

Development of the Global Spatiotemporal Distribution Dataset of Jewelry Auctions from Sotheby's and Christie's (2014–2023)

WANG Yuqing^{1, 2} CHEN Jie^{1*}

1. Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing 100101, China;

2. University of Chinese Academy of Sciences, Beijing 100049, China

Abstract: Jewelry auctions provide a distinctive perspective for investigating mid-to-high-end consumption within the framework of consumption geography. This study systematically compiled global jewelry auction transaction records from Sotheby's and Christie's during 2014–2023, and integrated geospatial big-data processing techniques with gemological knowledge. Through key procedures including text data processing, jewelry dictionary construction, jewelry category identification, and multidimensional data aggregation, The Global spatiotemporal distribution dataset of jewelry auction from Sotheby's and Christie's (2014–2023) was developed. The dataset includes the spatiotemporal distribution data for global jewelry auction transactions aggregated from the two auction houses, and related statistical data. The analytical results showed that, temporally, the global jewelry auction market underwent a transformation from “quantity” to “quality”, forming a threefold structure in which white diamonds maintained market liquidity, colored diamonds led value peaks, and traditional colored gemstones provided stable support. Spatially, New York, Geneva, and Hong Kong occupied leading positions in transaction activity and unit value, constituting the core triangle of the global jewelry auction market. With respect to jewelry categories, the high concentration of jadeite in Hong Kong and the value premium of colored diamonds in Geneva indicate the profound shaping effects of regional culture and consumer preferences on the jewelry market pattern. The development of this dataset fills a gap in fine-grained spatiotemporal data for the field of mid-to-high-end consumption. The dataset is archived in .xlsx and .shp data formats, and consists of 6 data files with data size of 56.3 KB (compressed into one file with 44.6 KB).

Keywords: global jewelry auction; consumption geography; gemology; Sotheby's; Christie's

DOI: <https://doi.org/10.3974/geodp.2026.02.06>

Dataset Availability Statement:

The dataset supporting this paper was published and is accessible through the *Digital Journal of Global Change Data Repository* at: <https://doi.org/10.3974/geodb.2025.12.07.V1>.

Received: 05-12-2025; **Accepted:** 23-03-2026; **Published:** 25-04-2026

Foundation: Chinese Academy of Sciences (XDB0740000)

***Corresponding Author:** Chen, J., Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, chenj@reis.ac.cn

Data Citation: [1] Wang, Y. Q., Chen, J. Development of the global spatiotemporal distribution dataset of jewelry auctions from Sotheby's and Christie's (2014–2023) [J]. *Journal of Global Change Data & Discovery*, 2026, 10(2): 157–168. <https://doi.org/10.3974/geodp.2026.02.06>.

[2] Wang, Y. Q., Chen, J. Global spatiotemporal distribution dataset of jewelry auction from Sotheby's and Christie's (2014–2023) [J/DB/OL]. *Digital Journal of Global Change Data Repository*, 2025. <https://doi.org/10.3974/geodb.2025.12.07.V1>.

1 Introduction

Consumption geography is an important branch of human geography^[1]. Taking consumption practices as its carrier, consumption geography explores in-depth the complex interactions and evolution of human-environment relationships. Traditionally, studies in consumption geography have mainly focused on mass consumption behavior and its spatial characteristics. With the continuous socio-economic development of China, residents' consumption structure has been steadily upgraded, showing a trend toward mid-to-high-end consumption that goes beyond the level of mass consumption.

Jewelry, as a special commodity characterized by beauty, durability, rarity, and craftsmanship value^[2,3], is essentially different from ordinary mass-consumption goods with respect to consumption behavior. The jewelry auction market is not only an important mechanism for jewelry price discovery^[4–7], but also a typical arena reflecting trends in mid-to-high-end consumption. It therefore provides a distinctive perspective from which consumption geography can investigate mid-to-high-end consumption practices. By systematically integrating global jewelry auction transaction records and applying geospatial big-data processing techniques^[8], this study developed a global jewelry auction spatiotemporal distribution dataset. Theoretically, this dataset can provide a representative empirical case and data foundation for research on mid-to-high-end consumption in consumption geography. Practically, it can also offer a scientific basis and decision support for deepening supply-side structural reform and promoting high-quality development in China's jewelry industry.

2 Metadata for the Dataset

The metadata for the Global spatiotemporal distribution dataset of jewelry auction from Sotheby's and Christie's (2014–2023)^[9] is summarized in Table 1. It includes the dataset's full name, short name, authors, year of the dataset, temporal resolution, data format, data size, data files, data publisher, and data-sharing policy.

