

The Antique Ivory Market in the United States



INTERNATIONAL DEVELOPMENT GROUP

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September 25, 2015



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The Antique Ivory Market in the United States

Executive Summary

Based on IDG research of a sampling of several important antique ivory categories, the value of antique ivory in privately-held, American collections is conservatively estimated at \$11.9 billion and is expected to be far higher should deeper research be completed on all of the major categories of antique ivory in private hands.

During the stakeholder interview process described below, IDG learned that a mere 10 American antique dealers out of hundreds of antique dealers in the United States had approximately \$40 million invested in antique ivory items and 20 individual American collectors out of thousands of American collectors had an estimated \$45 million in value in their antique ivory collections for a total of \$85 million. This valuation includes the value of unsold ivory inventory in dealers' hands and sales of antique ivory made between 2005 - 2013, a scant eight years.

Collectors stated that in their opinion and based on their experience, the rules in DO-210, as it affects the movement of antique ivory within, to and out of the United States, are needlessly burdensome, and subject to unpredictable agency discretion and interpretation, or misinterpretation, of the documentation required to meet the numerous qualifiers for the antique exemption. This action will result in making it virtually impossible to buy, sell, export, or gift antique ivory today and in the future. Collectors agreed that the U.S. Fish & Wildlife Service's (FWS) July 28, 2015, proposed revisions to regulations relating to African elephant ivory, rather than shut down the obscene practice of poaching, would create significant losses culturally, historically and financially in regards to honorable artistic investment.

Scope of Work

International Development Group (IDG) undertook an analysis of the antique ivory market in the United States with a special focus on the value of high-end, antique ivory objects in American private collections. The main purpose of IDG's analysis is to offer an objective and independent analysis of the value of the upper end, antique ivory market in the United States in private hands, excluding antique ivory held in the public trust by institutions and museums such as the Smithsonian, the Metropolitan Museum of Art, the Walters Museum in Baltimore, and the Minneapolis Museum of Art. The definition of antique ivory for this study is all ivory over 100 years old. IDG sought to value ivory antique collections so that FWS might better understand the potential financial, artistic, cultural and historical losses in the event of a virtual ban on antique ivory.

Valuation Methodology

Given the lack of sales information from dealers, online vendors, person-to-person sales, heirlooms etc., with respect to the majority of antique ivory objects sold to U.S. collectors, IDG gathered information from public sources such as auction sales reports (Christie's and Sotheby's), public records, and stakeholder interviews with over 30 important dealers, auction houses, individual collectors, and antique experts using a sampling procedure that included a small number of antique ivory collections. The average of each stakeholder interview was 30 to 60 minutes.



IDG focused on a sampling of several important ivory categories including ivory canes, netsuke, portrait miniatures, tribal art, antique furniture, and decorative arts, including jewelry and precious objets de vertu (Fabergé, Cartier, Tiffany, etc). Their historical, cultural, and financial value is immense. These items are representative of their era at a time when the senseless and industrial scale of slaughter simply did not exist. Excluded from this analysis were antique firearms, sewing kits, and other domestic items pervasive in the 19th century just as plastic is today. Pre-World War I organs/pianos, musical instruments such as violins and antique knives, were excluded from IDG's research (see Appendix).

The primary reason for the exclusion of additional ivory categories in this report was due to the lack of time necessary to complete a deeper analysis. It must be recognized that the excluded categories represent a significant value. Further research is necessary to pinpoint an actual range of value for all major antique ivory categories.

A more detailed description of IDG procedures, methodologies, assumptions, and conclusions is contained in our internal work papers, are available for review upon request.

Forecasting Process

IDG embarked on a process to verify the value of certain high-end, ivory categories in private American antique collections using an extrapolation formula based on publicly-sourced materials and stakeholder interviews with over 30 dealers, auction houses, individual owners of antique ivory, and other experts.

IDG's forecast must be taken in light of the fact that many collectors are reluctant to disclose the details and the value of their private collections containing antique ivory based on fears of future public disclosure and the possibility of government retaliation. Thus, evaluations and possible losses are almost surely understated.

Key Findings

- Antique ivory collectors are frustrated and angry that their voices are not apparently being heard by FWS and are seriously concerned that the Office of Management and Budget (OMB) and Office of Information and Regulatory Affairs (OIRA) in their final analysis of DO-210 and the Proposed Rule after public commentary, will not understand from prior FWS's submissions the immediate implications and consequences of an absolute ban on imports and a virtual ban in the U.S. of the sale, purchase, export or import, or gifting of antique ivory by private American citizens.
- According to the U.S. Census Bureau (USCB) report for 2010, there are 25.8 million households headed by someone 65 years or older, this includes one-person households as well as households with spouses and/or other relatives. This is the main antique ivory collectors group in IDG's opinion. There are antique ivory collectors in the 45-64 year age group (46.2 million households) and for the age group 30-44 years (30.8 million households) but IDG did not include these two groups in this study.
- Edward N. Wolff (b. 1946) is a professor of economics at New York University since 1984, as well as a research associate at the National Bureau of Economic Research (NBER) and a Senior Scholar at the Levy Economics Institute of Bard College. He received his A.B. from Harvard College in 1968 and his PhD from Yale University in 1974. Wolff specializes in issues relating to distribution of wealth and income. He has written a dozen books, as well as countless articles covering topics such as social



security, growing income disparity, debt accumulation, household wealth and poverty in America, and the role of education. Across all these topics, Wolff's focus tends to be on the financial health of American households. According to Professor Wolff, 8.1% of U.S. households (9.5 million households) have a net worth of \$1 million or more, excluding their home. Assuming a conservative 5% factor for ivory ownership, it is this group of 475,000 households that is likely to possess antique ivory objects.

- Based on IDG's stakeholder interviews, IDG has assessed a conservative average value of antique ivory in an American household of \$25,000, thus the value of antique ivory in American private collection is \$11.9 billion.
- IDG estimated that the number of active ivory collectors in the United States are as follows. By active, IDG is referring to collectors who have purchased more than 1-3 ivory objects in a single year from 2005-2013. IDG's estimates were based on catalogue print runs featuring a particular ivory category like canes, online memberships, websites, and stakeholder interviews with auction houses, dealers and antique associations.

