



Tracking and Disrupting the Illicit Antiquities Trade with Open-Source Data

MATTHEW SARGENT, JAMES V. MARRONE, ALEXANDRA EVANS, BILYANA LILLY, ERIK NEMETH, STEPHEN DALZELL

For more information on this publication, visit www.rand.org/t/RR2706

Library of Congress Cataloging-in-Publication Data is available for this publication.

ISBN: 978-1-9774-0148-9

Published by the RAND Corporation, Santa Monica, Calif.

© Copyright 2020 RAND Corporation

RAND® is a registered trademark.

Cover image: Adobe Stock.

Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of its research documents for commercial use. For information on reprint and linking permissions, please visit www.rand.org/pubs/permissions.

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

Support RAND

Make a tax-deductible charitable contribution at
www.rand.org/giving/contribute

www.rand.org

Preface

The sale of illicit goods provides an important funding source for terrorist organizations, organized crime, and rogue states. Therefore, tracking and disrupting these networks is an important national security goal, but it is often difficult to accomplish because of the clandestine nature of these transactions.

The authors of this report aim to track these networks through open-source data. They pair this research with analytical frameworks that could help policymakers and law enforcement personnel better respond to these issues while also providing advocates, experts, and researchers in the field with a set of grounded estimates and methodologies to build on in their future research. The authors demonstrate how these methods can be used to map a specific illicit market and discuss how these methodologies can be reused in similar projects.

Funding

Funding for this research was made possible by the independent research and development provisions of RAND's contracts for the operation of its U.S. Department of Defense federally funded research and development centers.

Contents

Preface	iii
Figures	vii
Tables	ix
Summary	xi
Acknowledgments	xvii
Abbreviations	xix
CHAPTER ONE	
Introduction	1
Objectives and Approach	3
Organization of This Report	4
CHAPTER TWO	
Antiquities Trafficking and Its Role in Financing Terrorism	5
Issues with the Current Approach for Assessing the Antiquities Market's Relationship to Terrorist Funding	7
Mass Excavations and Organized Theft	12
Constructing a Global View of the Antiquities Trade	16
Summary	21
CHAPTER THREE	
Smuggling Networks and Sales Channels: Results from Interviews	23
Interview with a Kurdish Smuggler	23
Reports from Syria: Results of Interviews	29
Turkish Dealer Interviews	33
Other Trafficking Pathways	38
Fakes and Forgeries	39
Secondary Distribution Networks	39
Summary	41

CHAPTER FOUR

Antiquities Trafficking Online	43
Dark and Deep Websites for Antiquities Sales	44
Facebook as a Platform for Online Illicit Markets	52
Structural Analysis of Online Markets	63
Summary	67

CHAPTER FIVE

Measuring the International Trade in Antiquities	69
Sales Channels for Antiquities	70
Summary	84

CHAPTER SIX

Policy Responses to Illicit Trafficking and Future Research	87
Summary of Key Findings	87
Proposed New Policy Solutions Based on Findings	89
Aligning Policy Responses with Market Characteristics: Recommendations for Policy Actions Against Antiquities Networks in the Middle East	92
Responding to Illicit Networks	95
Directions for Future Research	97

APPENDIXES

A. Archaeological Looting in Historical Perspective	99
B. Detecting Suspicious Dealers Using Rare Indicator Coins	111
C. A Supply and Demand Theory of the Antiquities Market	125

References	133
-------------------------	-----

About the Authors	145
--------------------------------	-----

Figures

S.1.	Comparative Schemas of Market Structure	xiv
S.2.	Perceived Versus Actual Characteristics of the Antiquities Market.....	xiv
2.1.	Looting of Apamea, Syria.....	14
2.2.	Total Reported Antiquities Imports to Various Countries from Egypt, Turkey, Jordan, Lebanon, Syria, Iraq, Israel, and the United Arab Emirates.....	18
2.3.	Imports from Turkey of Antiquities and Archaeological or Ethnographic Pieces (Harmonized Codes 9706 and 9705), as Reported by Select Countries..	19
2.4.	Reported Antiquities Imports from the UAE	20
3.1.	Kurdistan Region of Iraq	24
3.2.	Objects Sold to Local Buyers.....	27
3.3.	Kurdish Smuggler's Reported Destinations for Smuggled Antiquities	30
3.4.	Interview Locations.....	34
4.1.	Coins Advertised for Sale on Telegram	51
4.2.	A Global Phenomenon: British and Turkish Members Describing Similar Coins	53
4.3.	Example of Professional Photography Repurposed in a Facebook Group	55
4.4.	Example of Professional Photography Repurposed in Arabic Treasure-Hunting Site.....	56
4.5.	Online Guides for Identifying Hidden Tombs.....	57
4.6.	Example of Amateur Photography of Site Exploration Posted on Facebook	58
4.7.	Sample Product Offering on Arabic-Language Facebook Group.....	59
4.8.	Facebook Discussion of Antiquities Sales on Turkish-Language Group.....	60
4.9.	Image of Fake Coin and Die Used to Create It Shared on a Facebook Group...	62
4.10.	Comparative Schemas of Market Structure	64
4.11.	Dark Web Market Niche	65
4.12.	Telegram Market Niche.....	66
4.13.	Facebook Market Niche.....	67
5.1.	Number of Antiquities Sold by Auction Houses.....	71
5.2.	Antiquities Sales at Auction	72
5.3.	Total Coin Sales at CNG	74
5.4.	Coin Sales Volume at CNG	75
5.5.	Mean Lot Value at CNG	75
5.6.	Palmyra Heritage Gallery Sales on LiveAuctions.com	76

5.7.	Global eBay Sales of Antiquities by Country in 30-Day Period	81
5.8.	eBay Antiquities Sales by Country in 30-Day Period	82
6.1.	Conceptual Model of the Antiquities Market.....	89
6.2.	Perceived Versus Actual Characteristics of the Antiquities Market.....	90
6.3.	Conceptual Framework for Aligning Policy Responses to Market Characteristics: Centralization of Looting Networks	91
6.4.	Conceptual Framework for Aligning Policy Responses to Market Characteristics: Illicit Network Centralization.....	92
6.5.	Trafficking by Organized Cartels and Gangs.....	93
6.6.	Antiquities Trafficking Networks Described by Our Research.....	94
B.1.	Findspots of Vabalathus and Zenobia Coins Minted in Syria.....	115
B.2.	Dealers' Case Study Coins Versus Total Inventory	119
B.3.	European Locations of Coin Sales from Four Case Studies	120
B.4.	North American Locations of Coin Sales from Four Case Studies.....	121
C.1.	Schema of the Supply and Demand Elasticity of the Antiquities Market	129
C.2.	Impact of Looting with Elastic Demand and Elastic Supply.....	129
C.3.	Impact of Looting with Inelastic Demand and Elastic Supply.....	130
C.4.	Impact of Looting with Inelastic Demand and Inelastic Supply.....	130
C.5.	Impact of Looting with Elastic Demand and Inelastic Supply.....	131

Tables

5.1.	Aggregate Value of Roman Antiquities Listed on eBay	79
5.2.	Seller Location of Roman Antiquities Listed on eBay.....	79
5.3.	Top Ten Seller Locations of Roman Antiquities Sold on eBay in 30-Day Period	81
5.4.	Palmyra Heritage Gallery's eBay Sales Figures.....	83
A.1.	Total Number of Cases and Cultural Artifacts Seized by the Bulgarian Customs Agency at Bulgarian Borders	105
B.1.	Case Study Coins Found on Four Websites	117
B.2.	Provenance Information for Individual Coins	118

Summary

The illicit antiquities market has become an area of concern for policymakers because of a well-documented rise in looting at archaeological sites and a fear that the proceeds of such looting may be financing terrorism or rogue states. Efforts to craft effective policy responses are hindered by the lack of data and evidence on two fronts: the size of the market and the network structure of participants. In lieu of reliable evidence on these two fronts, the conversation has been dominated by speculation and hypotheses and has generated some widely accepted theories of how the illicit antiquities market operates.

In this report, we compile evidence from a wide variety of open (i.e., nonproprietary or unclassified) sources to outline the major policy-relevant characteristics of that market and to propose the way forward for developing policies intended to disrupt illicit networks. Our approach uses multiple methods and data sources with the understanding that no single piece of evidence can provide a complete picture of the market and that only by cross-referencing and triangulating among various sources can salient market characteristics be illuminated. Furthermore, any methods and sources will be most impactful if they are publicly available. To that end, our evidence comes from both qualitative and quantitative data collection: informant interviews, international customs data, auction and dealer sales data, dark and deep web forums, and expert consultation. We note that this research is intended only as exploratory; however, we hope that, by providing new data and demonstrating the value of new data sources and analytical techniques, we can help provide a foundation for further research in the field.

Findings

Our evidence implies that the size and structure of the illicit market is at odds with the conventional wisdom espoused by some journalists and researchers. Commonly quoted estimates of the size of the illicit market range from hundreds of millions to billions of dollars, while **news stories frame antiquities trafficking as the domain**

of well-organized criminal networks.¹ In contrast to these assertions, our research points to a market that looks smaller and is less organized.

- **The market size is smaller than often reported.** Our data indicate that the illicit market is likely much smaller than the multibillion-dollar claims that are commonly quoted. We find no evidence that illegal sales are occurring in large or even steady quantities on deep web platforms, such as Facebook or Telegram, and we find virtually no evidence of antiquities being traded on the dark web. As for the “visible” market of auction houses, dealers, eBay, and other online outlets, we find that the entire market (looted or not) is not likely to be larger than a few hundred million dollars each year. Even this is likely an overestimate, given that our appraisals contain data with fakes, replicas, and other nonantiquities.
- **Market structure varies widely, but it often appears ad hoc and opportunistic.** Organized crime actively participates in the illicit antiquities market in some regions, including Bulgaria, Greece, and Italy, but we found a second type of network that involves some activity in Iraq and Turkey. This network is best characterized as an organic, ad hoc system of smugglers, middlemen, and brokers whose trade in antiquities is opportunistic and sometimes sporadic.

In addition to characterizing these often-discussed aspects of the market, the report illuminates other characteristics that are relevant for both policymakers and for future research.

- **The end market for looted antiquities is not only the West.** It is often assumed that the end market for looted antiquities is the Europe and the United States. But our informant interviews suggest that antiquities from the Middle East and Levant are ending up in Iran, Turkey, the Persian Gulf States, and other nearby countries. Furthermore, the prices being paid to middlemen for low- or medium-quality goods are on par with what would be paid in the end market in Europe or North America. These observations are contrary to the assumption that middlemen are paid just a fraction of the final price as they help in moving antiquities to Europe or the United States. The implication of this finding is that it is important to tailor policy responses to the situation if, indeed, the supply chains for certain goods are different from what has been assumed.

¹ For estimates of market size, see experts quoted in Benoit Faucon, Georgi Kantchev, and Alistair MacDonald, “The Men Who Trade ISIS Loot,” *Wall Street Journal*, August 6, 2017. For discussions of organized crime, see Samuel Andrew Hardy, “Archaeomafias Traffic Antiquities as Well as Drugs,” United Nations Educational, Scientific and Cultural Organization webpage, March 29, 2016; Hristina Teodosieva, “Абдерата и Джуджето подчиниха пазара на антики” [“Abdera and the Dwarf Subjugated the Antiquities Market”], *168 Chasa*, March 14, 2013.

- **Technology used in the looted antiquities trade is mostly unsophisticated.** Studies of other illegal goods suggest that the dark web would be a natural place to sell looted antiquities. However, our analysis of dark web platforms finds virtually no evidence of antiquities sales. On deep web platforms, such as Telegram and Facebook, we also find little evidence of antiquities sales, although other secure messaging applications, such as WhatsApp and Viber, are used to coordinate sales and streamline communications within existing networks. We agree with other researchers who have concluded that the low level of enforcement and the existence of low-risk sales channels reduces the need for dark or deep web sales of antiquities.

Policy Responses Based on Findings

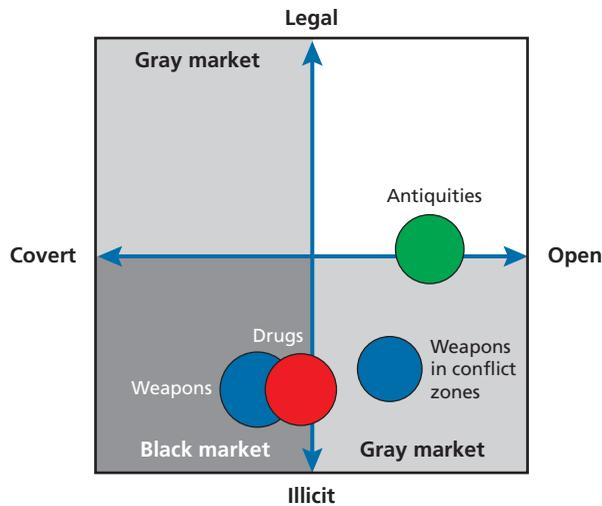
In summary, our analyses suggest that the market for looted antiquities is smaller, is more geographically dispersed, and has more-fragmented supply chains than media accounts have typically indicated. The result is that, to the extent that policy solutions have been guided by these beliefs, existing policy frameworks may be poorly suited to addressing the decentralized nature of the problem. This means that additional enforcement and strategies would help to disrupt additional portions of the supply chain for illicit antiquities.

To give context to our findings and provide links to future research evidence with appropriate policy recommendations, we developed several conceptual frameworks identifying key factors that should be considered to guide policy decisionmaking. We first conceptualized the antiquities market in relation to other illicit markets by considering it in terms of two characteristics: the openness versus secrecy of the transactions and their relative legality or illegality. Viewed in these terms, the differences between the illicit antiquities trade and drug or weapon trafficking is more clearly evident. Although illicit drugs, for example, are primarily sold on the black market because of their near universal illegality and strong law enforcement action against them, illicit antiquities can be advertised and sold through more-visible channels because it is often difficult to prove an individual item's illegality. Because of these differences, disruption of the illicit antiquities market requires a different set of interventions (see Figure S.1).

Second, we assessed the size of the market and the geographic consolidation of its buyers (see Figure S.2).

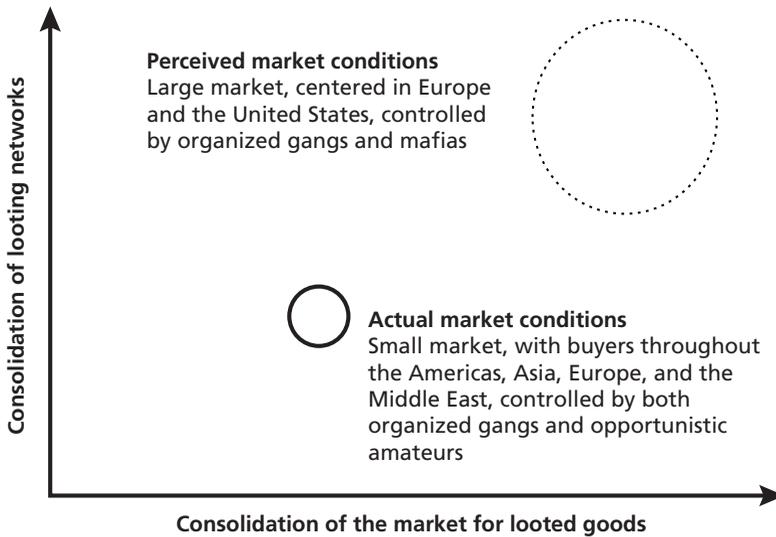
Although existing policy responses have focused on formal legal strategies that would be most effective against a large market geared toward buyers in Europe and the Americas, our evidence points to a smaller but more diffuse market than some have previously hypothesized. These findings suggest that current policy responses to illicit trafficking may be misfocused. We argue instead for policy responses that address a

Figure S.1
Comparative Schemas of Market Structure



NOTE: Circle size is not representative of relative market size.

Figure S.2
Perceived Versus Actual Characteristics of the Antiquities Market



decentralized network that relies heavily on trust and communications between buyers and sellers who do not have an ongoing personal relationship. Accordingly, a broad approach aimed at undermining the strength of the network as a whole may be more successful.

As an example, we suggest the use of messaging campaigns on commonly used platforms, such as Facebook. The goal would be to spread information that destabilizes the network and decreases trust between participants. This can be done in several ways:

- Increase fear of law enforcement by sharing stories that highlight the risks of illicit trades or accounts of sting operations.
- Increase skepticism about fakes and replicas by highlighting the lack of specialists in the network and noting recent examples of doubt about the authenticity of high-profile antiquities.
- Undermine trust by increasing the perceived threat of surveillance on messaging and transaction platforms.

Directions for Future Research

Although this study was exploratory, the research conducted shows the feasibility of generating insight about the antiquities market by leveraging evidence from many publicly available sources. Our work should be viewed as a preliminary analysis that provides roadmaps for future research, which will affirm or revise the conclusions presented in this report. In particular, because the antiquities trade is global with market segmentation for objects from various regions, the methods we demonstrate should be applied and validated in other research contexts.

Acknowledgments

We gratefully acknowledge the research assistance and expert opinions of RAND staff members and researchers, including Fadia Afashe, Wiryah Ahmed, Sohaela Amiri, Alex Cohen, Katherine Costello, Gregory Fauerbach, Max Griswold, Carolyn Higgins, Niraj Imnadar, Rouslan Karimov, Sean McKenna, Natalie Richards, Paul Steinberg, Joshua Traub, Heather Williams, and Tal Wolfson.

Outside RAND, we would like to thank Amr Al-Azm (Shawnee State University), Tihomir Bezlov (Center for the Study of Democracy in Sofia, Bulgaria), Brian Daniels (Smithsonian Institution), Michael Danti (University of Pennsylvania), Elaine Dezenski (Yale University), Rick St. Hilaire, Adam Rawnsley, Oya Topçuoğlu (Northwestern University), Tasha Vorderstrasse (Oriental Institute at the University of Chicago), and Corine Wegener (Smithsonian Institution).

Additionally, presentations and discussions at INTERPOL's tenth International Symposium on the Theft of and Illicit Traffic in Works of Art, Cultural Property and Antiquities provided a valuable opportunity to validate and refine our findings.

Abbreviations

ASOR CHI	American Schools of Oriental Research Cultural Heritage Initiative
FBI	Federal Bureau of Investigation
GDP	gross domestic product
INTERPOL	International Criminal Police Organization
ISIS	Islamic State of Iraq and Syria
RAMP	Russian Anonymous Marketplace
UAE	United Arab Emirates
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNSCR	United Nations Security Council Resolution
WITS	World Integrated Trade Solution (World Bank)

Introduction

Since 2012, the destruction of historic monuments and the looting of museums and archaeological sites by the Islamic State to finance its terrorism operations has brought increased media and policy scrutiny to the problem of looting and antiquities trafficking. Reacting to the growing international concern surrounding the issue, the United Nations (UN) Security Council adopted Resolution 2347 in March 2017, which stated that

the Islamic State in Iraq and the Levant (ISIS, also known as Da'esh), Al-Qaida and associated individuals, groups, undertakings and entities are generating income from engaging directly or indirectly in the illegal excavation and in the looting and smuggling of cultural property from archaeological sites, museums, libraries, archives, and other sites, which is being used to support their recruitment efforts and to strengthen their operational capability to organize and carry out terrorist attacks.¹

This was not an abstract concern. In May 2015, a raid carried out by the U.S. Special Operations Forces in eastern Syria had killed Abu Sayyaf, an Islamic State commander who oversaw the collection of the organization's oil revenues.² A search of his compound revealed a small cache of looted artifacts, some with the markings of the Iraqi National Museum still visible, as well as tax receipts collected on the sale of looted cultural items.³

Although the bulk of the media's attention has focused on the targeted destruction of cultural heritage by the Islamic State, that is only one facet of a larger and more systematic problem. Massive waves of looting followed the Gulf War in 1992 and the U.S.-led invasions of Afghanistan in 2001 and Iraq in 2003, which received heightened

¹ UN Security Council, *Resolution 2347*, S/RES/2347, March 24, 2017.

² U.S. Department of Defense, "Statement by Secretary of Defense Ash Carter on Counter-ISIL Operation in Syria," Washington, D.C., news release, May 16, 2015.

³ U.S. Department of State, Bureau of Educational and Cultural Affairs, "ISIL Leader's Loot Photo Gallery," eca.state.gov online, July 17, 2015.

media attention for the sacking of the Iraq National Museum in Baghdad. Subsequently, in 2010, the Arab Spring witnessed the destruction and looting of cultural heritage across North Africa and into Syria. In particular, the resulting political instability in Egypt has fueled widespread looting of museums and historic sites, and the Syrian civil war has been accompanied by aggressive looting of archaeological sites by regime forces, the Free Syrian Army, and associated militias. Looking beyond the Middle East, looting is a growing issue in such regions as India, Southeast Asia, China, Latin America, North and Central Africa, and at U.S. Native American sites.⁴

Although research by reporters and academics has documented an increase in the looting of antiquities as a potential source of revenue that can be tapped by opportunistic actors in the Middle East,⁵ little systematic analysis has attempted to empirically describe and measure the entire process of looting and trafficking in the region. Much of this limitation is driven by the difficulty of obtaining data from conflict zones. Surveys using satellite imagery, for example, have traced the scale and progress of the looting of historic sites in great detail, but remote sensing cannot describe the goods found or trace their fate.⁶ Likewise, research attention has focused on the most-visible impacts of these crimes rather than tracing the diffuse markets that benefit from them. Much research has focused on documenting the destruction and looting of archaeological sites and museums in Iraq, Syria, and Egypt, but relatively little analysis has focused on the problem of where the looted antiquities go, what markets exist for the looted material, or what the size of these markets might be. News stories have identified individual suspicious antiquities for sale or reported on prominent seizures and legal cases, but there has been little systematic analysis of the market as a whole.⁷

⁴ See, for example, Donna Yates, “Displacement, Deforestation, and Drugs: Antiquities Trafficking and the Narcotics Support Economies of Guatemala,” in Joris Kila and Marc Balcells, eds., *Cultural Property Crime*, Heritage and Identity series, Vol. 3, Leiden, The Netherlands, and Boston, Mass.: Koninklijke Brill NV, 2014.

⁵ We use the term *antiquities* as a shorthand for the more inclusive but stylistically awkward *cultural property*, *art*, and *antiquities*. Specifically, we use antiquities to describe lootable cultural artifacts, focusing specifically on objects that date from before 1500 CE and that can be excavated or looted from historic sites. This definition avoids the inclusion of more-recent works of art and antiques, while enabling us to focus on classes of objects such as Roman-era artifacts, which are both economically important and defined enough that we can track them with analytical clarity.

⁶ See, for example, Deodato Tapete, Francesca Cigna, and Daniel N. M. Donoghue, “‘Looting Marks’ in Space-Borne SAR Imagery: Measuring Rates of Archaeological Looting in Apamea (Syria) with TerraSAR-X Staring Spotlight,” *Remote Sensing of Environment*, Vol. 178, June 1, 2016; Sarah Parcak, David Gathings, Chase Childs, Greg Mumford, and Eric Cline, “Satellite Evidence of Archaeological Site Looting in Egypt: 2002–2013,” *Antiquity*, Vol. 90, No. 349, February 2016, pp. 188–205.

⁷ For examples focused on the thefts themselves, see Neil Brodie, “Focus on Iraq: Spoils of War,” *Archaeology*, Vol. 56, No. 4, July/August 2003; Jim Michaels, “Demand Still High for ISIL’s Stolen Antiquities from Palmyra, Elsewhere,” *USA Today*, March 31, 2016. For examples of anecdotal analysis of the end market for antiquities, see Rachel Shabi, “Looted in Syria—and Sold in London: The British Antiques Shops Dealing in Artefacts Smuggled by Isis,” *The Guardian*, July 3, 2015; Daniela Deane, “Islamic State Selling Art to Fund Fight, Experts Say,” *Washington Post*, February 26, 2015; Russell D. Howard, Jonathan Prohov, and Marc Elliott, “How ISIS Funds

Fueling this disconnect between reported looting and assumed markets for these goods is the problem that bloggers, journalists, and advocacy groups, although often producing high-quality research, are rewarded for sensational headlines and claims that bring attention to their issues and readers to their pages or sites. In the context of antiquities trafficking, this disconnect between the scale of looting and its estimated market value has led to seemingly exaggerated claims about the size of the market for these goods and has muted more-moderate voices in the debate arguing that, despite the appalling destruction that looters are causing to cultural heritage, the economic value of these goods is relatively small.⁸

By assessing the trafficking networks and market for looted antiquities with greater analytical rigor, we can provide a set of grounded findings that can guide further debate and inform policy responses to more effectively address the problem of antiquities trafficking.

Objectives and Approach

We attempt to conduct an analytically rigorous assessment in this study with the goal of developing a clearer description of the actors, networks, and markets that enable the looting, trafficking, and sale of antiquities. Given the geographic scope of the problem, the complex sociopolitical environments in which looting often occurs, the multivalent nature of the markets and trade networks, and the secrecy that shrouds the antiquities market as a whole, it is impossible to completely characterize the market. We will rely on interviews and expert and journalistic accounts to suggest the contours of the hidden world of trafficking; however, our primary focus will be on demonstrating the potential to use publicly available (open-source) data. This approach is particularly well suited to tracking the sale of looted antiquities. We show that, although other illegal goods may be sold on the dark web, trafficked antiquities are most often advertised and sold through publicly observable channels at all stages of the supply chain. While illicit drugs are purchased on the black market by customers who know they are breaking the law, looted antiquities, by contrast, are often sold to consumers who are unaware of their illicit source. Although there is a parallel to illicit drugs in the less visible black-

Terror Through Black Market Antiquities Trade,” *U.S. Naval Institute News*, October 27, 2014, p. 14; Peter Campbell, “The Illicit Antiquities Trade as a Transnational Criminal Network: Characterizing and Anticipating Trafficking of Cultural Heritage,” *International Journal of Cultural Property*, Vol. 20, No. 2, May 2013, p. 128. Note that these examples have been selected because they are examples of high-quality research. The critique is not an issue of research quality, but simply the observation that research tends to focus on certain stages of the illicit market to the exclusion of others. For a more extended discussion, see Chapter Two.

⁸ For an analysis of exaggerated estimates of market size, see Katherine Brennan and Kate Fitz Gibbon “Bearing False Witness: The Media, ISIS and Antiquities,” *Committee for Cultural Policy*, December 1, 2017. For a more extended discussion of these claims, see Chapter Two.

market world of antiquities trafficking, we believe that a detailed analysis of the visible parts of the market will offer insights into antiquities trafficking as a whole.

Along with these analytical findings, our analysis will also describe potential strategies and data sources to guide more-effective enforcement. By developing data-driven policy recommendations and demonstrating strategies that can be used to identify bad actors within the legal market, we hope that law enforcement agencies will be able to more effectively disrupt and prosecute those who are engaged in looting and trafficking cultural property.

We note that this study is only intended as an exploratory one; however, we hope that by providing new data and demonstrating the value of new data sources and analytical techniques, we can help to provide a foundation for further research in the field.

Organization of This Report

Chapter Two documents the use of looting as a source of operational finance by terrorist and military groups. Using international trade data for antiquities imports, we demonstrate that spikes in antiquities exports from the Middle East correspond to periods of military and political unrest. Chapter Three uses interview data to describe the informal structure of some of the trafficking networks operating in the Middle East. Chapter Four details the role of various online marketplaces in facilitating the illicit antiquities trade. Based on our analysis of these platforms, we use a structural model that classifies illicit markets according to their legality and openness. In Chapter Five, we examine the sales side of the market by gathering and analyzing data on physical dealers, auction houses, and several online auction platforms. We estimate the volume of sales for each. In Chapter Six, we summarize our findings and recommend policy responses that focus on aligning strategies with the smaller and more-diffuse markets that we have documented.

Appendix A includes case studies on the history of looting in Iraq, Syria, and Bulgaria. Appendix B demonstrates an analytical strategy for pinpointing suspicious dealers by identifying sellers who advertise coins whose previous findspots are closely aligned with recent conflict zones. This analysis also demonstrates that certain dealers have disproportionate access to these likely looted coins. In Appendix C, we present a supply-and-demand framework for understanding the antiquities market.

Antiquities Trafficking and Its Role in Financing Terrorism

The Islamic State's mass excavation of archaeological sites has piqued international interest in antiquities trafficking as a potential source of terrorist and insurgent financing.¹ Since 2014, when coalition air strikes began to target the Islamic State's other revenue sources, the UN Security Council has twice passed resolutions calling on member states to take direct action to curtail terrorist organizations' "income from engaging directly or indirectly in the looting and smuggling of cultural heritage items."² In an effort to stem the trade, the United States and the European Union have imposed new regulations on the importation of antiquities from Syria and Iraq, and the U.S. Department of State has extended its Counter-Terrorism Rewards Program to include a \$5 million reward for information leading to the disruption of antiquities trafficking networks that benefit.³

Speculation that antiquities might provide a reliable revenue source for armed nonstate actors first emerged in the 1980s, when drug gangs in Central America and warlords in Afghanistan reportedly began to trade cultural artifacts for weapons and use objects as a means of money laundering.⁴ Over the next two decades, instability in

¹ Ben Taub, "The Real Value of the ISIS Antiquities Trade," *New Yorker*, December 4, 2015; Martin Chulov, "How an Arrest in Iraq Revealed Isis's \$2bn Jihadist Network," *The Guardian*, June 15, 2014; Kareem Shaheen and Ian Black, "Beheaded Syrian Scholar Refused to Lead Isis to Hidden Palmyra Antiquities," *The Guardian*, August 19, 2015; Shabi, 2015; Amr Al-Azm, Salam Al-Kuntar, and Brian I. Daniels, "ISIS' Antiquities Sideline," *New York Times*, September 2, 2014.

² UN Security Council, "Unanimously Adopting Resolution 2199 (2015), Security Council Condemns Trade with Al-Qaida Associated Groups, Threatens Further Targeted Sanctions," United Nations press release, SC/11775, February 12, 2015; UN Security Council, "Security Council Condemns Destruction, Smuggling of Cultural Heritage by Terrorist Groups, Unanimously Adopting Resolution 2347 (2017)," United Nations press release, SC/12764, March 24, 2017.

³ Mark V. Vlasic, "Islamic State Sells 'Blood Antiquities' from Iraq and Syria to Raise Money," *Washington Post*, September 14, 2014; Rewards for Justice, "Trafficking in Oil and Antiquities Benefitting the Islamic State of Iraq and the Levant (ISIL)," undated.

⁴ Neil Brodie, "Scholarship and Insurgency? The Study and Trade of Iraqi Antiquities," presentation at the Institute of Advanced Studies workshop Illicit Traffic of Cultural Objects: Law, Ethics and Realities, Perth: University of Western Australia, August 4–5, 2011; Noah Charney, Paul Denton, and John Kleberg, "Protecting Cultural Heritage from Art Theft," *FBI Law Enforcement Bulletin*, March 1, 2012, p. 1.

Cambodia, Lebanon, Syria, and the Persian Gulf encouraged the creation of regional smuggling networks, which profited from the demand for arms, narcotics, humans, and other contraband goods, as well as archaeological objects.

In Iraq, for example, a wave of mass looting during the 1990–1991 Gulf War revitalized dormant trade routes that expanded after additional UN sanctions later in the decade increased Iraqis’ reliance on the black market and inspired impoverished tribal communities and militant groups to sell or barter stolen and excavated artifacts for hard currency, weapons, and other goods.⁵ A second round of mass looting in the wake of the 2003 U.S. invasion increased the supply, with an estimated half-million artifacts stolen or illegally excavated between 2003 and 2005 alone.⁶ In the years since, elements of al Qaeda in the Arabian Peninsula, Jaysh al-Mahdi, Hizballah, and the Free Syrian Army—as well as rebel and terrorist groups as far afield as Cambodia, Somalia, and Colombia—have reportedly profited from trafficking in antiquities.⁷

In this chapter, we examine the relationship between the antiquities market and terror financing. We begin by discussing the current literature’s definitional, logistical, and analytical weaknesses. We do this to underscore the need for a rigorous assessment of the available data and to develop a systematic framework that can reconcile the disconnect between research focused on documenting looting and the often weakly supported assumptions about the value of the illicit trade and channels that bring illicit goods into the global art market. We then examine the evidence for mass looting and organized theft of cultural property in the Middle East. Finally, we present a methodology to examine the increases in the export of antiquities from conflict zones using open-source data and suggest that this offers a grounded strategy for

⁵ See Brodie, 2003. The scale of looting in 1990 spurred the UN Security Council Resolution (UNSCR) 661 to issue a resolution calling for an international prohibition on the trade of Iraqi artifacts. In February 2014, the UN Security Council reaffirmed and expanded its resolution to include a prohibition on Syrian artifacts. Louise Shelley, “Exploring the Financial Nexus of Terrorism, Drug Trafficking, and Organized Crime,” statement before the Subcommittee on Terrorism and Illicit Finance, U.S. House Committee on Financial Services, 2128 RHOB, Washington, D.C. March 20, 2018.

⁶ Russell D. Howard, Jonathan Prohov, and Marc Elliot, “Digging In and Trafficking Out: How the Destruction of Cultural Heritage Funds Terrorism,” *CTC Sentinel*, Vol. 8, No. 2, February 2015, p. 14; Campbell, 2013, p. 128.

⁷ Louise Shelley, *Dirty Entanglements: Corruption, Crime, and Terrorism*, New York: Cambridge University Press, 2014, pp. 259–264; Russell D. Howard, Marc D. Elliot, and Jonathan R. Prohov, *IS and Cultural Genocide: Antiquities Trafficking in the Terrorist State*, MacDill Air Force Base, Fla.: Joint Special Operations University Press, JSOU Report 16-11, 2016, pp. 25–30, 32–33; Toby Dodge, *Iraq: From War to a New Authoritarianism*, London: International Institute for Strategic Studies, 2012; Taylor Luck, “Syrian Rebels Loot Artifacts to Raise Money for Fight Against Assad,” *Washington Post*, February 12, 2013, p. 20; Brodie, 2011; Benoit Faucon, Georgi Kantchev and Alistair MacDonald, “The Men Who Trade ISIS Loot,” *Wall Street Journal*, August 6, 2017; A. J. G. Tjhuis, “Trafficking in Cultural Artifacts,” in Michael Tonry, ed., *The Oxford Handbook of Crime and Public Policy*, Oxford, UK: Oxford University Press, 2011, p. 9; Aryn Baker and Majdal Anjar, “Syria’s Looted Past: How Ancient Artifacts Are Being Traded for Guns,” *Time*, September 12, 2012.

understanding the relationships between conflict, looting, and the global antiquities market.

Issues with the Current Approach for Assessing the Antiquities Market's Relationship to Terrorist Funding

Although empirical constraints prevent a complete accounting of the scale or relative significance of the involvement of organized criminal, insurgent, and terrorist groups in funding terrorist activity, comparative analysis of the historical record demonstrates that these groups can engage in the trafficking process in three distinct ways: (1) by exercising oversight or direction of the initial looting of archaeological objects; (2) by facilitating, aiding, or taxing the transportation and smuggling of artifacts within and between countries; and (3) by obtaining known antiquities (through theft or purchase). In each case, the role of antiquities in the market generates funds or items that can be sold or exchanged for weapons, equipment, or other necessary goods on the black market.⁸

Yet the scale, scope, and significance of the antiquities trade and its role in terrorist, criminal, and militant financing remains poorly understood. In addition to the inevitable challenges associated with analyzing trafficking networks of limited transparency, persistent legal, political, and economic factors hinder efforts to establish a comprehensive assessment of the associated trade's scale, scope, or significance in relation to other contraband. Despite efforts to establish norms of practice, the international legal landscape is fragmented by state and region; without a global standard, the right to ownership is decided by the law of the country where an item is located at the time.⁹ This introduces both a definitional and a logistical challenge: An artifact that is considered the product of an unlawful sale in one state (and exported from that state) may be imported and sold legally in another state—categorized at various points in the process as either an ancient artifact, an item of art, or a cultural good—without a single, centralized body capable of resolving disputes of legal transfer.¹⁰

⁸ Research on the connection among general art crime, drug trafficking, and money laundering has suggested a similar system. Law enforcement agents suggest stolen works of art have been used as collateral or as a means of payment in drug deals, trafficked with drugs along common smuggling routes, and purchased as a means to launder illicit proceeds. See Tjihuis, 2011, p. 8.

⁹ For a comprehensive evaluation of the international legal landscape, see Asif Efrat, *Governing Guns, Preventing Plunder: International Cooperation against Illicit Trade*, New York and Oxford, UK: Oxford University Press, Inc., 2017.

¹⁰ See Tjihuis, 2011, p. 2. Through a series of international conventions, policymakers have sought to construct shared legal instruments to standardize definitions and resolve disputes, most notably the 1995 UNIDROIT Convention, which established regulations for the restitution and return of cultural objects between contract states. See Günther Wessel, "Dealers and Collectors, Provenances and Rights: Searching for Traces," in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods: The Global Challenge of Protecting the World's Heritage*,

These ambiguities compound the practical objective of distinguishing between licit and illicit items in that establishing authenticity, provenance, and ownership are tasks that require specialized knowledge beyond most police and customs officers' standard training.¹¹ The resulting variations in the identification, enforcement, and prosecution of crimes related to the antiquities trade introduce additional uncertainties that obscure the volume and character of both the legal and black-market trade. Finally, the art and antiquities community's culture of secrecy conceals the identities of participants and undermines efforts to calculate the volume and value of goods traded.¹² As a Federal Bureau of Investigation (FBI) report noted: "What other multimillion-dollar market so rarely leaves a paper trail of transactions, regularly hides commodities to avoid luxury tax, and relies so heavily on the unscientific assurance of connoisseurs to determine authenticity and value?"¹³

The result is a "cyclical, self-destructive pattern" of poor information-gathering and scarce resources punctured by brief periods of acute political interest in periods of crisis.¹⁴ The aforementioned FBI report concluded that "governments do not dedicate resources to gathering and analyzing data on art crime because the existing data have not proven the extent and severity of the problem."¹⁵ Indeed, no governmental or international body maintains comprehensive statistics on the global antiquities trade, and there has been little effort to reconcile differences between national statistics, which are often collected based on the mechanism of the theft (e.g., armed robbery, petty theft, breaking and entering) rather than category of object stolen.¹⁶ Despite pressure from the International Criminal Police Organization's (INTERPOL's) Expert

Paris: International Observatory on Illicit Trade in Cultural Goods, 2015, p. 10; Neil Brodie, "How to Control the Internet Market in Antiquities? The Need for Regulation and Monitoring," *Antiquities Coalition*, Policy Brief No. 3, July 2017, p. 2; Richard R. Verma, U.S. Assistant Secretary of State for Legislative Affairs, letter to Representative Paul Ryan, Washington, D.C., Case No. F-2012-33798, Doc No. C05448385, November 24, 2010.

¹¹ Siobhán Ní Chonaill, Anaïs Reding, and Lorenzo Valeri, Anaïs Reding, and Lorenzo Valeri, *Assessing the Illegal Trade in Cultural Property from a Public Policy Perspective*, Santa Monica, Calif.: RAND Corporation, DB-602-RE, 2011, p. viii.

¹² Tjhuis, 2011, p. 4; Phil Williams, "Crime, Illicit Markets, and Money Laundering," in Chantal de Jonge Oudraat, P. J. Simmons, and Jessica Tuchman Mathews, eds., *Managing Global Issues: Lessons Learned*, New York: Carnegie Endowment for International Peace, 2001 p. 116.

¹³ Charney, Denton, and Kleberg, 2012, p. 1.

¹⁴ See, for example, the public attention given to mass looting incidents in the wake of the 2003 invasion of Iraq, the 2013 turmoil in Egypt, and the current crisis in Iraq and Syria.

¹⁵ Charney, Denton, and Kleberg, 2012, p. 1.

¹⁶ Few countries maintain specialized art crime or antiquities squads, and most of the existing offices suffer from inconsistent or insufficient resources. Scotland Yard's Arts and Antiques Unit has been disbanded and reestablished multiple times since it was founded in 1969, for example, while the FBI lacked an art squad until 2004. Italy, France, Spain, and Denmark offer notable exceptions (see Charney, Denton, and Kleberg, 2012, p. 5; Tjhuis, 2011, p. 15; INTERPOL, "Frequently Asked Questions," interpol.int online, 2018).

Group on Stolen Property for better data gathering and systematic research, “it remains impossible, to this day, to precisely rank illicit traffic in cultural objects so as to measure it to other types of transnational crimes.”¹⁷

In recent years, however, archaeologists, criminologists, and activists, supported by professional and advocacy organizations, have sought to raise international interest in the destruction of cultural heritage sites through the dissemination of academic and policy research on the antiquities trade’s connection to organized crime, international terrorism, and armed insurgencies. Groups have served as leading voices in discussions about these issues. These groups include the International Council of Museums, which classifies and publishes registers on categories of endangered archaeological objects; the American Schools of Oriental Research Cultural Heritage Initiative (ASOR CHI), which brings together scholars and institutions to document, protect, and preserve the cultural heritage in the Middle East; and the Antiquities Coalition, a U.S.-based nonprofit dedicated to combating what they call “cultural racketeering.”

The literature published by these groups underscores the global dimension of antiquities trafficking and suggests commonalities in behavior among disparate actors operating in such varied environments as Cambodia, Peru, and Syria. Based on field research and employing creative uses of social media and geospatial imaging, the literature also provides suggestive evidence that new technologies and persistent instability in vital archaeological regions have spurred changes in both the illicit and licit markets in antiquities.

Yet the available research also suffers from several analytical weaknesses. First, there is a pressing need to establish precise and stable definitions of the subject of study. A fractured regulatory environment, interstate ownership disputes, and academic debates over the ethics of ownership have fostered a kaleidoscope of terms that undermines efforts to synthesize general trends or build systematic theories. Similarly, researchers have sought to compensate for the lack of specialized data on antiquities trafficking by borrowing theoretical models, statistical data, and empirical evidence from the literature on cultural goods—a category that includes items as varied as jewelry, books, and film—and art theft—a field that includes antiquities but often focuses on the visual arts.¹⁸ Evidence from these related areas can illuminate common challenges and serve as a foundation for targeted research, but greater care is needed to explain the specific characteristics of the antiquities trade, define the limitations of the available data, and avoid unintentional or misleading connotations between distinct categories of trade.

In the absence of reliable statistical data, researchers have relied instead on historical and empirical evidence gathered primarily from field research, interviews,

¹⁷ Frances Desmarais, “An International Observatory on Illicit Traffic in Cultural Goods,” in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods*, Paris: International Council of Museums, 2015.

¹⁸ European Union, “Cultural Goods,” ec.europa.eu webpage, undated; Tjihuis, 2011, p. 4.

legal records, and government sources. Yet research designs in the field are often poor, producing a fragmented body of case studies and an overreliance on anecdotal data. In particular, five case studies dominate the published research:

- 9/11 attacker Mohammed Atta's unsuccessful effort in 1999 to sell Afghan relics to raise funds for the attack¹⁹
- an Irish Republican Army cell's efforts in the 1990s to trade stolen art for heroin after failed efforts to find an underground buyer²⁰
- the 1999 discovery of an international art smuggling ring that sought to trade an estimated \$35 million in stolen masterpieces for cocaine²¹
- the discovery of antiquities among insurgent weapon caches captured in Iraq from 2003 to 2007²²
- the Islamic State's organized trade in Iraq and Syria.

Although evocative, these cases are frequently presented without sufficient explanation to support the authors' accompanying assertion that terrorist groups draw significant revenue from antiquities. With the exception of the Islamic State example, the published analysis of these cases can demonstrate only the existence of intermittent or opportunistic efforts to profit from antiquities trafficking, but they cannot illuminate the frequency, scale, or organization of these illicit transactions.

In the absence of grounded data, journalists, researchers, and policy experts regularly inflate the importance of antiquities trafficking in funding for international terrorism and organized crime. Linking cultural property crimes to these high-profile law enforcement issues offers a means to bring funding and political attention to what has traditionally been an underrecognized issue. However, the facts and figures used to support these arguments are often misinterpreted or overstated. Unsubstantiated claims about the relationship among looting, weapons, drugs, and money laundering are common in both expert and popular publications, and inaccurate or exaggerated estimates of stolen items' value abound.²³ The absence of a comprehensive effort to quantify the trade has also encouraged the spread of misleading or inaccurate statistics. *The Guardian's* June 2014 publication of an anonymous intelligence official's claim

¹⁹ NBC News, "How Terrorists Tap a Black Market Fueled by Stolen Antiquities," June 23, 2014.

²⁰ Ní Chonaill, Reding, and Valeri, 2011, p. 27.

²¹ See, for example, Ní Chonaill, Reding, and Lorenzo, 2011, p. 27; and Tjihuis, 2011, p. 8.

²² Case studies of insurgent involvement in antiquities trafficking are overdependent on publications and public statements by Matthew Bogdanos, a Manhattan assistant district attorney and colonel in the U.S. Marine Corps Reserves who led a military investigation into the looting of Iraq's National Museum. Although his expertise contributes useful perspectives, additional evidence is needed to corroborate his generally broad claims.

