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## Art Price Economics in the Netherlands during World War II

### ABSTRACT

This paper analyses the boom on the Dutch art market during World War II. It relies on an original database covering all pictures - over 11,000 - sold at Mak van Waay, one of the two premier Dutch auction houses during the occupation. Hedonic regressions show that in real terms, the price of paintings increased more than fivefold between 1940 and 1945. While there was significant demand for Old Masters by the German occupying forces, paintings

from the Romantic period outperformed Old Master and Modern paintings. These prices prompted forgers to create fake artworks. Reputable auction houses such as Mak van Waay used their cataloguing of artworks to signal quality and authenticity. We take advantage of these data to create indicators for 'forgery' and 'doubtful attribution'. Prices reflect this flagging, as suspected forgeries sold for significantly less, as did pictures with questionable attributions.

## Introduction

A growing body of literature has been dedicated to the fate of artworks during World War II. The Nazi regime's cultural policy and its impact on German museums, on artists, on artworks themselves and on Jewish-owned collections and collectors has received substantial attention. In addition to academic research by art historians and historians about the provenance of works looted during the war and the consequences of Nazi art policy for German museums, such as the de-accessioning of so-called degenerate art, the subject also fascinated the media. Surprisingly, despite the importance attached to the fate of individual artworks and specific collections during World War II in view of restituting them to their rightful owners, literature on the wider art markets in occupied countries remains scarce.<sup>1</sup> Contemporaneous accounts indicate that the art market in occupied France experienced a boom.<sup>2</sup> Subsequent research has supported this view.<sup>3</sup> The same has been suggested for Belgium<sup>4</sup> and the Netherlands<sup>5</sup> and set into perspective.<sup>6</sup>

Most of the literature reporting price increases during the war focuses on specific high-value sales with known provenance, whereas there are few studies of larger quan-

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- 1 The impact of looting on the prices of artworks is hard to deal with. In many instances information is lacking, either because there was no price of works looted directly, or the price is non-representative in the case of forced sales. Since the data used in this paper comes from a single auction house, the number of looted artworks in the sample is very limited and thus unlikely to have a significant impact on prices. Indeed, looted artworks were deposited at LIRO, where Nazi officials and others could buy the artworks they wanted at prices that bore no relation to these works' actual (market) value. The artworks that reached auction houses in the Netherlands and Germany were the ones that were left over and thus represent a low-quality sub-sample. See: Gerald Aalders, *Roof. De ontvreemding van joods bezit tijdens de Tweede Wereldoorlog* (Den Haag: Sdu Uitgevers, 1999), 211-221; Jeroen Euwe, *De Nederlandse Kunstmarkt, 1940-1945* (Amsterdam: Boom, 2007), 123-127.
  - 2 Louis Léon-Martin, *Les coulisses de l'Hôtel Drouot* (Paris: Le livre Moderne, 1943).
  - 3 R. Moulin, *Le marché de la peinture en France* (Paris : Les Éditions de Minuit, 1967) ; Hervé Le Boterf, *La vie parisienne sous l'occupation* Paris le jour, (Paris: Presses Pocket, 1978) ; Lynn H. Nicholas, *The rape of Europa. The fate of Europe's treasures in the Third Reich and the Second World War* (New York: Random House, 1995); Hector Feliciano, *The Lost Museum. The Nazi Conspiracy To Steal The World's Greatest Works Of Art* (New York: Basic Books, 1997); Alan Riding, *And the Show Went On. Cultural Life in Nazi-Occupied Paris* (New York, 2010).
  - 4 Jean Milo, Les ventes publiques en Belgique, in André Fage, ed., *Annuaire Général des Ventes Publiques en France, Tome 1 Tableaux* (Paris: Editions Art et technique, 1943) 225-227. Géraldine David, Noémie Goldman and Kim Oosterlinck, 'The Belgian Art Market during World War II', paper presented at the International Conference 'Looted Art and Restitution in the Twentieth Century: Europe in Transnational and Global Perspective', Cambridge, 18-20 September 2014.
  - 5 J. Euwe, *De Nederlandse kunstmarkt 1940-1945* (Amsterdam: Boom, 2007).
  - 6 G. David, J. Euwe, N. Goldman, K. Oosterlinck, (2016), 'Preise spielen gar keine Rolle.' The booming art market in occupied Western Europe, 1940-1945, in Uwe Fleckner, Christian Huemer, eds., *Market and Might: The Business of Art in the 'Third Reich'*, 1, University of Hamburg; Getty Research Institute, Hamburg, forthcoming.

tities of art works.<sup>7</sup> For the French art market, considered as the largest at the time, a recent index constructed on basis of hedonic regressions has shown that, in real terms,<sup>8</sup> prices for the market as a whole were multiplied by a factor 2.3 from 1937 to 1942.<sup>9</sup> This figure jumps to 3.15 if only artworks are considered for which a liquid market existed.<sup>10</sup> From an investment perspective, in occupied France art outperformed all investments but gold on the black market. Discrete assets, defined as small and easily transportable assets that can store a large amount of value, were particularly valued during the occupation. This translated into an increasing demand for small artworks during the war.<sup>11</sup>

There is no similar study for Belgium but the impact of the monetary reforms imposed in the fall of 1944 on the prices of artworks has been scrutinized.<sup>12</sup> Regarding the Netherlands, previous research has been done on the causes for the boom, the various groups of buyers and their motivation, the looting of artworks from Jewish collections, the Aryanization of Jewish art dealers, the reaction of the accommodating and the collaborating Dutch government officials as well as that of the Germans, and the development of prices (using mean prices) and sales volume.<sup>13</sup> The effects of the boom on the quality of the works offered for sale in a closed economy have been scrutinized on the basis of mean prices of sold artworks.<sup>14</sup> However, until now, research on prices of paintings has focused on mean and median prices.<sup>15</sup> Given that the price of a painting is dependent on a number of factors, such as quality, attractiveness, artist, and authenticity, to name but a few, this approach has its limitations. The issue is further complicated by the fact that the quality of the artworks for sale showed a distinct decline as the war progressed due

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7 For example in the French case Feliciano (1995, 122) mentions the sale of Seurat's *The Little Blue Peasant* in December 1941 for 385 000 FF and the record-breaking sale of Cézanne's *The Valley of the Arc and Mont Sainte-Victoire* for 5 million FF in December 1942. Assouline (2005) mentions that cubist works were sold for an average of 100 000 FF during the war and that two Picassos, *L'araignée de mer* and *Les soles* were sold for 300 000 FF in April 1941: P. Assouline, *L'homme de l'art. D.-H. Kahnweiler 1884-1879* (Paris, Folio, Gallimard, 2005; 1st edition 1988).