3 Methods

3.1 Data Sources

The raw data for this dataset were derived from the jewelry auction transaction records from Sotheby's and Christie's, two long-established and dominant international auction houses in the global art auction market. More specifically, this study employed big-data acquisition techniques to systematically collect jewelry auction transaction records from major auction center cities worldwide; these jewelry auction results were publicly released on their official websites from 2014 to 2023^[11,12]. Each record corresponds to a sold jewelry lot and includes information such as transaction date, transaction location, title, description, estimated price, realized price, physical image, and identification certificate. According to the statistics of this study, from 2014 to 2023, Sotheby's and Christie's held a combined total of 225 jewelry auctions across global auction center cities, with 61,894 jewelry lots sold and a cumulative transaction value of USD 9.586 billion.

Table 1 Metadata summary of the Global spatiotemporal distribution dataset of jewelry auction from Sotheby's and Christie's (2014–2023)

Items	Description
Dataset full name	Global spatiotemporal distribution dataset of jewelry auction from Sotheby's and Christie's (2014–2023)
Dataset short name	GlobalJewelryAuctionResults2014-2023
Authors	Wang, Y. Q., Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, wangyuqing0725@igsnrr.ac.cn Chen, J., Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, chenj@lreis.ac.cn
Geographical region	6 global jewelry auction center cities of Sotheby's and Christie's (Geneva, London, Paris, New York, Hong Kong, and Dubai)
Year	2014–2023
Temporal resolution	Year
Data format	.xlsx, .shp
Data size	56.3 KB (compressed into one file, 44.6 KB)
Data files	Spatiotemporal distribution data of jewelry auction transaction records aggregated from Sotheby's and Christie's in 6 global auction center cities during 2014–2023, as well as the related statistical data
Foundation	Chinese Academy of Sciences (XDB0740000)
Data publisher	Global Change Research Data Publishing & Repository, http://www.geodoi.ac.cn
Address	No. 11A, Datun Road, Chaoyang District, Beijing 100101, China
Data sharing policy	(1) <i>Data</i> are openly available and can be free downloaded via the Internet; (2) End users are encouraged to use <i>Data</i> subject to citation; (3) Users, who are by definition also value-added service providers, are welcome to redistribute <i>Data</i> subject to written permission from the GCdataPR Editorial Office and the issuance of a <i>Data</i> redistribution license; and (4) If <i>Data</i> are used to compile new datasets, the “ten per cent principal” should be followed such that <i>Data</i> records utilized should not surpass 10% of the new dataset contents, while sources should be clearly noted in suitable places in the new dataset ^[10]
Communication and searchable system	DOI, CSTR, Crossref, DCI, CSCD, CNKI, SciEngine, WDS, GEOSS, PubScholar, CKRSC

3.2 Data Processing

On the basis of the above raw data, this study integrated geospatial big-data processing techniques with gemological knowledge to design the technical workflow for the Global spatiotemporal distribution dataset of jewelry auction from Sotheby's and Christie's (2014–2023), as shown in Figure 1. The workflow mainly consisted of 4 key steps: text data processing, jewelry dictionary construction, jewelry category identification, and multidimensional data aggregation. Through these steps, unstructured auction records were ultimately transformed into a standardized spatiotemporal dataset.

(1) Text data processing

This step aimed to convert the text data in global jewelry auction transaction records into a structured and standardized text data table. First, for unstructured text data, regular expressions were used to extract key fields in a structured manner. Then, the extracted structured fields

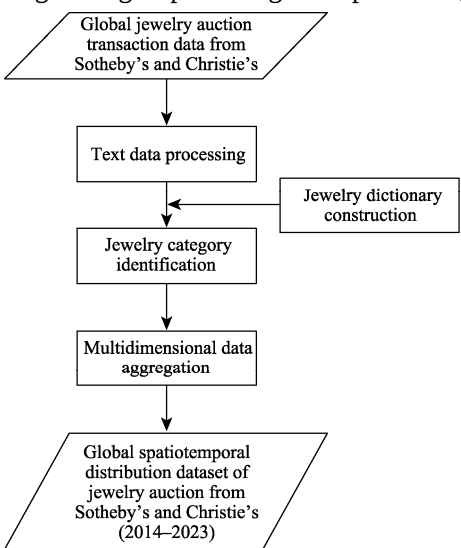


Figure 1 Technical workflow of the dataset development

were further standardized. For example, texts in different languages were uniformly translated into English. In addition to English, the language of global jewelry auction transaction records included Chinese, French, Italian, and other languages. For text information in different languages, the Baidu Translation API was used to translate all texts into English to ensure linguistic consistency in the text data. Additionally, prices in different currencies were uniformly converted into U.S. dollars (USD). The estimated prices and realized prices in the global jewelry auction transaction records were denominated not only in USD, but also in Hong Kong dollars, Swiss francs, British pounds, and other currencies. According to the international exchange rate on the transaction date of each lot, the estimated price and realized price of each jewelry lot were converted into USD to eliminate the effects of exchange rate fluctuations and different currencies on price statistics.

