The Art Basel Effect

A research on the relation between young artists and art fairs

Source: http://www.agora-gallery.com/artistpage/aelita_andre.aspx

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Acknowledgements

I am grateful to all those people who made this thesis possible.

First of all, a special thanks to my supervisor, Professor Marilena Vecco, for the academic and human support she gave through all stages of this research. The commitment and professionalism she has shown during this project was extraordinary. I also would like to express my gratitude to Dr. Di Benedetto for his professional suggestions in the choice of my methodology. Furthermore, I thanks Chritstian Handke, my second reader.

Besides the academic world, I am very grateful to my parents, who supported me in the choice of this master and helped me out in realizing this dream, and my girlfriend who plays an important role in my growth process. Finally, I would like to say thanks to all the amazing people I met this year and say “grazie” to all the other people who enriched my life with their friendship and presence.

Abstract

The art market is characterized by a "nobody knows" situation, where the price and quality of artworks are determined by both social and economic dynamics. Intermediaries and market infrastructures play an important role in linking demand and supply, which rarely meet in a situation of market equilibrium. Among these infrastructures, art fairs represent an interesting platform that may play a determinant role in the definition of an artwork's price, in the labyrinth network of galleries and in relation to the career of artists who have participated in them. This thesis aims to investigate the micro-relation between the artist and the fair through a quantitative analysis of the prices of art. A sample of 89 young artists extracted from the Art39 Basel catalogue has been analyzed and compared with a control group of 89 young artists who have never attended Art Basel in their artistic career. Their price indices have been calculated through a hedonic regression analysis, and their trends and results have been examined in seeking out an "Art Basel" effect that may explain the price changes and trends for the two samples.

Key Words: The art market, young artists, Art Basel, galleries, art prices.

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As a general rule the most successful man in life is the man who has the best information.

-Benjamin Disraeli-

Introduction

Even though the saying "there is no market like the art market" sounds like a repetitive cliché it is not far from the truth. A great number of peculiar elements characterize the artistic good; the unique mechanisms that seem to not follow the traditional market logics (Caves, 2000) and the use of uncommon platforms to trade the artistic good make this market an interesting question mark in the cultural economic field.

This thesis will be focused on a specific part of this market: art fairs. During the last few decades, this market platform has seen unprecedented development and many researchers in the field of cultural economics, such as Stefano Baia Curioni (2011, 2012 and 2014), Christian Morgner (2014) and Alan Quemin (2006, 2008 and 2013), are now turning their attention towards it. Just consider the fact that the first art fair was founded in Cologne in 1967, and the first academic publication regarding the topic was in 2006 by Eckstein, entitled "The art fair as an economic force". Many publications have followed over the years, and the academic world is now going well beyond the first findings, expanding on the topic through different scientific approaches and from different perspectives.

This thesis does not analyze the fair from a macro perspective, but rather considers the relationship between the commercial platform and the artist that participates in the fair through one or more galleries. This research adopts a micro approach on the individual artist and the influence that the fair's audience has on his or her career. The goal of this thesis is to quantify the effect that the art fair has on the career of the artist. The fair is a yearly event that takes place over a period of a few days, in a single location. The fair is supposed to assume the role of a marketing tool, increasing the price of artwork, and consequently, the reputation of the artist who created it. The economic effect of the fair can be compared to the "promotional boom" as described by Robert East (1997) for commercial goods. While in the neoclassical economy an increase in price of a good provokes a decrease in the demand for said good and vice versa, in the market for the arts an increase in price of an artistic good does not provoke any change in the level of demand and, on the contrary, it increases the artist's reputation with the irrational consequence of increasing the demand for the artist's work (Velthuis, 2003). Both the art fair and the market promotion strategy can be considered as marketing tools that are adopted for short periods at a recurrent time of year, both have the final

goal of increasing the demand for goods or artworks that are promoted in said marketing campaigns and both are expected to experience a general increase of the sales during and after the exhibition. If a positive effect on the sales is observed after the campaign, so called "carryover effect" (East, 1997), the promotion strategy has been successful; otherwise it can be considered useless or even detrimental in the event that sales decrease after the promotional campaign. The same economic effect can be observed and quantified for the case of fairs in the art market. Even though the artistic good is heterogeneous and subjected to many market anomalies that will be included and described in this analysis, the use of statistical and econometric tools that have already been tested by many cultural economists as hedonic regression, repeated sales regression, key witness and the P/E ratio will allow for the calculation of the economic impact that these events have on the career of the artists who took part to.

Van Hest (2012) has defined the art fair as "an obligatory *lieu de passage*" (p. 8) for artists who aim to be a part of the international artistic scene, but no academic publication or quantifiable evidence is present to support this theory. The hypothesis that this research aims to test is whether a statistical and quantifiable correlation between an artist's participation in a fair and his or her price history, which is socially constructed and acts as a career signaler (Bourdieu, 1996), is present or not. This hypothesis is supported by many sociological studies (Gould, 2002; Bourdieu, 1996) that emphasize the role that social recognition plays in markets where quality is difficult to observe and assess. According to Gould (2002), status hierarchies act as market signals through a social quality assessment made by individuals, such as peers and experts, as well as cultural institutions such as exhibitions and museums. In this thesis, the art fair is considered as one of the institutions that contribute to the artist's recognition and economic success.

Art Basel has been taken into consideration for this thesis because of its worldwide importance and the more easily quantifiable impact that it is supposed to have on the artist's career in respect to other minor fairs whose commercial impact on the singular artist cannot be easily isolated and quantified. The sample will be comprised of two separated groups of artists: the first is the treatment group that is comprised by all of the young artists that have attended Art Basel for the first time in their career. The second group, which is similar to the former in terms of average age, nationality and number of the artists, is comprised of artists that have never participated to Art Basel before. The sample will be limited to the category of "young" artists due to the low number of exhibitions and fairs attended previous to Art Basel that do not excessively influence and bias the research, impeding the isolation of Art Basel in respect to other fairs attended by the same artists. Analyzing such a little known group of artists at one of the most important fairs in the world should result in a more visible statistical outcome. The economic effect of Art Basel on young artists will

be called the "Art Basel effect," and will be quantified through the use of a hedonic regression. In this analysis, the hedonic regression will include not only the usual variables commonly used by scholars (ex: size, support, auction house, nationality of the artist, etc.), but will also consider the "gallery" variable, which has been included only once in cultural economic literature, by Rengers and Velthuis (2002). The approach used by Rengers and Velthuis will be developed through the use of a gallery's selection process as introduced by Moureau and Sagot-Duvauroux (2012), which will hopefully implement the previous model.
In conclusion, a multidisciplinary approach that consists in an econometric study of the prices and a sociological interpretation of said prices will be applied to answer the following research question:

What is the effect that Art Basel has on the prices of art by young artists who have attended it at least once, and what is its effect on their artistic career?

In conclusion, this thesis offers an interesting contribution to the scientific community that aims to study the recent topic of art fairs. Unlike most of the previous research carried out on this subject from a macroeconomic perspective, this research will adopt the micro approach mentioned beforehand that focuses on the relation between the individual artist and the commercial platform. In addition, this thesis takes into consideration the segment of young artists whose development in relation with Art Basel may be of interest to scholars that research the artists' labor market. The primary market is a constituent part of this thesis, and the price dynamics and effect on reputation derived from the hedonic regression might shed new light in the artists' transit from the primary to the secondary market. Therefore, the role that Art Basel plays in this research is not only economically relevant for the galleries that invest their money in it, but also for the artists that aim to enhance their social status among peers, buyers and experts (Bourdieu, 1996). The use of galleries in the hedonic regression as a dummy variable represents a factor of change in the traditional performance of the regression analysis that could interest scholars who study the art market through a quantitative approach.

Master thesis structure

The first chapter of this thesis consists of a literature review that introduces the main topics of research and how these topics have been studied and debated by researchers. In the second chapter, the methodology of research has been divided in two parts: the first part discusses and explains the choices made for the sample selection. The second part is more specific in describing the variables used for the regression analysis as well as how and why the hedonic regression will be performed. The third chapter discusses and interprets the results of the econometric analysis performed in chapter two.

I. Literature review

In this literature review, the four main topics of this thesis will be presented according to previous academic publications, books and other sources that have contributed to the development of each subject. A general overview about the art market, its main characteristics and latest trends contextualize the research and introduce more specific topics. Special regard will be paid to the primary market, which is of particular interest for this thesis. The second part of the literature review will focus on art fairs as well as their evolution over the past few decades; their main features will be listed. Art Basel will be particularly studied through the use of academic literature and different online sources that provide a wealth of information. The third part of this chapter describes the artist selection processes and how the career of artists has developed over the years. Lastly, the fourth part will introduce the hedonic regression analysis, its history and the most recent developments of this statistical technique.

1.1 The Art Market

The art market has widely been studied from different perspectives. Even though a huge amount of data is lacking and the infrequency of trading limits research in this field, several scholars have tried to define the most important characteristics of this peculiar market. First and foremost, it is not possible to discuss a single art market. The artistic good is an example of an extremely heterogeneous commodity, and a large majority of artworks are considered unique, which entails a low substitutability amongst them. This uniqueness depicts the art market as a broad set of different monopolistic or monopsonistic markets (Velthuis, 2011). The complexity of the market structure requires a segmentation process to efficiently split the different economic and cultural spheres and conduct an in-depth analysis of every segment. Sociologist Pierre Bourdieu (1996) proposed a fundamental taxonomy based on two types of hierarchy: the first concerns a large-scale production of commercial, traditional, bourgeois, "immediate, temporary success of best-sellers" products that are distanced from the second small-scale production of non-commercial, avant-garde and intellectual, "deferred, lasting success of classic" goods (Bourdieu, 1996, p. 82). The second hierarchy represents the segment of the market characterized by young and unrecognized artists with no reputation. These artists are not part of the "consecrated" and affirmed artistic field, and are not incorporated in the artistic canon. This thesis will focus on the second hierarchy.

The art market is also strongly characterized by a huge lack of information as regards prices, sales and artists. Most research is performed on data released by auction houses; this represents only a slice of the entire market and is not always representative of the general trend. Art auctions

generally work on the secondary market (the dealer market), where artwork is resold for the second, third or umpteenth time. Information about the primary market, where artwork is sold for the first time from the individual to galleries, exhibitions or directly to consumers, is poor and not sufficient to draw an accurate analysis of the whole scenario. A lack of transparency is also present in this market, amplified by the uncertain quality of the artistic product. The artistic good is indeed a "credence good", whose value is considered to be a "social construction" (Bourdieu, 1996). The blurred definition of quality and aesthetic uncertainty of the artistic good is reflected on the economic structure of the artistic sector. Strong informational asymmetries are present in the market and heavily influence transactions in both primary and secondary markets. William N. Goetzman (1995) argues that the strong illiquidity that characterizes this market may represent a cause or an effect of the mechanism that processes this asymmetric information through collectors, agents and dealers that comprise the market.

A wealth of literature is present about art as an investment. Through the use of the RSR model, Baumol (1986) found that paintings have a lower return compared to British government bonds, as well as a higher risk. This finding has been supported by Frey and Prommerehne (1989), and Goetzmann (1995), who showed that the art market has five to 10 times more of a price risk that the U.S housing market. This was developed by Mei and Moses (2002) who argued that for long-term investors, a diversified portfolio of artworks may be beneficial in dispersing risk. Even though several academic studies reject the idea of art as a profitable investment because of research results, high transaction costs, low market liquidity, uncertain quality of the good sold, information asymmetries and no market equilibrium (Atukeren and Seçkin, 2009), art may still be considered a consumption good (Eichenberger and Frey, 1995) as well as a useful tool for risk diversification in a long-term portfolio.

The entire cultural sector is facing an overwhelming amount of production of cultural goods; an oversupply of different and heterogeneous products is present on the market. This excess of artistic creation leads to selection problems and a supply-driven economy. Artistic products are not created to satisfy the market demand but for the mere "art for art's sake" logic of the creative sector (Caves, 2000). Mosetto and Vecco (2003) state that creativity and interpretation are two key elements that strongly affect the production of an artwork and the establishment of its. According to them, the creative process used to create an artwork affects the way in which the artwork is seen and interpreted by the social environment (peers, experts, buyers, etc.). Since the final price is strongly subject to the social interpretation given to the work of art, it can be said that the creative input used to create the artwork indirectly affects the final price. The competition of such qualitative and

heterogeneous good cannot be based on the price or the quality, but it is rather reflected on the capacity of dealers to interpret it and influence collectors (Velthuis, 2011).

It can be clearly deduced that these intrinsic and environmental conditions cannot lead to an economic equilibrium where the artistic supply meets its demand. This condition of disequilibrium is complicated by the behavioral anomalies of the actors present in the market (Eichenberger & Frey, 1995). Buyers of artistic goods can be public institutions such as museums, private corporations or single buyers. According to Eichenberger and Frey (1995), private collectors, who are not profit-oriented, are subjected to the endowment effect, an opportunity cost effect and sunk cost effect that cause systematic deviations of individual behavior due to irrational or "rationally limited" choices (Simon, 1955). Many stakeholders and economic infrastructures are needed in order to link the production and consumption of artistic goods in this chaotic scenario. In this respect, art fairs may represent a useful answer to overcome some of these limits and to better approach the for-profit economy through an artistic product.

1.1.1 The primary market

The primary market is the market where artworks are sold for the first time (Velthuis, 2011). In this market, a large majority of artists provide their works through the use of intermediaries such as galleries, experts or different types of dealers and gatekeepers. A small number of artists try to directly approach consumers through local exhibitions and direct selling strategies. Intermediaries seem to be indispensable for trading within this market for many reasons. First and foremost, one essential thing is the complete absence of a price history for the artworks, and especially for artists that are making their first appearance on the market. A predictive analysis and thus economic valuation of such works is more complicated and, to some extent, more speculative (Gérard-Varet, 1995). The huge lack of information about this market causes a high degree of uncertainty and a consequent limited number of buyers that are willing to take this risk. As a result, the primary market is characterized by scarce liquidity and high market volatility, which is reflected in the informational asymmetry of the market, and the indispensable use of intermediaries for the selection process (Beckert & Rössel, 2004).