8 This is adjusted for inflation.

9 K. Oosterlinck (2016), Art as a Wartime Investment: Conspicuous Consumption and Discretion, in *Economic Journal*, forthcoming.

10 The liquidity of the market being defined there as artists for which at least three artworks were sold at Drouot, the main auction house, during the occupation.

11 Oosterlinck, Art as a Wartime Investment.

12 G. David, K. Oosterlinck, War, Monetary Reforms and the Art Market, in *Financial History Review*, 22, 2 (2015), pp. 157-177.

13 Euwe, De Nederlandse kunstmarkt. The looting of Jewish possessions is also covered in-depth in G. Aalders, *Roof. De ontvreemding van joods bezit tijdens de Tweede Wereldoorlog* (Den Haag: Sdu Uitgevers, 1999).

14 J. Euwe and K. Oosterlinck, Quality and Authenticity in a Market under Pressure. The case of the Dutch art market during World War II, in U. Fleckner, C. Huemer, eds., *Market and Might: The Business of Art in the 'Third Reich', 1*, University of Hamburg; Getty Research Institute, Hamburg, forthcoming.

15 Euwe, *De Nederlandse kunstmarkt 1940-1945*, uses mean prices. David, Euwe, Goldman, and Oosterlinck, use a combination of mean and median prices in 'Preise spielen gar keine Rolle.'

to the sheer volume of the booming market.<sup>16</sup> With hedonic regressions the impact of different variables on the prices of artworks may be tested and the relative importance of these variables on the prices may be assessed. This paper uses hedonic regression to present the most reliable description to date of the price developments on the Dutch market for paintings during the German occupation. It also introduces two new identifiers for forgery and doubt about the attribution, a major issue for the Dutch market during the occupation.

## 1. Historical Context

German troops invaded the Netherlands on 10 May 1940. Five days later, following the blitz on Rotterdam, the Dutch army was forced to surrender. For five years, the Netherlands would remain under Nazi control. Since the Dutch were to be won over to the ideology of National Socialism, they were put under a civil instead of a military administration, in contrast to how for instance Belgium and France were governed. According to pre-war law, as long as they were not asked to act against the interest of the Dutch people, civil servants were to accommodate the German occupiers by remaining operative. Only where the Gleichschaltung necessitated full collaboration from all ranks of civil servants - such as propaganda and the arts - did the German occupier set up a new department, manned by Dutch National Socialists. The Germans decided to exploit the Dutch economy to the fullest extent possible to fuel their war effort.<sup>17</sup> While this resulted in full employment, the money earned could however hardly be spent: food, clothing et cetera, were rationed. Prices on the official market were kept stable, but in many instances the goods were simply not available.<sup>18</sup>

Increased government spending and German financial demands could not be funded through taxation only.<sup>19</sup> Monetary financing was the only way to meet these growing expenses. The increasing amount of money in circulation translated into substantial inflationary pressure. In their goal of maximizing exploitation, the German occupiers aimed at the *Verflechtung* (integration) of the Dutch and German economies and on 1 April 1941 abolished the currency restrictions between the Netherlands and Germany. As of that moment, the German Reichsmark could be freely exchanged for Dutch guilders.

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16 See Euwe and Oosterlinck, Quality and authenticity in a market under pressure, for an in-depth analysis of this issue.

17 Hein Klemann and Sergei Kudryashov, *Occupied Economies. An Economic History of Nazi-occupied Europe, 1939-1945* (London/New York 2012).

18 Goetzmann, Renneboog, and Spaenjers analyse the relation between income and price development in Art and Money, but not in this context. William N. Goetzmann, Luc Renneboog and Christophe Spaenjers, 'Art and Money', Working paper 15505, National Bureau of Economic Research (November 2009). For an overview of the development of the Dutch economy during the German occupation, see: Hein A.M. Klemann, *Nederland 1938-1948. Economie en samenleving in jaren van oorlog en bezetting* (Amsterdam 2002).

19 See for example Kim Oosterlinck, Sovereign Debts and War Finance in Belgium, France and The Netherlands, in Christoph Buchheim and Marcel Boldorf, eds., *Europäische Volkswirtschaften unter deutscher Hegemonie 1938-1945*, Schriften des Historischen Kollegs (München: Oldenbourg Verlag, 2012) 93-106.

By 1944, the total amount of money in circulation had increased by a factor of 3.6 (2.9 in real terms) compared to 1939.<sup>20</sup>

Inflationary pressure and rationing led to the development of a substantial black market.<sup>21</sup> Black marketeers were making increasingly large amounts of profit as the war progressed. At the same time, there was widespread fear of imminent devaluation or hyperinflation. This put pressure on both ordinary Dutchmen, who were earning money thanks to full employment, yet were unable to spend it, as well as black marketeers to convert their surplus money into goods of lasting value. On top of the risk of devaluation, the sharp increase in the amount of money in circulation made a post-war monetary reform almost inevitable. Any such monetary reform would in all likelihood mean the exchange of old banknotes for new ones. For those who had gained substantial amounts of money via illegal activities, this would have led to questions being asked regarding the source of the banknotes they were willing to exchange. Buying real goods was therefore a way to avoid this scrutiny. Since gold was tightly regulated, black marketeers focused on books, jewellery and works of art. As early as in May 1941, the newspaper *De Telegraaf* reported ‘it is not the suddenly ignited real love of old art that drives large numbers of new buyers to the auction- and exhibition rooms, it is - why not expose the truth? - mostly the fear of inflation’.<sup>22</sup> When in March 1943 banknotes of 500 and 1,000 guilders were taken out of circulation in an effort to hinder black marketeers, this was an added incentive for the latter to invest in such goods. In November of that year, a representative of the collaborating Departement voor Volksvoorlichting en Kunsten (DVK, Department for Propaganda and the Arts) stated in a press conference: ‘the public is inclined to invest its money, which at the moment cannot be used to buy much, in paintings and works of art’.<sup>23</sup> As the newspaper *Het Volk* headlined in February 1943, there was a ‘flight into art’.<sup>24</sup>

The increasing demand for artworks was not only the result of the demand from black marketeers and average Dutch citizens. A few months after the occupation German

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20 Klemann, *Nederland 1938-1948*, 181-187, 429. This figure is for M1, authors’ calculations.

21 For an in-depth overview of the black market in the Netherlands and how it compared to other occupied countries, specifically France and Belgium, see Klemann, *Nederland 1938-1948*, passim. For an overview of the black market in all of the countries under German occupation, see Klemann and Kudryashov, *Occupied Economies*, 267-289.

