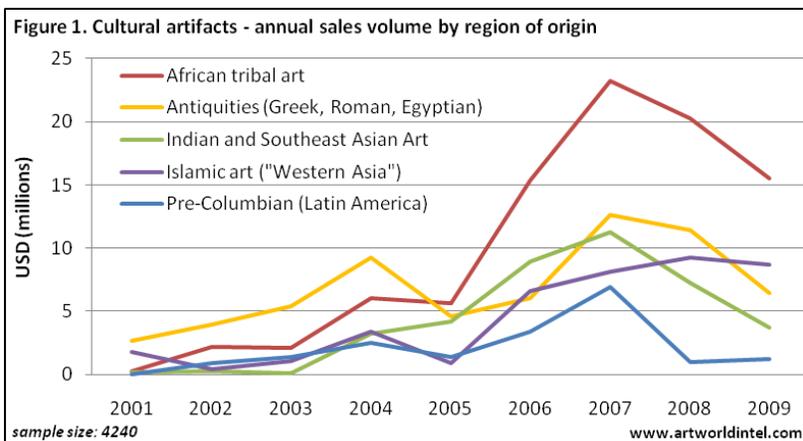


The demolition of the giant statues of Buddha in the Bamiyan Valley of Afghanistan in 2001 and the looting of the Iraq National Museum in Baghdad in 2003 demonstrate a relationship between cultural patrimony and security in developing nations.¹ By undermining the cultural identity of local communities, destruction of religious monuments in political violence and theft of national collections hold tactical value for insurgencies and terrorist groups. Threats to cultural patrimony persist in the disorder that follows armed conflict. Following the U.S. military intervention in 2003, looting flourished across Iraq.² Unauthorized excavation and illicit export of cultural artifacts compromises not only the identity of local communities but also the archaeological value of the artworks.³ Consequently, trafficking in antiquities of developing nations creates security risks outside of armed conflict.

The annual multibillion-dollar illicit market in movable cultural property⁴ motivates looting in developing nations. As demonstrated from Latin America in the midst of the Cold War era⁵ to South-central Asia in the post-Cold War period,⁶ organized crime may take advantage of limited security in “source nations”⁷ by recruiting locals to loot.⁸ In African nations, the corruption extends into the public sector with bribes to customs officers and collusion with staff of cultural ministries.⁹ On a transnational level, the risk that revenues from trafficking may fund insurgencies and terrorist groups^{10,11} has alerted law enforcement agencies to the implications for international security.^{12,13} The degree of the security threat posed by looting ultimately depends on the market value of the artworks and the intersections with trafficking in weapons and narcotics.^{14,15} Quantitative analysis of the market value and mapping the trafficking networks illustrate the potential of specialized “art intelligence”¹⁶ to enable countermeasures to mitigate, and optimally forestall, threats to cultural identity.

The traditionally clandestine nature of the art market poses challenges to assessing looting and trafficking in developing nations. In the absence of direct information on transactions in source nations, sales at auction provide a sense of the market value and trade volume of antiquities and primitive art. Auction houses openly publish results of auctions and enable access to sales archives through web sites. On-line access to sales archives creates a substantive pool of data on hammer prices from auctions around the world. Sales archives also contain detailed descriptions of the artworks. The description that accompanies an auction lot can identify the geographic origin of the artwork. Data mining of sales archives for hammer price and origin enables analysis of market value by source nation. The analysis assesses relative market value and, thereby, contributes to an assessment of relative risks of looting across developing nations.

