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Keywords Global art market · Copies · Dong Qichang · Chinese calligraphy and painting · Valuation mechanisms.

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Abstract

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As there are originators, there will be imitators at the end of the stream,
and because of those at the end of a stream, there will again be
originators.

“Dong Qichang's calligraphy”, 1992

Introduction

Copies, despite existing in large quantities, have received limited scholarly attention in art markets studies. Most of the academic literature views the question of copies through the lens of authenticity and largely considers all works deriving from an original as subsidiary.⁴ This reflects the importance that the art world has traditionally attached to the artist's name and originality (Belke et al. 2010). This focus on the name is rooted in Western art historical scholarship, which has been driven by the myth of the artist as a lonely genius (Kris & Kurz 1979). The obsession with the artist's name, however, did not take hold until the early modern period (Lenain 2012; Radermecker 2021). Yet, since then there has been a stigma attached to copies that stems, at least in part, from the inability to name the creator of the copy. Indeed, signatures for artworks in general began appearing relatively late in Europe and are almost always absent in the case of copies.

The market makes a strong distinction between originals and copies. The name-centric approach adopted in the West has compelled auction houses to develop attribution qualifiers that indirectly link an anonymous painting to a named artist, thus indicating the authorial, historical, and material authenticity associated with the artist's name (Radermecker 2021). This authentication scale encompasses a plethora of terms, including “attributed to,” “studio of,” “circle of,” “copy after,” and “manner of.” Typically, lower prices are observed for works with attributions implying that the work might have been produced at a later date, such as “style of,” “copy after,” and “manner of,” than for those “attributed to” or “in the studio of” a given artist. Whereas these latter terms are associated with an approximately 50 percent decrease in price compared to those of works by the artist, the former set of terms have been shown to decrease prices by up to 80 percent (Radermecker 2021; Renneboog & Spaenjers 2013). Historically, differences in attribution have also led to differences in valuation. De Marchi and Van Miegroet (1996) compared the values of paired originals and copies made by the same painters in the Netherlands during the seventeenth century and found originals to be roughly three times more expensive than copies. Similar low ratios have been identified by Benhamou and Ginsburgh (2006) for the eighteenth-century copies. More recently, Van Miegroet and Radermecker (2023) found, for the eighteenth-century Parisian market, a price reduction of 32 percent for works merely designated with the artist's family name and 71 percent for those preceded by an attribution qualifier.

⁴ Studies on authenticity issues tend to conflate the terms describing types of copies and often use them interchangeably, ranging from copies, reproductions, replicas, imitations, to counterfeits, fakes, and forgeries (Frey 1999; Goodman 1968). There is, however, a fundamental difference between copies and fakes: whereas fakes are intended to deceive, copies pay tribute to the original, draw value from it, and bring new possibilities to it (Benhamou & Ginsburgh 2006). Furthermore, regardless of the intentions, a well-made copy is historically valuable (Fong 1962).

Copies are usually not differentiated, the only exception being the occasional indication of the copy's age (i.e., whether it was made by a contemporaneous or later artist). Examining the prices of Rembrandt's prints, for example, Lazzaro (2006) suggests an inverse relationship between the original state numbers and the prices for original prints in which original states tend to be valued higher than later or posthumous states. Pommerehne and Granica (1995) have taken a more distant approach, identifying a rationing effect in people's willingness to pay for a reproduction of an artwork, regardless of whether the original is irrevocably lost.

Many studies, therefore, find similar results for the Western market for Western copies. Testing for the value of copies after European old masters, however, leads to a joint test of the value of the copy and the value of authorship, because the name-centric approach attributes a copy to a specific artist's name.⁵ In Eastern cultures, by contrast, copies and copy-making are found to be more highly regarded and carry less dark connotations (Han, 2017). Among the most important influences (Bader, 2005), in China in particular, often, both the names of the artists and the copied artists are clearly inscribed on copies. This makes a significant, albeit underexplored, contrast with Western art practices that allows us to separate the two elements and independently assess the market value and influence of copies in different cultural contexts.

The rising role of the Chinese art trade provides another reason to focus on this segment. After a few decades of phenomenal growth, the Chinese art market has now become one of the largest markets in the world, with the largest market shares in value in the Old Masters' sector (McAndrew 2021). Despite its growing market share and potential for investment, the Chinese art market remains an underexplored field of study and Chinese art has received relatively low scholarly attention compared to Western painting (Etro and Stepanova, 2021, Shi et al. 2017; Zou et al. 2021). This paucity in research is partly due to limitations in data accessibility and language barriers; however, to reach a more complete understanding of the global art trade, the Chinese art market cannot be excluded. Since 2012—the year after which the Chinese art market overtook the US for the first time—Artprice.com began its partnership with the largest Chinese art market database—Artron.net—to publish its annual art market report. Additionally, Chinese calligraphy and painting has been shown to represent the highest share of the Chinese art market (Park et al. 2017), representing 81.59 percent of all works sold (Artprice 2017).

To shed new light on the market for copies of Chinese artworks, this paper first discusses Chinese concepts of copying before empirically testing whether the prices of original artworks and copies differ in the market for Chinese art in a global context. Specifically, we center our analysis on the market for Chinese calligraphy and paintings “made by,” “copied by,” or “copied from” the Late Ming Dynasty old master Dong Qichang (1555–1636). The importance of Chinese calligraphy and painting sold in the Chinese art market explains our focus on this specific artist, who, besides having produced an important body of work, also engaged significantly copying. Dong developed a theory regarding the production of copies and was one of the first artists to mention the names of the artists he copied on the copies, a practice that played an

⁵ The case of Pieter Brueghel the Younger may represent an exception as he copied artworks from Pieter Bruegel the Elder. However, even in this case, the question of authenticity is salient. Ginsburgh et al. (2019) have indeed found that buyers are willing to pay roughly 60 percent more for paintings by Pieter Brueghel the Younger than his non-autograph works.

important role in copy production in the centuries that followed. Thus, while information availability remains a recurring issue in studying the market for European old masters (Radermecker 2021), our sample of Chinese artworks offers a robust set of information regarding other types of copies, authorship, and authenticity. Using a dataset of 3,574 sales gathered from Artron.net, we successively explore the following research questions:

i) *How is originality valued for Chinese artworks?*

If originality is not a prime concern in China, there should be no observable difference between the prices of originals and copies. Conversely, we may even observe higher prices for copies than originals. If, however, originality does matter, prices for copies should be observably lower than those of originals, as has been proven in the case of the Western art market, where copies labeled with an attribution qualifier (e.g., “copy after,” “manner of,” “style of,” and “attributed to”) are subject to markdowns (e.g., Euwe & Oosterlinck 2017; Oosterlinck 2017; Renneboog & Spaenjers 2013).

ii) *Are Chinese originals and copies valued similarly across art markets?*

The law of one price suggests that, for artworks of similar quality, no significant price difference should exist, regardless of where they are sold once transaction costs are controlled for. Pesando and Shum indeed argue that “if there is the violation of the law of one price, either between auction houses or geographic locations, economic forces should act so as to eliminate this violation with the passage of time” (2007, p. 269). Several studies have shown, however, that the law of one price does not necessarily hold true in art markets (Agnello & Pierce 1996; Higgs & Worthington 2005; Pesando 1993; Pesando & Shum 1996; Pesando & Shum 2007; Renneboog & Van Houtte 2002). Although there is no clear explanation for this violation, studies suggest that the main reason why auction houses such as Sotheby’s and Christie’s obtain higher sales prices is because of their reputation and market power. Moreover, art markets are also subject to a form of home bias, with the demand for locally produced works being higher in domestic markets. This is particularly strong in emerging markets such as China, where a class of new rich seek to repatriate national heritage (Renneboog & Spaenjers 2011; Shi et al., 2017; Steiner et al. 2013; Vosilov 2015). Besides the assumption that investors may be more adept at evaluating expected returns for investments in their own countries, Steiner et al. (2013) suggest that explicit barriers, such as tariffs and export restrictions among different countries, can also explain the existence of this home bias. If there is indeed a fundamental difference in notions of originality, we should observe different valuations for copies sold in other Eastern and Western locations. Specifically, for this research question, we examine two elements: 1) whether Dong Qichang’s artworks trade at different average prices in different locations; and 2) whether his copies trade at different average prices in different locations.