Category	Estimated Number of Collectors
Ivory canes/walking sticks	2,000 - 3,000
Netsuke	3,000 - 3,500
Tribal	3,500 - 4,500
Furniture/Other*	2,500 - 3,500
Other**	<u>10,000 - 15,500</u>
TOTAL	21,000 - 30,000

- Collectors understand that for a variety of reasons, museums, the NRA, the Safari Club of America, the Knife Rights Foundation, and many other organizations are pursuing independent strategies to modify DO-210 and the Proposed Rule resulting in no single voice in this matter at present. Private collectors believe that for antique ivory of sufficient value, accredited ivory experts can use best efforts to certify that specific ivory is likely to be over 100 years old in order to allow the movement of antique ivory in the commercial market. The experts would be similar to the Internal Revenue Service (IRS) Art Committee.
- By deliberate, or inadvertent actions, FWS has clearly ignored and abandoned the ivory collectors market comprised of families and dealers that acquired antique ivory through purchase or gift lawfully and responsibly before February 2014. The losses incurred by 475,000 American families will be significant in that revenues from sales and the opportunity for gifting will be sharply curtailed and eventually eliminated.
- According to the majority of IDG's stakeholder interviews, there appears to be no correlation they can identify between ivory poaching today and the possession of antique ivory since the vast majority of poached ivory goes directly, or indirectly, to manufacturers of modern ivory located mainly in China or other Asian countries and made into modern trinkets and decorative ivory objects. There has been little or no evidence that ivory poachers are selling ivory to third-parties who are producing fake antique ivory.

* Includes sewing boxes, chess sets, organs/pianos

** Includes antique firearms, jewelry, and other decorative arts



- Many collectors do not understand why FWS has not conducted an Economic Impact Report (EIR) on the antique ivory market in the United States which would exclusively concentrate on the value of all relevant antique ivory categories. Collectors are waiting for the EIR from FWS to provide their view of the value of the antique ivory market so a calculation can be made as to the financial harm to those American families likely to be affected by the absolute ban on imports and the virtual ban on sale or gifting of antique ivory in the United States. The sooner FWS either refutes or confirms, IDG antique ivory estimates, the better.

IDG Profile

IDG is a San Francisco-based, syndicated research and consultancy corporation established in 1984 and currently represents over 70 clients, including many Fortune 500 companies. IDG gathers research information from public and non-public sources and conducts stakeholder interviews with retailers, distributors, financial institutions, and consumers. IDG's analyst team have over 50 years of combined industry experience, with backgrounds in consulting, market and custom research, analytics, financial planning, sales and marketing, and forecasting. IDG concentrates on the worldwide consumer market for entertainment software (estimated at \$87 billion in worldwide revenues). For the past 31 years, Anton Bruehl, President of IDG, has provided his business expertise and vision to many of the largest and best known companies in the entertainment software industry. Mr. Bruehl is an antique art collector of over 15 antique categories, including a small number of ivory objects.



APPENDIX

A Short List of ANTIQUE Multi-Cultural, Multi-National, Historical and Artistic Objects, fully made of Ivory or with ivory elements.

These objects held as legally owned personal property for decades, or generations in private collections by United States citizens, to preserve them for future generations.

Any of these objects might be collected "best of kind" to form a collection of antique objects, fully carved or inlaid with ivory. They can be and usually are collected in a single niche area of interest, for example, beer steins, netsuke, walking sticks, candlesticks, furniture and examples could number in the hundreds. Obviously, items could also be made of other materials, and included in a niche collection, but ivory is most pervasive, and if antique ivory is banned from trade and of no value, its absence would be so conspicuous as to de-value the entire collection as well.

A

Antique Ivory Artifacts from all countries

ALL ART DECO OBJECTS fully ivory or with ivory components

B

Barometers in Ivory Cases for Desktop

Batons, conductor

Beer Steins, elaborately carved

Belts

Belt buckles, shoe buckles

Bells with carved Ivory Handles

Billiard Sticks

Billiard Balls

Binoculars

Blow Horns (ceremonial)

Book Covers, elaborately carved 880-890 Ancient/Antique

Books Holders wood with ivory inlay 19th c (on ruby lane)

Bookends, fully carved or inlaid with ivory

Boxes All sizes and shapes, all centuries to early 20th. Multi Cultural Multi National fully carved or inlaid with ivory Inlaid,

Brush Pots

Binoculars

Busts, and carvings of individuals, men women children all centuries (300ad-19th century) Multi-Cultural, Multi National, portraying kings queens, religious leaders, warriors, heroes, saints, scholars, political leaders, artists, scientists, mathematicians, musicians, philosophers, writers, artists. Made by unknown and legendary artists

Buddahs

Buttons

C

Cake Slicers

Calling Card Cases, carved, elaborate

Card Boxes, and Card Holders

Candlesticks, fully ivory, elaborately carved or modest, or combined with other materials

Cameo portraits painted on Ivory

Candy Scoops, Crumb scoops and others, with ivory handles

Canes and Walking Sticks, with handles, fully carved of ivory or with ivory components, often with ivory shafts, often centuries old, and from every culture

Casino Chips

Caskets (Sugar, Tea etc) decorative

Chatlaines, with hanging objects

Chop Sticks

Carving Sets with ivory handles, elaborate or modest

Ceremonial weaponry, centuries old, multi cultural, multinational

Chalices elaborately carved or modest.. centuries old and from every national culture

Chess Sets, combined with other material, centuries old

Chess pieces fully carved in ivory

Chryselephantine Art--Ancient and Antique, Common in 19thc European, Art Deco
it describes statuettes, the skin, and facial features, represented in ivory, with clothing and other detail made of other materials, such as gold, bronze, marble, silver or onyx.

Cigarette Cases

Cigarette Holders, Cheroot Holders

Cigar Cutters

Cigar Cases

Clocks and Clock Cases fully ivory or with ivory inlay

Standing clocks

Wall Clocks

Mantle Clocks

Carriage clocks

Table clocks

Pocket Watch cases and stands

Coin purses, ivory decorated with silver
"Conversation Tubes" with ivory end pieces (hearing Device)

Compasses with ivory cases

Corkscrews, carved ivory handles

Communion Sets. Ivory Prayer Books French mid 1800

Cribbage Boards

Crochet Hooks, with carved handles

Crosiers, Staffs, religious or secular

Crosses

Cross Bows

Crucifixies, all sizes, all centuries and all "nationalities" large, small, personal size ancient, antique

Cue Balls

Cue Sticks

Cufflinks

Cutlery, with carved ivory handles decorative, elaborate for Presentation and daily use centuries old

D

Dagger Grips

Dental tools with ivory handles (cased sets!)