As an example, the graph in Figure 1 shows the annual sales of selected types of artworks by geographic region of origin. The data presented derive from the sales archive of an international auction house.¹⁷ The parameters for conducting searches on the archive specified geographic region of origin and type of artwork. The major geographic regions included Latin America, Africa, Western Asia,¹⁸ India and Southeast Asia, and, as a group, Italy, Greece, and Egypt. The corresponding types of artwork

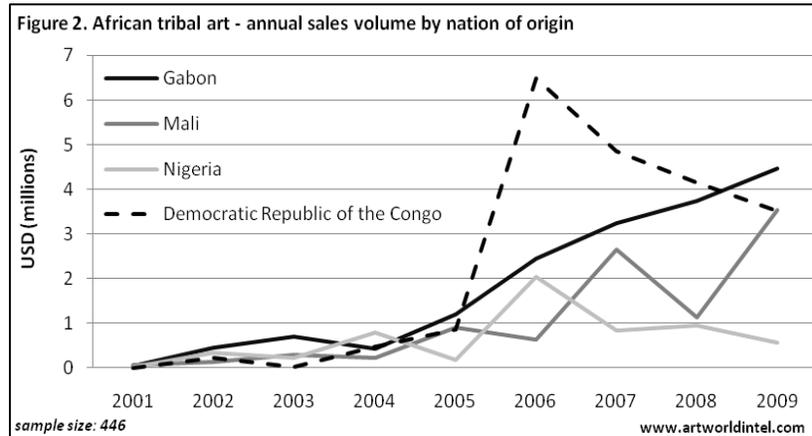


included pre-Columbian art, tribal art, Islamic art, Indian and Southeast Asia art, and antiquities. Searches combined a geographic region and an artwork type, and searches also attempted to select for cultural artifacts dating prior to the 18th century.¹⁹ The searches across all combinations produced 4240 results from the sales archives of 2001 through 2009. Annual sales for each of the types of artworks created different trends across the nine-year period. In general, each of the trends demonstrated an increase in annual sales, and each of the trends reflected the worldwide economic downturn of 2008 and 2009. Comparison of trends yields reveals the relative volume of sales across types of artworks. For example, annual sales of Islamic art of “Western Asia” remained below annual sales of classical antiquities from 2001 to 2005 but a steady increase since 2006 resulted in higher sales in 2009.

Annual sales of African tribal demonstrated the most distinctive trend. While starting at a relatively low level in 2001, sales of African tribal art surpassed sales of artworks from all geographic regions in 2005. Sales of African tribal art increased sharply in 2006 and 2007. Despite decreases in 2008 and 2009, the annual sales remained significantly higher for African tribal art than for other types of artworks. The distinctive trend motivates more detailed analysis by source nation on the continent.

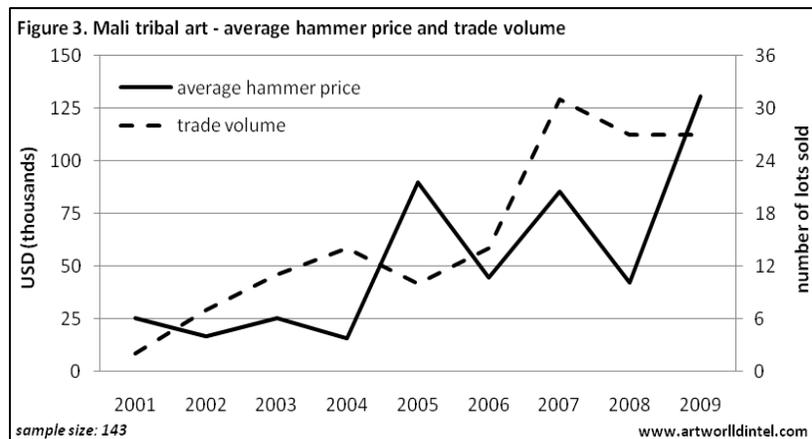
Analyses by different metrics provide a range of insights into market demand for and value of tribal art of different geographic origins. Tracking sales, trade volume, and average price by year yields indications of market demand and value. For the dataset, tribal art originally from the Democratic Republic of the Congo generated the highest sales, of more than 20M USD, and the greatest trade volume, of more than 270 artworks, across the nine-year period. As an indication of market value, tribal art originally from Gabon commanded the highest average hammer price across the nine-year period. While measures for the whole time period identify major forces in the art market, the measure of change across the nine-year period identifies emerging tastes in the market. Sales of tribal art originally from Gabon, Mali, and Nigeria demonstrated the greatest change from 2001 to 2009.