²³ One common error is the tendency to conflate an object's estimated value on the black market, at auction, or from a legal dealer, obscuring substantial price variations across the platforms. For more on the differing price points, see Ed Caesar, "What Is the Value of Stolen Art?" *New York Times*, November 13, 2013.

that the Islamic State may have plundered \$36 million worth of goods—including weapons, equipment, and natural resources—from the al-Nabuk region of Syria has been widely misrepresented as either evidence that the organization pilfered \$36 million in *antiquities* from one site alone or as a low-range estimate of the organization’s total trafficking revenue.²⁴ Similarly, an unsubstantiated claim that art crime, cultural property trafficking, or the illicit antiquities trade (the variation itself a demonstration of the literature’s definitional challenges) represents the third highest-grossing criminal trade, behind drugs and weapons, has proliferated through popular, governmental, and academic publications.²⁵ Although INTERPOL issued a rare public disclaimer underscoring that despite the absence of “any figures which would enable [it] to” determine such a ranking, the estimate continues to be “frequently mentioned at international conferences and in the media.”²⁶

The fundamental problem, as Deborah Lehr of the Antiquities Coalition has observed, is that, as with most illicit markets, “there’s no real information or statistics on the size of this illegal trade.”²⁷ However, this lack of data has not diminished the spread of wildly varying estimates about the size of the antiquities market. An article in the *Wall Street Journal* included estimates from Michael Danti, an archaeologist and academic director of ASOR CHI, placing the value of the Islamic State’s antiquities trafficking in the “low tens of millions” annually, while a French security official placed the figure at \$100 million.²⁸ Lehr, of the Antiquities Coalition, estimated that “[c]oming out of Syria, it is \$2 billion” and “[w]ith Egypt, it is probably \$3–10 billion, globally it has to be a much more significant number.”²⁹

There has been little apparent effort in the field to ground these estimates in data or to understand the size of the market for antiquities. By way of comparison, the

²⁴ For the origins of this figure, see Chulov, 2014. For samples of its misuse, see Sheera Frankel, “How ISIS Became the Richest Terrorist Group in the World,” *Buzzfeed*, August 28, 2014; Deborah Lehr and Peter Hardich, “Trading Treasure for Weapons: ISIS Campaign of Terror Strikes at Culture,” *Huffington Post*, September 10, 2015; Homeland Security News Wire, “ISIS Is Brutal, but Also Business-Savvy,” September 23, 2014; Sam Hardy, “How the West Buys ‘Conflict Antiquities’ from Iraq and Syria (and Funds Terror),” Reuters, October 27, 2014; Howard, Prohov, and Elliott, 2014.

²⁵ The statistic is alternately attributed to the FBI, the U.S. Department of Homeland Security, and INTERPOL. For illustrative examples of the figure, see Charney, Denton, and Kleberg, 2012, pp. 1, 6; Ni Chonail, Reding, and Valeri, 2011, p. vii; U.S. Immigration and Customs Enforcement, “ICE Makes Arrests and Seizes Cultural Artifacts Stolen from Egypt,” *ice.gov* website, press release, July 14, 2011.

²⁶ INTERPOL, 2018.

²⁷ Michaels, 2016.

²⁸ Faucon, Kantchev, and MacDonald, 2017

²⁹ Middle East Institute, “Stolen Heritage: Cultural Racketeering in Egypt,” YouTube video, May 7, 2014. Egypt’s gross domestic product (GDP) is about \$336 billion, which, according to these estimates, suggests that antiquities trafficking accounts for 0.9–3 percent of Egypt’s GDP. By comparison, opium production in Afghanistan is estimated at \$1–4 billion per year, which accounts for about 90 percent of illicit heroin and opiate production worldwide.

volume of all sales of Greek, Roman, and Egyptian antiquities by the major auction houses—Bonham’s, Sotheby’s and Christie’s—in 2015 amounted to \$41 million. Among these sales were artifacts whose provenance could be traced back as far as 1732, and only \$326,000 of these sales were objects whose provenance could not be established before 2000. Moreover, 25 percent of all the items offered at auction were not sold either because there was no bidder or because the reserve price was not met.³⁰ This reality that antiquities auctions represent a small market that is not always able to find buyers in well-advertised sales is at odds with the media’s assumption that there is a booming unmet demand for these goods that is capable of supporting a billion-dollar black market.

Mass Excavations and Organized Theft

The current instability in Syria and Iraq has inspired Syrian regime forces and at least two militant groups to engage in looting and mass excavations of ancient archaeological sites. Although the Islamic State’s systematic looting of such sites has dominated the headlines, antiquities theft, both opportunistic and organized, is endemic in the region.

The lack of economic opportunity and the need for economic subsistence have reportedly driven opportunistic individuals to turn to archaeological theft, looting, and excavation. Through field work in Iraq and Syria, archaeologist Joanne Farchakh Bajjalay discovered that a cylinder seal or cuneiform tablet could fetch \$50 to \$200, while other researchers describe interview subjects who claimed to have made upward of \$20,000 through the sale of relatively common objects to local middlemen.³¹ At a time when annual per-capita income in Iraq has hovered around \$1,000, there is a strong financial incentive for local populations to conduct independent digging or participate in organized efforts. “We have been living in a war for more than four years, and people will do anything to feed their kids,” one middleman told reporters, a statement that a group of nearby diggers agreed with.³² Case studies of the antiquities trade in Cambodia, Egypt, Lebanon, Afghanistan, and Latin America have demonstrated a similar relationship between poverty, both opportunistic and organized looting, and illicit excavations.³³

³⁰ Calculated from data collected from all 2015 auctions at these institutions.

³¹ Brodie, 2011.

³² Mike Giglio and Munzer al-Awad, “Inside the Underground Trade to Sell-Off Syrian History,” *Buzzfeed*, July 30, 2015.

³³ On Afghanistan, see Campbell, 2013, pp. 120–122. On Cambodia, see Tess Davis and Simon Mackenzie, “Crime and Conflict: Temple Looting in Cambodia,” in Joris D. Kila and Marc Balcells, eds., *Cultural Property Crimes: An Overview and Analysis on Contemporary Perspectives and Trends*, Leiden, The Netherlands, and Boston, Mass.: Koninklijke Brill NV, 2015. For a regional study of Latin America, see Donna Yates, “Illicit Cultural Property from Latin America: Looting, Trafficking and Sale,” in Frances Desmarais, ed., *Countering Illicit*

Organized gangs have also capitalized on this potential source of profit. Archaeologist and activist Monica Hanna, a prominent organizer of the effort to protect archaeological sites in Egypt, claims that the scale and scope of looting in illegal excavations in Egypt and Libya expanded after 2011, when the decline in political stability spurred the growth of organized criminal networks and the introduction or consolidation of new international terrorist and militant groups. Drawing on extensive field work, interviews, and social media analysis, Hanna argues that organized gangs have paired with local middlemen to coerce poor families, including children, into participating in coordinated excavation campaigns that quickly overwhelmed local state security forces. “With the chaotic situation in Libya and the infiltration of state-of-the-art weapons through the western border of Egypt,” she writes, “many organized looting gangs were able to buy weapons at cheap prices. They immediately formed systematic groups to raid archaeological sites with [all-terrain vehicles] and geo-sonars. Helpless site guards stood with their empty 9mm pistols, watching gangs fight and kill each other over a discovered tomb.”³⁴ An international expert commission convened to evaluate the threat to Libyan heritage sites concluded similarly, finding “[a] consistent pattern of deliberate vandalism and destruction . . . since the outbreak of widespread fighting in July 2014” that paralleled “the growing strength of armed groups coupled with the general breakdown of effective national institutions.”³⁵

In parallel to the rise of these organized gangs, decentralized and poorly funded Syrian rebel groups also turned to looting as a source of income. Beginning in 2012, investigative journalists uncovered evidence that rebels affiliated with the Free Syrian Army were forming loosely organized excavation teams tasked with scouring known sites for easily portable and concealable items, including coins, mosaic fragments, and gold.³⁶ “Some days we are fighters; others we are archaeologists,” explained Jihad

Traffic in Cultural Goods: The Global Challenge of Protecting the World's Heritage, Paris: International Council of Museums, 2015. On Egypt, see Monica Hanna, “Documenting Looting Activities in Post-2011 Egypt,” in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods: The Global Challenge of Protecting the World's Heritage*, Paris: International Council of Museums, 2015; Mohammed Abbas, “Museums on High Alert for Ancient Egyptian Loot,” Reuters, February 2, 2011; Nevine El-Aref, “New Security Plan For Egypt's Archaeological Sites,” Ahram.org.eg, October 19, 2011. On Lebanon, see Assad Seif, “Illicit Trafficking in Cultural Property in Lebanon: A Diachronic Study,” in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods: The Global Challenge of Protecting the World's Heritage*, Paris: International Observatory on Illicit Trade in Cultural Goods, 2015. On Iraq and Syria, see Brian I. Daniels and Katharyn Hanson, “Archaeological Site Looting in Syria and Iraq: A Review of the Evidence,” in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods: The Global Challenge of Protecting the World's Heritage*, Paris: The International Council of Museums, 2015; and Campbell, 2013, pp. 122–123.

³⁴ Hanna, 2015, p. 48.

³⁵ United Nations Educational, Scientific and Cultural Organization (UNESCO), U.S. Department of State, Department of Antiquities of Libya, and International Centre for the Study of the Preservation and Restoration of Cultural Property, *International Expert Meeting on the Safeguard of Libyan Cultural Heritage*, Tunis, May 2016.

³⁶ Baker and Anjar, 2012.

Abu Saoud, a 27-year-old fighter, to *Washington Post* journalists.³⁷ Spokesmen for the Free Syrian Army denied allegations of an organized effort to fund the organization through antiquities trafficking, telling journalists: “Sure, there are people who loot, but they work alone. If that is how they buy weapons to fight, we can’t control them. It’s revolution, we are not organized.”³⁸ Yet others defended the practice, claiming an average haul could command upward of \$50,000 on the black market. “We have been left to face an entire army without arms, without money and without help from the outside world,” explained one Free Syrian Army official who claimed to have overseen the excavation of Roman tombs outside Damascus. “It is within our right to use whatever resources we can find.”³⁹

However, rebel groups are not the only ones that engage in looting. Satellite evidence of the progressive excavation of the Roman city of Apamea in Syria shows that looting was largely conducted when the Syrian regime forces were encamped near the site. Moreover, early in the conflict, site excavations were confined to the government-owned heritage parcel delineated by a curved road seen crossing horizontally above the midline of the images in Figure 2.1. Only in later stages of the conflict did looting also spill over into the privately held fields.⁴⁰

Viewed in this context, the looting campaigns orchestrated by the Islamic State were notable more for their scope and organization than for their attempt to profit

Figure 2.1
Looting of Apamea, Syria



SOURCE: Google Earth.

³⁷ Luck, 2013.

³⁸ Campbell, 2013, p. 130.

³⁹ Luck, 2013. For evidence that the practice continued through 2017, see Faucon, Kantchev, and MacDonald, 2017.

⁴⁰ Jesse Casana, “Satellite Imagery-Based Analysis of Archaeological Looting in Syria,” *Near Eastern Archaeology*, Vol. 78, No. 3 (Special Issue: The Cultural Heritage Crisis in the Middle East), September 2015, p. 148; Tapete,

from cultural resources. In contrast to the disorganized, ad hoc destruction wrought by other militant and criminal groups, the Islamic State reportedly sought to monopolize and impose order in its looting. As Jesse Casana, associate professor of anthropology at Dartmouth College, observed, excavation activity within areas of Islamic State control displayed an “unmatched meticulousness and rapacity,” as “looting holes gradually encroached . . . on a block-by-block basis within the Roman city grid.”⁴¹

Before 2014, the Islamic State distributed licenses to regulate their antiquities trade, imposing a tax of 20–50 percent on proceeds gained from the sale of any item uncovered in its territory.⁴² However, as U.S.-led coalition bombing campaigns began to disrupt other revenue streams, the group began to intervene directly in the trade.⁴³ According to records gathered during a 2015 U.S. special operations raid against senior Islamic State officials, the group maintained an administrative division responsible for organizing a centralized excavation effort throughout territory under its control.⁴⁴ The Islamic State paid or coerced archaeologists and museum curators to identify valuable sites and direct local digging teams and made significant investments in heavy machinery, metal detectors, and other related technology. To maintain control over the trade, it enforced punishments against those who looted heritage sites or conducted unlicensed excavations.⁴⁵ According to a 2015 study, while archaeological sites in Kurdish-, regime- and opposition-controlled areas were also subject to theft, the Islamic State’s looting was more extreme than that carried out by other groups.⁴⁶

The Islamic State case also illustrates the strategic pressures that may motivate looting activity. The trafficking in ancient objects allows the organization to diversify its income stream at a time when other revenue sources, such as its illicit trade in oil, are vulnerable to sanctions and air strikes on installations.⁴⁷ Unlike human or drug smuggling, extortion, or kidnapping, which risk embittering local populations, the organized excavation of artifacts is unlikely to spur organized opposition in many contexts. Indeed, it may provide an avenue to improve an organization’s relationship to

Cigna, and Donoghue, 2016.

⁴¹ Cited in Taub, 2015.

⁴² Howard, Prohov, and Elliott, 2014.

⁴³ Colin Clarke, “Drugs & Thugs: Funding Terrorism Through Narcotics Trafficking,” *Journal of Strategic Security*, Vol. 9, No. 3, Fall 2016, p. 1.

⁴⁴ Captured Islamic State documents released by the U.S. government revealed that the organization in late 2014 consolidated its oil and antiquities operations within a new bureaucratic organization known as the Diwan al-Rikaz, or “Department of Precious Things That Come Out of the Ground.” See Taub, 2015.

⁴⁵ Taub, 2015; Giglio and al-Awad, 2015; Shaheen and Black, 2015; Shabi, 2015; Al-Azm, Al-Kuntar, and Daniels, 2014; Elizabeth Bruenig, “Between Hobby Lobby and ISIS: The Battle for Iraq’s Antiquities,” *The New Republic*, October 29, 2015.

⁴⁶ Casana, 2015.

⁴⁷ Howard, Prohov, and Elliott, 2014.

impoverished populations.⁴⁸ “Looting appears, though, to be not only the second-most profitable source of Islamic State income, but also the second-most common form of employment the group offers in the war-torn areas it controls,” claims Michael Danti, one of the archaeologists leading a U.S. government-funded effort to document the destruction and looting of the cultural heritage of Iraq and Syria, based on evidence collected from anonymous local sources.⁴⁹

Although it is clear that numerous groups have been looting museums and historic sites in Iraq, Syria, Egypt, Libya, and elsewhere in the interest of profit, the later stages of the supply chain for illicit antiquities remain poorly understood. In the following chapters, we will document some of the smuggling channels, sales mechanisms, and markets that support demand for these goods.

Constructing a Global View of the Antiquities Trade

Despite growing public outcry about the scale of looting in Middle East conflict zones and increased policy interest in the use of antiquities looting as a source of terrorism finance, there is little hard data available about the size of the illicit trade. Moreover, comprehensive statistics that describe the legal global antiquities trade do not exist.

We begin our analysis using data on the reported cross-border trade in antiquities to develop a country-level description of the overall market. Although these measures are broad and inexact, they allow us to understand the scope of the antiquities market and the role of different countries within it.

Most countries systematically collect data on import and export transactions with each of their trading partners and report the figures to the World Bank and the UN. Such data, available through the World Bank’s World Integrated Trade Solution (WITS) database or the UN Comtrade database, offer a standardized and accessible way to measure and analyze trends in cross-border trade over time.⁵⁰

Challenges in Using Import and Export Transactions Data

The data capture trade in all goods (from livestock to sports equipment to fine art), and items are categorized according to “harmonized codes” (standardized product categorization codes) that aggregate the data on specific classes of goods. Because our focus is on the antiquities trade, this coding system presents a challenge: There is no

⁴⁸ Yaya J. Fanusie and Alexander Joffe, *Monumental Fight: Countering the Islamic State’s Antiquities Trafficking*, Washington, D.C.: Foundation for Defense of Democracies, Center on Sanctions and Illicit Finance, November 2015, p. 6.

⁴⁹ Justine Drennan, “The Black-Market Battleground,” *Foreign Policy*, October 17, 2014.

⁵⁰ World Bank Group, “World Integrated Trade Solution (WITS),” webpage, undated; United Nations Comtrade Database, homepage, undated.

single product category under which antiquities fall. Rather, these items are captured by various codes that must be combined to capture the portion of the market that interests us. Harmonized code 97, for example, measures the trade in all art objects, combining sales of antiques with sales of sculpture and art objects produced more recently. More-focused four-digit codes—such as 9703 (statues and sculptures), 9705 (ethnographic and archaeological objects), and 9706 (antiques)—offer finer divisions in the data that more closely match our interest in antiquities. For this analysis, we combine the data for codes 9705 and 9706 on the grounds that they directly measure items that are considered “old.” Although a useful first step, the combined category still includes some antique items that are more recent than the antiquities that interest us, while excluding such items as statues that may have been categorized differently. For the sake of clarity, we refer to these goods as *antiquities* in the following text, but we should not lose sight of the limitations and definitions of the data behind this label. Despite these deficiencies, the advantage of these data is that we are aware of the limitations upfront and could in principle make further adjustments and refinements to arrive at a more accurate measure.

The second problem we encounter is that not all countries systematically report data. In an ideal system, every export record would be matched by a corresponding report of imports from that country. In practice, however, significant discrepancies exist. In large part, these differences occur because more-developed countries, such as the United States, have more-systematic and better-audited reporting systems, while trading partners in the developing world are less efficient at capturing the data and reporting them to the UN or World Bank. Moreover, traders sometimes avoid paying tariffs and bypass export restrictions by deliberately mislabeling goods in the export country and then relabeling the goods in transit so that they are correctly identified when they enter the importing country. This phenomenon, known as *trade misinvoicing*, is well documented in the economics literature and likely applies to some antiquities transactions.⁵¹ Although it is tempting to focus on the dramatic underreporting of art objects from such countries as Egypt (less than 10 percent of imports to the United States are reported as exports from Egypt in any given year), we hesitate to label this as evidence of an illicit trade because a similar problem of underreporting occurs in other categories, such as children’s toys, where there is less obvious incentive to mislabel goods.

Analysis Results

Even with these limitations, this data set offers useful insights into the global antiquities trade. As a first step toward quantifying the scale of the overall market,

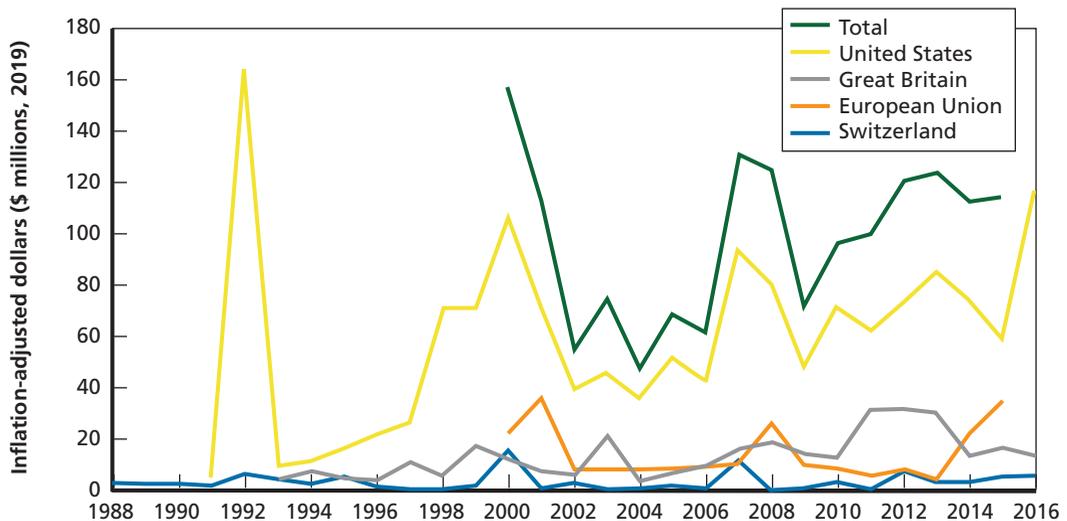
⁵¹ Raymond Fisman and Shang-Jin Wei, “The Smuggling of Art, and the Art of Smuggling: Uncovering the Illicit Trade in Cultural Property and Antiques,” *American Economic Journal: Applied Economics*, Vol. 1, No. 3, 2009.

we can measure the total volume of antiquities imported into the United States, Great Britain, Switzerland, and the European Union from various Middle Eastern nations. As shown in Figure 2.2, the United States is the dominant destination for these declared goods, and, overall, more than \$100 million of these goods are imported into the West annually. Although the declared imports from these countries into European countries have remained relatively stable over the past 20 years, the volume of declared imports into the United States has risen dramatically over time, suggesting a continued and growing appetite for these goods among U.S. consumers.

By focusing on a subset of the data and examining only the data on imports from Turkey as reported by the United States, Great Britain, the European Union (after 2000), and Switzerland, we can see Turkey's place in the antiquities trade from the perspective of target nations.⁵² As seen in Figure 2.3, several interesting patterns are evident in the graphed data.

Overall, the United States is the dominant importer of these goods. This is likely because of the size of the market within the United States and the availability of alternative import and smuggling channels that enable trafficked goods to enter Europe through unreported means.

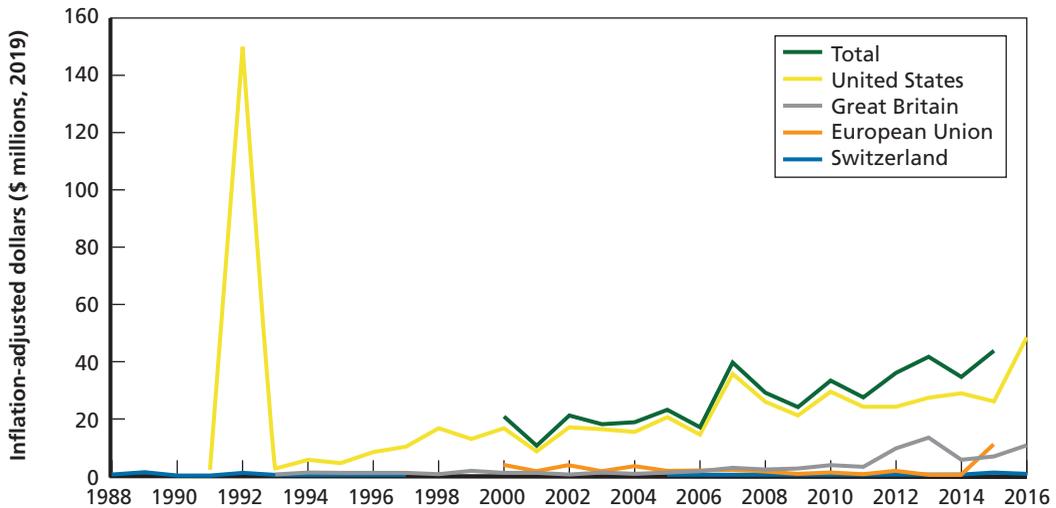
Figure 2.2
Total Reported Antiquities Imports to Various Countries from Egypt, Turkey, Jordan, Lebanon, Syria, Iraq, Israel, and the United Arab Emirates



NOTE: Inflation-adjusted values computed using the Consumer Price Index calculator (U.S. Bureau of Labor Statistics, "CPI Inflation Calculator," undated).

⁵² Note that membership in the European Union has expanded over time, which could cause an upward trend in this data series, even if country-level imports remained constant.

Figure 2.3
Imports from Turkey of Antiquities and Archaeological or Ethnographic Pieces (Harmonized Codes 9706 and 9705), as Reported by Select Countries



NOTE: Inflation-adjusted values computed using the Consumer Price Index calculator from U.S. Bureau of Labor Statistics.

Most obviously, there was a massive spike in imports to the United States in 1992. Reported in the immediate aftermath of the First Gulf War and the associated wave of mass looting, this record of \$150 million worth of antiquities (\$85 million in 1992 dollars) imported through Turkey presumably includes many goods looted in Iraq and smuggled across the border for export to the West. The scale of looting in 1990 spurred UNSCR 661, which called for an international prohibition on the trade of Iraqi artifacts. Similarly, since the 1990s, there has been a consistent growth in the volume of exports from Turkey. Notable spikes in 2007 may be connected to the theft and excavation of an estimated half-million artifacts in Iraq between 2003 and 2005 and in 2016 following the rise of the Islamic State and its associated looting activity.⁵³

It is notable that the evidence suggesting illegal activity is clearly visible in the records of goods openly imported into the United States. The fact that illicit goods can be detected and quantified as they flow through formal channels demonstrates the utility of this method for capturing both the white and gray market in antiquities. Although smuggled, undeclared, or disguised goods are not represented in these data, enough of these goods were formally declared that the spikes in availability and trafficking of looted antiquities appear in official import data.

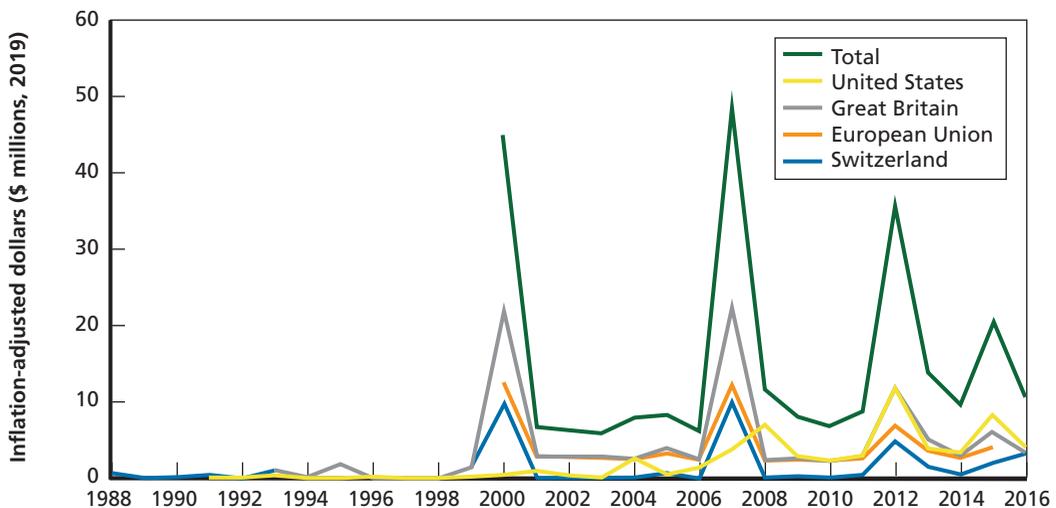
We might be able to distinguish between the functions played by different nations in the world market using this data source. When we examine the imports

⁵³ Howard, Prohov, and Elliot, 2015, p. 14; Campbell, 2013, p. 128.

from the United Arab Emirates (UAE) instead of Turkey, a very different pattern of import behavior becomes evident (see Figure 2.4). Until 2008, antiquities from the UAE were exported primarily to Europe rather than to the United States. Moreover, compared with such nations as Turkey, Egypt, Syria, and Iraq, the UAE has relatively few archaeological sites of its own, and most of the goods that it exports likely originate in other countries. Viewed from this perspective, the spikes in export activity in 2007 during the Iraqi Civil War and in 2012 after the widespread looting that followed the Arab Spring and the rise of the Islamic State are consistent with the assertion that the UAE functions as a trafficking hub in the region.

Because the pattern of the antiquities trade from the UAE is so uneven,⁵⁴ the data offer a potential way to estimate the scale of the antiquities trade in the region. Keeping in mind that the data include only imports that were declared as such and that belong to broad categories of goods that are listed as antiques or ethnographic or archaeological objects, the data suggest that the Iraqi Civil War generated roughly \$35 million in additional antiquities exports, while the rise of the Islamic State and the Syrian Civil War has generated about \$25–30 million worth of exports. It is difficult to assess exactly what items are part of these exports. Although it seems reasonable to conclude that recently looted items were included in these exports, the goods may also encompass legally held items that were being exported as their owners fled the conflict zone. Although it is difficult to make more-specific conclusions using only nation-

Figure 2.4
Reported Antiquities Imports from the UAE



NOTE: Inflation-adjusted values computed using the Consumer Price Index calculator from U.S. Bureau of Labor Statistics.

⁵⁴ There is a baseline of \$5–10 million a year of exports, with irregular spikes to \$30 million a year or more.

level aggregate data, analysis of more-granular import-export records might allow these estimates to be refined.

Summary

The Islamic State's mass excavation of archaeological sites has raised international awareness of the role of antiquities trafficking as a potential source of terrorist and insurgent financing. This has, in turn, brought attention to the growing threat to cultural property within Middle East conflict zones, where archaeological looting has become an endemic problem. Instability in Syria and Iraq has inspired Syrian regime forces and at least two militant groups to engage in looting and mass excavations of ancient archaeological sites. Although the Islamic State's systematic looting of such sites has dominated the headlines, antiquities theft—both opportunistic and organized—is endemic in the region. The lack of economic opportunity and the need for economic subsistence have reportedly driven opportunistic individuals to turn to archaeological theft, looting, and excavation.

Yet the scale, scope, and significance of the antiquities trade to terrorist, criminal, and militant financing remains poorly understood. In addition to the inevitable challenges associated with analyzing trafficking networks of limited transparency, persistent legal, political, and economic factors hinder efforts to establish a comprehensive assessment of the associated trade's scale, scope, or significance in relation to other contraband. Despite efforts to establish norms of practice, the international legal landscape is fragmented by state and region; without a global standard, the right to ownership is decided by the law of the country of the item's location at the time. The result is a cyclical pattern of poor information-gathering and scarce resources, punctured by brief periods of acute political interest during times of crisis. The fundamental problem, as Deborah Lehr of the Antiquities Coalition has observed, is that "there's no real information or statistics on the size of this illegal trade."⁵⁵

As an introduction to the use of open-source data sets to analyze the illicit antiquities trade, we reviewed trends in antiquities-related import dates reported between potential source countries in the Middle East and destinations, including the European Union, Switzerland, Great Britain, and the United States. Using these data from the World Bank's WITS, we calculated that more than \$100 million of antiquities in declared traffic enter the West annually. Although the declared imports into European countries have remained relatively stable over the past 20 years, the volume of declared imports into the United States has risen dramatically over time, suggesting a continuing and growing appetite for these goods among U.S. consumers.

⁵⁵ Michaels, 2016.

Significantly, we also demonstrated that there are remarkably clear signals that illicit goods were openly declared as they were imported through legal channels. Most obviously, there was a spike of nearly of \$85 million (in 1992 dollars) of antiquities imported through Turkey into the United States in the immediate aftermath of the First Gulf War in 1992. More recently, notable spikes in exports from the UAE in 2007, 2012, and 2015 might correspond to looting following the Iraqi Civil War and the rise of the Islamic State.

It is striking that data that appear to capture the trends in illegal antiquities trafficking appear so clearly in publicly available import records. This information validates our approach of using open-source data to characterize the illicit market in these goods.

Smuggling Networks and Sales Channels: Results from Interviews

One of the analytical challenges that hampers research on antiquities looting is the fragmentation of sources about and the methods required to assess the multiple phases of looting, trafficking, and sale. Although journalists and researchers have reported evidence that antiquities looted in Iraq and Syria are smuggled abroad for sale, there is little concrete information that describes the mechanisms and pathways used by traffickers.

To gain insight into the details of antiquities trafficking, we interviewed one smuggler and four antiquities traders working in Iraqi Kurdistan and Turkey, two regions that represent an important conduit through which Iraqi and Syrian goods are smuggled and sold. Although the interviews are necessarily limited and the insights provided may not be generalizable to other regions, they nonetheless offer important information about the processes and relationships that underlie trafficking in the region. This chapter documents the findings from those interviews and presents a framework derived from the information collected.

Interview with a Kurdish Smuggler

To better understand how goods looted in Iraq and Syria entered world markets, we interviewed a Kurdish man who has been involved in antiquities smuggling across the Iraqi-Turkish and Iraqi-Iranian border for the past 15 years.¹ The mountainous region of Kurdistan sits at a strategic crossroads, encompassing areas of Turkey, Syria, Iraq, and Iran. With its own language and a social structure that is constructed around

¹ Although we can offer only limited details on his identity because of privacy concerns, we are confident that he is involved in the illicit antiquities trade. We were introduced to him when one of our contacts in the region volunteered that he knew an antiquities smuggler with whom he could put us in contact. The fact that this introduction was volunteered and provided without any financial incentive led us to believe that the contact was legitimate. Early in the interview process, the smuggler was able to supply a large number of cell-phone images of artifacts, and men meeting in carpeted living rooms looking through large volumes of archaeological materials that verified his claims of involvement. The smuggler was not compensated for participating in our interviews.

strong family and clan relationships, this region is well positioned to act as a nexus of illicit of cross-border trades. During Iraq's numerous periods of instability, Kurdish smugglers have occupied an important position in the trafficking routes that carry goods of all kinds across Iraq's borders with Turkey and Iran. Figure 3.1 shows the region of focus.

Getting into the Antiquities Business

According to the smuggler we interviewed, antiquities trading was one of many smuggling businesses in which he was involved. Indeed, one interview session with him was postponed because, as he explained, he was bogged down with an Iranian contact who wanted to buy walnuts cheaply in Iraq and sell them for a profit in Iran. While our interviewee primarily smuggled electronics and different types of commercial goods between Iran and Iraq, he explained that he had become involved in antiquities smuggling in 2003 after the U.S.-led invasion of Iraq. Although he was aware of the looting and trafficking that had followed the First Gulf War in the early 1990s, he was not involved in antiquities smuggling at that point, he explained, because he did not have any contacts with access to looted goods.

Our interviewee said his work as an antiquities smuggler began in May 2003, when he received a call from an Iraqi Turkmen friend about some Turkish dealers who would pay handsomely for any of the artifacts that had been stolen during the collapse of the Saddam Hussein regime. Contemporaneous local television news reported that roughly 15,000 items had been stolen from the museums in Baghdad and Nineveh; the

Figure 3.1
Kurdistan Region of Iraq



smuggler was thus quite familiar with the situation. He contacted friends in Baghdad and found a seller who was in possession of some items through a relationship with some Ashaer tribal leaders in Baghdad. In the following months, the interviewee was contacted by many dealers and middlemen from Iran and Turkey. Some buyers posed as foreign journalists, while a few were U.S. soldiers with their translators.²

Through these contacts, he became a well-known smuggler and antiquities dealer who had an extensive set of contacts in the region. When asked how many items he had sold in total, our interviewee said, “Truth be told, I don’t know!” When pressed for an estimate, he guessed that the number was about 60. As he looked back over his experience, he estimated that the busiest years for the cross-border antiquities trade were 1992, 2003, 2014, and 2015, although he had not been personally involved in the antiquities trade in the 1990s. One of his friends, he claimed, had made around \$300,000 profit in 2014 and 2015.³

Acquiring Artifacts

In recent years, the smuggler reported seeing many valuable artifacts from famous Iraqi archaeological sites, such as Nabakh, al-Hadar, Nimrod, and Nineveh, but mostly from the latter two. The prices of the goods he sold ranged from \$1,000 to \$200,000. When asked what he had sold for \$200,000, he said it was not an archaeological item but that “Saddam Hussein’s personal dagger, which was made of pure gold and was very old.” (When asked how much he originally paid for it, he laughed and said, “I cannot tell you, sorry!”)

Most of the items the smuggler sold were bought from a middleman who often obtained objects directly from the excavators. However, from time to time, the smuggler also bought and sold artifacts, jewelry, and gold that had not been recently excavated. The smuggler also said that items from the museum were very expensive, and that he refrained from buying those because of the risk of getting arrested by the international police. He said that Italy and France were intently trying to recover stolen museum artifacts, and that they could trace these items through the museum’s code inscribed on them, which made them easy to recognize. He mentioned the Italian Carabinieri by name and repeated that, because it was very risky to deal with museum artifacts, he never wanted to buy them.

The Impact of the Islamic State

When the Islamic State came to power, the smuggler explained, he was contacted by antiquities brokers living in Islamic State–controlled areas of Iraq whom he had known prior to the Islamic State’s seizures of their cities. As he explained, these brokers were

² It is unclear if they were tracking looted objects in an official capacity or trying to buy them on their own.

³ This was not all made from antiquities sales. One of the images we were shown of items that his friends had sold was of a large cut emerald with an appraisal certificate.

born and raised in the region, and after the Islamic State seized control, the brokers remained in their cities. The group took advantage of the brokers by using them as middlemen to sell illicit materials outside their territories. He added that, “ISIS allowed its soldiers to get permission cards to excavate and find artifacts wherever they wanted, and ISIS militias were taxed for any sales that they made.” Those brokers were not Islamic State members, he explained, but they had contact with Islamic State officials and were obliged to pay taxes for exporting antiquities to Turkey, Lebanon, Iran, and areas outside the control of the Islamic State.

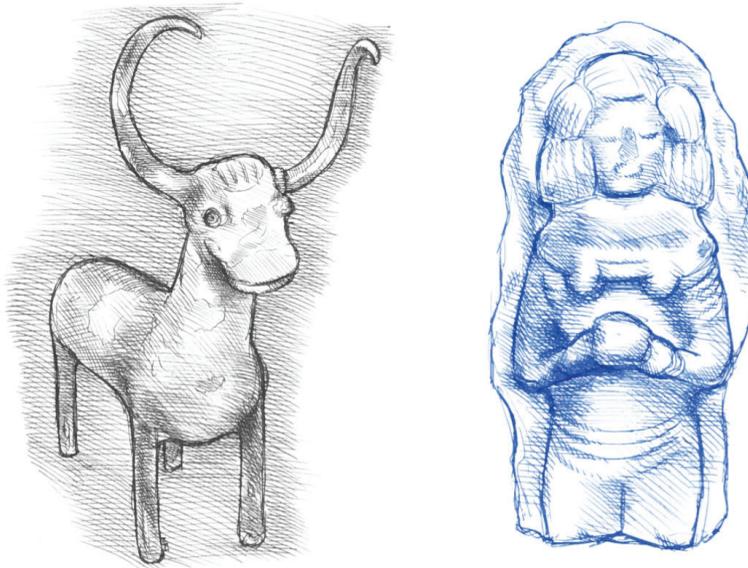
Once he had acquired items to sell, the broker in Islamic State–controlled territory started contacting close friends, merchants, and smugglers with whom he had previously worked. These primary brokers usually had strong relationships with local tribal leaders, which gave the brokers some status in the local community and enabled them to draw on other members of the tribal network for information, contacts, and favors. As he stressed repeatedly during the interview, the transactions are made through close-knit preexisting networks with closely trusted partners, and, as he explained, all the other dealers and smugglers in the region were his friends. “We are like an extended family,” he explained, “but there is a competition when it comes to business.”

The goods he trafficked were primarily artifacts that came from Islamic State–controlled territories, including Mosul, Rakka, and Aleppo, and included coins, sculptures, illuminated bibles, and gold dating from Byzantine and Assyrian periods. Among the items that he claimed to have sold were metal artifacts, pieces of ceramic, jewelry and gold, statues, an old bible, an emerald, the head of a statue, and coins.

The prices for the goods that the smuggler and his friends sold varied considerably. He sold coins for prices that ranged between \$50 and \$800, and artifacts were between \$1,000 and \$200,000. Among the most-expensive items he and his friends had sold were personal items, gold, and jewelry from Saddam Hussein’s family. In addition to the dagger that he had sold, he claimed that “a friend of my friend sold a diamond belonging to Sajida [Saddam Hussein’s former wife] for a million dollars.” He mentioned that he had sold the head of a statue for \$80,000, and, looking at images of small animal statues and figurines that he reported that his friend had sold, he estimated that a bronze statue of a bull would sell for about \$4,000 and that a small stone figurine would fetch about \$1,200 (see Figure 3.2). Conversations with U.S.-based dealers suggested that this is roughly in line with the pricing of similar items sold in New York or Los Angeles. In recent years, he told us, prices have decreased as the increasing number of excavations has flooded the market with artifacts.

As we will discuss at greater length in the next section, the report that these artifacts are sold for high prices so early in the supply chain may challenge many of the underlying assumptions about the structure and economic logic of these trafficking networks. Researchers and journalists have typically assumed that looted artifacts could be purchased cheaply in the Middle East and then sold at a profit in Europe or the

Figure 3.2
Objects Sold to Local Buyers



SOURCE: Drawings by Niraj Inamdar, former associate physical scientist, RAND.
 NOTE: Artist's rendering of objects sold to Turkish buyers and reproduced from cell phone photos to protect the identity of the informant.

Americas. Although this undoubtedly happens,⁴ the reports offered in our interviews challenge this model, instead suggesting that items are sold for their “international market price” very early in the supply chain. If collectors in Turkey and Iran are buying these items for prices similar to what they would attract in the United States, then there is less opportunity for importers and dealers to make money through arbitrage than has traditionally been assumed.

It is important to keep in mind that antiquities trafficking in the region is complex and chaotic. As archaeology professor Michael Danti describes, most dealers are good at what they do and typically start out with very high prices, expecting that sophisticated buyers will bargain them down to something more reasonable. The sale prices of these goods depend highly on who is buying and what the seller can get away with. As Danti notes, dealers prefer to sell to unsophisticated, noncriminal actors because they can get market prices, while gangsters often just steal the material from lower-level actors or extort bargain-basement prices from them, as well as forcing them to provide information on their suppliers. This threat of violence and coercion is one

⁴ As documented by accounts from several law-enforcement actions against smugglers and dealers involved in the sale of Egyptian antiquities. INTERPOL, 10th International Symposium on the Theft of and Illicit Traffic in Works of Art, Cultural Property and Antiquities in Hanoi, Vietnam, October 17–19, 2018.

of the appealing aspects of online and social media sales (described in Chapter Five) because these venues are relatively safer.⁵

Payment Mechanisms

When asked about the mechanisms of payment and the currencies used, the smuggler offered a detailed description of the mechanics of the sale. No one in Iraq trusts the banks because of the country's instability and the fear that local branches will be looted by militias or robbers, so many people simply hide cash in a strongbox for their immediate needs. Transactions outside Iraq were carried out in U.S. dollars using a *hawala* system common in many parts of the world. Although the specifics vary among countries and contexts, one International Monetary Fund research team defined *hawala* as "money transfer mechanisms which exist in the absence of, or parallel to, conventional banking channels."⁶ In this case, a *hawaladar* is usually an Iraqi businessperson in the buyer's home country, usually Turkey or the UAE, with the credibility to ensure that the buyer would get what he wants after depositing the money. For a fee, after receiving the money, the expatriate hawaladar communicates to his Iraqi counterpart, and the seller of the artifact receives the funds in Iraq, without any money or data passing through international financial channels. Our interview subject made it clear that the hawaladars never handle the artifacts, only the money transfer. He added that, besides its secrecy, the hawala system offers volume. Unlike Western Union, for example, a good hawala can transfer up to a million dollars per transaction.⁷

Arranging the Deals

The dealer reported using communications apps, including WhatsApp, Viber, and Skype, to contact the primary brokers in Islamic State territories and agree on times and places to inspect the items and ensure that they were not fake. When contacted by the broker, the dealer first asked about the types of goods and their ages before negotiating a price. The dealer described not giving any prices to the primary broker until he had communicated with his network of contacts in Turkey and Iran. He described how, initially, the primary broker would set a price for a given item, but, to ensure that it could be sold at a profit, the interviewee would contact his associates in Turkey and Iran, who would then scout the price of that item and find out what the buyers would ultimately pay for it. After ensuring that the broker price was lower than

⁵ Michael Danti, email discussion with authors, September 25, 2018.

⁶ Mohammed El Qorchi, Samuel Munzele Maimbo, and John Wilson, *Informal Funds Transfer Systems: An Analysis of the Informal Hawala System*, Washington, D.C.: International Monetary Fund, occasional paper 222, 2003, p. 10.

⁷ Our interviewer and translator noted that, in Turkey, these offices are called *para havale ofisi* (money transfer office). Because *hawala* simply means *transfer* in Arabic, El Qorchi, Maimbo, and Wilson (2003, p. 6) noted that, "in some countries, commercial banks use the term hawala to refer to formal sector money transfers," but that is not the most common usage internationally.

the resale price, the interviewee would arrange to have the item brought to him. After he paid the primary broker in these exchanges, he would pass the item to middlemen in Iran and Turkey. Because he had already found buyers for an item before it was brought to him, he did not have to supply money upfront or store items for very long.

Smuggling Goods Across the Border

According to our source, there were many potential routes to smuggle goods out of Iraq. For shipment, most of the artifacts were hidden in sacks of flour, trucks full of other commodities, or in boxes in car trunks. Small items could be given to elderly men and women, who routinely smuggle items through checkpoints for money. In Islamic countries, he explained, elderly men and women are well respected and are often able to avoid scrutiny at border crossings. He described another option involving the use of taxi drivers to carry the goods. Because these drivers cross the border regularly and the guards know them, they are usually not inspected closely at checkpoints.

At other times, he used villagers on the Iran-Iraq and Iraq-Turkey borders to smuggle illicit goods between these countries. These villagers can use donkeys and mules to carry the goods and bribe border guards to allow the items to be carried through. In his years of antiquities smuggling, he claimed that he never had a shipment stopped at the border.

The Retail Market

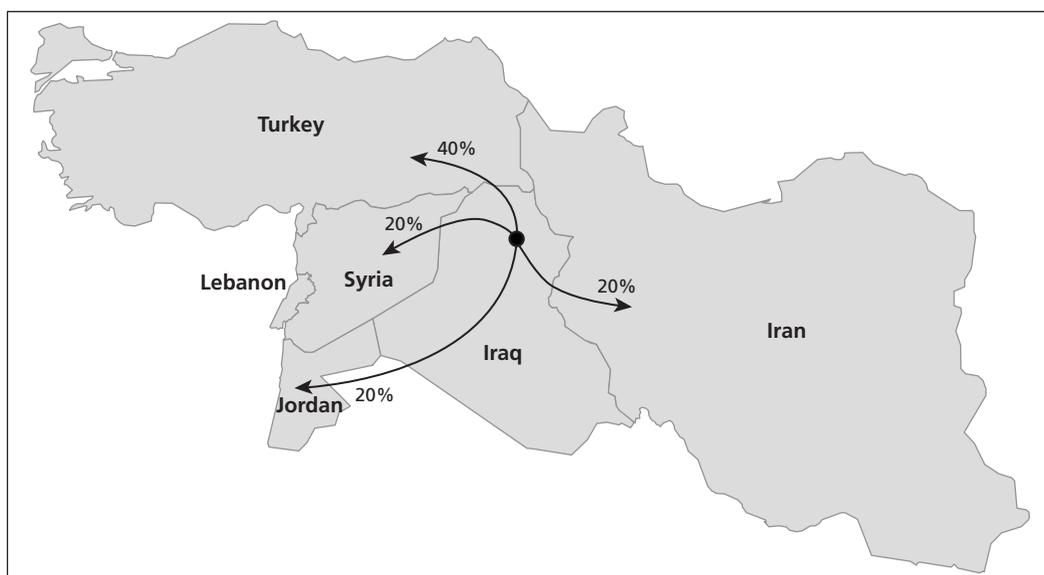
The interview subject said that he knew relatively little about the final buyers of his goods. When asked about the initial destination of his goods, he estimated that 40 percent went to Turkey, 20 percent to Lebanon, 20 percent to Jordan, and 20 percent to Iran, as shown in Figure 3.3. From there, many of the items would be resold. In Turkey, he explained, his buyers would take the goods to Gaziantep or other border cities to sell.⁸ Once in Turkey, many antiquities shops could sell the goods to collectors, including through websites. He believed that many even had Facebook accounts advertising ancient goods. He speculated that, “No doubt, at the beginning, they would say we don’t have artifacts from Iraq and Syria, but if they know you, they would tell you the truth!”