Dentures Models all ivory 1790-1850

Desk sets with ivory handled paper knives, blotter corners, inkwells, seals etc.

Dice, elaborately carved for decoration, presentation, or every day use

Dice shakers

Dieppe Ivory, carved objects of any type, centuries old, historical

Dirk Grips

Doctor's Dolls and Anatomical Models

Dolls

Dollhouse Furniture

Door Knobs

Document Seals

Dueling pistols with Ivory Handles

Drawing/draughting tools, cased in sets, or individual with ivory handles

Dressing Table sets, for home and cased for travel ,for men and women, in boxes of ivory, or inlaid with ivory, containing multiple component parts with carved ivory handles and covers including

Hand mirrors, glove stretchers ,seam rubber, rouge boxes, hair brushes, hat brushes, clothing brushed military brushes, hair combs, toothbrushes ,button hooks, shoe horns, boot pulls, manicure implements, mustasche brushes, mustasche cases nail brushe,soap cases, patch boxes.

Drinking Cups fully carved

Dyptichs and tryptichs of carved ivory

E

Ear Trumpet for hearing

Eccleastical Staffs

Equestrian Riding Crops with ivory handles

Ettuis, all ivory or with ivory components

F

Family Crests, carved fully in ivory, or mounted in ivory

Fans, with carved ivory blades

Fan holders

Figural ivory carvings, centuries old, Multi-Cultural, Multi- National in every subject matter

Firearms decorated with ivory handles or inlay, guns, pistols, rifles, for personal use or presentation centuries old, Multi-Cultural, Multi- National

Flatware and Serveware, with ivory handles fully carved with or inlaid with ivory,for presentation or daily use, fashioned by legendary artists or unknown artists, centuries old. items as far back as 17th century

Flasks, Hip Flasks, all ivory carved or inlaid with ivory

Furniture: Endless numbers and types, all cultural and sizes and historical, artistic styles, centuries old, and to 20th century, Multi-Cultural, Multi- National fully carved of ivory, or elaborately inlaid or decorated with ivory carving.

Cabinets, chests , tables, chairs, armoires, sideboards, an endless list, of items

G

Game Boards with ivory

Gaming Pieces with ivory, for poker, cribbage, chess, checkers, backgammon, majong, whist

Game Boxes carved of ivory, or inlaid with ivory

Games themselves carved of ivory, or inlaid with ivory

Gavels, for practical use and presentation

George Washington's teeth(!)

Grace Cups

Guild Badges, and medals for vinters, bakers, etc 1820 carved or inlaid with ivory

Guitars, with elaborate inlaid with ivory designs, and mounts

Gun Stocks, carved, scrimmed, plain

H

Hair combs and ornaments, elaborately carved ivory, Multi-National, Multi Cultural Hatpins

Hour Glasses mounted in ivory cases fully carved, or inlaid

Humidors, fully carved or inlaid with ivory, or combined with other materials

Hunting Knives, with ivory handles, decoration,

Hunting Horns, Carved, Ceremonial Horns

Hunting Swords with elaborate ivory figural handles

I

Incense burners

Ink wells, and ink stands fully carved or wood inlaid with ivory

J

Jars, fully carved in ivory

Jewelry, Antique.. Endless quantities of fully carved combined with precious materials ivory,

All ivory, elaborately carved, inlaid or used in combination with any other materials, including wood and precious metals. Often commemorating important historical events such as ship launchings, coronations and ceremonial occasions, religious, mourning jewelry

Centuries old to the early twentieth century Multi-Cultural, Multi- National Runs The gamut of type and styles of Brooches, Bracelets, Necklaces, Earrings, Carved Beads, Pendants, Rings, Locketts, Hair Combs made by unknown, or legendary Artists, and Jewelers in US and Europe, Asia, Middle East, Africa.

Gorham, Tiffany, Shreves, Lalique, Boucheron, Faberge, Cartier, Van de Stappen, Hoosemans, Joseph Hoffman, Edmund Becker, Theodor Fahrner, Seigfried Bing, Alphonse Mucha

Jewelry Boxes and Jewelry Chests, elaborately carved, inlaid, or scrimmed in all sizes all shapes

K

Knitting Needles, with elaborate carved tops

Knife Rests for cutlery

Knives, Centuries old, Multi –National, Multi -Cultural

Throwing knives, Bowie knives, pen knives, hunting knives, pocket knives, too numerous to list

L

Launching Axes

Letter openers

Letter stands

Liquor Boxes carved or trimmed with ivory, or ivory mounts

Liturgical Combs

Lorgnettes (folding glasses) with ivory cases

Lover's Eyes (tiny tiny portraits of eyes, cased or framed in ivory, precious metal, and stones- in necklaces, bracelets, cases, brooches, rings, small ivory boxes. etc)

Loving Cups 1905-1909

Lids of Lost Wooden boxes, fully carved ivory

M

Marine objects with ivory inlay or handles

Magnifying Glasses with carved ivory handles

Maces

Maquettes

Marquetry with ivory

Medallions

Medical instruments of all kinds, with ivory tips or handles, cased with ivory handles, for practical use, ie Speculums, Stethoscopes etc. For practical use and Presentation. Centuries old, Multi –National, Multi -Cultural

Mirrors, of all sizes and shapes, with carved ivory frames

Model Ships of all sorts: battle ships, gun ships, whaling ships, sailing ship, sloops etc fully in ivory, or with ivory componets, as historical records

Model Trains, fully of ivory or with ivory component parts, as historical records

Models of Spinning wheels

Model Cars, (jaunting car) and horse drawn carriages,

Models of Estates, Important Historical Public Buildings, Hotels

Monoculars,with brass and turned ivory (1800)

Mortar and Pestle 18th c +

Mosaic work with Ivory

Miniature, jointed mannequins

Miniature metalworking tools 19th c

Miniature Furniture (Tables, chests, cabinets, chairs all ivory, or inlaid, snooker table and cues

Miniature musical instruments,

Musical instruments OF ALL KINDS, centuries old, all nationalities, all cultures with ivory decorative inlay, fittings,

Violins, Pianos, Guitars Organs, Hurdy, Gurdy, Lyres, Kits, Harps, Piccolo ,Flute, Bag Pipes, Harmonicas, Accordion ,Mandolin, Oboe, Kit to name a few.