The graph in Figure 2 shows the annual sales of tribal art by nation of origin. The graphical representation reveals distinctive trends of annual sales volume. Annual sales for tribal art originally from Gabon showed the most consistent increase since 2004 and increased the most (9453%) over the nine-year period. In contrast to the economic downturn, sales of tribal art originally from Mali increased sharply in 2009. Although decreasing in 2009, annual sales of tribal art originally from Nigeria increased (7595%) more than annual sales for artworks



originally from Mali (6910%) over the nine-year period. The analysis illustrates consistent, progressive increases in annual sales (Gabon) and distinguishes between the significance of particular years (Mali, 2009) and long-term increases (Nigeria, 2001-2009). Comparisons of change in trade volume and average price provide further perspectives on collecting trends and market value for artworks by source nation.

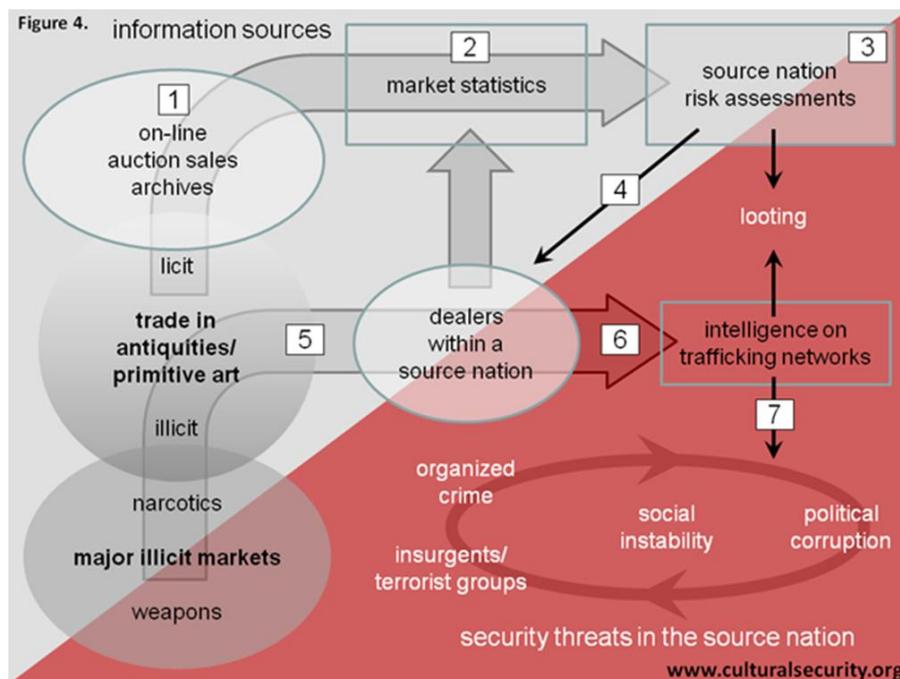
Fluctuation in annual sales over time motivates more detailed analysis. Annual sales of Malian tribal art fluctuated dramatically from 2006 to 2009, relative to sales of tribal art of the other source nations. In particular, the sharp increase in 2009 warrants closer inspection. The graph in Figure 3 shows the average hammer price and trade volume for tribal art originally from Mali. The solid line shows the average hammer price, as indicated by the left vertical axis, for each year and resembles fluctuation in the line for annual sales in Figure 2. The dashed line shows a relatively steady increase in the trade volume as indicated by the right vertical axis. Relative to the change in trade volume, the change in average hammer price appears erratic but demonstrates an upward trend across the nine-year period. The erratic behavior suggests that interest in Malian tribal art does not follow general economic trends. For example, while sales of African tribal art in general decreased during the economic downturn, annual sales and average hammer price of Malian tribal art increased sharply.