Reports from Syria: Results of Interviews

Because of Iraq’s history of looting in the wake of the Gulf War and the U.S.-led invasion in 2003, well-established looting networks existed that could be reactivated

⁸ Vitaly Curkin, Russia’s permanent representative to the UN, claimed that the Islamic State earned roughly \$150 million to \$200 million annually through selling these artifacts and added that Gaziantep city has become “a sale center” for those artifacts that were taken from Syria (Mynet, “Russian Diplomat: ‘ISIS Sells Historical Artifacts in Gaziantep,’” mynet.com, September 4, 2016).

Figure 3.3
Kurdish Smuggler's Reported Destinations for Smuggled Antiquities



NOTE: Estimates are provided by a single actor in the market and may not be representative of the market as a whole.

when the Islamic State took control. In Syria, trafficking networks also preexisted the Islamic State, but they were organized quite differently. (See Appendix A for an additional discussion of the historical evolution of looting and cultural property protection in Iraq and Syria.)

As Danti described, prior to the Syrian Civil War and repeated waves of instability and political devolution and fragmentation in Iraq, cultural property crime was uncommon in Iraq but ubiquitous in Syria. Saddam Hussein's regime brutally cracked down on illicit antiquities trafficking, and only high-level regime loyalists were allowed to dabble in such activity. However, following the 1991 conflict and sanctions, restrictions were loosened. With the defeat of the Iraqi regime in 2003, looting became rampant in southern Iraq. It was organized at the tribal level with family, clan, and tribal groups plundering sites within their traditional territories. Objects were cached or released into the market, primarily through the Persian Gulf States and Turkey. Looting became widespread in Iraq with the Islamic State's rise, but some analyses have shown that the Islamic State took a more direct role in the looting.⁹ Iraqi civilians were less inclined to engage in cultural property crime than other regions under Islamic State control; Danti posits that this tendency stems from education, close connections

⁹ Taub, 2015.

to and pride in pre-Islamic heritage, and better socioeconomic conditions than those in Syria.¹⁰

In Syria, by contrast, prior to 2011, looting was frequent but highly secretive. As an archaeologist working in Syria, Danti recalled that he was aware of looting and the traffic in cultural property. Looting was generally conducted by local villagers under the protection of bribed local authorities. Objects were sold in shops within the country in Aleppo and Damascus or smuggled to Lebanon and Turkey. The more valuable the finds, the higher the bribes and the more approvals required from the regime. In Danti's assessment, the regime itself functioned as a massive organized crime network. With the outbreak of the Syrian conflict, looting became rampant. It was first conducted by locals within their own territories (tribal, military, municipal) or on their own land. With the emergence of al-Nusra Front, the Islamic State, and other higher-order politico-military actors, looting became more regulated, especially in Islamic State territory, where the group centralized and bureaucratized cultural property crime as a revenue stream.¹¹

Amr Al-Azm, an anthropology professor at Shawnee State University, offered a similar description of the ways that looting was organized in Syria. As the former director of Scientific and Conservation Laboratories at the General Department of Antiquities and Museums in Syria, he maintains an extensive network of personal contacts in the region, which gives him insight into the internal dynamics in the region that are otherwise difficult to access. In contrast to the relatively opportunistic smuggling networks that we observed in Iraq, looting and smuggling networks in Syria predated the civil war and were co-opted by the Islamic State in the regions they controlled. As Al-Azm described, trafficking networks in Syria "were often closely connected with existing local mafias that had long standing, [corrupt] relationships with the Syrian security services (*Mukhabarat*) or senior members of the regime," including those with military or security connections. Hizballah was also heavily involved in smuggling and antiquities trafficking, and its criminal networks smuggled contraband (including drugs and guns), engaged in money laundering as their primary sources of revenue, and became involved in antiquities looting when the opportunity and chance for profit presented itself.¹²

When the Islamic State began to take control of territory in Iraq and Syria in 2011, its commanders were largely foreigners who were eager to find ways to extract value from the regions they controlled. In many cases, they appear to have worked with existing gangs of looters and smugglers to quickly profit from the plundering of archaeological resources. Although the existing mafias and criminal gangs were initially disrupted because of the conflict with the regime and the security services,

¹⁰ Michael Danti, email communication with authors, September 25, 2018.

¹¹ Michael Danti, email communication with authors, September 25, 2018.

¹² Amr Al-Azm, email communication with authors, May 28, 2018.

the trafficking networks adjusted rapidly to the new circumstances and often began to work with the Islamic State to coordinate the smuggling activities that the group's foreign commanders did not otherwise have the contacts or infrastructure to organize.

As documents captured in the raid on Abu Sayyaf's compound in 2015 described, the looting and sale of antiquities, oil, and other exploitable "natural" resources were controlled by the Islamic State's Chief Administrative Office for Natural Resources (known as *Diwan al-Rikaz*). The Archaeological Administration, a subunit within this organization, managed and coordinated the systematic looting of archaeological sites in different regions of their territory.¹³

The Archaeological Administration in Manbij, Syria, quickly became a major center for the illicit antiquities trade in northeastern Syria. Through the administration, the Islamic State intensified its focus on exploiting archaeological resources and increasingly became directly engaged in the looting, as opposed to its earlier reliance on locals and contractors. It organized the sale and transfer of artifacts it acquired directly through its own digging operations and established a network of approved dealers to whom the looted antiquities were sold, with middlemen facilitating the sales. It also coordinated its activities very closely with the main Diwan al-Rikaz office in the city of Raqqa, where auctions of antiquities and other goods were held.¹⁴ The market for these goods shifted dramatically in 2016, when the Islamic State lost control of its borders, which made it increasingly difficult for the group to export antiquities into Turkey for sale and distribution. This led to the establishment of new networks, which sought to export these goods through different channels.¹⁵

As a result of the different historical trajectories of looting in Iraq and Syria, Danti notes that there were allegedly disagreements between the Islamic State in Iraq and Syria about the traffic in antiquities given that many items, according to Islamic State ideology, should be destroyed as pagan idols. The compromise reached was that such objects (depicting animals and humans) could be defaced (literally) and then sold.

The different factions controlling looting and trafficking in the region each developed different trafficking networks to transport their spoils abroad. According to Danti, the regime has dealt most of its looted material in Lebanon through Hizballah. The Kurds, by contrast, deal through intermediaries in northwestern Syria and southern Turkey, while the Syrian opposition uses routes through Turkey and the

¹³ Andrew Keller, "Documenting ISIL's Antiquities Trafficking: The Looting and Destruction of Iraqi and Syrian Cultural Heritage: What We Know and What Can Be Done," remarks at The Metropolitan Museum of Art, New York, state.gov webpage, September 29, 2015b.

¹⁴ Amr Al-Azm, email communication with the authors, May 28, 2018.

¹⁵ Al-Azm noted that prices were depressed significantly when the Islamic State lost control of its borders in 2016 and that the creation of new networks led to an "uptick in prices, but not to the levels seen in 2013 and 2014." His comments presumably refer to an uptick in sales volume and possibly in the total value of goods exported. The quote is otherwise hard to interpret because price is typically inversely related to supply, meaning that increases in the availability of a good usually result in a price reduction.

UAE (a major transit point for larger lots of material and the more-valuable material entering the established international market). He further observed that the market in Lebanon is very similar to the prewar period and is based on established dealers with shops linked to organized crime. By contrast, Turkey has both the prewar systems of established networks and amateurs and refugees who use social media and digital images to market material. Once goods have been transported into Turkey, the souk system (informal street markets) in Istanbul is used to find foreign buyers and organize sales. In Danti's analysis, organic networks control the trafficking in southern Turkey and post-Islamic State northern and eastern Syria, whereas gangs and robust networks control the areas covered by the Syrian regime, Kurdish forces, and al-Nusra Front.¹⁶

Turkish Dealer Interviews

Because of the ongoing conflict in Syria, it was significantly easier to focus on the sale of artifacts as they were smuggled out of Syria and into Turkey. This led us to focus on the role of brokers, who never purchase the item but facilitate its cross-border movement and sale. As expected, these brokers unanimously described themselves as playing the most crucial part in the antiquities trade in Turkey. Without brokers, one summarized, "sellers wouldn't find buyers, and customers wouldn't find what they are looking for." All of the brokers we interviewed represented sellers and helped them find buyers, although they described the role of other buy-side brokers who helped clients find goods to buy. According to our interviews, some brokers work full-time as antiquities traders; for many others, it is a side occupation—"they might know someone who has an antiquity so they work as a broker just once."

To better understand the trafficking networks that carried goods out of Iraq and Syria, we arranged interviews with four antiquities middlemen and dealers in three Turkish cities: Gaziantep, Sanliurfa (Urfa), and Mersin. Although the number of interviews was small, our goal was to use interviewees' descriptions on the regional antiquities market as a whole to make general observations about the structure of the business. Two brokers were contacted in Gaziantep and one in each of the other cities.¹⁷ The field team described the four brokers as seeming to be wealthy and business-minded, "well dressed and speaking English," and having "nice phones." All interviews were conducted in locations chosen by the brokers (Figure 3.4), given the sensitivity of the topic and because they were cautious about protecting their identities. In Sanliurfa, the interview was conducted in a furniture shop owned by the broker. The field researcher in Urfa believed that the shop was used by the dealer as a front for laundering money

¹⁶ Michael Danti, email communication with authors, September 25, 2018.

¹⁷ These interviews were conducted on our behalf by Exigo Research, a Turkish firm, for the purposes of this report in May 2018.

made from illegal trade of antiquities. In Mersin, the field researcher was invited to what seemed like a normal family home about 10 km outside the city, although the researcher guessed that the house was kept specifically for meetings between brokers and potential buyers. In Gaziantep, the field researchers met the dealers in public locations because the dealers would not agree to meet at their homes. All respondents were very guarded about where they keep the artifacts.

The brokers were hesitant about providing detailed information on the nature of the trade, such as profits, monthly sales numbers, and volume. The guarded behavior of the brokers made it impossible for the field teams to conduct an inventory of the available goods currently held by the brokers.¹⁸

From Syrian Sellers to Turkish Brokers

None of the brokers we interviewed shared details about the sellers with whom they dealt. Instead, they used very broad terms, such as “businessmen” or “military factions” to describe the source of the artifacts. After the initial communication between the broker and seller, the artifact was brought across the border and delivered to the broker.

The interviews suggested that the supply of artifacts from Syria was quite irregular. Two informants said they received antiquities on a monthly or quarterly

Figure 3.4
Interview Locations



¹⁸ These interviews were organized by Exigo Research, which had extensive contacts throughout the region. The brokers were not compensated for their participation. Numerous images of their collections and examples of WhatsApp conversations and videos were provided to support the validity of these interviews, but we agreed not to publish them because of privacy concerns of the brokers interviewed.

basis, one said once or twice a year, and the final broker said that he did not receive shipments, only “photos and videos of them every two or three weeks.” These irregular contacts with suppliers suggest that the dealers we interviewed were not part of an established trafficking conduit; rather, they were rather part of an ad hoc configuration of networks and free agents that was linked to a similarly fluid set of actors on the other side of the border.

The regularity of receiving artifacts is based on such factors as “the security situation at the borders [. . .] and the smugglers’ ability to transport the artifacts safely,” sometimes forcing the traffickers to take new routes to cross the border. Furthermore, the brokers mentioned that shipments of artifacts also depended on what had been excavated and what was available on the market. Therefore, these factors could explain why all of the key informants traded smaller, easy-to-transport objects, such as books, statues, coins, manuscripts, and relief carvings. Items shown to the interviewers included rings, necklaces, a circular tablet, and a hollow statue. All the material shown to interviewers or described by the brokers seemed to be relatively low-to mid-range goods. It is not clear whether high-end, museum-quality goods were sold through similar mechanisms and channels.

In terms of the scale of trafficked antiquities, all of our respondents felt that there had been an increase in this illicit trade in the past five to ten years but that it had decreased in the past two years. This timeline presents a clear link among the trajectory of the Syrian Civil War (beginning in 2011), the peak of the Islamic State’s control over Syrian territory (by 2014), the steady decline of active fighting on all sides, and the massive territorial losses suffered by the Islamic State, which came to a head in October 2017 with the fall of Raqqa to Syrian Democratic and coalition forces.

Transit and Storage Locations in Turkey

It is not surprising that the trade of illegal antiquities takes place most heavily in southeastern Turkey, with cities such as Gaziantep and Urfa not only bordering Syria but also housing the largest Syrian populations in Turkey, followed closely by Mersin. One of the brokers interviewed stated that Urfa was the

largest gathering of artifact brokers and smugglers. . . . This area was considered a central place for anyone who wants to obtain artifacts from Syria, especially in the last few years, and a number of excavators still visit it repeatedly to display their products.

Although the geographical scope of the field research was limited, we would suspect that other bordering cities, such as Hatay, Mardin, and Sirnak, could also feature heavily in the trafficking of antiquities from Syria to Turkey.

At the local level, we could not describe any of the storage sites because we met with the brokers in other locations, such as coffee shops, furniture shops not dealing in antiques, and homes. We were not able to ascertain where the artifacts were stored;

for example, one interviewer explained that “they don’t tell anyone where they store the pieces” and “they don’t meet people inside their places (of storage) because it’s very risky for them, [making an exception] only with the serious buyers.” It was also clear that the brokers did not advertise openly because the illegality of the business—“the Turkish government arrested too many dealers in the last seven years, so it’s very risky.”

If the artifact was particularly valuable, it might remain in Syria, and the seller and his broker would show prospective buyers images of the object on their mobile phones. There was no consensus among the brokers on how long they kept the antiquities in their possession between receiving them and passing them onto a buyer, once again highlighting the fluid nature of the trade. Answers varied from “I do not keep it with me at all,” to possessing it for weeks, a month, or months. One broker mentioned that “it depends on the artifact itself, but mostly a month for big artifacts and about two weeks for small ones.” Other factors determining the duration that antiquities would stay in their possession depended on the buyers’ availability and ability to pay.

From Broker to Buyer

The brokers said buyers were typically men between 30 and 50 years old. Brokers described them as “Arab middlemen,” “traders who display these antiquities and sell them in auctions,” “buyers who are Turkish,” “international mafia,” entities with “links to governments,” or people “who collect antiquities as a hobby.” Our interviewees concluded that the informants did not know much about the true identities of the buyers, and one broker confirmed, “we do not give them real information about ourselves and vice versa[;] we only communicate using specific nicknames.”

Once a buyer’s interest has been secured, the parties organize a date and time to meet in person for the buyer to “examine the antiquity.” Locations such as a “highway, a country house, or some unknown café” are chosen. Other tried-and-tested locations include “a car in a previously determined spot”; a “park late at night, a trusted person’s house, or a street”; “the mountains at the entrance of Gaziantep”; and hotels, restaurants, and nightclubs. According to the interviewees, while the locations of these meetups are predominantly in southeast Turkey, in cities such as Gaziantep, Kilis, Urfa, and Mersin, brokers may go to Istanbul because some “customers . . . cannot come to the border areas due to security reasons . . . or because foreign buyers prefer to stay in big cities.”

Once the artifacts have been examined and evaluated, the negotiation process starts. This is when the price, mode, and date of payment gets determined, and the broker gets paid “a fixed rate in accordance with the object’s price.” As one broker described, “the delivery and receiving of the artifact are done in the same day and the payment is given in cash rather than checks or bills to guarantee the payment and avoid suspicions.”

Buyers sometimes purchased multiple items, but this was not the norm. One broker stated that he had never sold multiple items but had heard that this happened

more frequently with traders from Palmyra. Two of the brokers stated that customers usually bought one or two items a year, while a third stated two or three, and the fourth broker stated that it

depends on the buyer's desire; some of the buyers want statues, ancient coins, or books and they buy everything related to these products, which can reach up to 20 pieces if they are included in their desired products list.

When asked for an example of a deal for multiple objects, the broker described that some buyers would purchase all the goods available that matched their interest, whether coins, books, or manuscripts. On one occasion, he had sold “three books and manuscripts” to a single buyer. In addition to being interested in specific types of goods, buyers might also be interested in purchasing many objects if they were all related to their cultural or religious heritage, for example, he said, “Jews are very interested in obtaining Jewish antiquities and they are spread in lots of countries in the world.”

Communication and the Marketing of Antiquities

Our field research in Turkey highlighted that, throughout the buying and selling process, all parties rely heavily on the internet and social media platforms, with WhatsApp cited as the main method of communication. This reflects a shift away from using public platforms, such as Facebook, to circulate photographs to trusted networks instead. Two brokers who were using Facebook have since stopped because of the fear of potential legal implications and attracting unwanted attention from authorities. One broker estimated that now “90 percent of the communication is done via WhatsApp.” Another instant-messaging app, Telegram, was mentioned as another preferred option because of the “self-destruct timer that destroys texts after being received, which helps . . . to keep the confidentiality of the business.” Both WhatsApp and Telegram have an end-to-end encryption feature, helping to ensure that only the sender and receiver can view the conversation. WhatsApp was perceived to be safer than Telegram because each phone number can only be used by one person and because Telegram is thought to be monitored by the Turkish Security Forces.

This shift to direct communications reinforces an enduring feature of these networks—the importance of interpersonal trust. As brokers become more established, they work to build their personal connections with other brokers to develop their networks. As one broker reported, “I depend mainly on my acquaintances, since I have a network of people whom I trust.” This is done by improving relationships with other brokers and building a personal reputation. One broker described that he had made “a name for [him]self in the market, which has led to customers and brokers looking [him] up personally.” Because most communication is done on an individual basis, WhatsApp is used to share photographs and videos of the artifacts with prospective

buyers. They often display the objects against a dated paper to verify to the buyer that the transaction is not a scam.

Other Trafficking Pathways

Although the interviews we conducted represent a narrow slice of a highly complex and varied market, they likely capture the general contours of the antiquities trade along the Iraqi border region. As noted earlier, trafficking in the region where our interviews were conducted tends to be organized around fluid, organic networks, whereas other regions rely on more-stable organized criminal networks.

Although the middlemen that we interviewed were primarily dealing in low- and mid-range artifacts rather than the more valuable and high-profile goods looted from museums, these lower-value goods dominate the market both in terms of what goods looters can access and what buyers are most interested in. Cristina Menegazzi, an official with UNESCO, has noted that although the majority of the artifacts in the 34 Syrian national museums have been transferred to secure warehouses, almost all of the looted items were from excavations and warehouses at archaeological sites. As she has described, “These items are not listed or cataloged yet, and thus looters believe they are easier to sell.”¹⁹ These more-anonymous artifacts are likely most demanded in the market. As Christopher Marinello, director of Art Recovery International, has observed, more-valuable and unique items attract greater scrutiny, so collectors tended to shy away from them and instead bought “middle-value objects that don’t stand out.”²⁰ Consider, for example, the logistical problems facing the looters of the caved stone capitals that sat atop columns at the Roman ruins in Apamea, Syria. Traffickers were stopped trying to transport these capitals into Lebanon in 2014, having loaded more than 80 carved pieces of stone onto a truck for transport; each of these capitals was more than half a meter in diameter and weighed hundreds of pounds.²¹ While smaller goods could easily be carried across the border and shopped around to multiple buyers, these large, unique items were much harder to transport and sell.

The fate of the thousands of objects looted from museums is harder to document. The 300-pound statue of the Sumerian King Entemena of Lagash was stolen from the Iraqi National Museum in Baghdad in 2003 and was listed on the FBI’s most wanted list of stolen works of art. The statue resurfaced when it was offered to Hicham Aboutaam, a prominent antiquities dealer with galleries in New York and Geneva,

¹⁹ Samar Kadi, “Narrowing Markets for Illicit Trade of Syrian Antiquities,” *Daily Star*, March 14, 2015.

²⁰ Deane, 2015, p. A09.

²¹ India Stoughton, “Lebanon Wages War on Antiquities Smuggling” *Daily Star*, May 8, 2015.

while he was visiting Lebanon. Recognizing that it was looted, Aboutaam reported the incident to U.S. authorities, and it was recovered in Syria in 2006.²²

Fakes and Forgeries

An additional dynamic shaping the market is the growing incidence of fake artifacts being offered for sale. Maamoun Abdulkarim, Directorate-General for Antiquities and Museums in Syria, said the percentage of fakes among looted antiquities seized in Syria and Lebanon had risen from 30 percent to 70 percent in the past three years. As he explained, “Hoaxers are exploiting the growing black market in Middle Eastern antiquities by creating fake artifacts to dupe unsuspecting collectors.”²³ The Kurdish trafficker we interviewed told us that many of the goods being offered by online sellers in Turkey were, in fact, fake. Indeed, among the numerous images of goods that he reported that “his friends” had sold, many appeared to be modern reproductions of low enough quality that even cellphone images of them looked suspicious to the experts we consulted.

Secondary Distribution Networks

Finally, while we have only examined illicit trade in the border region, there are secondary networks that carry these goods to other countries for sale. Bulgaria, for example, is regarded as an important conduit for smuggling and is considered one of the channels for carrying looted antiquities from the Middle East into Europe. “We are the most direct route from Turkey and the Middle East,” observed Bozhidar Dimitrov, the director of the National History Museum in Sofia, the Bulgarian capital.²⁴

Bulgaria’s function as a nexus for antiquities trafficking in Europe is best understood in the context of its long history of domestic looting. Lest we conclude that looting is an issue only in failed and failing states, Bulgaria offers a sobering counterpoint of a modern developing country that has limited ability to control cultural property crime within its borders. Trafficking in cultural property was institutionalized by the communist regime in the late 1960s, and the organizational infrastructure that enabled it was co-opted by organized crime during the transition to a market economy

²² Terry McCarthy, “Looted Statue Returned to Iraq But Won’t See the Light for Some Time,” ABC News, August 7, 2006; Barry Meier and James Glanz, “U.S. Helps Recover Statue and Gives It Back to Iraqis,” *New York Times*, July 26, 2006.

²³ Catherine Philp, “Isis Hoodwinks Collectors with Fake Syrian Artefacts,” *The Times*, August 26, 2016, p. 7.

²⁴ Steven Lee Meyers and Nicholas Kulish, “How Militants Profit from Trafficking Antiquities; Discovery of Artifacts in Bulgaria Casts Light on ‘Broken System’ of Laws,” *International New York Times*, January 11, 2016b, p. 6.

in the 1990s. The result is a state whose laws and institutions seem unable to stop the spread of looting throughout the country. (See Appendix A for additional details.)

The smuggling connections between Bulgaria and the Middle East were made evident in May 2018, when Bulgarian customs officers intercepted a large shipment of coins and antiquities that were being smuggled into the country from Turkey. The Bulgarian customs agency reported that a car with a Belgian registration and driven by a Turkish citizen was stopped and searched at the Lesova border crossing. Hidden in compartments in the trunk and in the front of the car, investigators found more than 65 lbs (30 kgs) of smuggled antiquities, including 11,037 coins, 87 figurines, 35 rings, and 19 items made of stone. The pictures and video released by the customs agency depicted piles of uncleaned coins and low-quality artifacts, including five terra cotta oil lamps.²⁵

This was not the first seizure of smuggled artifacts in Bulgaria. In March 2015, a police operation in northern Bulgaria recovered a large cache of ancient artifacts, including 9,000 coins and the dies used to make them and 19 larger pieces that likely originated in Syria, Iraq, and Turkey.²⁶ Among the materials seized were a Roman architectural fragment with a sculpted lion head, the head of Medusa that was once part of an ivory sarcophagus, and a Sumerian stone slab with a relief sculpture depicting household scenes. The authenticity of the Roman artifacts was confirmed by Zdravko Dimitrov of the National Institute and Museum of Archaeology, who noted the presence of soil and limestone residue on the surface of the items, which would suggest that the objects were not stolen from a museum but were likely illegally excavated.²⁷ The stone slab is believed to be from 2600–2500 B.C.E. and is similar to items from the Sumerian city of Lagash Ur-Nanshe, in what is now present-day southern Iraq. If authentic, it may be worth as much as \$1 million.²⁸ Although the artifacts were recovered from a tin garage in the provincial capital of Shumen, Bulgaria, the artifacts were of such quality that commentators claimed that they were worthy of being displayed in the Louvre, leading the case to be known as the “Louvre Garage.”²⁹

²⁵ Ivan Dikov, “11,000 Coins, Archaeological Artifacts Seized on Bulgaria’s Border in Attempted Smuggling from Turkey into Eu,” *Archaeology in Bulgaria* blog, May 26, 2018.

²⁶ Ivan Dikov, “Bulgarian, Turkish Man Sentenced in Shumen for Trafficking Roman Artifacts from Middle East,” *Archaeology in Bulgaria* blog, January 8, 2017; Кръстана Тасева [Krustana Taseva], “Гаражен Лувър В Шумен” [“Louvre-Garage in Shumen”], *Epicenter*, April 19, 2015; Ivan Dikov, “Bulgarian Police Seize Ancient Roman Archaeology Artifacts, Slab with Sumerian Motifs from Treasure Hunters,” *Archaeology in Bulgaria* blog, May 24, 2015a.

²⁷ Dikov, 2017.

²⁸ Dikov, 2017; Тасева, 2015; Steven Lee Meyers and Nicholas Kulish, “‘Broken System’ Allows ISIS to Profit from Looted Antiquities,” *New York Times*, January 9, 2016a.

²⁹ Dikov, 2017; Тасева, 2015; Любомир Кюмюрджиев [Lyubomir Kuyumurdzhiev], “Ценители и грабители” [“Appraisers and Robbers”], *National Geographic Bulgaria*, June 3, 2015.

Two men—a Bulgarian citizen named Peter Danchev and a Turkish citizen named Veysel Sanli—were arrested as part of the investigation. In 2017, both men pled guilty and confessed to being part of a network that smuggled the confiscated artifacts. Although police reports indicated that more individuals were involved in the trafficking of the captured antiquities, only Danchev and Sali have been prosecuted and charged.³⁰ In January 2017, both men were given suspended sentences. Danchev, who owned the garage where most of the artifacts were discovered, was sentenced to one year of probation and fined about \$405. Sanli was identified as the owner of the artifacts and received a suspended sentence of two years in prison with four years of probation. He was fined about \$1,850, and \$925 was confiscated from him.³¹ The Bulgarian government currently holds the seized artifacts, which are stored in the Historical Museum in the city of Shumen.³²

Summary

Although most researchers in the field see antiquities smuggling as being conducted by gangs or smugglers who also trade in drugs or weapons, the interviews from Iraq and Turkey tell a different story. Our informants described a decentralized network of individuals who worked irregularly as antiquities traffickers. Contrary to the belief that antiquities trafficking overlapped with other high-risk criminal activities (e.g., weapons or drug trafficking), our respondents were instead small-time smugglers and economic opportunists whose other trafficked goods included such mundane items as electronics, household goods, and agricultural products. Rather than being organized as formal criminal gangs, antiquities traffickers in the regions where we conducted our interviews self-organize around preexisting social and clan ties and use technology to facilitate their deals.

A second observation is that the demand for their goods is quite diffuse. All participants we interviewed described an irregular supply of goods from sellers in Syria and Iraq and piecemeal sales—typically only one or two items to a single person and few repeat customers. Rather than a black market organized around central kingpins and dealers, these dynamics suggested a distributed and varied demand. This decentralized structure is evident in the important role that middlemen and brokers play. Because smugglers could not sell their products to a small number of buyers who would purchase items in bulk, brokers were required to search widely for potential

³⁰ Dikov, 2017; Тасева, 2015.

³¹ Dikov, 2017; Георгиева Цветелина [Georgieva Tsvetelina], “Осъдиха двама за Гаражен Лувър в Шумен” [“Two People Were Convicted in the Case of Louvre Garage in Shumen”], *Trud*, January 4, 2017.

³² Георгиева, 2017.

buyers to make individual sales. From an enforcement perspective, the problem is dealing with very diffuse demand and a broad network with few key nodes to disrupt.

Our interviews also indicated a large local market for these goods in the neighboring countries in the region. Goods were transported from Iraq to Iran, Turkey, Jordan, and the UAE. Although previous analysis has focused on the flow of looted goods out of the region and onward to Europe and the Americas, our research suggests that this focus on long-distance trade has overlooked and understated the scale of local demand within the region.

It must be stressed, however, that our analysis used only a small set of interviews that represent a small portion of the market. Moreover, our interviews in Turkey were focused on those involved in the most-visible portions of the market and do not account for the segments of the market controlled by better-organized and more-secretive criminal networks. One solution to this problem is to develop extensive on-the-ground networks of contacts who can provide intelligence about the more secretive aspects of antiquities looting. Here, the invaluable relationships and expertise of researchers—such as Michael Danti and Amr Al-Azm, who have extensive experience in the area—are difficult to emulate. Instead, the analysis in the chapters that follow takes an alternative approach. Instead of sampling a handful of sources that provide anecdotal accounts of the market, we attempted to construct the broadest possible survey to account for the possible destinations of these goods. Although we cannot present a complete account of the patterns of smuggling and trafficking within the region, we can develop broadly accurate descriptions of the sales and advertising mechanisms that operate in Europe and the Americas. Thus, even if our accounts of the smuggling mechanics are inaccurate in a given case, they might still be valuable in providing a well-grounded description of the sales channels that carry these goods to market.

Antiquities Trafficking Online

In addition to the in-person sales and trafficking transactions described in Chapter Three, there has been speculation about the role of online markets in these operations. In this chapter, we explore how online markets and messaging platforms are used to coordinate sales within the Middle East.

Although our analysis includes a discussion of such less-exotic platforms as Facebook, we begin by exploring dark and deep web markets for antiquities. Despite the arguments forwarded by antiquities blogger Katie Paul, who has assumed that the few examples of deep web or cryptocurrency transactions she has found are evidence of a more extensive hidden market, we find no evidence that the dark web hosts more than a trivial market for these goods.¹ Instead, we conclude, as Neil Brodie has observed, that there is also “no need to use the darknet when trafficked antiquities can be sold openly on publicly accessible websites with seemingly little risk to the vendors.”²

Online markets and discussion forums are some of the most visible elements of the antiquities trafficking supply chain, but we must be careful not to overstate their importance simply because they are more easily tracked than the interpersonal networks described in Chapter Three. Here, we attempt to describe the role of these platforms in the overall antiquities market and develop a framework that helps clarify the niches that these different options fill. Unlike other illicit goods, such as drugs and weapons, antiquities attract relatively little regulatory scrutiny or enforcement attention, so there is often little need for traffickers to hide their activities. Likewise, there are many formal sales channels—ranging from online storefronts to auction sites—that can be used to sell goods openly once they have left the conflict zone. We focus our discussion

¹ Katie A. Paul, “Ancient Artifacts vs. Digital Artifacts: New Tools for Unmasking the Sale of Illicit Antiquities on the Dark Web,” *Arts*, Vol. 7, No. 2, February 2018. It must be noted that Paul’s article includes data and screenshots obtained with a RAND login to a third-party data provider that were published without consultation or permission. While unfortunate and ethically dubious, we note this to clarify that Paul’s article is based on a subset of the data reviewed for this report, and her paper does not include access to data that was unavailable to us.

² Brodie, 2017, p. 5.

in this chapter on how nontraditional platforms are used, which could give us insight into how trafficking is managed in its early stages.

Dark and Deep Websites for Antiquities Sales

Dark web marketplaces operate in parts of the internet that are not accessible to everyday users. They employ an internet communications protocol that anonymizes and encrypts communications traffic going in and out of a given site, allowing buyers and sellers to communicate and transact with one another while remaining relatively safe from law enforcement or government interference. These sites are accessed through special internet browsers, which use software packages such as Tor (the onion router), to ensure users' anonymity. Once on the dark web, users can visit cryptomarkets and vendors' shops that advertise products and facilitate sales just as sites like Amazon do on the surface web. Because anonymity and security are often key concerns among the users of these platforms, alternative payment methods, such as bitcoin, are routinely used to make payments outside the traditional banking system. As previous RAND studies have documented, these marketplaces are used for weapon and illegal drug sales, although in both cases, the volume of sales is a small percentage of the overall market.³

We do not find any evidence of these marketplaces being used to traffic antiquities. However, because we cannot directly prove the null hypothesis that there is no large-scale antiquities trading on the dark web, we instead ask about the dark web's value to the trade and demonstrate that these features are poorly aligned with the illicit antiquities market. Although it provides anonymity and security, the dark web also limits the size of the audience that sellers can reach by requiring that they access a site using specific browsing software and a specific connection protocol. Moreover, because many dark web sites are not indexed and searchable, potential buyers cannot easily find the goods they are looking for unless they know where to look. Finally, the anonymity afforded by these sites also limits the establishment of trust between buyers and sellers through identity-based reputation. These features impose transaction costs that make the dark web a poor match for most categories of transactions.

To identify the markets in which these higher transaction costs are worthwhile, we consider the following market characteristics:

- **Existing channels:** What sales mechanisms does the dark web substitute for?
- **Illegality:** How dangerous or illegal are the transactions?

³ Giacomo Persi Paoli, *The Trade in Small Arms and Light Weapons on the Dark Web: A Study*, New York: United Nations, UNODA Occasional Papers, No. 32, October 2018; Giacomo Persi Paoli, Judith Aldridge, Nathan Ryan, and Richard Warnes, *Behind the Curtain: The Illicit Trade of Firearms, Explosives and Ammunition on the Dark Web*, Santa Monica, Calif.: RAND Corporation, RR-2091-PACCS, 2017.

- **Anonymity:** How valuable is anonymity to these transactions, because of illegality, potential robbery, or retribution?
- **Commodification:** Are the goods interchangeable commodities, or do they need to be inspected by potential buyers?
- **Market fragmentation:** How fragmented is the market? Is it hard to match buyer and seller through traditional channels?

Dark Web Markets

The first modern dark web market was Silk Road, an anonymous Tor-accessible marketplace that relied on untraceable bitcoins for payment. Although the site was shut down by the FBI in 2013, its brief existence highlights the niche value that the dark web offers. Such goods as apparel, art, books, cigarettes, erotica, jewelry, and guns (through a sister site) were available, but there was little demand for these items. Instead, the site revolved around drug sales, which accounted for roughly 70 percent of the 10,000 listed products in 2013.⁴ Although Silk Road and its imitators have been quickly shut down by U.S. law enforcement agencies, dark web marketplaces that continue to operate in Russia and the Commonwealth of Independent States reveal similar trends. Traders in these markets estimate that drug sales account for 90 percent of all goods sold, with guns making up another 5 percent.⁵

As with Silk Road, the markets tend to consolidate around a few major types of goods. However, the identities of the primary markets can change quickly because of shifting user preferences and law enforcement action. As of 2019, the dominant marketplace in Russia is Hydra, an online mall where individuals or groups can set up electronic storefronts. Until recently, Hydra's main alternative was the dark web platform RAMP (Russian Anonymous Marketplace), which was shut down by the Russian authorities in July 2017.⁶ At least some of its top sellers have since migrated to Hydra, cementing its supremacy in the Russian marketplace. This illustrates the fluidity and resiliency of the dark web as a whole: A major journalistic investigation of the Russian deep web in 2016 made no mention of Hydra and identified instead four alternative platforms, none of which exists today.⁷

Maintaining accessibility to the site is a major concern. At any given time, Hydra has multiple mirror sites, accessible only through the Tor browser with an onion

⁴ James Ball, "Silk Road: The Online Drug Marketplace That Officials Seem Powerless to Stop," *The Guardian*, March 22, 2013.

⁵ Daniil Turovsky, "The Encrypted Underground: Weapons, Drugs, and Identities for Sale on the Russian 'Deep Web,'" *Meduza.io*, August 26, 2016.

⁶ "Полиция ликвидировала RAMP—крупнейший в России интернет-магазин наркотиков" ["Excerpt, Police Shut Down RAMP—Russia's Largest Online-Marketplace for Illegal Drugs"], *Новая газета [New Newspaper]*, 2017.

⁷ Turovsky, 2016.

extension. The addresses of these sites change periodically. Users wishing to locate a working mirror can find current URLs through dark web forums, on specialized Telegram channels (including Hydra's official channel at @hydraoniondeep) and via Pastebin. Hydra also maintains a surface-web mirror. According to its website, this circumvents any blocking of access to the dark sites through Tor.

A review of the products available in Hydra confirm that its primary market is illegal drugs (ten out of 23 categories, including anabolic steroids), cybersecurity-related products and services (both defensive and offensive, three out of 23 categories), and counterfeit products (money and documents, two out of 23 categories). It is, of course, impossible to know the true market share of each product category without data on sales volumes. Bitcoin was the most popular cryptocurrency accepted in the transactions we reviewed. However, Hydra also accepts payments through the QIWI electronic payment system (similar to PayPal, which allows users to refill their electronic wallets with cash through a system of terminals in most large Russian cities). It is noteworthy that, despite the frequent assumption that dark web markets and cryptocurrency go hand in hand, it appears that users prefer to use more-familiar forms of currency to pay for their illegal purchases.

As centralized marketplaces, Hydra, RAMP, and Silk Road offer and have offered such value-added services as integrated bitcoin wallets and exchanges, independent guarantor services, seller rating systems similar to those used on eBay, dispute resolution, and online tutorials on the fine points of buying and selling contraband. Hydra even offers a free emergency chat via Telegram featuring live operators, who it claims are physicians, for users experiencing a drug overdose. One notable feature on these sites is the availability of escrow services that reduce the risk of nonpayment or nondelivery of goods.

Analysis of Postings for Antiquities

When we analyzed the postings for antiquities, we found that no art, antiquities, or coinage were listed for sale among the current postings on Hydra. A more systematic search of archived postings on dark web marketplaces likewise failed to find evidence that these markets were used as a channel for antiquities sales.

Analysis of two years of postings on Dream Market, one of the largest dark web marketplaces, also failed to reveal postings for art or antiquities. To conduct this analysis, we relied on the publicly released data set containing 39,473 product listings from 690 sellers in 2016 and 91,463 product listings from 2,092 sellers in 2017.⁸ As on Hydra and RAMP, these postings are overwhelmingly for illegal drugs. Searches for a standard battery of antiquities-related word stems yielded only drug paraphernalia with ancient-looking designs. No ancient coins were indicated—only a handful of modern coins or coins advertised as forgeries of modern coins were listed.

⁸ Data set available at AZSecure-data.org, "Dark Net Markets (DNMs)," webpage, undated.

We performed a final, broader search using a proprietary data set scraped and archived by Sixgill, an Israeli company specializing in dark web analytics. Because many dark and deep web sites are located on secure platforms to provide privacy and security, traditional content search engines, such as Google, cannot index their content. Although academic researchers have collected data from online marketplaces whose content is relatively standardized, many discussion forums and less formalized marketplaces are not indexed and are only accessible to those who know to look for them or, in some cases, who have been granted specific access. Sixgill aggregates the content from many of these sources and makes them searchable. Using a battery of standard search terms, we found no evidence of widespread antiquities sales on the dark web. The list of languages and the findings are presented as follows:

Language	Findings
• Arabic	No art, antiquities, or coinage
• Kurdish	No art, antiquities, or coinage
• Turkish	No art, antiquities, or coinage
• Persian	No art, antiquities, or coinage
• Hebrew	No art, antiquities, or coinage
• Greek	No art, antiquities, or coinage
• Bulgarian	No art, antiquities, or coinage
• Russian	No art, antiquities, or coinage
• German	No art, antiquities, or coinage
• English	No art, antiquities, or coinage. ⁹

Although the results of these searches are not definitive because of the necessarily incomplete coverage of the dark web provided by aggregators such as Sixgill, there is no evidence that the dark web serves as a platform for antiquities transactions. Although dark web marketplaces promise anonymity and untraceable transactions that could, in principle, be used to sell any kind of merchandise, sales of illegal drugs constitute the bulk of their sales volume. The reason that the dark web markets are dominated by drug traffickers can be better understood by mapping the relative value of the dark web for such transactions in terms of the taxonomy described earlier:

- **Existing channels:** These channels are substitutes for illegal and dangerous drug deals.

⁹ The forums on the dark web host numerous discussions of videogames and advertisements for artifacts and goods within these online games. Because these games are often historical fantasies, there are many postings that match the search terms used to detect antiquities, but all offerings reviewed were advertisements for virtual goods.

- **Illegality:** The dark web specializes in sales of highly illegal substances that attract police attention and serious criminal penalties.
- **Anonymity:** The promise of anonymity avoids both the potential legal ramifications of these purchases and the social stigma of these drugs; critically, the dark web allows these sales to be completed without requiring face-to-face meetings.
- **Commodification:** Drugs are typically interchangeable commodities; knowing what the substance is, its weight, and its purported purity provides the buyer with all the necessary information. Although incomplete, this is the same level of knowledge that is available for purchases on the street.
- **Market fragmentation:** Much of the difficulty of drug purchases is the search for sellers. Sellers are typically unable to advertise through traditional channels and instead rely on such inefficient mechanisms as low-ranking street dealers who maintain visibility for potential buyers to approach. One of the primary efficiency gains for the dark web is its ability to offer search and advertising services for these illegal goods.
- **User base:** Because access to the dark web requires special software and a conscious decision to seek out and access these sites, a relatively small number of users self-selects onto these sites.

Deep Web Marketplaces: Telegram

The dark web refers to portions of the internet that are accessible only with special browsing software. The *deep web* refers to portions of the internet that are accessible through traditional platforms but that are not indexed by search engines and that may require special logins to access.

Channels and chat forums available through the anonymous messaging service Telegram have emerged as an alternative to dark web marketplaces in some markets. Unlike consolidated dark web marketplaces that offer escrow and other value-added services, Telegram offers only a platform for posting and messaging. Moreover, its channels are not searchable, thus requiring users to know in advance the names of specific channels of interest to look for and to access sales postings.

Weapon Sales Using Telegram

Investigative reporting by *Foreign Policy* documented the use of Telegram channels as a platform for weapon trading in rebel-held areas of Syria, primarily based in the northwest Syrian province of Idlib.¹⁰ A single channel (deactivated as a result of the *Foreign Policy* article) included 5,000 users and advertisements for 20,000 different

¹⁰ Adam Rawnsley, Eric Woods, and Christiaan Triebert, “The Messaging App Fueling Syria’s Insurgency,” *Foreign Policy*, November 6, 2017.

weapons, ranging from handguns and rifles to antitank missiles, detonators, a T-55 tank chassis, and components of surface-to-air missile systems.¹¹

As the article describes:

The markets, based in a handful of Telegram channels with a few thousand members, allow anyone with a link to the market to post pictures of weapons for sale or contact sellers. They resemble chatrooms, with sellers posting photographs of weapons often taken inside homes with a description of the item, a suggested price, or the location where a buyer can meet to pick up the weapons. Buyers can either post a public request for the weapons they'd like to buy or direct-message a seller to agree on a price and location to meet up and complete the sale.

The Telegram arms markets in Syria function as a kind of social media Craigslist, with little apparent central administration. With much of the markets' trade taking place in rebel enclaves, the absence of a government regulating the arms trade has given buyers and sellers little cause for anonymity, with members often posting their cellphone numbers and locations openly.¹²

As this excerpt makes clear, the users of this channel are less concerned with the anonymity and secrecy afforded by the dark web. Instead, they are interested in an advertising platform that can match buyers and sellers in a decentralized market. Unlike dark web drug transactions, the buyers and sellers of these goods would presumably meet in person so that the weapons, explosives, or vehicles advertised could be inspected in person. Because these are not commodity goods, potential buyers would typically want to inspect goods to ensure that they are functional before making their purchase. The in-person meetings and apparent lack of concern about anonymity by the site's users likewise make it unlikely that cryptocurrency would be widely used in these transactions.

Antiquities Trafficking Using Telegram

In addition to the many weapons offered through these channels, the *Foreign Policy* article also includes the image of a worn silver coin offered for sale under a subheading "Antiquities trafficking." The authors quote Danti, who observed that "[t]here is frequently overlap in the smuggling and sale of weapons and antiquities. The two illicit trades, he said, tend to share similar routes, shipments, and dealers."¹³ Although this assumption is widely held among antiquities researchers, there is little evidence to support this conclusion. Most citations supporting this claim refer to a single original source, U.S. Marine Corps Reserve Colonel Matthew Bogdanos's experiences during

¹¹ Adam Rawnsley, personal communication with authors, November 2017.

¹² Rawnsley, Woods, and Triebert, 2017.

¹³ Rawnsley, Woods, and Triebert, 2017.

the Iraqi Civil War.¹⁴ In fact, evidence from the postings on this channel suggest that there is little overlap of these markets in online platforms. Among the 20,000 postings for weapons, only four ancient coins were offered for sale. Of these four, only the one pictured in the article could be identified, and the others were so worn that their markings and inscriptions were illegible.¹⁵ These coin listings are likely opportunistic postings by members of the insurgency who were already active on the weapons channel and were advertising minor finds that they could not sell through other means.

While these coin postings were miscategorized in a channel dedicated to other goods, there were also dedicated Arabic-language channels whose descriptions identify them as venues for selling valuables, gold, coins, and antiquities. Using the Sixgill database and a list of Telegram channels listed in other Telegram messages, we identified roughly a dozen Arabic-language channels related (or potentially related) to antiquities sales. These channels had regular messaging traffic, but only a small percentage of it was actually related to antiquities trading. Much of the off-topic messaging was Islamic propaganda and religious justification for finding and selling antiquities. The language and tone of these posts suggest that many of these channels are dominated by jihadist groups in Syria and Iraq.