(2) Jewelry dictionary construction

The jewelry dictionary contains the names of various common jewelry and gemstone categories. For each jewelry lot in the global jewelry auction transaction records, this step aimed to establish a criterion for mapping the lot to a specific jewelry or gemstone category. Specifically, a jewelry category dictionary was compiled through classification and collation in accordance with authoritative gemological textbooks and relevant national standards, including Systematic Gemology^[2], Jewelry Appraisal^[3], and Gems—Nomenclature (GB/T 16552—2017)^[13]. The dictionary includes the English and Chinese names of the basic names and trade names of various common jewelry and gemstone categories, as shown in Table 2.

Table 2 Jewelry dictionary

Jewelry name	Jewelry name	Jewelry name	Jewelry name
colored diamond	white sapphire	morganite	agate
coloured diamond	white jade	heliodor	malachite
champagne diamond	celadon jade	maxixe beryl	amethyst
cognac diamond	dark jade	cat's eye	citrine
red diamond	russet jade	hawk's eye	quartz
pink diamond	yellow jade	colored stone	pearl
orange diamond	nephrite	tanzanite	coral
yellow diamond	jadeite	tsavorite	amber
green diamond	green jade	chrysoberyl	abalone
blue diamond	greenish-white jade	corundum	shell
purple diamond	spinach-green jade	diamond	ivory
violet diamond	mother of pearl	ruby	moonstone
brown diamond	rock crystal	sapphire	onyx
black diamond	rose quartz	emerald	chrysoprase
colored sapphire	smoky quartz	opal	carnelian
coloured sapphire	green quartz	tourmaline	cubic zirconia
pink sapphire	tiger's eye	spinel	lab diamond
orange sapphire	lapis lazuli	peridot	moissanite
yellow sapphire	alexandrite	topaz	synthetic ruby
green sapphire	golden beryl	garnet	synthetic sapphire
purple sapphire	green beryl	jade	synthetic emerald
padparadscha sapphire	red beryl	turquoise	simulated diamond
padparacha sapphire	aquamarine	chalcedony	

(3) Jewelry category identification

This step aimed to determine the jewelry category corresponding to each jewelry lot. If only one jewelry category appeared in a lot, that category was directly identified as the corresponding jewelry category of the lot. For example, for a jadeite pendant with a green oval cabochon, the corresponding jewelry category can be directly identified as jadeite. If a lot contains a combination of multiple jewelry categories, the principal category must be determined according to the primary-secondary relationship among the components, and that principal category is then identified as the corresponding jewelry category of the lot. For example, both sapphire and diamond appear in the lot for a ring that is set with a 20-carat sapphire as the center stone, two 1-carat white diamonds as side stones, and mounted in 18k white gold. In this case, sapphire is first judged as the principal jewelry category according to the primary-secondary relationship, and the corresponding jewelry category for the lot is therefore identified as sapphire. Technically, for the text data table for jewelry lots, the pre-constructed jewelry category dictionary was traversed, and the maximum forward-matching algorithm was applied to the lot title or description of each lot for word segmentation to extract all jewelry category terms appearing in the text. The principal category was then determined according to the sequential order of the extracted jewelry category terms, and the corresponding jewelry category for the lot was finally labeled.

(4) Multidimensional data aggregation

The foregoing process resulted in global jewelry auction transaction records with clear structure and explicit category information, with each record containing key attributes such as time, location, price, and category. In this next step, these records were aggregated along the three dimensions of “time-location-category,” and three core indicators were calculated: transaction volume, transaction value, and average price. On the basis of this process, the Global spatiotemporal distribution dataset of jewelry auction from Sotheby’s and Christie’s (2014–2023) was finally generated. The dataset spans 10 years, spatially covers 6 major global jewelry auction center cities—Geneva, London, Paris, New York, Hong Kong, and Dubai—and focuses on 7 representative natural jewelry categories: white diamond, colored diamond, ruby, sapphire, emerald, jadeite, and pearl. The dataset records a total of 42,445 sold lots, with a cumulative transaction value of USD 8.939 billion. The transaction value of the selected seven jewelry categories accounts for more than 93.25% of the total jewelry transaction value of Sotheby’s and Christie’s during the same period. This broad coverage indicates that, while maintaining simplicity, the dataset effectively captures the core transaction characteristics of the global jewelry auction market and demonstrates good representativeness and application potential.