Once galleries and dealers have selected their artists, they aim to make them known to the market in order to guarantee that the artists gain a good reputation amongst their peers and potential consumers. An artist's reputation denotes a high competence of galleries in picking valuable artists and it lowers the market uncertainty for consumers that do not want to risk buying low quality products. Hence, the artist's reputation is interrelated with gallery's reputation, as they reinforce

each other and lower the market risk (Schönfeld & Reinstaller, 2007). In conclusion, these intermediaries (dealers, galleries, experts, consultants, etc.) act as *alpha consumers* and link the supply and demand of artistic goods through a complicated and dynamic network of market players and infrastructures (such as art fairs), which are mostly based on social recognition and reputation.

It can be easily deduced that not all the artworks that show up in the primary market have been bought or traded, "there are more individuals willing or able to sell products of their artistic labor that individuals interested in acquiring these products" (Gérard-Varet, 1995, p. 511). An oversupply is present in the primary market and the main role of intermediaries is to select these products that are considered to be valuable. According to Gérard-Varet (1995), the fact of buying an artwork in the primary market is part of the process that formally defines an artist, and signals his or her presence and abilities to the secondary market.

Dean (1969) provided the basis of this theory with an economic approach to the burning issues of pricing pioneer products. Even though the focus of his research was not the art market, his ideas can be reinterpreted in a cultural economic context. Dean states that products that show up in the market for the first time pass through distinctive competitive stages during their life cycle, and their price changes for each of these stages. In this case, the primary market represents the first stage of an artwork's life cycle.

1.1.2 Current situation of the art market

Over the past decade, the art market has generally showed a growing and optimistic trend in the long run. It has more than doubled in size over the last 25 years and it has grown over 575% from its lowest point in 1991 to its highest in 2009[1]. The erratic trend, showed in "figure 1" reflects the sensitivity of the market to external shocks from the economic and political environment. For instance, the small contraction in 2001 is due to the events of 9/11 and their negative effect on the U.S market; likewise, the economic crisis in 2008 led to a price drop of around 25%. Nevertheless, the rise of new emerging markets, such as China, Brazil, Qatar, etc., the arrival of new collectors with high purchasing power and the positioning of specialized investment funds led to an outstanding growth of the global economy in the artistic sector, especially in the blue chips segment of the market. The art world has been transformed into a "complex, semi-industrial sector in which financial, political, economic, urban and social interests move at a pace that was even unthinkable

[1] TEFAF Art Market Report 2013.

only two decades ago" (Baia Curioni & Forti, 2013)[2]. According to Baia Curioni and Forti (2013), the most evident changes that have reshaped the art world as a whole are a general growth of the market's size and its related infrastructures, such as art fairs and biennales, the geographical shift of market demand toward emerging economies (BRIC), the increasing presence of new technologies that allowed a different and global approach in displaying, distributing, pricing and gathering information as regards the entire market and the transformation of art into a "financial asset class".

However, as already mentioned, the art market cannot be considered as a whole, but rather as many different markets that react differently to economic shocks. "Figure 1" shows how the three main segments of the art market react differently to external shocks. The general trend seems to be the same for the three groups, but their volatility is different; on one hand, the "old Masters" segment shows little sensitivity to the external economic dynamics as well as high stability, while on the other hand, the "post-war" (modern art) segment is extremely sensitive to economic shocks and shows an unstable trend. The segment for contemporary artwork is less sensitive than the post-war artistic genre but it does not offer the same stability and security as the Old Masters segment.

Since Art Basel is "the premier international art show of its kind for modern and contemporary works"[3] the focus of research is on the contemporary art segment, which is art "made by artists born after 1945" (Velthuis, 2011). The frequent fluctuations of this market segment may lead to statistic biases during the hedonic regression analysis of price. Thus, the timeframe of the research will be from 2005 to 2013, with a special focus on the year 2008 because of the relatively short duration of the market contraction in that period. The economic crisis in 2008 led to a price drop of around 48% in 2009, but a fast recovery in 2010 and 2011 followed the previous turbulent years and quickly made up for the economic downturn[4]. Through this process, artists experimented both positive and negative market cycles in a short-term period that, on average, did not change the market situation in the long term. This quick recovery was due to the fact that top buyers did not leave the market, and the supply-driven nature of the market was able to handle a drop in demand. In addition, the rise of several emerging economies shifted the geographical focus of the market - but not its value - and the unstable economic situation may have led to an increasing demand for alternative investments outside of the financial circuit.

The statistic sample is extracted from the list of young artists present at Art Basel in 2008, "Art 39 Basel", and a study of the price variation is analyzed until the year 2013. This timeframe has the aim of estimating the impact of participation in Art Basel for young artists, while removing possible

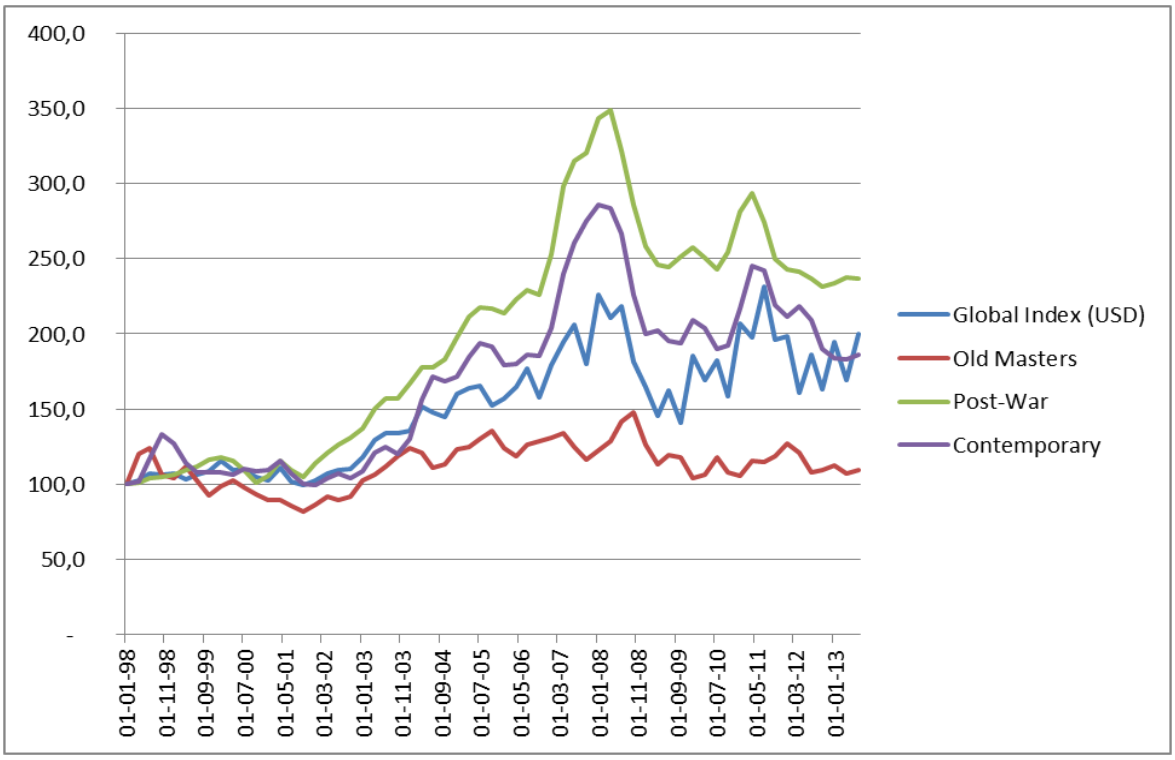
[2] Miniconference Globalization of Contemporary Art Markets in VOC Room, Bushuis, Kloveniersburgwal 48, October 3-5, 2013.

[3] Artdaily.com: http://artdaily.com/index.asp?int_sec=2&int_new=31352#.UsbX1fTuKDk

[4] Artprice.com

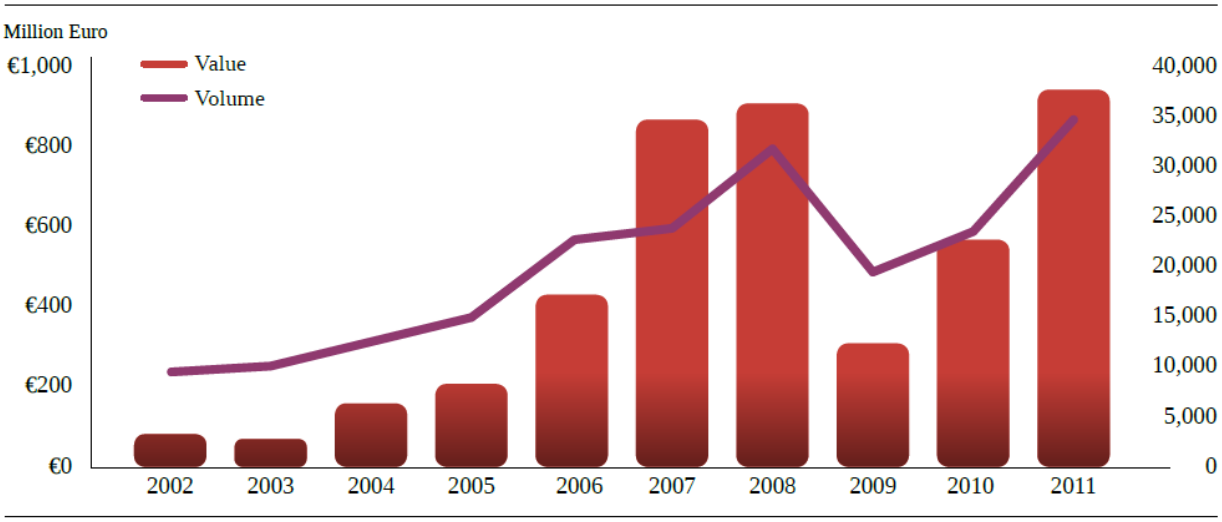
biases due to temporary market shocks, exceptionally good or bad years, buzzes and external changes that may influence the final outcome of the hedonic regression.

Figure 1. Different economic trends of the three main artistic movements and the global art index, in US dollars: 1998-2013.



Source: Vermeylen F. (2014). Art Markets: Theory and Practice [PowerPoint slides].

Figure 2. Evolution of the contemporary Art Sector: 2002-2011



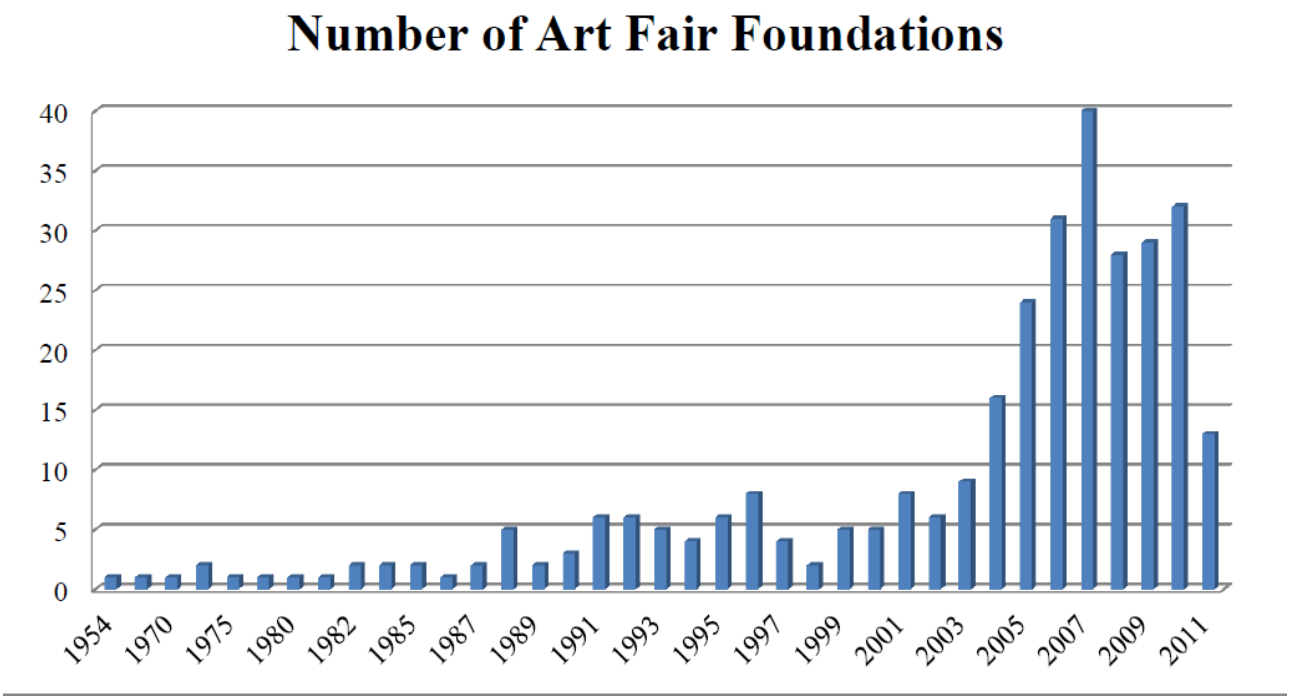
Source: © Arts Economics (2010, 2011, 2012) with data from Artnet (2012)

1.2 Art Fairs

Nowadays, art fairs represent one of the key institutions in the global art market. Christian Morgner (2014) defines art fairs as "large organized gatherings of works of art, held at regularly spaced intervals and at particular locations, by art dealers/galleries coming from distant regions and they are visited by an international audience" (p. 34). The history of these events is quite recent, but its origins are rooted in the old religious festivals that left their mark as recurring events in a specific location. In the mid-twentieth century, art fairs emerged in countries that were peripheral to the artistic scene. The European and American "hotspot" cities, where the artistic creation and consumption was intense and the art market was already established through a rich network of galleries, did not necessitate a supplementary market platform to connect their galleries. On the other hand, countries such as Germany and Switzerland lacked such density of networked art galleries. In these countries, a developed and dynamic art market was not present; galleries were scattered across Germany and a central system was needed in order to connect galleries, artists, collectors and curators. Therefore, art fairs arose in response to the increasing national need of a market structure to support the existing artistic supply and connect it with the market demand. The first great art fairs emerged in cities such as Cologne (1967) and Basel (1970), which did not have a developed and centered market place for the arts (Morgner, 2014).