22 “De kunstmarkt onder den invloed van sterk gestegen vraag en vermindering van aanbod.” Kunst als belegging, in *De Telegraaf*, 22 May 1942, translation by the author. In the original Dutch, the text reads: “Het is niet de plotseling oploeiende echte liefde tot de oude kunst, die tal van nieuwe koopers naar de veiling- en tentoonstellingszalen drijft; het is - waarom niet met den waarheid voor den dag komen? - veelal inflatievrees, dikwijls de drang tot belegging van in ruime mate aanwezige liquide middelen, welke als drijfveer voor deze belangstelling moeten worden beschouwd [...]”

23 Fantastische prijzen voor kunst. Waarschuwing voor vervalschingen, in *Dagblad van Noord-Brabant*, 5 November 1943. In the original Dutch, the full quote reads: “Bij het publiek bestaat de neiging het geld, waarvoor op het oogenblik weinig te koop valt, in schilderijen en kunstvoorwerpen te beleggen.”

24 Vlucht in de kunst, in *Het Volk*, 20 February 1943.

buyers were already complaining that prices on the art market were rising fast.<sup>25</sup> This was of course too early to be the result of black marketeers' demand, as the black market was still in its developing phase. Nor would it be the result of (fear of-) inflation-induced demand from ordinary Dutch citizens, as monetary expansion had only just started. Instead, the price increases noticed were of the Germans' own making. Following the example of Hitler, who planned an art museum of unprecedented size in his hometown of Linz, both high- and lower-placed officials in the Nazi-hierarchy acquired art. Their agents became active immediately after the Dutch capitulation, and within weeks Göring personally visited Dutch art dealers. The collecting mania amongst Nazi officials, combined with the fact that Germany was also affected by rationing, had already caused a hausse on the German market. Once German currency could be readily exchanged, the Dutch art market was much more readily accessible to German dealers (who in turn also often acted as agents for the Nazi hierarchy) and other Germans, all of whom scoured the Dutch art market.<sup>26</sup> However, they were soon joined by two different types of Dutch buyers.

Overall, it therefore seems that the art market boom was initially started by what could be seen as a German mania for works of art. But before long, the fear of impending devaluation and a possible hyperinflation, coupled with the increasing liquidity of the Dutch population in general and of black marketeers in particular caused these two groups to make their presence felt on the art market. Until the autumn of 1944, the Dutch could - in principle - survive on their rations. Given that these rations were becoming increasingly Spartan, the average Dutchman probably spent an increasing amount of money on the black market. At some point before the autumn of 1944, the role of ordinary Dutchmen therefore diminished whereas black marketeers had both an increasing amount of cash and an increasing sense of urgency in converting this hoard into goods of lasting value. By the beginning of what became known as the Hunger Winter of 1944, these black marketeers were the only customers left. Ordinary people were preoccupied with survival, and the Germans - who by then were unable to transport their acquisitions back home because all transport links between Western Holland and its hinterland had been severed - had also effectively disappeared from the market.

## 2. Data

The data used in this study were obtained from the ledgers of Kunstveilingen S.J. Mak van Waay, an Amsterdam auction house specializing in fine and decorative art. Together with the auction house of Frederik Müller, Mak van Waay formed the top tier of Dutch auction houses. The use of the actual ledgers ensures that hammer prices are actual prices, not disguised buy-ins, and also allows tracking the percentage of paintings that actually sold. The original dataset consisted of all paintings auctioned at Kunstveilingen S.J. Mak van Waay during the German occupation. The dataset includes the sale date,

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25 David, Euwe, Goldman and Oosterlinck, 'Preise spielen gar keine Rolle.'

26 Euwe, *De Nederlandse kunstmarkt*, 61.

lot number, the artist's name or other reference to its maker (e.g. Dutch School, 17th century), the full description of the painting as given in the catalogue including references to quality and authenticity, whether the work was signed and/or dated and annotated, its size, the material of the support or technique used, the reserve price (if any), the highest bid if not sold, and of course the hammer price.<sup>27</sup> Initially, the dataset comprised over 11,300 lots. However, due to the fact that initially cheaper paintings were regularly combined in one lot, or were sold together with other objects, these were deleted from the dataset. Because of their limited number, works on paper, paper mounted on board, metal, or eternet were excluded. Paintings that failed to sell were also excluded. This resulted in a dataset comprising 9,975 paintings.

During the German occupation, the volume of auctions at Mak van Waay grew substantially. In comparison to 1940, the total number of lots put up for auction in 1943 had quadrupled, whereas the number of paintings had quintupled (Table 1). Although Modern paintings always outnumbered paintings from the Romantic period and Old Masters, the number of Old Masters offered at auction increased most, and by a large margin. This increase was in part due to lower standards in terms of quality, as good paintings rapidly became scarce. The volume of Old Masters offered at auction peaked in 1942, a year before Modern masters and Romantic paintings.

Table 1: *Overview of sales results at Mak van Waay, 1940-1945*

Year	No. of lots		Lots of paintings offered at auction			Percentage sold		
	All categories	Paintings	Old Masters	Romantic Period	Modern Masters	Old Masters	Romantic Period	Modern Masters
1940	2160	672	119	201	352	77,1	83,3	85,5
1941	6521	2042	568	533	941	82,8	88,2	89,3
1942	7662	3176	885	902	1389	91,8	97,3	96,4
1943	8737	3365	650	996	1719	95	98,2	97,9
1944	4988	1747	281	685	781	88,8	97,9	97,5
1945	1120	347	32	93	207	68,1	93,5	93,2

Source: RKD, Netherlands Institute for Art History, archive S.J. Mak van Waay (0573), inv.no. I.1 to 29, own calculations.

### 3. Methodology

The use of mean prices to construct a price index has obvious drawbacks. Any shift in quality of the goods on offer, or an increase in the share of watercolours over oil paintings will skew the results of the index. By comparing mean prices with median prices, the effects of changes in quality can be gauged somewhat. Hedonic regressions, by nature, are far better suited to constructing a reliable price index. In using hedonic regression, the problem of shifts in quality is dealt with because the price of a work of art

27 To account for changes in the spelling of artists' names, all names were checked against the artist database of the Netherlands Institute for Art History (RKD) and the artist database at the Getty Institute. RKD: <https://rkd.nl/en/explore/artists> (Accessed: 19 March 2016); Getty: <http://www.getty.edu/vow/ULANSearchPage.jsp> (Accessed: 19 March 2016).

is in fact determined by the characteristics (quality, authenticity) of the object, the price development of its particular market, and an (idiosyncratic) error term.