4 Data Results

4.1 Dataset Composition

The final dataset included the spatiotemporal distribution data for jewelry auction transaction records aggregated from Sotheby’s and Christie’s in 6 global auction center cities during 2014–2023, as well as the related statistical data. More specifically, it included the following information. (1) The spatiotemporal distribution data of global jewelry auction transactions aggregated from the two auction houses for 2014 to 2023 in the 6 major global jewelry auction center cities; 7 representative types of mid-to-high-end jewelry. (2) The related statistical data for jewelry auction transactions from the two auction houses during 2014–2023: yearly global jewelry auction transaction scale; transaction scale in 6 global

jewelry auction locations; yearly transaction volume, transaction value, and average price of the 7 major jewelry categories; and transaction volume, transaction value, and average price of the 7 major jewelry categories in the 6 global jewelry auction locations. The dataset is archived in .xlsx and .shp formats. The field descriptions of the dataset are shown in Table 3.

Table 3 Field descriptions of the dataset

No.	Field	Field name	Description
1	Auction year	Year	2014–2023
2	Auction location (Chinese)	Location	Geneva, London, etc. (Chinese)
3	Auction location (English)	Location_1	Geneva, London, etc.
4	Jewelry category (Chinese)	Category	White diamond, Colored diamond, etc.
5	Jewelry category (English)	Category_1	White diamond, Colored diamond, etc.
6	Transaction volume (units)	Vol (units)	e.g., 100
7	Transaction value (100 million USD)	Val (100 million USD)	e.g., 0.61
8	Average transaction price (10 thousand USD)	Avg (10 thousand USD)	e.g., 49.87
9	Transaction volume in year YYYY	Y_[YYYY]_Vol	Field name such as Y_2019_Vol
10	Transaction value in year YYYY	Y_[YYYY]_Val	Field name such as Y_2019_Val
11	Average transaction price in year YYYY	Y_[YYYY]_Avg	Field name such as Y_2019_Avg
12	Transaction volume of a given jewelry category	[Category]_Vol	Field name such as Jadeite_Vol
13	Transaction value of a given jewelry category	[Category]_Val	Field name such as Jadeite_Val
14	Average transaction price of a given jewelry category	[Category]_Avg	Field name such as Jadeite_Avg

4.2 Data Results Analysis

4.2.1 Temporal Distribution of Global Jewelry Auctions from Sotheby’s and Christie’s

(1) Transaction scale

Overall, during 2014–2023, with the transition from 2019 to 2020 marking a critical turning point, the scale of the global jewelry auction market showed a trend of sharp decline followed by gradual recovery (Figure 2). Specifically, in transaction volume, the number of lots sold reached 6,526 in 2014, the peak during the study period. It then declined year by year, and experienced a cliff-like drop in 2020, decreasing by 54.7% compared with 2019. In 2021, only 1,923 lots were sold, marking the lowest point of the study period. Although transaction volume rebounded to 2,740 in 2023, it was still only 42.0% of the 2014 peak level. The trend in transaction value was similar to that of transaction volume. It reached the highest point of the study period at USD 1.259 billion in 2014, then declined synchronously, and fell to the lowest point at USD 518 million in 2020. After 2020, transaction value recovered significantly, rising to USD 958 million in 2023, an increase of 85.0% compared with the 2020 low point. The trend in average price was markedly different from those for transaction volume and transaction value. Before 2020, while transaction volume and value fell substantially, average price remained basically stable, fluctuating within the range of USD 142,700–192,800 per lot. After 2020, while transaction volume and value gradually recovered, average price rose sharply, reaching USD 369,000 per lot in 2021, the highest level during the study period and 81.2% higher than that in 2014. Overall, the global jewelry auction market experienced a profound transformation from scale-driven growth to value-driven growth during 2014–2023. Represented by the international jewelry auction market, the demand for mid-to-high-end jewelry consumption increased dramatically. Against the background of contraction in total volume, mid-to-high-end jewelry

consumption continued to show a preference for high-priced and high-value lots, thereby driving the jewelry industry toward refinement and higher value.

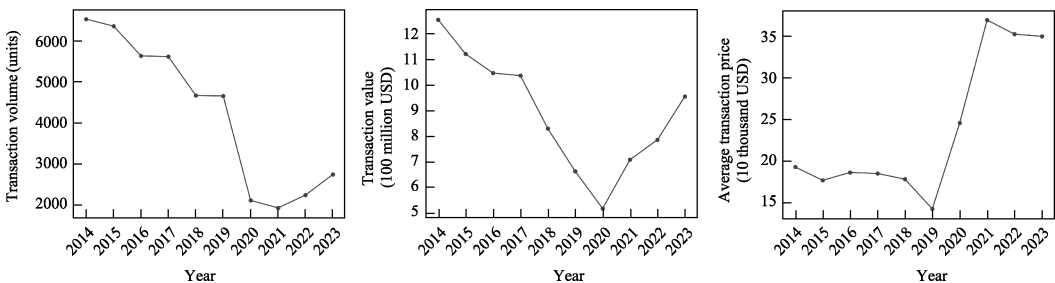


Figure 2 Temporal distribution of transaction scale in global jewelry auctions from Sotheby’s and Christie’s (2014–2023)