Art fairs have rapidly grown and increased in numbers over the past few decades. The success of the first fairs encouraged not only countries with underdeveloped markets for the arts, but also renowned hotspots of the modern and contemporary artistic scene, such as New York (Frieze Art Fair), London (London Art Fair) and Paris (FIAC). This increasing trend is depicted in "Figure 3", which shows the recent development of the fair as a key factor in the economy of the arts. Art fairs are now evolving not simply in reaction to societal circumstances but in relation to other fairs (Morgner, 2014). This industrialization of the fair represents a "new level of activation and mobilization of art's inner industry" (Baia Curioni, 2012, p. 119), which is leading to the creation of a brand image where different fairs are characterized by different aspects. As such, art fairs heavily invest in branding and marketing in order to create their own identity and differentiate their offering (or the way they market their products) from their competitors (Thompson, 2008). According to Thompson, art fairs also use these marketing campaigns to overcome the problem of being associated solely with a blockbuster gallery.

Figure 3. Number of Art Fair Foundations: 1954-2011



Source: Morgner, 2014, p.41.

Art fairs play the role of market intermediaries because they are able to link and connect different players in the market through a multifunctional platform. The fair's commercial venue is not only a meeting point for consumers and suppliers, but it may also represent an interesting occasion to form partnerships and alliances among different actors within the cultural sector. As such, the fair serves as both a B2C and B2B commercial platform.

Some artists exploit these markets as a launching pad, with the purpose of gaining access to the artistic scene and raising the price of their art. Fairs attract a huge number of visitors[5] and, consequently, artworks are subjected to a more intense exposition than what they would generally have in a gallery (Van Hest, 2012). Van Hest also remarks that art exhibited at the fair cannot be as qualitative as in a gallery because of the presence of other galleries in the same location, the limited amount of space (which leads to a limited selection of artwork), and the huge flow of people that makes this commercial venue a social event as well. In this regard, artists have the opportunity to expand their network of peers and make connections with other actors that may positively influence their career. This thesis aims to analyze the empirical evidence of art fairs as successful platforms and quality certifiers for artists and the galleries that represent them.

[5] Every year, more than 5 million of people visit art fairs all over the world. Source: Artvista.de (http://www.artvista.de/pages/statistics/art-fair-and-biennial-statistics.html).

Art fairs represent an interesting field for academic researchers because they are an open space to observe what is happening in the contemporary artistic scene, its main trends and most topical themes. Many people that are not directly involved in the art world have the opportunity to observe what is happening within contemporary creative clusters. Moreover, while auction houses deal with the secondary market[6], art fairs also present artists that are present on the market for the first time and works of art that have never been sold before. Through these events, researchers have the opportunity to gain access to multiple sources of data as regards galleries, artists, artwork and its prices, which are not generally released by dealers.

As can be observed, art fairs offer several advantages; according to 2014 TEFAF market report, one third of art dealers' sales were made through fairs in 2013. In the same year, the highest single item of expenditure for the art trade was on marketing and advertising (€3.2 billion), of which a large majority was spent by auction houses, followed by art fairs, with the second largest expenditure at €1.9 billion[7]. This data shows the growing importance that art fairs have and the increasing position that they are gaining in the art market, threatening the traditional auction system. To this regard, a qualitative study in the TEFAF 2014 suggests that "many well-established collectors tend to mostly make purchases at galleries and fairs rather than at art auctions". This probably occurs because the fair offers the possibility to observe and deal with the primary market, have direct contact with the seller and sometimes with the artist, simultaneously compare different galleries and make a more thoughtful choice. According to Graddy (2009), art fairs are considered as an "equalized force" (p. 235) that enables art dealers to compete with the old system of auction houses. This author states that the quality and quantity of artworks presented in the best contemporary fairs is the same of that in an auction's house entire season.

These events not only have a direct economic impact on the actors that have taken part in the art fair, but also on dealers that are indirectly involved in the art fair, such as restaurateurs, hoteliers and the city itself. To this regard, Paco Barragàn explains the role that hosting cities play during the art fairs and the consequences that they have, in his book "The Art Fair Age" (2008). The author states that art fairs are evolving as "urban entertainment centers" as a reaction to increasing competition within the market. In particular, Barragàn emphasizes the branding role that these fairs

[6]The most common definition of secondary market is the one used by Velthuis in the Handbook of Cultural Economics (2011); according to him, the secondary/resale market is the market where artworks have been sold for the second time. However, Robertson (2011) makes a distinction between secondary and tertiary market. According to the English author, "the secondary market is a secondary sale of the same artwork that take place through dealers" (436), while the tertiary market is represented by public auctions. Even though this new market segmentation is quite innovative and it is opening the door to an interesting debate in cultural economic field, not many scholars are adopting Robertson definition by now. Therefore, in this thesis the definition of secondary market introduced by Velthuis will be adopted. Auction houses will be considered as secondary market.

[7]2014 TEFAF Report.

have in order to market and put "previously unnoticed cities on the global art map" (Barragàn, 2008, p. 4). Basel represents a clear example of this phenomenon, as the Swiss city has exploited its art fair to increase the tourism and market itself as a crucial venue for contemporary and modern art[8]. The most evident example is the city of Kassel (Germany) that, thanks to the Documenta art exhibition, attracts a huge number of visitors every five years[9], increasing the tourism economy of a city that had never been on the global touristic map before.

Baia Curioni (2012) explains the contemporary evolution of the fair from a macroeconomic perspective. In his opinion, art fairs have developed as a reaction to an overall increase of the activities and infrastructures in the art market, and the consequent rise of a "mass" market structure in the artistic field, namely, the growth of demand and the "conceptual artistic revolution" of the seventies and eighties challenged the concentrated structure of the art industry. The artistic mass market is the final result of these changes, and it finds its main representation in the art fair that, in the long term, may influence artistic production. However, this dramatic development is not seen as a positive trend by the entire artistic scene. Researchers from TEFAF performed a qualitative study on art fairs, asking art dealers whether they saw the continued development of art fairs as a positive sign for the art market or not. The results were equally divided, with 51% of the sample having an optimistic view and 49% being quite skeptical. In conclusion, art fairs are evolving and occupying an important position among market platforms for the arts because they offer several economic and social advantages. Even though they are not highly regarded by various dealers because they could provoke changes in the creation of the cultural good and the way it is marketed, the phenomena is expanding all over the world and gaining increasing attention each year.

Art Basel

Art Basel was founded in 1970 by Basel art galleries' managers Ernst Beyeler, Trudi Bruckner and Balz Hilt, and had an immediate success thanks to its 90 galleries and 16,300 visitors. Ever since, the fair has offered a different artistic theme every year, such as the 1974 theme dedicated to "Neue Tendenzen" (new trends) to promote new and emerging artists of that period. Over the following years, Art Basel increased its number of galleries, the importance of its art exhibited and the consequent number of visitors, becoming the most important art fair on a global scale for what concerns contemporary and modern art. Many reasons explain Art Basel's central position in the global art system. Firstly, the fair benefited from the "first mover" advantage in the market and did

[8]The city of Basel hosts an average of eight fairs every year (Art Basel, Scope Basel, PrintBasel, Design Basel, Bâletina, Liste, Volta Show and The Solo Project).

[9]650.000 visitors in 2002, 754.000 in 2007 and 904.992 in 2012 (Wikipedia.org).

not lose this favorable position as it continuously renewed itself and kept up with the times. Secondly, Art Basel positively faced the rise in fairs in the past decade, along with the consequent increase in competition through the creation of mirror events in Miami (2002) and Hong Kong (2013). Basel's location offers the fair a competitive advantage because it not only represents a "financial heaven" that facilitates high cost transactions, but also links the art fair's brand image with that of the city. The city of Basel is a clear exemplification of Barragàn's theory (2008), which emphasizes the role that art fairs have as brand tools for their host cities. The city of Basel indeed seems to be positively affected by Art Basel's economic influence, both from cultural and economic aspects.

Art Basel has been one of the largest and most renowned contemporary art fair worldwide for decades. Not only do its history and tradition add to the event's importance, but recent figures show that Art Basel is still in good financial conditions, with 65.000 visitors in 2012 and 70.000 in 2013[10], an average of 300 galleries each year and more than 4.000 artists' work exhibited in just four days. On one side, the choice of such a significant venue in the global art system may generate a selection bias when creating the sample because Art Basel is mostly focused on niche artistic goods. On the other side, this fair accurately depicts the higher segment of dealing activity within the market in terms of the "quality" of art pieces and artists' reputation. Thus, artists who participate in this fair are not completely unknown; Art Basel acts as a social filter and ensures a high artistic value of the art exhibited. In addition, the presence of galleries from 36 different countries remove strong local influences that could be present in smaller exhibitions, which allows for a generalization of the research's final results. The use of this fair for an academic analysis will be useful in terms of the quantity, reliability and accessibility of data; not much academic research has been conducted on art fairs, with the exception of Art Basel, which is one of the few fairs that has been subject to research and academic publications[11].

Art Basel's positive trend in terms of its offering is visible in "Figure 4" and "Figure 5" through an increment of the number of galleries and artists. According to this data, the economic downturn of 2009 (Figure 2), caused by the economic recession, seems to not have affected Art Basel's growth. This art fair does not display high sensitivity to external economic shocks. This fact is observable through the annual MCH report and balance sheet (Art Basel's parent company), which depicts a positive trend over the years[12]. Little fluctuation, general economic growth and low volatility are

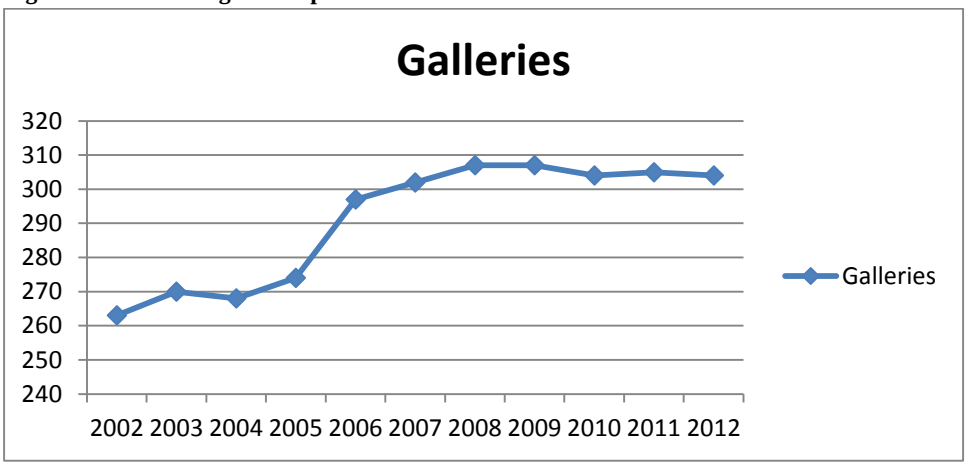
[10] Artvista.de

[11] B. Curioni (2014, 2012 and 2011), C. Morgner (2014), A.Quemin (2003, 2008 and 2006).

[12] In 2013, MCH company had an operating income that has risen by 29.6 % (CHF 344.9 million) compared with 2012 (CHF 266.2 million) and by 53.1% compared with 2011 (CHF 225.3 million). In 2013 the company had an EBITDA of CHF 72.4 million and an EBIT of CHF 43.1 million.
Information available at Mch-group.com.

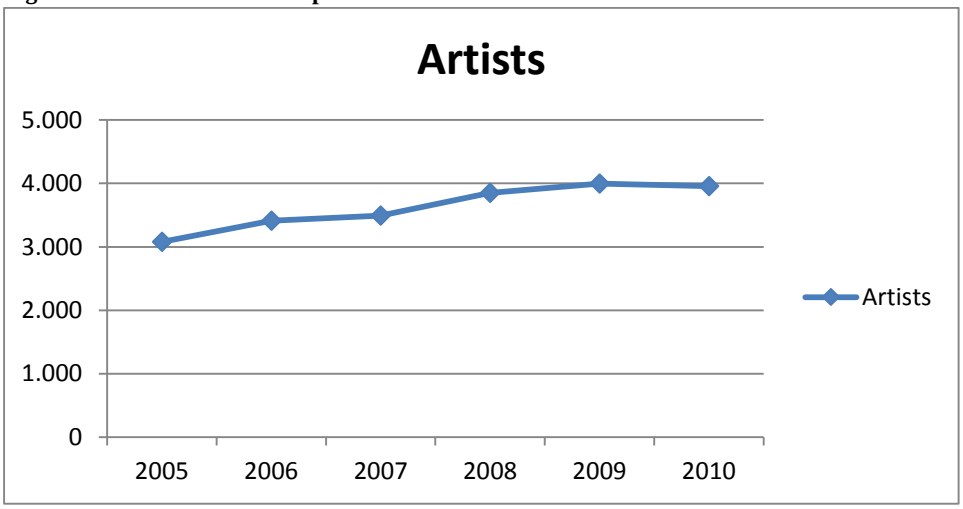
positive macroeconomic elements that may reduce the environmental biases that negatively influence the quantitative analysis.

