

# A new empirical measure of contemporaneous and modern artists' talent and fame

F. Angelini<sup>1</sup> M. Castellani<sup>1,2</sup>

<sup>1</sup>Department of Statistics, University of Bologna

<sup>1</sup>Associazione Italiana di Scienze Regionali

<sup>2</sup>The Rimini Centre for Economic Analysis

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A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

# Some stylized facts about art market in the world

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Top 10 Lots by Living Artists, 2012-16 (from Kinsella (2016))

Rank	Artist	Sale date	Auction house	Price (USD)
1	Jeff Koons	November 2013	Christie's NY	58,405,000
2	Gerhard Richter	February 2015	Sotheby's London	46,352,959
3	Cui Ruzhuo	April 2016	Poly Auction (Hong Kong)	39,564,634
4	Gerhard Richter	May 2013	Sotheby's NY	37,125,000
5	Jasper Johns	November 2014	Sotheby's NY	36,005,000
6	Gerhard Richter	October 2012	Sotheby's London	34,273,027
7	Jeff Koons	May 2014	Christie's NY	33,765,000
8	Jeff Koons	November 2012	Christie's NY	33,682,500
9	Gerhard Richter	February 2014	Christie's London	32,563,228
10	Gerhard Richter	November 2014	Christie's NY	31,525,000

### Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

### Measuring artists' talent and fame

Methodology

Data

Results

### Conclusions

# Some stylized facts about art market in the world

- ▶ Pablo Picasso's "Les Femmes d'Alger" was sold at auction for 179.4 millions of dollars;
- ▶ "Nu Couch" by Amedeo Modigliani that reached 170.4 millions of dollars at a Christie's auction;
- ▶ Willem de Kooning's "Interchange" sold for more than 300 millions of dollars;
- ▶ "Nafea Faa Ipoipo" made by Paul Gauguin sold for a similar price;
- ▶ "Number 17A" by Jackson Pollock sold for around 200 millions of dollars.

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

# Some stylized facts about art market in Italy

- ▶ In Italy, in 2018, a piece from the 1963-64 “Concetto Spaziale” series by Lucio Fontana quoted 900,000 Euro at Sotheby’s, while two years before one of the artworks from the “Concetto spaziale. Attese” series reached 1.323 millions of Euro;
- ▶ In 2017, “La recherche de l’absolu” by Renè Magritte sold for 898,000 Euro at an auction held by Farsetti Arte in Prato;
- ▶ In 2012, another Lucio Fontana’s artwork from the same series sold for 3.181 millions of Euro in the Italian private art market by Gagosian Gallery.

A new empirical  
measure of  
contemporaneous  
and modern  
artists’ talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists’ talent and fame

Methodology

Data

Results

## Conclusions

# Some questions that may arise

- ▶ How can an artist be truly evaluated?
- ▶ Can we measure the artists' characteristics that drive the prices, fame and talent (Angelini & Castellani 2018), through an index?
- ▶ What is the distribution of this index?
- ▶ Is it sensitive to changes of variables such as time, art genre, price level, or market size and place?
- ▶ Is there any dynamics of the coefficients with respect to these variables? Is it possible to identify common patterns or behaviours in these potential dynamics?

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

## Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

# Empirical methodology

- ▶ In this work, we use a hedonic regression on the price of the artworks in order to extract a measure for artists' fame and talent.
- ▶ The hedonic regression removes all the effects on the price of the characteristics of the artwork, of the seller, etc., leaving a “grey painting” with only the effect of the signature of the artist, together with whichever effect that can be linked to his way to paint.
- ▶ The characteristics we consider concern the type and the technique used in the artwork, the year of selling, the seller's characteristics (as part of private or public market), the seller's share of the market overtime and year-by-year.

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

# Empirical methodology

- ▶ Adding a fixed effect for each artist allows us to extract this effect, and to have a measure of his importance and his value in the market.
- ▶ The hedonic regression model used is the following:

$$\ln(P_i) = k + \gamma X_i' + \beta_j A_j + \tau_t l_{t,i} + \epsilon_i \quad (1)$$

- ▶ We also use quantile regression, with an hedonic regression approach, so that we can see if the measure we compute behaves differently depending on the level of price. The model is the following:

$$Q_{\ln(P)}(q|A, t, X) = k_q + \gamma_q X_i' + \beta_{qj} A_j + \tau_{q,t} l_{t,i} + \epsilon_{iq} \quad (2)$$

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

- ▶ We use a unique dataset, collected from the Artist Re-sale Rights (ARR) archives of the Società Italiana degli Autori ed Editori (SIAE). The dataset is made up of 25,197 artworks, made by 230 artists.
- ▶ Artist Re-Sale Rights (or “*diritto di seguito*”) consist in royalties collected and distributed to the artist or his descendants when one of his artworks is resold in the secondary market, by auction houses or galleries or any other professional.
- ▶ In Italy, the “*diritto di seguito*” is distributed to an artist in case one of his artwork is resold for at least 3,000 Euro.