(2) Category structure

With respect to transaction volume, from 2014 to 2023, white diamonds consistently ranked first in volume share and remained the core category in number of lots sold, while the volume shares of the other six jewelry categories were relatively small and remained generally stable (Figure 3). In transaction value, white diamonds maintained a relatively high share, consistently ranging from 25% to 38%. Colored diamonds were particularly prominent: although their transaction volume was far lower than that of white diamonds, their share of transaction value was comparable to that of white diamonds, and even exceeded it in more than half of the years. In average price, colored diamonds consistently ranked at the top among the seven jewelry categories and maintained a clear gap from the other categories (Figure 4). In 2022, the average price of colored diamonds reached USD 1.6684 million per lot, or 6.17 times that of white diamonds in the same year. In addition to diamonds, jadeite was noteworthy, as its average price showed a clear upward trend. Its average price more than doubled from USD 216,100 per lot in 2014 to USD 450,100 per lot in 2023, representing a larger increase than that of the other jewelry categories. Overall, during 2014–2023, the global jewelry auction market formed a core pattern in which white diamonds supported market liquidity, colored diamonds dominated value, and traditional colored gemstones provided market stability. Changes in the shares of different categories across years reflect the transformation of the jewelry auction market toward a stronger focus on high-value categories during the process of scale contraction.

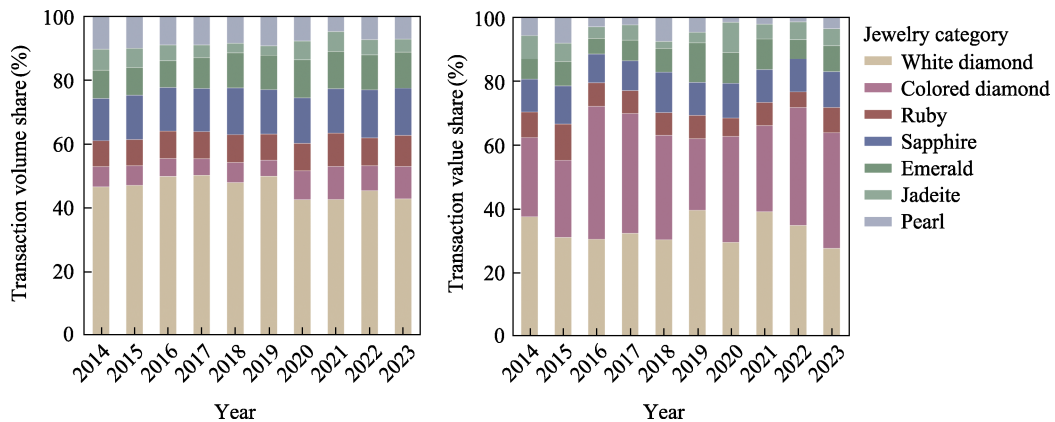


Figure 3 Temporal distribution of category structure in global jewelry auctions from Sotheby’s and Christie’s (2014–2023)

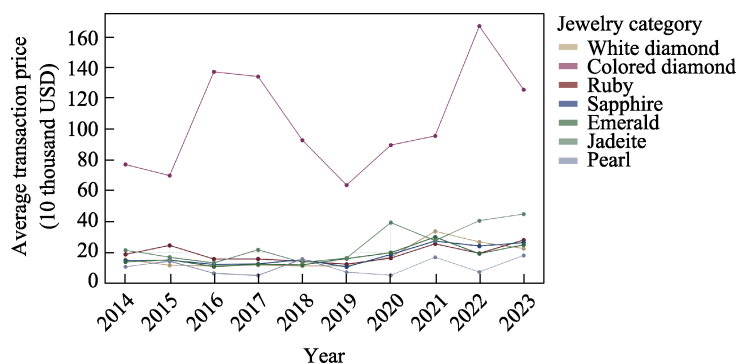


Figure 4 Temporal distribution of average transaction price by jewelry category in global jewelry auctions from Sotheby’s and Christie’s (2014–2023)