Within these communities, there was typically a posting every few weeks in which a user would share images of coins or low-value archaeological finds to solicit comment from the community (Figure 4.1). A reply to these posts would provide a WhatsApp number for the original poster to use to contact the responder so that the discussion could be taken offline. Because the details of the negotiation and transaction were conducted through private channels, it was difficult to say with certainty how many of these postings resulted in sales. However, given the low value of the advertised goods and the low frequency of postings that offered goods for sale, there is little evidence to suggest that Telegram was a significant platform for antiquities trafficking.

It is striking that antiquities were only offered in Arabic-language discussion groups rather than channels in the other languages in the region.¹⁶ Because Arabic is spoken primarily in countries where looting is occurring, the fact that it is the dominant language used for antiquities posts suggests that traffickers use Telegram to

¹⁴ Matthew Bogdanos and William Patrick, *Thieves of Baghdad: One Marine's Passion to Recover the World's Greatest Stolen Treasures*, New York: Bloomsbury USA, 2005. There is evidence in other regions of the overlapping trade in antiquities and narcotics. See Yates, 2014.

¹⁵ Adam Rawnsley, personal communication with authors, November 2017. The coin pictured in the article, a silver tetradrachm depicting Alexander the Great minted in western Turkey during the reign of Lysimachus, was identified as having a value of \$850. Based on comparative sales, its actual value when sold in Western Europe or North America would be closer to \$125.

¹⁶ It is possible that this is an artifact of data collection. Our data aggregator for this research is Sixgill, an Israeli company. Its data coverage may be nonuniform, since it focused particularly on messaging in Arabic, Russian, English, and several other languages that are related to its work in corporate cybersecurity. Languages such as Bulgarian and Turkish are likely less central to their customers' needs, and it may be that they have not focused on heavily on collection in these languages.

Figure 4.1
Coins Advertised for Sale on Telegram



SOURCE: Screen captures of deep web page by author.

fill gaps that emerge early in the trafficking process, when users are trying to identify markets for random finds to which they did not have the personal contacts to sell. Traffickers with higher-quality artifacts or greater volumes of goods to sell presumably had personal networks of contacts through which they could sell the goods, so they had no need of Telegram or other electronic channels. The list of languages and the findings are presented as follows:

Language	Findings
• Arabic	Small numbers of low-quality coins and artifacts
• Kurdish	No art, antiquities, or coinage
• Turkish	No art, antiquities, or coinage
• Persian	No art, antiquities, or coinage
• Hebrew	No art, antiquities, or coinage
• Greek	No art, antiquities, or coinage
• Bulgarian	No art, antiquities, or coinage
• Russian	No art, antiquities, or coinage
• German	No art, antiquities, or coinage
• English	No art, antiquities, or coinage.

The Telegram value proposition is the following:

- **Existing channels:** While transactions are conducted in person, Telegram provides an advertising and search platform to more efficiently link buyers and sellers.

- **Illegality:** Telegram allows the sale of illegal goods for which sales and marketing is otherwise an issue.
- **Anonymity:** Users are able to use these channels anonymously, although the concern with anonymity varies greatly.
- **Commodification:** Weapons and antiquities are standardized enough to allow efficient searching, but purchasers typically inspect goods in person before purchase.
- **Market fragmentation:** These markets are highly fragmented, with many sellers having access to weapons or antiquities. Sellers try to coordinate their sales with a diverse group of buyers. The requirements of the antiquities and weapons markets differ. The latter appears to be more truly peer-to-peer with multiple buyers and sellers, while the buyers on these sites (for the antiquities market) appear to be more sophisticated users, likely dealers, who are trying to aggregate supply across many buyers.
- **User base:** Telegram channels require that users install the Telegram app and add specific channels by name (there is no search function). Although more accessible than dark web sites, entry is still limited because users must self-select onto these sites.

Facebook as a Platform for Online Illicit Markets

Although familiar as a social networking site, Facebook's ubiquity and broad reach has been co-opted by users in the Middle East as a way to advertise, buy, and sell illicit goods, including weapons and antiquities.

In Libya, for example, bazaars advertising light weapons for sale began to appear on Facebook in 2012, as internet regulations disappeared after the fall of the Qaddafi regime. Small-time arms dealers from diverse backgrounds flocked to the site both to sell weapons and ammunition and to post solicitation requesting specific goods. Within these Facebook groups, users advertised rifles and machine guns as well as antitank missiles, recoilless rifles, and man-portable air defense systems (MANPADS), primarily of Russian or Soviet design.¹⁷ Although Facebook has actively cracked down on the sale of weapons, which is explicitly forbidden in its terms of service, the site continues to host numerous active groups dedicated to more legally ambiguous topics, including the excavation and sale of antiquities.

While the illegal excavation and trafficking of looted or stolen antiquities is a crime, antiquities collecting is legal throughout the world. Numerous Facebook groups serve this community, thus allowing users to post their finds and purchases,

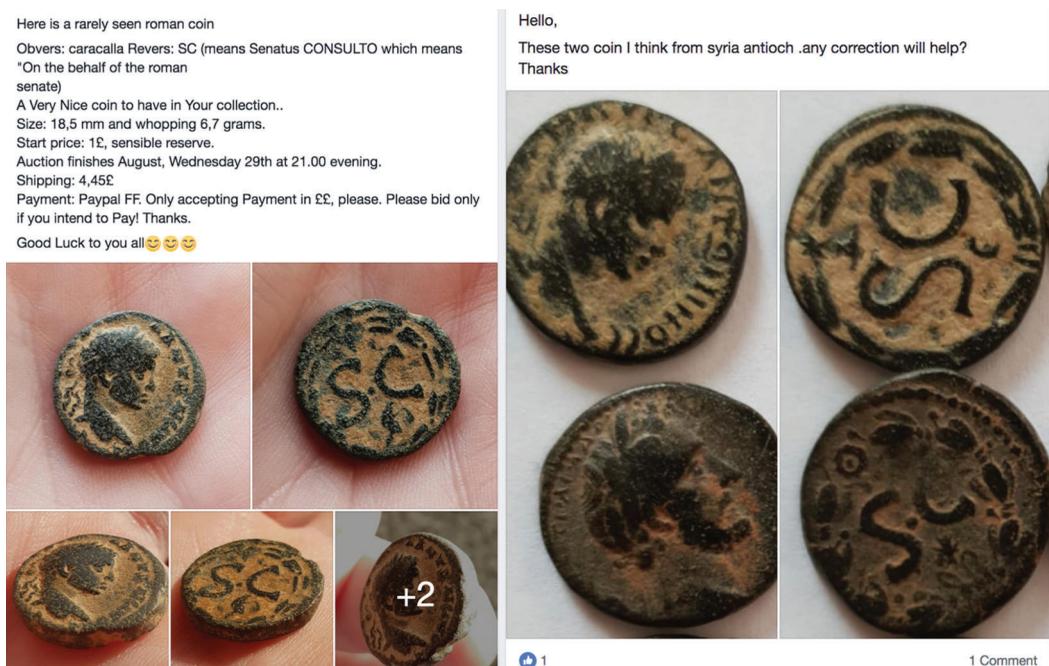
¹⁷ N. R. Jenzen-Jones and Graeme Rice, "The Online Trade of Light Weapons in Libya," *Security Assessment in North Africa*, Dispatch No. 6, April 2016; C. J. Chivers, "Facebook Groups Act as Weapons Bazaars for Militias," *New York Times*, April 6, 2016.

share images of their collections, or sell or auction coins and artifacts and ask for information. There are, for example, groups for Roman coin and artifact enthusiasts in Bulgaria, British groups dedicated to Anglo-Saxon finds, and global groups for all manner of antiquities (Figure 4.2). Within these groups, there is great variation in the members' levels of activity and engagement. Posts asking for help with ancient coin identification on an Italian group, for instance, often received no comments, while users on Bulgarian and English groups could often provide a definitive identification within a day. These groups have no obvious connection to looted or trafficked goods, although forgeries are often posted for comment and some of the activities described by metal-detector enthusiasts appear legally ambiguous. Typically, the groups include legal guidelines as a requirement for membership, and on many British groups that offer platforms to share or auction metal-detector finds, users will regularly discuss their filings under the 1996 Treasure Act or registration of their finds according to the Portable Antiquities Scheme.

Within this global collection of antiquities-themed Facebook groups, we aimed to understand the specific role of groups in antiquities looting and trafficking. Specifically, our analysis suggests that Arabic- and, to a lesser extent, Turkish-language groups occupy a broader niche, offering different information and addressing different types

Figure 4.2

A Global Phenomenon: British and Turkish Members Describing Similar Coins



SOURCE: Screen captures of Facebook group page by authors.

of users than those in Europe and North America. In our analysis, Facebook groups offer a highly visible entry point into antiquities looting and trafficking in the Middle East and North Africa. Although the actual contacts made and volume of materials transacted through these sites are relatively modest, their function in normalizing looting and valorizing the search for antiquities as a source of wealth is concerning.

Antiquities Trafficking on Arabic-Language Facebook Groups

In the Middle East and North Africa, antiquities enthusiasts use Facebook as a platform to advertise, buy, and sell newly discovered goods; post classifieds for specific types of artifacts; and share information about how to identify locations where artifacts can be found. The oldest and largest groups indicate that they were founded by users in Egypt, although a growing number are now focused on specific regions of Syria. While this discussion will focus primarily on Arabic examples, Turkish-language groups also exist, and their content largely parallels that of the Arabic sites.

Following the design of the Facebook interface, these groups are divided into two broad categories: open sites that can be accessed directly by anyone with a Facebook account and closed sites that require a moderator to approve a Facebook user as a member before the contents of the pages can be seen. The analysis in this section draws primarily from closed groups, although open pages often contain similar information.

Group names are shared on message boards and listed in internet forums and discussion groups. They can also be found by searching Facebook using standard keywords or by linking to groups suggested by the Facebook algorithm based on a user's other group memberships. Access to the groups is typically straightforward. For most, it is as simple as requesting to join, while others ask some basic questions as part of the request. For example, to join one of the groups we studied, the moderator asked:

1. Are you really interested [in the topic of the group]?
2. What country are you from?
3. Do you have experience in this field? Are you amateur? Are you new to this field?

Other moderators simply asked prospective members if they agreed to follow the group's rules.

Several of these groups are extremely popular, some with more than 80,000 members. Other groups with 3,000 or fewer members are the norm for antiquities-themed groups in the rest of Europe and the Americas.

Many of the largest groups operate as voyeuristic lifestyle sites, where users would share glamorous images of gold artifacts, treasures, and valuable antiquities, with occasional accounts of treasure-hunting explorations of finds that make the riches seem attainable. The group projected the idea that this was a world in which treasure hunting—looting—could yield wealth within easy reach.

This curated image is largely an illusion. Using Google’s reverse-image search quickly reveals that the majority of the images posted on these groups are actually recycled images from news articles and museum websites. Similarly, images that show gold artifacts still buried in the ground are often photos from professional archaeological excavations or stock photographs (Figures 4.3–4.4).

Although Egyptian groups often highlight the glamour and wealth associated with treasure hunting, Syrian sites regularly take this process a step further by using extremist language and Quranic rhetoric to justify looting and to recruit and reassure members about their religious right to loot archaeological goods. These groups use verses from the Quran, Hadith, and Islamic law that argue that archaeological artifacts are “treasures, or burials” that are a gift for people of the area and that they have the right, granted by God, to find and sell it. It is notable that these online groups use extremist religious arguments to justify their looting. Given that other sources have indicated the existence of other groups—including the Assad regime and rebel and Kurdish factions—that are also involved in archaeological looting, it suggests that the Islamic State–affiliated extremists are the dominant voices online.

Figure 4.3

Example of Professional Photography Repurposed in a Facebook Group



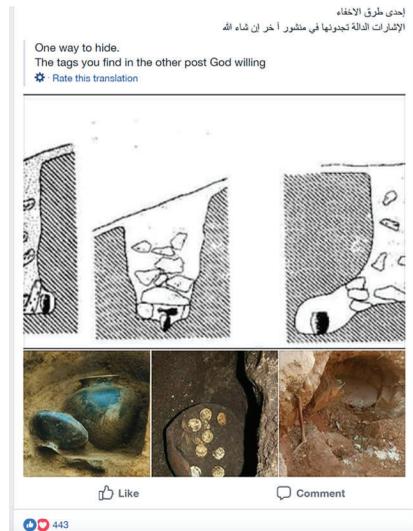
Gold Coins, at Bottom of Sea for Millennium, Go on Display



The 2,000 coins, from the 10th and 11th centuries, did not require cleaning, a curator in Israel said. Ariel Schalit/Associated Press

SOURCE: (Left) screenshot of Facebook group posting by authors; (right) Associated Press, “Gold Coins, at Bottom of Sea for Millennium, Go on Display,” *New York Times*, February 19, 2015, Section A, p. 7. NOTE: The image at left was shared on an Arabic-language treasure-hunting Facebook group, with the implication that it recorded the poster’s discovery. In fact, the picture is an Associated Press photo, credited to Ariel Schalit, depicting coins found by divers off Israel in 2015.

Figure 4.4
Example of Professional Photography Repurposed in Arabic Treasure-Hunting Site



SOURCE: Screenshot of Facebook group posting by authors.

NOTE: The bottom-left image shows Etruscan-era pottery found in Italy, and identical images can be found on several museums' webpages, including that of the Museo Milano in Milan, Italy (Museo Milano, "Storia del commercio estero a Milano e Lombardia – Parte II – Dalle Origini all' alto medioevo" ["History of Foreign Trade in Milan and Lombardy–Part II–From Its Origins to the Early Middle Ages"], webpage, August 4, 2016). The sources of the other images could not be identified. They could either be original or recycled from such domains as Instagram or Facebook, domains that Google does not index.

In addition to these images of wealth and justifications for looting, many sites include images and guides that purport to instruct group members on identifying hidden signs that mark ancient tombs and knowing where to excavate (Figure 4.5).

However, the expertise these guides are intended to convey is also an illusion. According to archaeologists we spoke with, these instructions are largely folk wisdom and imagined symbolism with little real value. Their frequent inclusion on these sites, however, indicates a desire to make members feel like they could put this guidance to use to independently seek out tombs and historic sites. Like many other images in these groups, these instructions are copied from elsewhere on the internet, and none seem to have been developed specifically for the Facebook groups we surveyed. A nonexhaustive search identified copies of the illustration shown in Figure 4.5 and a set of stylistically similar images that had been posted to *treasurenet.com* forums in 2013 before being copied to other sites and blogs in subsequent years. That 2013 submission of the image with Arabic labels was posted in an English-language forum by a user who listed his location as the U.S. Midwest, suggesting that he was reposting material from an earlier source.

Figure 4.5
Online Guides for Identifying Hidden Tombs



SOURCE: Screenshot of Facebook group posting by authors.

Although these guides suggest that much of the interest and talk within these groups are aspirational, it is clear that some of the members in these groups are also active in the field. Pictures uploaded by members exploring tombs or sharing images of archaeological sites they found (Figure 4.6) make it clear that some members are active treasure hunters. These personal stories and descriptions add to the apparent authenticity of the sites and create the impression that members and moderators are out in the field, acquiring their wealth by discovering the lucrative finds that they then post on these sites.

As this analysis suggests, Facebook groups offer little in terms of previously unavailable content. Websites and discussion forums have long provided the same types of resources and community as Facebook, and, for the would-be treasure hunter-looter, existing discussion forums typically have higher-quality information and users who are more engaged and well-informed.

Facebook is different in that it offers a way to reach a larger audience that has a casual interest in antiquities. These groups normalize the idea of looting for profit, offering a base of thousands (and sometimes tens of thousands) of users who are eager to engage in the antiquities trade when the opportunity is presented.

Figure 4.6
Example of Amateur Photography of Site Exploration
Posted on Facebook



SOURCE: Screenshot of Facebook group posting by authors.

Artifacts for Sale

Although the images of wealth and the instructions for identifying sites are largely aspirational, these groups' core functional value is to be advertising platforms for users to post artifacts to attract potential buyers or for buyers to post messages expressing interest in specific goods. Indeed, while the most popular sites include the types of lifestyle elements we described earlier, other groups that communicate in both Turkish and Arabic focus primarily on sales advertisements and discussions of user-found artifacts (Figures 4.7–4.8). Although these more-focused groups tend to be smaller, often with about a thousand members, they may play a greater role in the market than the larger, more diverse groups.

Depending on whether the group is configured as a sale or auction group or simply as a discussion forum, users have various options for conducting a sale. In sales groups, users can post images and prices for the objects they wish to advertise. In discussion-

Figure 4.7
Sample Product Offering on Arabic-Language
Facebook Group

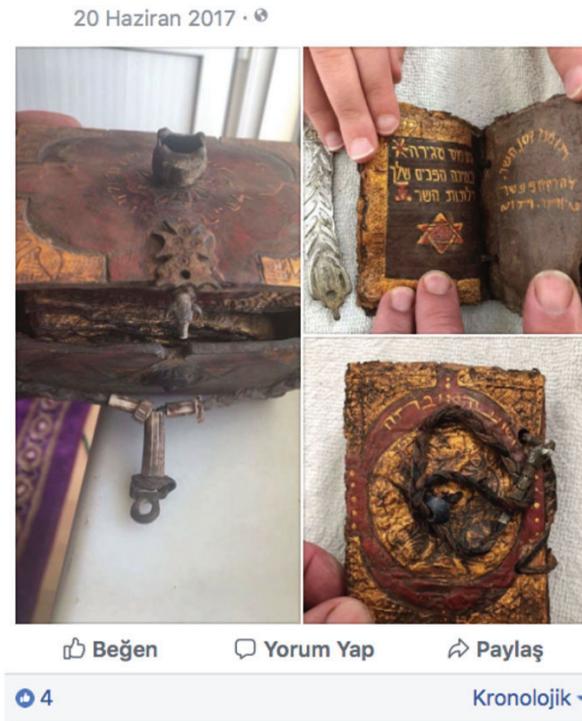


SOURCE: Screenshot of Facebook group posting by authors.

only forums, users typically post an image of an item asking for information about it or inquiring about its worth. Although not explicitly an offer to sell, these responses will often include a WhatsApp number so the poster can communicate offline to arrange a sale. These exchanges give the sense that the buyers are considerably more experienced and savvy than those who post the items to allegedly sell. Rather than simply exchanging pictures, it is standard to request a video—often including a note, usually handwritten, indicating the date and location—of an object to confirm that the poster actually has the object in question. Aside from the moderators, few users post multiple times in a given group, suggesting that these sites are typically the efforts of sophisticated group moderators who are trying to aggregate the finds of a distributed group of amateur treasure hunters. It is likely that, after making an initial contact and sale through the site, any future transactions are conducted through WhatsApp or other direct means.¹⁸

¹⁸ This description of the dynamics underlying antiquities sales on Facebook can be compared with an in-depth study conducted by Amr Al-Azm and Katie A. Paul that analyzes 95 Arabic-language Facebook groups related to antiquities and antiquities trafficking. Their work, which was published when this report had already been submitted for review, offers additional details regarding the mechanics of Facebook-mediated sales as well as multiple examples of illicitly obtained artifacts being offered for sale. Although their study provides valuable

Figure 4.8
Facebook Discussion of Antiquities Sales on Turkish-Language Group



SOURCE: Screenshot of Facebook group posting by authors.

In addition to the more-common seller ads, buyers and dealers can also post want ads, in which a user expresses interest in certain classes of goods. Users will create posts asking for books, Judaica, or coins and request that group members reply or direct message them if they have such items available. Although other researchers observing these postings have described this as “looting to order,” which is a catchy misnomer with little empirical support.¹⁹ There is no indication that looting is taking place to fulfill these requests. Moreover, the requests are expressing broad interest rather than identifying specific artifacts to loot. Finally, there is no strong evidence that the goods being offered are illicitly obtained. They are better understood as buy-

insights into the details of the antiquities trade on Facebook, their analysis does not change our overall assessment that while it is a highly visible entrypoint into antiquities looting and trafficking the volume of transactions conducted through the platform is relatively modest. See Amr Al-Azm and Katie A. Paul, “Facebook’s Black Market in Antiquities: Trafficking, Terrorism, and War Crimes,” Antiquities Trafficking and Heritage Anthropology Research (ATHAR) Project, 2019.

¹⁹ Amr Al-Azm and Katie A. Paul, “The Middle East’s Other Facebook Revolution: Antiquities Trafficking in the Digital Age,” *World Politics Review*, August 14, 2018.

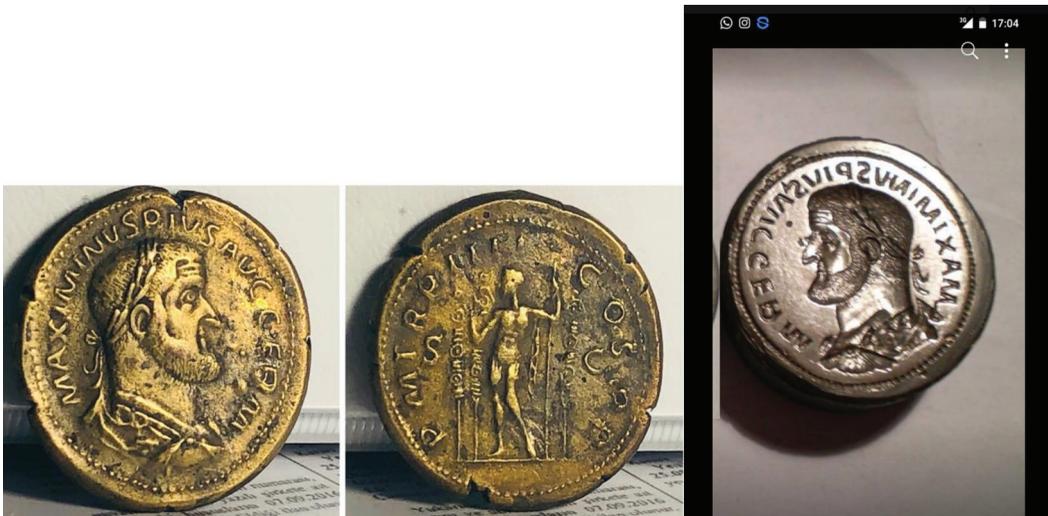
side advertisements in which collectors or dealers interested in certain types of goods can easily canvass a large population of other users.

Our interviews with Turkish antiquities brokers offered additional insight into the use of these groups. As described in Chapter Three, the brokers we interviewed stated that there was a shift in the method of marketing trafficked artifacts, moving away from public platforms such as Facebook to instead circulating photographs and pictures directly to trusted networks. Two brokers reported that they used Facebook to advertise their goods for sale but had since stopped for fear of attracting unwanted attention from authorities and potential legal implications. As the brokers became more established, they built a network of personal connections, which reduced their need for Facebook groups. As one broker reported, “I depend mainly on my acquaintances since I have a network of people whom I trust.” He had, he said, made a name for himself in the market so that customers and other brokers knew to come to him directly.

Within the antiquities market, Facebook appears to enable transactions within a local community. Compared with eBay and similar auction sites, in which tens of thousands of items are advertised at any given time (see analysis in Chapter Five), the volume of goods advertised and sold through Facebook is small. However, its power is that it enables buyers and suppliers within a given region to establish contacts so that they can conduct additional transactions directly. Unlike eBay, where transactions are conducted remotely and rely on electronic payments and mail delivery, many Facebook transactions are conducted in person, using the mechanisms described in the previous chapter. These in-person transactions appear to be preferred within the region; an analysis of the geography of completed antiquities sales on eBay revealed that very few transactions were made involving sellers in Egypt, Jordan, the UAE, Iraq, Syria, or Turkey. Although it is difficult to gauge the volume of transactions facilitated through these groups, Facebook appears to function primarily as an easily accessible and public entry point into antiquities trafficking, but one that plays a limited role in the overall market.

One of the unique features of these Facebook groups is that by bringing together users from multiple backgrounds and with multiple interests, they provide a unique access point from which researchers can observe and potentially influence the trafficking of illicit antiquities. An exchange on a European-based antiquities group highlights the wide range of users who interact in these groups. In September 2018, a user posted images of a *sestertius* (a unit of Roman coinage) minted during the reign of Maximinus Thrax (Roman Emperor, reigned 235–238 C.E.) that he had just purchased, noting that the seller had explained that it was found in a river (explaining the unusual patina). Other experts quickly responded by questioning the authenticity of the coin and noting the odd facial structure of portrait, while other users posted images of their examples of the coin from their collections for comparison. However, the debate on the coin’s authenticity was suddenly settled when a group member posted images of the die used to create the fake (Figure 4.9). It is hard to imagine another

Figure 4.9
Image of Fake Coin and Die Used to Create It Shared on a Facebook Group



SOURCE: Screenshot of Facebook group posting by authors.

venue in which forgers, experts, and customers could interact so directly. As we will describe in the concluding chapter, we believe that Facebook groups hold promise as a means to observe and communicate directly with a cross-section of the trafficking supply chain.

Unlike the platforms described earlier in this chapter, Facebook is home to a substantial volume of antiquities-related activity in nearly all of the languages we surveyed:

Language	Findings
• Arabic	Looting guides, buyers' requests, requests for information, and sales
• Kurdish	No art, antiquities, or coinage
• Turkish	Buyers' requests, requests for information, sales
• Persian	No art, antiquities, or coinage
• Hebrew	No art, antiquities, or coinage
• Greek	—no systematic search—
• Bulgarian	Requests for information, sales
• Russian	—no systematic search—
• German	Requests for information, sales
• Italian	Requests for information, sales
• English	Requests for information, sales.

The Facebook value proposition is as follows:

- **Existing channels:** Facebook enables advertisement through personal contact networks and image sharing via WhatsApp and other messaging platforms.
- **Illegality:** Facebook allows the advertisement and sale of legal or legally ambiguous goods.
- **Anonymity:** Users are able to use these channels anonymously, although the concern with anonymity varies greatly.
- **Commodification:** Weapons and antiquities are standardized enough that products can be succinctly described to enable efficient searching, but purchasers typically inspect goods before buying.
- **Market fragmentation:** These markets are highly fragmented. Many sellers have access to weapons or antiquities, and they are trying to coordinate their sales with a diverse group of buyers. Here, the requirements of the antiquities and weapons market differ. The weapons market appears to be more truly peer-to-peer, with multiple buyers and sellers. In the antiquities market, however, the buyers appear to be more-knowledgeable users who are trying to aggregate supply across many buyers.
- **User base:** Users can search for these groups on Facebook. Although some may screen members, it is easy for most potential users to access these groups.

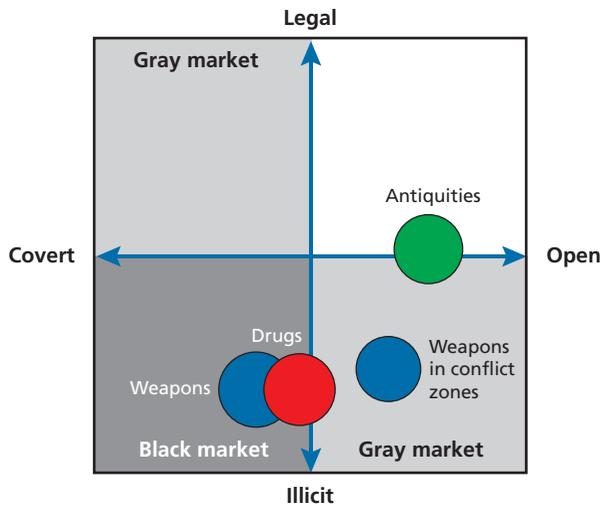
Structural Analysis of Online Markets

In our structural analysis of online markets, we attempted to highlight the different roles and market functions that each of these platforms plays. While anyone could sell an item through these platforms, we believe that the mix of transaction costs, security, anonymity, and user base offered on each platform cause the markets for different goods to sort themselves onto the specific platforms that most match their needs.

To better understand the nature of the illicit transactions on these platforms, it was useful to position the markets for specific products within a framework that classifies markets according to their legality and openness.²⁰ As Figure 4.10 illustrates, the secretive black market occupies the domain of transactions that are both illegal and clandestine. Other times, however, illegal items are sold relatively openly and, conversely, legal transactions may be conducted in private. These two cases are classified as *gray market* transactions, while *white market* transactions are legal and conducted openly.

²⁰ This schema was derived from Daniel Cunningham, Sean F. Everton, and Philip J. Murphy, Sean F. Everton, and Philip J. Murphy, *Understanding Dark Networks: A Strategic Framework for the Use of Social Network Analysis*, Lanham, Md.: Rowman and Littlefield, 2016, p. xviii.

Figure 4.10
Comparative Schemas of Market Structure



NOTE: Circle size is not representative of relative market size.

To clarify the findings of our analysis, we identified the markets for drugs, weapons, and antiquities within this conceptual space by plotting the characteristics of the exchanges that market and sell these goods to consumers. Our placement of the markets within this framework is not necessarily stable or definitive, but it provides a conceptual starting point from which we can compare the different characteristics of each of the illicit markets, then map them to the online platforms that we previously analyzed. In this framework, the black markets that enable drugs and weapons are similar in that they are both illicit and covert. In both markets, law enforcement actively targets and prosecutes anyone involved with these markets, and this enforcement is simplified because illicit drugs and weapons can be clearly identified as illegal in most contexts. Trafficked antiquities, by contrast, occupy a different domain in these contexts because, although illegal, they are sold in the open, often to buyers who are unaware of their illicit source. Much of the enforcement challenge that law enforcement agencies face is that the legal status of a given object is often difficult to prove. As a result, looted objects can be sold in the open because the ambiguity about their origin and legality makes enforcement actions against them more difficult.

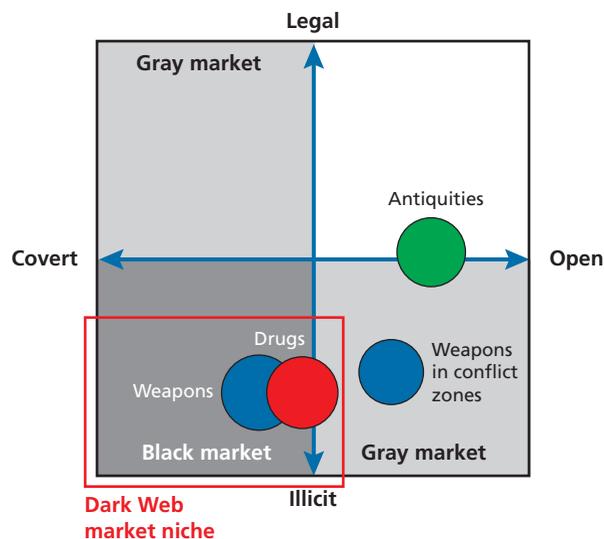
By using this framework, we can summarize the findings presented earlier in this chapter to compare the relative market segments served by the various electronic sales with the messaging platforms that we discussed.

As we documented, the dark web is dominated by the illegal drug trade and weapon sales in highly regulated regions where law enforcement actively seeks to

prosecute those involved.²¹ As noted in our analysis, the dark web is not well suited to the demands of the antiquities market; the limited audience, the high transaction costs relative to the value provided, and the need for in-person inspection of goods limit the utility of these platforms for antiquities dealers (Figure 4.11). Although sellers of stolen art or recognizable looted antiquities might benefit from the anonymity and security provided by the dark web, these markets are primarily used for such commodities as drugs, for which physical inspection of the good is not required before purchase. In the case of art objects, the role of connoisseurship in making sales and the fear of fakes or forgeries mean that buyers typically want to inspect goods before purchase, which undermines the value offered by dark web anonymity.

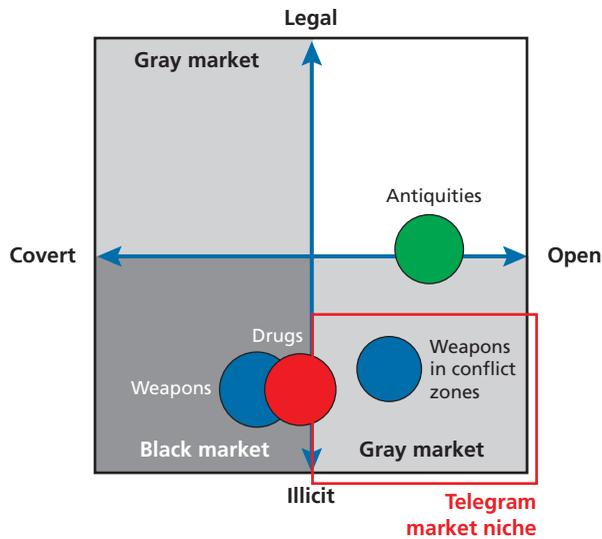
In contrast, such platforms as Telegram offer users the ability to operate in open peer-to-peer marketplaces when both supply and demand are disaggregated (Figure 4.12). In conflict zones, for example, where legal institutions and law enforcement have been degraded, the demand for secrecy and anonymity is significantly diminished. As a result, as we described in the case of online weapon sales in Syria and Libya, the breakdown of civil society and the normalization of violence brings weapon sales into the open, where they are transacted through publicly accessible Telegram channels that link buyer and seller. Messaging channels create a sort of Craigslist for weapons that match buyers with sellers in a decentralized market. Although antiquities advertisements were also made on Telegram, these postings were relatively rare and advertised low-quality coins and artifacts. The goods advertised on Telegram are illicit,

Figure 4.11
Dark Web Market Niche



²¹ See Paoli et al., 2017.

Figure 4.12
Telegram Market Niche



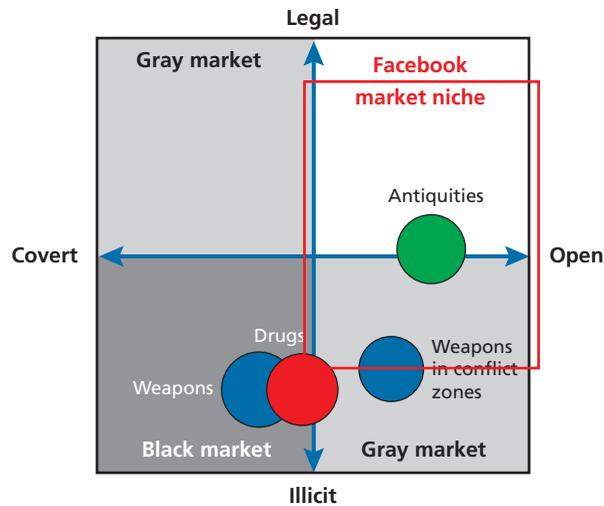
but they are advertised relatively openly through anonymous messaging platforms enabling an open-source view into an illicit market.

We have focused on Telegram in this example, but the more general point is that there is a structural market niche in which illicit goods are transacted openly on online platforms. The threat to these markets is not disruption by law enforcement, as it was with the dark web marketplaces, but rather blocking by the digital platforms that host these markets because of the damage to their public image that illicit markets might cause. As we described earlier, weapon-focused Telegram channels were removed by the company in response to an investigation conducted by *Foreign Policy* researchers. Likewise, attempts to advertise weapons on Facebook were quickly removed because they violated bright-line rules that ban firearm sales through the platform.

Antiquities sales, by contrast, occupy a different market space (Figure 4.13). Unlike weapons and drugs, whose legal status is typically easy to judge, antiquities sales are in a gray area. Without expert knowledge or supporting documentation, it is often difficult to judge whether a given antiquity is licit or illicit. As a result, both legally held and looted antiquities are often sold through similar channels, and it is sometimes difficult to distinguish between the two.

As a result of this legal ambiguity, antiquities can be advertised openly and do not require the levels of secrecy that drug and weapon transactions demand. On Facebook and other sites, antiquities and cultural objects can be advertised and sold with little risk. However, in this domain, Facebook is in direct competition with other channels that have been developed to enable white-market transactions. Auctions and online

Figure 4.13
Facebook Market Niche



storefronts dominate this domain, and as the next chapter will describe, these more-traditional sales platforms dominate the trade in antiquities.

Summary

There has been considerable speculation about the role of secretive marketplaces on the dark web and deep web that are used to sell stolen or looted antiquities. Our analysis found little evidence of antiquities sales in dark web forums or through Telegram channels. Instead, we found that although illicit drugs and weapons are sold through these underground digital markets, antiquities are offered through more-open channels such as Facebook and traditional online sales and auction sites (discussed in Chapter Five).

Our structural analysis of these markets made the case that market segmentation and sales channel choice can be explained by a two-factor model that judges how illicit and covert the market is for a type of good. Although covert illicit markets benefit from the secrecy afforded by cumbersome dark web marketplaces, the difficulty in proving that an advertised antiquity is illegal and the low priority that law enforcement places on the objects relative to drugs or weapons mean that antiquities can typically be sold through more-open markets with impunity.

Specifically, we found that Facebook is a prominent hub for discussions of antiquities, which may be driving interest in looting by highlighting the wealth that it purportedly generates. By promoting and normalizing looting in Arabic-language groups, Facebook has the potential to drive looting even if there is not sufficient demand in the market to sell the looted goods.

Measuring the International Trade in Antiquities

Despite the growing public outcry about the scale of looting in the conflict zones of the Middle East and the growing policy interest in the use of antiquities looting as a source of terrorism finance, there is little concrete information available about the size of this illicit trade. Moreover, there are not even comprehensive statistics that describe the legal portion of the global antiquities trade. However, this lack of data has not diminished the spread of wildly varying estimates about the size of the market for looted antiquities. A *Wall Street Journal* article included estimates from Michael Danti, an archaeologist and academic director of ASOR CHI, who placed the value of the Islamic State’s antiquities trafficking in the “low tens of millions” annually, while a French security official placed the figure at \$100 million.¹ Lehr, of the Antiquities Coalition, estimated that “[c]oming out of Syria, it is \$2 billion” and “[w]ith Egypt, it is probably \$3–10 billion, globally it has to be a much more significant number.”² The contrary view, expressed by a journalist familiar with the art market and quoted in the *New Yorker*, is that, “The idea that there’s a shadowy mass of collectors interested in purchasing crap that they can never sell again is absolutely ludicrous.”³

In the next section, we attempt to systematically measure visible portions of the antiquities market to gauge its scope and describe the sales channels that we can observe. Although there are limited data available—and we can make no claims about our ability to fully measure the market—the data that we derive provide some useful coordinates to ground any discussion of the scale or location of the illicit antiquities market. Previous chapters in this report have focused on the early stages of antiquities trafficking networks that transport looted objects out of conflict zones; in this chapter, we attempt to analyze the sales of antiquities in Western Europe and North America. This presents various analytical challenges because illicit goods enter markets in which they are sold alongside legal goods. We intend to characterize the overall market for

¹ Faucon, Kantchev, and MacDonald, 2017.

² Middle East Institute, 2014.

³ Quoted in Taub, 2015.

these goods and describe the potential for each segment we investigate to contribute to the trafficking of looted goods.

By compiling data about the size of different market segments and sales channels, we hope to offer some preliminary bounds for the size of the illicit market. By constructing estimates of the size of the principal observable components of the market, such as traditional auctions, physical dealers, and eBay and online auctions, we place some bounds on discussions about the potential market size. Simply put, while we cannot claim to measure the size of the illicit market, we can show that observable market channels are too small to act as conduits for a billion-dollar-a-year illicit trade. Although we cannot disprove the assertion that a trade of this scale exists, we can draw attention to the question of how and where these goods might be sold.

Sales Channels for Antiquities

For a finer-grained understanding of the antiquities market, we move from the national-level figures discussed in Chapter Two to aggregate measures of the size of the market that is conducted through different sales mechanisms and channels. By compiling data about the size of each market segment, we can also gauge the potential for each channel to act as a final market for looted and trafficked antiquities.

Auction Houses

One of the most visible platforms for antiquities sales is the well-advertised auctions for high-end goods that are organized by major auction houses, such as Sotheby's, Christie's, and Bonhams. These companies have managed the sales of multimillion-dollar artifacts, such as the 5,000-year-old Mesopotamian statue of the Guennol Lioness, which was sold by Sotheby's for \$57 million in 2007. Although most goods are sold for a substantially lower price, auctions are one of the primary channels for the sale of museum-quality artifacts. The auction houses include the provenance of the items that they offer for sale, but the descriptions are sometimes vague and have perfunctory provenance notes, such as "property of a European gentleman" or "bought on the London market." Although many of their items have clear ownership histories stretching back decades or centuries, there have also been high-profile incidents in which looted or stolen art was offered for sale.⁴ In 2013, for example, Christie's London

⁴ Neil Brodie, "Auction Houses and the Antiquities Trade," in S. Choulia-Kapeloni, ed., *Third International Conference of Experts on the Return of Cultural Property*, Athens, Greece: Archaeological Receipts Funds, 2014; Gabriel Berner, "Christie's Withdraw Lots After Antiquities Alert," *Antiquities Trade Gazette*, April 14, 2015.

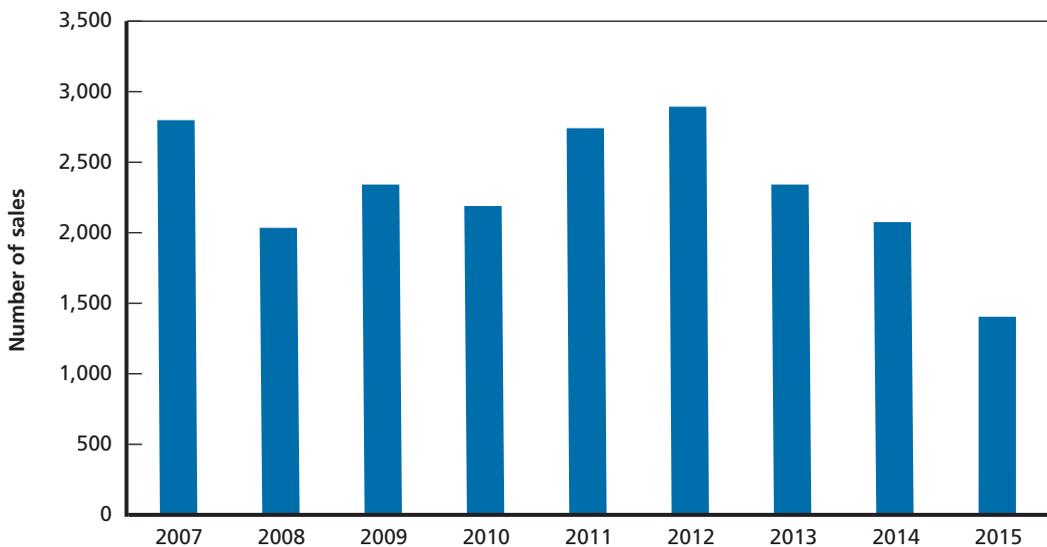
office alerted British police and the Egyptian embassy after determining that six items consigned for sale were likely looted from a recently discovered tomb.⁵

Our analysis will not attempt to analyze the provenance and legitimacy of individual sales. Instead, we take a more holistic approach to measure the volume of sales handled annually by these auction houses so that we can better understand the size of the market they serve. From a researcher's perspective, their sales are useful because sale status and price data are publicly available so that the entire corpus of transactions conducted by auction houses can be collected and analyzed.

We gathered data about antiquities sales by major auction houses by collecting data from all available online auction catalogues for the auction houses that are members of the International Association of Dealers of Ancient Art. From this larger data set, we focused our analysis on only the three largest houses—Bonhams, Sotheby's, and Christie's—because smaller firms did not list all their sales online. We collected data on 21,020 successful sales that, after excluding the handful of famous pieces that sold for more than \$10 million, averaged about \$21,300.

Aggregating the listing data from all of the available auction listings, we see that the total volume of the auction market has been about 2,000–3,000 pieces per year, although this number began to decline sharply at the end of the period we sampled (Figure 5.1).

Figure 5.1
Number of Antiquities Sold by Auction Houses

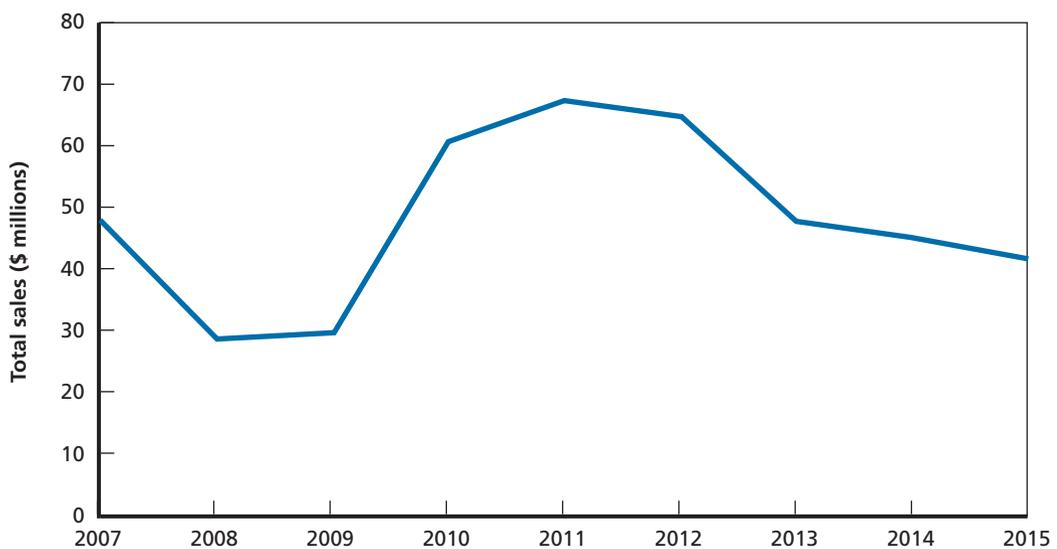


⁵ "Arrest Made as Egyptian Artefacts Are Pulled from Christie's London Sale," *Antiquities Trade Gazette*, May 28, 2018.

Excluding the few items that sold for more than \$10 million, the total value of the items sold was \$30 million–\$68 million per year. The market appears to have been quite weak in 2008 and 2009 (Figure 5.2), presumably as the global financial crisis weakened the market for high-end luxuries. It has since stabilized at an annual figure of about \$45 million in total per year. It is unclear whether there is any relation between the spike in antiquities exports from the Middle East described in the WITS data and the increase in sales at auction. The fact that auction sales began to increase in 2011 while exports from the region did not begin to increase until after the rise of the Islamic State in 2012 suggests that there is no direct relationship between the two.