iii) *Do the names of the copied artists affect the prices of copies?*

Several studies have shown the importance of the artist’s name in valuing artworks. Among the main factors influencing prices of fine art, the artist’s name is often the first thing a buyer is concerned with (Grampp 1989; Radermecker 2019). The presence of an artist’s name can signal value (Cleeremans et al. 2016) and lead to a greater appreciation of the artwork,

regardless of the artist's profile and reputation (Hernando & Campo, 2017). Indeed, an artist's name, as a brand, offers more than just a label; it serves as a heuristic that provides a wide range of information, such as gender (Hoffmann & Coate 2022), talent, fame, and popularity (Angelini et al. 2022). To capture the effect of the artist's name in art market studies, the common practice is to include artist dummies in econometric models (e.g., Agnello & Pierce 1996; Higgs & Worthington 2005; Oosterlinck 2017; Renneboog & Spaenjers 2013). Many studies also include a dummy variable for whether the artist is living or deceased to capture the price changes due to the death of an artist (e.g., Campos & Barbosa 2009; Ekelund et al. 2000; Renneboog & Spaenjers 2013; Witkowska 2014). Frey and Pommerehne (1989) have suggested that the number of years since an artist's death influences art prices, whereas Angelini et al. (2022) consider the years between a sale and the artist's birth year as a price determinant. Other measures taken to capture the reputation of an artist include accounting for the presence of names in art history textbooks (Renneboog & Spaenjers 2013); government awards and gallery reputation for contemporary artists (Beckert & Rössel 2004; Rengers & Velthuis 2002; Schönfeld & Reinstaller 2007); the length of an artist's career (Beckert & Rössel 2004); artists' nationalities (Campos & Barbosa 2009; De la Barre et al. 1994); and the estimated average prices, or index values, for each artist (Anderson 1974). If the artist's name is indeed paramount, then in considering Chinese copies, the names of the copied artists, as well as the copyist's name, should both play a role. Thus, for the third research question, we exploit the information on artist's names and compare the prices of copies that bear both the copyist's name (Dong) and the names of those he copied.

Our findings suggest that, unlike Western old master paintings, Chinese copies are not necessarily valued less than originals; some of Dong's copies, in fact, reach higher prices than his original works. Moreover, we demonstrate how there is no international difference in the valuation of Chinese copies and the prices of copies are more dependent on the names of the copied artist's.

This paper is structured as follows. Section 1 provides an overview of the different perceptions and types of copies in European and Chinese contexts; it also explains our choice to conduct a case study on Dong Qichang's works. Section 2 describes our dataset, variables, and methodology. Section 3 presents our results organized in the order of our research questions. Finally, section 4 concludes our study, clarifies its limitations, and suggests directions for future research.

1. Dong Qichang: Authenticity and Copies in Chinese Art

Copying and imitation have long been standard practices in artistic training (Benhamou & Ginsburgh 2006; Frey 1999; Hsü 2015; Meiland 2018; Muller 1989). Rubens argued that the meticulous study of models was vital to achieving "the highest perfection in art" (Alsop 1982, p. 6). Similarly in China, copying has traditionally been regarded as a venerated scholarly endeavor (Fong 1962). This artistic tradition is well-documented in the Chinese art historian Xie He's *Six Principles of Chinese Painting* by (ca. 490). Additionally, calligraphers have been compelled to copy model works by old masters

to learn the prescribed sequence of brushstrokes as well as the technical, aesthetic, and stylistic standards of the medium before developing a style of their own (Ledderose 2000). However, this age-honored Chinese artistic tradition of learning through faithful copying, coupled with a general tolerance toward forgery, has cultivated ideal conditions for copies challenging the Western notions of authenticity and originality (Diamond 2015). Chinese practices—such as making replicas to be sent abroad for exhibitions in place of originals, rebuilding old constructions rather than restoring them, and the occasional auction sale records that have been broken by copies of Chinese artworks⁶—have led some to believe that “the Chinese do not really care about authenticity—distinguishing the real thing, that is, from the copy or imitation” (Cahill & Silbergeld 2001, p.18; see also Flynn, 2014; Han 2017). Yet, the difference between the Western and Chinese cultural spheres is more subtle than these assessments suggest.

In the Western world, copies—and, by extension, notions of authenticity—are primarily discussed in the context of an artwork’s creator. For example, the market for old masters has, for historical reasons that are beyond the scope of this paper, a particularly high proportion of anonymous paintings (Radermecker, 2019). To overcome this shortcoming, art historians have devised several strategies to address the issue of anonymity by creating, for example, provisional names or relying on attribution qualifiers (Oosterlinck & Radermecker 2019). In China, these attribution qualifiers are also encountered. In the face of large quantities of fakes and forgeries, Chinese auction houses express doubts regarding authenticity with the qualifier “attributed to,” often marked in brackets after the artist’s name. Proof of authorship is also, as in the Western context, found to affect prices as the presence of seals (Shi et al. 2018) and even the number of seals (Bian et al. 2021) have positive effects on prices.

In China, however, the focus of classifying copies diverts from authorship to formal characteristics, as inscriptions on artworks make authorship less of an issue.⁷ To distinguish between the “attribution qualifiers” as devised in the West and those used in China, we may call these distinct types of copies—which include *mo*, *lin*, *fang*, *zao*, and *daibi*⁸—“copy qualifiers.” By definition, *mo*⁹ corresponds to an exact copy or tracing, *lin* is a freehand copy or close approximation, *fang* makes an adaptation or inspired creativity, *zao* is a pastiche, and *daibi* denotes a substitute brush (Cahill & Silbergeld 2001; Fong 1962). Although there is no stated hierarchy among these different terms as they all reflect different ways of learning and could be applied by an artist at will, we can identify varying levels of involvement on the part of the artist. Among the three major types of copies—*mo*, *lin*, and *fang*—the degrees of similarity with the original follow a declining order as the degrees of Western concepts of originality and aura (Benjamin 1935) contained in the end-product through the hand of the copyist increase. Whereas the aim of a *mo* is to create an exact replica of the original for documentary purposes, a *lin* seeks to follow the composition of the original as closely as possible. Similarly, a considerably higher degree of liberty and subjectivity is allowed in a *fang*, which involves selecting, assimilating, and developing styles. This

⁶ For example, Zhang Daqian’s copy *A Thousand Miles of Rivers and Mountains*, a “Landscape after Wang Ximeng,” was sold at Sotheby’s Hong Kong in 2022 at 370,495,000 HKD (47,460,409.50 USD), setting the world record for Zhang Daqian.

⁷ See Appendix A for an illustration of Chinese copy types.

⁸ 摹, 临, 仿, 造, 代笔

⁹ The full Chinese term for “tracing copies” is *shuang gou kuo tian* 双钩廓填, which literally translates to “double outline and fill-in copy.” This type of copy is traditionally produced in three steps; the artist first places a sheet of transparent paper on top of the model, then the characters are outlined with thin lines, and then the outlined areas are filled with ink.

is why Hsü (2016) posits that *fang* should not be translated literally to *imitation*, but should instead be defined as a rich variety of practices, including borrowing, quotation, paraphrase, interpretation, and appropriation. Besides copying/learning from original works on hand, Chinese calligraphy artists also gain access to canonical works through rubbings and reproduction albums known as *fatie* or *zitie* (copy/model books) produced from engraving characters originally written on fragile materials, such as paper and silk, onto stone and wooden slabs, or, after the first half of the nineteenth century, through lithographic printing (Bai 2015; Ledderose 1979; Vinograd 2015). For works by Chinese old masters, an artwork could thus be characterized by both an attribution qualifier and a copy qualifier.

To analyze the question of copies, this paper focuses on the original artworks as well as copies made by and after Dong Qichang. This focus is particularly relevant because Dong is regarded art historically as the epitome of imitation and transmission (Burnett 2003; Yin 2019). He had such a highly innovative approach to his copies of canonical works—by making copies with the originals in his imagination, referencing and combining the styles of multiple artists, and flexibly borrowing and adapting his own styles—that he almost redefined the meaning of *fang*, which has since been translated as *creative imitation*, *non-imitative imitation*, *reference*, and *free imitation* (Cahill 1982; Ho & Smith 1992; Zhang 2022). The next section describes his contributions more extensively.