An analysis of relative market value by source nation guides the development of more specialized intelligence. Source nations for artworks with the greatest market value may warrant closer inspection through collection of information from actors in the art market. In “market nations”,²⁰ actors include collectors and dealers who specialize in particular artworks. Collectors bring insight into emerging trends in the primary market (i.e. acquisition of recently unearthed artworks), and dealers bring insight into the financial value of the artworks in the source nation. Dealers also provide access to networks that traffic in the artworks. As part of the networks, middlemen²¹ in the source nation hold direct information on the locations and degree of looting. Middlemen may also identify intersecting networks for weapons and narcotics. The diagram in Figure 4 illustrates the dynamics of the information sources that relate the market value of cultural patrimony to security threats in developing nations.

The “sales archive-dealer networks” diagram outlines information sources and intelligence products for targeting particular security threats in developing nations with unexcavated, coveted cultural artifacts. Information sources comprise on-line, auction sales archives as open-source material and antiquities dealers as human assets. Security threats in a particular source nation include, looting of antiquities, organized crime that may support insurgents/terrorist groups and foster political corruption, and the resulting social instability.

The collection and analysis of data follows a process: 1) Automated programs harvest data on licit trading from on-line, auction sales archives. 2) Analysis of sales data generates market statistics by source nation. 3) Risk assessments rank source nations according to the relative demand for and value of cultural artifacts. 4) The assessments identify source nations at risk of looting and, thereby, prioritize nations in which to develop antiquities dealers as human assets. 5) Dealers provide data on illicit trading of cultural artifacts and, potentially, on other major illicit markets. 6) The data collected from dealers enhance the market statistics and provide intelligence on trafficking networks. 7) Intelligence on the trafficking networks enables more detailed assessments of looting and provides insights into the interrelation of antiquities trafficking and security threats in the source nation.



In conclusion, auction sales archives hold potential for mitigating threats to cultural patrimony in developing nations. By specifying the relative market value of artworks across source nations, analysis of auction sales quantifies risk of looting. Any threat of looting has serious implications for the cultural identity of local communities, but the market value that motivates looting has implications for the severity and extent of the threat. Large demand in market nations and high market value increases the scale of looting and the range of parties with vested interest. A large market for artworks from a particular source nation increases the likelihood that organized crime will invest in developing trafficking networks and in recruiting locals to loot. As the involvement of organized crime increases, the opportunities for corruption within government also increase. An assessment of the relative risk of looting informs policy on the protection of cultural patrimony. With an understanding of the magnitudes of risk facing different source nations, market nations can strategically focus resources to engage actors in the art market and local governments.

For questions or comments, contact Erik Nemeth: erik.nemeth@culturalsecurity.org

Erik Nemeth pursues research on the tactical significance of cultural patrimony to regional and international security. In publishing on the intersection of art history, illicit markets, political violence, and intelligence studies, he examines the evolving role of cultural property in foreign affairs. Erik has published in journals such as *Terrorism and Political Violence*, *International Journal of Intelligence and CounterIntelligence*, and *Cambridge Review of International Affairs* and presents at conferences for art history, archaeology, information science, and criminology in the United States and Europe. He also serves on the editorial board of *Journal of Art Crime*, as a trustee for the Association for Research into Crimes against Art (ARCA), and as Adjunct Staff with the RAND Corporation in Santa Monica, California. Erik holds a BA in Computer Science and a Ph.D. in Vision Science, both from the University of California at Berkeley.