Of the 21,000 items in our sample, 518 (3 percent) had a provenance that could be traced to before 1900, including one piece that had been part of known collections since 1450. A total of 6,200 (30 percent) of the items had a provenance of 1970 or earlier, and 11,200 (53 percent) could be traced to 1980 or earlier, 15,000 (72 percent) from prior to 1990, and 17,500 (83 percent) prior to 2000. A total of 606 items, or 17 percent of our sample, did not have collection histories that could be traced back further than 2000. The more-recent finds tended to be less costly, on average, than the average of all the items. These 606 items totaled \$4.4 million, an average price of \$7,260, while the average price of all items sold was \$21,300. Although there are many factors that could account for this difference, it is likely that one important factor is the premium that collectors place on provenance, both as a sign of authenticity and as an assurance that the items were not looted and can be bought with a clear title. By this calculus, newer goods are discounted by the market because of the greater uncertainty that surrounds their authenticity and legality.

Figure 5.2
Antiquities Sales at Auction



If we focus our analysis on the year 2015, the last complete year in our data, sales of Greek, Roman, and Egyptian antiquities amounted to \$41 million. Among these sales were artifacts whose provenance could be traced back as far as 1732, and only \$326,000 of these sales were objects whose provenance could not be established before 2000. Moreover, 25 percent of all the items offered at auction were not sold, either because there was no bidder or because the reserve price was not met. Although news stories have called attention to looted items that have appeared at auction over the past several decades, the statistics for the overall market suggest that auctions could act only as a limited conduit for illicit sales.

Antiquities Dealers with Physical Storefronts

Although we have not systematically studied the sale of the market served by dealers with physical storefronts, a preliminary analysis suggests that the market they serve is small.

A survey of dealers in the United Kingdom suggests that there are roughly 25 high-end dealers operating there. The website of the British Antiquities Dealers Association lists 24 affiliated dealers throughout England. This list may exclude some smaller or unaffiliated dealers, but a Google search for “antiquities dealers London” yielded nine listings, while a search for “antiquities dealers” on the *London Yell* (the British equivalent of the yellow pages) produced six results—roughly in line with the numbers listed by the the Antiques Dealers Association of America. An international industry group, the Association of International Antiquities Dealers, lists 26 members—located in Europe and North America—on their website.

A Google search of dealers in New York City, one of the major hubs of art and antiquities sales in the United States, yields 23 results, including several of questionable relevance. Although these are rough estimates, and the search parameters could be improved to better capture galleries that deal in antiquities, these numbers suggest that there may be fewer than 100 principal antiquities dealers operating in the whole of North America and Europe. Moreover, interviews with antiquities dealers in both the United States and Europe and nonsystematic surveys of their collections both in person and online suggested that the turnover of their stock was relatively slow.

Online Auction Markets

CNG

Among online storefronts and auctions, coins are among the easiest items to sell, both because coin collectors appear to be significantly more numerous than antiquities collectors and because coins represent a much more defined market in which known types of coins with standardized grades can be easily researched and compared. Because of their status as circulating currency, coins are also more numerous than other pieces of art. Because they are smaller, they are easier to transport and curate than larger

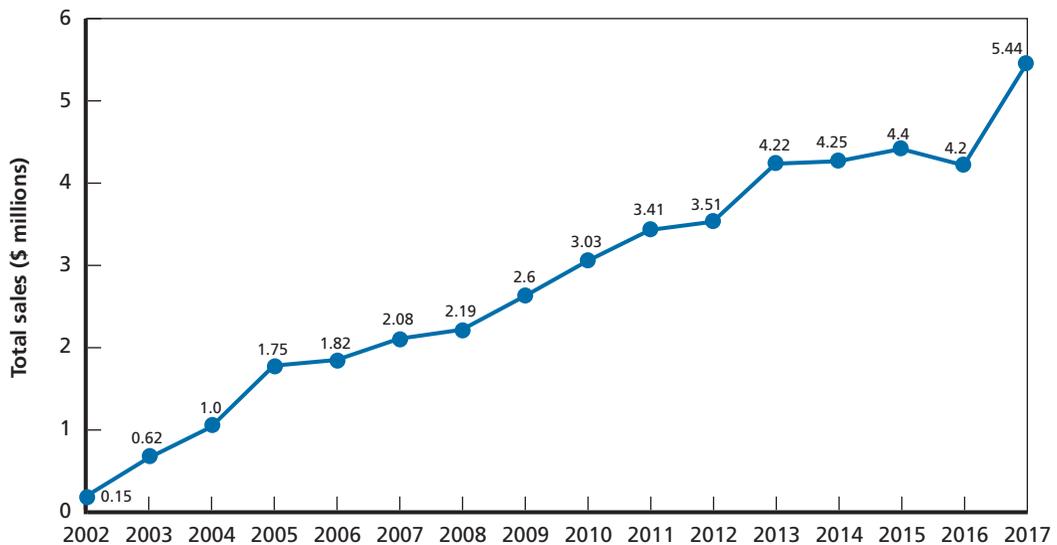
antiquities. Ancient coins can also be found at relatively low prices and in large lots, lowering the barrier of entry for aspiring collectors.

There are several large online auction sites and auction aggregators that serve an international market for ancient coins. We analyzed the sales trends of one major site, CNG, collecting data on more than 145,000 coin sales that have been conducted through the site since 2002. As depicted in Figure 5.3, the annual volume of sales conducted through the site appears to have risen dramatically over time, now totaling roughly \$5 million in sales per year.⁶ This sales growth is the product of numerous factors, most notably the maturation of e-commerce as a sales platform. As physical dealers have moved their coin listings online, the volume of sales has increased, and the market for ancient coins has become international.

Looking beyond the sales value in dollar terms, the total number of lots sold has also increased over time. The site now sells roughly 15,000 lots per year (Figure 5.4).

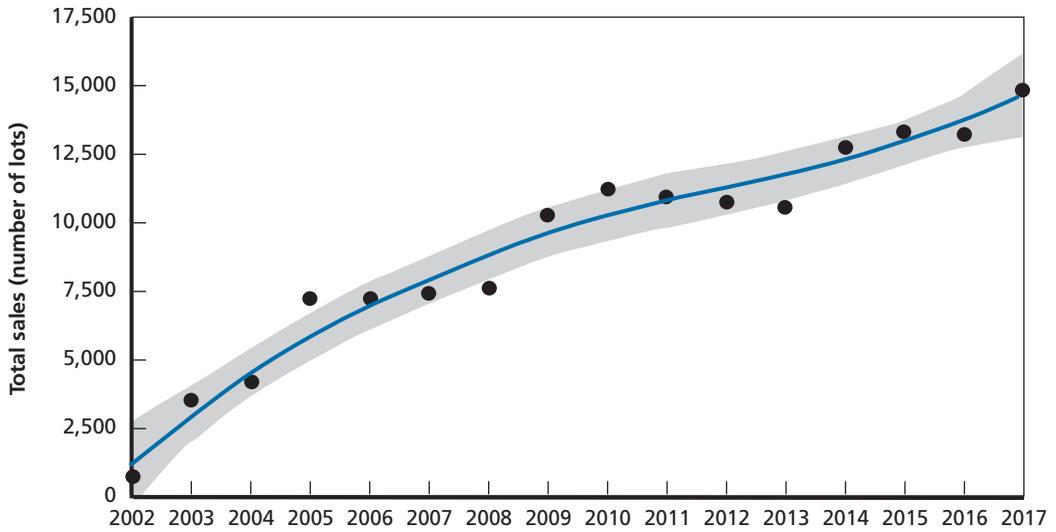
Using these data, we can calculate the average price of the coins sold through the site. As shown in Figure 5.5, the mean sales price has plateaued at roughly \$350 per lot, suggesting that, as consumers have grown more comfortable with online purchases, they have begun to make more-expensive purchases online. Additionally, because both the supply of high-end coins and the number of buyers with the ability to purchase them is small, the overall market is dominated by low- and mid-market coins.

Figure 5.3
Total Coin Sales at CNG



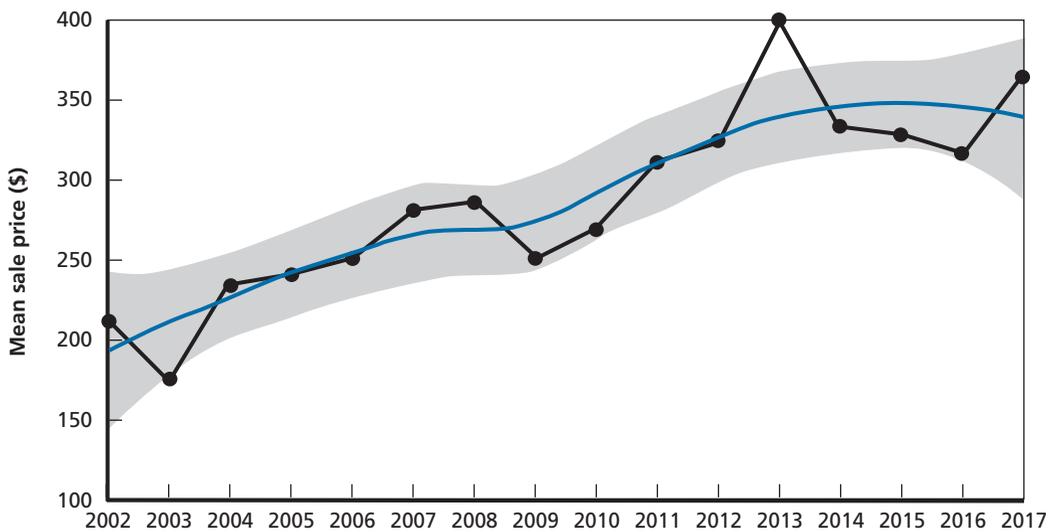
⁶ Changes in website architecture over time might mean that the results of early auctions are not included in the modern site, causing the sales volumes of early years to be understated by this approach. This would result in lower than actual sales figures for the early years of site operation but would not affect the most recent data.

Figure 5.4
Coin Sales Volume at CNG



NOTE: Blue trend line calculated by locally weighted scatterplot smoothing algorithm. Gray shaded area corresponds to 95-percent confidence interval.

Figure 5.5
Mean Lot Value at CNG



NOTE: Blue trend line calculated by locally weighted scatterplot smoothing algorithm. Gray shaded area corresponds to 95-percent confidence interval.

LiveAuctions.com

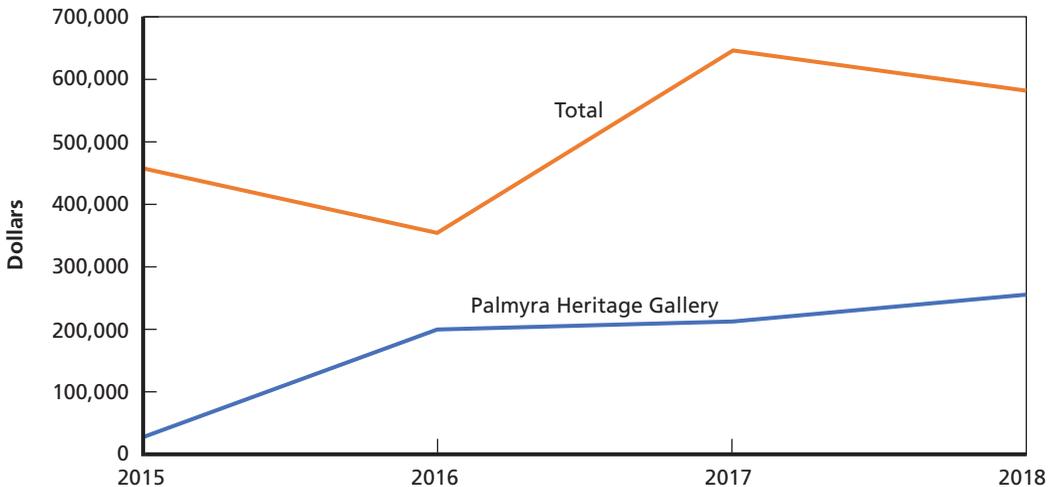
If we compare the sales by the major auction houses to the sales conducted by a prominent online auction service, LiveAuctions.com, we can better understand the different market segments served by traditional and online services.

While the traditional auction firms described earlier sell items that often come from a diverse group of individual sellers, LiveAuctions.com hosts auctions that offer goods that are in the collections of specific dealers. Thus, by analyzing this market, we can also develop a clearer picture of the role of individual dealers and antiquities galleries in this market.

We collected data from 9,394 auctions that occurred on the site between 2015 and 2018. However, because the analysis was conducted in 2018, only a half-year of data were collected. Of these items offered, 4,120—or 44 percent of all items listed—failed to sell. Of the 5,090 items that were sold, the average price was \$400, for an overall value of \$2.05 million.⁷

The difficulty of completing sales at auction highlights the relatively weak demand for antiquities. While researchers have often assumed that looting is feeding an unmet demand for antiquities on the open market, this view is inconsistent with the auctions data that we collected. Rather than finding that antiquities are “highly prized as investments and status items [for which] demand exceeds the modest legal supply,”⁸ we found instead a market in which sellers struggled to find buyers.

Figure 5.6
Palmyra Heritage Gallery Sales on LiveAuctions.com



⁷ One hundred and four items were excluded because they were priced in British pounds, Canadian dollars, euros, or Swiss francs.

⁸ Danti, 2015. As described in the supply-and-demand analysis in Appendix C, Danti’s comments are true for the high end of the market but not the low and mid-market items for sale on the platforms we analyzed.

These auctions addressed a cheaper market segment than traditional auction houses. While an item sold by the firms analyzed in the previous section averaged \$21,000, LiveAuctions.com's mean sales price was only \$400. As with more-traditional auction houses, the high failure rate of these sales underscores the weakness of the antiquities market. These items are being sold to a very narrow, niche market of consumers, and finding a buyer for a specific item can be challenging.

Only a handful of sellers were responsible for the bulk of the transactions on the site. One hundred forty-two sellers listed items to sell, but only 25 of them completed a U.S. dollar-denominated sale. Of these sellers, a U.S.-based gallery named Palmyra Heritage Gallery accounted for a large proportion of the sales (Figure 5.6).

During three and a half years of activity on the site, Palmyra Heritage Gallery listed 3,540 items, successfully selling 2,152 of them and failing to sell 1,388 (39 percent) of its listings. These sales totaled \$699,850, with a median sales price of \$150 and a maximum price of \$13,500.

These data on Palmyra Heritage Gallery's sales activity are particularly relevant to our analysis because the gallery's owner, Mousa ("Morris") Khouli, has been at the center of a series of legal problems involving antiquities smuggling. In 2008 and 2009, Khouli purchased a set of Egyptian funerary boats; a Greco-Roman style Egyptian sarcophagus; a three-part nesting coffin set, which, according to its hieroglyphs, may have belonged to Shesepamuntayesher from the 26th dynasty; and several Egyptian limestone figurines. These items were exported from the UAE and then smuggled into the United States under false declarations to the U.S. Customs and Border Protection authorities about the country of origin and the value of the antiquities. The U.S. government indicted Khouli and associates in the U.S. District Court for the Eastern District of New York, and the case provides a useful summary of the strategies that are used to evade customs enforcement. It accuses the defendants of

- (1) Making false declarations to Customs about the country of origin and value of Egyptian antiquities;
- (2) using vague and misleading descriptions on shipping labels and Customs paperwork, such as "antiquities," "wood panels" and "wooden painted box," instead of declaring that the shipments contained protected antiquities;
- (3) splitting a single antiquity into separate packages that were shipped individually over the course of several weeks to conceal the size and value of the fully-assembled antiquity;
- (4) shipping packages to a third party in the United States who then claimed the packages and forwarded them to KHOULI upon receipt, and making false declarations stating that the third party was the consignee or purchaser of the shipments ("transshipping");
- (5) failing to file entry or informal entry documents with Customs for packages shipped by post; and
- (6) hiding Egyptian antiquities within a container of furniture shipped to the United

States by another UAE dealer and making false statements about the seller and country of origin of the items in the container.⁹

In a plea deal in 2012, the court sentenced Khouli to six months of home detention and one year of probation for smuggling Egyptian antiquities by way of false declarations on customs forms.¹⁰ More recently, concerns have been raised about a limestone bust from Palmyra that the Palmyra Heritage Gallery sold through LiveAuctions.com in 2016 that experts believe may have been improperly exported.¹¹

Antiquities Sales on eBay

Among online auction sites, eBay and its international affiliates is the dominant player in the industry. Earlier research has noted the large number of antiquity postings on the site and has speculated that it may be used as a platform for sales of illicit goods.¹² However, while researchers have noted the large volume of antiquities sales postings on the site, there has been little work to estimate the rate of sale of listed goods. Here, we analyze both the volume of postings listed under the “Roman antiquities” category and offer general conclusions about the volume of goods that are actually sold. Specifically, we follow the Palmyra Heritage Gallery to its eBay storefront and analyze the volume of sales it has recorded.

One of the most salient features of the eBay marketplace is the vast number of goods available. Within the “Roman antiquities” category, 11,896 items were offered for sale in July 2018 by 916 different sellers. Although eBay is well known as an auction site, it has evolved to support storefronts in which users can post persistent listings for goods that are advertised at a sales price that can be accepted or used as a starting point for negotiation. By aggregating the prices of all goods listed, we can generate a rough dollar value of the listings on the site (Table 5.1).

These values are only a rough estimate of the actual sales prices that the items would fetch. The listed auction prices understate the actual sales prices, while the “Buy It Now” prices will often overstate the actual sales prices if negotiation occurs. Even so, aggregation of all the listing prices within a category is a useful starting point from which we can assess the size of the market.

⁹ U.S. Court of the Eastern District of New York, Indictment, Dkt. 10, May 4, 2011, *United States v. Khouli*, et al., Case No. 1:11-cr-00340-ERK-SMG.

¹⁰ U.S. Court of the Eastern District of New York, Minute Entry for Proceedings on Sentencing, Dkt. 132, Nov. 27, 2012, *United States v. Khouli*, et al., Case No. 1:11-cr-00340-ERK-SMG; Cultural Property Observer, “Thanksgiving: Khouli Sentenced to Home Detention,” blog, November 20, 2012; Ricardo A. St. Hilaire, “U.S. v. Khouli et al. Update: Second Guilty Plea Expected Today in Egyptian Antiquities Case,” *Cultural Heritage Lawyer* blog, December 21, 2012.

¹¹ Lynda Albertson, “Auction Alert I: Ancient Palmyran Limestone Head Ca. 3rd–5th Century A.D.?” Association for Research into Crimes Against Art blog, November 30, 2016.

¹² Emily Fay, “Virtual Artifacts: eBay, Antiquities, and Authenticity,” *Journal of Contemporary Criminal Justice*, Vol. 27, Vol. 4, September 2011.

Table 5.1
Aggregate Value of Roman Antiquities Listed on eBay

	U.S. Dollars	Canadian Dollars	British Pounds	Total in U.S. Dollars
Posting value	\$2,872,743	\$13,105	£ 524,595	\$3,564,068
Number of items	7,856	14	4,026	11,896
Number of unique sellers	749	2	165	916

NOTE: 1 Canadian dollar = 0.77 U.S. dollar; 1 British pound = 1.31 U.S. dollars.

Table 5.2
Seller Location of Roman Antiquities Listed on eBay

Items Listed	Seller Location
2,484	United States
1,105	Ukraine
928	Israel
909	Bulgaria
654	Thailand
648	Austria
545	United Kingdom
510	Spain
451	Norway
373	Serbia
373	Germany
345	Morocco
329	Bosnia and Herzegovina
318	France
282	Canada
280	Italy
279	Netherlands
278	Slovakia
276	Russia
11,367	TOTAL

One striking feature of the product listings was the range of seller locations that were represented, even though we limited our search to the U.S. site. Goods priced in British pounds were listed from locations in Great Britain and Cyprus, and goods in Canadian dollars were all sold from Canadian addresses. Items priced in U.S. dollars were sold from locations across the world (Table 5.2).

This broad sample of countries speaks to the global nature of the antiquities trade and to the difficulty of finding buyers for collectable objects. Moreover, the low cost of advertising through an eBay storefront makes it an easy way to display a collection even if the probability of making a sale is relatively low. Finally, many of the items advertised were judged to be fakes by the experts we consulted. Thus, many postings might be attempts by entrepreneurs in Eastern Europe and economically depressed parts of the world to make a profit by duping foreign buyers. The central role of fakes and forgeries in the eBay marketplace was reinforced by our analysis of sales completed through the site.

One obvious question raised by our analysis of eBay listings was how fast these items actually sold. This is a difficult question to answer directly because eBay limits access to past sales data, and its terms of service prohibit researchers from scraping a database of past sales independently. We address these questions using two complementary methods.

The most direct way to measure the volume of completed transactions is to analyze the data on the previous 30 days of completed transactions within the Roman antiquities category. In summer 2018, we calculated that 11,128 sales were completed in the category within 30 days, for a total sales of \$530,661. This equates to an average price of \$48 per transaction and a median price of \$25. On an annualized basis, this transaction rate implies that there would be 72,531 completed transactions per year, totaling \$3,458,775. Compared with the sales platforms we analyzed earlier, the median and average prices of eBay sales is quite low. This indicates that most mid-market and high-end sales are conducted through other channels, while eBay serves the lower end of the market by providing an outlet for low-priced objects to be sold in large volumes. In fact, as our analysis in the remainder of this section suggests, many of the items sold might be fake, suggesting that eBay buyers may be less discriminating than the customers served by other sales sites.

One of the more surprising aspects of this analysis was the geographic distribution of the sellers (Table 5.3 and Figures 5.7 and 5.8).

There are several notable features about seller geography. The first is that sales from the Middle East and North Africa make up only a small number of total sales volume, with sellers from Turkey, Egypt, Jordan, and the UAE each accounting for fewer than ten sales in the month we observed.

Perhaps more striking is the high volume of sales from Thailand, a country not typically associated with Roman antiquity. An analysis of a sample of the individual sales suggest that many, or perhaps most, of these the items are fake. The numerous

Table 5.3
Top Ten Seller Locations of Roman Antiquities Sold on eBay in 30-Day Period

Items Sold	Seller Location
5,291	United Kingdom
844	Thailand
796	United States
590	Bulgaria
586	Cyprus
351	Ukraine
344	Austria
328	Serbia ^a
314	Germany
263	Bosnia and Herzegovina

^a Oddly, the eBay site lists the location of many Serbian cities as “Yugoslavia,” although the country was dissolved in 1992.

Figure 5.7
Global eBay Sales of Antiquities by Country in 30-Day Period

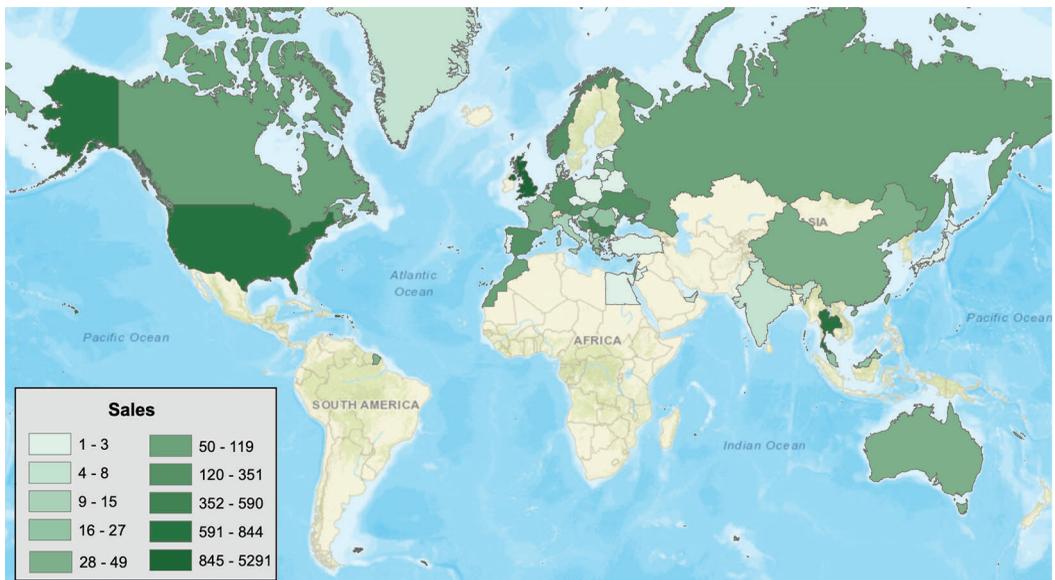
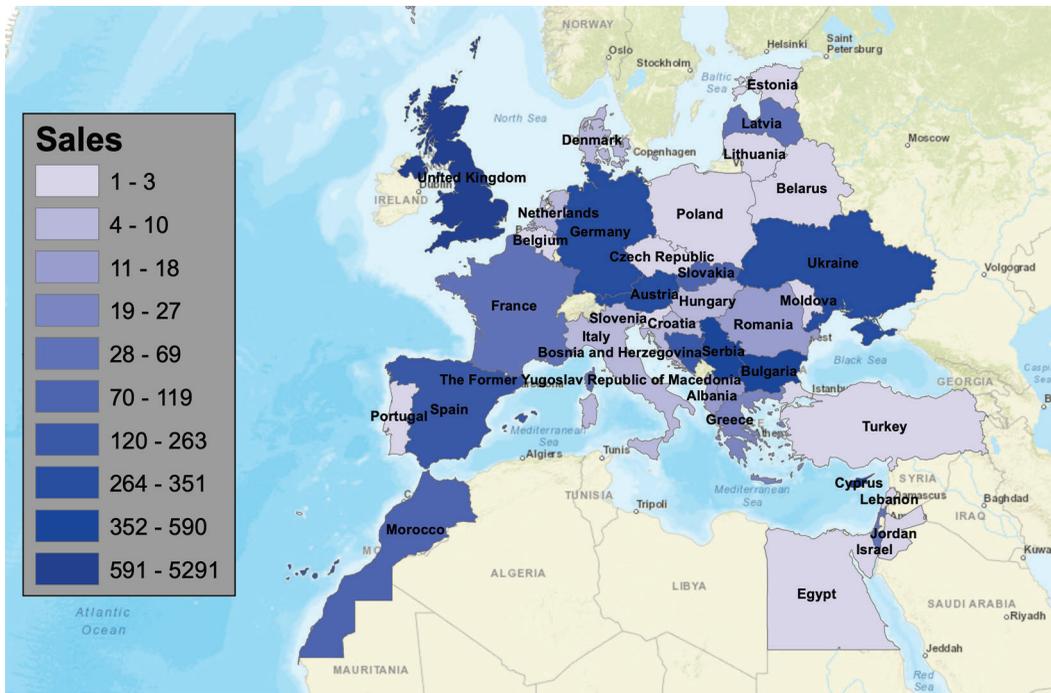


Figure 5.8
eBay Antiquities Sales by Country in 30-Day Period



rings with intaglio stones, for example, appear to have been carved with modern diamond-tipped drills rather than with traditional hand tools. In addition to fakes from Thailand, many sales from other top countries on the list—notably Bulgaria, Cyprus, and Spain—were suspect as well. While it was beyond the scope of this study to systematically assess the authenticity of the goods sold, it appears that much of the sales volume within this category is made up of modern fakes rather than authentic goods.

Although eBay makes information about the most recent 30 days of sales available, more-comprehensive data about the sales and the volumes of sales of individual sellers are not accessible because of the limitations spelled out in the auction site's terms of service. To provide a deeper historical analysis, we have also analyzed the public ratings of individual sellers as a proxy for completed transactions.

To provide information about the reputations of both buyers and sellers, eBay collects feedback from two parties of completed transactions and makes the ratings and comments available on user feedback pages. The feedback page includes data on the number of feedback entries received in the past month, six months, and year, as well as a list of all feedback received, which often includes a listing or sale price. While this collection of data is useful, the underlying issue is that not all transactions are

reviewed, meaning that possibly half of all transactions are not captured in this data.¹³ Still, investigating the story told by these feedback data is instructive.

One useful feature of feedback data is that they are attached to individual sellers who have long histories on the site and who have been involved in many sales. We focus on the Palmyra Heritage Gallery's seller's page as a way to continue the examination of its sales activity developed through the LiveAuctions.com site.

Palmyra Heritage Gallery has been active on eBay since February 1999 and, in the 19 years of operation until we assembled our data set in June 2018, it received feedback from buyers on 30,715 sales transactions. The structure of these data is not uniform, and the earliest feedback entries do not have price data listed. The actual dates are not given, and feedback is instead listed only as having occurred in the past month, the past six months, the past year, or more than a year ago.

Since eBay began listing prices as part of the feedback, Palmyra Heritage Gallery has received feedback on 22,596 transactions representing sales of about \$2.51 million.¹⁴ In contrast to the mean sales price of \$150 per item on LiveAuctions.com, the mean sales price on eBay was only \$110. If we estimate that only half of all transactions are reviewed, then we can estimate that the gallery has sold about \$5 million worth of antiquities through eBay in the past decade. Table 5.4 provides a more precise breakdown of their more-recent sales.

The rate of Palmyra Heritage Gallery's sales through eBay appears to have fallen sharply over time. They received only 343 feedback reviews in the past year, despite having received 30,715 reviews in the past 19 years. One plausible scenario is that they are now able to sell items through other online channels such as LiveAuctions.com, founded in 2015, thus lessening their reliance on eBay.

One issue with analyzing market data is that it can be difficult or impossible to know which objects were looted and how recently. Specifically, when sites do not

Table 5.4
Palmyra Heritage Gallery's eBay Sales Figures

	Reviewed	Estimated
Past month	\$7,252	\$14,504
Past six months	\$29,865	\$59,730
Past year	\$118,780	\$237,560
Past year total	\$155,897	\$311,794

¹³ Estimates of the feedback rate that sellers receive varies greatly, but 50 percent is a useful ballpark figure.

¹⁴ The data do not always include actual sales price. If a buyer made an offer that was under the "Buy It Now" price, feedback indicates only the list price and that "Best Offer [was] Accepted." Given that these rated transactions only represent some unknown portion of the overall transactions, we are less concerned with this added noise, which likely causes us to overstate the actual reported sales prices.

provide provenance information, it is unclear whether any object has a legitimate ownership history. From a pure policy standpoint, it is desirable to be able to distill the large amounts of information on a site such as eBay and arrive at the likely buyer-seller relationships that account for recently looted goods. In Appendix B, we test the feasibility of one such method and discuss the utility of that approach.

Summary

As the analyses in this chapter have demonstrated, open-source data hold great potential for informing our understanding of both the licit and illicit components of the antiquities market. By assembling quantitative data sets that comprehensively document the scale of key aspects of the antiquities market, we can move beyond individual anecdotes and legal cases to more accurately assess the antiquities market. While we have not attempted to estimate the volume of the entire market, we believe that, by accounting for the volume traded through key sales channels, we can provide data points that can bound other market estimates and ground them in empirical data.

Together, our data do not support the assessment that the market for antiquities in Europe and the Americas is sufficient to support the sale of billions of dollars a year in looted antiquities that some estimates claim. While analyses of looting and the supply side of the antiquities market have documented extensive looting in the Middle East and North Africa (see Chapter Two), our analysis of the major sales channels in Europe and the Americas has not identified evidence that a sufficiently robust international market exists to market and sell these goods. While law enforcement seizures and ongoing investigations provide anecdotal documentation of the flow and sale of looted goods,¹⁵ our aggregate data suggest that the market for all antiquities, both licit and illicit, is on the order of, at most, a few hundred million dollars annually rather than the billions of dollars claimed in some other estimates.

Although our analysis looks at only limited portions of the overall market, we believe we have accounted for many of the major sales channels. One takeaway from our analysis is that the difficulty of marketing and selling classical art and artifacts should not be understated. Much of the analysis in the field that has focused on the illicit supply of looted artifacts has assumed that they are easily sold. As noted earlier, however, even in well-advertised auctions for museum-quality goods, 25 percent of the lots fail to sell, and the figure is even higher for lower-value goods. More generally, the sales volumes transacted through the channels that we analyzed are relatively modest compared with the scale of the looting visible in aerial surveys and claimed by high-end estimates of the size of the illicit market. Further analysis will be necessary to more fully understand the markets and fates of most goods uncovered by looting, if

¹⁵ INTERPOL, 2018.

indeed large amounts of objects are being found. However, our analysis suggests that it is unlikely that large volumes of looted antiquities are being sold through observable channels in Europe or the Americas. While large gaps in our understanding and quantification of the market remain, we believe that, going forward, scholars arguing that the illicit market is larger than we suggest here will need to more clearly articulate the means through which these goods are sold.

Policy Responses to Illicit Trafficking and Future Research

Our analysis of the channels used to carry looted art to market is intended to provide an analytical basis that can inform policy responses so that their impacts can be maximized. This chapter summarizes the analytical findings from the previous chapters so we can describe potential strategies and identify data sources to guide more-effective enforcement. By developing data-driven policy recommendations and demonstrating strategies that can be used to identify bad actors within the legal market, the hope is that law enforcement agencies will be able to more effectively disrupt and prosecute those who are engaged in looting and trafficking cultural property. We also discuss future research that could build off this exploratory study.

Summary of Key Findings

To provide a foundation for the policy discussion, we reiterate our main findings.

- **Trafficking varies widely by region, including both organized and ad hoc networks.** This report documents the existence of two different configurations of networks that are used in the trafficking of looted antiquities. As other researchers have noted, the illicit markets in some regions, including Bulgaria and Syria, are dominated by organized crime or by organized hierarchical networks that are also active in other types of criminal activity. Our fieldwork identifies the importance of a second type of network operating in Iraq and Turkey that is characterized as an opportunistic, ad hoc, and organic system of smugglers, middlemen, and brokers who participate in the antiquities trade for profit but who are not otherwise involved in high-level crime.
- **The market size is smaller than often reported.** Many sources offer high, if not exaggerated, estimates for the value of the illicit antiquities market, at times placing it at more than \$1 billion per year. While our analysis does not attempt to quantify the market as a whole, we estimate the value that is transacted through various sales channels. Our findings show that the market for all antiquities, both licit and illicit, that is transacted through traditional auction houses and online

auctions and storefronts is relatively small. Accordingly, we believe that the illicit market for classical antiquities is valued at not more than tens of millions of U.S. dollars per year. This estimate implies that the vast damage inflicted on cultural and archaeological sites throughout the Middle East has produced relatively meager profits, although some material has likely not yet made it to market.

- **Although researchers and journalists in the field often assume that Europe and North America are the end markets for most-looted classical antiquities, the West is not the only end market for looted antiquities.** Our research suggests that, on the contrary, much of the market for these goods is within the Middle East, including collectors and dealers in Turkey, Iran, and the Persian Gulf States. Moreover, the prices for low- and mid-quality illicit goods sold in these regions are similar to the prices that they would bring in Europe or North America. We should adjust our policy responses accordingly if the potential of buying goods cheaply in the region to sell for a large profit abroad is lower than we have traditionally assumed.
- **The technology employed in the looted antiquities trade is mostly unsophisticated.** Although researchers have speculated about the impacts of the dark web, deep web, messaging, and social media platforms on the antiquities trade, little work has been done to systematically characterize the effects of these new technologies. Based on our analysis of antiquities-related traffic on these platforms, we found that the dark web or deep web is not often used for antiquities trafficking, although we found that secure communications apps, including WhatsApp and Viber, were widely used to coordinate sales. In our analysis, the characteristics of the illicit antiquities market—including the low level of enforcement, lack of uniformity among the objects being sold, and the existence of alternative, low-risk sales channels—lowered the utility of these platforms. In many cases, these technologies primarily streamlined communications within preexisting networks and did not revolutionize the structure of the markets. However, the secrecy and security that these tools provided also lowered the perceived risk of participating in these transactions and likely increased many player’s willingness to engage in illegal sales.

In summary, our analyses suggest that the market for looted antiquities is smaller, is more geographically dispersed, and has more-fragmented supply chains than media accounts have generally asserted. The result is that, to the extent that policy solutions have been guided by beliefs based on such reporting, existing frameworks might be poorly suited to address the decentralized nature of the problem. This means that additional enforcement and strategies would help to disrupt additional portions of the supply chain for illicit antiquities.

Proposed New Policy Solutions Based on Findings

Given the complexities of the antiquities market and the numerous interfaces through which the illicit and licit markets interact, any effort to slow the flow of illicit goods must be multipronged. Figure 6.1 shows some of the interacting facets of the market. Specifically, the transition from a near-term market, in which the illicit source of a good is often more clear, to a long-term market, in which the legal status of goods may be more clouded, is an important element of the antiquities market (in which it is common for items to stay in private collections for decades before surfacing on the market). As this diagram makes clear, the market is multifaceted, and the actors, methods, and technologies used in different stages are diverse.

While this view of the antiquities market is useful for understanding its complexities, a more simplified model of the market might prove more useful as a framework for identifying additional enforcement and policy alternatives to disrupt the illicit sale of antiquities. Specifically, we focus on the mismatch between the perceived and actual market structures (Figure 6.2). We show three dimensions of the market in

Figure 6.1
Conceptual Model of the Antiquities Market

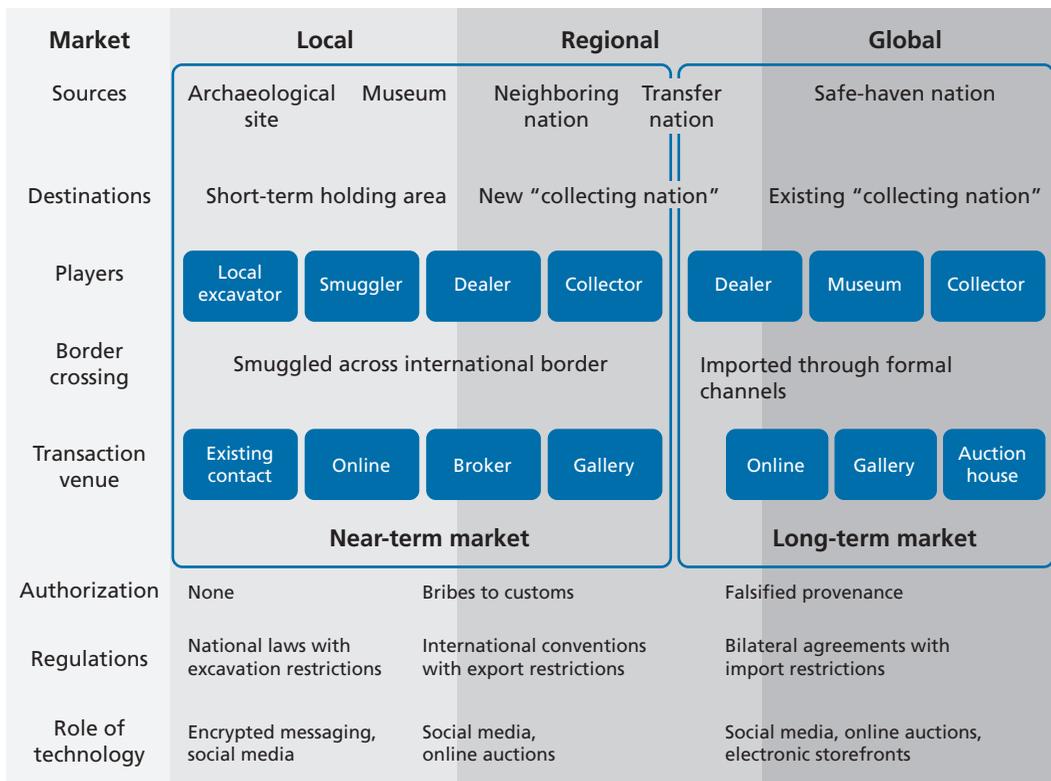
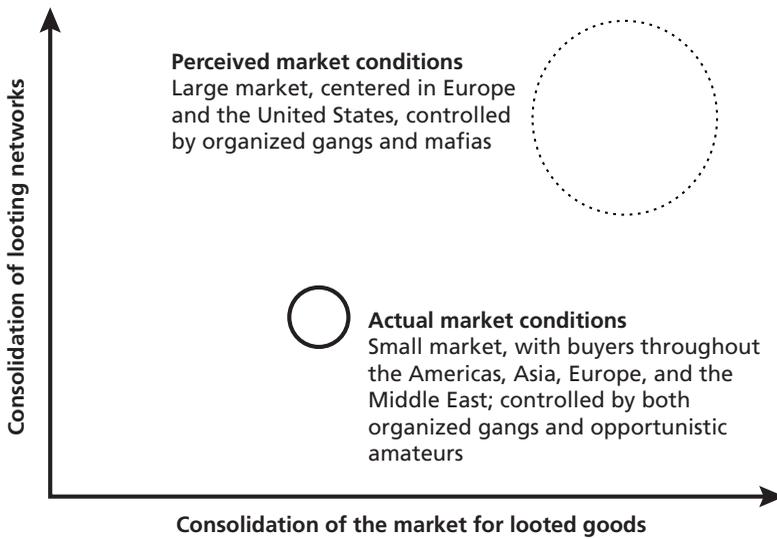


Figure 6.2
Perceived Versus Actual Characteristics of the Antiquities Market

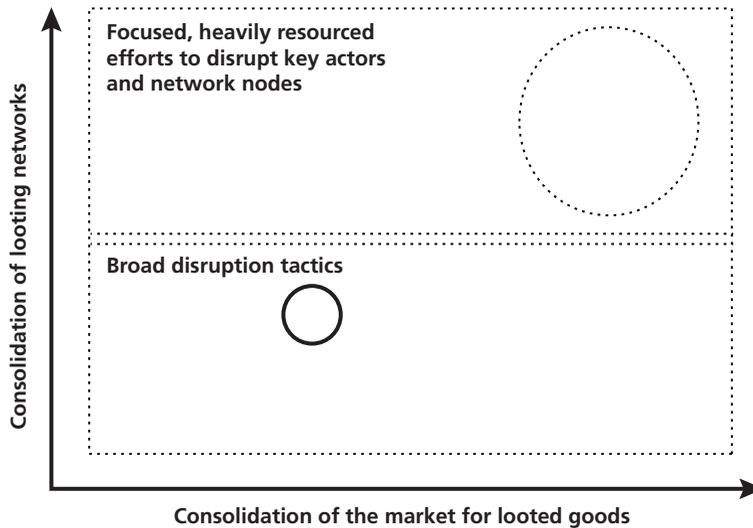


our framework: its size, the centralization of the illicit networks that supply it, and the consolidation of the end market for looted goods.

It is important that we highlight the nature of this misperception; the policy and enforcement actions and the characteristics of the market must be aligned to maximize the impact of the responses. As the conceptual frameworks in Figures 6.3 and 6.4 illustrate, a smaller market in trafficked illicit goods to numerous end countries through various ad hoc channels might not respond to the same enforcement mechanisms as a large market that is controlled by a few organized gangs that supply goods to a handful of end markets. Although the exact size and position of the circles representing a specific market might vary between countries or illicit markets—and other researchers might differ in their assessments—we believe this framework offers a useful vantage point from which to assess the response to illicit markets.

The first market characteristic that we consider is the centralization of looting networks. This refers to the degree to which the illicit supply chain is controlled by a few powerful actors, who are typically affiliated with mafias or organized crime. Although our discussions and what we have documented in the antiquities trade in Syria and Bulgaria demonstrate the existence of such groups, our analysis of Iraq and Turkey suggests that ad hoc decentralized networks are also at work. If the market is dominated by a few central players, who are indicated by the market’s representation along the *y*-axis of the graph in Figure 6.3, then the illicit market can be addressed by targeted enforcement and disruption activities that are aimed at the key nodes of

Figure 6.3
Conceptual Framework for Aligning Policy Responses to Market
Characteristics: Centralization of Looting Networks

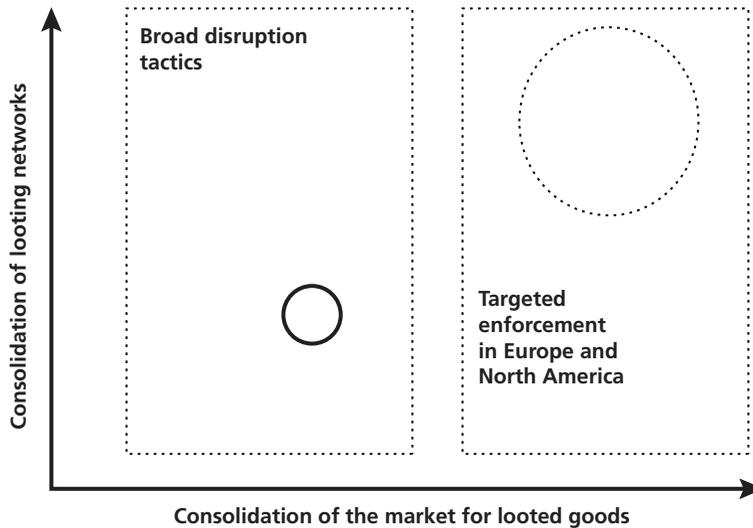


the organization.¹ However, if the market is instead made up of ad hoc opportunists, then there are few centralized nodes that can be targeted to disrupt the whole market. Moreover, expensive and resource-intensive investigations may be inefficient in a market comprising small-scale dealers. In such cases, broader-based disruption tactics, which highlight the risks involved or publicize the damages that looting causes, might be more effective by reshaping the decisions of the individual actors involved.

A second consideration is the consolidation of the market for looted goods (Figure 6.4). If a handful of dealers and collectors dominate the market for these goods, then identifying and prosecuting these buyers would be a fruitful strategy for law enforcement. (See Appendix B for the discussion and demonstration of an analytical method used to identify suspicious dealers.) Moreover, if the end markets for these goods are consolidated into a few end markets—such as the United States and the United Kingdom—then focused customs enforcement and stronger laws limiting imports from certain countries are likely to have an impact. However, as we described in our analysis, the antiquities market in Europe and the Americas is not as large or as vibrant as is often asserted by researchers and journalists in the field. Instead, we find that buyers within the Middle East may play a substantial role in the market; moreover, our analysis of the geographical origin of eBay listings suggests that the sale of antiquities (whether authentic or not) is a global enterprise. In this case, focused interventions will necessarily have a limited impact because of the variety of

¹ For examples, see Sean Everton, *Disrupting Dark Networks*, Cambridge, UK: Cambridge University Press, 2012.