Dong Qichang is one of the most influential and renowned figures of the late Ming Dynasty in Chinese art history. Having had multiple professional identities—as an artist, scholar-official, collector, connoisseur, art theorist, and art critic—Dong fostered his unique artistic style through the active integration of works by masters of earlier dynasties, while placing a great emphasis on the originality of works of art. Dong therefore serves as the ideal case study for the following reasons:

- i) The historical context in which Dong lived—the Ming Dynasty (1368–1644)—cultivated Neo-Confucian ideals that championed originality and the authentic self. Seventeenth-century artists and critics persistently demanded the qualities of newness, uniqueness, and originality (i.e., the authenticity of artists’ output). This norm is well documented with terms such as *qi* (translated as *strange*, *different*, and *bizarre*, but also *extraordinary*, *remarkable*, and, closer to the Chinese, *original*), and *zhen* (authentic, genuine) are frequently encountered in late-Ming visual arts criticism (Burnett 2000). Furthermore, the Ming Dynasty followed the Tang (618–907), Song (960–1279), and Yuan Dynasties (1272–1368), which were known for many great masters of Chinese painting and calligraphy, including Huai Su (737–799), Yan Zhenqing (709–784), Su Shi (1037–1101), and Ni Zan (1301–1374). These earlier artists produced numerous masterpieces that Dong was able to copy and learn from.
- ii) As has been well-documented, Dong afforded much significance to originality in brushwork. Although he stressed the importance learning from the past, he also advocated for original contributions over mindless reiterations of the conventional. In his treatise *Hua Zhi*, Dong writes, “all paintings of the top rank by great masters must have something original in

their brushwork” (1977, p. 80).¹⁰ Commenting on calligraphy brushwork, Dong advocated for the new, innovative, and unconventional, stating, “When the Old Masters wrote calligraphy, they would never do it according to standard rules, but took originality [*qi*] to their norm” (1983, p. 3b).¹¹ Besides Dong, contemporary intellectuals who served as the leading arbiters of Ming taste, including Xie Zhaohe (1567–1624), Mi Wanzhong (1570–1628), and Yuan Hongdao (1568–1610), also promoted the value of authenticity (Burnett 2000; 2003).

- iii) The richness, quantity and quality of Dong’s artworks is unparalleled among Chinese old masters. Besides being an artist, Dong was also a highly ranked official, connoisseur, and art collector. These various roles allowed him to gain access to large quantities of classical artworks, resulting in a significant number of outputs, both his copies of old masters and original works. In addition, because of Dong’s status—his works were highly praised by two emperors of the Qing Dynasty (1636–1912), Kangxi (1654–1722) and Qianlong (1711–1799)—Dong’s artworks were also subject to frequent copying—and forgery—by later artists (Yao 2021).

The inscriptions on Dong’s works further reinforce the rationale behind this case study. The practice of inscribing Chinese artworks dates to as early as the Pre-Qin Period (before 221 BCE). It became an established practice during the Song Dynasty (960–1279) and is commonly found on literati paintings of the Yuan (1279–1368) and Ming (1368–1644) dynasties (Li 2020). The content of these inscriptions may be divided into three main categories: poetry and rhymes, creation records, and connoisseurial comments (Zhu 2015). Dong, in addition to the three common categories, included a fourth one: copying and creation practices. This category reflects his dedication to imitating as well as provides references to the old masters he copied from. This specificity offers additional research avenues to explore the market reception of originals and copies that is not as readily available in other contexts.

2. Data and Methodology

2.1 Descriptive Statistics

Our main dataset consists of 3,574 works of Chinese calligraphy and paintings linked to Dong Qichang that were sold at auction between 1994 and 2022. It includes original works in the name of Dong ($n = 3,203$) and Dong’s copies of earlier works ($n = 371$). The data were gathered from Artron.net, one of the most comprehensive online databases of Chinese art that is regularly used in Chinese art market studies (e.g., Park et al. 2017; Shi et al. 2018; Zou et al. 2021). Besides standard lot information—such as the title of the work, the artist’s name, the artwork’s size, and the auction result—there are two additional entries for, “inscription” and “item description,” which provide a wealth of supplemental information. We manually retrieved information on exhibition history, literature, seals, expert opinions, and transcriptions. We processed our data according to the characteristics of artworks that fit into several categories: Attribution and Copies (“attribution,” “copy qualifiers”), Artwork Characteristics (“category,” “material,” “mounting,” “size”), Authenticity (“seals,” “dated,” “expert opinion,”

¹⁰ 盖大家神品，必于皴法有奇。

¹¹ 古人作书，必不成正局，盖以奇为正。

“provenance,” “exhibition history,” “literature,” “lot,” “certificate,” “transcription”), Sales Context (“auction house,” “location of sale,” “month of sale,” and “year of sale”), and Artist’s Name (“artist’s name” and “copied artist’s name” if applicable). Sales prices were converted into Yuan at the daily exchange rate, then deflated using the China Consumer Price Index (CPI) from the Chinese National Bureau of Statistics and expressed in 2022 real prices.¹² In the following, we present an overview of our main variables.

2.1.1 Attribution and Copies

We distinguish between attribution qualifiers and copy qualifiers. The only attribution variable is the Western equivalent of “attributed to,” which is a dummy variable taking a value of 1 if the artwork has a questionable autography. An artwork is considered “attributed to” when with the character *kuan*¹³ is placed in brackets after the artist’s name.

To identify different types of copies, we searched the database using typical copy qualifiers¹⁴: *mo* (“tracing”), *lin* (recorded as “after”), *fang* or *ni* (recorded as “style of”). For each of these qualifiers, we created a dummy variable that takes a value of 1 when the term is mentioned in the description of the artwork.

As several authors have already pointed out, Dong, in his copies of old masters, applied the terms *mo*, *lin*, *fang*, and *ni* rather loosely (Burnett 2003; Cahill 1982; Hsü 2016; Yin 2019). Thus, in the following analyses, we also define a broader classification, namely, “original copies” (as opposed to “originals”), to encompass these various types of copies. For works designated as “attributed to,” we labeled them “uncertain copies.” While original copies are traditionally associated with a certain level of mastership, uncertain copies are instead considered to be lower-quality works with questionable levels of authenticity.

Table 1 shows the distribution of sales in both volume and value by copy type. Of the 3,574 total artworks, 2,669 are originals, 327 are original copies, and 578 are uncertain copies. The highest price of a work in the sample is ¥79,246,141, fetched by an autograph painting. The cheapest work is a copy of a painting attributed to Dong, i.e., a copy after a work thought to originally be by Dong, estimated at ¥168. The average price in the sample is ¥894,604, against a median of ¥144,781, indicating that the distribution of the values of artworks are right-skewed. Interestingly, original copies ($M = 2,642,065$; $Mdn = 642,851$) are valued even higher than the originals ($M = 843,486$; $Mdn = 180,114$), and uncertain copies ($M = 142,035$; $Mdn = 29,464$) are among the least valued. Among original copies, those with the copy qualifier “fang” have the highest average price ($M = 3,639,417$) but the lowest median price ($Mdn = 560,920$), whereas “mo” have the lowest average price ($M = 1,530,989$) and the highest median price ($Mdn = 815,978$). Among the uncertain copies, those that claim to be originals are the least valued ($M = 121,949$; $Mdn = 28,430$). This group is also the second largest ($n = 532$), surpassed in volume only by the two originals ($n = 2,669$).

¹² The buyer’s premium is not accounted for at this point because it remains to be seen at which percentages these fees are set for each of the auction house ($n = 259$).

¹³ 款

¹⁴ The corresponding terms in English for the three types of copies—*mo*, *lin*, *fang* / *ni*—are not chosen randomly; instead, we followed the translations used for the copies when they were traded in international auction houses such as Christie’s and Sotheby’s.

