



Deloitte's Art & Finance Panels - ArtCity 2020

Art & Collectibles

28 October 2020



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IMPACT THAT
MATTERS**
since 1845

Art & Collectibles

Which wealth management service offerings meet UHNWI's needs?

MODERATOR

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Deloitte's Art & Finance Panels | 28 October 2020

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Deloitte Private in Switzerland

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Main segments

We believe differentiating the needs of private businesses from the needs of large businesses assists our multidisciplinary professionals in recognising the opportunities and challenges unique to private businesses.

We anticipate the needs of private businesses and focus on delivering innovative and effective solutions, while maintaining high quality service levels.



Family office and high-net-worth individuals

We help high-net-worth individuals (HNWI) and family offices manage their investments, regulatory and compliance affairs.



Private companies

We work with private companies who face a range of challenges that affect not only the success of the business enterprise, but also the professional and personal goals of their owners. We advise ambitious families and individuals; similarly we work with early-stage entrepreneurs through to long-established, multi-generational family companies.

Deloitte.
Private



Private Equity

Through wide-ranging, integrated propositions, we support PE houses and their portfolio companies throughout the transaction lifecycle.



High growth

These are the fastest-growing, innovative private businesses, established to address disruption within their sector and destined for the corporate giants of tomorrow.

Deloitte Private

A deliberately different relationship for UHNWI and Family Offices



The global art market is rapidly creating new opportunities at the intersection of art and finance. Deloitte Switzerland proposes a cluster of top art and finance services for the fine art, cultural and financial sectors.

Our Art & Finance team assists financial institutions, family offices, private collectors, art businesses and cultural stakeholders with their art-related activities.

We have a passion for arts and bring expertise in consulting, legal, tax, finance, valuation, audit and business intelligence to the global art market.

To find out more about our dedicated services please
visit: www.deloitte.com/ch/artandfinance

Private Wealth and Family Offices

Our services offering

Consulting

Strategy and operations for financial services companies, and art/cultural institutions, including:

- Growth, business & digital strategy
- Operations and process optimisation
- Technology & innovation (Blockchain)
- Regulatory strategy and compliance
- Market research and education
- Startup launching and growing support

Financial Advisory

- Anti-money laundering trainings
- Forensic investigations
- Counterparty screening
- Automated Know-Your-Customer (KYC) solution
- Control Efficiency report

Tax & Legal

- Gift and estate assistance
- Philanthropy and charitable assistance
- Indirect tax assistance
- Import/export strategies
- Intellectual property assistance
- Art & collectible investment vehicle structuring
- Purchase and sale of Art pieces
- Succession and estate planning
- Corporate and commercial law
- Family foundation, governance and operations assistance

Risk Advisory

Services aim at managing risks more effectively to unleash an organisation's full potential to create and protect value. Risk areas include:

- Cyber risk - strategy, security, vigilance, residence, Data Protection & Privacy
- FS Financial and Regulatory risk - Market & Credit Risk, Capital management, liquidity & treasury risk, Accounting & Financial Reporting Risk
- Operational risk - Internal Audit, Assurance, Conduct Risk, Extended Enterprise Risk Management, Operational Risk & Transformation, Technology & Data
- Strategic and reputation risk - Regulatory risk analytics, Business Risk Analytics, Financial, Crime Analytics

Audit

- Statutory audit of the financial statements of funds investing in art and collectible assets

Art & Finance in Switzerland

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Thought leadership from Credit Suisse in collaboration with Deloitte Luxembourg