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions



- ▶ The available information from these archives covers all the sales involving professional intermediaries that occurred in Italy in the period from the beginning of the application of the ARR laws in Italy (February 2006).
- ▶ The actual dataset we use covers the period from the beginning of 2007 to the end of 2012.
- ▶ Information about the sellers has been integrated using the AIDA database by Bureau van Dijk.

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

**Data**

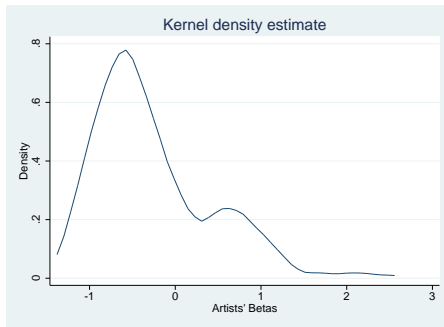
Results

## Conclusions

# Results

We present here the kernel distributions of the artists' indices from some of the model specifications.

**Figura:** Distribution of artists' coefficients from OLS model with all data



A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

**Results**

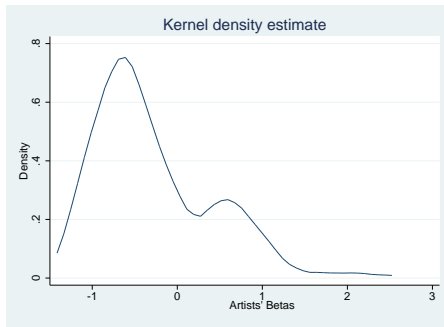
## Conclusions

# Results

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

**Figura:** Distribution of artists' coefficients from OLS model on all data, with technique-specific covariates



## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

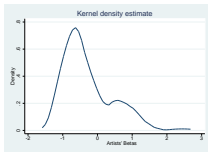
Data

**Results**

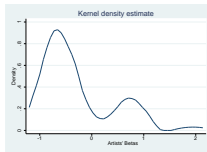
## Conclusions

# Results

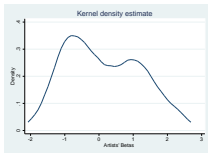
**Figura:** Distribution of artists' coefficients from OLS regression model for each art genre



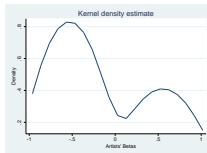
(a) Paintings



(b) Drawings



(c) Sculptures



(d) Graphics

A new empirical measure of contemporaneous and modern artists' talent and fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts about art market in the world

Some stylized facts about art market in Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

# Results

## Figura: Distributions from other studies

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

### Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

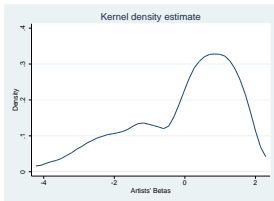
### Measuring artists' talent and fame

Methodology

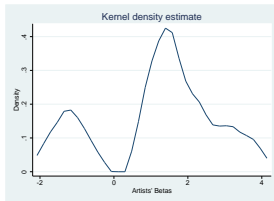
Data

Results

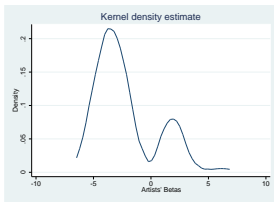
### Conclusions



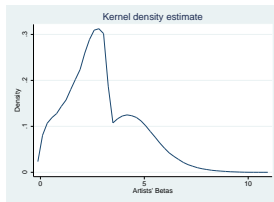
(a) Chanel et al. (1996) data



(b) Georges et al. (2013) data



(c) Pradier et al. (2016) data



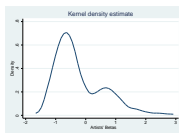
(d) ArtFacts.com data

# Results

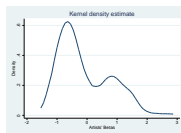
A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

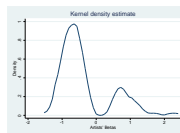
**Figura:** Distribution of artists' coefficients from OLS regression  
model for each year



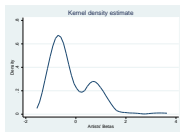
(a) Year 1



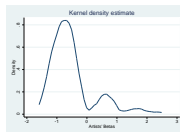
(b) Year 2



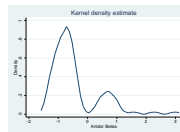
(c) Year 3



(d) Year 4



(e) Year 5



(f) Year 6

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

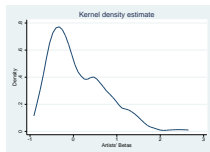
Data

Results

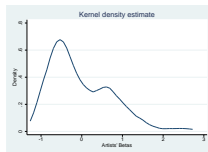
## Conclusions

# Results

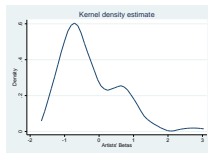
**Figura:** Distribution of artists' coefficients from quantile regression model for  $q = 0.33, 0.5, 0.67$