Figure 6.4
Conceptual Framework for Aligning Policy Responses to Market
Characteristics: Illicit Network Centralization



end markets and dealers that participate in the market. In this case, a broader-based disruption strategy would be required to disrupt the illicit trade.

Aligning Policy Responses with Market Characteristics: Recommendations for Policy Actions Against Antiquities Networks in the Middle East

As we discussed in Chapter Four, in which we analyzed the different niches filled by various electronic sales and messaging platforms, the characteristics of illicit markets can be captured by mapping them along two dimensions: one reflecting the legality of the market and the other describing how open or clandestine the market is. We earlier demonstrated how the diagram can be used to describe the characteristics of the antiquities market relative to other categories of illicit transactions and to map these markets to specific online sales platforms. Although useful, the diagram simplified each market by considering only the ways in which goods were advertised to consumers, while ignoring the trafficking networks that brought the goods to market.

In the context of our earlier findings and the comparative schema shown in Figure 4.10, we examine the characteristics of the trafficking networks we observed and describe potential mechanisms that could be used to disrupt them. Once the different structures of the supply chains for illicit goods are taken into account, the unique aspects of the market for antiquities become more apparent and can be used to guide network-specific disruption strategies. Although we cannot observe the composition of

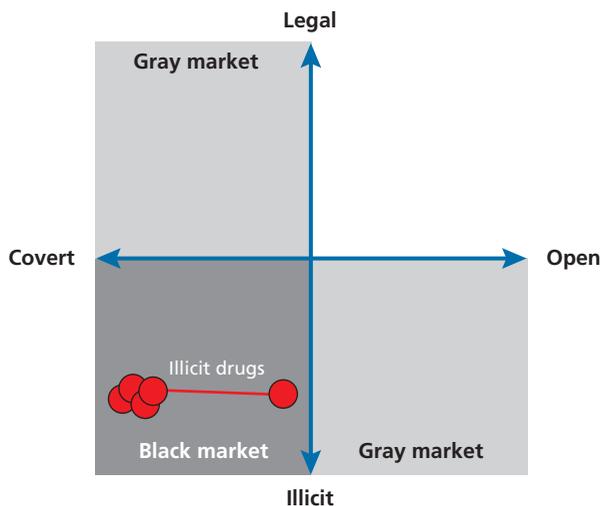
antiquities trafficking networks directly in most cases, we can infer the basic features of their structure and topography from other sources and use this to guide our analysis.

To ground our analysis, we turn first to the organized criminal networks and cartels that traffic illicit goods, such as drugs and weapons. The supply chain in these networks from producer to end market is managed through secretive transactions that move drugs from the source through stages of processing, after which the drugs are smuggled across international borders and then delivered to dealers for sale. For such drugs as cocaine and opium derivatives, the products that smugglers and dealers traffic in are highly illegal and face constant law-enforcement action at every stage of the process. Dealers typically work only with people they know or who can be vouched for by trusted parties, and it is not until the final stage of sale—for example, in street dealing—that the drug trade leaves the shadows and becomes visible in public. This trafficking pattern is illustrated in Figure 6.5.

This secretive structure is common among other forms of organized crime, such as weapons smuggling and human trafficking. In the antiquities trade, this market structure may be what is used for high-value goods, such as stolen art or antiquities looted from museums.

As the discussions in Chapters Three and Four made clear, antiquities trafficking from Iraq and Syria is coordinated through a different structure. In the cases we documented, trafficking networks quickly transitioned from secretive, closed networks to more-open structures in which transactions were coordinated through direct, decentralized network structures. In the case outlined in Chapter Three, for example,

Figure 6.5
Trafficking by Organized Cartels and Gangs

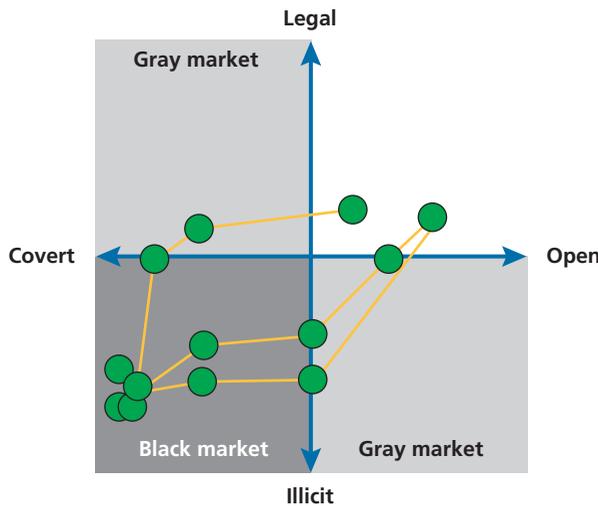


NOTE: Circles represent different actors in the illicit market. Lines indicate transactions or relationships between them.

the coordination of illicit antiquities sales among the supplier in Islamic State–controlled territory and the Kurdish smuggler and his trusted dealers constitutes a tight, secretive network similar to webs used in organized crime. Sales were coordinated among a small circle of people who all knew and trusted one another because of their shared history of working together. While this type of coordination was true in the early stages of the supply chain, its structure quickly changed as brokers and dealers began to search for buyers. We interviewed brokers who were afraid of arrest, but their job was to advertise artifacts to potential buyers. As the interviewees noted, because they had few repeat customers, they needed to advertise broadly to sell their goods. In fact, several admitted to having used such platforms as Facebook to advertise their artifacts more widely. If these objects were sold to other dealers who then advertised their new acquisitions to customers through their own storefronts and online sales, it would be possible that the artifacts sold in the initial sale would be advertised openly to buyers who would be unaware of the artifacts’ illegal source. A conceptual map of this network structure is presented in Figure 6.6.

Viewed in these terms, there are several key features that differentiate antiquities trafficking networks from those that deal in other illicit goods. The broad spectrum of transactions that occur within the antiquities trafficking networks leads to a lower level of cohesion and secrecy. While the initial, secretive stages of the antiquities trafficking network has similar characteristics with closed cartels and criminal networks, the demands of the antiquities market quickly cause the trafficking network to expand to

Figure 6.6
Antiquities Trafficking Networks Described by Our Research



NOTE: Circles represent different actors in the illicit market. Lines indicate transactions or relationships between them.

enable a broad search for new customers. By advertising on Facebook and other social media sites and by sharing information about goods with potential buyers through messaging apps, the Turkish brokers we interviewed were, in effect, responsible for moving the market out of the shadows to match smugglers with collectors. Although there are undoubtedly many other transactions that are handled secretly, the relatively small demand for antiquities means that these secretive channels are overwhelmed when dealing with large volumes of material. Instead, brokers and other agents must advertise their illicit goods publicly to try to find new groups of potential buyers. In more-formal terms, the need to rely on weak and transient relationships to access new information and markets is well-established.² The members of strong cohesive networks, such as mafias or kinships, often share the same information and contacts and thus have limited avenues for transporting goods outside their network. To access new groups of buyers, sellers must move away from their existing networks and deal with new, unfamiliar actors to expand their markets. This transition from familiar to unfamiliar partners constitutes a potential source of weakness that can be exploited by law enforcement.

A second differentiating feature of antiquities trafficking is the transition from transactions that rely on close, preexisting relationships to those that are more opportunistic and market based. As the literature in business and economic sociology has documented, many economic exchanges are embedded in networks of preexisting relationships that use extant ties of friendship, kinship, or prior transactions to support economic transactions.³ These transactions between friends and family members will likely be difficult to observe or disrupt. As the Kurdish smuggler we interviewed described, much of the cross-border trafficking that he was involved in was based on long-term relationships and kinship ties. However, when the market moves away from these embedded relationships, trust between individuals diminishes. This transition from a high- to low-trust environment is a second potential point of weakness that could be exploited to disrupt these markets.

Responding to Illicit Networks

As we just described, antiquities trafficking relies heavily on trust in both online and in-person transactions. However, unlike the illicit markets for drugs or other high-demand goods, antiquities traffickers must often deal with unknown parties—meaning that they must advertise their goods publicly and deal with unknown buyers.

² Mark Granovetter, “The Strength of Weak Ties,” *American Journal of Sociology*, Vol. 78, No. 6, May 1973.

³ Mark Granovetter, “Economic Action and Social Structure: The Problem of Embeddedness,” *American Journal of Sociology*, Vol. 91, No. 3, November 1985.

These transition points constitute weak links in these illicit networks, ones that we suggest could be exploited to disrupt them.

For high-value goods and key nodes in the network, efforts by police and customs officials can successfully identify and prosecute criminal actors.⁴ However, these enforcement actions are time consuming, costly, and often require significant cross-border cooperation by law-enforcement agencies, which can often be difficult to organize. Instead, a broader-based approach aimed at undermining the trust among illicit actors and in the technologies they rely on could disrupt the illicit market more broadly and cheaply.

Messaging campaigns conducted online—for example, through Facebook groups that are used by illicit actors along the supply chain (as discussed in Chapter Four)—would allow destabilizing information to be injected into trafficking networks. These messaging campaigns might include stories that undermined trust in a variety of ways.

- **Undermine interpersonal trust by increasing fear of law enforcement.** By sharing stories that highlight the risk of dealing in illicit materials, the belief that it is safe to trade in these goods (whether online or in person) could be eroded. For example, accounts of law enforcement posing as antiquities buyers or dealers in sting operations would make buyers and sellers more wary of one another, which would undermine the workings of the market. Specifically, this line of messaging would also affect the decisionmaking of collectors, who may be more risk averse than smugglers and looters, making them more wary of buying looted products.
- **Undermine trust in the authenticity of the goods sold by increasing fear of counterfeits.** Identifying and valuing antiquities requires a level of specialist knowledge that many actors in these markets do not have and cannot easily access. In the absence of these expert judgments, both buyers and dealers must believe that the goods they are exchanging are authentic. By highlighting the fact that as many as 70 percent of the antiquities sold online are fake, it would be possible to disrupt the market by instilling doubt that the goods being sold are not authentic.
- **Undermine trust in communications by instilling fear of surveillance.** The supply for illicit antiquities in Middle East conflict zones relies on trusted messaging services, such as WhatsApp and Telegram, to ensure that buyers and sellers can communicate and conduct business securely. As we discovered in our interviews with the Turkish brokers, sellers were very concerned about their security and switched between messaging channels to try to maximize their perceived safety. A messaging campaign aimed at undermining this trust in technology by promoting the idea that law enforcement could monitor these channels might further disrupt the market by limiting the use of these applications. Claims that law enforcement was able to search for and access images and videos

⁴ INTERPOL, 2018.

shared on WhatsApp (whether accurate or not), for example, might limit the willingness of actors to rely on these technologies to conduct their business.

Directions for Future Research

Our study was exploratory, but the research conducted for this report shows the feasibility of generating insight about the antiquities market by leveraging evidence from many publicly available sources. Our analysis, which should be viewed as preliminary and as providing roadmaps for future research that will need to affirm or revise our conclusions, is necessarily fragmentary and incomplete. We included a limited number of interviews to offer a narrative description of the actors and activities that underlie the illicit antiquities market in Iraq and Syria, but the accounts that we recorded are by no means definitive. Likewise, our numerical analyses were intended to demonstrate the value of calculations based on open-source data but could be reworked and refined with better data, over longer timescales, and with better coverage of the market to arrive at more definitive conclusions.

Because the antiquities trade is global with market segmentation for objects from various regions, the methods we used should be applied and validated in other research contexts. Future research could build on our study's methods to shed light on other important questions, such as the following:

- Does the illicit market for antiquities from other regions (e.g., the Americas, South and Southeast Asia, or Africa) have the same structural characteristics as the Middle Eastern markets we analyzed?
- Does evidence from other online sellers (particularly in Asia) affirm the conclusions of our analyses from the United States and Europe?
- How much material is actually being uncovered by looters? How much of that material is actually entering the supply chain? Are those quantities in line with the slow and sporadic pipelines of objects we observed through our informants? If not, where is the material going and is it being warehoused?

These are important questions to answer to develop an effective global response to antiquities trafficking networks. Rather than rely on speculation and anecdote, which can lead to mistaken analyses and ill-informed policies, this report will contribute to the growing conversation about evidence-based policy solutions for fighting the illicit antiquities trade and mitigating the destruction of ancient sites around the world.

Archaeological Looting in Historical Perspective

This appendix provides some historical perspective on archaeological looting by examining two case studies: looting in Iraq and Syria and looting and trafficking in Bulgaria.

Case Study 1: Looting in Iraq and Syria

As the following historical summary demonstrates, the problem of looting in Syria and Iraq is not new. In each case, the networks and relationships developed in the past several decades formed a basis for more-extensive looting during conflict and in the absence of a functioning state.

Late Ottoman Empire

Confronted by a sudden surge in looting in the late 19th century, the Ottoman government enacted its first laws regulating the antiquities trade within the empire in 1874 and 1884. Intended to deter theft and control foreign excavations, the antiquities laws codified the state's ownership of all artifacts discovered within the empire, limited access to known sites and ancient artifacts, decreed that all objects discovered during excavation be transported to the National Museum in Constantinople for review, and explicitly prohibited the export of artifacts without the express permission of the Imperial Museum.¹ Yet the Ottoman authorities had neither the determination nor the capacity to enforce the laws' ambitious regulations. The empire's territorial expanse prohibited effective monitoring, and foreign excavators, accustomed to unfettered access and frustrated with the pace of the permitting process, often discovered that provincial governors were willing to turn a blind eye to their activities.² The result was

¹ Lawrence Rothfield, *The Rape of Mesopotamia: Behind the Looting of the Iraq Museum*, Chicago, Ill., and London: University of Chicago Press, 2009, pp. 4–7; Morag M. Kersel, "The Trade in Palestinian Antiquities," *Jerusalem Quarterly*, No. 33. Winter 2008.

² Rothfield, 2009, pp. 4–7; James F. Goode, *Negotiating for the Past: Archaeology, Nationalism, and Diplomacy in the Middle East, 1919–1941*, Austin: University of Texas Press, 2007, p. 24. Ottoman authorities saw little

a complex network of smuggling routes that stretched across the eastern Mediterranean and lay the foundation for the illicit trade in Middle Eastern antiquities today.³

Mandate Era, 1918–1948

The dissolution of the Ottoman Empire prompted additional British and French efforts to regulate the antiquities trade and curb illicit excavations. Shortly after the British occupation of Baghdad in 1917, General Frederick Stanley Maude issued a proclamation imposing a general prohibition on the removal of ancient artifacts from all territories occupied by British forces and imposing strict penalties for the desecration of ancient monuments through theft or illicit excavation.⁴ These regulations expanded in the period of the British Mandate in Iraq, as British archaeologists and diplomats encouraged the new Iraqi government to formalize a new body of legal and institutional structures to safeguard the country's ancient heritage and artifacts. At the personal urging of Gertrude Bell, then the Oriental secretary in the British Ministry of Foreign Affairs and the honorary director of the newly formed Iraqi Department of Antiquities, the Iraqi National Assembly approved Antiques Law No. 40 of 1924, which regulated the excavation and export of antiquities from the country. Yet in contrast to Syria, where the new state claimed ownership of all archaeological material, the Iraqi law established a license scheme to regulate the legal trade and export of antiquities and encouraged large foreign archaeological expeditions with provisions authorizing the export of valuable items for analysis in Europe.⁵ As a result, the majority of new artifacts uncovered during the mandate period were removed from Iraq and local professionalization efforts were suppressed.⁶ However, the opportunity for legal exports and the codification of harsh penalties also produced a decline in theft, site destruction, and illicit excavations.⁷

intrinsic value in antiquities and viewed the trade as a Western “folly to be exploited.”

³ Kersel, 2008.

⁴ Juliette Desplat, “The Beginnings of The Iraq Museum,” National Archives blog, November 15, 2016. Similar regulations would be embedded in the 1920 Treaty of Sèvres, which formally dissolved the Ottoman Empire. See Hellenic Resources Network, “The Treaty of Peace Between the Allied and Associated Powers and Turkey Signed at Sèvres,” August 10, 1920.

⁵ Ana Filipa Vrdoljak, “Unravelling the Cradle of Civilization ‘Layer by Layer’: Iraq, Its People, and Cultural Heritage,” in Michele Langfield, William Logan, and Mairead Nic Craith, eds., *Cultural Diversity, Heritage and Human Rights: Intersections in Theory and Practice*, New York: Routledge, 2009, pp. 67–68; Desplat, 2016; Paul Collins and Charles Tripp, *Gertrude Bell and Iraq: A Life and Legacy*, Oxford, UK: Oxford University Press, 2017.

⁶ Juliette Desplat, “Decolonising Archaeology in Iraq?” National Archives blog, June 27, 2017. For a comprehensive assessment of archaeology during the British mandate period, see Magnus T. Bernhardsson, *Reclaiming a Plundered Past: Archaeology and Nation Building in Modern Iraq*, Austin: University of Texas Press, 2005.

⁷ Bernhardsson, 2005, p. 126.

Similar efforts to regulate the excavation and trade of antiquities were established in neighboring Syria, where a French mandate had been formed in 1923. In addition to the Department of Antiquities, which was founded in 1919, the mandatory period oversaw the establishment of the Islamic Institute of Art and Archaeology (*Institut d'Art et d'Archéologie islamique*) in 1918, the Standing Archaeological Commission (*Mission archéologique permanente*) in 1919, and the French Institute of Arabic Studies of Damascus (*ancestor of the Institut français des Études Arabes de Damas*) in 1930. Together, these institutions sought to identify, protect, and emphasize a national heritage rooted in the region's archaeological record.⁸ Toward this end, the Syrian government also exercised strict oversight of the sale and export of archaeological objects, and ownership of artifacts discovered during this period was frequently split between the newly formed Museum at Aleppo and the Louvre in Paris.⁹ As a result, archaeological activity in Syria lagged behind that in Iraq, and illegal digging remained a localized phenomenon.

Independence and Suppression, 1948–1980

The transition from the mandate period to independence prompted the establishment of new policies designed to encourage national pride in the young countries' ancient heritage, improve regulation, and crack down on illicit excavation and trafficking.¹⁰ In Syria, nationalist leaders attempted to revitalize and reorganize the state's archaeological institutions to promote a common history and professionalize Syrian archaeology. New organizations such as the General Directorate of Antiquities and Museums and the bilingual *Syrian Archaeological Annals* journal were staffed and led by Syrians, and the state supported the construction of local and national museums across the country.¹¹ A revised Syrian Antiquities Law passed in October 1963 defined ancient artifacts as a public good and codified the state's right to expropriate land holding archaeological sites and to repossess any antiquity for display in public museums. To deter illicit trafficking, the Syrian government also imposed a general ban on exports and prohibited the trade in antiquities within the country.¹²

⁸ Laurence Gillot, "Towards a Socio-Political History of Archaeology in the Middle East: The Development of Archaeological Practice and Its Impacts on Local Communities in Syria," *Bulletin of the History of Archeology*, Vol. 20, No. 1, May 2010.

⁹ Peter Magee, "The Foundations of Antiquities Departments," in D. T. Potts, ed., *A Companion to the Archaeology of the Ancient Near East*, Malden, Mass.; Oxford, UK; West Sussex, UK: Wiley Blackwell, 2012.

¹⁰ Efforts to tighten local control over archaeological excavations and discourage exportation during the mandate period were defeated by British opposition. See James B. Cuno, *Who Owns Antiquity?: Museums and the Battle over Our Ancient Heritage*, Princeton, N.J.: Princeton University Press, 2008, p. 56.

¹¹ Gillot, 2010.

¹² Marina Lostal, "Syria's World Cultural Heritage and Individual Criminal Responsibility," *International Review of Law*, No. 3, January 2015, p. 5.

Similar initiatives were implemented in Iraq, where a series of revolutionary governments sought to deter antiquities smuggling by encouraging national pride in the country's archaeological heritage.¹³ After seizing power in 1968, the governing Ba'ath Party invested heavily in the country's archaeological infrastructure, implementing improvements in site security, promoting professional excavations, encouraging foreign expeditions, and increasing funding for preservation and museum construction as part of a pledge to establish an archaeological institute in every province and at every sight of significance throughout the country.¹⁴ These educational initiatives were paired with increasingly severe penalties for illicit smuggling or excavation, including imprisonment and, after 1968, death.

Iraq's punitive approach resulted in a decline in smuggling within the country. "In Saddam's time, if they caught you looting they [killed you]," one museum official bluntly explained to U.S. investigators after the 2003 invasion of Iraq, making a slicing gesture at his throat.¹⁵ Yet looting and trafficking continued to expand across Syria during this period. Widely circulated allegations that senior members of the governing regime—including a former deputy minister of culture, directorate-general for antiquities and museums, and President Hafez al-Assad—were involved in the trade undermined popular confidence in the state's regulations and popularized trafficking as an act of defiance against a repressive regime.¹⁶ That the state's protective measures often resulted in the expatriation of local populations who either lived on or profited from archaeological sites only deepened popular opposition to the antitrafficking measures, and resentment of conservation efforts climbed in tandem with the growing severity of the penalties.¹⁷

Looting Intensifies, 1980–2002

The 1980s and 1990s were characterized by a shift in international attention as foreign archaeological teams diverted resources from Iraq toward the discovery, excavation, and preservation of sites across Syria.¹⁸ A series of major discoveries sparked an uptick in both legitimate and illicit digging in the late 1990s, forcing the regime to amend

¹³ Howard, Elliott, and Prohov, 2016, p. 17.

¹⁴ Howard, Elliott, and Prohov, 2016, p. 17; Rothfield, 2009, pp. 12–14; Cuno, 2008, p. 59.

¹⁵ Quoted in Lawrence Rothfield, "Preserving Iraq's Heritage from Looting: What Went Wrong (Within the United States)," in Lawrence Rothfield, ed., *Antiquities Under Siege: Cultural Heritage Protection After the Iraq War*, Lanham, Md.: AltaMira Press, 2008, p. 5; Howard, Elliott, and Prohov, 2016, p. 17.

¹⁶ Howard, Elliott, and Prohov, 2016, p. 25.

¹⁷ Lostal, 2015, p. 5.

¹⁸ Gillot, 2010. For an accounting of international excavations, see Harvey Weiss, "Archaeology in Syria," *American Journal of Archaeology*, Vol. 95, No. 4, October 1991; Harvey Weiss, "Archaeology in Syria," *American Journal of Archaeology*, Vol. 98, No. 1, January 1994; and Harvey Weiss, "Archaeology in Syria," *American Journal of Archaeology*, Vol. 101, No. 1, January 1997.

the Syrian Antiquities Law in 1999 to expand protections and increase penalties.¹⁹ Nonetheless, the looting continued, aided by the involvement of senior officials within the interior ministry and military. According to Syrian archaeologist Cheikhmous Ali, president of the Association for the Protection of Syrian Archaeology, “in most cases these laws were never implemented because of bribes the looters give and the influence that some of them have.”²⁰

Meanwhile, the 1991 Gulf War sparked a wave of mass lootings that weakened the Saddam regime’s grasp on the country’s antiquities trade and increased the international demand for Mesopotamian artifacts.²¹ The sudden influx revitalized dormant smuggling networks that stretched from Iraq to regional transit hubs in Lebanon, Turkey, and Israel.²² The subsequent extension of UN sanctions later that year, coupled with the collapse in Iraq’s agricultural production, encouraged an intensification in illicit trafficking as impoverished tribes and rural communities turned to antiquities smuggling as an alternative source of income. Over the next decade, organized excavation teams and specialized smuggling gangs spread across southern and northern Iraq, protected by the imposition of no-fly zones that limited Iraqi security forces’ ability to monitor the archaeologically rich border regions. As sanctions weakened the national economy and state funding for site security and preservation shrank, the increasingly professional smuggling gangs confronted little opposition.²³

Case Study 2: Bulgaria—Looting and Trafficking of Antiquities

At first glance, Bulgaria seems like an odd case study to pair with Syria and Iraq. Although it too was part of the Roman and Ottoman Empires, it is a stable European democracy that has been at peace since the end of the Second World War. But through a combination of its numerous archaeological sites, its position on the edge of the European Union, and its deeply embedded organized crime networks, Bulgaria has

¹⁹ Lostal, 2015, p. 6; Robert Fisk, “Syria’s Ancient Treasures Pulverized,” *Independent*, August 4, 2012.

²⁰ Howard, Elliott, and Prohov, 2016, pp. 25–26.

²¹ UNESCO, *The Fight Against the Illicit Trafficking of Cultural Objects: The 1970 Convention: Past and Future, Information Kit*, Paris, 2011. The scale of looting spurred UNSCR 661, which called for an international prohibition on the trade of Iraqi artifacts (see Shelley, 2018).

²² Phil Williams, “The Rise of Organized Crime in Iraq,” in Phil Williams, ed., *Criminals, Militias, and Insurgents: Organized Crime in Iraq*, Carlisle, Pa.: U.S. Army War College, Strategic Studies Institute, 2009, p. 32.

²³ Howard, Elliott, and Prohov, 2016, pp. 17–18; Rothfield, 2008, p. 6; and Vrdoljak, 2009, pp. 73–75.

emerged as a nexus for the illicit antiquities trade.²⁴ By some estimates, the looting and trafficking of antiquities is one of the most profitable business of the Bulgarian criminal networks, preceded only by drug trafficking and, potentially, prostitution.²⁵ Bulgarian law enforcement agencies estimate that the antiquities trade generates roughly \$36 million per year for Bulgarian criminal groups, while the Forum Association, a nongovernmental organization, placed the annual revenue at \$309 million; the Office of the Bulgarian National Institute and Museum of Archaeology claimed that the trade was generating \$1 billion per year.²⁶ Although these numbers cannot be assessed because of the lack of data, aggregate data from the Bulgarian Customs Agency and the Bulgarian State Agency for National Security give a sense of the scale of the problem. Table A.1 shows the total number of cases and total number of seized cultural artifacts by the Bulgarian Customs Agency at Bulgarian borders between 2003 and 2016. While the number of cases has declined since 2010, this may reflect a decline in enforcement success rather than a change in the scale of the illicit market.

History and Evolution of the Looting and Trafficking Business in Bulgaria

The scale of the illicit antiquities trade in Bulgaria can be partly traced to the emergence of antiquities sales as a state-sponsored enterprise. During the 1960s, as a Soviet client state with few high-value export products, the Bulgarian government developed a state-sponsored trafficking network for antiquities and other goods that provided it with a much-needed source of income. Following a proposal by the Bulgarian foreign minister of trade, a front company called Kintex was created in 1966 that was under the control of the Bulgarian secret service. In June 1967, Kintex was given control of all transactions involving illegal merchandise, including antiquities, and became a component of a system coordinated by the Bulgarian Ministry of Foreign Trade. Over the next 20 years, the second department of the Bulgarian secret service managed the country's antiquities trade through a network of local departments of the interior ministry in

²⁴ “Der Standard: Antiquities Traders Have Little to Fear of Bulgarian Authorities,” Sophia News Agency (Novinite), September 21, 2016; SBS TV, *Treasure Hunters—Bulgaria*, YouTube video by Journeyman Pictures, September 21, 2009, timestamp 16:00–16:07 minutes; Malcolm Moore, “Tomb Raiders Strip Bulgaria of Its Treasures,” *Telegraph*, August 29, 2007, p. 123; and Meyers and Kulish, 2016a.

²⁵ Eric Randolph, “Land of the Tomb Raiders: Bulgaria Is Trying to Claw Back Tens of Thousands of Ancient Artefacts Plundered from Its Historic Sites in a £25m-a-Year Export Racket,” *Independent*, September 10, 2013; Ivan Dikov, “Bulgarian, Greek Treasure Hunting Gang Busted by Border Police,” *Archaeology in Bulgaria* blog, March 24, 2016.

²⁶ The chief of the Office of the Bulgarian National Institute and Museum of Archaeology in the city of Veliko Turnovo, Konstantin Dochev, has reportedly argued that the artifacts smuggled out of Bulgaria may be worth up to \$1 billion per year. Others, however, question the reliability of such high numbers and argue that they are exaggerated. See Dikov, 2016; and Judith H. Dobrzynski, “Antiquities and ISIS: Something Doesn’t Add Up,” *Arts Journal*, January 10, 2016. We note that Bulgaria’s GDP is \$52 billion per year, placing Dochev’s estimate of antiquities trafficking at 2 percent of GDP. This estimate is unreasonably high because it is out of scale with both the nation’s economy and with the size of the global antiquities trade.

Table A.1
Total Number of Cases and Cultural Artifacts Seized by the Bulgarian Customs Agency at Bulgarian Borders

Year	Number of Cases of Seized Cultural Artifacts	Number of Seized Cultural Artifacts ^a
2003	17	1,799
2004	12	517
2005	16	4,435
2006	15	6,220 objects and 66 kilos of coins and artifacts
2007	14	659
2008	2	34
2009	40	2,798
2010	5	13
2011	7	3,588
2012	8	3,865
2013	3	655
2014	9	470 objects and 85.4 kilos of artifacts and coins
2015	4	839
2016	5	978

SOURCE: Bulgarian Customs Agency. Data for the period 2003 to 2006 obtained from Center for the Study of Democracy, 2007, p. 185.

^a The Bulgarian Customs Agency does not have data on the exact number of seized objects for 41 of the cases during 2007–2011 (Bulgarian Customs Agency representative, interview with author, January 26, 2018).

collaboration with Bulgarian criminal networks, whose members would supply Kintex with artifacts from designated sites. Export of these goods was accomplished through a network of security services agents installed in the customs agency who worked at key transit hubs as at Sofia Airport and at the checkpoint at Kalotina on the Serbian (then Yugoslavian) border. By 1988, there were at least 20 undercover agents installed in the customs agency who were designated with handling the trafficking of illegal goods, including antiquities.²⁷ Kintex had an annual turnover of about \$100 million to \$150 million and generated revenue of about \$5 million to \$15 million, which made it a valuable source of income for Bulgaria's Ministry of the Interior.²⁸

After the collapse of the communist regime in 1989, the government officially loosened its control of the market; however, many of the trafficking channels for

²⁷ "Bulgaria Organized Crime Genesis," Sophia News Agency (Novinite), February 22, 2008; Campbell, 2013, p. 123; "Secret Transit," Sophia News Agency (Novinite), February 15, 2008.

²⁸ "Kintex—Key Player in Bulgaria's Secret Transit," Sophia News Agency (Novinite), February 29, 2008.

antiquities that were previously controlled by the Bulgarian secret service continued to operate under the control of the emerging criminal networks.²⁹ In the years that followed the end of communism, a weak central government—coupled with rising poverty and unemployment and limited law-enforcement capacity—led to an expansion of organized criminal networks that remained active in the looting, trading, and trafficking of antiquities.³⁰ Although the smuggling and looting of antiquities was initially performed indiscriminately without coordination among various looters and suppliers, large portions of the business were consolidated into an organized network of criminals and corrupt officials who conducted illicit trade of antiquities alongside prostitution, narcotics, weapons, and human trafficking.³¹ In addition to dealing in goods that were looted domestically, these organized trafficking channels also provided a route for trafficking antiquities out of the Middle East and Turkey into the West.³² Although little information is available to assess these claims, Faryad Rawanduzi, the minister of culture of Iraq, argued in 2016 that antiquities looted by the Islamic State were trafficked through Bulgaria, claiming that the Iraqi government had information that thousands of artifacts from Iraq have been shipped to Europe and the United States.³³

Although organized criminal networks in Bulgaria reportedly control most of the antiquities market, they do not have a monopoly on all looting and trafficking activities that occur in and through the country. Evidence suggests that small-scale antiquities looting, trafficking, and trading in Bulgaria is conducted alongside the organized criminal channels, with no coordination with these organized groups.³⁴

Actors, Networks, and Markets in Bulgaria

Building on this history of centralized control, a major part of the looting and trafficking of antiquities is thought to be controlled by possibly a dozen individuals who head large criminal networks, have divided the territory of the country, and serve as mediators

²⁹ “Illegal Antiques Channels and Lyudmila Zhivkova’s Role, Part I,” Sophia News Agency (Novinite), May 20, 2008.

³⁰ Center for the Study of Democracy, 2007, pp. 5, 178–179; Campbell, 2013, p. 123; “Der Standard: Antiquities Traders Have Little to Fear of Bulgarian Authorities,” 2016. The proliferation of criminal networks and organized crime in Bulgaria is not an isolated phenomenon. Such trends have accompanied the economic and political transitions of almost all postcommunist countries (see Center for the Study of Democracy, 2007, p. 9).

³¹ Center for the Study of Democracy, 2007, pp. 5, 178–179; Campbell, 2013, p. 123; “Der Standard: Antiquities Traders Have Little to Fear of Bulgarian Authorities,” 2016; an employee of the Bulgarian Border Police, interview with Bilyana Lilly in Ruse, Bulgaria, on January 2, 2018.

³² Meyers and Kulish, 2016a; Center for the Study of Democracy 2007, Chapter 5; Kaloyan Konstantinov, “Каналите за трафик на антики на ДАЕШ минават и през България” [“DAES Antiques Traffic Channels Run Through Bulgaria”], *OffNews*, December 1, 2016.

³³ Konstantinov, 2016.

³⁴ Based on interviews with experts conducted by the authors in Sofia, Bulgaria, September 25–27, 2018.

for international smugglers, domestic looters, traffickers, and buyers abroad. These kingpins have reportedly been able to consolidate the market by coercing the various actors involved with different aspects of the antiquities trade to sell their finds through the established networks controlled by criminal groups.³⁵

During the period of economic and political transition in the 1990s, there were frequent reports of raided museums and stolen antiquities. There are accounts of entire exhibitions being stolen or replaced with fabricated replicas. In 2006, for example, an inquiry of the Bulgarian prosecution office discovered two missing exhibits from archaeological museums in the cities of Varna and Burgas. Such thefts were likely committed with the cooperation of museum staff, who provided access to the artifacts and did not report the crime.³⁶

In addition to theft, illicit excavation of antiquities is widespread throughout Bulgaria. There are estimated to be between 100,000 and 300,000 looters, including metal-detector enthusiasts and amateurs, operating in Bulgarian territory, which suggests that between 1 percent and 4 percent of the entire population of the country may be involved to some degree in the illicit looting and trafficking of antiquities.³⁷ The majority of individuals involved are low-income diggers and people from some impoverished areas; the entire population of some villages earn some or the majority of their living by looting historical sites in the region.³⁸

Although most of the people counted in these estimates are amateurs or villagers who sell their occasional finds, there are, by some estimates, between 5,000 and 7,000 professional looters associated with 200–300 groups that are affiliated with organized criminal networks.³⁹ These professional looters are equipped with state-of-the-art equipment, such as metal detectors that may cost \$50,000, and can provide 3-D imagery of artifacts buried several meters underground. Some employ bulldozers and

³⁵ Hristina Teodosieva, “Абдерата и Джуджето подчиниха пазара на антики” [“Abdera and the Dwarf Subjugated the Antiquities Market”], *168 Часа*, March 14, 2013; Boyan Dimitrov, “Правят Копия На Цели Сърковища” [“Copies of Entire Treasures Made”], *Monitor*, November 2, 2016.

³⁶ Center for the Study of Democracy, 2007, p. 179–183.

³⁷ Center for the Study of Democracy, 2007, p. 179; Dikov, 2016. Calculated from population estimates from Central Intelligence Agency, “Europe: Bulgaria,” *World Factbook* webpage, December 18, 2019.

³⁸ Dikov, 2016; SBS TV, 2009; Randolph, 2013; Kimberly L. Alderman, “Honor Amongst Thieves: Organized Crime and the Illicit Antiquities Trade,” *Indiana Law Review*, Vol. 45, No. 3, January 3, 2012.

³⁹ Ножаров, Щерьо, “Икономическо Измерение На Престъпленията Срещу Културно-Историческото И Археологическо Наследство” [“Economic Dimensions of Crimes Against Cultural-Historical and Archaeological Heritage”], *Nauchni trudove na Universitet za natsionalno i svetovno stopanstvo* [Scientific Papers of the University of National and World Economy], Vol. 1, No. 4, 2015, p. 154; Alderman, 2012, p. 612; Министерство На Вътрешните Работи Главна Дирекция Борба С Организираната Престъпност [Ministry of Internal Affairs, Main Directorate for Combating Organized Crime], “Rukovodstvo” [“Guide”], webpage, undated.

plows to quickly excavate large areas, at times purchasing land adjacent to sites that are known to harbor archaeological artifacts, so they can gain easier access to these sites.⁴⁰

The looters are frequently unaware of the full market value of the items they find and are typically unable to sell directly to collectors. Instead, they sell their plunder for a fraction of its value to the middlemen of the criminal networks who are responsible for the respective region.⁴¹ These middlemen work with museum specialists and archaeologists to appraise the artifacts. To support this enterprise, some researchers claim that 15–20 percent of professional Bulgarian archaeologists are involved in illicit looting and trafficking activities.⁴² The merchandise is then sold to domestic collectors or smuggled outside the country for sale.⁴³

In addition to Bulgarian citizens, foreign nationals are also involved in the Bulgarian illicit antiquities trade. Greeks and Germans, for example, serve as middlemen to export artifacts, and Greeks have worked to facilitate the transfer of Orthodox religious artifacts (likely stolen from Bulgarian churches and monasteries) into foreign markets.⁴⁴ Turkish citizens have been implicated in facilitating the trafficking of antiquities looted from Middle Eastern countries and Turkey through Bulgaria en route to Western Europe and the United States.⁴⁵ Some of these foreign nationals smuggle antiquities through Bulgaria without coordinating their illicit activities with the main Bulgarian criminal networks that are managing the bulk of the antiquities trade in the country. Such foreign smugglers exploit the high volume of commodities passing through Bulgaria's main border checkpoints—as well as the inability of customs officers to check every single passing object—to transport artifacts concealed alongside legal merchandise in trucks or cargo containers.

Bulgarian citizens are also involved in producing forged antique objects. Since 2015, Bulgarian law-enforcement agencies have reported a marked increase of the number of forged archaeological artifacts and ancient coins offered for sale at auctions in Austria, Germany, Switzerland, and the United States. The Bulgarian police estimate that there are between 20 and 50 expert forgers in Bulgaria, of whom about a dozen are considered extremely skilled, who specialize in the forgery of different items, including ceramics, coins, and jewelry. The services of these forgers are in high demand; by

⁴⁰ Alderman, 2012, p. 612; Center for the Study of Democracy, 2007, pp. 2, 154, 179; Dikov, 2016; Dikov, 2017; and “Пазарът на антики в България” [“The Antiquities Market in Bulgaria”], *Economynews.bg*, September 2, 2009.

⁴¹ Teodosieva, 2013.

⁴² “Der Standard: Antiquities Traders Have Little to Fear of Bulgarian Authorities,” 2016.

⁴³ “Пазарът на антики в България” [“The Antiquities Market in Bulgaria”], 2009; information based on interviews with experts conducted by the author in Sofia, Bulgaria, September 25–27, 2018.

⁴⁴ Center for the Study of Democracy 2007, p. 180; Samuel Andrew Hardy, “Archaeomafias Traffic Antiquities as Well as Drugs,” United Nations Educational, Scientific and Cultural Organization webpage, March 29, 2016.

⁴⁵ See, for example, Кръстана Тасева [Krustana Taseva], 2015.

some estimates, as much as 80 percent of the coins and other artifacts exported from Bulgaria are forgeries. One factor in the increased volume of forgeries is that the vast majority of archaeological sites in Bulgaria have already been extensively plundered, especially the upper archaeological layer in the top 12 inches to 16 inches of soil. As looters provide fewer original artifacts to their middlemen, criminal networks have attempted to compensate for the reduced supply with forgeries.⁴⁶

Trafficking Internally and Abroad

Antiquities looted from and trafficked through Bulgaria are either sold in the domestic market or smuggled overseas. Domestically, there is some demand from wealthy Bulgarian private collectors to sustain a dynamic market for relatively low-value antiquities, such as coins.⁴⁷ Although there are a few wealthy collectors who can afford to purchase high-value items, such as entire chariots and shields, the majority of the collectors focus on acquiring smaller and less-valuable artifacts. Therefore, the domestic market for high-priced antiquities is relatively limited, and the majority of artifacts looted from Bulgaria and crossing its territory are exported to foreign markets that potentially have wealthier buyers.⁴⁸ In the cities of Sofia, Veliko Tarnovo, Montana, and Plovdiv, weekly antique markets sell classical antiquities among more-recent items. In addition, there is a thriving antiquities trade in the regions around the Bulgarian cities of Vratsa, Montana, Pleven, Shumen, Haskovo, Harmanli, Gotse Delchev, and Blagoevgrad, where Roman settlements from the first and second centuries C.E. were concentrated.⁴⁹

Volodya Velkov, the former chief of Bulgaria's Unit for Combating Organized Crime, says he believes that there are several well-established channels for smuggling antiquities outside Bulgaria. Goods are primarily smuggled through border crossings at Kalotina, Vrashka Chuka, and Bregovo, although goods have been intercepted at airports in Varna and Plovdiv as well.⁵⁰ Trafficked antiquities are reportedly first sent primarily to Munich and Vienna, which act as hubs for sales within and outside Europe. In addition to the domestic market within Bulgaria, looted or faked antiquities are sold primarily in Germany, Austria, the United Kingdom, Switzerland, the Netherlands, the United States, and Canada.⁵¹ Because Bulgaria is a European Union member state,

⁴⁶ Ivan Dikov, "Bulgarian Antique Traffickers Flood Europe with Fake Archaeological Artifacts, Forged Thracian Treasure on Sale for Eur 200,000," *Archaeology in Bulgaria* blog, July 20, 2015b; Dimitrov, 2016.

⁴⁷ Center for the Study of Democracy, 2007, p. 180.

⁴⁸ Information based on interviews with experts conducted by the author in Sofia, Bulgaria, September 25–27, 2018.

⁴⁹ "Пазарът на антики в България" ["The Antiquities Market in Bulgaria"], 2009.

⁵⁰ Center for the Study of Democracy, 2007, p. 187.

⁵¹ Center for the Study of Democracy 2007, pp. 2, 187; "Der Standard: Antiquities Traders Have Little to Fear of Bulgarian Authorities," 2016; Meyers and Kulish, 2016a; Veselina Yordanova, "Пресеякоха трафик

trafficking items into Western Europe is often relatively straightforward. Dealers reportedly use door-to-door delivery services provided by private courier companies or the Bulgarian postal office, and smuggling is often as simple as concealing coins and other antiquities in paper or tinfoil and sending them via post to Western Europe and the United States.⁵²

на антики към Западна Европа, САЩ и Русия” [“Trafficking in Antiquities to Western Europe, U.S., and Russia Intercepted”], Dnes, August 27, 2014; “Родните иманяри изнасят антики най-вече в пет страни” [“Native (i.e., Domestic) Treasure Hunters Export Antiquities Mainly to Five Countries”], ПИК, August 20, 2017; Marianne Mödinger, “GERMANY/Munich–BULGARIA: Gorny and Mosch Selling Finds from Illegal Excavations?” European Association of Archaeologists, Committee on the Illicit Trade in Cultural Material webpage, November 2, 2016; Center for the Study of Democracy, 2007, p. 180; “Разкриха група иманяри, търгувала оригинали и фалшификати на археологически ценности” [“A Group of Treasure Hunters Who Traded Original and Forged Antiquities Exposed”], Plovdiv21.com, August 10, 2006.

⁵² Blaga Georgieva “Професор продава тайно антики за 1/2 млн. лв. в Мюнхен” [“Professor Is Selling Secret Antiquities for BGN ½ Million in Munich”], *24 Chasa*, April 11, 2014; Vidka Atanasova, “Хванаха ценни антики на границата” [“They Took Valuable Antiquities Across the Border”], Dnes.bg, November 19, 2006.

Detecting Suspicious Dealers Using Rare Indicator Coins

Chapter Five highlighted broad patterns discernible through analysis of large amounts of publicly available sales data. Yet on their own, such data are not useful in pinpointing which antiquities, if any, were smuggled or obtained illegally. Indeed, the combined evidence of our study implies that antiquities may be trafficked directly to collectors or to dealers with access to major markets. Thus, even if most antiquities are not sold on the dark web, it does not mean they will soon be offered for sale at auction or on publicly visible websites. This raises the question of whether trafficked antiquities, if not found and interdicted in transit, can later be identified at a final point of sale. If publicly available sales information—by far the most accessible and most-studied source of information—is of limited use in identifying smuggled objects, then future research must seek better ways to collect data on private sales that are not recorded in auction catalogues or on dealers' websites.

This appendix describes a case study in identifying and locating likely looted objects on the online marketplace, complementing the analysis in the main text and highlighting certain limitations of publicly available sales data. Because the analysis was conducted in a short time frame, we emphasize that the value is in demonstrating the feasibility and utility of the method rather than in the results.

Major Limitations in the Auction Market

Two major limitations have been widely discussed in previous research on the auction market: (1) the difficulty of verifying that an object meets legal standards and (2) the difficulty of verifying an object's exact findspot. Legal standards can be troublesome because a plethora of various laws exist between and within countries, meaning that the correct legal standard that must be met can vary from object to object. This difficulty is compounded by the lack of information about findspots because a different law might apply if an object came from, for instance, Turkey versus Greece. As we will detail in this section, objects' findspots can rarely be traced to a particular country, because ancient empires spanned modern borders and because ancient trade routes brought various types of objects far from their point of creation.

Generally, researchers, policymakers, and auction houses cite the 1970 UNESCO Convention on the Means of Prohibiting and Preventing Illicit Import, Export, and Transfer of Ownership of Cultural Property as the most relevant standard for vetting antiquities' salability. The Convention prohibits the sale of cultural items that left their country of origin after 1970.¹ To prove that an object meets such a standard, a seller may provide provenance information—that is, ownership history—indicating that the object was in private hands and outside its country of origin prior to 1970. However, provenance information has been known to be falsified and is often too vague to be useful. Thus, the effectiveness of the Convention itself has been debated and, even if the veracity of all provenance information is to be trusted, it is clear that many antiquities are sold without enough information to meet the 1970 standard.²

When seeking to reconstruct probable smuggling networks, provenance information is of even more limited use; provenance listings generally document ownership, not transit routes. Knowing that an object was in private hands in 1967 does not indicate how it got there. Moreover, a complete reconstruction of smuggling routes requires knowledge of an object's findspot: Was the vase from Turkey, or just over the border in Syria, or from far away in Italy? Only in very rare instances does an object come to market with such descriptive information, and in these cases, the information tends to be uncertain. For example, a serpentine jar sold in 2016 at Christie's King Street in London was described as "reputedly found at Abydos, 1869."³ Such verbiage is typical in auction catalogues.