Music Boxes, fully carved or inlaid

Music Stands, inlaid with ivory

N

Netsuke

Napkin Rings, fully carved or inlaid with ivory

Nantucket Baskets

Needle Cases

Necessaire of all sizes and types

Nutcrakers, Lime Squeezers

O

Octants (measuring device) with ivory components 17th c

Okimono

Opera Glasses

Optical Objects, loupes, pocket binoculars early spectacles and spectacle cases, carved and turned telescopes ,binoculars,lens holders

Organs with ivory keys

Objects of Art fully of ivory, or containing ivory made after 1915 by unknown and legendary artists, whole swaths of artistic cultural design, Art Deco, Machine Age, Art Brute, Objects brought home by soldiers and families returning from WWI WWII will be banned

P

Page Turners

Painting on Ivory

Panels, **fully carved** in ivory of all sizes and degrees relief, centuries old thru 20th century, Multi-Cultural ,Multi- National, Ancient and Antique depicting all subjects, The Nativity and other religious events, marriages, hunting scenes, mythical goings on, floral and nature themes, commerce, occupations, activities of daily lives and costuming ..and more

Panels **inlaid** with ivory

Panels of all sizes **carved of both wood and ivory**, in which the ivory is integral to the design

Paper knives

Paperweights

Pastoral Staffs (with religious, heraldic themes)

Parasols with Ivory Handles and ivory points, and tips

Pens, with ivory handles

Pencils with ivory handles or cases (“propelling pencils”)

Perfume bottles (1880) carved of ivory often jewelled

Pianos with Ivory Keys

Picture Frames, fully carved, or inlaid with ivory

Pie Servers fully of ivory

Pill Boxes fully carved, or inset with ivory

Pin cushions, set in carved ivory holders

Pistol Grips, plain or elaborately carved, etched or inlaid, for personal use or Presentation

Pique work on Ivory, pre 1700- 19th French, Italian, English

Plaques, of all sizes, elaborately carved religious, historical, decorative, themes, and depicting daily lives and activities

Pocket Almanacs, Diaries, Dance Cards, Calendars

Pocket magnifying glasses

Pocket Watch cases, and display stands

Pocket Globes cased, miniature globes on stands

Pocket sundials, compacts ,engraved,cased or folding

Presentation pieces in ivory,or with ivory elements ,in every kind of type, design, or subject intended to commemorate, or honor anyone, any accomplishment, or any event.

Pool Cues

Posy Holders, carved

Portrait Miniatures **painted** on ivory, of people and places,monuments, historical events

Portrait Miniatures **sculpted** in ivory

Powder Horns, elaborately carved

Powder Flasks

Prayer Books ,

Puzzle Balls, and Puzzle Ball Stands

R

Rattles (baby and Other decorative)

Razor Handles

Repair and Restoration of Antiques with ivory or ivory components

Religious carvings, and statuary

Reliquaries, icons,

Religious Stuffs,

Religious Crosiers all with elaborate, painstaking carving depicting biblical scenes

Riding Crops

Rosaries elaborate terminals

Rulers, folding rulers, straight edges 19th

S

Sagemono

Santos

Salesmen Samples (of furniture, or other items, to be ordered or custom made with ivory components

Scientific Instruments

Screens, Decorative , full size or table size elaborately carved, fully ivory, or combined with other materials

Scrimshaw work, elaborate, on ivory

Sculptures, Statues, Statuettes

All sizes and themes, figurals created by known and unknown artists of every nationality, hundreds and hundreds of years ago depicting single or multiple images composed in all subject matters: Animals, wild and domestic and arine, crocodile, birds, flowers, adults of all ages, social stature and occupations, children, babies, gods and goddess, war heros, mythological, memento mori, and biblical, political, professional, combined into elaborate "conversation" groups meticulously carved, people with detailed period clothing and accessories

Sewing boxes, fully carved or inlaid with ivory

Sewing implements with ivory handles, bobbins, silk winders ,scissors

Shibayama work on ivory (Japanese)

Snuff Bottles

Snuff boxes

Snuff Shoes

Snuff Flasks

Snuff Rasps

Shoe buckles

Shooting Seats (hunting item) carved or inset with ivory

Stanhopes, miniature stanhopes

Star of David

Stationary Boxes, elaborate, fully carved or inlaid with Ivory

Sun Dials

Sun shade with ivory handles

Surgical Tools with ivory handles

Swagger Sticks with carved ivory handles

Swords with carved ivory handles

Sword Scabbards

T

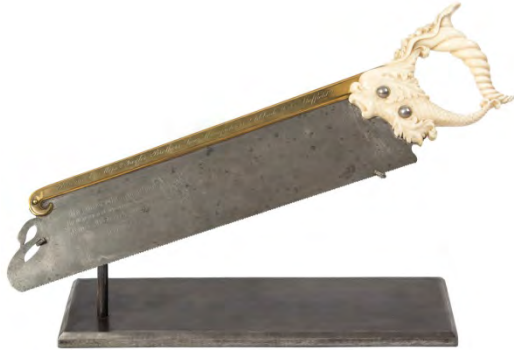
Tankards, ivory and silver/gold with elaborate high relief carving and metal sculpture

Tea Caddies, and Tea Chests all ivory, elaborately carved or inlaid trimmed in ivory, or

Tea and Coffee Service (Silver) with pots, sugar , creamer waste pots with elaborate or modest ivory handles and knobs and heat spacers

Teething Rings and Teething tools for babies

Tools...with Ivory handles, for presentation



- https://www.1stdibs.com/furniture/more-furniture-collectibles/scientific-instruments/royal-presentation-saw-sheffield-1858/id-f_2219532/

Toothpick Cases (18th century)

Tobacco Jars

Telescopes, with turned ivory componets ivory

Theater and opera passes (ivory discs with guests name and seat number) (19th century)

Thermometer cases... with elaborate carving and designs (like a clock case)

Thimbals

Torah Scroll Handles

Torah Pointers

Tool Handles (Ivory, Ivory pique 1700's)

Toothpick cases, elaborate designs, and toothpicks

Toys, Ivory

Trophies

Tusks, centuries old, elaborately carved with various religious themes ,heraldic themes, and scenes from daily life