4.2.2 Spatial Distribution of Global Jewelry Auctions from Sotheby’s and Christie’s
(1) Transaction scale

Overall, the global jewelry auction market is highly concentrated geographically, with core transactions concentrated in 6 major jewelry auction center cities: New York, Geneva, Hong Kong, London, Paris, and Dubai (Figure 5). In transaction volume, New York and London formed the first tier. Of these two cities, New York ranked first as the most active region in the global jewelry auction market, with 13,333 lots sold during the study period. London ranked second with 10,623 lots sold. Geneva and Hong Kong formed the second tier, with transaction volumes ranging from 5,000 to 10,000 lots. Paris and Dubai formed the third tier, each with fewer than 5,000 lots sold. In transaction value, Geneva ranked first globally, with a total transaction value of USD 3.573 billion. New York and Hong Kong formed the second tier, with transaction values ranging from USD 500 million to USD 3 billion. London, Paris, and Dubai comprised the third tier, each with transaction values of less than USD 500 million. In average price, Hong Kong and Geneva formed the first tier. Hong Kong ranked first with an average price of USD 388,400 per lot, while Geneva ranked second with an average price of USD 377,800 per lot. New York formed the second tier, with an average price of USD 174,600 per lot. London, Paris, and Dubai remained in the third tier, each with an average price of less than USD 50,000 per lot. Overall, the six major auction center cities showed clear tiered differences in transaction volume, transaction value, and average price, thus forming a distinct spatial pattern in the global jewelry auction market. Of these, Geneva, Hong Kong, and New York became the top-tier global jewelry auction centers. Geneva and Hong Kong jointly constituted the value highlands of that market, while London, Paris, and Dubai served as secondary high-level trading centers. Together, these tiers shaped a global spatial pattern of jewelry auctions driven by the dual cores of “high activity” and “high value”.

(2) Category structure

Overall, the six major global jewelry auction center cities exhibited obvious regional differences in preferences for mainstream jewelry categories (Figure 6). With respect to the transaction volume shares for the seven major jewelry categories, Geneva, Hong Kong, and New York showed relatively balanced category structures, whereas London, Paris, and Dubai displayed a structural feature dominated by white diamond transactions supplemented by other jewelry categories, with white diamonds accounting for more than 50% of transaction volume in each city. Additionally, jadeite accounted for a considerable

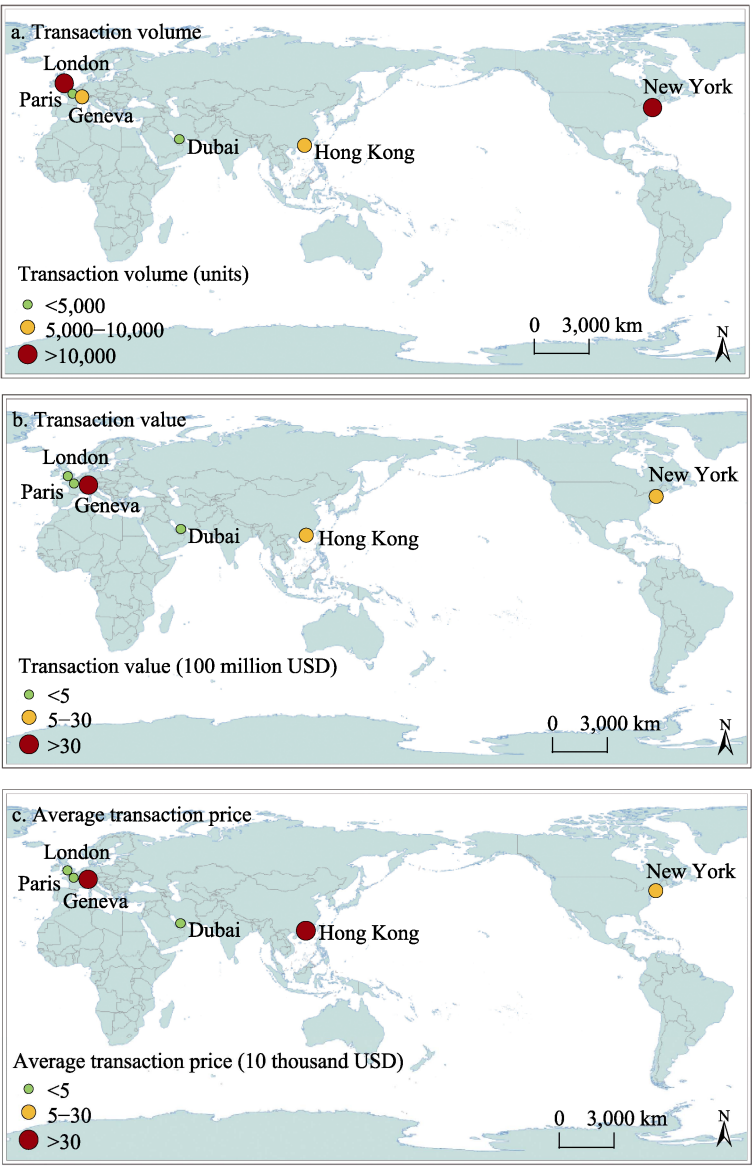


Figure 5 Spatial distribution maps of transaction scale in global jewelry auctions from Sotheby's and Christie's (2014–2023)