Hedonic regressions allow for control of the differences in the transacted goods since they give implicit values to the characteristics. The regression usually takes the following standard form:

$$\ln p_{it} = \sum_{k=1}^m \alpha_k X_{ik} + \sum_{t=0}^T \beta_t \delta_{it} + \sum_{t=0}^T \sum_{j=1}^n \theta_{jt} \omega_{ijt} + \varepsilon_{it}$$

(1)

where  $p_{it}$  is the price of good  $i$  at time  $t$ ,  $X_{ik}$  is the value of the time-invariant characteristic  $k$  (for example the artist, the size, or the genre) of artwork  $i$ ,  $\omega_{ijt}$  is the value of the time-variant characteristic  $j$  of artwork  $i$  at time  $t$  and  $\delta_{it}$  is a time dummy variable which takes one if the artwork is sold on  $t$  and zero otherwise. The antilogs of the  $\beta_t$  coefficients are then used to construct the hedonic price index.<sup>28</sup>

One specific aspect of quality addressed in this paper is that of authenticity. The existence of fake artworks has a well-documented impact on the art market.<sup>29</sup> What is more, during the 1920s and 1930s, the art world had been shaken by a number of high-profile and well-publicized forgery scandals, such as the Wacker affair and the Millet-Cazot scandal.<sup>30</sup> During the occupation the number of fakes or of artworks with forged signa-

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28 The use of the antilogs leads to a bias estimate. This bias is usually fairly small so it is often ignored see Victor Ginsburgh, Jianping Mei, and Michael Moses, *The Computation of Price Indices*, in Victor Ginsburgh and D. Throsby, eds., *Handbook of the Economics of Arts and Culture* (Amsterdam: North Holland, 2006). An alternative, which provides similar results, and which we use here, is to add a constant and at the same time withdraw a time dummy to avoid collinearity. In our case we withdraw the 1942 year dummy.

29 Fabian Bocart, Kim Oosterlinck, Discoveries of Fakes: their Impact on the Art Market, in *Economics Letters*, 113, 2 (2011), 124-126.

30 Among the later literature on the Wacker affair, see e.g.: Henk Tromp, *De strijd om de echte Van Gogh. De Kunstexpert Als Brenger Van Onwelkome Booschap 1900-1970* (Amsterdam: Mets & Schild, 2006); Walter Feilchenfeldt, Van Gogh fakes: the Wacker affair, with an Illustrated Catalogue of the Forgeries, in *Simiolus. Netherlands quarterly for the history of art*, vol. 19, nr. 4 (1989) 289-316. Among contemporaneous accounts, see e.g.: Grete Ring, Der Fall Wacker, in *Kunst und Künstler* 31 (1932) 153-165; Kurt Wehlte, Röntgenuntersuchungen im Wacker-Prozess, in *Kunst und Künstler* 31 (1932) 175-179. The Wacker affair concerned forged Van Goghs, which fooled a number of highly reputable experts. In the case of Van Gogh, the only provenance that guarantees authenticity seems to be Johanna (Jo) van Gogh-Bonger, who inherited a large number of her brother-in-laws paintings. But in 1930 it was discovered that even such family-relations were not always reliable indicators, when the French police questioned the grandson of Jean François Millet. He and his accomplice Paul Cazot were suspected of the manufacture and selling of forgeries of the works of the former's grandfather and other artists, which Millet confessed to. According to the newspapers, he had sold hundreds of forged artworks, even to the Millet museum in Barbizon. However, due to a reticence of victims to come forward, Millet and Cazot wouldn't stand trial until 1935. See: Vervalsching van schilderijen in Frankrijk, in *Het Vaderland*, 7 May 1930; Vervalsching van schilderijen, in *Het Vaderland*, 12 May 1930; De vervalschte schilderijen, in *Algemeen Handelsblad*, 20 May 1930; Cazot has a page at the website of the Netherlands Institute for Art History (RKD): <https://rkd.nl/nl/explore/images/194655> (accessed 31 May 2016).

tures increased dramatically.<sup>31</sup> The ‘forgery indicator’ and ‘doubt’ dummies are a new approach to the problems caused by authenticity issues. Although they do not solve the issue - nothing can - they show that the experts of a top-tier firm were actively signalling their position vis-à-vis the authenticity of a painting through both the format and the wording of the cataloguing.

We use the cataloguing components of paintings in the auction catalogues of Mak van Waay to identify problems in the fields of attribution and authenticity. Since attribution and authenticity are both highly contested issues, it is therefore necessary to clarify how we define elements such as doubtful attribution, copies, falsifications and forgeries.

Copies are not intended to deceive. They were painted either as a study of another painter’s style, or to function as a copy to be owned when the original was unavailable or too expensive. Either way, they can be either contemporary to the original or from a later date, and do not carry the signature of the copied master, nor are they attributed to him or her. As such, they form a potential problem of attribution, not of authenticity.<sup>32</sup> In contrast, forgeries are created with the intention to deceive from the outset, as stated for example by noted expert Max J. Friedländer in a piece titled ‘On Forgeries’ that was published in *The Burlington Magazine for Connoisseurs* in June 1941.<sup>33</sup> This definition was commonly, though not exclusively used at the time and is adopted for the purposes of this paper. The genuineness or authenticity of works of art was discussed not only in the specialized press, but also in daily newspapers, and with some regularity. The general public was thus well aware of the issues, and at the very least could easily educate themselves about the various aspects and types of forgery and falsification.

Attribution was another area where the auction house expert would give his opinion on a work of art and at times convey doubt about the attribution of unsigned paintings. Doubt was usually expressed by adding a question mark after the artist’s name. The auction house’s experts would sometimes confidently contradict well-known scholars. To some extent, this may have been caused by the fact that certificates were also frequently forged.<sup>34</sup> Certificates were merely an expression of expert opinion and therefore had no legal standing as proof of authenticity, nor did they provide any kind of guarantee. Nevertheless, they were very popular amongst the buying public. This may partly have been

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31 For France see Assouline, *L’homme de l’art*. For The Netherlands, see Euwe (2007) and Euwe and Oosterlinck, *Quality and Authenticity in a Market under Pressure*.

32 In 1935, a forged Michelangelo was sold at Drouot in Paris, its attribution supported by a forged letter by Ingres. See: Valsche Michelangelo, in *Het Vaderland*, 30 January 1935.