Figure 4. Number of galleries present in Art Basel: 2002-2012



Source: Artfacts.net

Figure 5. Number of artists exposed in Art Basel: 2005-2010



Source: Artfacts.net

1.3 Artist selection process

As already mentioned, Art Basel is one of the most important fairs worldwide, and artists that participate in this event are chosen by galleries as the most marketable and reputed. The fact of being featured in such important fair is considered as a "quality label" for both the artists and the galleries that attend it (Velthuis, 2003). Hence, galleries that apply for this fair will show their "best," and select artists that will increase their social reputation and economic condition. Most of the time, galleries act as monopsonists in the process of dealing with artists and, while one gallery can represent many artists, the individual artist cannot be represented by many galleries (Gérard-

Varet, 1995). In the case of young artists, Art Basel's selection process is more complicated because they rarely have high standing and/or reliable references. Rosen (1986) compares the artists' labor market to a lottery game, in which only a small percentage of participants succeed in obtaining high economic gain. The author affirms that "this lottery is tempered and made less costly by considerable turnover, especially among young entrants" (p. 681), because young artists are more willing to assume the risk of failure and a higher degree of uncertainty than older artists. Participation in this fair is also expensive (the rental price of an exhibition space is 669 Swiss francs per square meter, or $65 per square foot, and an entry-level booth costs $42,900[13]), and there are no guarantees that these expenses will provide a good return on investment. A considerable amount of risk is present, and there could be lot of pressure on artists to produce supplementary work, as well as for galleries to organise their participation in a limited space with an increasing number of competitors and higher entry requirements year after year. Thus, galleries have to minimize their risks while maximizing their income and acceptance by their peers. This is not easy when the choice regards young artists, because the quality of their art is even more uncertain than that of reputed artists, and their status is not yet "socially constructed" (Bourdieu, 1996). As a consequence, it increases the need for galleries to select the right young artists to exhibit at the fair. Galleries are key actors in the process of consecration because they functions as market gatekeepers and serve as a necessary filter between the artist and the fair. Currid (2007) states that cultural goods achieve social status through a complex network of intermediaries, gatekeepers and distributors that contribute to the final value of the artwork and the consequent social status of the artist. Since the art system is a supply driven economy, the scope of gatekeepers in this system "is to provide the legitimate conditions that, on permanent bases, allows the formation of a demand, interacting with the collectors preferences" (Baia Curioni, 2013). Bonus and Ronte (1997) accept the thesis that there are no objective criteria and functions capable to ascertain the quality of an artwork because, according to them, the economic value of an artwork is not based on its intrinsic qualities but on its credibility and the value created around it. This credibility is the result of a path dependent process that consists of numerous interactions among experts and gatekeepers, which co-creates social credibility for artists and their artworks. It is evident that the role that experts and gatekeepers have in the primary art market is fundamental for an artist's career, and it can radically change the status of an artist and the price of his or her artworks.

According to Galenson (2004), two different life cycles for modern artists can be ascertained: one group is represented by artists who have produced their masterpieces early in their careers (like

[13] NYtimes.com (http://www.nytimes.com/2013/06/12/arts/Art-Basel-Opens-in-Time-of-Turbulence-for-Dealers.html?pagewanted=all&_r=0).

Picasso) through a process of "conceptual innovation" (p. 123), and a second group that includes experimental artists who created their best artistic works later on in life (such as Cézanne) through a "visual perception" process (p. 124) that leads to a more pondered and definitive artwork. This binomial classification has made a relevant contribution in understanding artists' careers, but it is not enough to predict what the future developments will be. According to Galeson and Weinberg (1999), it is not only the historical period and the artistic genre that changes the relationship between artists' age and the value of their paintings, but also shifts in demand that can provoke a radical change in the careers of young artists. Environmental conditions are also significant variables that must be taken into consideration, as they directly influence the demand for artistic goods and the consequent artistic supply.

Beckert and Rössel (2004) see the secondary market as a demarcation line that can only be overcome by artists who have gained social recognition in the primary market; "there is no secondary market for work by artists who do not enjoy a artists who succeded in the primary market and can have their artworks resold in auction houses or through other market infrastructures. Even though the time lapse between the first and second sale of the same artwork is generally quite long, this theory can provide several insights for researchers who aim to further develop this topic.

Popularity and reputation are not the only determinants for an artist's success; there is also the relationship with the gallery that represents him or her and the different dynamics between that gallery and other galleries in the market may influence his or her career (Schönfeld & Reinstaller, 2007). Galleries act as marketing agencies for artists develop communication strategies in order to attract important collectors whose purchase may increase the quality reputation of the gallery as well as its artists, and may establish a long term relationship between the artists and the buyer (Schönfeld & Reinstaller, 2007). Galleries can also cooperate instead of competing with each other; this is particularly evident in art fairs where galleries establish working networks. Yogev and Grund (2012) studied the phenomena of art fairs' networking and assessed whether two fairs are interrelated if a minimum number of galleries take part in both fairs. The authors stated that galleries are more willing to attend two art fairs when an indirect relationship between the fairs is present. Moreover, the age and status of the artists are positively correlated with galleries attending the same fair (Yogev & Grund, 2012), forming an age and status cluster.

1.4 Prices in the Art Market

Art prices covey multiple meanings and carry out a signaling function for what concerns the reputation of artists, their social status and the quality of their works (Velthuis, 2003). Two different

approaches analyze the meaning of price indices and their impact on the market for the arts. The first approach concerns a sociological interpretation where prices are described as "indices that do not reflect a simple composite of individual evaluations, but rather complex, collective evaluations, which are subject to intragroup influences" (Velthuis, 2003, p. 190). Namely, prices are the result of a convention of setting norms shared by art dealers that act as price maximizers in the market[14]. Low prices reflect a low estimation of the artwork along with collectors or dealers, while high prices act as a "status symbol" for the artist and a signal of an accomplished high social consensus (Velthuis, 2003). In regard to price changes, Velthuis (2003) states that a decrease in the price level of an artwork negatively affects the artist's reputation and the gallery that represents him or her, while an increase in price coveys the message that the artist's career is developing and his or her art is being recognized by the art world. It is exactly on this latter idea, introduced by Velthuis, that this thesis will develop its analysis and perform a quantitative study. It can be concluded that prices, as well as quality, are considered to be social constructions of the artistic environment (Yogev, 2010).

The second approach to the price analysis is performed through an economic study of the prices and its relation with the consumers' willingness to pay. Grampp (1989) affirms that artworks are economic goods, and as such their value can be objectively measured as a sum of different benefits that they provide to the final consumer. According to the author, "prices of artworks represent the willingness of consumers to pay for the status the possession of artworks confers (social value), the aesthetic pleasure they provide (aesthetic value) as well as their expected monetary return (investment value)" (Grampp, 1989, p. 22). The sum of all of these values should be translated into monetary terms and reflected in the final price of the artwork. This theory provided the theoretical background for the study of prices indices through the hedonic regression model (Chanel, 1995).

Different price indices have been adopted by scholars in order to face the tricky issue of price estimations in the art market. To date, four main methods have been tested: The Double Sale Methodology proposed by Baumol (1986), the Average Painting Method studied by Stein (1977) and developed by Candela and Scorcu (1997) with the Representative Painting model, the Repeated Sale Regression by Goetzman (1992) and the Hedonic Regression method imported from the agricultural economics field of study by Rosen (1974). A large part of these studies are based on auction transactions because they represent the only publicly available source of data, but they are not representative of the entire market. For what concerns the primary market, no data is available and no statistical index can be applied; the "reputation signal" of the artist and his or her gallery still

[14]In general, market dealers act as profit maximizers, because they work in for-profit economies where high prices not always ensure an high income. Differently, the art market is a supply-driven economy where the final price of an artworks is the result of a social process, not economic practices. Hence, high prices not only entail an high income more frequently in the art market than in other markets, but they also advertise the artistic product through a signaling process that covers different information about the gallery, the artists and his artworks.

represents the key element in making pricing decisions (Schönfeld & Reinstaller, 2007). To this end, Velthuis (2003) identified the existence of rules, the "rules of thumb", which ease problems of uncertainty in the primary market and facilitate pricing decisions amongst dealers. These rules are described by Velthuis as a set of routines that work as a cognitive manual to create an order of the diversity of pricing decisions that dealers need to make at different periods in an artist's career.
Nowadays the idea that prices do not reflect the quality of an artwork and likewise do not represent its entire value has widely been accepted. However, prices are a necessary tool in order to sell the artistic good and translate the cultural meaning in an economic language. In conclusion, it can be stated that in the art market's prices are an economic index constructed through social processes instead of economic estimations and, as such, they are not economically significant but rather socially meaningful.

1.5 The hedonic regression

The hedonic regression is a common statistical tool that has been used to estimate the demand for heterogeneous goods that have no market, such as public goods or artworks, through the use of price indices (Ginsburgh, Mei & Moses, 2006). This technique has first been used in the agricultural economics by Waugh (1928) in order to understand the influence that qualitative variables have in the quantitative process of price setting. It has subsequently been used to establish price indices for goods whose quality is uncertain and varies over time and/or space, such as real estate, cars and computers (Gisburgh, Mei & Moses, 2006). The first scholar who applied this methodology to understand price trends in the market was Rosen, in 1974; according to him, the price estimation through an hedonic regression describes the expected value (in terms of price) of a good as a function of the different characteristics that said good is comprised of. According to this theory, it is not the good itself that is demanded by consumers, but the values and characteristics that the good embodies. This concept can be applied in the cultural field as well. An artwork can be seen as a set of different attributes with different implicit prices for each attribute; each attribute contributes to defining the artistic good and each price partly determines the final price of the good. The hedonic regression was applied for the first time in the cultural sector by Chanel (1995) in his study "Is art market behavior predictable?" Chanel states that it is possible to study all of the elements that comprise the artistic good (constituent characteristics) and objectively assess a price for each of these elements (contributory value) in order to regress them and derive the final price of the good as a sum of all its characteristics (such as the technique used, the subject represented, the artistic current, etc.).

One big advantage of this method is that the price index is constructed taking into consideration all sales available and not simply a small fraction of transactions (Bocart & Hafner, 2011). This characteristic broadens the sample and reduces the risk of low representativeness. The regression model is also quite flexible and permits the analysis of macro-categories within the population analyzed (Bocart & Hafner, 2011). In this way, it is possible to study the economic trends of different artistic movements or artist groups.

The main disadvantage of this methodology is the index's dependence on the explanatory variables that are chosen by the researcher who performs the regression (Bocart & Hafner, 2011). The choice of a functional form is discussed by Ginsburgh et al. (2006) as one of the biggest disadvantages that may lead to all of the problems that are linked to misspecifications of the sample. Ginsburgh et al also denotes that, as new data is available on the market, the index will be changed or corrected with the new data available. This is named "revision volatility" and its effect may result as an increased efficiency of the estimators but also as a temporary instability of the index that can always be revised. Some of these methodological issues have been recently corrected by different scholars; Hodgson and Vorkink (2004) highlighted the low efficiency of OLS estimates (Ordinary Least Squares) and they suggested the use of Bickel's adaptive estimation in order to obtain efficient estimations. In addition, Collins et al. (2009) introduced the "Heckman procedure" to remove selection biases due to unsold artworks and also adopted the "Fisher index" to limit frequent problems of the parameters' time instability. The usefulness of the Heckman procedure still represents a debated issue, especially among scholars that do not see statistical advantages in the use of this procedure, such as Seçkin and Atukeren (2012). Two recent innovations have been suggested by Scorcu and Zanola (2010) and Jones and Zanola (2011), in using a quantile regression to include the fact that parameters are dependent on price levels in the analysis. The researchers investigated the effects on estimates of art market returns through a modified version of Duan's "smearing factor" (1983) and changed predictions back to an economically meaningful scale in order to recalculate the art price index without biased estimates. Finally, Bocart and Hafner (2011) demonstrated that art markets are heteroskedastic and, as a consequence, may exhibit time-varying skewness and kurtosis.

Even though many limitations are showed by the application of this methodology in the cultural field, many researchers believe that the hedonic regression can be considered one of the most advanced tools for the study of prices in the artistic context[15]. Furthermore, all of the academic

[15]Chanel (1995), Hodgson and Vorkink (2004), Collins, Scorcu and Zanola (2009), Oosterlinck (2010), Bocart and Hafner (2011).

publications mentioned so far demonstrate that the model is capturing the attention of many researchers who aim to improve it and make it as reliable as possible.

II. Methodology

The methodology for this research consists of a quantitative study of artists' prices of through the use of a hedonic regression analysis. This chapter will be split into two parts; the first will explain how the sample selection has been made, the criteria that was applied and the pros and cons of the sample that will be used for the econometric analysis. The second part will illustrate why the hedonic regression was chosen to perform this analysis, the variables that will be included in the regression and the criteria applied.

2.1 Sample Selection

In this study two groups will be analyzed: one group is comprised by the original sample of artists that took part in Art Basel at least once (treatment group). The second group is comprised by artists who have never attended Art Basel in their artistic career (control group).

2.1.1 Treatment Group

My statistic sample has been selected through a purposive/judgmental sampling method (Bryman, 2012); it takes all of the young artists present at Art 39 Basel into consideration, whose art was exhibited by galleries present at Art Basel for the first time in 2008, 2007 and 2006.

In this study, the definition of "artist" does not represent an obstacle, because artists who attended Art Basel are previously selected by the galleries that participate in the fair, and they are further analyzed and selected by an external and impartial board of experts hired by Art Basel[16]. Therefore, artwork exhibited at Art Basel reflects the definition that gatekeepers and experts give to the artistic good and an additional definition of "what art is" is not needed for the creation of this statistic sample. However, a clear disadvantage is seen in Art Basel's choice of for the creation of this sample; Art Basel is commonly recognized as the premier international art show in the world[17] and one of the most successful and oldest in the history of art fairs (Morgner, 2014). Galleries that

[16] "Art Basel is comprised of multiple sectors, each of which has its own selection process and committee of experts, who review in depth each application and make the final selection of show participants and the artworks they are going to exhibit" (Artbasel.com).