U

Umbrella Handles, elaborate, often carved with matching and points and tips,

Urns

Utensils, carved ivory handles or plain

V

Vases

Vinegrettes

W

Watch Fobs

Watch Cases

Watch Stands

Wax Stamps, carved ivory handles

Whip Handles, elaborately worked, carved

Whistles with ivory handles

Whimseys ,elaborately turned and carved

Wine Flasks, elaborately carved

Wine Goblets,elaborately carved

Wood Carvings and statuettes with ivory elements or inlay

The Scope of the Antique Ivory and Endangered Species Market in the United States



**Lark Mason
April 2014**

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Introduction

The Scope of the Ivory Market in the US and in New York in 2013

By Lark Mason

Methodology

There are several methods to determine the quantity of antique and art objects containing ivory, turtle shell, or other endangered species materials in commercial transactions in the US. One of these is to look through auction price database services. Another is an examination of auction houses and other sales venues in a particular city, extrapolating the number of sales based on records in the major venues. A final method is to look at particular collecting categories and estimate the number of objects based on published information. All three approaches were used to come up with a rough idea of the size of the market.

Art and Antiques Incorporating Endangered Species Materials

There is no “market” that is solely organized around antique endangered species materials. These materials are usually incidental to works of art, usually as inlays, veneers, or mounts. Most of the finest quality works of art (those made prior to 1900) were entirely made of or incorporated precious materials such as gold, silver, ivory, coral, turtle shell, or similar materials. For hundreds of years the finest European ecclesiastical objects were entirely made of ivory. Up through the World War II, ivory and other endangered species materials were incorporated into the best quality jewelry, clocks, furniture, and other items. The finest works of art and antiques are those that realize the highest prices at auction and in retail venues and a sizable percentage of these works include endangered species materials. The individual prices of these items are often over \$100,000 and over \$1,000,000 for the very best examples.



The Variety of Antique and Art Objects Containing Ivory and Endangered Species Materials

There is no single antique and endangered species market but there are a number of general categories of objects that contain these materials. Each of these categories is made up of numerous sub-categories and groups of collectors.

1. Objects Made for the domestic Asian Market Prior to 1900
Small number of items, tend to be high value: sculpture, inlaid works of art, netsuke furniture, snuff bottles, jewelry, implements, objects of veneration, etc.
2. Objects Made for Export From Asian to the West Prior to 1900
Large number of items numbering in millions: boxes, fans, utilitarian objects, games pieces, furniture, sculpture
3. Objects Made for Export From Asia to the West during the Early 20th c.
Mostly tourist items made for western buyers but often in an Asian style, large number of items: sculptures, jewelry, game sets and items similar in type to 1 and 2.
4. Objects Made for Export From Asia to the West After World War II.
Mostly tourist items but in different style from 3 and numbering in millions
5. Objects made in Asia by Contemporary Craftsmen
Small number of items
6. Objects Made in Antiquity
Small number of items: plaques, furniture mounts, sculpture, etc
7. Objects Made in Europe Prior to 1900
Large number of items: furniture, sculpture, objects of veneration, game sets, jewelry, personal objects, etc
8. Objects Made in Europe Post 1900 up to WWII
Small number of items: sculpture, furniture, etc
9. Objects Made in the US Prior to 1900
Large number of items, includes tea sets and utilitarian items
10. Objects Made in the US After 1900 but before WWII
Similar to 9 and 11
11. Objects Made in the US After WWII
Knives, pool cues and balls, musical instrument inlays, fine crafts
12. Ethnographic Objects Made Prior to WWII
Small number of items
13. Ethnographic Objects Made Post WWII
Small number of items

Determining Quantity by Price Database Services

The art and antique community uses price database services, which are a record of items offered for sale at auction in the United States and worldwide.

These services record data based upon information included in art auction catalogues. The database totals from Sotheby's and Christie's websites do not include all items with incidental ivory mounts or inlays and represent a small number of actual lots with these materials. The same is true of the other database services. Only mentions of ivory or other materials merits a record in the database. If the cataloguer at the auction house does not mention the materials because the materials are a minor part of the object, the listing in the database will not indicate that the item contains ivory or other endangered species materials. The listing in the database will not indicate that the item contains ivory or other endangered species materials.

Sotheby's and Christie's

Sotheby's and Christie's both list approximately 100 lots sold in NY that incorporate ivory for a total amount in the \$5m range each. This does not include the many thousand of items with small or incidental amounts of ivory.

LiveAuctioneers

LiveAuctioneers lists approximately 38,000 lots offered of which approximately 20% were items using ivory as a color and not as a material. In addition, pianos, canes, netsuke, okimono, shibayama (type of inlay incorporating ivory), and chess sets were not included in this total. The list below includes the search of LiveAuctioneers and individual search terms for canes, netsuke, okimono, et cetera.

Ivory search	30,000
Canes	2,500
Netsuke	5,292
Okimono	1,160
Shibayama	200
Chess sets	546
Portrait miniatures	815

Total approximately 40,000 lots. Of these lots, many incorporated large number of similar items and a total of independent items lotted together would be closer to 60,000 individual items.

Artifact (Invaluable)

Approximately 51,000 lots are listed having been offered with ivory

Estimate of Quantity Based on Collecting Categories

There are thousands of discrete collecting categories of objects that incorporate ivory, such as canes, games pieces, and jewelry. The categories listed below are some of the major groups that contain ivory.

Pre-1970 objects

Pianos

There are approximately 380,000 pianos in the Chicago metropolitan area, with a population of approximately 10,000,000. Assuming that 50% of these pianos have ivory keys, that totals about 190,000 ivory keyed pianos. Multiply $190,000 \times 32$ (320,000,000 divided by 10,000,000) totals around 6,000,000 or a range of 5,000,000-7,000,000 ivory keyed pianos in the US.

Organs

The largest wind organ company in the US was the Estey company, which made 500,000 pump organs with ivory keys. There were 653 pump organ manufacturers in the US in the 19th and early 20th c. who made between 2,000,000-4,000,000 pump organs of which many still exist

Japanese Tourist

350,000 American service personnel were in Japan immediately after the end of WWII. Over a 40 year period approximately 4,000,000 American service personnel were stationed in Japan (source Heritage Foundation). Of this number a high percentage brought back ivory mementos. Assuming 30-50% returned with ivory gifts, then this represents about 1.2-2,000,000 ivory gifts bearers, and many of these were multiple items, so the total is probably between 1.5-2,500,000 objects.

