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The Predicts of Art Returns over the Short Run

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Abstract: This paper hypothesizes the existence of a slow-moving fad component in art prices. Using unique panel survey data on art market participants' confidence levels in the outlook for a set of artists, we find that sentiment indeed predicts short-term returns.

Keywords: art; return predictability; sentiment; fads.

1 Introduction

The art market shows remarkable boom-bust patterns. Returns to art investments are positively correlated in the short run [1], but may reverse in the longer run. Fig. 1 illustrates the mean reversion in art prices around the 1990 art market peak, using data from Renneboog and Spaenjers [2]. It plots, for 13 art movements, the annualized real USD return between 1985 and 1990 against the horizontal axis. The corresponding returns between 1990 and 1995 are plotted against the vertical axis. A linear regression of the annualized returns between 1990 and 1995 on the returns between 1985 and 1990 results in a highly significant slope coefficient of -0.54 and an R-squared of 0.89. The behavior of art prices is not well understood. We will argue that changes in art values cannot be fully accounted for by changes in fundamentals. Using unique new data, we will then examine whether variation in sentiment can help explaining art returns.

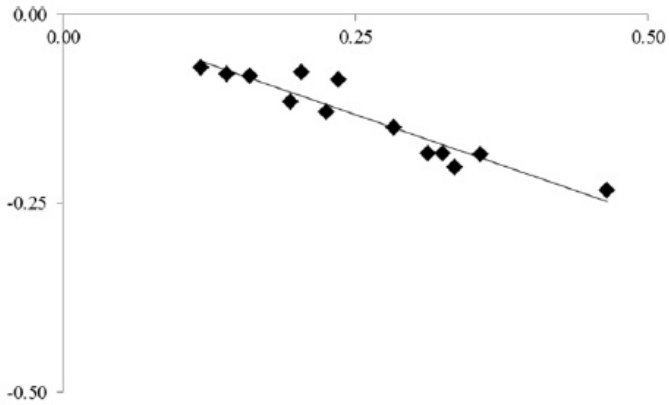

Figure 1: Mean reversion in prices

2 Fundamentals and fads

The fundamental value of a piece of art can be thought of as the sum of all discounted future "ownership dividends" (i.e., future flows of consumption services). In a representative-collector setting, this would imply that the correct price of

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artwork i at time $t = 0$ can be expressed as follows:

$$P_{i,0}^{Fund} = \sum_{t=1}^{\infty} \frac{E(D_{i,t})}{(1+r)^t} \tag{1}$$

The value of the future ownership dividends can be assumed to depend on the evolution of wealth reflecting the discretionary nature of luxury consumption and on tastes. As tastes are slow moving[3], changes in (expected) financial wealth may be the prime determinant of changes in the fundamental value of art over the short run [2][4]. However, residuals from the regressions of art returns on economic fundamentals typically show the same bubble-like patterns as those reported for prices. Moreover, it is hard to see how wealth effects can explain the remarkable heterogeneity in returns across artists at any point in time. The observation of booms and busts is consistent with the existence of fads. Camerer[5] defines fads as "mean-reverting deviations from intrinsic value caused by social or psychological forces". Market psychology is likely to affect beliefs about intrinsic value in the market for hard-to-value, impossible-to-short, and much-talked-about "emotional" assets such as art. Following Camerer [5], we can formally incorporate a fad term F , capturing beliefs about the consumption services that will flow from the ownership of a piece of art, by adapting Eq. (1) as follows:

$$P_{i,0}^{Fad} = F_{i,0} \times \sum_{t=1}^{\infty} \frac{E(D_{i,t})}{(1+r)^t} \tag{2}$$

with F having a mean of one and changing over time as follows:

$$F_{i,t+1} = C_{t+1} \times F_{i,t} + \varepsilon_{i,t+1} \tag{3}$$

where C is a parameter that determines whether the fad is growing $C > 1$or decaying $C < 1$, and is a zero-mean and independent error term. According to Eq. (2), faddish beliefs should be positively related to price levels. Furthermore, if we assume that the fad is indeed mean-reverting (and not a rational growing bubble, for example), the magnitude of the fad component should be negatively related to longer-term returns.

It is of course impossible to directly observe the expected dividends from art ownership and therefore whether a fad component exists for any individual artwork or artist. Yet, a growing fad component $C > 1$ should translate in a subjective expectation of observing price rises in the near future. We will call such expectations of higher prices "high sentiment" from now on. We expect high sentiment to be accompanied (and immediately followed) by positive returns. An extended period of high sentiment signals that a fad has been growing for a long time and should be related to relatively low returns over the long run. By contrast, a decaying fad component $C < 1$ implies subjective expectations of price depreciation, i.e., "low sentiment". We expect low sentiment to be accompanied by decreases in prices in the short run. Extended periods of low sentiment should predict relatively high financial returns over the long run.

Renneboog and Spaenjers [6] construct a market-wide proxy for sentiment and find a relation between sentiment and next-year returns. However, their measure can only exploit time-series variation in beliefs. By contrast, in this paper, we use a unique panel data set containing information on sentiment at the level of the individual artist.

