Art as an Alternative Investment: An analysis investor decision within an uncertain market environment.

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THE ECONOMICS OF ART

Presented by Peter Baur
However, does ‘Fine Art’ have any real ‘Value’?

The ‘Value’ of ‘Fine Art’ is highly subjective:
- Auction Pricing (irregular, inconsistent).
- Inefficient market mainly due to inefficiency in Information.
- Inelastic supply function…. (museum factor).
- Lack of Liquidity.
- Unregulated
- Random effects
- Tastes and Preferences
 Investor choice?

• Preference remains controversial:
  • Cultural, e.g. Eastern vs. Western
  • Content
  • Context
  • Social Standing

“… There are underlying psychological processes that determines the preference of investors.”
Uncertainty and the Role of Information

• What if a market which has high levels of uncertainty could generate better returns?
• Especially true for a market with asymmetric information, and greater uncertainty
• Asymmetry of information could be created through institutional power. Thus capitalizing on uncertainty.
Value of Information, Price and Uncertainty

- Thus the 'Value of Information' has a positive relationship between uncertainty and the change in the artprice.
- The sensitivity to uncertainty would determine the slope of such a relationship.
Value of Information, Price and Uncertainty

- We refer to this as the price elasticity of uncertainty.
- Wont always follow the rules due to individual behavioural (decision-making) constraints.
Adding Value of Information
Bringing in the role of Institutions

[Diagram showing various points and lines representing economic concepts such as Private Information, Public Information, Risk/Returns/Volatility, CAPM Beta, Primary Market, Secondary Market, QA Primary Market, QA Art Secondary, and QA Quantity Art.]
Bringing in the role of Institutions

*What contributes to Cost of holding information:* Spending on the Global Art Trade (TEFAF, 2011)

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Fees</td>
<td>7.19%</td>
</tr>
<tr>
<td>Hospitality and Travel</td>
<td>9.49%</td>
</tr>
<tr>
<td>IT</td>
<td>8.80%</td>
</tr>
<tr>
<td>Packing and Shipping</td>
<td>8.20%</td>
</tr>
<tr>
<td>Insurance and Security</td>
<td>9.56%</td>
</tr>
<tr>
<td>Restoration and Conservation</td>
<td>9.65%</td>
</tr>
<tr>
<td>Art Fairs</td>
<td>15.29%</td>
</tr>
<tr>
<td>Advertising and Marketing</td>
<td>31.82%</td>
</tr>
</tbody>
</table>

The public sector seeks out new information, causing the cost of holding private information to increase.
So: If the cost of holding private information goes up, the quantity of private information held goes down.
Institutions may affect choice of investors by holding or releasing private information into the public sector.
Portfolio Shift S&P 500 and Artpiece Index

Very Slight Negative Relationship, R 0.083

Statistically Significant Movement from F1 to G1
Applying Tobin’s Model of Asset pricing

Investment in Art

Investors Utility Curve

QST1
QST2

QA1
QA2

RA2
RA1

QA Primary Market

QA Secondary Market

SA

S

DA1
DA2

DA1*
DA2*

QA1 QA1*
QA Secondary Market

QA Secondary Market

Expected Returns to Investment

Tobin’s Model

Uncertainty

Uncertainty

P1
P2

R1
R2

QA1 QA1*
QA Primary Market

QA Secondary Market

P2

QA1 QA1*
QA Secondary Market

QA Primary Market

QA Secondary Market
Does this theory hold?
Making use of the Artprice Index.

[Graph showing structural break]
Relationship between S&P 500 and the Artprice Index.

Adjusted R squared down to 0.36 but still significant.
The relationship between S&P 500, Art Price and Gold Price

<table>
<thead>
<tr>
<th></th>
<th>Artprice</th>
<th>Gold price index</th>
<th>S&amp;P 500</th>
<th>Commodity index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artprice</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold price index</td>
<td>0.863996</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>0.511522</td>
<td>0.544947</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Commodity index</td>
<td>0.912081</td>
<td>0.953513</td>
<td>0.60737</td>
<td>1</td>
</tr>
</tbody>
</table>

Art and Gold Adjusted R 0.738 without structural break.
Risk: Calculating a Beta Value for S&P 500 and Art prices Using the Capital Asset Pricing Model (CAPM)

\[
\beta_p = \frac{\text{Cov}(R_p, R_m)}{\text{Var}(R_m)} = \frac{\text{Cov} \left( \left( \sum_{i=1}^{n} w_i R_p \right), R_m \right)}{\text{Var}(R_m)}
\]

\[
= \frac{\sum_{i=1}^{n} w_i \text{Cov}(R_i, R_m)}{\text{Var}(R_m)} = \sum_{i=1}^{n} w_i \beta_i^2
\]
Risk: Calculating a Beta Value for Art.
S&P 500 and Art Price Index

Beta
Art Index and S&P 500
Lower Volatility < 1 < Higher Volatility
S&P 500 and Art Price Index

Art Market Reports: “2012/2013 “art market is corrupt”
Art Market Reports: “2014 art market Boom”

Art Market Reports: “2013 Best Year on Record”
Art Market Reports: “Market will experience Difficulty recovering in 2012”

Pre-Financial Crisis
Start of Financial Crisis
Heart of Financial Crisis
Market Recovery from Financial Crisis
Risk: Calculating a Beta Value for Art.
S&P 500 and Art Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Beta Average</th>
<th>% Time $\beta$ considered greater than 1</th>
<th>Post Financial Crisis % Time $\beta$ considered greater than 1</th>
<th>% time $\beta$ is negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Art Price</td>
<td>0.16</td>
<td>33.33%</td>
<td>46.15%</td>
<td>34.85%</td>
</tr>
<tr>
<td>Gold</td>
<td>0.12</td>
<td>30.3%</td>
<td>46.15%</td>
<td>18.18%</td>
</tr>
<tr>
<td>Modern Art</td>
<td>0.15</td>
<td>7.58%</td>
<td>11.53%</td>
<td>40.9%</td>
</tr>
<tr>
<td>Masters</td>
<td>0.04</td>
<td>22.7%</td>
<td>26.9%</td>
<td>42.42%</td>
</tr>
<tr>
<td>Contemporary</td>
<td>0.27</td>
<td>18.18%</td>
<td>15.34%</td>
<td>51.52%</td>
</tr>
<tr>
<td>19 Century</td>
<td>0.18</td>
<td>13.64%</td>
<td>15.38%</td>
<td>53.03%</td>
</tr>
</tbody>
</table>

A negative Beta ($\beta$) is most likely because of the very low liquidity of Art. Liquidity of Gold is a lot more reliable but literature supports gold with negative Beta values.
Positive (small) relationship. Because of the large variance, it's not statistically significant due to individual decision-making factors. Beta can slope up or down which is dependant on other factors, e.g. tastes and preferences, psychology, motivation, income…. Etc.
Conclusions:

• A very weak relationship between investment into the financial markets and investment into the market for 'Fine Art'.
• A strong positive correlation that exists between the 'Fine Art' market and the commodity market, especially gold.
• While an investor investing into the markets may be profit driven, ‘Fine Art’ can be seen as a ‘store of value’. (Holding value during periods of uncertainty, especially during periods of financial uncertainty.
• The intrinsic psychological, social, cognitive and cultural trends of these investors are a lot more important in the long term than the profit motive that they may derive from such an investment.
• “While it may be said that an artist creates for the sake of creation, an investor who chooses to invest into art will invest in art for the sake of admiring, holding or owning such creations”.
Thank You