Silver Sets

About half of all silver tea and coffee services have ivory insulators. There have been approximately 200,000,000-300,000,000 marriages in the US since the mid-19th c. Assuming 10% of these had silver tea services as part of their wedding gifts, and 50% of these had ivory insulators, then 20,000,000-30,000,000 silver tea services were created since the early 19th c. up through c. 1970, and 50% of these had ivory insulators, then 10,000,000-20,000,000 silver tea and coffee services were made with ivory insulators. If half of these have been melted, that still leaves 5m-10,000,000 sets.

Portrait Miniatures

The top 2-4% of individuals born and married in the US between 1790 and 1890 had sufficient means to have portraits painted in miniature, of which most were on ivory panels prior to 1850 and then to a lesser degree afterward, totaling approximately 3,000,000 to 5,000,000 portrait miniatures. One notable portrait miniaturist, George Engleheart (1750 – 1829) kept records up until the last 15 years of his life, and recorded 4,800 portrait miniatures on ivory painted by him and not his studio. He

lived another 15 years and presumably painted many more. (source: Elle Shushan expert in portrait miniatures who also provided the overall estimate number created by noted artists)

Ivory Tools/Implements/Games

Chinese lacquer sewing kits, chess sets, games pieces, rulers, chopsticks, stands for artwork, ivory brooches, boxes etc. Some of these are difficult to estimate, but we can estimate some of the quantities from records of shipping from China to the west. For instance, in 1741 alone French, British, Swedish, and Danish ships brought approximately 1,200,000 pieces of Chinese porcelain to Europe (Michael Bullock, Book of Porcelain). Over the period of the China trade from the mid-18th c. to the end of the 19th c. it is estimated that 4,000,000-6,000,000 of these items were sent abroad from China. As part of these cargos, particularly in the 19th c., were ivory sewing sets, games sets, and other items. The total sent abroad to the US was likely about 10-20% of the total of porcelain items, or 40m-120m objects.

Domestic American Ivory

Connecticut was the center of ivory production in the US and Ivoryton and Deep River and other towns specialized in commercial ivory products such as combs, letter openers, billiard balls, and other items. Just one company, Comstock, Cheney & Company records they milled an estimated 100,000 tusks before 1929 (Connecticut). Tens of millions of utilitarian objects were made over a period of 100 years.

Imported European Ivory

It is impossible to estimate the exact quantity of ivory inlaid furniture, brooches, necklaces, and other small items brought into the United States from Europe during the late 19th through 20th centuries. The total would likely be millions of objects. An example of recent regional and international decorative art auction catalogs consistently show that between five and ten percent of the items in these sales contain or were made entirely of ivory.

Objects of Veneration

European church sculpture and related items such as rosaries and crosses were commonly made of or incorporated ivory. Most of these objects were made over hundreds of years for millions of believers. Large quantities of these items remain in the marketplace.

Cincinnati, Ohio as a Sample Market

Cincinnati, Ohio represents a typical art and antique market from which estimates can be derived based upon measurable sales of items.

Cincinnati has a metropolitan population of approximately 2,500,000 people served by three main auction houses and dozens of smaller auction houses and house sale companies.

Everything But The House is a tag and estate sale company that sold approximately 4000 ivory containing objects in 2013.

Cowan's Auctions sold approximately 600 objects containing ivory.

Main Auction Gallery sold approximately 100 objects containing ivory.

These three auction companies can be assumed to represent about 30-50% of the market in Cincinnati, with a total of about 5,000 objects (many of the lots are multiple items) offered for sale. Assuming that the remainder of the different sales venues sold as much as these three, then the number of ivory containing items sold in Cincinnati would total approximately 10,000-15,000.

Using Cincinnati as a Statistical Measurement for the US

Dividing the total production of Cincinnati (2,500,000) into the population of the US (320,000,000) gives a number that can be multiplied by the total ivory objects in Cincinnati sold in 2013 to determine the approximate number sold across the US. $320,000,000 \text{ divided by } 2,500,000 = 128 \times 10,000 \text{ (15,000)} = 1,280,000 - 1,900,000$ ivory objects sold in the US, which assuming many of these are lots of more than one item, would then be estimated to total 1,500,000-2,500,000 objects sold each year.

Antique turtle shell inlaid objects are scarcer than ivory, and probably represent around 10% of the total ivory items offered for sale, for a total in the range of 200,000-400,000 objects sold yearly.

*the above does not include dealer sales.

New York City as a Sample Market

New York City as Center of the Art Market

The international art market is an \$66 billion dollar market according to the European Fine Art Foundation in Maastricht. A sizable percentage of this market is in New York and while a large amount of this trade is in paintings and sculpture, a very large percentage in terms of number of transactions and value are centered in the decorative arts. The major art and antiques shows that take place in New York are showplaces for works of the finest quality. Because many of the finest quality items from every culture incorporate rare materials that today we refer to as “endangered species,” prohibitive regulations will shift the market for treasures from other cultures away from New York to other countries with a more favorable regulatory environment. Losing New York as a venue for the top quality works of art will erode New York’s dominance and result in not just this market but other markets shifting to Europe or Asia.

The lower value decorative market in New York is also very large. Because of New York’s large population and early history, tens of millions of objects made of or containing ivory are in New York State. The number of transactions containing these materials is considerable. Virtually every antique dealer and auction house regularly sells items that incorporate some antique endangered species material.

The Scope Of The Ivory Market In NY State

New York State has a population approximately 8 times that of Cincinnati. Extrapolating the number of transactions in Cincinnati to New York fails to account for the dominance of New York as a center for art and antiques or its long history and wealth. Using the same framework, it could be estimated that New York State includes approximately 10-20% of the total number of ivory or ivory containing items in the US, for a total in the range of 40-80,000,000 objects.

How Many New York Citizens Own Ivory?

Most of New York citizens probably do not realize they own ivory or other endangered species materials. Most of the uses of ivory in years past were incidental, as ivory was utilitarian, a durable and useful material. It is likely that about 5-10% of the population will be affected by the regulations, probably totaling 1-2m people. Of this group, probably 100,000 – 300,000 will suffer a serious financial consequence of the regulations.