33 Max J. Friedländer, *On Forgeries*, in *The Burlington Magazine for Connoisseurs*, Vol. 78, No. 459 (Jun., 1941), 192-193, 195-197. His contemporary the Dutch expert Maurits M. van Dantzig used the same definition, as did many other authors. The definition of what constitutes a forgery was - and still is - somewhat fluid, as for instance Van Dantzig also used a broader definition in another work that was published in the same year. See e.g. the review of two of his books: *Over het zien van Schilderkunst*, in *Het Vaderland*, 28 November 1937.

34 Valsche certificaten van echtheid, in *De Telegraaf*, 31 March 1935.

because the auction houses expressly denied any guarantee with regards to the items sold.<sup>35</sup>

## The model

The variables used in the model have been divided into two groups, the first being the characteristics of the artist, the second the characteristics of the work (period, attribution, authenticity, medium, the word count of the description in the sale catalogue, the size of the work, and the year of sale). To construct the price index, the dependent variable is the price in constant 1940 prices, converted to natural logs. Table 2 shows the number of observations per variable.

### 1 - Artist characteristics

The dataset contains 3,167 artists, including generic designations such as 16th/17th/18th/19th/20th century Dutch/Flemish/French/German/Italian/Spanish School. The model includes artist dummy variables, which take the value of 1 if the work is linked to the given artist (by him or attributed to him etc.).

### 2 - Characteristics of the work

#### a. Period:

At the time, Dutch auction houses generally presented artworks as belonging to one of the following periods: Old Masters, Romantic period, and Modern masters. These correspond roughly to works dating up to about 1750 for Old Masters, works from the period circa 1750 to circa 1850 for the Romantic period, and works created after circa 1850 for Modern masters. The model includes period dummy variables, which take the value of 1 if the work is dated by the auction house to the given period.

#### b. Attribution:

The difference between variables relevant to attribution, authenticity and artistic quality is at times hard to tell. Four dummies were used to determine attribution. The first is whether a work was signed (either fully, with initials, or monogrammed). Additionally, separate dummies were created for works done in the style/manner/genre of a particular artist, for copies or works after an artist, and for works from the school or studio of a named artist.

#### c. Authenticity:

We rely on the catalogue descriptions to define forgeries. In their catalogue, Mak van Waay would for example describe a picture regarded as an outright forgery in the

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35 As was noted in the press, e.g. “Nep” op de kunstmarkt, in *Rotterdamsch Nieuwsblad*, 18 December 1936.

following format: 'Unknown Master - Flock returning to the sheep pen with shepherdess, signed A. Mauve'.<sup>36</sup> To distinguish forgeries from works where the auction house expressed doubt about the attribution we rely on whether the artwork was signed or not. This decision warrants a discussion. We include only signed artworks in the forged category. If the intention is to deceive a potential buyer, then one may want to forge the signature. In the same vein, if a forger goes all the way to create a fake artwork, it is likely that this would also include a forged signature. Of course one could argue that some unsigned paintings about which the auction house expressed doubt were forged. As a result, our definition of forgeries should be considered as very conservative. More precisely, the dummy variable forgery takes a value of 1 if in the catalogue either 1) the signature does not match the artist's name,<sup>37</sup> 2) or if the name comes with a qualifier ('?', 'copy after', 'in the manner of', 'attributed to'), while the signature or the monogram matches the name 3), or if the work is presented from a generic school '(Dutch, English, etc.) School' or 'Unknown Master', even if it bears the monogram or the signature of a well-known painter.<sup>38</sup>

For unsigned paintings, the doubt dummy variable takes the value of 1 if the auction house expresses its doubts about the attribution. We recognize doubts in cases where the auction house either put a question mark after the artist's name or did not conform to an expert certificate for such an unsigned work.

Our expert dummy variable takes a value of one if the work being sold was presented with an expert certificate.

Paintings for which an exhibition history exists, or which were once part of a famous collection, tend usually to fetch higher prices, as market participants view the ability to trace them back in time as proof of authenticity.<sup>39</sup> We distinguish two dummy variables based on this information. Collection takes the value 1 if the artwork was part of a noteworthy collection mentioned in the catalogue. Exhibited takes the value 1 if the artwork was part of an exhibition mentioned in the catalogue.

d. Quality.

For each sale, a small number of the lots offered would be reproduced in the catalogue. Given the extra cost involved, it seems likely the lots that were illustrated were believed to be of high quality. Therefore, a dummy was created that takes the value of 1 if a painting was reproduced in the catalogue.

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36 In the original Dutch, the description reads: "Onbekende meester. – In de schaapskooi terugkerende kudde met schapenhoedster. Geteekend A. Mauve. Doek. H. 46, B. 56". The picture was auctioned as lot no. 502 on 4 November 1942, Mak van Waay auction number 68, 3-6 November 1942.

37 E.g. Jacobus van Strij (1756-1815), signed A. Cuyp, or Giacomo Victors, signed M. d'Hondecoeter.

38 E.g. Dutch School 19th century, signed: B.C. Koekkoek, or Unknown master, signed A. Mauve.

39 Even if there are also examples of collections (e.g. Collection Coray-Stoop) and exhibitions (e.g. Frans Hals exhibition Haarlem 1937) that contained numerous forgeries.

On the other hand, a picture that was described as a study was either unfinished or of lesser quality, both reasons for such a picture to attain a lower price than finished works by the same artist. The study dummy takes a value of 1 if the catalogue mentions the work is a study.

Positive adjectives such as ‘extraordinarily beautiful’ or ‘most important’ would only have been used to denote paintings of the highest quality, with an obvious positive impact on the hammer price. This forms the basis for two description dummies, which takes a value of 1 if any such positive adjective (or combinations thereof) was used in the catalogue description.

Since space is costly in any publication, one may expect that the auction house would decide to enter lengthy descriptions only for the most interesting works. The number of words for all catalogue entries is computed and used as our “words” variable.

e. Medium

The category ‘medium’ is actually an amalgam of techniques (watercolour, gouache, pastel, chalk, crayon) and of support (marqueté, panel, marouflé, canvas, carton, and triplex). From the catalogue it can be inferred that paintings using these latter materials were all oil paintings. We consider nine dummy variables taking the value 1 if the artwork is made on a given support (or made with the given technique).

f. Size

As the link between the size of a painting and its price literature has clearly been established,<sup>40</sup> height and width as well as the square of these values have been included.

g. Year of sale

Given that the aim of this paper is to provide a price index for the period May 1940 to May 1945, a choice has to be made on the time scale of this index. The choice has been made to use one-year periods, with the years 1940 and 1945 obviously restricted to the period May-December and January-May respectively.