Table 1. Distribution of Sales Volume and Value by Copy Type

Copy Types	Qualifiers		Obs. (Perc.)	Mean (¥)	Median (¥)	Std. dev. (¥)	Min price (¥)	Max price (¥)
	Copy Qualifier	Attribution Qualifier						
Original	-		2,669 (74.7%)	843,486	181,114	3,733,776	443	79,246,141
	<i>lin</i> / after		183 (5.1%)	1,984,000	650,977	4,829,320	25,491	48,655,530
Original Copy	<i>fang</i> / style of	-	133 (3.7%)	3,639,417	560,920	9,377,025	6,099	76,389,981
	<i>mo</i> / tracing		11 (0.3%)	1,530,989	815,978	1,680,439	136,412	5,750,000
	-		532 (14.9%)	121,949	28,430	478,654	168	5,801,802
Uncertain Copy	<i>lin</i> / after	(<i>kuan</i> / attributed to)	16 (0.4%)	671,564	129,414	1,939,437	6,696	7,909,653
	<i>fang</i> / style of		30 (0.8%)	215,811	75,967	598,884	2,497	3,307,673
All	-	-	3,574 (100%)	894,604	144,781	3,917,195	168	79,246,141

2.1.2 Artworks' Characteristics

We distinguished between paintings and calligraphies by creating a dummy variable taking the value of 1 if the artwork fits into the given category. Out of the 3,574 artworks, 2,355 (65.8 percent) were works of calligraphy, while 1,219 (34.1 percent) were paintings. The average price of paintings is significantly higher than that of calligraphies (¥1,401,499 and ¥ 632,225, respectively). We created a dummy variable for the different supports, each taking the value of 1 if the artwork was made on that support type. For Chinese paintings and calligraphy, there are primarily four different kinds of supports: paper ($n = 1,467$; 41 percent), silk ($n = 1,049$; 29.4 percent), satin ($n = 682$; 19.1 percent), and gold paper ($n = 252$; 7.1 percent). We also created dummy variables for each mounting formats, again taking the value of 1 if the artwork is mounted according to the given category. There are seven different types of mounting formats: album ($n = 481$; 13.5 percent), fan ($n = 218$; 6.1 percent), framed ($n = 27$; 0.8 percent), handscroll ($n = 930$; 26 percent), hanging scroll ($n = 1,462$; 40.9 percent), plain ($n = 311$; 8.7 percent), set of hanging scrolls ($n = 37$; 1 percent), and others ($n = 31$; 0.9 percent). We also included the size,¹⁵ a continuous variable expressed in square feet. The average size was 6.3 sq. ft, the median size was 4.9 sq. ft, and the smallest artwork was 0.2 sq. ft, while the largest was 150.7 sq. ft.

2.1.3 Authenticity

As far as authenticity variables are concerned, 520 (14.5 percent) of the artworks were dated, 271 (7.5 percent) were referenced in literature, 41 artworks (1.1 percent) had an exhibition history, and 8 artworks (0.2 percent) came with a certificate of authenticity.¹⁶ For expert opinions, 761 (20.8 percent) had comments from auction house experts in the item description. Regarding seals, which are traditionally used to guarantee the identity and authority of the owner,¹⁷ 2,986 (81.7 percent) of the artworks had author seals mentioned and transcribed in sales catalogues and 1,542 (42.2 percent) had a documented provenance.

2.1.4 Sales Context

As shown in table 2, Dong's works also sell outside of China. Apart from mainland China ($n = 3,173$), Hong Kong¹⁸ ($n = 335$) is the primary trading location (52 percent

¹⁵ For the factor "size," all sizes were first recorded as shown on the website, which records measurements in centimeters square. Then, the data were all converted to square feet, which is the standard measurement in the evaluation of Chinese artworks. Each square foot is equal to 1108.89 cm².

¹⁶ Due to the small number of observations, the variable "certificate" is excluded from the later regression model.

¹⁷ Seals add to the authenticity or quality of a work of art, with the underlying assumption being that the handwriting of an individual is personal and idiosyncratic (Ledderose 2000; Radermecker 2021). However, it remains to be seen whether there is a correlation between the total number of seals on an artwork (including both artist seals and collector seals) and the authenticity of the artwork that results in a higher sales price. This can a direction for future study.

¹⁸ Here it may be important to keep in mind some distinctions between mainland China and Hong Kong, because although Hong Kong accounts for an integral part of China, it is an autonomous administrative region and many of its cultural policies are distinctive from those of the mainland. In mainland China, according to the Law of Protection of Cultural Relics, the entry and exit of objects in the so-called cultural relics category is strictly monitored; valuable arts and artifacts created before 1949, including Dong's artworks, are banned. This means that it has been challenging for international auction houses to sell Dong's artworks in mainland China, and it has not been easy for Dong's artworks to be taken outside of China to trade. In addition, taxes in mainland China present another challenge for the trading of art; every cross-border art transaction is subject to VAT (value-added taxes) and tariffs. The two taxes combined

of the artworks traded in Hong Kong are sold at Christie’s HK, while 13 percent are sold at Sotheby’s HK). The United States follows, with 78 percent ($n = 54$) of all works sold in the United States traded at Sotheby’s NY. As the trading activities of artworks by Dong in other countries have been few and far between, in later analyses we combine locations, leaving us with China ($n = 3,508$) and elsewhere ($n = 66$).

Table 2. Distribution of Sales Locations

Location	Category	Location	Frequency (perc.)
China	Mainland China	Mainland China	3173 (88.7)
		Taiwan	7 (0.1)
	Hong Kong	Hong Kong	335 (9.3)
		Germany	1 (<0.1)
		Singapore	1 (<0.1)
Elsewhere	Other Countries	United Arab Emirates	2 (<0.1)
		United Kingdom	1 (<0.1)
		United States	54 (1.5)

Sales of Dong’s works are spread year-round over the period of 1994 to 2022. The year 2011 had the most sales ($n = 357$), followed by the year 2010 ($n = 309$). Before the year 2004, the volumes of sales were below 100 annually. The trend observed is in line with the explosive growth of the Chinese art market between 2004 and 2011 (Wu 2019). When it comes to months, February had the least sales ($n = 18$), December had the most ($n = 694$), followed by June ($n = 541$), November ($n = 468$), and May ($n = 341$). The other months had total sales volumes between 100 and 300.

2.1.5 Artists’ Names

For Dong’s copies, the names of the copied artists and/or works were regularly mentioned. In most instances, there was just one additional name, but copies in the dataset do not all have dual authorships. For instance, there are 111 cases in which multiple artists’ names were involved and there are also copies ($n = 20$) for which we cannot discern the other artists’ names. In total, 47 artists’ names are distinguishable in Dong’s copies. The detailed list, as well as a graph for the distribution of artists according to chronology, can be found in appendix B. The main names are shown in table 3. Compared with Dong’s own works ($M = ¥723,568$; $Mdn = ¥125,410$), Dong’s copies of others’ work have, on average, higher prices. This corresponds to the trend observed in table 1, where original copies exhibit higher prices than originals. This may also be an indication that the additional artists’ names in copies actually add value to Dong’s works.

Table 3. Main Copied Artists’ Names

Artist’s Names	Obs. (Perc.)	Mean (¥)	Median (¥)	Std. dev. (¥)	Min price (¥)	Max price (¥)
Dong + Ni Zan	28	1,148,622	461,407	1,525,452	14,381	5,951,794
Dong + Huai Su	41	1,792,553	792,061	2,193,991	61,944	7,909,653
Dong + Wang Xizhi	24	1,089,577	228,094	2,143,212	25,491	8,129,576
Dong + Mi Fu	24	996,737	566,371	1,567,795	6,373	7,503,279

would create a tax load of approximately 20 percent. With import taxes and export restrictions hampering cross-border trade in mainland China, Hong Kong, as a free-trade zone, has become the global market hub for the exchange of Chinese artworks after the mainland (Wu 2019).

Dong + Dong Yuan	31	1,509,934	196,394	3,072,171	2,497	11,726,026
Dong + Yan Zhenqing	15	1,530,757	920,000	1,623,360	53,185	6,339,691
Dong + Huang Gongwang	28	5,110,711	279,703	14,592,949	21,305	76,389,981
Dong + multiple artists ¹⁹	111	3,440,202	683,034	8,131,291	6,830	48,655,530
Dong + others ²⁰	51	2,276,433	472,033	6,319,312	5,731	35,000,379
Dong + NA	20	730,865	240,484	1,759,342	6,696	7,909,653
Dong only	3,203	723,568	125,410	3,425,429	168	79,246,141

2.2 Methodology

We applied a hedonic regression model to test our hypotheses. Hedonic regression is the most used technique in art market studies to create price indices (e.g., Ashenfelter & Graddy 2003; Chanel et al. 1996; Ginsburgh et al. 2006; Oosterlinck 2017; Radermecker 2019; Renneboog & Spaenjers 2013; Zou et al. 2021) and to capture the effects of each hedonic characteristic on prices.²¹ The standard equation is as follows:

$$\log p_i = \alpha + \sum_{j=1}^m \beta_j s_{ij} + \sum_{k=1}^r \gamma_k x_{ik} + u_i \quad (1)$$

$\log p_i$ represents the log of the price of the artwork i , s_{ij} includes the variables under examination that are directly associated with our research questions, x_{ik} are hedonic variables that are used to homogenize artworks in the sample, and u_i is a random disturbance. In the model, we included all characteristics described in the previous section. All hedonic variables were dummies, except for the price, size, and lot number. To further specify the model and account for all our research questions, the model is expressed as:

$$\log p_i = \alpha + \sum_{a=1}^A \beta_a \text{Attribution qualifier}_{ia} + \sum_{c=1}^C \beta_c \text{Copy qualifier}_{ic} + \sum_{l=1}^L \beta_l \text{Location}_{il} + \sum_{n=1}^N \beta_n \text{Name}_{in} + \sum_{k=1}^r \gamma_k x_{ik} + u_i \quad (2)$$

$\text{Attribution qualifier}_{ia}$, $\text{Copy qualifier}_{ic}$, Location_{il} , and Name_{in} are our main variables of interest.