[17] Artdaily.com: http://artdaily.com/index.asp?int_sec=2&int_new=31352#.UsbX1fTuKDk

attend Art Basel are mostly affirmed and renowned all over the world and generally exhibit famous and talented artists that are already part of the global artistic scene. This represents a limitation for this study, especially for what concerns the sample selection, because artists are already part of the cultural scene and have already previously taken part in local exhibitions or fairs. This means that isolating the single effect that Art Basel had on each artist might prove problematic and not easily quantifiable.

The definition of "youth" in the artistic environment can be inferred by the general rule commonly used for the assignment of awards and grants within the artistic field: "young artists" are artists who are 35 years old or younger[18]. In this respect, artists who have attended Art 39 Basel can be considered "young" only if they were 35 years old or younger in 2008 (namely, artists who were born in or after 1973). Young artists represent a good sample on which to base an analysis of the variation in price before and after the fair as they are not biased by behavioral circumstances, such as celebrity or previously sold work at high price points, which can influence the study of the "art fair effect" and its relation with artists' careers.

Treatment group selection

Approximately 500 young artists were present at Art 39 Basel (out of 2,000 artists; these figures are approximated because the lack of information cannot guarantee an adequate and precise estimation). I had previously decided to only take artists who attended Art Basel for the first time in 2008 into consideration. In this way, the impact of Art Basel on the artists' careers would be directly observable and not biased by previous exhibitions at the same fair. Unfortunately, this was not possible due to a huge lack of information about artists and their attendance. Hence, I decided to take into consideration artists whose art was exhibited by galleries that attended Art Basel for the first time in 2008. These galleries were new entrants in "Art Basel market" and they did not benefit from previously established networks with other market players or a significant and influent status amongst other galleries. Through this sample selection mechanism, the effect of Art Basel on the artists represented by these galleries was not biased by previous positive or negative sales made by galleries that might have influenced their market transactions in 2008. Art 39 Basel represents the point zero where the analysis starts, and both artists and their galleries experience the "Art Basel

[18] Hereafter, there are a few worldwide art institutions that underline the age of 35 as a specific boundary for the definition of young artist: Art-report.com (http://www.art-report.com/en/ranking/upcoming-artists-under-35-years), Bjcem.org (http://www.bjcem.org/), UKYA (http://www.ukyoungartists.co.uk/), National Arts Council Singapore (https://www.nac.gov.sg/docs/cmyaa/nomination-guidelines_2014.pdf), Oboro.net (http://www.oboro.net/en/boursepop).

effect" for the first time[19]. In addition, it is more plausible that an artist is more willing to be represented by a well-known gallery that has participated in many fairs instead of a gallery that appears on the scene for the first time. Thus, artists whose artwork was exhibited by novice galleries are most probably new entries in the market as well, and did not have the references or networks to have their art exhibited by more experienced galleries. It can be asserted that artists represented by these novice galleries are most probably taking part in Art Basel for the first time. The data for the creation of this sample has been extracted from the Artfacts.net database and the Art 39 Basel year Catalogue. These are the two main sources that were able to provide the most relevant information for this thesis. On one side, this choice limits the sample to 48 artists, but on the other side it allows for the isolation of the effect that Art 39 Basel had on the careers of these artists. The first sample has been created through this selection process, and can be considered representative for the specific purpose of this research even though it is small in size.

Unfortunately, a group of 48 artists was not large enough to ensure that the research was reliable and more artists were needed in order make the research valid and applicable on a general scale. Therefore, a second and third sample has been taken into consideration, of young artists whose art was exhibited by galleries that attended Art Basel for the first time in 2007 and 2006. The former includes only 10 artists and the latter 31 artists. In both cases, Art Basel's effect is supposed to be stronger than in the first sample because galleries have probably established relationships with different market players over the past one or two years. Plus, these galleries have already participated in the fair and experienced its economic and social advantages; the repetition of the same event denotes a positive initial experience. According to the data analyzed by Baia Curioni (2012), the turnover of galleries is quite low, and all of the galleries selected once tend to repeat it the following year. Since participation in Art Basel requires a large financial investment (as already mentioned), the willingness to repeat said experience suggests that a profitable economic payoff is present.

In regard to these latter samples, it is more plausible that some of the selected artists have already attended Art 38 Basel or Art 37 Basel. Therefore, these two samples are not as representative as the first, but can be helpful in order to quantify the effect that a repetitive number of Art Basel fairs had

[19] A special case concerns Liste Art Fair that takes place in Basel and occurs during the same days of Art Basel. A huge part of the public that attend Art Basel will most probably participate to Liste as well. Moreover, Liste focuses its attention on emerging galleries that might benefit from the networks generated by the parallel artistic event in the same location. Even though the two events are significantly different, the presence of Liste may bias the statistic sample through those artists that, in the past, have taken part to Liste and have already benefited from the network and human environment that surrounds Art Basel network. There are no evidence that these artists have taken part to Liste the previous year and there is no way to check it in a free and fast way (several catalogues should be bought). However, the presence of Liste can be considered as a small limitation for this study that could slightly influences the final outcome.

on galleries that participated in the fair and, consequently, on their artists[20]. During the research for this sample, it has been observed that a positive correlation is present between the galleries selected for the sample and a generally low participation in other fairs. Namely, galleries that have participated in Art Basel for the first time in 2008 have participated in few other fairs in the previous years or months; on average they participated in 4 fairs each, but the standard deviation is quite high, with some galleries that participated in seven or even nine fairs and others that participated in one or even zero fairs before Art 39 Basel. These figures tend to increase for galleries that took part in Art Basel for the first time in 2007 and 2006; for instance, "Galerist" (TR) participated in 13 different fairs before Art 39 Basel, and "Sommer Contemporary Art" (IL) attended nine different fairs before taking part in Art 39 Basel. Galleries that have such a high number of fairs in their track record complicate the sample creation and isolation of "Art Basel effect" on artists' careers, because these previous fairs may have influenced artists' careers before the Art Basel event.

It must be underlined that little information are present about Art 39 Basel, and the different sources that provide such information do not always match. The fair catalogue "Art| 39| Basel| 4-8| 6| 08" (2008), which is the main source of information for the creation of this sample, is not complete and shows quite a lack of information for what concerns the artists and galleries present at the fair[21]. In addition, Artfacts.net does not often fill this gap and, as a result, a lot of data is missing.

In conclusion, a reliable database where all of the artists' information is contained would have sped up this research and made it more reliable. Unfortunately, such a database is not available in any format, and the restricted timeframe allowed for this thesis, the lack of financial resources[22] and the unwillingness of fair institutions to provide their data did not permit the creation of a rich database that would have overcome some selection biases. However, the sample choice for this study is still representative of the general trend for young artists, and it is expected to isolate the Art Basel effect

[20] In the case of the second sample (young artists who were exhibited by those galleries that attended Art Basel for the first time in 2007), the selected galleries experiment the effect of two Art Basel in a row. In the case of the third sample (young artists who were exhibited by those galleries that attended Art Basel for the first time in 2006), the selected galleries experiment the effect of three Art Basel in a row. This does not mean that the artist has attended more than one Art Basel but there is a possibility that this has happened, thus, for these groups, the "Art Basel" effect is considered to be different and stronger than for the first group.

[21] First of all, it does not exist any online copy of the catalogue but it can only be purchased as hardcopy through a small number websites (this makes the research more time consuming and expensive). Secondly, galleries such as Beyeler, Bischofberger and Gagosian do not provide any information about the artists they have exhibited (not even the names). Thirdly, rarely Artfacts.net and Art 39 Basel catalogue show the same outcomes about the artists and galleries, their databases are most of the time dissimilar. Finally, no additional data about the artists is present, the only data available are their names, surnames and the gallery that was sponsoring them (which limits the research).

[22] Art Basel Catalogues are not part of the EUR library collection and nor are present in any library in the Netherlands (it means that a transfer was not even possible). Every catalogue must be purchased online without any indication of the content and the data that the catalogue provide. The access to Artprice.com can be done through the University library account but it is not the case for Artfacts.net where a personal account must be done without the University support.

in relation with the careers of these artists. Even though this sample choice shows some limitations (small size and indirect research method), it also shows some advantages in focusing on the role that galleries had in the artist selection process. As already explained, the sample choice does not directly approach the artist, but rather has to pass through the galleries that represent them in order to gain a sufficient amount of information. This different approach and the final outcome that will result from this research may interest not only the academics that study art fairs but also the researchers that are analyzing the complex relationship between the artist and the galleries that exhibit his or her work.

2.1.2 Control Group

In this research, a control group that includes all of the young artists that have never participated in Art Basel will be examined.

Different reasons have led to the creation of a control group in order to reduce, or completely eliminate, "possible effects of rival explanations of a casual finding" (Bryman, 2012). Firstly, during the creation of the sample (treatment group), it was evident that isolating the effect that Art Basel had on the singular artist was not an easy goal to accomplish due to the numerous different fairs and artistic events that the galleries and their artists have attended before and after Art 39 Basel. It is logical to assume that every artist has already experienced many fairs, private shows and/or group exhibitions before presenting his or her art at the most important fair in the world[23]. The identification of the "Art Basel effect" is complicated by this huge amount of events that may have influenced the career of an artist before his or her participation in Art Basel. The issue to be solved was how to isolate the effect of a single fair among the heterogeneous and copious number of other fairs and events that each artist has attended. The creation of a second group that included the same subjects as the first group with similar variables (except for the attendance in Art Basel), represented the answer to this problem.

The control group also acts as a contrast media in relation to the experimental group. The outcome of the experimental group will be compared with that of the control group, and the differences that result will underline the effect that Art Basel is expected to have in the career of young artists. If there is no found difference between the two groups, the presence of Art Basel will be not be considered as relevant for the career of an artist.

Lastly, the use of a control group serves to check whether the research had a quantifiable result or not (Bryman, 2012). The sole use of the treatment group does not guarantee that the experiment has

[23] The number of events attended by each artist cannot be precisely quantifiable but a rough number is present in the database of Artfacts.

been successful, but rather leaves many doubts about the randomness of the final result. The control group plays the role of counterchecking the final result and decreases the risk of gaining a random research outcome, therefore making it more reliable and applicable on a general scale.

Control Group Selection

The main function of this control group was to make the research more effective, make the role of Art Basel more visible and the final result more reliable and scientifically demonstrable. Hence, the control group has to be very similar to the experimental group with the only difference that artists of this second sample have never previously attended Art Basel.

The creation of this sample starts from a random selection of all of the artists, and it is based on two main criteria: the first is the sole selection of artists who were born in or after 1973 (the same definition of youth, as used for the treatment group). Through this first criterion, artists in the control group will be of the same age (on average) of the artists of the treatment group and, as such, they are considered to be part of the same statistical population. The second criterion is the sole selection of young artists who have never participated in Art Basel. This second criterion puts a demarcation between the two groups and defines the main difference that characterizes the control group, or the non-participation in Art Basel. As for the creation of the treatment group, the selection of these artists has passed through the selection of the galleries that have represented and still represent them: if the gallery/ies that have represented and exhibited an artist's work have never participated in Art Basel, then the artist (who cannot participate in the fair without a gallery) is assumed to not have participated in the fair. This indirect method of gathering information seemed to be reasonable, logical and, thanks to Artfacts, quite easy to be implemented.

The control group was still too wide and heterogeneous. It was therefore necessary to narrow it down through the use of additional variables that would have made it as similar as possible to the treatment group; the more similar the two groups are, the more evident the main difference that distinguishes them will be. First of all, the two groups satisfy the basic prerequisite to be compared; the sample size is the same because they have the same number of artists (89 each). Unfortunately, they do not show the same number of records registered in auction houses. According to the data extracted from Artvalue, the artists present in the control group show much fewer records than the artists in the treatment group, with the former having 508 artworks recorded and the latter having 743. Secondly, the variable of "age" was quite general, and artists from the two samples may have strong age differences that could limit the verisimilitude between the control group and the treatment group. Therefore, the control group has been created with those artists who, on average,

had the same age range of the artists of the treatment group. The estimated average of the year of birth for the artists that are in the control group is 1.975.8 and 1.975.9 for those artists present in the other group.

Secondly, the control group has been created with the same geographical distribution of artists that was present in the former group; in each group there are 21 Americans artists, 4 Argentinians, 8 Italians, 8 Germans, 8 from the UK, 3 from Portugal, 3 from Israel, 3 from Canada and 4 from India. The remaining 27 artists for each group are from different countries or, in most cases, from the same country but different in number; for instance, the amount of Chinese artists present in the control group is greater than the number of Chinese artists in the treatment group (11 compared to 9), and the same is seen for French, Belgian and Swiss artists. Through this method, potential environmental variables that may have exercised a different influence in the career of an artist are lowered and, in this way, the artists are not only equated by their age but also by their provenience. These two samples can be observed in "Appendix 4" and "Appendix 5", where the two full lists of artists are present.

In conclusion, even though the selection of the control group started with the purpose of a random sampling, the final outcome shows that a judgmental/purposive sampling was used instead. This sampling method was chosen in order to reduce the heterogeneity and size of the sample according to logical and coherent variables that are used in both groups.

2.1.3 Limitations and Advantages of This Sample Choice

This sample choice clearly underlines some of the most common problems that researchers in the cultural economic field face when they perform academic analyses. The first issue faced is that of the huge lack of information about artists and their transactions. The main sources used in order to gather this information were online websites such as Artprice, Artfacts, Artvalue, Mutualart, Artnet and ArtBasel.com. Unfortunately, even with the online accounts provided to me by the university, these websites did not offer a complete and rich collection of data that could allow me to construct my database in a simple manner. Different pieces of information were scattered around these websites, and they had to be implemented through the use of fairs' catalogues (only available in hardcopy and not present in the University library[24]). The combination of all of these sources allowed for the creation of my database, but some information was still impossible to gather, such as the presence of an artist at Art 39 Basel for the first time. As already explained, this issue was solved through a logical process that used the galleries as plausible warrantors for their artists'

[24] The fact of buying the catalogues online and waiting for them made the research more time-consuming and expensive.

attendance, but even though the logic of this process should not leave many doubts, it may slightly diverge from reality.