3. Results

Four different specifications were tested, all with the natural log of the price in 1940 Dutch guilders as the dependent variable. Model 1 contains all the variables described above, and applies these to the full dataset in order to obtain a price index for paintings

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40 E.g. Géraldine David, Kim Oosterlinck, War, Inflation, Monetary Reforms and the Art Market, in: *Financial History Review* 22/2 (2015), ; Luc D.R. Renneboog & Christophe Spaenjers (2009), ‘Buying Beauty: On Prices and Returns in the Art Market’ (Tilburg University: CentER Discussion Paper; Vol. 2009-15, published in *Management Science* 59, 1 (2012)).

of all periods. Model 2, 3 and 4 are the same as model 1 but are specific respectively to paintings from the periods ‘Old Masters’, ‘Romantic period’ and ‘Modern masters’.

Results for all models are summarized in table 3. The adjusted R-square in all models is over 66%. Most coefficients are statistically significant at the conventional level of confidence. Only paintings where the support is not mentioned in the catalogue, paintings by the artist’s studio and paintings described as important fail to yield a significant result in Model 1. The results for all variables are broadly similar in both models.

All variables have the expected results. Signed works bring a substantial premium compared to unsigned ones. Paintings attributed to, made after or copies from as well as works in the style/manner/genre sell at a discount. An indicated forgery brings the price down significantly, the average price also drops when there is express doubt about the attribution, albeit not to quite the same degree.<sup>41</sup> Provenance and expert certificates however have a markedly positive effect on the hammer price. Quality played an important role, with paintings reproduced in the catalogue and lyrical descriptions using terms such as ‘very beautiful’, ‘masterpiece’, selling at significantly higher prices than similar paintings without such descriptors. In contrast, a work described as a study would sell for considerably less. In both these positive and negative descriptors, one should be aware that they are exactly that: descriptors. In contrast to the other descriptors used in these models, they are an expression of quality as seen through the eyes of the auction house expert. One may conjecture that in contrast to, for instance, a forgery indicator, the effect of these descriptors was probably greater on inexperienced and uneducated new buyers. The words variable is also positively associated with a higher price.

The technique used and the support of the artwork also influenced the price. Compared to the average work on canvas, a painting on panel would sell for slightly more. Marouflés, works on carton or on triplex carried an increasing discount. Techniques not using oil-based paints, such as watercolours and pastels, all brought significantly less. For all models the price is a concave function of size, an observation in line with the literature.

Table 3 also provides the results disaggregated at the period level (Old Masters, Romantic and Modern). For most variables results remain in line with the ones observed for the sample in general. As can be expected, signed artworks and works directly linked to a given artist command a premium compared to unsigned ones.

The results for flagged forgeries are no longer significant for Old Masters, while results remain robust for paintings from the Romantic period and for Modern masters. According to contemporary sources, forgeries of Modern as well as Romantic period paintings

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41 For Old Masters results are slightly different with forgeries not statistically different from zero.

were usually painted on canvas of recent manufacture.<sup>42</sup> Once their authenticity was questioned their only value was as a contemporary or later copy. In Old Masters, authenticity is a much more complex and layered issue. A large percentage of forged Old Masters were genuine old paintings, albeit not by the hand of the master whose signature graced the painting. As Friedländer wrote: “It is, naturally, more convenient and hopeful to supply a good picture by Jan van Kessel with a Ruisdael signature, than to produce a picture by Ruisdael.”<sup>43</sup> Once unmasked as a forgery, one still has an (albeit less valuable) painting by Jan van Kessel. Such was the case with an ‘Italian landscape’ signed A. v.d. Velden [sic, J.E.], which the auction house attributed to his pupil ‘Dirk van Bergen (1640-1690)’.<sup>44</sup> The category of flagged forged Old Masters therefore is a very diverse group where each painting has a residual monetary and artistic value ranging from none (in the case of a later forgery) to relatively substantial.

Amongst the quality indicators, the reproduction of a painting in a sales catalogue or in literature is highly robust. However, the premium differs greatly between the three periods. Among the reproduced paintings, Old and Modern masters achieved much higher prices than works from the Romantic period. Poetic descriptors such as ‘(very, most) beautiful’ or ‘masterpiece’ and such show a similar pattern, with a higher premium for Old and Modern masters than for Romantic pictures. This may indicate a difference in how potential buyers for these different groups of paintings reacted to the paintings’ presentation, something the auctioneers would have implicitly understood. Given that buyers’ preferences and the auctioneers’ response interacted, it is almost impossible to untangle cause and effect in this matter. In the category ‘medium’, the variations in significance of the results are all explained by the low numbers of paintings for these variables. The general thrust remains the same, in that apart from works on panel all others are on average cheaper than a work on canvas.

The price index for all paintings and for the different periods is given in table 4, and illustrated in figure 1.

Figure 1 shows a continuous rise in prices, with the *hausse* taking off in 1942 and continuing until the end of the war. The general trend is similar for paintings of all periods, but the level varies somewhat. This price pattern is in stark contrast with the one observed in France, where prices peaked in 1942-1943 and then experienced a decline.<sup>45</sup> Until 1941 the price increase remains relatively modest. When the German occupation forces rendered the Reichsmark freely exchangeable in 1941, the Dutch art market became

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42 Inge Wijde, *Kluchten en drama's in den kunsthandel* (Leiden: Nederl. Uitgeversbedrijf van Wetenschappelijke Uitgaven N.V., 1943). Inge Wijde (a play on words similar to In Sider) was a pseudonym of art dealer A.J. Boer, who was based in The Hague. Similar remarks are found in contemporary newspapers, e.g. Holland overstromd met valsche schilderijen?, in *De Sumatra Post*, 29 December 1936.

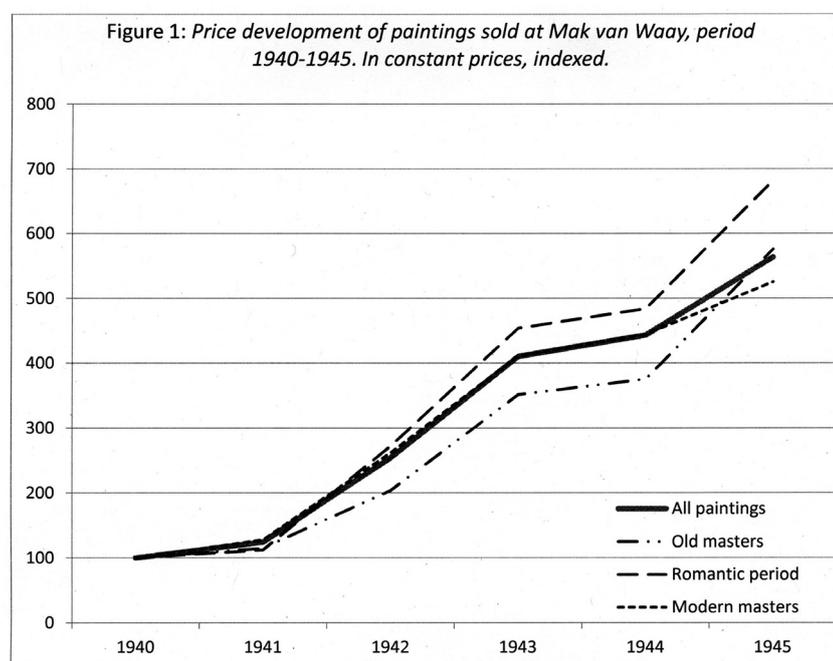
43 Friedländer, *On Forgeries*, 195.