Collectibles - an integral part of wealth



Nannette Hechler-Fayd'herbe

Chief Investment Officer International Wealth Management

October 2020

Important Information

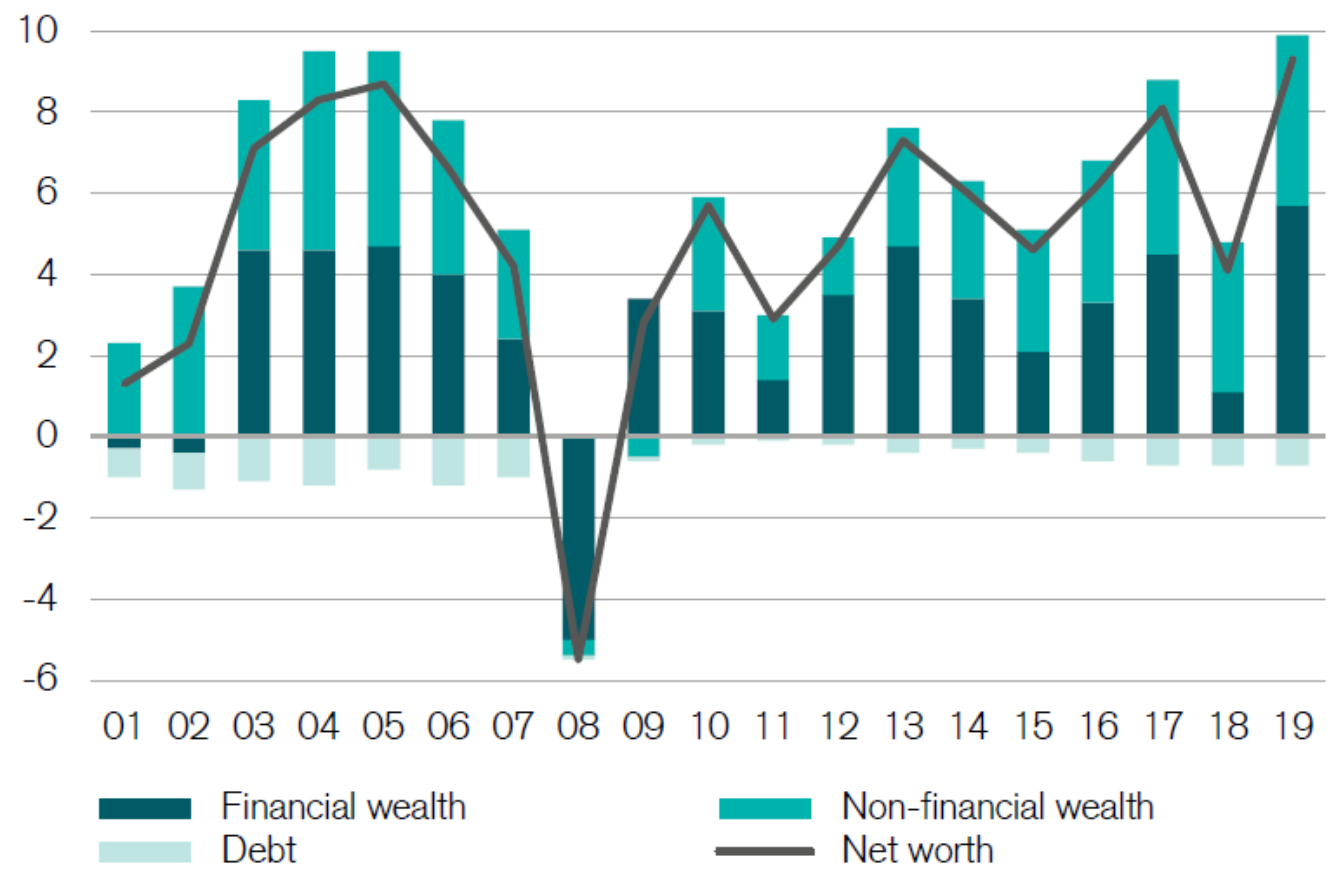
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Non financial assets: a pillar of stability in global wealth

Credit Suisse Global Wealth Report 2020

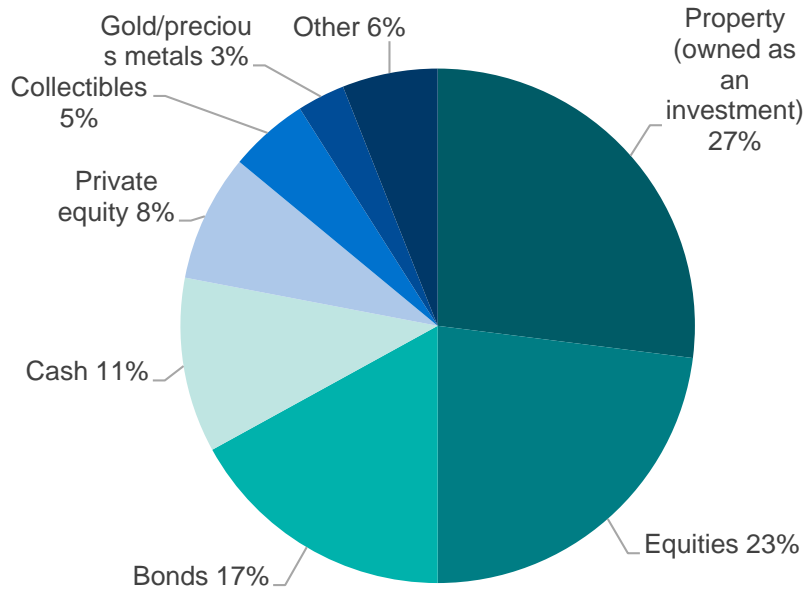
Annual contribution (%) to growth of wealth per adult by component, 2000–19, fixed exchange rates



Source: Credit Suisse Global Wealth Report 2020, Professor Anthony Shorrocks; Professor James Davies; Dr. Rodrigo Lluber