3. Results

¹⁹ Here, “multiple artists” refers to cases where Dong copies consecutively the works of multiple artists, which are often canonical works or copy books that were either put together by Dong himself or other artists as exemplars for study purposes. See Appendix C for examples of copy books.

²⁰ Here, the variable “others” includes a list of copied artists’ names for whom the numbers of works in the sample are below ten.

²¹ Another frequently used method for creating art price index is the repeat sales method, which intuitively relies on repeat sales data of artworks sold over time. The appeal of this method is that it circumvents the need to identify individual characteristics of an artwork that contribute to the price as each artwork remains the same each time it is sold; however, it often suffers from a deficiency of data because only a very small proportion of artworks get to be sold repeatedly over a certain period of time and when they are resold once and appreciate in value, they are more likely to be resold again, and thus biasing prices upwards (Garay 2021).

Table 4 provides a summary of the results of our econometric analysis. The first two columns relate to our first research question, while the third and fourth columns pertain to our second research question, and the fifth column addresses our third and final research question; the last column serves as a summary model.

Table 4. Model Summary

Independent variables (dependent variable: log 2022 CNY)			Regression 1.	Regression 1.1.	Regression 2.	Regression 2.1.	Regression 3.	Regression 4.
Copy types	Qualifiers		Copy types	Detailed copies	Copy types + Auction house location	Copy types + Auction house location + Location * Copies	Attribution types + Copied artist's names	Attribution types + Copied artist's names + Auction house location + Location * Copies
	Copy qualifier	Attribution qualifier						
Original	by the hand of		ref.	ref.	ref.	ref.	ref.	ref.
	<i>lin</i> / after			0.141** (0.046)				
Original copy	<i>fang</i> / style of		0.150*** (0.035)	0.136** (0.054)	0.189*** (0.036)	0.185*** (0.036)	-	-
	<i>mo</i> / tracing			0.485** (0.176)				
	-			-0.553*** (0.031)				
Uncertain copy	<i>lin</i> / after	(<i>kuan</i> / attributed to)	-0.548*** (0.030)	-0.424** (0.146)	-0.505*** (0.029)	-0.507*** (0.03)	-0.559*** (0.03)	-0.523*** (0.029)
	<i>fang</i> / style of			-0.531*** (0.107)				
Other authenticity variables								
	Artist's seal		0.316*** (0.045)	0.316*** (0.045)	0.324*** (0.046)	0.324*** (0.046)	0.314*** (0.045)	0.321*** (0.046)
	Dated		0.085** (0.029)	0.088** (0.029)	0.106*** (0.029)	0.107*** (0.029)	0.084** (0.029)	0.104*** (0.029)
	Provenance		0.270*** (0.022)	0.267*** (0.023)	0.298*** (0.023)	0.298*** (0.023)	0.269** (0.023)	0.296*** (0.023)
	Exhibition		0.383*** (0.095)	0.386*** (0.095)	0.364*** (0.097)	0.364*** (0.097)	0.389*** (0.096)	0.368*** (0.097)
	Literature		0.627*** (0.39)	0.628*** (0.039)	0.671*** (0.04)	0.672*** (0.04)	0.633*** (0.04)	0.678*** (0.04)
	Expert opinion		0.258*** (0.025)	0.258*** (0.025)	0.226*** (0.025)	0.226*** (0.025)	0.261*** (0.025)	0.229*** (0.025)
	Lot number		1.026E-5 (0)	-1.033E-5 (0)	-1.688E-5** (0)	-1.683E-5** (0)	-8.789E-6 (0)	-1.537E-5** (0)
	Transcription		0.136** (0.046)	0.134** (0.047)	0.187*** (0.047)	0.187*** (0.047)	0.140** (0.047)	0.189*** (0.047)
Auction house locations								
	China				ref.	ref.		ref.
	Elsewhere		-	-	0.656*** (0.084)	0.615*** (0.099)	-	0.637*** (0.094)
Locations X Copies								
	Elsewhere X Original copies					0.272 (0.311)		-
	Elsewhere X Uncertain copies					0.093 (0.187)		0.091 (0.185)

(Continued.)

	Regression 1. Copy types	Regression 1.1. Detailed copies	Regression 2. Copy types + Auction house location	Regression 2.1. Copy types + Auction house location + Location * Copies	Regression 3. Attribution types + Copied artist's names	Regression 4. Attribution types + Copied artist's names + Auction house location + Location * Copies
Artist's names in copies						
Dong's own					ref.	ref.
Dong copying Ni Zan					0.232** (0.110)	0.252** (0.113)
Dong copying Huai Su					0.222** (0.093)	0.320*** (0.094)
Dong copying Wang Xizhi					-0.07 (0.119)	-0.135 (0.122)
Dong copying Mi Fu					-0.077 (0.119)	-0.016 (0.122)
Dong copying Dong Yuan	-	-	-	-	-0.049 (0.105)	-0.049 (0.108)
Dong copying Yan Zhenqing					0.206 (0.151)	0.335** (0.154)
Dong copying Huang Gongwang					0.058 (0.137)	0.129 (0.114)
Dong copying multiple artists					0.22*** (0.055)	0.263*** (0.056)
Dong copying other artists					0.152* (0.082)	0.187** (0.084)
Dong copying NA					0.140 (0.174)	0.144 (0.178)
Auction house dummies	incl.	incl.	excl.	excl.	incl.	excl.
Other hedonic variables	incl.	incl.	incl.	incl.	incl.	incl.
Total observations	3,574	3,574	3,574	3,574	3,574	3,574
R -square	0.550	0.551	0.522	0.522	0.552	0.525
Adj. R -square	0.540	0.540	0.513	0.513	0.541	0.515

1. *How is originality valued for Chinese artworks?* The results in table 5 show that Dong’s “original copies” are more highly valued than uncertain copies but also than original works. More precisely, original copies are, on average, 16 percent more expensive than originals, whereas uncertain copies are 42 percent cheaper than originals. These results suggest that:
 - a. Originality matters and non-autograph works indeed trade at a discount. Furthermore, variables reinforcing the likelihood of authenticity have a positive effect on prices. The mere mention of the seals in the lot description is associated with a 37 percent increase in price. Additionally, artworks that are dated ($n = 520$), referenced in literature ($n = 271$), have a documented provenance ($n = 1,517$) or an exhibition history ($n = 41$), or benefit from an expert opinion ($n = 756$) are respectively 9 percent, 31 percent, 47percent, 87, and 29 percent more expensive than those for which these characteristics are missing.
 - b. Some types of copies in China may be more valuable than originals. In our case, original copies are indeed more expensive on average than the originals. We thus show that it is not copies per se that are less valuable but copies for which autography is doubtful. In other words, in China, when the name of the copying artist is known, copies do not suffer from the stigma we observe in Europe.

Table 5. Main Results for Regression 1 (Copy Types)

Independent variables	Coefficient (Std. Error)	Price impact (%)
<i>Copy types</i>		
Original	ref.	
Original copy	0.150*** (0.035)	16.2
Uncertain copy	-0.548*** (0.030)	-42.2
<i>Other authenticity variables</i>		
Artist’s seal	0.316*** (0.045)	37.2
Dated	0.085** (0.029)	8.9
Provenance	0.270*** (0.022)	31.0
Exhibition	0.383*** (0.095)	46.7
Literature	0.627*** (0.39)	87.2
Expert opinion	0.258*** (0.025)	29.4
Lot number	1.026E-5 (0)	0.0
Transcription	0.136** (0.046)	14.6
Auction house ²² dummies	incl.	
Other hedonic variables	incl.	
Total observations	3,574	
<i>R-square</i>	0.550	
<i>Adj. R-square</i>	0.540	

²² For the auction houses, we included several categories: i) top ten auction houses in China by turnover as documented in Zou et al. (2021); these are China Guardian, Poly, Council, Christie’s HK, Hanhai, Sotheby’s HK, Xiling Yinshu, Rongbaozhai, Sungari, and Duoyunxuan; ii) internationally renowned auction houses: Christie’s and Sotheby’s; iv) auction houses sorted by geographical locations after removing the auction houses in the first two categories: mainland China, Hong Kong, and other.