44 Mak van Waay, auction 23 June 1942, lot no. 32. There was no A. v.d. Velden, but there was an Adriaen van de Velde, who taught Dirk van Bergen.

45 K. Oosterlinck, *Art as a Wartime Investment*.

much more attractive for German buyers. This could explain part of the rising trend. At the same time, Dutch investors began to fear for the value of the guilder, compounding the effect of the convertibility of the Reichsmark. As a result, both average citizens who feared for their savings as well as black marketeers decided to buy real goods such as artworks. Unlike most real goods, the market for artworks was not subject to strict regulation, and it experienced a pronounced price rise. The high prices observed at the end of the war reflect in all likelihood the demand from black marketeers, who were eager to transform their illicit profit into tangible assets. For reasons of discretion artworks were particularly sought after.<sup>46</sup>

Notably, despite the high demand expressed by the German authorities for such paintings, the price increase of Old Masters is more limited than the price increases for the paintings from the Romantic period. This might be due to the fact that Old Master prices



were on average significantly higher than other paintings (see descriptive statistics in table 2). An alternative explanation may be that tastes had changed, possibly with the influx of novice customers to the market. The critic Herluf van Merlet - a pseudonym of the Baron van Lamsweerde - wrote disapprov-

ingly that “[...] the possibility exists, that the very exceptional current circumstances play a role here, which bypasses the appreciation of art altogether.”<sup>47</sup> In his opinion, there was an abundant supply of widely varying quality on the art market, which was bought by “an army devoid of critical faculties or understanding, who apparently have no other purpose than to buy whatever they can still get for their money”.<sup>48</sup>

46 The same phenomenon is observable in France at the time, see Oosterlinck, *Art as a Wartime Investment*.

47 Herluf van Merlet, *Negentiende-eeuwsche romantiek*. Keurcollectie bij Fetter, in *De Tijd*, 21 October 1942. In the original Dutch, the entire quote reads: “Of men op het oogenblik reeds van een algemeene kentering in de waardeering ten gunste van de romantische meesters der 19e eeuw mag spreken lijkt ons vooralsnog een open vraag, juist omdat de mogelijkheid bestaat, dat de zeer uitzonderlijke tijdsomstandigheden hier een rol spelen, welke geheel buiten de kunstwaardering als zoodanig omgaat.”

48 *Ibid.* In the original Dutch, the entire quote reads: “Het overdadig aanbod van allerlei kunst, alsmede van weergaloze ‘Kitsch’, vindt heden ten dage een leger van critiek- en inziichtsloze allesvreter, die blijkbaar geen andere bedoeling hebben dan maar te koopen wat zij voor hun geld nog krijgen kunnen.”

Looking at the price development of Old Masters, we see a continuous rise (figure 1). Taking into account the drop in quality, as newspaper reports confirmed and unsold lots increased, it seems that buyers focused on other paintings. After all, the (perceived or real) need to convert their money into goods of lasting value still existed. According to research by Hein Klemann, 1944 also saw explosive growth in the black market.<sup>49</sup> This indicates that ordinary civilians had less money to spend on art, as an increasing part of their income would have been spent complementing their rations on the black market. Given that basic dietary needs were still being met, this was limited to luxury items such as meat, eggs and butter. When black market prices exploded at the start of the Hunger Winter, black marketeers were faced with an ever more pressing need to convert their illicit gains. With the liberation imminent - and with it, a monetary purge in which they would have to explain their sudden wealth - the price of a work of art was hardly relevant, which explains the price spikes at the very end of the war. By then, black marketeers were the only customers left: after August 1944 the Germans were unable to transport their acquisitions home - due to the railway strike, the impossibility of inland shipping due to the frost, and other problems - and were therefore unlikely to bid.

## Conclusion

Even though the literature usually maintains that the Dutch art market experienced a boom during World War II, no robust quantification of this boom had been available. This paper overcomes this limitation by providing the first art market index for this period based on hedonic regressions, taking as a sample the sale records of one major auction house. Results confirm that the Dutch art market experienced a massive upswing during the Second World War. Both the volume of the market and the prices of sold paintings multiplied. The volume of paintings offered at Kunstveilingen S.J. Mak van Waay, one of the two most reputable auction houses in the Netherlands, reached its zenith in 1943. Over the remaining two years of the war the volume decreased, as did the quality of the goods. The number of Old Masters offered at auction initially grew much faster than the volume of Romantic paintings and Modern masters. However, Old Masters were also the first to decrease in number (their volume peaked in 1942 and decreased thereafter) and were the most susceptible to a drop in quality.

Prices continued to rise throughout the occupation, with paintings from all three periods reaching their peak during the last month of the war. By then, prices for all paintings had been multiplied in real terms more than fivefold. For the paintings from the Romantic period prices were almost multiplied sevenfold.

The boom was supported by buyers of two nationalities: Dutchmen and Germans. The Dutch buyers either bought to safeguard their savings against what was believed to be imminent devaluation or even hyperinflation, or to hide illegal profits made on the black market. In both cases, their interest in buying fine art was the result of the impact of the German economic exploitation of the Netherlands. As for the Germans involved in the

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49 Hein A.M. Klemann, *Nederland 1938-1948*, 212.

Dutch market they were either dealers eager to supplement their stock to profit from the hausse on the art market in Germany, top functionaries in the Nazi hierarchy who were all collecting art on a grand scale, or Nazi officials who mimicked their superiors by showing an interest for works of art.

Monetary policy also had a strong impact on the Dutch art market. By rendering the Reichsmark freely exchangeable, the Dutch art market became much more accessible to German buyers. The extra inflow of Reichsmark caused a further increase of the already fast expanding Dutch money supply. The resultant inflationary pressure made many in the Netherlands fear for the value of the guilder. This fear prompted many investors to buy real goods in order to preserve the purchasing power of their assets. This flight from the guilder increased demand for real goods in general, but its effect was felt most strongly in markets uncontrolled by rationing, such as the art market. When rumours began to circulate that the guilder would be devaluated to bring the exchange rate on par with the mark, the movement accelerated.