The overall value of ivory or other endangered species containing objects sold in NY State is likely in excess of \$500,000,000 each year and the economic impact of removing ivory and other endangered species materials from the art market in NY would be significant, impacting collectors, dealers, hotels, restaurants, and other venues.

It is very difficult to estimate the overall value of ivory and other endangered species materials containing antique objects in NY state, but total would likely be in the billions of dollars.

The Economics of Ivory

Ivory was a precious and scarce material from Roman times through the 18th century, reserved only for objects made to the highest standards. It was difficult to obtain and costly. People associated ivory with other highly valued materials: gold, silver, jasper, diamonds, amber, and rare woods.

Some early utilitarian objects were made of ivory for the influential, wealthy and powerful, such as combs, sewing implements, and medicinal boxes.

Sculpture and objects of veneration were made for religious purposes, such as the 16th century Germany ivory Madonna and child or Chinese figure of Guanyin from the 17th c. shown as examples.

In Japan, ivory was used for netsuke, small toggles tied to cords around a belt; and in China for export items sent to the west, such as boxes, card cases, and fans.

During the 19th century, as African and Asia became more accessible, so did ivory and it was used far more extensively than at previous times for utilitarian and decorative purposes. By the end of the 19th c. ivory was still a rare and valuable material, but more accessible, used for furniture inlays and related purposes.

After WWII, motorized transport made Africa much more accessible and ivory began to be used for mostly tourist items, created in Asia for export to the West, particularly in Japan where their economy was modernizing and the money earned from exports was important.

The big change in the Ivory market, however, was after WWII, when American servicemen were in Asia and brought ivory gifts home. This trend continued into 1960s and 70s with an increase in quantity and lessening quality of works created in Ivory. Ivory was no longer a rare and valuable material, it was inexpensive, readily available, and widely used by manufacturers in Asia who employed low-paid craftsman in large factories. The low cost of the material and labor meant high profits because the residual memory of ivory as a valuable and rare material was deeply ingrained into most cultures, and detailed workmanship was associated by collectors with quality, creating a strong demand for ivory carvings.

Today, demand for ivory carvings is high because ivory tusks are relatively inexpensive from a historical standpoint, and cost of manufacture is low because of mechanical carving tools and low labor costs. Ivory is no longer a rare and costly material, reserved for kings and the wealthy, but it is still associated as rare and costly by a huge proportion of the worlds population.

Modern carvings in China are often skillfully done and enforce the idea that ivory is rare and valuable.

European and American Ivory



German cabinet with Ivory Pilasters, c. 1740 \$ 410,000

Italian Ivory Inlaid Box, 18th C. \$ 2,000

Pair Chinese Lacquer, Hardstone, and Ivory Mounted Panels, 18th C. \$ 23,000

American Mahogany and Ivory Inlaid Sideboard, c.1790 \$ 59,000

Early Chinese Ivory



Chinese Ivory Figure, 13th c. (left) \$400,000

Chinese Seated Figure, 16th/17th c. \$ 18,000

Chinese Ivory and Gourd Cricket Cage, 19th c. \$ 19,000

Chinese Ivory Brushpot, 19th c. \$ 150,000

Chinese Wood and Ivory Mounted Brushpot, 17th c. \$ 9,000

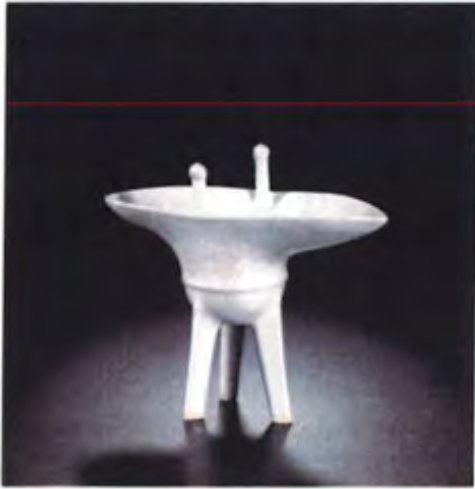
Imperial Chinese Stained Ivory Stand and Agate Brushwasher, 18th c. \$310,000

Culture and Quality, Not Material



- German Rhinoceros Horn Cup, (Left), 17th c. \$ 12,000*
Chinese Rhinoceros Horn Cup, (Right), 17th c. \$ 194,000
Chinese Rhinoceros Horn Cup, (Below left), 18/19th c. \$80,000
Chinese Buffalo Horn Cup, (Below right), 17th C. \$125,000
German Gilt Silver Mounted Rhinoceros Horn Cup, 19th C. \$19,000
Chinese Hardwood Cup, (Below center), 17th C. \$95,000
Chinese Rhinoceros Horn Cup, 17th C. (Below right) \$1.8 m