These preliminary findings suggest that, in China copies, are valued differently than in Europe. In the case of Dong Qichang, original copies are indeed on average more valued than his original works. The term *original copies* only provides information regarding autography. Yet, the Chinese market is also characterized copy-qualifiers that deal with the formal aspects of the work. In table 6 we distinguish between the different copy qualifiers to assess the valuation of copies in China. Several elements stand out:

- 1) Regardless of the copy-qualifier, when there is no doubt regarding autography, artworks are traded at higher prices than original works. In other words, the positive average effect is not driven by one specific form of copy.
- 2) The formal aspects matter, but their hierarchy seems to vary according to the works' autograph character.

Table 6. Main Results for Regression 1.1 (Detailed Copies)

Independent Variables		Coefficient (Std. Error)	Price Impact
	Qualifiers		
<i>Copy Types</i>	Copy qualifier	Attribution qualifier	
Original	-		ref.
	<i>lin</i> / after		0.141** (0.046) 15.1%
Original Copy	<i>fang</i> / style of	-	0.136** (0.054) 14.6%
	<i>mo</i> / tracing		0.485** (0.176) 62.4%
	-		-0.553*** (0.031) -42.5%
Uncertain Copy	<i>lin</i> / after	(<i>kuan</i> / attributed to)	-0.424** (0.146) -34.6%
	<i>fang</i> / style of		-0.531*** (0.107) -41.2%
Auction house dummies		incl.	
Other hedonic variables		incl.	
Total observations		3,574	
<i>R</i> -square		0.551	
Adj. <i>R</i> -square		0.540	

Interestingly, results suggest that *mo* works trade at a premium of 62 percent. While one may argue that the value of these tracing copies lies in the fact that they are made through direct physical contact with the original and that they help preserve and propagate the appearance of the original (Lauer 2020), we should interpret this finding with caution due to limited size of the dataset and the relatively high standard error ($n = 11$, Std error = 0.176). Compared to Dong's original works, *fang* and *lin* works are both approximately 15 percent more expensive. Although, in theory, *fang* exhibit the highest degree of creativity among the three common types of copies—they allow the copying artist to develop styles flexibly and without being constrained by the style of the referenced artist—our results show that the market does not make a significant distinction between these two types of original copies in terms of value. On the other hand, for non-autograph works, *fang* trade at a higher discount than *lin*. This might

reflect the fact that the high degree of creativity typical of fang works represents an asset for brilliant artists (here, Dong Qichang), but a drawback for others. Moreover, the copies that are made by Dong but labeled “attributed to” show the highest decrease in price (-43). This indicates that buyers still appreciate known authorship and that when there is a doubtful attribution, buyers have a lower willingness to pay.

2. *Are Chinese originals and copies valued similarly across art markets?* Our results shown in table 7 demonstrate how Dong’s works trade at a different average price in China than elsewhere. Artworks sold outside China ($n = 59$) are 93 percent more expensive than those sold in the Chinese domestic market.

These price differences seem to be contradictory to the home bias phenomenon but can be interpreted in two ways that are not mutually exclusive: quality and rarity. Firstly, the prohibition law on the exportation of cultural relics in mainland China, which originated in 1949 and passed in 2007, has resulted in a limited number of Dong’s artworks removed from mainland China. However, this does not exclude the possibility that some of Dong’s best works remain in the hands of private collectors overseas. When sold at auctions outside of China, these works may become highly sought after by collectors based in China who seek to repatriate these national treasures. The export veto law may also have had an impact locally, as foreign buyers may be reluctant to bid on an artwork that they will not be able to export to their home country. This effect has been documented for Italy (Angelini et al. 2022; Onofri 2009) and could also be at play in China as well. Secondly, as the Chinese law allows only a small proportion of Dong’s works to be exported overseas, a scarcity effect exists. Considering Dong’s reputation as an important Chinese figure, prices tend to be higher when the supply is limited (Gierl & Huettl 2010).

Table 7. Main Results for Regression 2 (Copy Types + Auction House Location)

Independent variables	Coefficient (Std. Error)	Price impact (%)
<i>Copy types</i>		
Original	ref.	
Original copy	0.189*** (0.036)	20.8%
Uncertain copy	-0.505*** (0.029)	-39.6%
<i>Auction house locations</i>		
China	ref.	
Elsewhere	0.656*** (0.084)	92.7%
Auction house dummies	excl.	
Other hedonic variables	incl.	
Total observations	3,574	
R-square	0.522	
Adj. R-square	0.513	

The results displayed in table 8 further show that the price difference is not driven by a varied appreciation for different copy-qualifiers. Indeed, the interaction terms are statistically insignificant. This suggests that the value of copy-qualifiers is appreciated on all markets trading Dong Qichang’s artworks. Even though this may seem counterintuitive at first, with China often being described as singular when it comes to copying, the result makes sense in a globalized market. If systematic

differences in valuation existed for copies, then arbitrage would take place; and if China indeed held a higher tolerance for copies, dealers would buy cheap copies in Europe to resell in China. This is not what we observe.

Table 8. Main Results for Regression 2 (Copy Types + Auction House Location + Location * Copies)

Independent variables	Coefficient (Std. Error)
<i>Copy types</i>	
Original	ref.
Original copy	0.185*** (0.036)
Uncertain copy	-0.507*** (0.03)
<i>Auction house locations</i>	
China	ref.
Elsewhere	0.615*** (0.099)
<i>Locations X Copies</i>	
Elsewhere X Original copies	0.272 (0.311)
Elsewhere X Uncertain copies	0.093 (0.187)
Auction house dummies	excl.
Other hedonic variables	incl.
Total observations	3,574
R-square	0.522
Adj. R-square	0.513

Considering that Hong Kong is a pivotal platform of the art market and an autonomous region in China with distinct cultural policies, we provide additional tests separating Hong Kong from mainland China to examine whether copies are valued differently when we compare the mainland, Hong Kong, and other countries. The results in appendix D show that, even though average prices sold in Hong Kong are higher than those in the mainland, the valuation of copies does not differ.

3. *Do the names of the copied artists affect the prices of copies?* We eventually investigated the differences made by the artist's name by comparing the prices of copies and originals, while accounting for works labeled with "attributed to." The results in table 8 show that some artist names add value to Dong's works while others make no difference. This suggests that, among original copies, the prices also depend on the artist that the present artist has copied.²³ Specifically, when Dong copies Ni Zan, Huai Su, multiple artists, or other artists, the prices are higher: 26 percent, 25 percent, 25 percent, and 16 percent, respectively. The copies of paintings ($n = 28$) by Ni Zan (1301–1374) may be preferred by buyers because Ni was one of the four great masters of the Yuan Dynasty and is known

²³ To illustrate the relative impact of artists' names, we also performed the analysis using an additional dataset of artists copying Dong ($n = 202$). We found that although copies by later artists are, on average, less expensive than Dong's originals, some artist names, such as Qian Long Emperor (1711–1799) and Zhang Daqian (1899–1983), contribute positively to prices that are even higher than the old masters Dong copied. We do not discuss these results in detail due to space constraints; however, a full result table and discussion is available upon request.

for his landscape paintings. The copies after the Tang Dynasty artist Huai Su (737–799) may be favored because, dubbed the “sage of cursive calligraphy,” Huai is recognized as one of the greatest masters of Chinese calligraphy.²⁴

Table 9. Main Results for Regression 3 (Attribution Types + Copied Artists)

Independent variables	Coefficient (Std. Error)	Price impact (%)
<i>Attribution types</i>		
-	ref.	
(<i>kuan</i> / attributed to)	-0.559*** (0.03)	-42.8%
<i>Artist's names in copies</i>		
Dong only	ref.	
Dong + Ni Zan	0.232** (0.110)	26.1%
Dong + Huai Su	0.222** (0.093)	24.9%
Dong + Wang Xizhi	-0.07 (0.119)	0.0%
Dong + Mi Fu	-0.077 (0.119)	0.0%
Dong + Dong Yuan	-0.049 (0.105)	0.0%
Dong + Yan Zhenqing	0.206 (0.151)	0.0%
Dong + Huang Gongwang	0.058 (0.137)	0.0%
Dong + multiple artists	0.22*** (0.055)	24.6%
Dong + other artists	0.152* (0.082)	16.4%
Dong + NA	0.140 (0.174)	0.0%
Auction house dummies	incl.	
Other hedonic variables	incl.	
Total observations	3,574	
<i>R</i> -square	0.552	
Adj. <i>R</i> -square	0.541	