Another limitation of this sample choice is seen by the small number of records available to perform the hedonic regression. Information about all of the artworks by the two groups of artists were available on both the Artprice and Artvalue websites. The former showed a richer database of art present at auctions than the latter[25], thus it represented the first choice for the database creation. Unfotunately, while Artvalue was free and fully accessible, Artprice required the payment of an annual fee for its use. Even though the University Library was able to provide an institutional account for students, it could not be used by more than one student at a time, and for no longer than two hours each. In addition, the institutional account has had repeated technical issues that made it inaccessible for different periods of time. Given the time constraint and the lack of funds for research that would have allowed me to create a personal account (from which data could be extracted), I was forced to choose the limited number of records available on Artvalues.

Even though the number of records is limited and it does not allow for extensive research to be performed through the use of numerous artworks, the use of a control group broadens the total number of records analyzed and provides a basis for comparison thanks to its similarity to the treatment group (average age, number of artists, ethnicity, etc.). The control group clearly represents an advantage to better understanding and quantifying the Art Basel effect.

One of the strongest points of this sample is represented by the variable of youth. This variable is extremely easy to obtain because the date of birth and nationality are two basic pieces of information that every database is able to provide, but while using nationality would have led to a geographical discrimination of the sample and a consequent low generalization of the final outcome, the age variable allows for a better generalization of the final results as well as to narrow down the sample size at the same time. Furthermore, this variable does not bias the statistical analysis but, on the contrary, allows to better isolate the effect that Art Basel had on the artists' careers.

In conclusion, the sample is not numerous but rather highly representative, and its results are expected to be quite generalizable.

2.2 The Hedonic Regression

2.2.1 Reasons behind the choice of the hedonic regression

[25] Artprice had total number of 2.426 artworks for both groups of artists, while 1.136 were the records present in Artvalue database.

The impact of Art Basel on an artist's career could be measured in two ways. The first way was through the measurement of all of the networks that an artist or his or her dealers have been able to create. Moureau and Sagot-Duvauroux (2012) state that art galleries are the center of the art economy, and their social status, collaborations with different partners and distribution channels (salons, fairs, auctions, etc.) are the biggest drivers that impact their artistic career. Through a qualitative analysis, the authors have identified three different types of galleries: the first is the "point-of-sale gallery" that generally hosts exhibitions and openings, does not produce catalogues or participate in fairs and does not contribute to critical reviews. Since its intermediary function is reduced to a minimum, the artist does not generally have an exclusive supply contract with this kind of gallery. The second type of gallery is the "springboard gallery" that is generally run by young professionals and is characterized by a not-for-profit status. This type of gallery represents the first step in the career of an artist and helps him or her to be noticed by more important market players and renowned galleries through the publication of catalogues, exhibitions and collaborations. The last is the "promotion gallery"; in this case the gallery is run by well-known experts and is part of a pre-established network. This type of gallery generally participates in international events and strongly affects the reputation of an artist. Moureau and Sagot-Duvauroux (2012) believe that an artist's career is defined and can be measured through the number and quality of collaborations and networks that the artist and gallery/ies that represent him or her are able to be created. This same method is currently used by Artfacts for the construction of its "artists' ranking", where artists are ranked according to the so-called "economy of attention" (Franck, 2002), where the number and quality of exhibitions automatically increase or decrease the artist's reputation.

The use of this method is not only difficult to apply because of the arbitrary quality assessment of artistic events and the lack of information about the events, artist and galleries, but it also does not provide a scientific and quantifiable answer to the question raised in this thesis. This method can be complementary to the quantitative study (below), but it is not sufficient as the sole research tool.

The second method that aims to analyze the career of an artist is through the study of his or her price history. The basic assumption of this method, based on Velthuis' price theory (2003), is that an increase in the price of artworks reflects an increase in the reputation of the artist who created said artworks. The price analysis could be performed through the use of two methods: one is the Repeated Sales Regression, which computes an average rate of return on artwork that have been sold more than once in different time periods (Baumol, 1986). This type of analysis could not be carried out in this thesis because young artists already have a small number of recorded works of art and the possibility that the same artwork has been sold more than once is quite rare - and it would dramatically narrow down the sample. The second method is the Hedonic regression, which

decomposes the artwork into its constituent characteristics and obtains estimates of the contributory value of each characteristic to figure out the consumer price indices. The academic recognition and frequent use of this technique by scholars led to a huge amount of literature that provided a solid background for research. Moreover, the use of the hedonic regression does not restrain the sample selection and, on the contrary, it may enlarge it in considering both the sold and the unsold works of art (Collins et al., 2009; Seçkin & Atukeren, 2012). In conclusion, the HR represents a reliable statistic tool that does not mislead this research and it allows a coherent and easily quantifiable representation of the career of an artist to be performed.

2.2.2 Which Model of Hedonic Regression

As already mentioned, the hedonic regression has been studied by numerous scholars and the traditional model has been constantly developed and ameliorated. The traditional model of hedonic regression used by Chanel et al. (1994) estimates the relation between the price of an artwork and its constituent characteristics within a specific time period. The model takes into consideration three possible variables that can affect the price; the first variable in constituted by the endogenous characteristics of the artwork, namely its intrinsic characteristics such as width, support, artistic current, signature, time period, etc., that do not change over time and give a first definition of the artwork, allowing for a comparison with other similar works. The second variable takes into consideration the exogenous variables that influence the price of the artwork, such as external market shocks or environmental conditions. The third variable takes into consideration random or non-measurable elements such as behavioral circumstances or irrational choices made by the consumer.

For this thesis, a sample of N artworks has been taken into consideration and named as i (i = 1, …, 1,250) and set of time periods t (t = 0, …, T), the relation between the characteristics of the i-th art piece, sold at time t, and its price is:

$$p_{i,t} = f\ (v_{1,it},, v_{2,it},, \dots , v_{m,it}, t),$$

Where $v_{k,\ it}$ represents the general characteristic K (K=1, …, m) of the artwork that describes the artwork itself. For practical reasons, it is commonplace to set the first observation at time t = 0. The period of time taken into consideration for the analysis is from 2005 (t_0) until 2013 (t_9) for the reasons mentioned in the literature review (see p. 13). Sometimes, it can happen that the data analyzed for the regression show two different prices and time periods for the same artwork because it has been sold at auction more than once. In the sample used for this regression, there are no double auction sales that may influence the final index.

This function can be broken up in the three different groups of aforementioned variables: intrinsic characteristics of the artwork that do not vary over the time $a\ (v_{1,it}, \ldots, v_{m,it})$, exogenous variables that may vary over the years $b(t)$ and non-measurable elements ε_{it}. The function can be rewritten as follows:

$$ln\ p_{i,t} = a\ (v_{1,it}, \ldots, v_{m,it}) + b(t) + \varepsilon_i$$

The use of the natural logarithm is necessary because the frequency distribution of the artworks is generally distorted by a small number of expensive art pieces and, the use of ln reduces these distortions.

Since this thesis aims to not only calculate one single artwork but rather a total of 1,250 art pieces through the hedonic regression, the function has to be rewritten in the form of a summation:

$$ln\ p_{i,t} = \sum_{k=1}^{m} a_k v_{i,k} + \sum_{\tau=0}^{T} \delta_t c_{it} + \varepsilon_{i,t}$$

In this case, a_k represents the implicit marginal values associated to each characteristic of the artwork $v_{i,k}$ where (k = 1, ..., m), δ_t represents the log-price indexes standardized to 1 for the first year 2005 where (t = 1, ..., T) and it also is the intercept of the regression. For what concerns the second and third variables, $c_{i,t}$ represents the dummy variable that may assume the value of 1 if the artwork has been sold in the period $t \in [t,T]$, or 0 if it has not. The last term, ε_{it}, is the mean squared error.

Firstly, the implicit prices (a_k) of each characteristic must be derived through a regression of the dummy variables ($v_{i,k}$). Secondly, these prices can be extracted from the price $p_{i,t}$ in order to leave the sole impact of the time and the mean squared error for the construction of the price indexes.

Therefore, this function results as a hedonic log-price model with dummy variables (Chanel et al., 1994) and can be read as:

$$\ln p_{i,t} - \sum_{k=1}^{m} a_k v_{i,k} = \sum_{t=0}^{T} \delta_t c_t + \varepsilon_{i,t}$$

In this traditional model, only artwork that has been sold is estimated, and unsold art is ignored because it does not offer a selling price. However, even though the number of sold artworks is, on average, 30-35% of the total works presented in an auction (Artprice, 2010), in this case the number is dramatically higher 74% (926 artworks in total). This huge increment of sold artwork can be explained by several factors: firstly, the price for work by young artists is generally lower than that of renowned artists, and this may attract different consumers with different purchasing powers. Secondly, people might be more willing to invest their money in a young artist because he or she

has substantial room for improvement and can reputedly generate a wider markup. Finally, buyers can be more interested in experimenting by purchasing new and innovative art forms that have never been seen before, rather than by well-known masters whose works are already mainstream. Since the "information cascade theory" suggests that the first buyer in the market of a new product is generally the most informed one (Bikhchandani et al., 1992), in this market for the arts, experts or well informed amateurs can represent the largest segment of buyers.

According to Collins et al. (2009), the absence of these artworks in the sample creation biases the final indexes inferred from the analysis. A more developed model has been created, called the "Heckit Model" or "Heckman two stages procedure" model (Collins et al., 2009), which takes both the sold and unsold items into consideration, enlarging the sample and decreasing the possible bias that derive from the classic model selection and the instability of the index. Seçkin and Atukeren (2012) are not of the same opinion, and they have demonstrated that there is no sample selection bias created by the absence of unsold works, and that the use of the Heckit model does not provide a solution but only an alternative method. The use of this methodology is still debated among scholars and it still is an unexplored research area in the cultural economic field of study (Seçkin and Atukeren, 2012). Even though the use of this model allows for the inclusion of a larger number of artworks in the sample, it is still not considered as reliable as the traditional model. The Heckit Model allows for the increase of the number of artworks included in the hedonic regression, but it may bias the sample and the final result. Therefore, the traditional model will be used, but an additional dummy variable will be included: galleries.

In order to perform this regression, the same program developed for the project "Marie Curie IAPP Glocalfineart" will be used. The project aims to analyze the art market through the use of statistical tools that are more advanced than Spss, and at the same time easier to use by non-professionals.

2.2.3 Explanatory variables

The explanatory variables chosen for this analysis are shaped according to the sample selected for the research, and are based on previous studies that adopt the hedonic model (Collins et al., 2009; Seçkin & Atukeren, 2012). The variables will refer to the hedonic characteristics of the artist, the artworks, the auction houses that have sold the art pieces and the galleries that act as intermediaries between the artists as well as the buyers, who are a fundamental step in the value creation process.

a) Hedonic Characteristic of the artist

The first set of variables will focus on the hedonic characteristics of the artist, which are captured by dummy variables. Since the focus of this study is on the career of young artists, the first variable

will logically be the name of these artists. This is essential to individually analyzing the career of each artist and observing which artist has sold more, as well as who has benefited the most from having his or her art exhibited at Art Basel. The age and nationality of each artist are the next variables that must be included in the analysis, as they may explain price changes according to the social and economic environment (nationality), and the maturity of the artist may also represent an interesting variable for price determination. The first scholars to state that an artist's age has an important role in determining the price of an artwork were Agnello and Pierce (1996). They identified a non-linear relation between the age of the artist at the time of sale and the price of the artwork. This relation can represent the result of buyers' willingness to pay more for works created by older artists because these artists might have more experience and their artworks can be perceived as more qualitative. In addition, a long presence in the art market might have allowed an artist to generate more networks, participate in more events, become more recognized and consequently increase the demand for his or her art (Velthuis, 2005). As it happens for nationality, the artist's age (at the time of its creation) is frequently associated with a certain artistic period, school or movement. Namely, artists can benefit from their age as a signaling tool that indirectly informs the buyer about different characteristics of the artwork. Galenson (2004) argues that creativity patterns vary across different market segments; since artists produce their masterpieces at various points in their life according to the artistic current and other social and historical reasons, the age at which an artwork is created can provoke price differences.