Quality Not Material



Bronze Jue, dating from c. 1000 BC

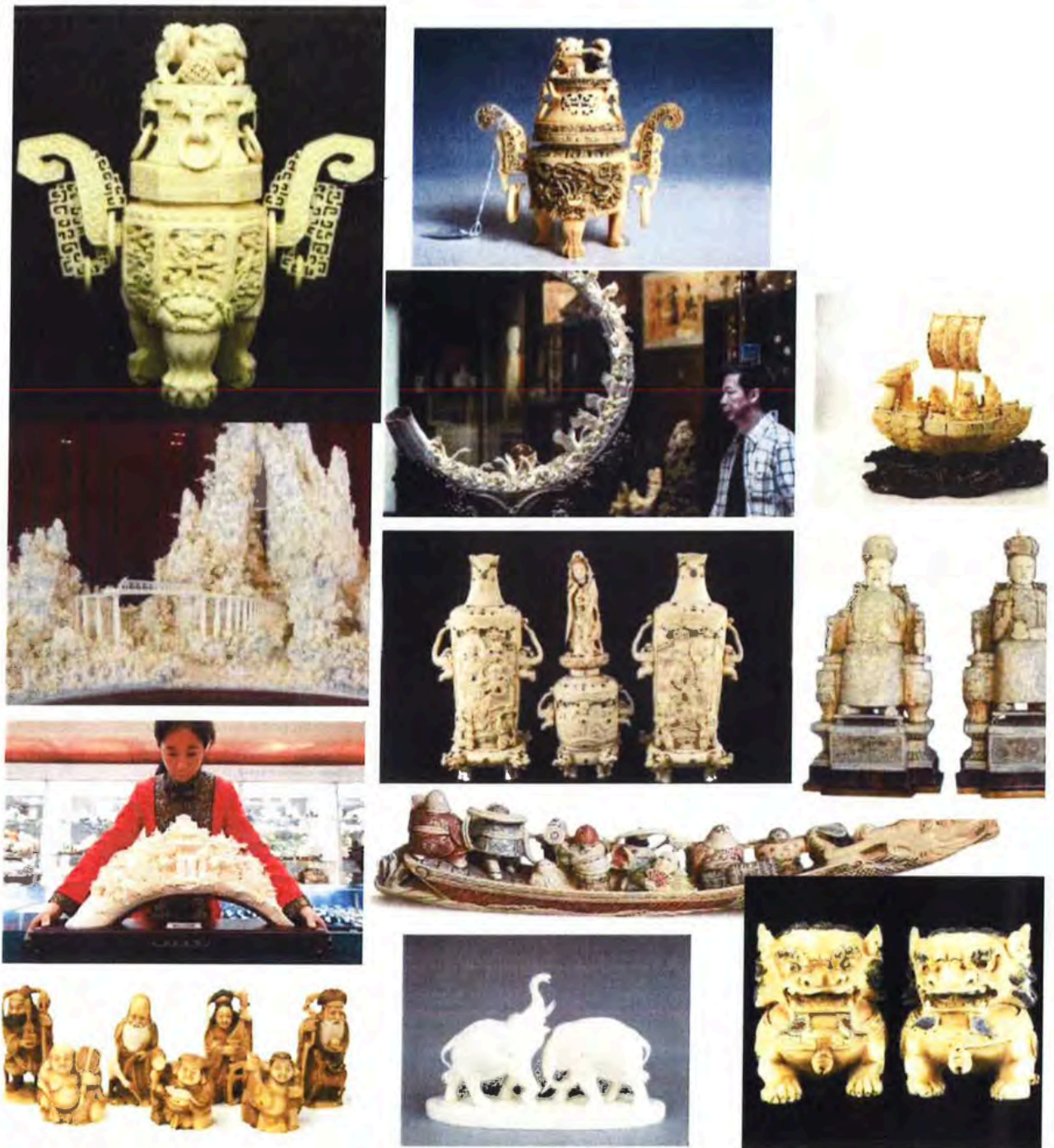
Sold at auction recently for approx. \$ 275,000

Rhinoceros Horn Jue from the 17th c sold for \$ 310,000

Khotan Jade Jue, with an imperial Qianlong mark, sold for \$250,000

White Porcelain Jue, 13th C. sold for \$211,000

Post World War II Asian Ivory Tourist Items



Quantity and Value

Using a combination of price database information and estimates based on collecting categories, a very rough estimate would fall into the range of 400 million or more objects in the United States that include or are made entirely of ivory, with the majority of these items having been made prior to WWII though a significant percentage were made post WWII for export to the US from Japan, China, and other South Asian countries.

In the US the total number of fine quality higher value items worth over \$ 10,000 each, is relative small, probably totaling in the hundreds of thousands. The number of decorative more common items is huge, probably totaling in the range of 400,000,000 or more objects and probably 5% of these enter into commerce each year, for a total of around 20,000,000 objects, consolidated into 1.5-2.5m transactions.

Most items sold at auction, in tag sales or house sales enter into the marketplace one time each generation. Assuming the items offered total around 1,500,000-2,500,000 each year and this number is replicated each year over 30 years, then the total objects entered into commerce in this period would total between 30,000,000-50,000,000 objects.

While price database services record a significant number of sales, by far the larger number of items containing ivory or other endangered species materials are sold in venues that are not recorded, such as local auctions, tag and house sales, and through dealers.

Summary

A large portion of the American population owns objects that contain ivory and endangered species materials. Conservatively, there are 400,000,000 or more objects in this category in the United States.

Approximately 5-10% of all antique decorative arts objects are made of or contain ivory or other endangered species materials. (based upon an analysis of all ivory containing objects in international and mid-size auction catalogues)

Because these materials were incorporated into and used to create rare and precious objects, the values of objects that contain these materials are high. Many collectors stand to be severely hurt by a ban or effective ban of antique objects made of or containing these materials.

In the United States, conservatively 20,000,000-30,000,000 citizens will be affected and suffer significant loss. More will be peripherally affected by burdens of paperwork and regulatory compliance. The loss of value, lost sales, and compliance costs will certainly cost American citizens a total in the tens of billions of dollars each year.

The less tangible cost will be cultural, stigmatizing huge numbers of works of art, many that are unique cultural treasures, because these incorporate a material that is today viewed differently than in the past. This loss is incalculable.

Lark E. Mason Biography

Lark E. Mason is the owner of Lark Mason Associates, a fine art and antique auction house in New York City and iGavel Auctions, an online auction platform. He worked with Sotheby's New York between 1979-2003 as a Senior Vice President and specialist in Chinese art with Sotheby's Chinese Works of Art Department and Director of Online Auctions for Sothebys.com.

Lark Mason is a certified member of the Appraiser's Association of America and has successfully completed a 15-hour course and examination of the Uniform Standards of Professional Appraisal Practice (USPAP), the Congressionally-recognized set of appraisal standards promulgated by The Appraisal Foundation.

He is the translator and author of many articles and books, including: *The Connoisseurship of Chinese Furniture* by Wang Shi Xiang, Lark Mason translator; *Classic Chinese Furniture of the Qing Dynasty*, translator; and *Asian Art*, author. In the capacity of Chinese art expert at Sotheby's he was responsible for the cataloguing of the sales and appraisal of Chinese works of art, becoming intimately familiar with all aspects of the marketplace.

He has appraised and advised major American and foreign institutions for the sale and appraisal of Western and Asian art including: The Metropolitan Museum of Art, The Asian Art Museum of San Francisco, The Freer Museum and Arthur M. Sackler Gallery in Washington, D.C., the Art Institute of Chicago, The Honolulu Academy of Arts, and many others.

He regularly has served on the vetting committees for Chinese and Asian art of many art and antique shows including: the International Fine Art and antique Dealers Show, the Winter Antiques Show, and The Arts of Pacific Asia Show in New York City. He was selected to appear on the PBS series "The Antiques Roadshow" and has been a regular member since the series inception in 1996.