transaction volume in Hong Kong: from 2014 to 2023, up to 1,625 lots of jadeite were sold in Hong Kong, accounting for 23.2% of the total transaction volume of the seven jewelry categories in that city and 79.8% of the total jadeite transaction volume across all six cities. In transaction value shares, colored diamonds were particularly prominent in Geneva, Hong Kong, and New York, accounting for 34.9%, 33.5%, and 28.0%, respectively, which were comparable to the transaction values of white diamonds. Furthermore, the share of jadeite transaction value in Hong Kong reached 16.0%, far exceeding that in the other jewelry auction center cities. As for the distribution of average price, all seven mainstream jewelry categories exhibited a regional pattern, led by Geneva, Hong Kong, and New York, in value recognition (Figure 7). During 2014–2023, white diamonds, colored diamonds, and pearls

achieved the highest average prices in Geneva, while rare colored gemstones such as ruby, sapphire, emerald, and jadeite achieved the highest average prices in Hong Kong. Overall, the six major global jewelry auction center cities exhibited a clear spatial distribution of jewelry category preferences. High-quality white diamonds, colored diamonds, and pearls received higher value recognition in Geneva, whereas jadeite, ruby, sapphire, and emerald received higher value recognition in Hong Kong. These regional differences in value recognition profoundly reflect the influence of different cultural backgrounds and market preferences on the valuation of jewelry categories.

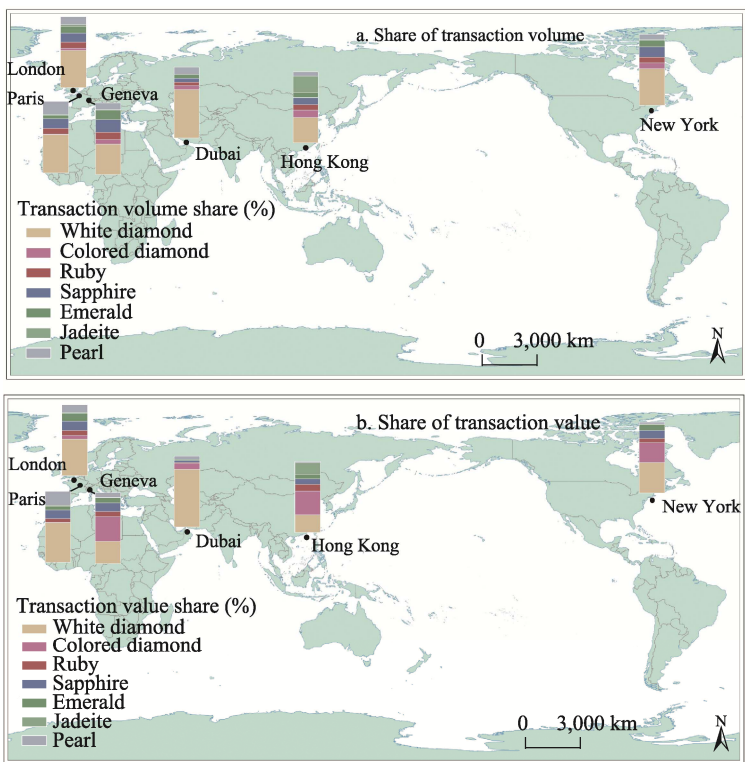


Figure 6 Spatial distribution maps of category structure in global jewelry auctions from Sotheby's and Christie's (2014–2023)

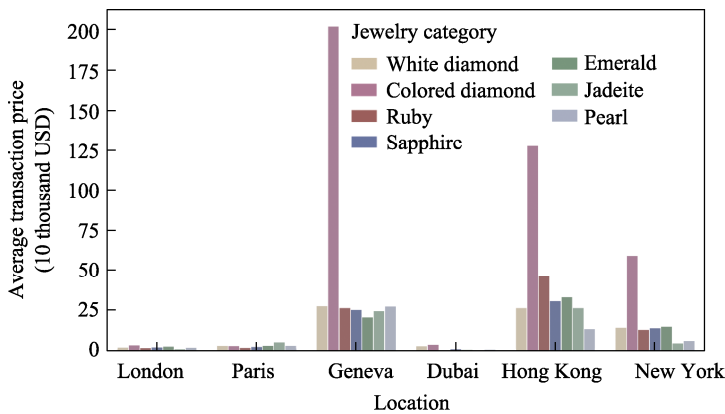


Figure 7 Spatial distribution of average transaction price by jewelry category in global jewelry auctions from Sotheby's and Christie's (2014–2023)