A similar situation is represented by the use of the nationality as dummy variable. In general, the sole nationality of the artist should not directly impact the price level, since there is no evidence that price is somehow related to the artist's nationality. The sole academic publication dedicated to this topic is by De la Barre, Docclo and Ginsburgh (1994), who identified the existence of a correlation between artists' nationality and market valuation of their works. This correlation is not evident, and it might also be associated with the criterion chosen for the sample's construction by the authors. However, an artist's nationality matters in an indirect way because it is usually linked with a specific artistic period or artistic movement. Consequently, as a result of fads or buyers' tastes, artworks created by artists who have their origins in a particular country may sometimes fetch higher prices on the market. In addition, Velthuis (2005) suggested that on one side, buyers might be more willing to buy works by foreign artists because their presence on the domestic market may be seen as a sign of international prestige and recognition, while on the other side, local artists may better match the taste of local buyers and sell a major number of works or copies. In conclusion, an artist's nationality may play a role in relation to the aesthetic period, artistic movement or country of sale, but it has no significance if considered alone.

b) Hedonic Characteristics of Artworks

The second set of variables will include the hedonic characteristics of artworks that contribute to their price definition. Firstly, the size of the artwork is considered because it is not only present in all the hedonic regression analyses that use the Hedonic model (Collins et al., 2009; Seçkin & Atukeren, 2012), but it has also been demonstrated that "within the body of work of each artist the price increases with size" (Rengers, M. and Velthuis, O., 2002, pp.9). Rangers and Velthuis (2002) have argued that this positive correlation between the price and the size of an artwork derives from two logics: one is the pure economic logic that sees big artworks as more time consuming and expensive for the artist that creates them, while the second is the result of an institutional rule that many galleries have adopted in the process of price definition, in the form of tacit social consensus. The artist's signature will also be included among the dummy variables because authors such as Renneboog and Van Houtte (2002) argue that the signature positively effects the price, as it is commonly perceived as a proof of authenticity and may provide the owner with consumption and prestige benefits. The technique and the medium adopted are also relevant variables that will be used in this regression because they influence the final price of the artwork and have frequently been included in the cultural economic literature that adopts the hedonic regression as a quantitative tool of analysis[26]. The impact of an artwork's physical properties on its price determination has already been studied by Sproule and Valsan, (2006). The conclusion drawn by these authors is that, on average, oil paintings seem to be the most expensive (compared to watercolors, acrylic paintings or tempera). The same price superiority is applied to works on canvas that, on average, result as priced higher than works on different formats (eg: panels or papers). Sproule and Valsan (2006) state that the intrinsic characteristics of the artworks, such as the superior technical skills required for its execution, a greater durability and a broader spectrum of artistic effects may generate a higher appreciation of art that is on oil or on canvas. Drawings and prints are generally valued lower, as most of the time these are less expensive than paintings. This latter price choice could be rationally explained by differences in production costs, however the contemporary interpretation (which has commonly been accepted by all of the dealers and scholars within this field) states that differences in prices among various media and techniques are mostly derived from buyers' preferences (Sagot-Duvauroux, D., Pflieger, S., & Rouget, B., 1992).

c) Auction Houses

[26] Ginsburgh, Mei and Moses (2006); Collins et al., (2009); Scorcu and Zanola (2010); Bocart and Hafner (2011); Seçkin and Atukeren (2012).

The third group of dummy variables will include auction houses that have presented the artwork (sold or unsold) and the year and location of each sale. This latter date is important in order to have a proper timeline of all of the sales and analyze whether a correlation is present between the year of sale and participation in Art Basel in 2008.

The neoclassical economic theory assumes that where a situation of perfect competition is present and the market is efficiently and fully informed, the supply and the demand of a certain good meet in a condition of price equilibrium. In the case that price differences occur among different markets that exchange the same good or a near-perfect substitute in any given time, they should not last for long because, according to Velhuis (2005), they will naturally adjust or be evened out by arbitrage. Even though the neoclassical economic theory does not leave any doubt about the rationality of the 'law of one price', empirical evidence suggest that this economic rule does not work within the art market. Pesando and Shum (1996, 2007) have observed that systematic differences in prices are present for the same or similar artworks obtained at different auction houses that have not been sold in the same geographical regions. Initially, it could be argued that each auction differs from another because of environmental and social reasons that make every auction unique, and thus the same object may meet different external conditions and fetch a different price. A good example of these price discrepancies is represented by asymmetric information present in the market that can diverge from region to region; this lack of information is especially prevalent in the low end of the art market and is caused by a different willingness to economize on search costs from the buyers, the "winner's curse" or a difficult "screening" due to a peculiar presentation of the lot. Another influent variable that may change according to geographical circumstances is the taste of buyers, which can be correlated with their culture (Gerard-Varet, 1995). Gerard-Varet studied the dynamics of taste for art objects and he concluded his research by affirming that, in most cases, personal taste influences the demand for art, and consequently, its price. The selective manner in which auction houses accept artwork for sale can also be explained by the influence that these dealers have on the hammer price of the works of art; the auction house reputation and top-quality offering have a role in enhancing buyers' valuations of a certain lot (Sproule & Valsan, 2006). In addition, promotional campaigns that are generally made by auction houses seek to attract a larger number of wealthy buyers that might bid on the piece and bid over its price (Landes, 2000). According to Czujack (1997), it must be taken into consideration that the economic impact that the auction house has on the price of the artwork may vary across different "sub-markets". On one hand, the author only found systematic differences in prices across different countries, but not in relation to different salerooms. On the other hand, Ekelund et al. (2000) did not identify any correlation between the auction house that sells the artwork and the price of Latin American art. Nevertheless, most

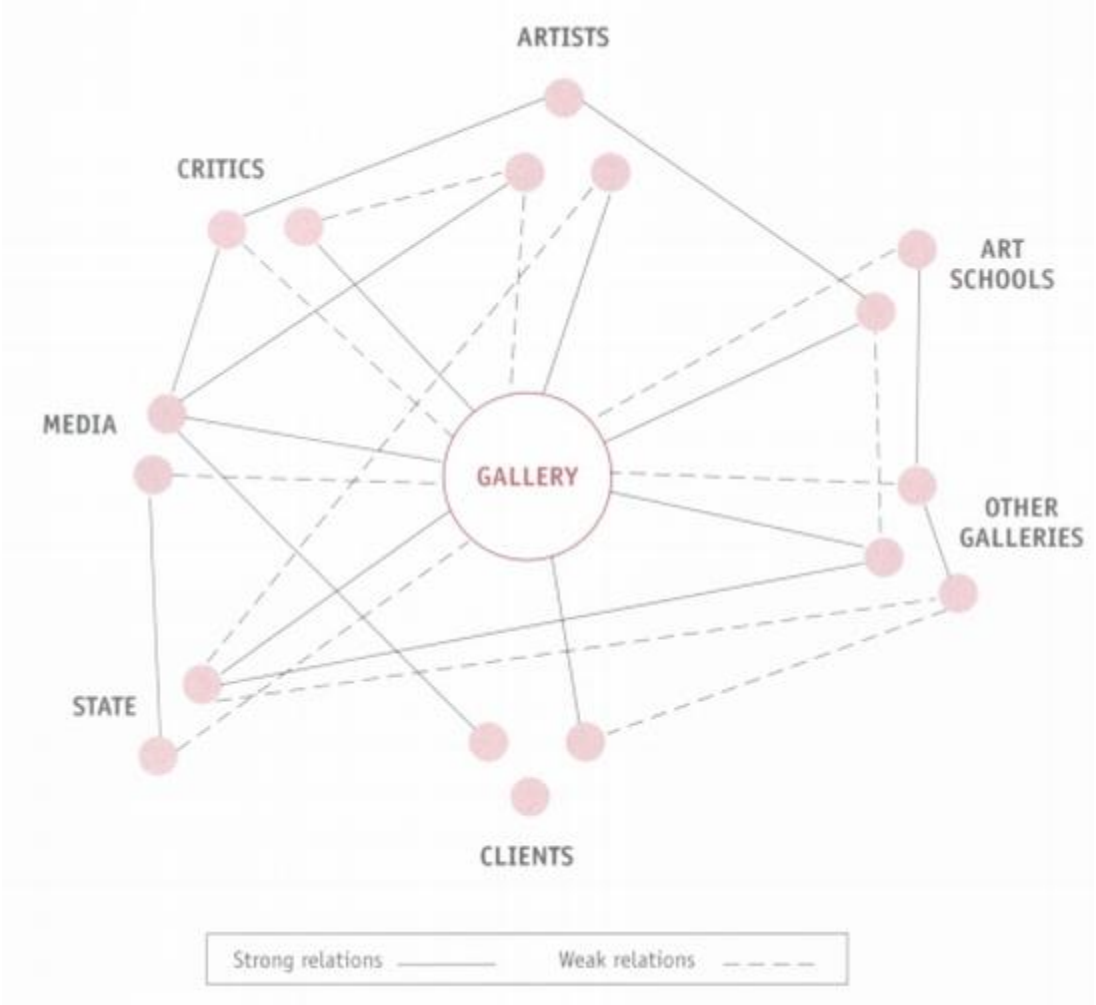
researchers tend to give credit to the theory that auction houses have an impact on the final price of the good, and all the scholars that use the hedonic regression in the cultural economic field generally consider the auction house as a significant dummy variable. In this hedonic regression, these "auction house" variables have been selected according to the geographical region and prestige of the auction house (for instance: Sotheby's and Christie's have been considered the most influent).

d) Galleries

Finally, an important role is held by the galleries that represent artists; their influence on the final price is fundamental and cannot be ignored.

The art market is strongly characterized by its social environment, and the consequent value creation and price definition are themselves part of the social dynamics that occur within this market. These different dynamics have been studied by Jyrämä (2002), who sees the cornerstone of this complicated artistic relationships in galleries.

Figure 6. The focal net



Source: Jyrämä (2002, p. 56).

According to the author, different actors have different roles, and they relate to each other in an informal way based on the implicit statement of "belonging" to a certain social cluster. Galleries have a central role in this networking system because they are not only a necessary intermediary between collectors and artists, but they also engage in the process of creating legitimacy with institutional actors such as museums, fairs, art critics, etc.; "the galleries themselves were the key actors in creating and maintaining the market practices" (Jyrämä, 2002, p. 58). Jyrämä classified the galleries through a basic distinction between the "elite" galleries that are run by influential actors in the artistic field and beckon wealthy buyers through qualitatively high-level artworks, and the "rest" of the galleries that attract every type of buyer through artworks of lesser known artists. This elementary distinction has been implemented and analyzed in an in-depth study performed by Moureau and Sagot-Duvauroux (2012). In this thesis, the number of galleries that represent each artist will be counted, and the "quality" of these galleries will be evaluated according to this latter classification suggested by Moureau and Sagot-Duvauroux (2012). The galleries considered will be classified as "points-of-sale" (the lower quality that have a low influence on the artist's career and price assessment), "springboard" (medium quality) or "promotion" galleries that are the most influential and may strongly affect the price of the artwork. This classification is based on the art fairs and artistic events that each gallery has taken part in. For instance, a gallery that has participated in Art Basel, Arco Madrid, Frieze, Tefaf, The Armony Show and/or other prestigious fairs and events will be considered as "promotion". A gallery that has only participated in minor and local fairs such as Cutlog NY, ArteBa, Art Lima, Arte Genova, etc. will be included in the "springboard" group, while galleries that have never participated in any fair or artistic event will be defined as "points-of-sale". Since a large majority of the artists in this sample have more than one dealer directory, it can be assumed that each artist has more agreements with different categories of galleries at the same time. In order to include all of the galleries that represent the artist in the regression, a weighted mean calculation has been performed. The three categories of galleries have been weighed differently (Promotion=15, Springboard=10, Point-of-Sale=5) according to their relevance for the artist, and the mean has been calculated for each artist through the usual formula:

$$M_{a,pond} = \frac{\sum_{i=1}^{n} x_i f_i}{\sum_{i=1}^{n} f_i}$$

If the result of the formula is less than 1.0, the artist is considered to have a low networking capability through the galleries that sell his or her work. When the result is between 1.0 and 1.99,

the artist's capacity to network through his/her system of galleries is not particularly high or low, but average. Finally, if the result is higher than 2.0, the artist shows a high networking capacity and is expected to sell a major number of artworks, or sell them at a higher price than artists who don't have such an optimal representation by galleries.

e) Participation in Art Basel

This is a binomial variable that is used to distinguish the treatment group from the control group. To the former group, a value of 1 will be assigned, while to the latter group that did not attend Art Basel the number 0 will be assigned. This variable is probably the most important among all because it will demonstrate whether a difference between the control group and treatment group is present. Namely, it will explain whether participation in Art Basel is statistically relevant in the creation of the hedonic index or not.

The use of this variable as "discriminant" in the hedonic regression will result in three different regressions: one that analyzes the two groups together, another that solely examines the treatment group and one that calculates the index for the sole control group.

In conclusion, the explanatory variables included in this hedonic regression are:

Hedonic Characteristics of the artist
Age
Nationality
Hedonic characteristics of the artworks
Size
Category
Medium
Signature
Auction House
Name
Year of sale
Country
Galleries
Point-of-sale
Springboard

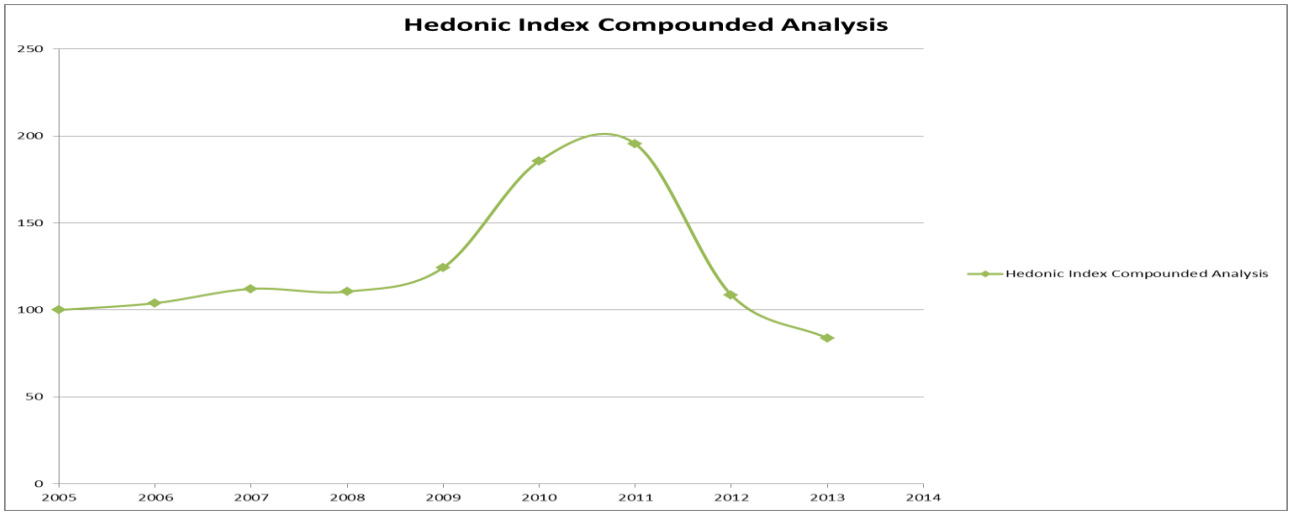
Promotion
Participation in Art Basel
Yes
No

III. Results

The results of the hedonic regression will be presented in three paragraphs according to the three regressions performed. The first paragraph will explain the outcomes from the analysis of the two groups together, the second paragraph will analyze the treatment group's results and the final paragraph will examine the main findings of the regression performed with the control group.