Further, to explore what may explain our findings, we conducted several tests that account for the characteristics of the copied artists, including active periods, birth years, death years, ages, “marketability,”²⁵ and the numbers of works for the names in the sample. These results are documented in appendix E; none of the additional variables are consequential on prices except for the copied artist’s active periods, in which those active during the Tang, Yuan, and Mixed dynasties positively influenced prices by 29 percent, 19 percent, and 33 percent, respectively. While these results may initially seem difficult to interpret, the “Mixed Dynasties” variable corresponds to the category of copy books—compendiums of canonical works from multiple, preceding

²⁴ *cao sheng* 草圣

²⁵ Defined as if the artist’s name appears in the rankings of art market reports. From 2008 onwards, Artron.net has published Chinese biannual art market reports on the auction market, and since the collaboration with Artprice.com that began in 2012, there has been an additional annual international art market report. The rankings that we are looking at are among the lists of, for instance, top twenty painting and calligraphy artists in terms of turnover, top twenty average price per square foot for painting and calligraphy artists, top ten global sales of old masters, top five hundred artists worldwide, top fifty ancient painting and calligraphy artists, from the art market reports available from 2008 to 2022. Ten artists have made it to the rankings, among which only a few artists make frequent, stable appearances in all of lists, they are: Dong Qichang, Wen Zhengming, and Zhao Mengfu; this suggests their high status on the art market.

dynasties that every aspiring calligrapher or painter would copy—which came into wider circulation than original pieces. In other words, this body of work is more likely to include acclaimed, important works and represents an ideal for copyists. Similarly, referring to the previous results on copied artists' names, those active in the Tang and Yuan dynasties appear significant, as two major artists—Huai Su and Ni Zan—drive prices upward.

4. Conclusion

Copying is a common artistic practice in fine arts pedagogy, and it has been especially prevalent in the case of learning Chinese calligraphic and painting techniques. The present study sheds light on the critical issue of copies circulating within the international art market. More specifically, it questions the way we look at copies by bringing forward evidence that the notion of authenticity in art, as a cultural construct, is more nuanced than Western art history has taught us. According to the Western scale of authentication, all attribution qualifiers are found to negatively affect prices, indicating the negative perceptions and valuation of copies compared to so-called originals. Applying hedonic pricing models, we have shown that authenticity not only matters in China, but that copies are perceived differently in this market than in the West. In fact, what we have termed *original copies* are valued even more than original works. This is in line with Banfield (1984), who argued that not all copies are identically secondary, nor subject to lower values. The situation differs for copies labeled “attributed to,” which experience a significant decrease in value, as is the case for Western copies. Strikingly, we find no difference in the evaluation of copies across locations, suggesting a similar reception for Chinese notions of authenticity around the world. In other words, when Chinese art is traded outside China, people evaluate according to Chinese standards (Diamond 2015). In China, the names of copied artists are often mentioned on the artworks. Potential buyers are thus confronted to the names of two artists: the copyist and the one copied. We show that for our sample, comprising copied by Dong Qichang, the copied artists’ names also affect prices.

Indeed, the current study is not exempt from limitations. As a pilot study, we focused on the iconic artist Dong Qichang of the Ming Dynasty, who, as an arbiter of taste, held a strong position on concepts of authenticity and originality in art and has had a significant influence on later Chinese artists, including those of today. However, with the passage of time, it remains to be seen to what extent his theories and practices on copies remain extant in the art of other artists. Therefore, as an extension of the current study, an exploration of the entire Chinese art market for copies, considering the work of other artists, is recommended. Moreover, as shown in the study, China has its own mechanisms for evaluating copies that contrasts with Western scholarship. What the Western art market—sellers and buyers—can learn from the Chinese valuation system of authenticity also appears to be an interesting direction for future studies. Last but not least, the study suggests the effect of the copied artist’s name on the prices, which, in a sense, can be considered “informal” co-branding between the copyist and the copied artist. Therefore, the question of how different forms of “formal” co-branding—deliberate collaborations between artists—affect the reception as well as the formation of artworks, is also an interesting direction for further investigation.

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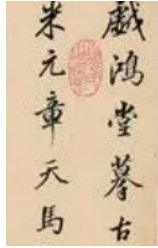
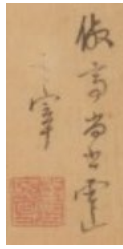
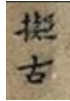
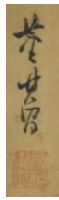
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Appendices

Appendix A.

Table 10. Examples of Different Types of Chinese Copies with Illustrations.

Copies	Definitions	As written	Obs. (Perc.) in the entire market ²⁶ for copies	Illustrations ²⁷
<i>Lin</i> / After	A free-hand copy	临	16,614 (20.1%)	
<i>Mo</i> / Tracing	An exact tracing	摹	910 (1.1%)	
<i>Fang</i> / Style of	An adaptation of	仿	15,298 (18.5%)	
<i>Ni</i> / Style of	An adaptation	拟	3,470 (4.2%)	
(Attributed to) / (<i>Kuan</i>)	Expressing doubts	董其昌	46,456 (56.1%)	

²⁶ Estimation made on November 14, 2022.

²⁷ Illustrations are screenshots of artworks within the sample.

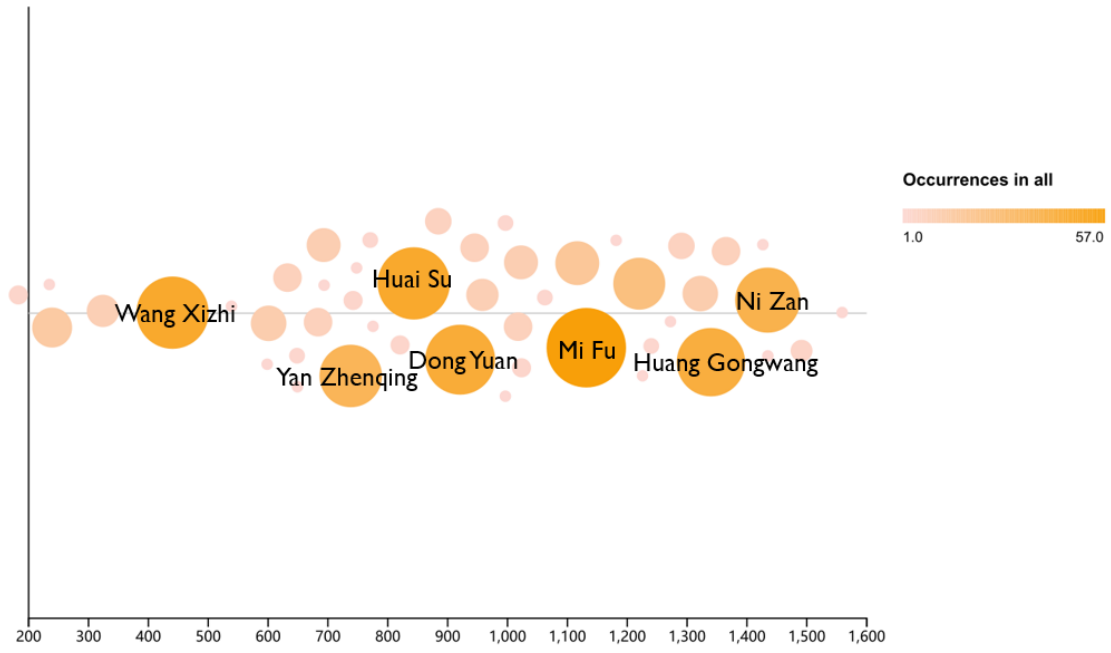
Appendix B.

Table 11. Artist's Names Identified in Dong's Copies.

No.	Name	Identity	Period ²⁸
1	Mi Fu	Calligrapher and painter	Song
2	Huai Su	Calligrapher	Tang
3	Wang Xizhi	Calligrapher	Jin
4	Dong Yuan	Painter	Five Dynasties
5	Huang Gongwang	Painter	Yuan
6	Ni Zan	Painter and poet	Yuan
7	Yan Zhenqing	Minister and calligrapher	Tang
8	Mi Youren	Painter, eldest son of the calligrapher Mi Fu	Song
9	Su Shi	Literary scholar, calligrapher, gourmet, and water expert	Song
10	Zhong Yao	Minister and calligrapher	Three Kingdoms
11	Chu Suiliang	Politician and calligrapher	Tang
12	Zhao Mengfu	Official, calligrapher, painter, and poet	Yuan
13	Li Yong	Calligrapher	Tang
14	Cai Xiang	Calligrapher, politician, and tea scholar	Song
15	Huang Tingjian	Literary scholar and calligrapher	Song
16	Wang Xianzhi	Calligrapher, poet, painter, and official, seventh son of Wang Xizhi, General of the Right Army	Jin
17	Ju Ran	Painter and monk	Five Dynasties
18	Wu Zhen	Painter, calligrapher, and poet	Yuan
19	Zhang Xu	Calligrapher	Tang
20	Li Cheng	Painter	Song
21	Yu Shinan	Calligrapher, writer, and politician	Tang

²⁸ Defined as the period where the artist was active in, in cases where the information is not available, the period is defined as the dynasty where the artist died in.