Sometimes, antiquities carry specific markers that could identify them as originating in a specific place or time. But the location of an object's creation in antiquity is not necessarily the same as its findspot in modern times. For example, the creation of certain vases signed by the painter or potter can be traced to Athens thanks to the style and signature; yet they have been discovered all over the Mediterranean—from Italy to Asia Minor.⁴

Lacking precise data about antiquities' findspots, archaeologists and numismatic experts have recently begun leveraging the archaeological record to identify, from the thousands of objects that come to market each year, a select few for which the findspot

¹ For a discussion of the legal aspects of the convention and details on its implementation, see Patty Gerstenblith, "Implementation of the 1970 UNESCO Convention by the United States," in Jane Anderson and Haidy Geismar, eds., *The Routledge Companion to Cultural Property*, 1st ed., Oxford, UK: Routledge, 2017.

² Brodie, 2014; James V. Marrone, "Quantifying the Supply Chain for Near Eastern Antiquities in Times of War and Conflict," *Journal of Cultural Heritage*, Vol. 33, September–October 2018.

³ Christie's Antiquities, December 6, 2016, Lot 3.

⁴ Sarah Bolmarcich and Georgina Muskett, "Artists' Signatures on Archaic Greek Vases from Athens," in Peter Schultz and Kristen Seaman, eds., *Artists and Artistic Production in Ancient Greece*, Cambridge, UK: Cambridge University Press, 2017. The motive behind this trade is somewhat a matter of debate. See Robin Osborne, "Why Did Athenian Pots Appeal to the Etruscans?" *World Archaeology*, Vol. 33, No. 2 (Archaeology and Aesthetics), October 2001.

is either known or likely limited to a very specific geographic region. These items serve as canaries in the coal mine, highlighting the presence of possibly trafficked goods to provide valuable insight into important aspects of the illegal trade, including time-to-market and temporal changes in the extent of looting.

Coins are especially useful in this endeavor, since they have more-precise and systematic information about where they were created than do most other types of objects and because they are catalogued and sold in ways that make it relatively easy to comb through large amounts of data to find the “canaries.” As with modern-day U.S. coins, ancient coins always carry images on the obverse and reverse sides, as well markings identifying the mint. One image usually shows the local ruler who ordered the coin to be issued; the other side shows another image, which further helps identify and date the coin.

As for other antiquities, ancient trade routes meant that coins could be widely dispersed. Coins from the Rome mint, for example, have been found as far away as present-day England or Iraq. However, historical circumstances sometimes meant that specific coins had very limited dispersion; for example, they may have been minted for a very short period of time. Archaeological records show that, indeed, some coins have been documented in only a limited number of excavations, all clustered in the same region and often located near the mint where the coins were created.

Analysis Using Case Study Coins

Case Study Coins

Recent archaeological and numismatic research has identified and defended the use of several specific types of coins to illuminate looting patterns in Syria and nearby regions. Databases covering much of the coin market show probable upticks in looting since the onset of the Syrian conflict in 2011 and conclude that the time to market for these coins is likely less than a few years. We use the case studies suggested by these past studies to examine a wide swath of the internet market at a given point in time, seeking to reconstruct probable illicit trade routes from the ground to the final marketplace. Thus, whereas the numismatic research has focused on time trends in auction sales for separate coin types over multiple decades, our analysis focuses on the concentration of all coins across dealers’ networks on multiple sales platforms at a single point in time.

To preserve the potential utility of the coins for tracking likely illicit market activity, we anonymize the coins’ and dealers’ identities where applicable. We briefly discuss one possible example of such a coin to provide archaeological and historical context; those who are interested can request full details from us.

Example: Coins of Vabalathus from Antioch, Syria, March–May 272 C.E.

In a presentation given at the U.S. Department of State in 2015, then–executive director of the American Numismatic Society Ute Wartenberg Kagan highlighted the case of

coins minted by Zenobia and Vabalathus at Antioch, Syria.⁵ Zenobia was queen of Palmyra, in present-day Syria, and was powerful during the reign of her son Vabalathus. For just three months in 272 C.E., coins were minted in Antioch, featuring a portrait of Vabalathus as Augustus and some versions feature Zenobia on the opposite side. The coins are exceedingly rare: citing Bland (2011),⁶ Wartenberg Kagan noted that only two coins have known findspots, in Hama and Antioch, both near the Syrian border with Turkey (see Figure B.1). Updating Bland's data from auction sales, Wartenberg Kagan found a continuing upward trend that Bland had recorded since 1970, with sales of these coins in 2010–2015 already topping the total sales of the previous decade. In addition, all the coins from 2010 to 2015 originated from the same mint as the prior coins.

This combination of archaeological and historical circumstance means that such coins are useful indicators of likely looting. First, the coins were minted in or very near recent conflict zones, and the findspots were in the same vicinity. Given the evidence of ongoing looting in this region,⁷ the historically porous border between Syria and Turkey, and relative dearth of such coins appearing on the market in the past, unprovenanced examples of these coins may be assumed to be conflict antiquities.

Data for Case Study Coins

For this study, we examined sales of ten types of coins over a number of weeks in 2018. Unlike the numismatic research from which these examples derive, we looked at networks of private dealers rather than auction sales. These private dealers were found on at least one of four sites hosting independent third-party vendors: eBay, MA-Shops, Sixbid, and VCoins. The latter three are dedicated to sales of coins and banknotes, both ancient and modern, with Sixbid being a platform for small auctioneers and the other two being platforms for private dealers. For all the sites, searches were performed for the particular rulers and mints we just described and in English. We also searched in English on the foreign-language versions of eBay.⁸ Information about each coin and each dealer was collected from the sites, including photographs of the coins and any available provenance information. Web searches for most coins were performed in February 2018, and more cases were added in late June 2018.

Individual coins and sellers were matched across sites to identify cases in which the same seller was offering the same coin on multiple platforms or under multiple

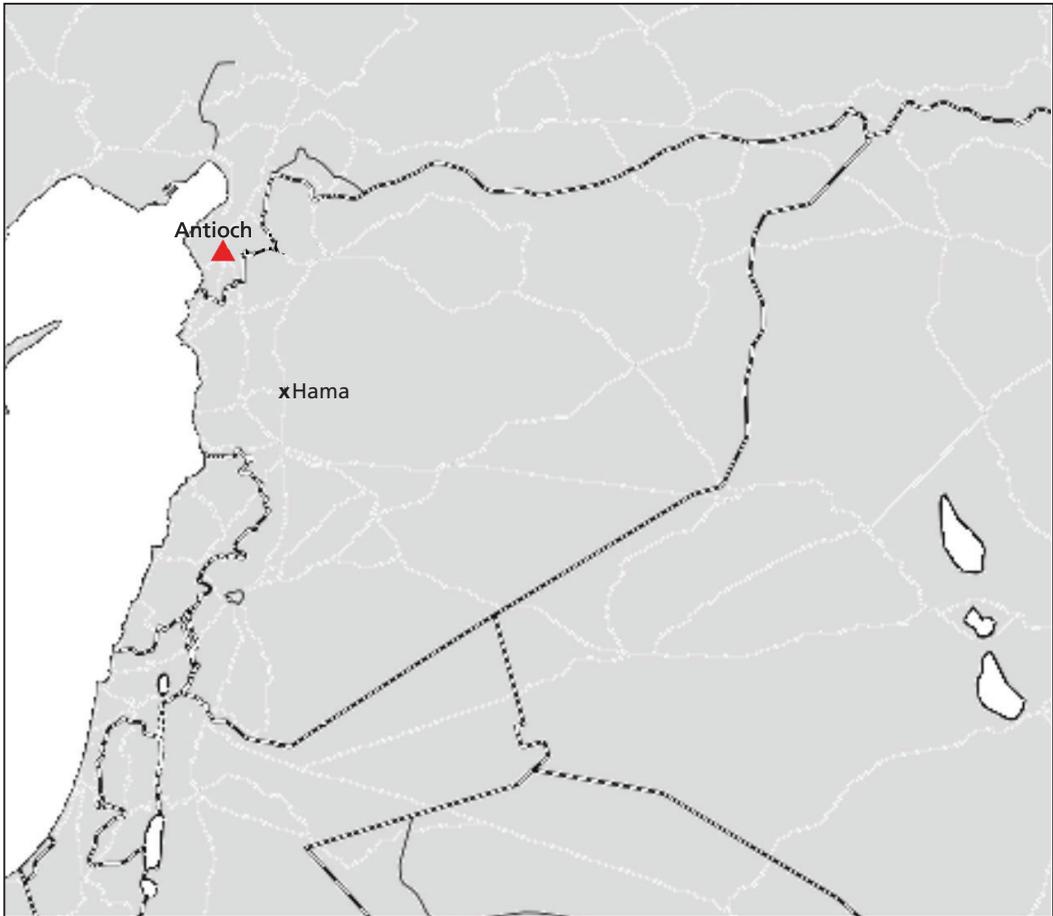
⁵ Ute Wartenberg Kagan, "Collecting Coins and the Conflict in Syria," report based on presentation given at the U.S. Department of State, 2015.

⁶ Roger Bland, "The Coinage of Vabalathus and Zenobia from Antioch and Alexandria," *Numismatic Chronicle*, Vol. 171, 2011.

⁷ Jesse Casana and Mitra Panahipour, "Satellite-Based Monitoring of Looting and Damage to Archaeological Sites in Syria," *Journal of Eastern Mediterranean Archaeology and Heritage Studies*, Vol. 2, No. 2, 2014.

⁸ Specifically eBay.de, eBay.fr, eBay.co.uk, eBay.hk, and eBay.nl.

Figure B.1
Findspots of Vabalathus and Zenobia Coins Minted in Syria



SOURCES: Bland, 2011; Wartenberg Kagan, 2015; latitude and longitude from nomisma.org.

names. Photographs of the coins and contact information for the sellers were used to more conclusively determine when vendors and coins were the same.

The goal of this analysis was to identify locations and networks of vendors offering suspect coins. However, some qualifications should be noted. First, the data should not be considered comprehensive. We might be missing data from coins that might well be offered for sale on other sites or at brick-and-mortar shops that do not have websites. In addition, coins are sometimes sold in large groups (or *lots* in auction lingo); when the coins in such a sale are not listed individually, they would be overlooked in online searches. Coins may also be misclassified or mislabeled. And, importantly, coins may be fake but sold as authentic. This study does not seek to verify the authenticity of coins or the veracity of information provided; rather, then database was constructed

based purely on search terms, but the subsequent analysis in this appendix provides insight into whether some information or some coins are likely fake.

Finally, it must be noted that, even in cases in which a coin has most definitely been looted in the recent past, it does not mean that the dealer is selling the coin with full knowledge of its trafficked origins. Dealers might not have the requisite in-depth numismatic knowledge to recognize which coins are more suspect than others—from the viewpoint of recent research, at least—and they may purchase coins from middlemen whose connections to looters and illegal smuggling networks are opaque. Thus, we cannot affirm and do not seek to imply that any particular dealers are knowingly or actively linked to trafficking networks; rather, we seek to illuminate the probable endpoints of trafficking routes and the potential degree of dispersion of objects along those routes.

This study of private dealers and small auction houses complements the market analysis previously conducted by other researchers. Most of the vendors described here are unlikely to be captured in auction databases, such as coinarchives.com. The comparison of vendors across platforms provides a different picture of market concentration among private dealers, one that would be mischaracterized if we used data from just one site or if we counted only the unique vendors' names instead of matching duplicate vendors based on contact information and inventory. Importantly, dealer-level data can speak to a key question about trafficking networks: market concentration. Concentration can be measured across dealers or across geographic locations, but it is an important concept in understanding looting networks. For example, many dealers, each selling one suspect coin, has different implications than one dealer selling several coins; and a cluster of dealers in one city tells a different story than several dealers spread across different continents.

To provide a foundation for the market concentration analysis, consider the overall size of each website. The exact number of sale listings fluctuates, but on eBay, as of July 2018, there were roughly 14,000 listings under the category “ancient coins.” In general, any listing could include more than one coin, so it is difficult to say exactly how many coins are being offered at any time. MA-shops has profiles for 235 sellers, and the ancient coin section shows more than 61,000 listings; VCoins hosts about 155 sellers offering more than 73,000 listings for ancient coins; and Sixbid posts links for online or live-bidding auctions for about 150 small firms, with anywhere from a few to several dozen auctions happening at a time. The universe of ancient coin sales from which this analysis draws data includes a few hundred dealers and tens of thousands—if not hundreds of thousands—of individual coins being offered for sale at any given time.

Table B.1 summarizes the suspect coins gathered for the case studies. Overall, 120 unique coins were offered for sale by 57 unique vendors via 159 different listings across four sites. Two types of coins were not found on the market at all. For the other eight types, the tabulations show that, for every category of coin, except Coin F, at

least one unique example was offered via multiple postings on two or more sites. In most cases, at least one seller in each category had multiple examples of Coin F for sale. The totals imply that, in general, these suspect coins are indeed exceedingly rare. Considering the total listings for ancient coins on the websites we investigated, the coins tabulated here account for a small fraction of 1 percent of the total coins for sale.

The provenance of the coins is vital in determining whether the coins might have been looted in the recent past. Table B.1 shows that only a minority of coins come with any provenance information. Table B.2 lists that information as provided in the listing. In some cases, the provenance is vaguely described as “Geneva Collection 1970s,” the sort of information that is common in all antiquities auctions. Even if this information appears trustworthy, none of the coins meets the standards of the UNESCO Convention.

None of the coins studied here has a provenance claiming known ownership prior to 1970. Assuming the provenance information is true, then the coins with provenance are supposedly from a variety of sources that existed before the start of the current Syrian conflict, as documented in Table B.2. Dealers are listed anonymously, with letters indicating which coins were sold by the same seller. Table B.2 shows how provenance information, specifically in the coin market, is sparse. In addition, experience may be required to make sense of the provenance statements. Some information is easy to understand or even verify via internet searches. For example, iNumis is an auctioneer and online dealer based in Paris; the coin listed in Table B.2 was sold in a mail-bid auction and sold for €750, according to the site’s archival database.

Table B.1
Case Study Coins Found on Four Websites

Coin Type	Number of Unique Coins for Sale	Number of Unique Sellers	Number of Coins for Sale on eBay	Number of Coins for Sale on vCoins	Number of Coins for Sale on MA-Shops	Number of Coins for Sale on Sixbid	Number of Coins with Provenance Provided
COIN A	35	23	9	14	15	2	3
COIN B	20	17	5	10	4	1	1
COIN C	4	4	1	2	2	0	1
COIN D	2	2	0	0	2	0	2
COIN E	16	13	6	6	9	2	4
COIN F	1	1	0	1	0	0	0
COIN G	37	21	19	21	14	5	4
COIN H	5	3	3	1	2	0	1
COIN I	0	0	0	0	0	0	0
COIN J	0	0	0	0	0	0	0

Table B.2 also shows that, apart from Dealer Y in France, which has at least some provenance information for each of its coins, dealers are not systematic about providing provenance information. When it is available—or when it is not damaging to a dealer’s reputation or price—it may be provided, but it is not the norm in the numismatic market. Interestingly, Dealer Y lists two of its coins as coming from the Kirikhan hoard, which consisted of more than 5,000 coins, including some of the types we examine in this section. While some were sent to the British Museum, many others were dispersed to unknown locations. Without additional documentation, it would be difficult to say with certainty that any given coin actually came from the hoard.⁹

Consider the patterns that would be observed if coins were randomly scattered across dealers. In this case, the concentration of case study coins at any given dealer would be directly proportional to the total ancient coins sold by that dealer. In other

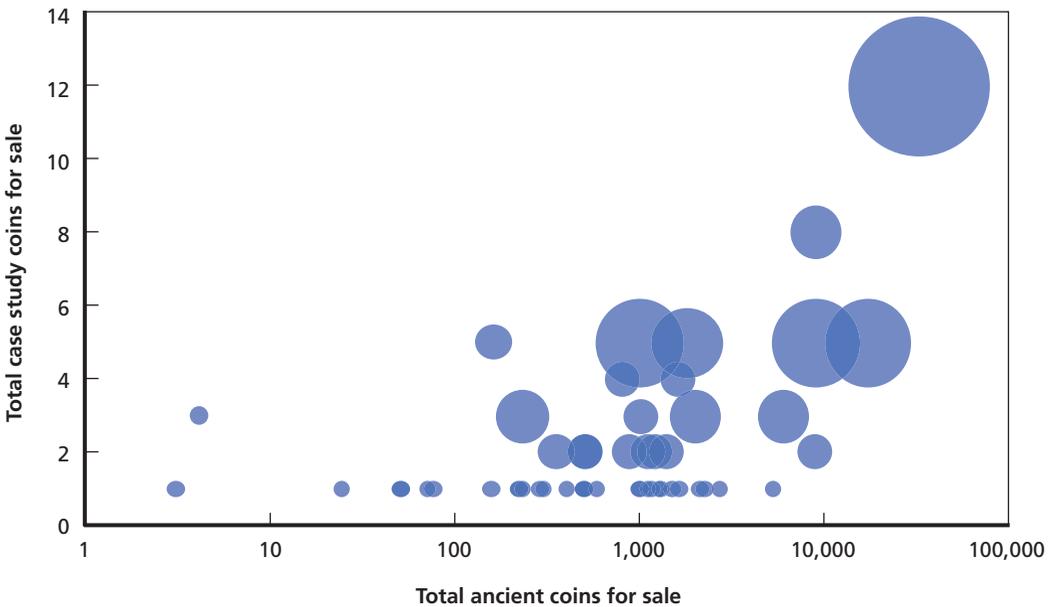
Table B.2
Provenance Information for Individual Coins

Coin Type	Website	Location	Provenance
COIN A	vCoins	Dealer U (Germany)	Formerly auction at Munzen & Medaillen
COIN A	MA-Shops	Dealer V (Germany)	Acquired 2009
COIN A	vCoins & MA-Shops	Dealer W (Germany)	Formerly B/N Collection
COIN B	MA-Shops	Dealer X (Germany)	Formerly Munzen & Medaillen auction
COIN C	MA-Shops	Dealer Y (France)	From Poinسیون Auction 45, No. 1815 in 2000 and from D.R. collection
COIN D	MA-Shops	Dealer Y	iNumis Sale March 20 2008
COIN D	MA-Shops	Dealer V	From the Weber Collection
COIN E	vCoins	Dealer Z (USA)	Golden Gate Auction 1993
COIN E	MA-Shops	Dealer Y	Kirikhan Hoard 1972
COIN E	MA-Shops	Dealer Y	Conseils Placements
COIN E	MA-Shops	Dealer Y	Abdo Ayoub Collection
COIN G	MA-Shops	Dealer Y	Comptoir des Monnaies Sale 36 No. 163 & Sale 45 No. 119
COIN G	MA-Shops	Dealer Y	Geneva 1975, Kirikhan hoard 1972
COIN G	MA-Shops	Dealer Y	Conseils Placements June 1994
COIN G	MA-Shops & vCoins	Dealer U	Stuttgart Collection 1980s–1990s
COIN H	MA-Shops	Dealer Y	Credit de la Bourse 1996

⁹ Oakley provides more information about the hoard and detailed study of coins that appeared on the market in the decade since it was found (see John H. Oakley, “The Autonomous Wreathed Tetradrachms of Kyme, Aeolis,” *Museum Notes*, Vol. 27, 1982).

words, dealers with more suspect coins are simply those who source more material in general. To quantify this, Figure B.2 plots on a log scale the number of case study coins against the total inventory for each dealer.¹⁰ The sizes the circles indicate the number of different case study mints from which the dealer offered coins. The figure shows that, in general, dealers with a larger inventory of ancient coins also tend to have more coins from the case studies analyzed here and from a wider variety of mints as well (i.e., larger circles). However, the data are not in direct proportion to one another, and there are outliers. For example, several dealers offered five suspect coins, but their total inventory ranged from just more than 100 to more than 10,000; the same was true for those dealers with three, two, or one suspect coin. In addition, one dealer on eBay offered three suspect coins out of just four total ancient coins. Overall, 23 of 57 dealers offered more than one suspect coin; these dealers were selling 86 of the total 120 coins. Twelve dealers offered more than one of the four main categories of coins, totaling 45 of the 120 coins. These observations suggest that a minority of dealers have outsize importance in selling these suspicious coins, with their importance not being

Figure B.2
Dealers' Case Study Coins Versus Total Inventory



NOTE: The size of each circle indicates the number of different categories of case study coins sold by that dealer.

¹⁰ Inventory is rounded to two significant digits to account for the fact that the levels are time-variable.

in proportion to their total inventory. Thus, one cannot conclude that the coins chosen for the case studies are randomly ending up at different dealers.

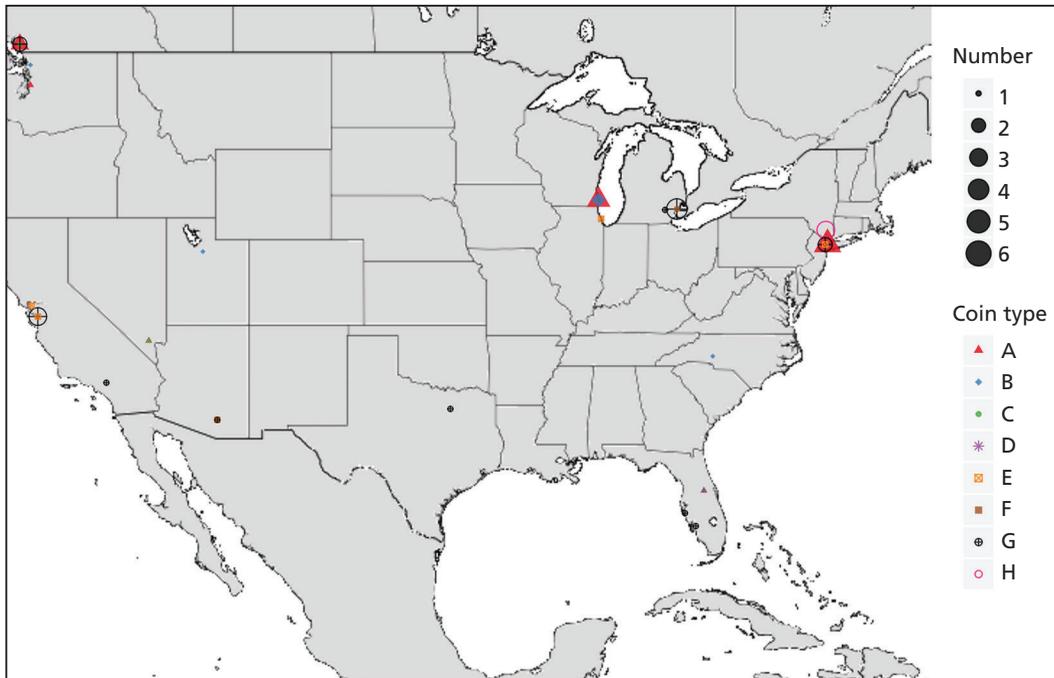
Figures B.3 and B.4 show the geographic dispersion—including the numbers and types—of the case study coins. Not shown are one coin of type G in Izhevsk, Russia; two coins of type B in Dubai; and one each of types A and B in Noarlunga Centre, South Australia. Figure B.3 shows that coins are clustered in northern Europe, specifically in Paris, London, and throughout Germany. Different coin types are found together in Paris, Munich, Düsseldorf, Cologne, and London, with four dealers (the largest in each city besides Cologne) selling 26 of the 66 coins in Europe. Some hotspots stand out: a dealer in Paris selling eight coins from four distinct categories; another dealer in Lille, France, selling eight coins from just two categories; a dealer in London selling four coins from two categories; and dealers around Cologne selling numerous types of coins. These collectively account for more than one-third of all the suspect coins found in Europe. Ignoring the eight coins with provenance that were sold by a single dealer (Dealer Y in Table B.2), the hotspots are narrowed to Lille, London, and Germany.

Figure B.3
European Locations of Coin Sales from Four Case Studies



SOURCE: Authors' analysis of eBay data.

Figure B.4
North American Locations of Coin Sales from Four Case Studies



SOURCE: Authors' analysis of eBay data.

Because some ancient coins are found in hoards, the presence of multiple coins of the same type (sometimes up to six in one location) is concerning. Overall, coins of type G are by far the most common, with coins of types D, F, and H being sold in only a couple locations. Although difficult to see on the map, Coin D was being offered only in two locations and nowhere outside Europe.

Figure B.4 shows how coins are scattered throughout the United States and Canada: clusters in or near New York City; Windsor, Ontario, Canada; Racine, Wisconsin; San Francisco and San Jose, California; and the Seattle, Washington–Vancouver, British Columbia, Canada area. Thirty-five of the 47 coins in North America were being sold in these vicinities. Unlike in Europe, where one dealer offered the coins found in each city, in New York, California, and the Washington–Vancouver area, the coins are scattered among several dealers. Again, coins of category G are the most common.

It is no surprise that New York, Paris, London, and Germany are highlighted in this analysis. These are centers of the antiquities trade more generally, and, if sufficiently large volumes of coins pass through any city, it is almost inevitable that some examples of any single type of coin would be found somewhere in that city. What is not expected are the locations of dealers in smaller towns who are selling relatively large numbers of these case study coins. Because of the online nature of their business, it is possible that

these sellers do transactions around the world; however, their location and the numbers of coins they sell raise questions about the sources of their inventory.

Given the information already presented, it is still an open question whether any given seller can be trusted (i.e., whether they have authentic coins at prices that do not raise eyebrows). To delve further into these questions, qualitative characteristics of sellers and their online profiles may be of use. Vendors on MA-shops, vCoins, and Sixbid generally have profiles indicating their expertise, experience, and contact information. Most of these sellers report being in business for years; some are even founding members of the MA-shops or vCoins sites. They do not generally report much detail on the coins, although some write lengthy background notes on the emperor or the civilization that produced the coin, and they often cite standard numismatic references in which a particular coin is pictured or described.

Sellers on eBay are more idiosyncratic and potentially problematic in terms of vetting the quality of their goods. Of the 21 vendors on eBay, eight also had profiles on MA-shops, vCoins, or Sixbid. In these cases, the eBay listing was very similar to the listing on the other site. But in other cases, eBay listings may offer very little information about the coins—often not even a reference. Contact information and seller experience are also difficult to determine. Three of the eBay vendors discontinued their usernames within six months of data collection, and little could be found about them beyond the city from which they shipped their goods. Two vendors had pictures of their coins in identical packaging, with the same style of stickers, labels, and numbering system, but the coins were different and had different serial numbers. The vendors were located in cities very near to each other, but we were not able to determine them to be the same vendor because they had two different profiles and mailing addresses. Instead, their inventory possibly comes from the same source. Some eBay vendors have very few coins for sale: All sellers with fewer than 100 ancient coins were on eBay. The two sellers in Figure B.2 with fewer than ten total coins were both on eBay; there was no evidence in their profiles or sales history to indicate that they had ever sold an ancient coin in the past or that they knew anything about the coins.

Notably, eBay also has the lowest prices. Not every coin listed on eBay is being offered at a low price relative to other sites. But among those coins with apparently absurdly low prices, the vast majority were for sale on eBay. For examples, coin type B could generally be purchased for about \$100 to \$400. Several coins on eBay were being offered for only \$20, or even as low as \$7.99. There was a single exception to the absence of low prices on other sites: a dealer in Munich whose prices rivaled those of the cheapest eBay coins.

It is difficult to say whether low prices generally indicate inauthenticity. However, given that the most extremely low prices are found on eBay and that eBay sellers operate with some degree of anonymity and with less of a public presence, we can conclude that eBay is more likely to have fake items. If we ignore coins sold exclusively on eBay

as well as those with any provenance information, the pool of suspicious dealers is limited to just a handful.

Lessons from the Analysis

Even if every coin were genuine and illegally trafficked, this analysis does not and cannot say with certainty where dealers are sourcing their coins, when the coins were dug up, or how many middlemen were involved with their transit. However, the data do offer several lessons:

- **Suspicious coins appear in clusters at certain dealers.** Some coins do appear as singletons in other locations, but the majority of suspicious coins are found in just a handful of dealers and cities. After accounting for those with provenance information (if that information is to be trusted), even fewer dealers stand out as playing a significant role in the market.
- **Coins are moving by land and by sea.** Coins can move over land directly into Europe, perhaps without any customs paperwork or border inspection. But about half the coins were found in North America (as well as those in Australia), implying that coins are also traveling abroad via air or sea and crossing borders that are more tightly controlled.
- **Just a few hoards may account for all the coins.** Given that several of these coins have historically been found in hoards or at a single archaeological site, it is conceivable that many coins could come from a single findspot. Note that this would also be true of other types of antiquities; for example, the nature of ancient burial rituals means that one tomb can yield several dozen pots, vases, or even hundreds of small statuettes.

A Supply and Demand Theory of the Antiquities Market

This report has focused largely on the supply side of the antiquities market, describing the ways that trafficking networks have emerged to bring looted antiquities to market. However, as we analyze the trafficking and sale of these goods, it must be emphasized that the increasing availability of these goods is only one aspect of the antiquities market. As we describe the demand for antiquities in the preceding chapters and suggest how the availability of new communications and advertising platforms have affected both the supply and demand for these goods, we believe that it is instructive to develop a grounded description of how supply and demand operate in the antiquities market.

It is relevant to formalize this framework because discussions of antiquities trafficking regularly invoke the concepts of supply and demand to describe the drivers of the market. According to Danti's 2015 testimony before the U.S. House of Representatives, for example, "This market is highly opaque, fragmented, and relatively unregulated at all levels. In the case of antiquities, which are highly prized as investments and status items, demand exceeds the modest legal supply."¹ Similarly, in 2015, Andrew Keller, Deputy Assistant Secretary for Counter Threat Finance and Sanctions at the U.S. Department of State ended his presentation on the Islamic State's antiquities trafficking with the observation that, since "[s]upply is difficult to control . . . "[d]emand drives trafficking."² However, in the absence of a more formal analysis, it is difficult to assess these claims.

In this appendix, we hope to ground the concepts underlying this debate more strongly in economic analysis. Specifically, this framework will clarify how the dramatic increase in supply affects the market and, additionally, offers a conceptual model through which we can better understand the different forces that affect the high and low ends of the antiquities market.

¹ Michael D. Danti, "The Finance of Global Terrorism Through Cultural Property Crime in Syria and Northern Iraq," written statement submitted for Testimony Before the House Committee on Foreign Affairs, Subcommittee on Terrorism, Nonproliferation, and Trade, Washington, D.C., November 17, 2015.

² Andrew Keller, "Documenting ISIL's Antiquities Trafficking," PowerPoint deck, September 29, 2015a.

Framing the Analysis

The cumulative evidence from prior research on antiquities sales points to a market that is highly segmented in terms of quality. At the top of the market are high-end auction houses and eminent dealers, where a single object can sell for more than \$1 million. At the bottom of the market are various independent online sellers, through which objects may be offered in large groups, perhaps with dubious authenticity or without means of identifying the item (e.g., groups of uncleaned coins or fragments of objects too small and nondescript to match to a particular time or place). The vast majority of dealers and auction houses occupy the middle market, selling a variety of objects but unlikely to consign the world's most expensive statue or a pile of uncleaned coins.

It is important to distinguish these different market segments because supply and demand likely have very different characteristics in each segment. These characteristics in turn will affect the way in which current and future looting affects market prices.

Elasticity

A parsimonious way to distinguish the high end from the middle or low end of the market is to consider respective elasticities. The concept of elasticity, a mainstay of economic theory and analysis, refers to the proportionate change in price required to shift the quantity supplied or demanded by a given percentage. When supply or demand is inelastic, it means the price must change much more than quantity to shift the market: A 1-percent change in quantity will require more than a 1-percent change in price to move along the supply or demand curve. Conceptually, it means that buyers or sellers are unable or unwilling to change the quantities they buy or sell without a relatively large price incentive; visually, it means a graph's supply or demand line will be relatively steep. Conversely, when supply or demand is elastic, changing quantities require proportionally smaller adjustments in price; buyers and sellers can vary quantities easily and the lines on a graph will be relatively flat.

It is important to remember that elasticity and price are not the same. Inelastic goods do not need to have high prices. Rather, prices are set by combining supply and demand curves to determine where they intersect. Elasticity determines how prices change when quantities vary from that original price equilibrium, identified by the intersection point of the two curves on the graph. When both supply and demand are inelastic, prices will be quite volatile with even small changes in quantities. As with other goods, whether antiquities' prices are high or low is different from whether supply and demand are inelastic.

It is also useful to note the determinants of elasticity. Demand and supply become more elastic when an object has more substitutes on the market. For this reason, going

from narrower categories of objects to broader categories of demand will increase elasticity. This is pertinent to antiquities because, in some sense, every single antiquity is completely unique. No single clay pot looks exactly like another, and different pots will have been found at different sites and therefore will tell different stories. Thus, at the very narrowest level, each item has perfectly inelastic supply. But this level of individuality is not useful for setting prices at auction, and indeed the tendency to speak of “the market for cylinder seals” or “the market for Apulian vases” indicates that objects fall into useful categories that allow them to be compared with other objects along several dimensions. Therefore, in practice, supply is not perfectly inelastic for the vast majority of antiquities. What matters is which characteristics are salient in shaping demand and how many objects serve as comparable substitutes for a given object.

The High End of the Market

At the highest end of the market, each object is very rare in several ways. It will be set apart from others, even those that are most comparable, making it seem like it belongs in a class of its own. The object has literally no substitute. By definition, both supply and demand become inelastic. Specifically, supply becomes almost perfectly inelastic because no amount of excavating can produce another object like the one in question. The inelasticity of demand is tempered somewhat by the increasingly deep pockets of art collectors and the growing interest in typical in Western art markets for objects from such regions as East Asia and the Persian Gulf, which expands the pool of buyers and means that even the world’s most expensive antiquities have multiple bidders at auction.³

Therefore, the highest end of the market could be characterized as objects with almost perfectly inelastic supply and very, but slightly less, inelastic demand. Equilibrium prices are very high because supply is extremely limited.

The Middle- and Low-End Market

Because the high end of the market is the most often examined, many assumptions about the rest of the market are based on the high end. Yet several of these assumptions fail to hold when it comes to the rest of the market. First, the objects in the rest of the market are much less differentiated. Browsing an auction catalogue reveals that, even at a high-end auction house, there could be a dozen Roman-era rings with

³ The exposition here is mainly for conceptual illustration and should not be confused with measurable parameters such as precise elasticities. Such numbers should not be inferred from auction prices on a single item. Because prices are so sensitive to the number of bidders in the room, the concept of a market price for a given antiquity ceases to have meaning at the very high end of the market.

variations of garnet, chalcedony, onyx, or jasper ringstones. There could also be dozens of cuneiform tablets, bracelets, small shabtis, eastern Mediterranean glassware, and several other categories of objects. As evidence of the fact that these items have fewer unique characteristics, auction catalogues and dealers' marketing materials devote considerably less space, if any, to describing these items and to researching their backstories. Together, these observations imply that supply is higher and demand is lower compared with the top end of the market. We would expect the average price to be lower, which, of course, it is.

Because there are fewer distinguishing factors, we would also expect supply and demand to be more elastic. Often, no two rings are so different that a buyer would pay an exorbitant premium to have one over another. A final aspect to consider is antiquities' storability. Dealers warehouse their inventory, perhaps for years, and some have stockrooms with dozens or hundreds of antiquities to restock a shelf after a similar object is sold, implying that supply is actually quite elastic for the middle to low range of objects. This is further evidence, along with the regularity of auctions and dealer shows, that the majority of the antiquities market has relatively elastic supply.

The Impact of Looting

A major question is whether increases in looting will affect the market. It could be assumed that increased looting would necessarily drive down prices. However, the true impact on prices depends on whether marginal buyers in the lowest end of the market tend to be elastic (e.g., souvenir-hunting tourists who think real artifacts are just as good as replicas) or inelastic (e.g., collectors with a dedicated interest in small antiquities) and whether there is currently excess supply in the market. Although we do not know the true elasticity of supply and demand, we can consider the theoretical impact on prices in four scenarios (Figure C.1).

Figures C.2–C.5 illustrate the supply and demand for the high end versus the rest of the market, with four scenarios depending on whether supply and demand are relatively elastic at the current equilibrium. An increase in looting is equivalent to having more producers enter an industry. Entry into an industry pushes out the supply curve because more objects are produced (excavated) every year, making the new, dotted supply curve even more elastic than its solid-line predecessor.

First, suppose that demand and supply are both elastic. Dealers have enough stock that they can pull more to fulfill demand if required. This is shown in Figure C.2 by the solid demand and supply lines intersecting where the demand and supply are both relatively flat. Supply becomes very inelastic beyond the fixed, available quantity that is determined by the amount in storage or in collections. This results in the upward, nearly vertical line at the right end of the supply curve, indicating that acquiring any additional quantity would require some sort of new production

Figure C.1
Schema of the Supply and Demand Elasticity of the Antiquities Market

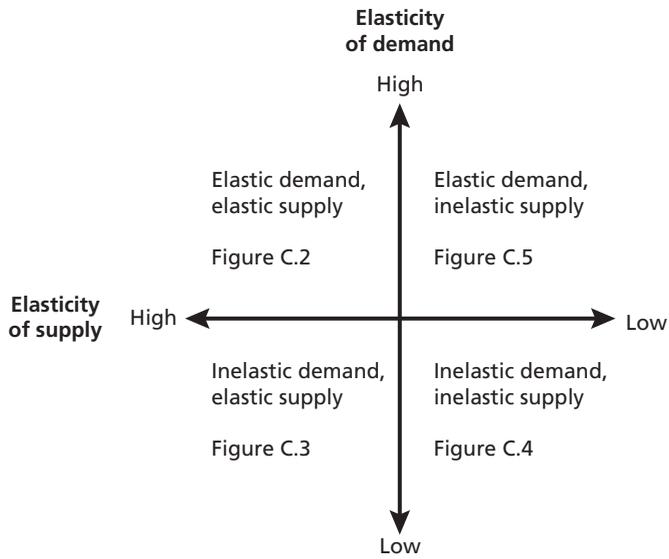
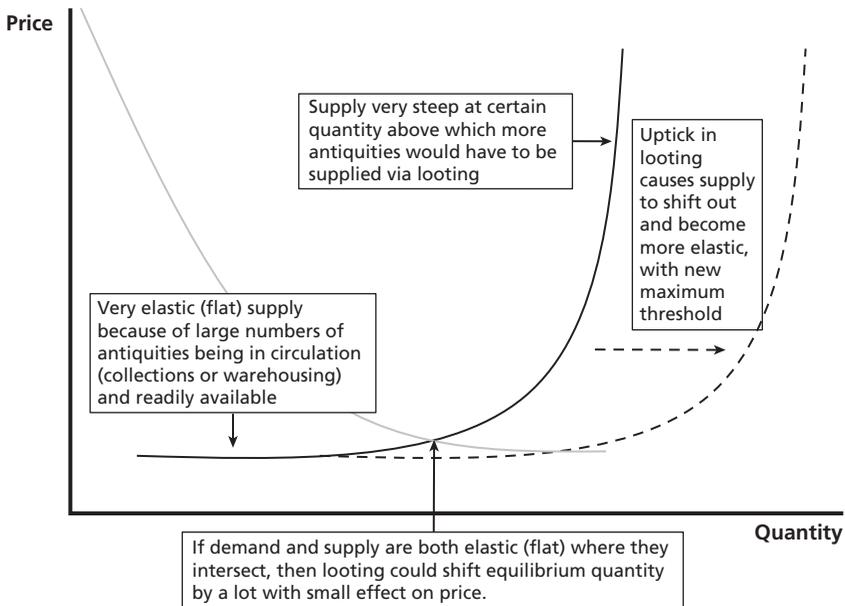
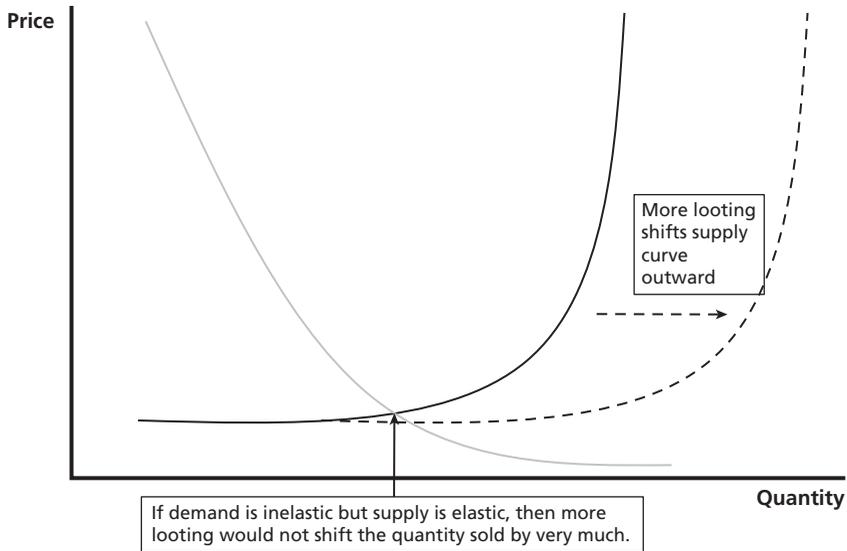


Figure C.2
Impact of Looting with Elastic Demand and Elastic Supply



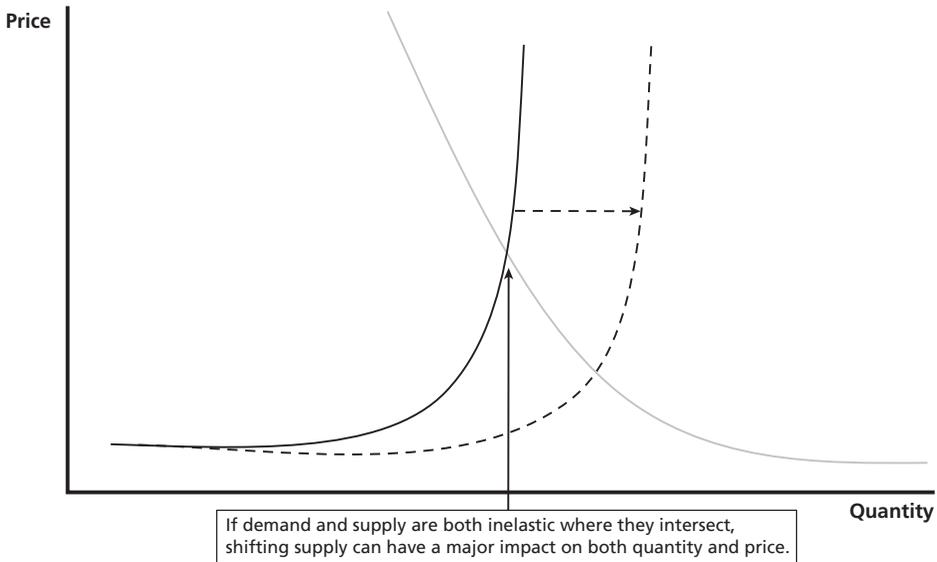
NOTES: Gray line = demand curve, solid line = supply curve, dashed line = impact of looting on supply.

Figure C.3
Impact of Looting with Inelastic Demand and Elastic Supply



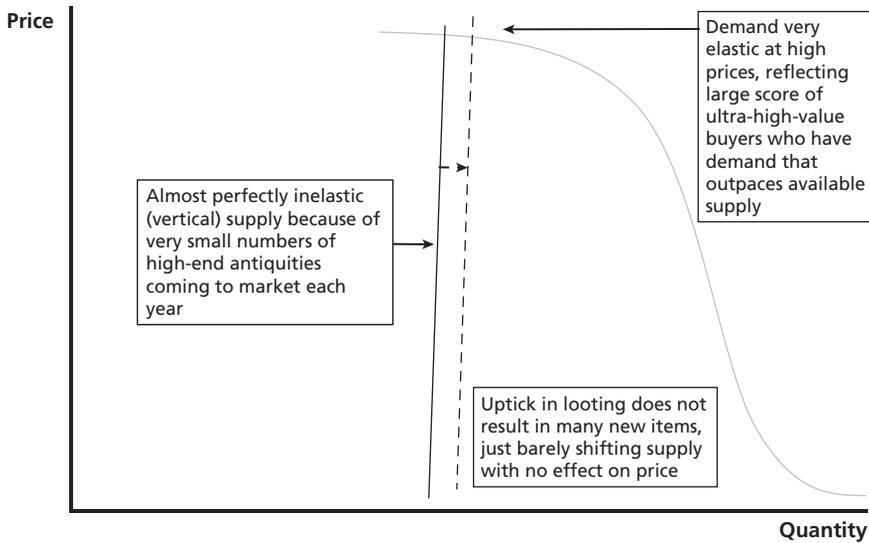
NOTES: Gray line = demand curve, solid line = supply curve, dashed line = impact of looting on supply.

Figure C.4
Impact of Looting with Inelastic Demand and Inelastic Supply



NOTES: Gray line = demand curve, solid line = supply curve, dashed line = impact of looting on supply.

Figure C.5
Impact of Looting with Elastic Demand and Inelastic Supply



NOTES: Gray line = demand curve, solid line = supply curve, dashed line = impact of looting on supply.

(i.e., looting or excavating). In this scenario, if an uptick in looting shifted supply to the right, there will be a large observable change in quantity sold but not on price. This is apparent because the new equilibrium, where the solid demand and dotted supply intersect, is quite far away from the original.

However, if demand is inelastic but there is still elastic supply (Figure C.3), then the quantity sold would not change much as the supply curve shifts out with increased looting. Most of the additional antiquities being looted would be stored or cached in warehouses. The additional looting could increase the quantities observed to be sold and lower the average price.