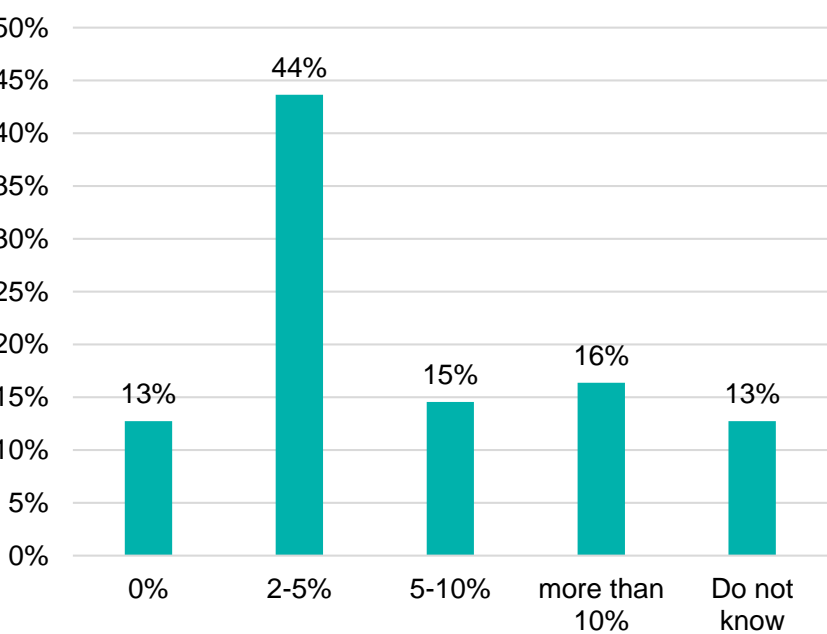
Private investors' link to collectibles

Average UHNWI asset allocation



Source: Knight Frank, The Attitudes Survey (2019)

Credit Suisse UHNWI survey on collectibles' percentage of total wealth

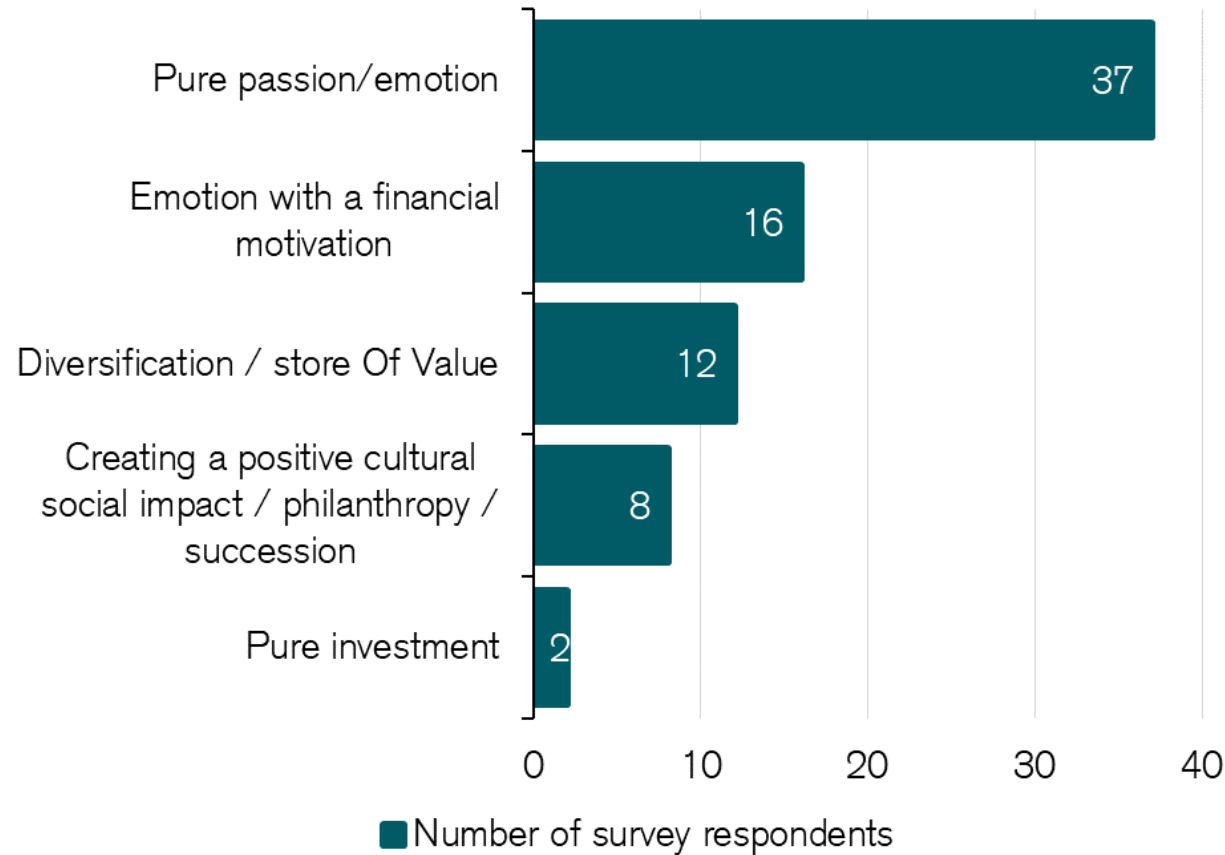


Source: Credit Suisse Research Institute

Collectors motivations and needs @ Credit Suisse

While pure passion & emotional reasons dominate the motivation to allocate wealth, valuation and maintenance remain a key primary concern