3 Data

ArtTactic, a London-based art market research firm, has surveyed a pool of art market players-collectors, auction houses, dealers, etc.-on their short-term confidence in a set of artists on a semi-annual basis since November 2005. The question asked by the firm is the following one: "How do you feel about the artist's market in the next 6 months?" Possible answers are "positive", "neutral", and "negative". We have data on the variation in the art market community's confidence in 70 American and European post-war and contemporary artists. ArtTactic started with a list of 24 contemporary artists (e.g., Damien Hirst, Richard Prince) in 2005; 16 other artists were added later. The company has also surveyed art market professionals' confidence in 30 "blue chip" postwar artists (e.g., Andy Warhol, Francis Bacon) since early 2008. The latest data used in this paper stem from November 2012.

For each artist i and each period t, we compute a sentiment measure by subtracting the percentage of "negative" answers from the percentage of "positive" responses:

$$sentiment_{i,t} = (\%Positive - \%Negative)_{i,t}. \tag{4}$$

We find substantial cross-sectional variation in our sentiment measure. A linear regression of sentiment on semester dummies results in an R-squared of not more than 0.17. By contrast, sentiment is persistent: a regression of our sentiment variable on artist fixed effects yields an R-squared of 0.52, and the autocorrelation coefficient equals 0.77.

Fig. 2 shows the evolution of the average level of sentiment per half-year since the second half of 2005. The most striking aspect of Fig. 2 is probably the sharp drop in sentiment over the second half of 2008. The survey of November 2008 was the only one for which the proportion of negative outlooks exceeded the proportion of positive outlooks on average

We merge our sentiment data with semi-annual artist-specific price indexes for the period 2004-2012 from Tutela Capital, a provider of art market information. We drop all artists with less than 20 sales during the first half of 2004 from the sample, because estimates of price indexes are typically noisy when based on few data. This exclusion restriction leaves us with 21 artists not a large sample, but still an improvement over data sets that only include time-series information.

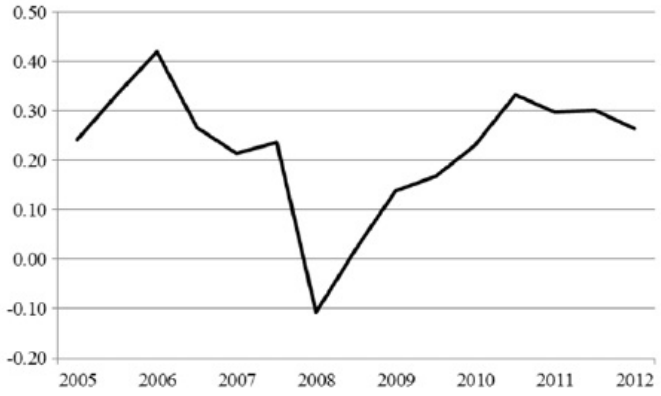

Figure 2: Average sentiment

4 Results and Conclusions

We examine the predictive power of sentiment for short-term returns. In the figure 3, Price indexes are provided by Tutela Capital. Sentiment is measured using ArtTactic survey data on the short-term confidence in the market for each artist. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively. we regress the log price change for artist i between semester $t-1$ and semester t on the sentiment level for artist i near the end of semester $t-1$. In the second column, we control for the returns on the $S\&P$ 500 over the six-month periods leading up to the ends of periods $t-2$, $t-1$ and t, as changes in financial wealth may affect the fundamental values of artworks. In the third column, we add period fixed effects, to absorb changes in economic fundamentals over time, which should affect all artists similarly. In other words, we examine whether, cross-sectionally, higher-than-average sentiment is related to higher-than-average returns. In each case, we cluster standard errors both by artist and by time period.

The regression results in the first three columns of Table 1 show that higher sentiment levels are indeed correlated with faster price appreciations. This result holds when controlling for the returns on equities and when including period fixed effects in our model. Moreover, the results are also economically significant. For example, the coefficient of 0.11 found in the second and third regression models implies that an increase in the level of sentiment of 0.29 (the standard deviation of our sentiment variable across the full set of artists and time periods) is associated with an increase in the half-yearly log return of more than 3 percentage points. To mitigate concerns that our results are driven by reverse causality-for example, price trends starting in semester $t-1$ could affect sentiment near the end of $t-1$ -we also repeat our regression models using sentiment in period $t-2$. The results are reported in the next three columns of Table 1 and are very similar to those reported before.

Using unique survey data on the art community's confidence in the outlook for a set of artists, we find substantial evidence that high sentiment positively predicts art returns over the short run, in line with our expectations. Unfortunately, our panel data set currently does not allow a robust analysis of whether extended periods of high sentiment predict low long-term returns. Also a study of the factors that drive fads in the art market is left for future research.

Acknowledgments

I would like to express my gratitude to all those who helped me during the writing of this papers.

	Δ Log price index					
	(1)	(2)	(3)	(4)	(5)	(6)
Sentiment-1	0.15**	0.11**	0.11***			
	(0.06)	(0.04)	(0.03)			
Sentiment-2				0.10**	0.12***	0.12***
				(0.05)	(0.03)	(0.04)
(Δ log equities)		0.37***			0.42***	
		(0.02)			(0.06)	
(Δ log equities)-1		0.24**			0.32***	
		(0.12)			(0.12)	
(Δ log equities)-2		0.12			0.14*	
		(0.07)			(0.08)	
Period fixed effects?	No	No	Yes	No	No	Yes
N	211	211	211	190	190	190
R^2	0.04	0.12	0.18	0.02	0.11	0.16

Figure 3: Results of regressions

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