The continuous price rise in the winter of 1944-1945 and the spring of 1945 was in all likelihood due to Dutch black marketeers. By the winter of 1944-1945 the rest of the Dutch population in the western Netherlands, which was the centre of the Dutch art market, was concerned with survival, while due to the lack of transportation the Germans were unable to transport their acquisitions home. It is therefore unlikely that either the general Dutch population or the Germans continued to buy, whereas with the approaching liberation and associated monetary reform the black marketeers were under increasing pressure to hide their illicit profits.

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Table 2: *Descriptive statistics*

	All paintings	Old Masters	Romantic period	Modern masters
Average price 1940-1945, in real 1940 guilders	347	592	360	239
	N			
Period	9975	2043	2920	5012
Attribution				
Signed/Signed with initials/Monogrammed	7103	325	2236	4542
Attributed to	154	142	8	4
In the style/manner/genre of	334	271	54	9
After/Copy	57	43	8	6
Studio/School of	27	24	2	1
Authenticity				
Forgery indicator	125	30	54	41
Doubt about attribution	151	53	60	38
Expert opinion	116	104	6	6
Provenance collection	49	15	6	28
Shown in exhibition	34	8	1	25
Quality				
Reproduced in catalogue	231	96	41	94
Study	77	1	2	74
(Very, extraordinarily) beautiful/masterpiece/awardwinning	198	66	58	74
(Very, most) important/interesting	34	29	2	3
Medium				
No data	158	26	33	99
Panel / cradled	3461	947	1543	971
Marouflé	292	28	24	240
Canvas	4599	1016	979	2604
Carton	241	5	26	210
Watercolour/Gouache	998	18	297	683
Pastel/Chalk/Crayon	184	3	18	163
Triplex	42	0	0	42
Year of sale				
1940	492	77	156	259
1941	1651	411	415	825
1942	2932	755	836	1341
1943	3122	554	922	1646
1944	1485	218	507	760
1945	293	28	84	181

Source: RKD, Netherlands Institute for Art History, archive S.J. Mak van Waay (0573), inv.no. I.1 to 29, own calculations.

Table 3a: Results of the hedonic regression (1940-1945)\*

	Model 1 (All paintings)	Model 2 (Old Masters)	Model 3 (Romantic period)	Model 4 (Modern masters)
# of observations	9,975	2,043	2,92	5,012
Adjusted R-square	71.6%	66.0%	73.5%	70.5%
<b>Period</b>				
Old Masters	[excluded]	-	-	-
Romantic period	-0.246***	-	-	-
Modern masters	-0.377***	-	-	-
<b>Attribution</b>				
Signed/Signed with initials/Monogrammed	0.294***	0.221***	0.327***	0.266**
Attributed to	-0.234***	-0.330***		
In the style/manner/genre of	-0.468***	-0.519***	-0.505***	
After/Copy	-0.518***	-0.562***		
Studio/School of	0.189	0.260		
<b>Authenticity</b>				
Forgery indicator	-0.694***	-0.195	-0.786***	-0.952***
Doubt about attribution	-0.451***	-0.603***	-0.200*	-0.641***
Expert opinion	0.399***	0.416***		
Provenance collection	0.275**			0.373***
Shown in exhibition	0.437***			0.292**
<b>Quality</b>				
Reproduced in catalogue	0.696***	0.754***	0.466***	0.714***
Study	-0.554***			-0.522***
(Very, extraordinarily) beautiful/masterpiece/awardwinning	0.458***	0.496***	0.406***	0.496***
(Very, most) important/interesting	0.054	0.262		
Word count	0.029***	0.027***	0.027***	0.032***

Source: RKD, Netherlands Institute for Art History, archive S.J. Mak van Waay (0573), inv.no. I.1 to 29, own calculations.

\* When N<20, the variable was dropped from the model.

Table 3b: Results of the hedonic regression (1940-1945)\*

	Model 1 (All paintings)	Model 2 (Old Masters)	Model 3 (Romantic period)	Model 4 (Modern mas- ters)
<b>Medium</b>				
No data	-0.083	0.090	-0.142	-0.072
Panel / cradled	0.120***	0.218***	0.190***	0.035
Marouflé	-0.226***	-0.290*	-0.143	-0.211***
Canvas	[excluded]	[excluded]	[excluded]	[excluded]
Carton	-0.345***		-0.150	-0.343***
Watercolour/Gouache	-0.424***		-0.605***	-0.323***
Pastel/Chalk/Crayon	-0.673***			-0.666***
Triplex	-0.394***			-0.409***
<b>Size</b>				
Height	0.010***	0.002***	0.013***	0.014***
Width	0.012***	0.010***	0.022***	0.010***
Height squared	-5.02 10 <sup>-5</sup> ***	-1.83 10 <sup>-5</sup>	-8.93 10 <sup>-5</sup> ***	-6.42 10 <sup>-5</sup> ***
Width squared	-3.54 10 <sup>-5</sup> ***	-2.71 10 <sup>-5</sup> **	-9.71 10 <sup>-5</sup> ***	-3.27 10 <sup>-5</sup> ***
<b>Time of sale**</b>				
1940	-0.933***	-0.711***	-1.001***	-0.962***
1941	-0.716***	-0.572***	-0.887***	-0.716***
1942	[excluded]	[excluded]	[excluded]	[excluded]
1943	0.478***	0.546***	0.512***	0.452***
1944	0.556***	0.612***	0.576***	0.531***
1945	0.796***	1.040***	0.919***	0.698***

Source: RKD, Netherlands Institute for Art History, archive S.J. Mak van Waay (0573), inv.no. I.1 to 29, own calculations.

\* When N<20, the variable was dropped from the model.

\*\* 1942 was the year when the volume of the market peaked, therefore it is used as reference. Using other years (e.g. 1940) yields robust results.

Source: RKD, Netherlands Institute for Art History, archive S.J. Mak van Waay (0573), inv.no. I.1 to 29, own calculations.

Table 4: Price development for paintings sold at Mak van Waay, period 1940-1945.  
In constant 1940 prices, indexed.

Year	All paintings	Old Masters	Romantic	Modern masters
1940	100	100	100	100
1941	124	115	112	128
1942	254	204	272	262
1943	410	351	454	411
1944	443	375	484	445
1945	564	576	682	526

Source: RKD, Netherlands Institute for Art History, archive S.J. Mak van Waay (0573), inv.no. I.1 to 29, own calculations.