If both demand and supply are inelastic (i.e., there is not enough inventory in circulation to provide flexibility in supply), then Figure C.4 shows that even a little bit of additional looting could have a major impact on both quantities and price. The increased quantities available will cause a major dip in market prices.

Figure C.5 shows the dynamics in which supply cannot keep up with demand, in the sense that several very high-net-worth individuals are willing to pay high prices, but there are not enough antiquities to meet that demand. In this scenario, demand will be quite elastic at low quantities, with high prices willing to be paid. Although demand might drop off eventually, supply is so small that it intersects demand at a very small quantity, and the equilibrium has very high prices. Moreover, supply is almost perfectly inelastic (i.e., vertical) because only a few objects can be found at any

given time. Looting might shift out the supply, but not by much, so price is virtually unaffected.

Based on the prior analysis, it is likely that Figure C.2 or C.3 characterizes the low end of the market. Specifically, reports suggest that there seems to be fairly elastic demand and fairly steady supply, in the sense that dealers and auction houses have a reliable, constant inventory of particular types of antiquities matched by fairly stable prices. Figure C.4 seems unlikely, because there is no evidence that the middle or low tier of the market has faced major fluctuations in the average price of standard types of antiquities. The high end is characterized by Figure C.5.

Implications

An overall implication of this conceptual analysis is that looting may not have any substantial effect on prices. According to this economic model, despite bringing more items to market, increased looting would not make prices fall dramatically. The market would either absorb the items at near-constant prices, or the objects would feed into warehouses and inventories and enter the market over a long period of time. This dynamic is exactly what Danti described in his analysis of trafficking in the region, in which he observed that goods were being stockpiled and were only slowly trickling onto the market.⁴ Given these market dynamics, policies aimed at combatting looting or black-market sales would need to address reductions in quantity directly, without hoping that increased looting would depress prices to the degree that looting would cease to be profitable.

⁴ Michael Danti, email communication with authors, September 25, 2018.

References

- Abbas, Mohammed, "Museums on High Alert for Ancient Egyptian Loot," Reuters, February 2, 2011. As of January 2, 2020:
<https://www.reuters.com/article/us-britain-egypt-antiquities/museums-on-high-alert-for-ancient-egyptian-loot-idUSTRE7114X420110202>
- Al-Azm, Amr, Salam Al-Kuntar, and Brian I. Daniels, "ISIS' Antiquities Sideline," *New York Times*, September 2, 2014. As of January 3, 2020:
<https://www.nytimes.com/2014/09/03/opinion/isis-antiquities-sideline.html>
- Al-Azm, Amr, and Katie A. Paul, "The Middle East's Other Facebook Revolution: Antiquities Trafficking in the Digital Age," *World Politics Review*, August 14, 2018. As of January 2, 2020:
<https://www.worldpoliticsreview.com/insights/25532/how-facebook-made-it-easier-than-ever-to-traffic-middle-eastern-antiquities>
- Al-Azm, Amr, and Katie A. Paul, "Facebook's Black Market in Antiquities: Trafficking, Terrorism, and War Crimes," Antiquities Trafficking and Heritage Anthropology Research (ATHAR) Project, 2019.
- Albertson, Lynda, "Auction Alert I: Ancient Palmyran Limestone Head Ca. 3rd–5th Century A.D.?" Association for Research into Crimes Against Art blog, November 30, 2016.
- Alderman, Kimberly L., "Honor Amongst Thieves: Organized Crime and the Illicit Antiquities Trade," *Indiana Law Review*, Vol. 45, No. 3, January 3, 2012, pp. 602–627.
- "Пазарът на антики в България" ["The Antiquities Market in Bulgaria"], *Economynews.bg*, September 2, 2009.
- "Arrest Made as Egyptian Artefacts Are Pulled from Christie's London Sale," *Antiquities Trade Gazette*, May 28, 2018. As of March 5, 2019:
<https://www.antiquestradegazette.com/news/2013/arrest-made-as-egyptian-artefacts-are-pulled-from-christies-london-sale/>
- Associated Press, "Gold Coins, at Bottom of Sea for Millennium, Go on Display," *New York Times*, February 19, 2015, Section A, p. 7.
- Atanasova, Vidka, "Хванаха ценни антики на границата" ["They Took Valuable Antiquities Across the Border"], *Dnes.bg*, November 19, 2006.
- AZSecure-data.org, "Dark Net Markets (DNMs)," webpage, undated. As of March 5, 2019:
<https://www.azsecure-data.org/dark-net-markets.html>
- Baker, Aryn, and Majdal Anjar, "Syria's Looted Past: How Ancient Artifacts Are Being Traded for Guns," *Time*, September 12, 2012.
- Ball, James, "Silk Road: The Online Drug Marketplace That Officials Seem Powerless to Stop," *The Guardian*, March 22, 2013.

Berner, Gabriel, "Christie's Withdraw Lots After Antiquities Alert," *Antiquities Trade Gazette*, April 14, 2015. As of March 5, 2019:

<https://www.antiquestrade gazette.com/news/2015/christies-withdraw-lots-after-antiquities-alert/>

Bernhardsson, Magnus T., *Reclaiming a Plundered Past: Archaeology and Nation Building in Modern Iraq*, Austin: University of Texas Press, 2005.

Bland, Roger, "The Coinage of Vabalathus and Zenobia from Antioch and Alexandria," *Numismatic Chronicle*, Vol. 171, 2011, pp. 133–186.

Bogdanos, Matthew, and William Patrick, *Thieves of Baghdad: One Marine's Passion to Recover the World's Greatest Stolen Treasures*, New York: Bloomsbury USA, 2005.

Bolmarcich, Sarah, and Georgina Muskett, "Artists' Signatures on Archaic Greek Vases from Athens," in Peter Schultz and Kristen Seaman, eds., *Artists and Artistic Production in Ancient Greece*, Cambridge, UK: Cambridge University Press, 2017, pp. 154–176.

Brennan, Katherine, and Kate Fitz Gibbon, "Bearing False Witness: The Media, ISIS and Antiquities," *Committee for Cultural Policy*, December 1, 2017.

Brodie, Neil, "Focus on Iraq: Spoils of War," *Archaeology*, Vol. 56, No. 4, July/August 2003.

Brodie, Neil, "Scholarship and Insurgency? The Study and Trade of Iraqi Antiquities," presentation at the Institute of Advanced Studies workshop Illicit Traffic of Cultural Objects: Law, Ethics and Realities, Perth: University of Western Australia, August 4–5, 2011.

Brodie, Neil, "Auction Houses and the Antiquities Trade," in S. Choulika-Kapeloni, ed., *Third International Conference of Experts on the Return of Cultural Property*, Athens, Greece: Archaeological Receipts Funds, 2014, pp. 71–82.

Brodie, Neil, "How to Control the Internet Market in Antiquities? The Need for Regulation and Monitoring," *Antiquities Coalition*, Policy Brief No. 3, July 2017, p. 2.

Bruenig, Elizabeth, "Between Hobby Lobby and ISIS: The Battle for Iraq's Antiquities," *The New Republic*, October 29, 2015.

"Bulgaria Organized Crime Genesis," Sophia News Agency (Novinite), February 22, 2008.

Caesar, Ed, "What Is the Value of Stolen Art?" *New York Times*, November 13, 2013. As of January 3, 2020:

<https://www.nytimes.com/2013/11/17/magazine/what-is-the-value-of-stolen-art.html>

Campbell, Peter, "The Illicit Antiquities Trade as a Transnational Criminal Network: Characterizing and Anticipating Trafficking of Cultural Heritage," *International Journal of Cultural Property*, Vol. 20, No. 2, May 2013, pp. 113–153.

Casana, Jesse, "Satellite Imagery-Based Analysis of Archaeological Looting in Syria," *Near Eastern Archaeology*, Vol. 78, No. 3 (Special Issue: The Cultural Heritage Crisis in the Middle East), September 2015, pp. 142–152.

Casana, Jesse, and Mitra Panahipour, "Satellite-Based Monitoring of Looting and Damage to Archaeological Sites in Syria," *Journal of Eastern Mediterranean Archaeology and Heritage Studies*, Vol. 2, No. 2, 2014, pp. 128–151.

Center for the Study of Democracy, *Organized Crime in Bulgaria: Markets and Trends*, Sofia, Bulgaria, 2007. As of February 28, 2020:

http://pdc.ceu.hu/archive/00003706/01/organized_crime_markets_and_trends.pdf

Central Intelligence Agency, "Europe: Bulgaria," *World Factbook* webpage, December 18, 2019. As of December 30, 2019:

<https://www.cia.gov/library/publications/the-world-factbook/geos/bu.html>

Charney, Noah, Paul Denton, and John Kleberg, "Protecting Cultural Heritage from Art Theft," *FBI Law Enforcement Bulletin*, March 1, 2012. As of December 30, 2019:

<https://leb.fbi.gov/articles/featured-articles/protecting-cultural-heritage-from-art-theft-international-challenge-local-opportunity>

Chivers, C. J., "Facebook Groups Act as Weapons Bazaars for Militias," *New York Times*, April 6, 2016. As of December 30, 2019:

<https://www.nytimes.com/2016/04/07/world/middleeast/facebook-weapons-syria-libya-iraq.html>

Christie's Antiquities, December 6, 2016, Lot 3.

Chulov, Martin, "How an Arrest in Iraq Revealed Isis's \$2bn Jihadist Network," *The Guardian*, June 15, 2014. As of December 30, 2019:

<https://www.theguardian.com/world/2014/jun/15/iraq-isis-arrest-jihadists-wealth-power>

Clarke, Colin, "Drugs & Thugs: Funding Terrorism Through Narcotics Trafficking," *Journal of Strategic Security*, Vol. 9, No. 3, Fall 2016, pp. 1–15.

Collins, Paul, and Charles Tripp, *Gertrude Bell and Iraq: A Life and Legacy*, Oxford, UK: Oxford University Press, 2017.

Cultural Property Observer, "Thanksgiving: Khouli Sentenced to Home Detention," blog, November 20, 2012. As of March 5, 2019:

<http://culturalpropertyobserver.blogspot.com/2012/11/khouli-sentence.html>

Cunningham, Daniel, Sean F. Everton, and Philip J. Murphy, *Understanding Dark Networks: A Strategic Framework for the Use of Social Network Analysis*, Lanham, Md.: Rowman and Littlefield, 2016.

Cuno, James B., *Who Owns Antiquity?: Museums and the Battle over Our Ancient Heritage*, Princeton, N.J.: Princeton University Press, 2008.

Daniels, Brian I., and Katharyn Hanson, "Archaeological Site Looting in Syria and Iraq: A Review of the Evidence," in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods: The Global Challenge of Protecting the World's Heritage*, Paris: The International Council of Museums, 2015, pp. 83–94.

Danti, Michael D., "The Finance of Global Terrorism Through Cultural Property Crime in Syria and Northern Iraq," written statement submitted for Testimony Before the House Committee on Foreign Affairs, Subcommittee on Terrorism, Nonproliferation, and Trade, Washington, D.C., November 17, 2015. As of December 30, 2019:

<https://docs.house.gov/meetings/FA/FA18/20151117/104202/HHRG-114-FA18-Wstate-DantiM-20151117.pdf>

Davis, Tess, and Simon Mackenzie, "Crime and Conflict: Temple Looting in Cambodia," in Joris D. Kila and Marc Balcells, eds., *Cultural Property Crimes: An Overview and Analysis on Contemporary Perspectives and Trends*, Leiden, The Netherlands, and Boston, Mass.: Koninklijke Brill NV, 2015, pp. 292–306.

Deane, Daniela, "Islamic State Selling Art to Fund Fight, Experts Say," *Washington Post*, February 26, 2015. As of December 30, 2019:

https://www.washingtonpost.com/world/is-looted-syrian-art-showing-up-in-london-to-fund-activities/2015/02/25/785ab630-bcd0-11e4-b274-e5209a3bc9a9_story.html

"Der Standard: Antiquities Traders Have Little to Fear of Bulgarian Authorities," Sophia News Agency (Novinite), September 21, 2016.

Desmarais, Frances, “An International Observatory on Illicit Traffic in Cultural Goods,” in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods*, Paris: International Council of Museums, 2015, pp. vii–x.

Desplat, Juliette, “The Beginnings of The Iraq Museum,” National Archives blog, November 15, 2016. As of March 5, 2019:
<https://blog.nationalarchives.gov.uk/blog/beginnings-iraq-museum/>.

Desplat, Juliette, “Decolonising Archaeology in Iraq?” National Archives blog, June 27, 2017. As of March 5, 2019:
<https://blog.nationalarchives.gov.uk/blog/decolonising-archaeology-iraq/>

Dikov, Ivan, “Bulgarian Police Seize Ancient Roman Archaeology Artifacts, Slab with Sumerian Motifs from Treasure Hunters,” *Archaeology in Bulgaria* blog, May 24, 2015a. As of December 30, 2019:
<http://archaeologyinbulgaria.com/2015/03/24/bulgarian-police-seize-ancient-roman-archaeology-artifacts-slab-with-sumerian-motifs-from-treasure-hunters/>

Dikov, Ivan, “Bulgarian Antique Traffickers Flood Europe with Fake Archaeological Artifacts, Forged Thracian Treasure on Sale for Eur 200,000,” *Archaeology in Bulgaria* blog, July 20, 2015b. As of December 30, 2019:
<http://archaeologyinbulgaria.com/2015/07/20/bulgarian-antique-traffickers-flood-europe-with-fake-archaeological-artifacts-forged-thracian-treasure-on-sale-for-eur-200000/>

Dikov, Ivan, “Bulgarian, Greek Treasure Hunting Gang Busted by Border Police,” *Archaeology in Bulgaria* blog, March 24, 2016. As of December 30, 2019:
<http://archaeologyinbulgaria.com/2016/03/24/bulgarian-greek-treasure-hunting-gang-busted-by-border-police/>

Dikov, Ivan, “Bulgarian, Turkish Man Sentenced in Shumen for Trafficking Roman Artifacts from Middle East,” *Archaeology in Bulgaria* blog, January 8, 2017. As of December 30, 2019:
<http://archaeologyinbulgaria.com/2017/01/08/bulgarian-turkish-man-sentenced-in-shumen-for-trafficking-roman-artifacts-from-middle-east/>

Dikov, Ivan, “11,000 Coins, Archaeological Artifacts Seized on Bulgaria’s Border in Attempted Smuggling from Turkey into Eu,” *Archaeology in Bulgaria* blog, May 26, 2018. As of March 5, 2019:
<http://archaeologyinbulgaria.com/2018/05/26/11000-coins-archaeological-artifacts-seized-on-bulgarias-border-in-attempted-smuggling-from-turkey-into-eu/>

Dimitrov, Boyan, “Правят Копия На Цели Съкровища” [“Copies of Entire Treasures Made”], *Monitor*, November 2, 2016.

Dobrzynski, Judith H., “Antiquities and ISIS: Something Doesn’t Add Up,” *Arts Journal*, January 10, 2016. As of December 30, 2019:
<https://www.artsjournal.com/realcleararts/2016/01/antiquities-and-isis-something-I-add-up.html>

Dodge, Toby, *Iraq: From War to a New Authoritarianism*, London: International Institute for Strategic Studies, 2012.

Drennan, Justine, “The Black-Market Battleground,” *Foreign Policy*, October 17, 2014. As of December 30, 2019:
<https://foreignpolicy.com/2014/10/17/the-black-market-battleground/>

Efrat, Asif, *Governing Guns, Preventing Plunder: International Cooperation Against Illicit Trade*, New York and Oxford, UK: Oxford University Press, Inc., 2017.

- El-Aref, Nevine, “New Security Plan for Egypt’s Archaeological Sites,” *Ahram.org.eg*, October 19, 2011. As of October 2, 2018:
<http://english.ahram.org.eg/NewsContent/9/40/24559/Heritage/Ancient-Egypt/New-security-plan-for-Egypt-archaeological-sites.aspx>
- El Qorchi, Mohammed, Samuel Munzele Maimbo, and John Wilson, *Informal Funds Transfer Systems: An Analysis of the Informal Hawala System*, Washington, D.C.: International Monetary Fund, occasional paper 222, 2003.
- European Union, “Cultural Goods,” *ec.europa.eu* webpage, undated. As of September 28, 2018:
https://ec.europa.eu/taxation_customs/business/customs-controls/cultural-goods_en
- Everton, Sean F., *Disrupting Dark Networks*, Cambridge, UK: Cambridge University Press, 2012.
- “Полиция ликвидировала RAMP—крупнейший в России интернет-магазин наркотиков” [“Excerpt, Police Shut Down RAMP—Russia’s Largest Online-Marketplace for Illegal Drugs”], *Новая газета* [*New Newspaper*], 2017.
- Fanusie, Yaya J., and Alexander Joffe, *Monumental Fight: Countering the Islamic State’s Antiquities Trafficking*, Washington, D.C.: Foundation for Defense of Democracies, Center on Sanctions and Illicit Finance, November 2015. As of December 30, 2019:
https://s3.us-east-2.amazonaws.com/defenddemocracy/uploads/documents/Monumental_Fight.pdf
- Faucon, Benoit, Georgi Kantchev, and Alistair MacDonald, “The Men Who Trade ISIS Loot,” *Wall Street Journal*, August 6, 2017. As of March 4, 2019:
<https://www.wsj.com/articles/the-men-who-trade-isis-loot-1502017200>
- Fay, Emily, “Virtual Artifacts: eBay, Antiquities, and Authenticity,” *Journal of Contemporary Criminal Justice*, Vol. 27, Vol. 4, September 2011, pp. 449–464.
- Fisk, Robert, “Syria’s Ancient Treasures Pulverized,” *Independent*, August 4, 2012. As of December 30, 2019:
<https://www.independent.co.uk/voices/commentators/fisk/robert-fisk-syrias-ancient-treasures-pulverised-8007768.html>
- Fisman, Raymond, and Shang-Jin Wei, “The Smuggling of Art, and the Art of Smuggling: Uncovering the Illicit Trade in Cultural Property and Antiques,” *American Economic Journal: Applied Economics*, Vol. 1, No. 3, 2009, pp. 82–96.
- Frankel, Sheera, “How ISIS Became the Richest Terrorist Group in the World,” *Buzzfeed*, August 28, 2014. As of January 1, 2020:
<https://www.buzzfeednews.com/article/sheerafrankel/how-did-isis-become-the-richest-terrorist-group-in-the-world>
- Georgieva, Blaga, “Професор продава тайно антики за ½ млн. Лв. В Мюнхен” [“Professor Is Selling Secret Antiquities for BGN ½ Million in Munich”], *24 Chasa*, April 11, 2014. As of January 1, 2020:
<https://www.24chasa.bg/novini/article/4405046>
- Gerstenblith, Patty, “Implementation of the 1970 UNESCO Convention by the United States,” in Jane Anderson and Haidey Geismar, eds., *The Routledge Companion to Cultural Property*, 1st ed., Oxford, UK: Routledge, 2017.
- Giglio, Mike, and Munzer al-Awad, “Inside the Underground Trade to Sell-Off Syrian History,” *Buzzfeed*, July 30, 2015. As of January 1, 2020:
<https://www.buzzfeednews.com/article/mikegiglio/the-trade-in-stolen-syrian-artifacts>

Gillot, Laurence, “Towards a Socio-Political History of Archaeology in the Middle East: The Development of Archaeological Practice and Its Impacts on Local Communities in Syria,” *Bulletin of the History of Archeology*, Vol. 20, No. 1, May 2010, pp. 4–16.

Goode, James F., *Negotiating for the Past: Archaeology, Nationalism, and Diplomacy in the Middle East, 1919–1941*, Austin: University of Texas Press, 2007.

Granovetter, Mark, “The Strength of Weak Ties,” *American Journal of Sociology*, Vol. 78, No. 6, May 1973, pp. 1360–1380.

Granovetter, Mark, “Economic Action and Social Structure: The Problem of Embeddedness,” *American Journal of Sociology*, Vol. 91, No. 3, November 1985, pp. 481–493.

Hanna, Monica, “Documenting Looting Activities in Post-2011 Egypt,” in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods: The Global Challenge of Protecting the World’s Heritage*, Paris: International Council of Museums, 2015, pp. 47–63.

Hardy, Sam, “How the West Buys ‘Conflict Antiquities’ from Iraq and Syria (and Funds Terror),” Reuters, October 27, 2014. As of January 1, 2020:
<http://blogs.reuters.com/great-debate/2014/10/27/how-the-west-buys-conflict-antiquities-from-iraq-and-syria-and-funds-terror/>

Hardy, Samuel Andrew, “Archaeomafias Traffic Antiquities as Well as Drugs,” United Nations Educational, Scientific and Cultural Organization webpage, March 29, 2016. As of March 5, 2019:
<https://en.unesco.org/news/samuel-andrew-hardy-archaeomafias-traffic-antiquities-well-drugs>

Hellenic Resources Network, “The Treaty of Peace Between the Allied and Associated Powers and Turkey Signed at Sèvres,” August 10, 1920. As of January 3, 2020:
<http://www.hri.org/docs/sevres/part13.html>

Homeland Security News Wire, “ISIS Is Brutal, but Also Business-Savvy,” September 23, 2014.

Howard, Russell D., Marc D. Elliot, and Jonathan R. Prohov, *IS and Cultural Genocide: Antiquities Trafficking in the Terrorist State*, MacDill Air Force Base, Fla.: Joint Special Operations University Press, JSOU Report 16-11, 2016.

Howard, Russell D., Jonathan Prohov, and Marc Elliott, “How ISIS Funds Terror Through Black Market Antiquities Trade,” *U.S. Naval Institute News*, October 27, 2014. As of March 4, 2019:
<https://news.usni.org/2014/10/27/isis-funds-terror-black-market-antiquities-trade>

Howard, Russell D., Jonathan Prohov, and Marc D. Elliott, “Digging In and Trafficking Out: How the Destruction of Cultural Heritage Funds Terrorism,” *CTC Sentinel*, Vol. 8, No. 2, February 2015, pp. 14–18.

Ножаров, Щеръо, “Икономическо Измерение На Престъпленията Срещу Културно-Историческото И Археологическо Наследство” [“Economic Dimensions of Crimes Against Cultural-Historical and Archaeological Heritage”] *Nauchni trudove na Universitet za natsionalno I svetovno stopanstvo* [Scientific Papers of the University of National and World Economy], Vol. 1, No. 4, 2015.

“Illegal Antiques Channels and Lyudmila Zhivkova’s Role, Part I,” Sophia News Agency (Novinite), May 20, 2008.

International Criminal Police Organization, “Frequently Asked Questions,” interpol.int, 2018.

International Criminal Police Organization, 10th International Symposium on the Theft of and Illicit Traffic in Works of Art, Cultural Property and Antiquities in Hanoi, Vietnam, October 17–19, 2018. As of February 28, 2020:

<https://www.interpol.int/News-and-Events/News/2018/Protecting-cultural-heritage-by-disrupting-the-illicit-trade>

INTERPOL—See International Criminal Police Organization.

Jenzen-Jones, N. R., and Graeme Rice, “The Online Trade of Light Weapons in Libya,” *Security Assessment in North Africa*, Dispatch No. 6, April 2016. As of January 1, 2020:
<http://www.smallarmssurvey.org/fileadmin/docs/R-SANA/SANA-Dispatch6-Online-trade.pdf>

Kadi, Samar, “Narrowing Markets for Illicit Trade of Syrian Antiquities,” *Daily Star*, March 14, 2015. As of January 1, 2020:
<https://www.dailystar.com.lb/News/Lebanon-News/2015/Mar-14/290754-narrowing-markets-for-illicit-trade-of-syrian-antiquities.ashx>

Kagan, Ute Wartenberg, “Collecting Coins and the Conflict in Syria,” report based on presentation given at the U.S. Department of State, 2015. As of September 29, 2018:
<https://eca.state.gov/files/bureau/wartenbergsyria-coincollecting.pdf>

Keller, Andrew, “Documenting ISIL’s Antiquities Trafficking,” PowerPoint deck, September 29, 2015a. As of March 4, 2019:
<https://info.publicintelligence.net/DoS-AntiquitiesTraffickingISIL.pdf>

Keller, Andrew, “Documenting ISIL’s Antiquities Trafficking: The Looting and Destruction of Iraqi and Syrian Cultural Heritage: What We Know and What Can Be Done,” remarks at The Metropolitan Museum of Art, New York, state.gov webpage, September 29, 2015b. As of January 1, 2020:
<https://2009-2017.state.gov/e/eb/rls/rm/2015/247610.htm>

Kersel, Morag M., “The Trade in Palestinian Antiquities,” *Jerusalem Quarterly*, No. 33, Winter 2008, pp. 21–38.

“Kintex—Key Player in Bulgaria’s Secret Transit,” Sophia News Agency (Novinite), February 29, 2008.

Konstantinov, Kaloyan, “Каналите за трафик на антики на ДАЕШ минават и през България” [“DAES Antiques Traffic Channels Run Through Bulgaria”], *OffNews*, December 1, 2016. As of January 1, 2020:
<https://offnews.bg/interviu/kanalite-za-trafik-na-antiki-na-daesh-minavat-i-prez-bulgaria-641258.html>

Кюмюрджиев, Любомир [Lyubomir Kuyumurdzhiev], “Ценители и грабители” [“Appraisers and Robbers”], *National Geographic Bulgaria*, June 3, 2015. As of January 1, 2020:
<https://www.nationalgeographic.bg/?cid=126&article=4341>

Lehr, Deborah, and Peter Hardich, “Trading Treasure for Weapons: ISIS Campaign of Terror Strikes at Culture,” *Huffington Post*, September 10, 2015.

Lostal, Marina, “Syria’s World Cultural Heritage and Individual Criminal Responsibility,” *International Review of Law*, No. 3, January 2015.

Luck, Taylor, “Syrian Rebels Loot Artifacts to Raise Money for Fight Against Assad,” *Washington Post*, February 12, 2013.

Magée, Peter, “The Foundations of Antiquities Departments,” in D. T. Potts, ed., *A Companion to the Archaeology of the Ancient Near East*, Malden, Mass.; Oxford, UK; West Sussex, UK: Wiley Blackwell, 2012, pp. 70–86.

Marrone, James V., “Quantifying the Supply Chain for Near Eastern Antiquities in Times of War and Conflict,” *Journal of Cultural Heritage*, Vol. 33, September–October 2018, pp. 278–284.

McCarthy, Terry “Looted Statue Returned to Iraq But Won’t See the Light for Some Time,” ABC News, August 7, 2006. As of January 1, 2020:
<https://abcnews.go.com/International/IraqCoverage/story?id=2282183&page=1>

Meier, Barry, and James Glanz, “U.S. Helps Recover Statue and Gives It Back to Iraqis,”

New York Times, July 26, 2006. As of March 4, 2019:

<https://www.nytimes.com/2006/07/26/world/middleeast/26antiquities.html>

Meyers, Steven Lee, and Nicholas Kulish, “‘Broken System’ Allows ISIS to Profit from Looted Antiquities,” *New York Times*, January 9, 2016a. As of January 1, 2020:

<https://www.nytimes.com/2016/01/10/world/europe/iraq-syria-antiquities-islamic-state.html>

Meyers, Steven Lee, and Nicholas Kulish, “How Militants Profit from Trafficking Antiquities; Discovery of Artifacts in Bulgaria Casts Light on ‘Broken System’ of Laws,” *International New York Times*, January 11, 2016b.

Michaels, Jim, “Demand Still High for ISIL’s Stolen Antiquities from Palmyra, Elsewhere,”

USA Today, March 31, 2016. As of March 4, 2019:

<https://www.usatoday.com/story/news/world/2016/03/31/>

[demand-still-high-isils-stolen-antiquities-palmyra-elsewhere/82476346/](https://www.usatoday.com/story/news/world/2016/03/31/demand-still-high-isils-stolen-antiquities-palmyra-elsewhere/82476346/)

Middle East Institute, “Stolen Heritage: Cultural Racketeering in Egypt,” YouTube video,

May 7, 2014. As of March 4, 2019:

<https://youtu.be/h4BaIXjMwnw>

Министерство На Вътрешните Работи Главна Дирекция Борба С Организираната Престъпност [Ministry of Internal Affairs, Main Directorate for Combating Organized Crime], “Rukovodstvo” [“Guide”], webpage, undated. As of March 5, 2019:

<http://gdbop.bg/bg/rakovodstvo>

Mödlinger, Marianne, “GERMANY/Munich–BULGARIA: Gorny and Mosch Selling Finds from Illegal Excavations?” European Association of Archaeologists, Committee on the Illicit Trade in Cultural Material webpage, November 2, 2016. As of April 15, 2020:

<https://heritage-lost-eaa.com/2016/11/02/germanymunich-gorny-mosch-selling-unprovenanced-finds/>

Moore, Malcolm, “Tomb Raiders Strip Bulgaria of Its Treasures,” *Telegraph*, August 29, 2007.

Museo Milano, “Storia del commercio estero a Milano e Lombardia – Parte II – Dalle Origini all’alto medioevo” [“History of Foreign Trade in Milan and Lombardy–Part II–From Its Origins to the Early Middle Ages”], webpage, August 4, 2016. As of March 5, 2019:

<http://www.museomilano.it/storia-del-commercio-estero-a-milano-e-in-lombardia-parte-ii-dalle-origini-allalto-medioevo/>

Mynet, “Russian Diplomat: ‘ISIS Sells Historical Artifacts in Gaziantep,’” mynet.com,

September 4, 2016. As of March 4, 2019:

<http://www.mynet.com/haber/dunya/rus-diplomat-isisd-gaziantepe-tarihi-eser-satiyor-2397517-1>

NBC News, “How Terrorists Tap a Black Market Fueled by Stolen Antiquities,” June 23, 2014.

As of January 2, 2020:

<https://www.nbcnews.com/storyline/iraq-turmoil/>

[how-terrorists-tap-black-market-fueled-stolen-antiquities-n137016](https://www.nbcnews.com/storyline/iraq-turmoil/how-terrorists-tap-black-market-fueled-stolen-antiquities-n137016)

Ní Chonaill, Siobhán, Anaïs Reding, and Lorenzo Valeri, *Assessing the Illegal Trade in Cultural Property from a Public Policy Perspective*, Santa Monica, Calif.: RAND Corporation, DB-602-RE, 2011. As of January 2, 2020:

https://www.rand.org/pubs/documented_briefings/DB602.html

Oakley, John H., “The Autonomous Wreathed Tetradrachms of Kyme, Aeolis,” *Museum Notes*, Vol. 27, 1982, pp. 1–37.

Osborne, Robin, “Why Did Athenian Pots Appeal to the Etruscans?” *World Archaeology*, Vol. 33, No. 2 (Archaeology and Aesthetics), October 2001, pp. 277–295.

“Разкриха група иманяри, търгувала оригинали и фалшификати на археологически ценности” [“A Group of Treasure Hunters Who Traded Original and Forged Antiquities Exposed”], Plovdiv21.com, August 10, 2006.

Paoli, Giacomo Persi, *The Trade in Small Arms and Light Weapons on the Dark Web: A Study*, New York: United Nations, UNODA Occasional Papers, No. 32, October 2018. As of January 2, 2020: <https://s3.amazonaws.com/unoda-web/wp-content/uploads/2018/10/occasional-paper-32.pdf>

Paoli, Giacomo Persi, Judith Aldridge, Nathan Ryan, and Richard Warnes, *Behind the Curtain: The Illicit Trade of Firearms, Explosives and Ammunition on the Dark Web*, Santa Monica, Calif.: RAND Corporation, RR-2091-PACCS, 2017. As of January 2, 2020: https://www.rand.org/pubs/research_reports/RR2091.html

Parcak, Sarah, David Gathings, Chase Childs, Greg Mumford, and Eric Cline, “Satellite Evidence of Archaeological Site Looting in Egypt: 2002–2013,” *Antiquity*, Vol. 90, No. 349, February 2016, pp. 188–205.

Paul, Katie A., “Ancient Artifacts vs. Digital Artifacts: New Tools for Unmasking the Sale of Illicit Antiquities on the Dark Web,” *Arts*, Vol. 7, No. 2, February 2018.

Philp, Catherine, “Isis Hoodwinks Collectors with Fake Syrian Artefacts,” *The Times*, August 26, 2016. As of January 2, 2020: <https://www.thetimes.co.uk/article/isis-hoodwinks-collectors-with-fake-syrian-artefacts-fn3lnmmwp>

“Родните иманяри изнасят антики най-вече в пет страни” [“Native (i.e., Domestic) Treasure Hunters Export Antiquities Mainly to Five Countries”], PIK, August 20, 2017.

Randolph, Eric, “Land of the Tomb Raiders: Bulgaria Is Trying to Claw Back Tens of Thousands of Ancient Artefacts Plundered from Its Historic Sites in a £25m-a-Year Export Racket,” *Independent*, September 10, 2013. As of January 2, 2020: <https://www.independent.co.uk/news/science/archaeology/features/land-of-the-tomb-raiders-bulgaria-is-trying-to-claw-back-tens-of-thousands-of-ancient-artefacts-8807442.html>

Rawnsley, Adam, Eric Woods, and Christiaan Triebert, “The Messaging App Fueling Syria’s Insurgency,” *Foreign Policy*, November 6, 2017. As of January 2, 2020: <https://foreignpolicy.com/2017/11/06/the-messaging-app-fueling-syrias-insurgency-telegram-arms-weapons/>

Rewards for Justice, “Trafficking in Oil and Antiquities Benefitting the Islamic State of Iraq and the Levant (ISIL),” undated. As of February 5, 2019: https://rewardsforjustice.net/english/trafficking_oil_and_antiquities.html

Rothfield, Lawrence, “Preserving Iraq’s Heritage from Looting: What Went Wrong (Within the United States),” in Lawrence Rothfield, ed., *Antiquities Under Siege: Cultural Heritage Protection After the Iraq War*, Lanham, Md.: AltaMira Press, 2008.

Rothfield, Lawrence, *The Rape of Mesopotamia: Behind the Looting of the Iraq Museum*, Chicago, Ill., and London: University of Chicago Press, 2009.

SBS TV, *Treasure Hunters—Bulgaria*, YouTube video by Journeyman Pictures, September 21, 2009. As of January 2, 2020: <https://www.youtube.com/watch?v=Xw9obH8cgWU>

“Secret Transit,” Sophia News Agency (Novinite), February 15, 2008.

Seif, Assad, “Illicit Trafficking in Cultural Property in Lebanon: A Diachronic Study,” in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods: The Global Challenge of Protecting the World’s Heritage*, Paris: International Observatory on Illicit Trade in Cultural Goods, 2015, pp. 65–82.

Shabi, Rachel, “Looted in Syria—and Sold in London: The British Antiques Shops Dealing in Artefacts Smuggled by Isis,” *The Guardian*, July 3, 2015. As of January 2, 2020:
<https://www.theguardian.com/world/2015/jul/03/antiquities-looted-by-isis-end-up-in-london-shops>

Shaheen, Kareem, and Ian Black, “Beheaded Syrian Scholar Refused to Lead Isis to Hidden Palmyra Antiquities,” *The Guardian*, August 19, 2015. As of January 2, 2020:
<https://www.theguardian.com/world/2015/aug/18/isis-beheads-archaeologist-syria>

Shelley, Louise, *Dirty Entanglements: Corruption, Crime, and Terrorism*, New York: Cambridge University Press, 2014.

Shelley, Louise, “Exploring the Financial Nexus of Terrorism, Drug Trafficking, and Organized Crime,” statement before the Subcommittee on Terrorism and Illicit Finance, U.S. House Committee on Financial Services, 2128 RHOB, Washington, D.C. March 20, 2018. As of January 2, 2020:
https://financialservices.house.gov/uploadedfiles/03.20.2018_louise_shelley_testimony.pdf

St. Hilaire, Ricardo A., “U.S. v. Khouli et al. Update: Second Guilty Plea Expected Today in Egyptian Antiquities Case,” *Cultural Heritage Lawyer* blog, December 21, 2012. As of March 5, 2019:
<https://culturalheritagelawyer.blogspot.com/2012/12/us-v-khouli-et-al-update-second-guilty.html>

Stoughton, India, “Lebanon Wages War on Antiquities Smuggling,” *Daily Star*, May 8, 2015. As of January 2, 2020:
<https://www.dailystar.com.lb/Arts-and-Ent/Culture/2015/May-08/297209-lebanon-wages-war-on-antiquities-smuggling.ashx>

Тасева, Кръстана, [Taseva, Krustana], “Гаражен Лувър в Шумен” [“Louvre-Garage in Shumen”], *Epicenter*, April 19, 2015.

Tapete, Deodato, Francesca Cigna, and Daniel N. M. Donoghue, “‘Looting Marks’ in Space-Borne SAR Imagery: Measuring Rates of Archaeological Looting in Apamea (Syria) with TerraSAR-X Staring Spotlight,” *Remote Sensing of Environment*, Vol. 178, June 1, 2016, pp. 42–58.

Taub, Ben, “The Real Value of the ISIS Antiquities Trade,” *New Yorker*, December 4, 2015. As of January 2, 2020:
<https://www.newyorker.com/news/news-desk/the-real-value-of-the-isis-antiquities-trade>

Teodosieva, Hristina, “Абдерата и Джуджето подчиниша пазара на антики” [“Abdera and the Dwarf Subjugated the Antiquities Market”], *168 Chasa*, March 14, 2013.

Георгиева, Цветелина [Tsvetelina, Georgieva], “Осъдиха двама за Гаражен Лувър в Шумен” [“Two People Were Convicted in the Case of Louvre Garage in Shumen”], *Trud*, January 4, 2017.

Tijhuis, A. J. G., “Trafficking in Cultural Artifacts,” in Michael Tonry, ed., *The Oxford Handbook of Crime and Public Policy*, Oxford, UK: Oxford University Press, 2011.

Turovsky, Daniil, “The Encrypted Underground: Weapons, Drugs, and Identities for Sale on the Russian ‘Deep Web,’” *Meduza.io*, August 26, 2016.

UNESCO—See United Nations Educational, Scientific and Cultural Organization.

UN Security Council—See United Nations Security Council.

United Nations Comtrade Database, homepage, undated. As of August 29, 2019:
<https://comtrade.un.org/>

United Nations Educational, Scientific and Cultural Organization, *The Fight Against the Illicit Trafficking of Cultural Objects: The 1970 Convention: Past and Future, Information Kit*, Paris, 2011. As of March 5, 2019:

<http://unesdoc.unesco.org/images/0019/001916/191606E.pdf>

United Nations Educational, Scientific and Cultural Organization, U.S. Department of State, Department of Antiquities of Libya, and International Centre for the Study of the Preservation and Restoration of Cultural Property, *International Expert Meeting on the Safeguard of Libyan Cultural Heritage*, Tunis, May 2016.

United Nations Security Council, “Unanimously Adopting Resolution 2199 (2015), Security Council Condemns Trade with Al-Qaida Associated Groups, Threatens Further Targeted Sanctions,” United Nations press release, SC/11775, February 12, 2015.

United Nations Security Council, *Resolution 2347*, S/RES/2347, March 24, 2017. As of February 5, 2019:

<http://unscr.com/en/resolutions/doc/2347>

United Nations Security Council, “Security Council Condemns Destruction, Smuggling of Cultural Heritage by Terrorist Groups, Unanimously Adopting Resolution 2347 (2017),” United Nations press release, SC/12764, March 24, 2017.

U.S. Bureau of Labor Statistics, “CPI Inflation Calculator,” undated. As of April 13, 2020: <https://data.bls.gov/cgi-bin/cpicalc.pl>

U.S. Court of the Eastern District of New York, Indictment, Dkt. 10, May 4, 2011, United States v. Khouli, et al., Case No. 1:11-cr-00340-ERK-SMG.

U.S. Court of the Eastern District of New York, Minute Entry for Proceedings on Sentencing, Dkt. 132, Nov. 27, 2012, United States v. Khouli, et al., Case No. 1:11-cr-00340-ERK-SMG.

U.S. Department of Defense, “Statement by Secretary of Defense Ash Carter on Counter-ISIL Operation in Syria,” Washington, D.C., news release, May 16, 2015. As of February 5, 2019: <https://www.defense.gov/News/News-Releases/News-Release-View/Article/605506/statement-by-secretary-of-defense-ash-carter-on-counter-isil-operation-in-syria/>

U.S. Department of State, Bureau of Educational and Cultural Affairs, “ISIL Leader’s Loot Photo Gallery,” eca.state.gov online, July 17, 2015. As of February 5, 2019: <https://eca.state.gov/gallery/isil-leaders-loot-photo-gallery>

U.S. Immigration and Customs Enforcement, “ICE Makes Arrests and Seizes Cultural Artifacts Stolen from Egypt,” ice.gov website, press release, July 14, 2011. As of October 2, 2018: <https://www.ice.gov/news/releases/ice-makes-arrests-and-seizes-cultural-artifacts-stolen-egypt>

Verma, Richard R., U.S. Assistant Secretary of State for Legislative Affairs, letter to Representative Paul Ryan, Washington, D.C., Case No. F-2012-33798, Doc No. C05448385, November 24, 2010.

Vlasic, Mark V., “Islamic State Sells ‘Blood Antiquities’ from Iraq and Syria to Raise Money,” *Washington Post*, September 14, 2014.

Vrdoljak, Ana Filipa, “Unravelling the Cradle of Civilization ‘Layer by Layer’: Iraq, Its People, and Cultural Heritage,” in Michele Langfield, William Logan, and Mairead Nic Craith, eds., *Cultural Diversity, Heritage and Human Rights: Intersections in Theory and Practice*, New York: Routledge, 2009, pp. 65–83.

Weiss, Harvey, “Archaeology in Syria,” *American Journal of Archaeology*, Vol. 95, No. 4, October 1991, pp. 683–740.

Weiss, Harvey, “Archaeology in Syria,” *American Journal of Archaeology*, Vol. 98, No. 1, January 1994, pp. 101–158.

Weiss, Harvey, "Archaeology in Syria," *American Journal of Archaeology*, Vol. 101, No. 1, January 1997, pp. 97–148.

Wessel, Günther, "Dealers and Collectors, Provenances and Rights: Searching for Traces," in Frances Desmarais, ed., *Countering Illicit Trade in Cultural Goods: The Global Challenge of Protecting the World's Heritage*, Paris: International Observatory on Illicit Trade in Cultural Goods, 2015, pp. 1–10.

Williams, Phil, "Crime, Illicit Markets, and Money Laundering," in Chantal de Jonge Oudraat, P. J. Simmons, and Jessica Tuchman Mathews, eds., *Managing Global Issues: Lessons Learned*, New York: Carnegie Endowment for International Peace, 2001, pp. 106–150.

Williams, Phil, "The Rise of Organized Crime in Iraq," in Phil Williams, ed., *Criminals, Militias, and Insurgents: Organized Crime in Iraq*, Carlisle, Pa.: U.S. Army War College, Strategic Studies Institute, 2009, pp. 23–62.

World Bank Group, "World Integrated Trade Solution (WITS)," webpage, undated. As of March 4, 2019:
<https://wits.worldbank.org/Default.aspx>

Yates, Donna, "Displacement, Deforestation, and Drugs: Antiquities Trafficking and the Narcotics Support Economies of Guatemala," in Joris Kila and Marc Balcells, eds., *Cultural Property Crime, Heritage and Identity* series, Vol. 3, Leiden, The Netherlands, and Boston, Mass.: Koninklijke Brill NV, 2014.

Yates, Donna, "Illicit Cultural Property from Latin America: Looting, Trafficking and Sale," in Frances Desmarais, ed., *Countering Illicit Traffic in Cultural Goods: The Global Challenge of Protecting the World's Heritage*, Paris: International Council of Museums, 2015, pp. 33–46.

Yordanova, Veselina, "Пресеякоха трафик на антики към Западна Европа, САЩ и Русия," ["Trafficking in Antiquities to Western Europe, U.S., and Russia Intercepted"], *Dnes*, August 27, 2014.

About the Authors

Matthew Sargent is a management scientist at the RAND Corporation, a professor at the Pardee RAND Graduate School, and a visiting scholar at the University of Southern California. His research focuses on illicit markets, cultural property and soft power, military command and control and intelligence gathering, and the application of network analysis to the study of markets and economies. He has a Ph.D. in history and organizational theory.

James V. Marrone is an associate economist at the RAND Corporation. He is an applied microeconomist focusing primarily on the way that institutions and government programs affect marginalized populations and at-risk material culture. Marrone has a Ph.D. in economics.

Alexandra Evans is an associate policy researcher at the RAND Corporation. Her research interests include decisionmaking, institutional design, alliance and partner politics, and nonstate networks. She has a Ph.D. in history.

Bilyana Lilly is a fellow at the Pardee RAND Graduate School. She leads project teams and coauthors reports on Russian cyber threat actors, information warfare, election cyber security, military mobilization, machine learning for text analysis, nuclear capabilities, and NATO cybersecurity. She has two masters' degrees in Russian and East European studies and international affairs.

Erik Nemeth is a systems engineer at Northrop Grumman. Prior to work in space systems, he practiced in the field of applied neuroscience. In parallel, Nemeth developed the concept of cultural security, which evaluates the power of culture in international affairs. He holds a Ph.D. in vision science.

Steve Dalzell is a senior political scientist. His current research focuses on U.S. security assistance in Africa and U.S. Army personnel management and readiness, particularly as they relate to the Reserve Components. He has a Ph.D. in political science.

The illicit antiquities market has become an area of concern for policymakers. It is fueled by a well-documented rise in looting at archaeological sites and a fear that the proceeds of such looting may be financing terrorism or rogue states. Efforts to craft effective policy responses are hindered by the lack of data and evidence on two fronts: the size of the market and the network structure of participants. In lieu of reliable evidence on these two fronts, the conversation has been dominated by speculation and hypotheses and has generated some widely accepted theories of how the illicit antiquities market operates.

In this report, the authors compile evidence from numerous open sources to outline the major policy-relevant characteristics of that market and to propose the way forward for developing policies intended to disrupt illicit networks. The approach uses multiple methods and data sources, with the understanding that no single piece of evidence can provide a complete picture of the market and that only by cross-referencing and triangulating among various sources can salient market characteristics be illuminated.

\$39.00

ISBN-10 1-9774-0148-1
ISBN-13 978-1-9774-0148-9