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- ¹ Nemeth, Erik, "Cultural Security: The Evolving Role of Art in International Security," *Terrorism and Political Violence* 19, no. 1 (2007) 19-42.
- ² Bakhriat, Isan, "Aftershocks: Anarchy; Iraqi Looters Tearing Up Archaeological Sites," *The New York Times*, section A; Column 3; Foreign Desk; Late Edition - Final (Iraq: 22 May 2003) 1.
- ³ Lyons, Claire L. (2002) 'Objects and Identities: Claiming and Reclaiming the Past' in Elazar Barkan and Ronald Bush (ed) *Claiming the Stones Naming the Bones: Cultural Property and the Negotiation of National and Ethnic Identity* (Los Angeles: Getty Research Institute) 116-137.
- ⁴ Federal Bureau of Investigation (2009) 'Art Theft Program', <<http://www.fbi.gov/hq/cid/arttheft/arttheft.htm>>, Federal Bureau of Investigation, (accessed 25 November 2009).
- ⁵ Coggins, Clemency, "The Maya scandal: how thieves strip sites of past cultures," *Smithsonian* 1, no. 7 (1970) 8-17.
- ⁶ Astill, James, "Plunder goes on across Afghanistan as looters grow even bolder: Trade in antiquities worth up to £18bn as thieves excavate sites," *Guardian*, section Foreign Pages, Final Edition (London: 13 December 2003) 21.
- ⁷ In this paper, "source nations" includes Greece, Italy, and the nations of Latin America, Africa and Asia that hold a wealth in antiquities or primitive art coveted by "market nations".
- ⁸ McCalister, Andrew, "Organized crime and the theft of Iraqi antiquities," *Trends in Organized Crime* 9, no. 1 (2005) 24-37.
- ⁹ Brent, Michael (1996) 'A View inside the Illicit Trade in African Antiquities' in Peter R. Schmidt and Roderick J. McIntosh (eds) *Plundering Africa's Past* (Bloomington, Indiana: Indiana University Press) 63-78.
- ¹⁰ Artnet.com (2005) 'Art and Al Qaeda', <<http://www.artnet.com/magazineus/news/artnetnews/artnetnews8-2-05.asp>>, (accessed 25 November 2009).
- ¹¹ Torre, Laura de la, "Terrorists raise cash by selling antiquities," *Government Security News* 4, no. 3 (2006) 1,10,15.
- ¹² Federal Bureau of Investigation (2004) 'Remarks prepared for Director Robert S. Mueller, III, Federal Bureau of Investigation', <<http://www.fbi.gov/pressrel/speeches/mueller111504.htm>>, U.S. Department of Justice, (accessed 21 February 2010).
- ¹³ United States National Central Bureau of Interpol (2008) 'Cultural Property Crimes Program', <http://www.usdoj.gov/usncb/programs/cultural_property_program.php>, U.S. Department of Justice, (accessed 21 August 2010).
- ¹⁴ Bogdanos, Matthew, "The Terrorist in the Art Gallery," *The New York Times*, section A, Editorial Desk, Late Edition - Final (New York: 10 December 2005) 5.
- ¹⁵ Johnston, David, "Picking Up the Stolen Pieces of Iraq's Cultural Heritage," *The New York Times*, section International - Middle East, (Washington, DC: 14 February 2005).
- ¹⁶ Nemeth, Erik, "Art-Intelligence Programs: The Relevance of the Clandestine Art World to Foreign Intelligence," *International Journal of Intelligence and CounterIntelligence* 21, no. 2 (2008) 355-374.
- ¹⁷ The study derived all data from on-line searches at www.sothebys.com and converted prices to U.S. dollars based on average annual exchange rates posted on-line at www.federalreserve.gov/releases/g5a.
- ¹⁸ For the purpose of assessing market activity of Islamic art, the study grouped Iran, Afghanistan, and Pakistan with the nations of Western Asia.
- ¹⁹ The search results primarily comprise artworks created prior to the 18th century but, in some cases, included artworks from the 18th and 19th centuries.
- ²⁰ In this paper, "market nations" refers to the United States, United Kingdom, France, Germany, Russia, Japan and other nations in which cultural institutions and individuals direct substantive financial resources towards the acquisition of antiquities and primitive art from abroad.
- ²¹ Brodie, Neil, "Pity the poor middlemen," *Culture Without Context*, no. 14 (2004) 7-9.