Key motivations to allocate wealth to collectibles



Source: Credit Suisse

Historical returns and volatilities

Selected collectibles categories

Historical returns and volatilities	Annualized returns	Annualized volatility (std. dev.)	Returns to volatility
Wine index (Liv-ex100)	5.70%	12.90%	43.90%
HAGI (R) Top Index	12.00%	10.10%	119.10%
Sotheby's Mei Moses Art Index	8.40%	16.90%	49.70%
Contemporary Art	9.40%	35.30%	26.50%
Impressionist & Modern Art	8.90%	33.80%	26.20%
Old Master & 19th Century Art	7.40%	19.10%	38.80%
British Paintings	9.10%	50.10%	18.20%
American Art	6.70%	37.00%	18.20%
Latin American Art	12.20%	39.10%	31.20%
Traditional Chinese Works of Art	6.50%	22.00%	29.60%
Art Market Research Jewelry and Watches Index			
Jewelry_Post War up to 1975	4.80%	2.40%	196.70%
Jewelry_Art Deco and Pearls	5.00%	2.40%	211.80%
Watches_Wrist	5.50%	3.40%	160.00%
Watches_Pocket	1.50%	2.90%	51.10%
Art Market Research Luxury handbag index			
Luxury Handbags_Chanel	6.00%	3.50%	170.00%
Luxury Handbags_Hermes Birkin	5.70%	6.90%	82.10%
Selected traditionnal asset classes			
Global Equities (MSCI AC World)	7.70%	15.10%	51%
Global Bonds	5.60%	5.30%	107%
US Govt. Long-term Bonds	8.80%	10.80%	82%
US Corporate Bonds	7.90%	6.80%	116%
Developed Market Real Estate	6.30%	19.20%	33%
Commodities	4.80%	14.90%	32%
Gold	6.10%	18.60%	33%
Hedge Funds	7.00%	6.80%	104%

Note: all indices except Mei Moses indices (annual) are in monthly frequency. Samples differ by index according to availability.
Source: Credit Suisse

Fine Art – Mirror of human history

USD 2.9 billion

auction sales in H1 2020,
down more than **50%** vs
H1 2019

**Average price at
auction down** by
more than 40% but about
**40% new clients
through online**



Old Masters in general not a
growth field, a growing market
among Impressionists for lesser
known artists in Asia, volatile but
growing contemporary

USD 596.7 million

Global **online-only**
auction sales from Sotheby's,
Christie's and Phillips in
January to August 2020, up
from USD 168.2 million for
the whole of 2019

Abandoning of
**traditional sales
calendar** and
blurring of traditional
categories in auctions

**Women artists and
artists of color** remain
highly sought after, with a
corresponding increase in prices

Classic cars– Continuing to live the dream

USD 4–5 billion

Estimated value of the overall classic car market

The classic car market has been mostly

anticyclical

“Youngtimers” an emerging trend among new generation



The number of cars offered at the most important auctions has increased from 1,521 in the 1993–94 season to **over 5,000** in the seasons from 2014–15 to 2019–20.

Since the start of the COVID-19 pandemic, auction houses have accelerated their online sales and the result of the second six months (from 1 March until 31 August) has been a 42% drop in turnover compared to the same period in 2019, with a **69% sell-through rate**.

Rare-quality cars, when they come to the market, continue to show strong increases in value even in adverse market conditions

Wines– Beyond senses and tastes

44% market share for
Bordeaux,
16% Burgundy,
15.2% Italian,
8.6% Champagne,
5.8% California in
2020

USD 5 billion
estimated sales per year



Organic and biodynamic
wines are becoming
increasingly popular but
some risks with aging
(oxidative faults)

Bordeaux is still the benchmark for wine, the most
important region with and highly reliable for wine
investments. But **Burgundy** has outperformed in
terms of returns. **Champagne** is under-rated.

Piedmont: an
emerging region with
interesting prospects.

**German Riesling
and Pinot Noir** not
in demand but with
upside. Both produced
in small quantities.

Jewelry & Watches – Luxury treasures

Overall size of collectible jewelry market: USD 10 billion sales per year

Since March 2020, **26%** of new buyers were via online sales and **20%** of bidders were **under 40**

Collectors like the portability of jewels and that they hold their value without depreciating even if they are not the most liquid of assets



Quality and rarity will always endure: among the **best returns to volatility ratios** (2.0 for jewelry and 1.6 for wristwatches versus 1.0 for global bonds and 0.5 for global equities)

The collectible watch market sold through auctions has grown **tenfold** over the past two decades

The pre-owned **watch market** also has considerable growth prospects: **USD 5 billion** revenue per year and 5% annual growth

Luxury Bags– Fashion aristocrats

The luxury handbag market has evolved from an emerging to a mature market

With **GBP 26.4 million** (USD 34 million) of sales, the collectible handbag market is still relatively small compared to the other collectible categories, but growth has been rapid

