

# Before the hammer falls: An empirical analysis of the market reaction to art thefts

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Although we will never be able to determine the exact scale of art crime, both in economic and social contexts, we can understand it to have a significant impact on individuals, communities, and the art market.

Within the art crime phenomenon, art thefts play an important role. While law and economics literature suggests the use of databases of stolen pieces to reduce the impact on collectors' behavior linked to the risk of buying stolen artworks (see Day (2014), and the previous literature analyses of disputes in Posner & Landes (1996) and Landes & Levine (2006)), no analyses are available on the role of these databases on a licit market where the probability of incurring in a stolen piece is low, such as high-end auction houses where due diligence is praxis. Our paper contributes to the literature by filling this gap by investigating the effects of art thefts on high-tier art auction sales. In particular, it focuses on the impact on the prices of an artist's artworks when another of his/her artworks has been reported stolen.

The main hypothesis we are testing is if knowing that an artist has reported stolen pieces can impact the perceived risk of the collectors, reducing their reservation price and hence the auction price ("risk" hypothesis). This would suggest the presence of a risk-related transaction cost in this market, due to criminal activities. The alternative hypothesis would be that, once a piece has been stolen, the pool of pieces of the same artists is reduced and, hence, the supply in the market shrinks, possibly increasing the sale price ("rarity" hypothesis). In our empirical strategy, we also account for possible ways in which collectors can process this information by using other signals in the market, such as the artist's brand.

The criminal data used for this study come from Interpol's International Stolen Works of Art Database (WoA). The data were collected from 2012 to 2015 in thirteen EU countries, covering pieces stolen between 1970 to 2015, and consist of the specifics of thefts (e.g., location, date) and specifics of objects (artist, movement, medium of the stolen object). The WoA dataset was then matched with hand-collected data on top-tier international auction sales of contemporary artists, sold between 2012 and 2016. The auction data concern information on all lots auctioned by Christie's, Sotheby's, and Phillips in New York and London, as well as information on artworks (e.g. material/technique, hammer price, artist name).

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We performed a series of empirical models based on hedonic regression, taking into account both auction- and theft-specific information, considering the theft's information in various ways. In particular, for some of the artists, we have recorded thefts that happened within the 2012-2016 period, allowing us to see if the price of their artworks changes right after a theft. For some other artists, we only had recorded thefts before 2012, allowing a comparison between them and those artists whose artworks were never stolen (or were never recorded as stolen).

The results hint at a positive effect on prices of the artworks made by artists whose artworks have been stolen recently before the sale. The transaction cost explanation (or "risk" effect) seems to be overcome by the "rarity" effect. We also find that the higher the number of thefts, the stronger this effect.

However, once we take into account other possible information available in the market used by collectors, such as the artist's brand, this effect is washed out. This suggests that the artist's name, as a signal of economic value, already includes information about the risk/rarity of the traded artwork, even if this information can come from outside the market. Hence, stolen artworks databases seem to not have an impact on the licit market prices.

To the best of our knowledge, this is the first attempt to measure the art thefts impact on licit markets, and our results suggest that there does not seem to exist a social cost on collectors linked to a possible perceived risk. Theft is more perceived as if a piece has been retired from the market, reducing the supply, and hence increasing the fetched prices of those artists whose pieces have been stolen (and recorded).

Our work has a series of limitations. First, not all the stolen pieces are recorded in Interpol's WoA because, for example, private owners may not be reporting stolen objects because they did not specify them in their tax return, or because of a lack of specialist enforcement leading to art thefts being often treated as a 'regular' property crime. This implies that our data could contain a sub-sample of actually stolen artworks, but if we consider having an artwork in the WoA as a signal of risk/rarity linked to the artist who made it, our results can still be considered valid. Second, we only focus on the high-tier market, where the information about thefts is more likely to be important; low-tier art market collectors could behave differently, yielding different results.