22	Gao Kegong	Official, painter, and poet	Yuan
23	Yang Ningshi	Official and calligrapher	Five Dynasties
24	Wang Meng	Painter	Yuan
25	Zhang Zhi	Calligrapher	Han
26	Jing Hao	Painter	Five Dynasties
27	Xu Hao	Minister and calligrapher	Tang
28	Liu Gongquan	Calligrapher and poet	Tang
29	Wang Wei	Poet and painter	Tang
30	Wang Shen	Painter	Song
31	Jiang Shen	Painter	Song
32	Hui Chong	Monk and poet	Song
33	Ouyang Xun	Calligrapher	Tang
34	Zhang Sengyao	Minister and court painter	Nan Liang
35	Fan Zhongli	Painter	Song
36	Li Shimin	Second Emperor of the Tang dynasty, statesman, strategist, military man, calligrapher, and poet	Tang
37	Xu Ben	Painter and poet	Ming
38	Zhao Lingxiang	Painter	Song
39	Sun Guoting	Calligrapher and calligraphy theorist	Tang
40	Wen Zhengming	Painter, calligrapher, literary scholar, and connoisseur	Ming
41	Xu Daoning	Painter	Song
42	Cao Zhibai	Painter and book collector	Yuan
43	Yan Liben	Chancellor and painter	Tang
44	Zhao Yong	Calligrapher and painter, son of Zhao Mengfu	Yuan
45	Yan Wengui	Painter	Song
46	Zhong Zhaojing	Chancellor and calligrapher	Tang
47	Xue Ling	Painter and calligrapher	Tang



Graph 1. Distribution of Copied Artists. Labeled Names are the most frequently copied artists ($n > 15$).

Appendix C.

Table 12. Examples of Copy Books.

Copy book	Chinese name	Introduction	Detail	Illustration
<i>Chun Hua Ge Tie</i>	《淳化閣帖》	The earliest copybook of a selection of calligraphy works spanning over a thousand years from the Qin Dynasty (221-206BC) to the Tang Dynasty (618-907).	402 works by 103 artists	
<i>Xi Hong Tang Tie</i>	《戏鸿堂帖》	Famous copybook from the Ming Dynasty, assembled by Dong Qichang.	16 books in total, engravings of canonical works of artists from the Jin Dynasty (265-420) to the Yuan Dynasty (1279-1368).	
<i>Tan Tie</i>	《潭帖》	Famous copybook from the Northern Song Dynasty (960-1127).	10 books in total, including engravings of works by artists such as Cao Zhi, Wang Xizhi, and Lu Ji.	
A Thousand Characters in Small Cursive Script / <i>Xiao Cao Qian Zi Wen</i>	《小草千字文》	Reputed as "the best small script work in the world", is the only authentic small cursive calligraphic work by Huai Su to have survived to this day.	By Huai Su (Tang Dynasty)	
Orchid Pavilion Preface / <i>Lan Ting Ji Xu</i>	《兰亭集序》	Reputed as "the best running script work in the world."	By Wang Xizhi (Jin Dynasty)	

Appendix D.

Table 13. Robustness Tests for Research Question 2. *Are Chinese original and copies valued similarly across art markets?*

Independent variables	Regression 2.1. Copy types + Auction house location + Location * Copies	Regression 2.2. Copy types + Auction house location (HK)	Regression 2.3. Copy types + Auction house location (HK) + Location (HK) * Copies
<i>Copy types</i>			
Original	ref.	ref.	ref.
Original copy	0.185*** (0.036)	0.179*** (0.036)	0.193*** (0.039)
Uncertain copy	-0.507*** (0.03)	-0.502*** (0.029)	-0.507*** (0.03)
<i>Auction house locations</i>			
Mainland	ref.	ref.	ref.
Hong Kong		0.242*** (0.036)	0.258*** (0.041)
Elsewhere	0.615*** (0.099)	0.697*** (0.079)	0.632*** (0.091)
<i>Locations X Copies</i>			
Hong Kong X Original copies			-0.120 (0.099)
Hong Kong X Uncertain copies			0.012 (0.115)
Elsewhere X Original copies	0.272 (0.311)		0.277 (0.307)
Elsewhere X Uncertain copies	0.093 (0.187)		0.212 (0.177)
Auction house dummies	excl.	excl.	excl.
Other hedonic variables	incl.	incl.	incl.
Total observations	3,574	3,574	3,574
R -square	0.522	0.522	0.530
Adj. R -square	0.513	0.513	0.521

Appendix E.

Table 14. Robustness Tests for Research Question 3. *Do the names of the copied artists affect the prices of Chinese copies?*

Independent variables	Regression 3. Attribution types + Copied artist's names	Regression 3.1. Attribution types + Copied artist's periods	Regression 3.2. Attribution types + Copied artist's birth years	Regression 3.3. Attribution types + Copied artist's death years	Regression 3.4. Attribution types + Copied artist's ages	Regression 3.5. Attribution types + Copied artist's "marketability"	Regression 3.6. Attribution types + Numbers of works for copied artist's names in the sample
<i>Attribution types</i>							
-	ref.	ref.	ref.	ref.	ref.	ref.	ref.
(<i>kuan</i> / attributed to)	-0.559*** (0.03)	-0.560*** (0.03)	-0.465** (0.234)	-0.760*** (0.201)	-0.433* (0.237)	-0.560*** (0.030)	-0.732*** (0.177)
<i>Artist's names in copies</i>							
Dong only	ref.						
Dong + Ni Zan	0.232** (0.110)						
Dong + Huai Su	0.222** (0.093)						
Dong + Wang Xizhi	-0.07 (0.119)						
Dong + Mi Fu	-0.077 (0.119)						
Dong + Dong Yuan	-0.049 (0.105)	-	-	-	-	-	-
Dong + Yan Zhenqing	0.206 (0.151)						
Dong + Huang Gongwang	0.058 (0.137)						
Dong + multiple artists	0.22*** (0.055)						
Dong + other artists	0.152* (0.082)						
Dong + NA	0.140 (0.174)						
<i>Copied artist's periods</i>							
Ming Dynasty (1368-1644)		ref.					
Before Tang Dynasty (-618)		-0.021 (0.103)					
Tang Dynasty (618-907)		0.252** (0.069)					
Five Dynasties (907-960)		-0.020 (0.093)					
Song Dynasty (960-1279)	-	-0.003 (0.075)	-	-	-	-	-
Yuan Dynasty (1271-1368)		0.175** (0.071)					
NA		0.102 (0.129)					
Mixed (>1 dynasties)		0.287*** (0.070)					

(Continued.)

Independent variables	Regression 3. Attribution types + Copied artist's names	Regression 3.1. Attribution types + Copied artist's periods	Regression 3.2. Attribution types + Copied artist's birth years	Regression 3.3. Attribution types + Copied artist's death years	Regression 3.4. Attribution types + Copied artist's ages	Regression 3.5. Attribution types + Copied artist's "marketability"	Regression 3.6. Attribution types + Numbers of works for copied artist's names in the sample
<i>Copied artist's birth years</i>	-	-	0 (0)	-	-	-	-
<i>Copied artist's death years</i>	-	-	-	0 (0)	-	-	-
<i>Copied artist's ages</i>	-	-	-	-	-0.003 (0.007)	-	-
<i>Copied artist's "marketability"</i>	-	-	-	-	-	0.090 (0.060)	-
<i>Numbers of works for copied artist's names in the sample</i>	-	-	-	-	-	-	0.003 (0.004)
Auction house dummies	incl.	incl.	incl.	incl.	incl.	incl.	incl.
Other hedonic variables	incl.	incl.	incl.	incl.	incl.	incl.	incl.
Total observations	3,574	3,574	176	210	173	3,574	242
<i>R</i> -square	0.552	0.552	0.668	0.640	0.666	0.548	0.638
Adj. <i>R</i> -square	0.541	0.541	0.435	0.442	0.425	0.538	0.478