Key focus: Hermes **so-Black Birkin, Osier Picnic Kelly, Chanel Métiers d'Art** bags, **Louis Vuitton Editioned Canvasses**



Hermes Birkins and Kelly, Chanel and Chanel Flaps offer average returns of around **6%**

Condition and authenticity are the most immediate risks that collectors need to

Christie's condition report grades

Grade	Condition
1	As new
2	In excellent to pristine condition
3	In excellent condition
4	In very good condition
5	In good condition
6	In fair condition

Source: Christie's

Music instruments – Key findings 2020

3,000

Number of string instruments globally that are worth **GBP 1 million** and over

Patronage plays a vital and often symbiotic role in the world of classical music



China and South Korea

have been particularly strong growth markets for fine violins alongside the more mature Japanese market

Scarcity is a key reason for ever-increasing value

12%-15%

Steady year-on-year average increase in value shown by a selection of **Stradivari, Guarneri del Gesù, Bergonzi and Guadagnini** violins

Summary

- Collectibles are assets in their own right and demand the same attention and management that other assets receive.
- Given both store of value as well as cyclical attributes of collectibles, they can help investors protect and grow their wealth.
- Collectibles markets and sales have been severely impacted by Covid like many other sectors. Sales and market liquidity are down significantly versus 2019.
- Online auctions have partially substituted to live auctions and grown significantly opening up new opportunities (expanding client base). For the lower-end categories this may become a permanent shift.
- As global wealth has remained steady throughout the covid crisis and is expected to increase again once the economy recovers, this should continue to support increases in the value of collectibles.

Risk warning (1/2)

Every investment involves risk, especially with regard to fluctuations in value and return. If an investment is denominated in a currency other than your base currency, changes in the rate of exchange may have an adverse effect on value, price or income.

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<https://investment.credit-suisse.com/gr/riskdisclosure/>

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Risk warning (2/2)

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Investors in real estate are exposed to liquidity, foreign currency and other risks, including cyclical risk, rental and local market risk as well as environmental risk, and changes to the legal situation.

Private Equity

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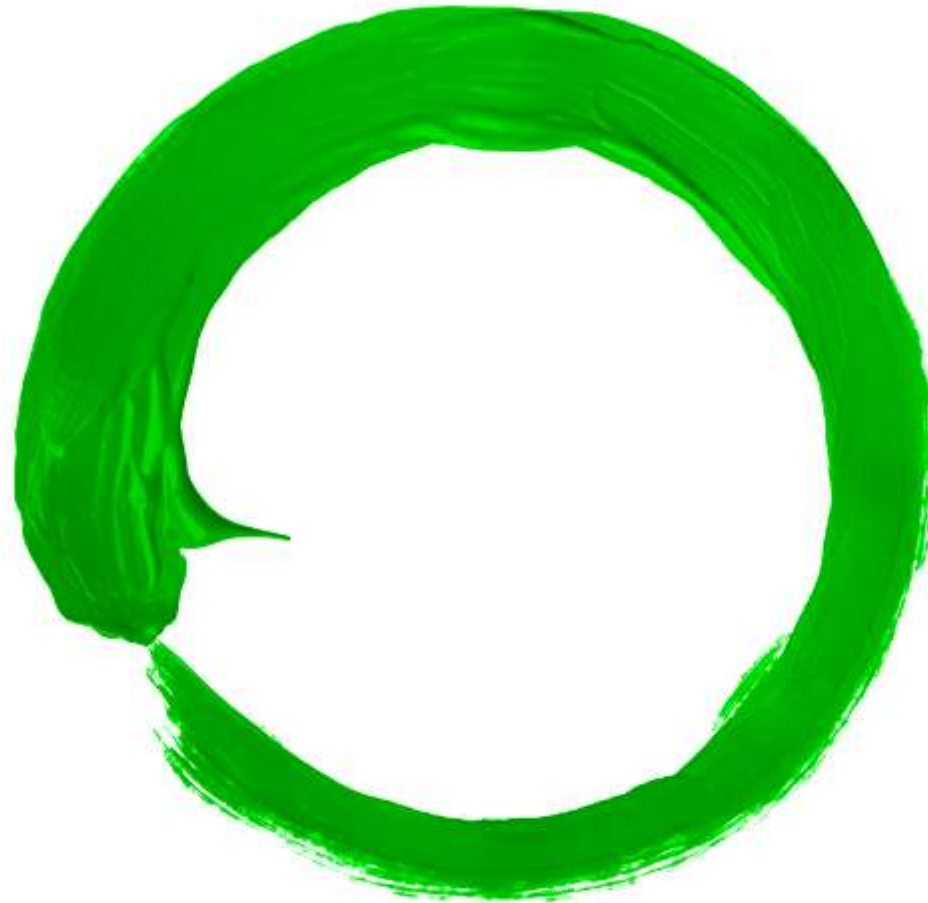
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Deloitte's Art & Finance Panels | 28 October 2020