(a)  $q = 0.33$



(b)  $q = 0.50$



(c)  $q = 0.67$

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

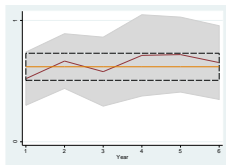
Data

Results

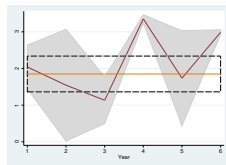
## Conclusions

# Results

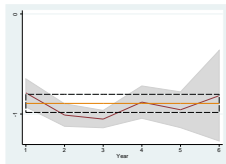
Figura: Year-by-year regressions and benchmark model coefficients



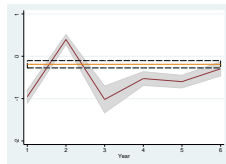
(a) Emilio Vedova



(b) Anish Kapoor



(c) Franco Rognoni



(d) Renato Mambor

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions



# Results

Artist	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Manzoni Piero	1	1	1	1	1	2	1	5
Kapoor Anish	2	2	2	3	6	1	3	1
Quinn Marc	3	3	5	2	4	4	2	-
Tancredi	4	5	3	9	5	16	-	4
Mathieu Georges	5	4	6	15	2	8	14	15
Morandi Giorgio	6	15	12	4	-	19	4	8
Iras	7	6	-	20	10	-	5	3
Tayou Jean Appolinaire	8	9	4	6	11	23	10	17
Mitoraj Igor	9	7	7	13	19	11	8	11
Afro	10	8	9	8	18	14	7	13
Hartung Hans	11	11	15	16	3	10	16	9
Matta Roberto	12	13	10	21	24	7	-	-
Klein Yves	13	14	14	7	-	-	-	2
Vasarely Victor	14	10	8	12	8	21	-	-
Spalletti Ettore	15	12	24	5	13	-	17	7
Solakov Nedko	16	19	11	18	17	24	-	16
Vedova Emilio	17	22	22	22	22	20	9	14
Balla Giacomo	18	20	13	-	-	6	-	18
Appel Karel	19	17	18	-	7	9	6	-
Music Antonio Zoran	20	21	-	19	-	17	13	10
Pomodoro Arnaldo	21	24	17	-	-	18	12	-
Merz Mario	22	18	-	17	9	5	-	-
Lam Wifredo	23	-	19	-	14	-	-	-
Paladino Domenico	24	23	23	24	-	-	-	21
Tozzi Mario	25	16	-	-	12	-	11	22

Notes: Column 1 contains the ranking generated by the benchmark model, Column 2 the ranking generated from the quantile regression on the median, Column 3 to 8 the rankings generated by the year-by-year OLS regression.

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

# Results

- ▶ The index for the artists sold in Italy from 2007 to 2012 has a strong bimodal distribution, with a higher probability for low levels of the index, and a lower probability for high levels of the index.
- ▶ This result is robust to various specifications of the model, that is, the bimodality is robust considering an art genre effect, a year effect, a price effect, and combinations of them.
- ▶ For what concerns the year effect, we found a cycle in the art market, lasting two years, with a positive peak in all the even years in the data (2008, 2010, 2012).
- ▶ Bimodality is in line with the superstar theory by Rosen (1981).

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

# Results

- ▶ The ranking of the artist based on the benchmark model is only partly stable, and there exist a year effect and a price effect that change it.
- ▶ If we observe the overtime dynamics of the index, in fact, we find that its instability implies that the use of time dummies is not enough to overcome the year-by-year variation in the coefficients, since this is likely due to an artist-specific variation.
- ▶ Similarly, the existence of price dynamics in the coefficients signals that the use of a ranking based on all the prices is not efficient in ranking the low-price artists.

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions

# Conclusions

- ▶ A new index for measuring artists' talent and fame is introduced and studied for what concerns its distribution, the ranking it presents, and its time dynamics.
- ▶ The index measured for the artists sold in the Italian art market presents a strong bimodality in the distribution, in several specifications of the model. A price effect and a year effect affect the ranking of the artists made following the new index.
- ▶ The characterization obtained in the bimodal distribution could help in determining who is a superstar artist and who is not, and hence who the rich artists are.
- ▶ The proposed measurement method also allows to study the dynamics of the superstar status, through the analysis of the ranking overtime.

A new empirical  
measure of  
contemporaneous  
and modern  
artists' talent and  
fame

F. Angelini,  
M. Castellani

## Introduction

Some stylized facts  
about art market in  
the world

Some stylized facts  
about art market in  
Italy

Research questions

## Measuring artists' talent and fame

Methodology

Data

Results

## Conclusions