in production and territory, coupled with the massive drop in world oil price, combine to explain IS oil revenue drop across these years. From the year 2015 on, the world oil price increased by insignificant margins, but IS began to experience tremendous losses of territory, especially its oil fields. As this occurred, its oil revenue declined in relation to its loss of territory, and it seems as though the now steady world oil price had no effect on IS income. In sum, world oil price had a large effect on IS oil revenue between 2014 and 2015, while territory did not, but as world oil price stagnated from 2015 on, territory began to decline rapidly and was the principal root of IS oil revenue loss from then on (see Figure 4).
The research in this paper provides an update to the financing techniques of IS, and an original in-depth analysis of each technique that supplement and fill in gaps in the existing literature. Even though there is little available reliable data on IS income per financing technique, this paper has studied the open source data on each funding practice of IS to create a detailed analysis of the group’s income network to date. The purpose of this study is to uncover, rather than predict its findings.

The biggest limitation to this paper was the lack of information available on IS income and territory. Clearly, this data is unavailable because IS does not publish it and no other organization has been able to accurately record it across the chosen timeframe. It is likely that government intelligence agencies have more precise and timely statistics on IS income per financing and
territory between 2014 and 2017, but it is in their best interest to keep this intelligence secret for
the time being. A self-criticism of this paper would be that it is unable to provide any one, nearly
indisputable finding. This is in part due to the aforementioned lack of data, but also the chosen
research design. Having chosen an empirical research method, and having focused on IS subjects
with vastly more quantifiable observations, such as number of attacks and attack effectiveness over
time, this paper could have presented a causal relationship discovery. It seems that with the current
data available on IS financing techniques and income, there are not enough observations to conduct
an empirical analysis on the subject, but as more IS documents are discovered and more IS soldiers
interrogated, one day the information may be collected to conduct this proposed research project.

As the sitting U.S. President announces the end of war against IS, stating “Our boys, our
young women, our men — they’re all coming back, and they’re coming back now,” IS soldiers
and sympathizers are retreating into hiding (Trump 2018). It is important that GC nations continue
the fight against IS, by stabilizing Iraq and Syria and eliminating the conditions for an IS version
2.0 revival. The information and findings presented in this paper are intended to update and
examine in more detail the work other researchers in the broader fight against terrorism financing
worldwide. This paper did not focus on analyzing the effectiveness of GC counter-financing
terrorism strategies, but it is intended that the information provided in this IS case study be coupled
with data on AML/CFT strategies, to ultimately show what strategies have worked in defeating
what financing techniques. This paper serves to add to the broader field of terrorism financing by
analyzing the funding techniques used by IS, in the hope that more knowledge will aid in
destroying these income streams and the organizations that employ them.
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