The evaluation of artworks

Proposal for economic services

28 October 2020

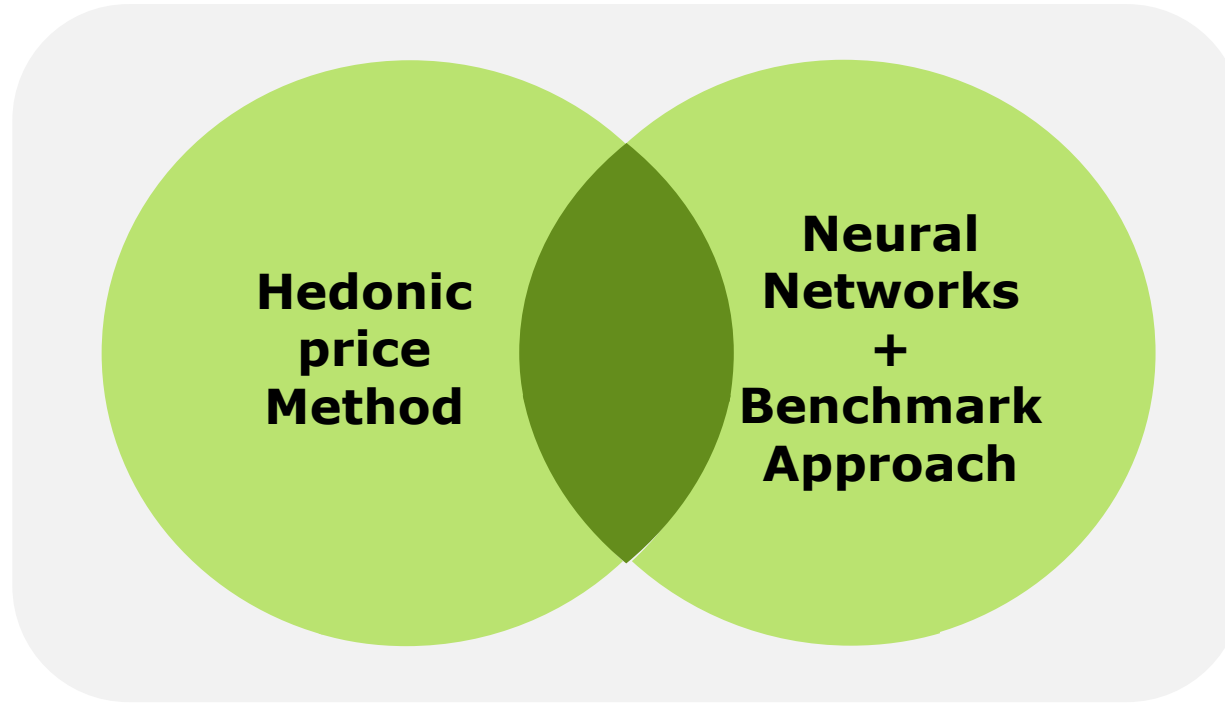
Our approach to valuation

Our integrated technology solves **problems related to the subjectivity and discretion of existing methodologies**, allowing to identify an **objective value to be recorded in the balance sheet**. The new approach is based on a **2-step methodology**:

①

Step 1 Hedonic Price Method

Valuation based on the magnitude of the significant characteristics



②

Step 2 Neural Networks + Benchmark approach

Pricing the artwork portfolio using **Neural Network and Benchmark Approach**⁽¹⁾ which objectively defines a reference portfolio for the market (**GOP**, Growth Optimal Portfolio).



Two-step approach

The **regressive method** of the first step provides a strong **interpretability and clarity of the results**, while the **pricing model based on the Benchmark Approach** provides an **objective, dynamic value that eliminates discretion** on the valuation.

⁽¹⁾ Source: Baldeaux, Grasselli, Platen (2015), *Pricing Currency Derivatives under the Benchmark Approach*, *Journal of Banking and Finance*.

Our approach to valuation

Hedonic price method– Step 1



The hedonic price method requires the **construction of a representative sample of the market being studied**, so that a **regression analysis of the artwork** of which certain characteristics are known can be performed.

For applying this method it is necessary to:

1

Collect data on transactions **comparable** with those to be evaluated

2

Estimate the regression coefficients, in order to quantify the **impact of each characteristic on price**



$$\ln p_i = \alpha_0 + \beta_1 ART_i + \beta_2 MED_i + \beta_3 SUP_i + \beta_4 \ln(HT_i) + \beta_5 \ln(WT_i)$$



**Sales price
logarithm**



Artist



Technique



Support



**Height
logarithm**



**Width
logarithm**

Source: Galbraith, Hodgson (2018), *Econometric Fine Art Valuation by Combining Hedonic and Repeat-Sales Information*, *Econometrics MDPI*; Belniak, Wieczorek (2017), *Property valuation using hedonic price method – procedure and its Application*, *Technical transactions*