5 Discussion and Conclusion

Using the global jewelry auction data publicly released by Sotheby's and Christie's during 2014–2023, this study successfully constructed the first jewelry auction spatiotemporal dataset for consumption geography research through a series of standardized processing procedures. The analytical results showed that, in the temporal dimension, the global jewelry auction market experienced a transformation from “quantity” to “quality”, thereby forming a threefold structure in which white diamonds maintained market liquidity, colored diamonds led value peaks, and traditional colored gemstones provided stable support. In the spatial dimension, New York, Geneva, and Hong Kong occupied leading positions in transaction activity and unit value, constituting the core triangle of the global jewelry auction market. Notably, the high concentration of jadeite in Hong Kong and the value premium of colored diamonds in Geneva revealed the profound shaping effects of regional culture and consumer preferences on the jewelry market pattern. The development of this dataset not only fills the gap in fine-grained spatiotemporal data for the field of mid-to-high-end consumption, but also provides a new tool for understanding the mechanisms underlying the spatial differentiation of global jewelry consumption. At the practical level, the new dataset can provide decision support for Chinese jewelry enterprises in accurately positioning themselves in the international market, in optimizing product structure, and enhancing brand value. In turn, these outcomes serve the strategic goals of industrial transformation and upgrading and facilitate the improvement of global competitiveness.

This dataset has certain limitations at present that should be noted. One, the raw data in the dataset were derived from only two international auction houses, Sotheby's and Christie's. While highly representative, these data still cannot fully cover all jewelry auction center cities worldwide. Two, the dataset spans only 10 years, which is somewhat insufficient for revealing longer-term evolutionary patterns of mid-to-high-end consumption under the influence of economic cycles, international politics, and other factors. Therefore, in future work, the dataset can be further improved in the following aspects. First, jewelry auction transaction data from other major international auction houses and regionally well-known jewelry auction houses may be incorporated to enrich the spatial distribution of global jewelry auction center cities. Second, the temporal coverage of global jewelry auction transaction records may be extended to support research on longer-term spatiotemporal evolution patterns of jewelry auctions. Finally, for the study of mid-to-high-end jewelry consumption, additional sources and levels of jewelry consumption data—such as retail sales data of consumer goods and international commodity trade data—may also be introduced to build a more multidimensional and comprehensive global jewelry consumption data system, thereby better serving consumption geography research and the development of global jewelry industry.

Author Contributions

Chen, J. was responsible for the overall design of the dataset development and revision of the manuscript; Wang, Y. Q. was responsible for the specific implementation of the dataset development and manuscript writing.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Zhang, H., Sun, J. X. The review and prospect of consumption geography [J]. *Human Geography*, 2022(5): 24–31.
- [2] Zhang, B. L. Systematic Gemology, 2nd ed. [M]. Beijing: Geological Publishing House, 2006.
- [3] Zhang, B. L. Jewelry Appraisal, 2nd ed. [M]. Beijing: Geological Publishing House, 2018.
- [4] Xu, Y. L., Zhou, Q. S., Chen, Q. L., *et al.* Jewelry auction market and rules: take Sotheby for example [J]. *Journal of Gems & Gemmology*, 2015, 17(3): 48–53.
- [5] Peng, S. Y., Qiu, Z. L., Li, L. F., *et al.* Statistical analysis and revelation on pricing factors of colored diamonds in international auction market [J]. *Journal of Gems & Gemmology*, 2013, 15(1): 43–51.
- [6] Zhou, Q. S., Xie, M., Liu, H., *et al.* Research on global colourless diamond product auction market based on data analysis [J]. *Journal of Gems & Gemmology*, 2020, 22(4): 43–52.
- [7] Zhou, Q. S., Wang, B. Y., Liu, H., *et al.* Overview of the international ruby jewelry auction market and analysis of its price influencing factor [J]. *Journal of Gems & Gemmology*, 2021, 23(3): 63–71.
- [8] Pei, T., Liu, Y. X., Guo, S. H., *et al.* Principle of big geodata mining [J]. *Acta Geographica Sinica*, 2019, 74(3): 586–598.
- [9] Wang, Y. Q., Chen, J. Global spatiotemporal distribution dataset of jewelry auction from Sotheby's and Christie's (2014–2023) [J/DB/OL]. *Digital Journal of Global Change Data Repository*, 2025. <https://doi.org/10.3974/geodb.2025.12.07.V1>.
- [10] GCdataPR Editorial Office. GCdataPR data sharing policy [OL]. <https://doi.org/10.3974/dp.policy.2014.05> (Updated 2017).
- [11] Sotheby's. Auction Results [OL]. <https://www.sothebys.com/en/results?locale=en>.
- [12] Christie's. Auction Results [OL]. <https://www.christies.com/en/results>.
- [13] General Administration of Quality Supervision, Inspection and Quarantine of P. R. China, National Standardization Administration. Gems—Nomenclature [S]. Beijing: Standards Press of China, 2017.