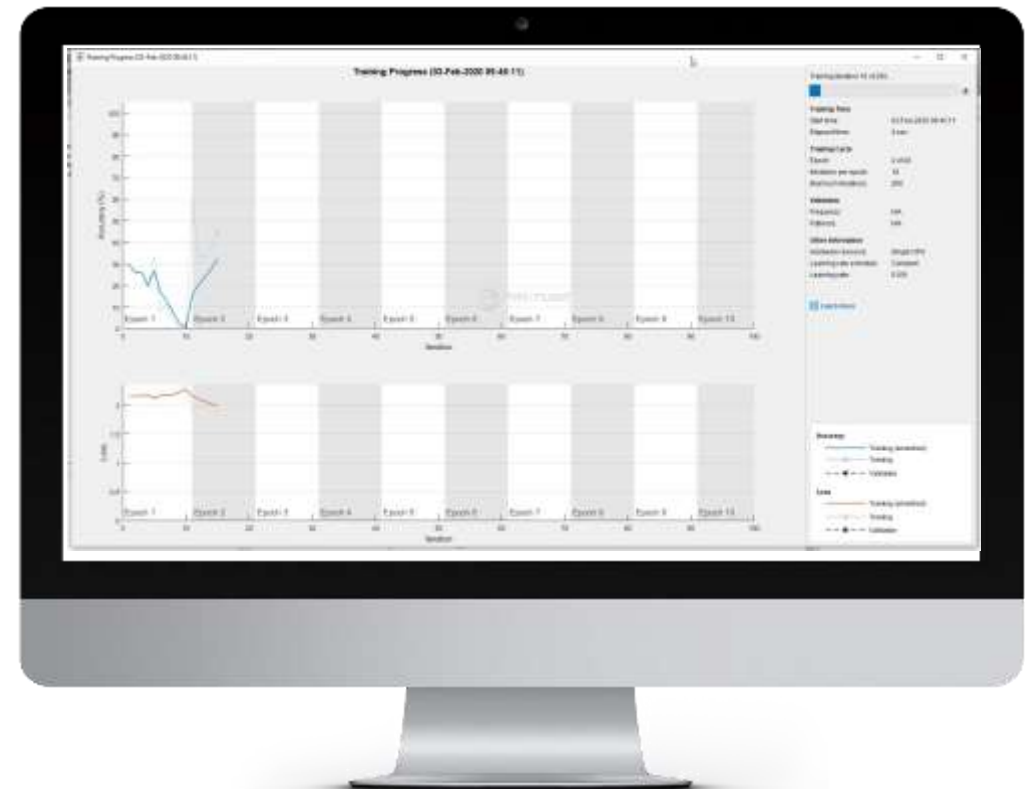
Benchmark Approach and Neural Network – Step 2

The 2 phases of the new model

1. Application of the **multivariate model** for the **definition of the price key drivers**. It collects data relating the sale of **assets comparable** with the one being valued. Only those regressors that do not cause multicollinearity problems have been included in the model (e.g. for artworks, **Artist, Technique, Support, Height, Width**).
2. **Artificial Intelligence + Benchmark Approach**: A neural network creates continuous time series of prices by inferring information from a database including millions of illiquid assets.

Through the series built by the neural network, a **benchmark** approach is used to build a reference index as a basis for pricing. This index is a proxy of the optimal portfolio (Growth-Optimal-Portfolio) which is not affected by the problem of parameters estimation.

Neural Network Training



Benchmark Approach and Neural Network – Step 2

New model solutions

1. Robustness and efficiency

- A **large amount of data** (millions of samples), allows the model to pass statistical reliability tests and the **multivariate approach** provides a clear interpretability of the result

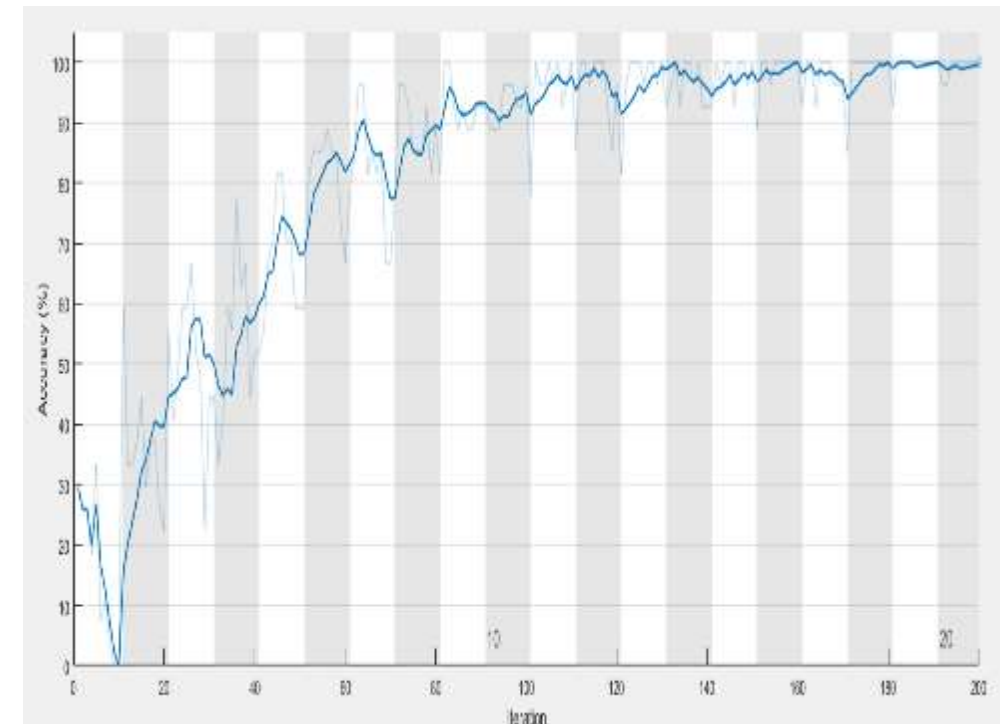
2. Objective and non-parametric:

- Neural Network algorithms overcome all the criticalities of estimation subjectivity and calibration stability of parameters.

3. *State-of-the-art in the international scientific panorama:*

- The use of a quantitative model for the estimation of GOP recognized by the international scientific community poses us "*state-of-the-art*" in the pricing of illiquid assets.

New model reliability



Reliability of the approach

Model error vs Auction House error estimation - on a portfolio including 100 artworks

The red line represents the percentage error of our model out of 500 random portfolios of 100 works:

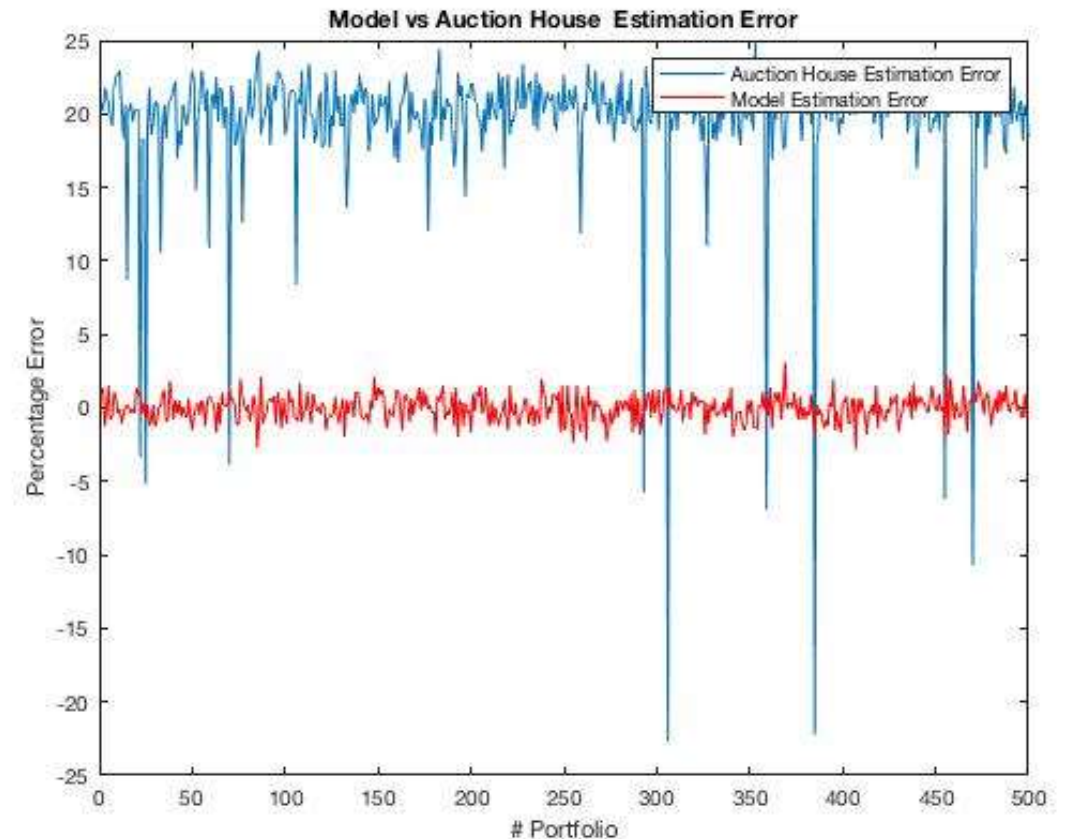
Average: 0.014%

Standard Deviation: 0.95%

The blue line represents the percentage error of the average points of the price estimates of the auction houses before the auction:

Average: 19.75%

Standard Deviation: 4.57%



Art & Collectibles

Which wealth management service offerings meet UHNWI's needs?

Adriano Picinati di Torcello

Director, Global Art & Finance Coordinator
Deloitte Luxembourg

Deloitte's Art & Finance Panels | 28 October 2020

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