3.1 Compounded Analysis results

Figure 7. Hedonic Index resulted from the compounded analysis: 2005-2013



Source: Own elaboration.

N° observations = **926**
Degrees of freedom = **63**
R^2 = **0.521259**
Adjusted R^2= **0,480850**
p-value < **0.001**

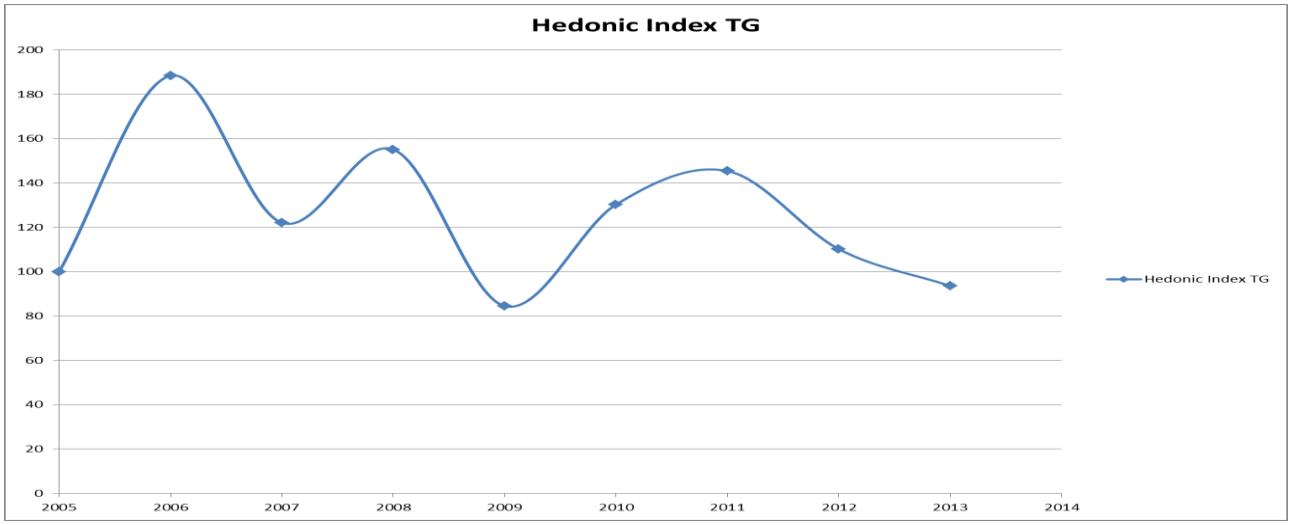
In this analysis the two groups have been analyzed together with the use of the "Participation in Art Basel" variable as the only discriminant between the two groups. The number of observations is, as

can be logically assumed, the total number of sold artworks taken into consideration for this study. The R^2 resulted from this first regression is not optimal, because it is slightly more than 0.5, but it can still be affirmed that data points fit quite well in the statistical model. Namely, the model used for this regression well explains the price, but it is not particularly accurate. The adjusted R^2 is not ideal as well, but it can be accepted. However, the p-value shows a positive result, and the regression can statistically be considered as very significant.

The most important value that must be scrupulously observed in this regression is the variable "Participation in Art39basel" (see Appendix 1). The participation in Art39Basel resulted as not significant for what concerns the construction of the price index. In other words, according to this analysis, participation in Art39Basel has no influence on the price of an artwork, and as a consequence, on the career of the artist. It can be concluded from this first regression that there is no quantitative evidence that Art39Basel has an impact on the price of art.

3.2 Treatment Group results

Figure 8. Hedonic Index resulted from the treatment group analysis: 2005-2013



Source: Own elaboration.

N° observations = **510**
Degrees of freedom = **63**
R^2 = **0.709403**
Adjusted R^2= **0.665354**
p-value < **0.001**

In this second analysis, the number of sold artworks is 510 out of 743. As already mentioned in the sample selection paragraph (see p. 33), this thesis shows a limited number of works. This circumstance can be justified by the fact that young artists, who have not been incorporated in the

artistic canon through a process of social recognition (Bourdieu, 1996), have sold a low number of pieces in this initial phase of their career.

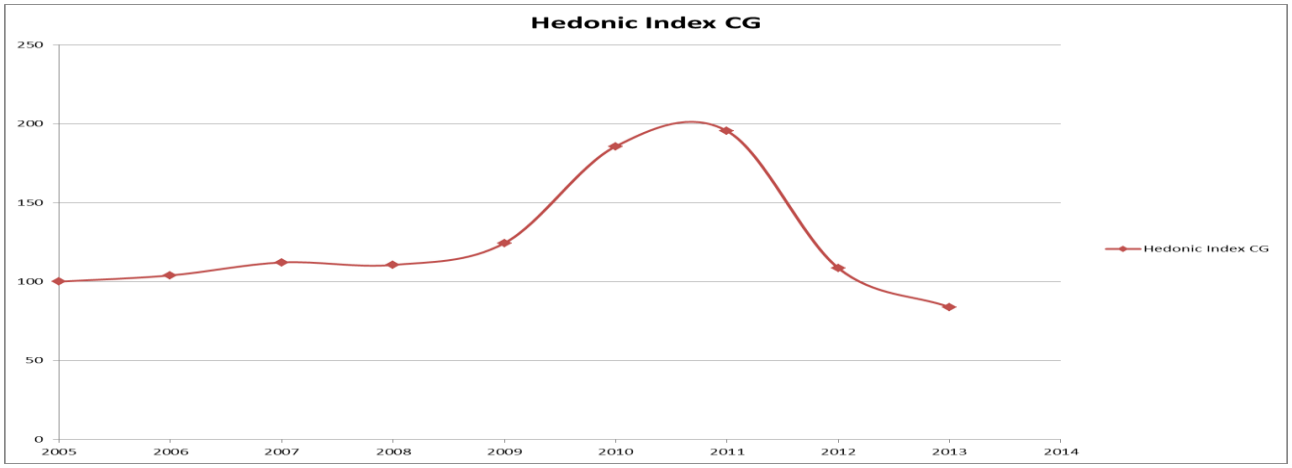
The Degrees of Freedom, which represent the number of variables adopted for the regression, are quite good. This can be observed from the fact that not a big difference is present between R^2 and the adjusted R^2; the proximity of these two figures reveals that the number of variables included in the model do not mislead the final result. The coefficient of determination (R^2) that resulted from this regression indicates that the data points fit very well in the statistical model. This is an optimal result, and is supported by the adjusted R^2, which does not leave any doubt about how well the observed outcome is replicated by this model. Moreover, the p-value shows that the final regression is highly significant because it is lower than 0.001. Namely, the null hypothesis, which states that the variables used do not effectively explain the prices of artworks, is rejected.

The complete statistical results of this group can be better observed in Appendix 2, where a broader spectrum of the entire outcome from this analysis is provided. It can be noticed that all of the "auction house" variables are not significant for this model (p-value > 0.05). What can be concluded from this data is that the auction house is not statistically relevant for young artists who are at the first stage of their career, (i.e., the auction house that represents the main dealer within the secondary market),it does not influence the social construction of the value or, consequently, the price in the case of young artists.

On the contrary, all the "galleries" variables are significant. This is an interesting result because it not only confirms the hypothesis made by Moureau and Sagot-Duvauroux (2012) through a quantitative analysis, but it also provides useful insight for future researchers that use the hedonic regression as analytic tool. The β showed by these variables is negative (see Appendix 2); this means that galleries do not have a particularly positive impact on the construction of the final price index. There are no doubts that the addition of galleries in the regression represents an interesting point that should be further developed. Finally, same positive result is showed by the "size" variables. The use of five size indicators (small, small/medium, medium, medium/large and large), calculated according to the estimated perimeter (cm) or volume (cm^3) of each artwork, resulted in being a valuable method to compute the size and include the regression within it.

3.3 Control Group results

Figure 9. Hedonic Index resulted from the control group analysis: 2005-2013



Source: Own elaboration.

N° observations = **416**
Degrees of freedom = **63**
R^2 = **0.444603**
Adjusted R^2= **0.347050**
p-value < **0.001**

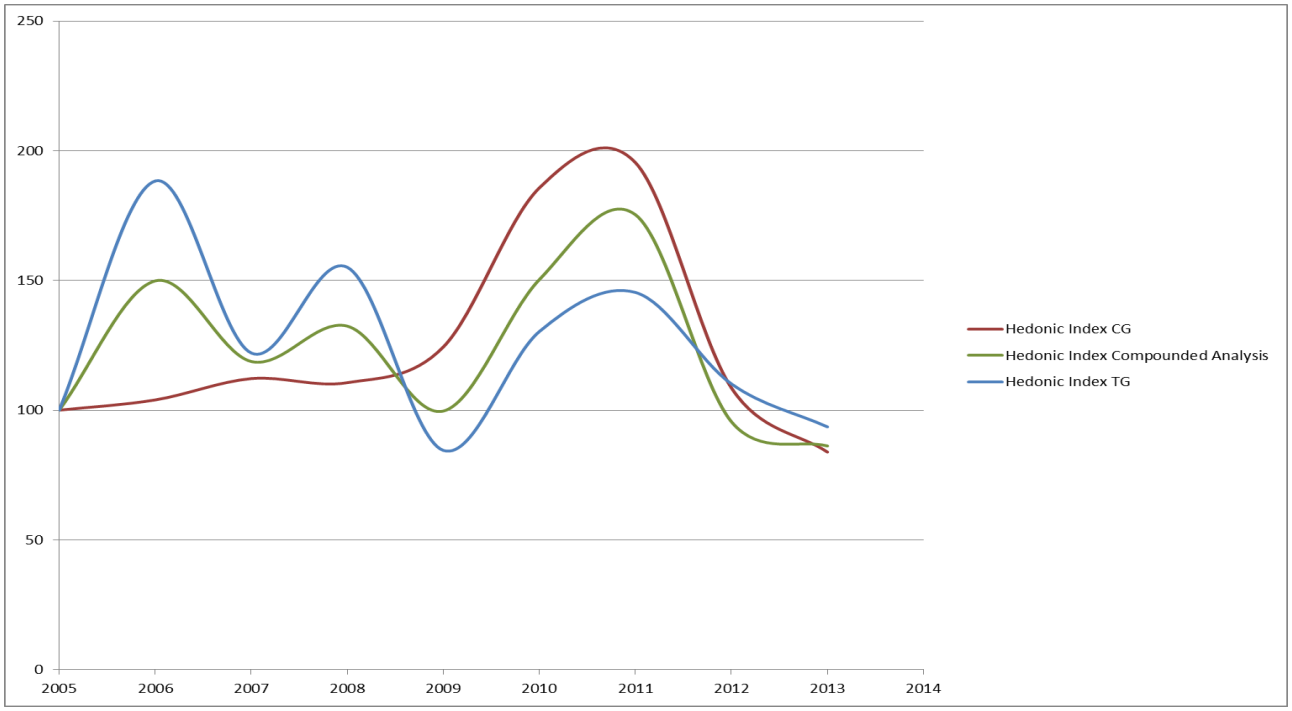
The number of observations made for this regression is lower than that showed in the previous regression (through the treatment group), but the difference between sold and unsold artworks is better. Participation in Art Basel might explain this first difference, but in order to state this, the number of artworks must be implemented and many regressions must be performed to check whether this difference is persistent or just an isolated event. By now, this result cannot be generalized, and it cannot be affirmed that artists who took part in Art Basel sell more artworks than artists who did not.

The R^2 is closer to 0 than to 1, which means that it is quite low. Namely, this R^2 indicates that data points do not fit well in the statistical model. Such a low R^2 could be explained by how the control group was created. As already explained in paragraph X, the control group has been created to be as similar as possible to the sample extracted from the Art39 Basel catalogue. However, the differences between the two groups that emerged in this statistical analysis suggests that the treatment group is more homogeneous than the control group. This higher homogeneity, reflected in a better p-value, can be attributed to the "participation in Art39 Basel" variable, which is not significant in the determination of the price but can positively influence the R^2. The adjusted R^2, which takes into account the extra explanatory variables added to the model, shows an outcome that is 22% lower than the one showed by the normal R^2. The difference between these two figures is significantly higher than the difference between the R^2 and adjusted R^2 from the treatment group analysis (approximately 5-6%). This can be explained by the fact that the adjusted R^2 is reduced by

the addition of extra variables that do not improve the existing model. This result reconfirms the fact that, in this sole regression, data points do not fit well in the statistical model.

On the contrary, the statistical significance test, made through the use of the p-value, shows a positive result with a p-value that is lower than 0.001. Thus, the null hypothesis has been rejected for this group, as for the previous groups.

Figure 10. The three Hedonic Indexes: 2005-2013



Source: Own elaboration.

Conclusion

This thesis has discussed the topic of young artists' career in relation with the currently debated topic of art fairs. The research was focused on the economic effect that art fairs are supposed to have (according to the academic literature) on the price of art by artists who participated in these events through their galleries. The fair taken into consideration for this research was Art Basel, and its correlation with the career of young artists has been researched through a statistical study of the prices of their art. A hedonic regression has been performed through the use of two different samples: a treatment group that included all young artists who attended Art39Basel for the first time in their career and a control group that contained the same number of young artists who have never participated in Art Basel.

All of the academic literature consulted before starting this analysis suggested that art fairs, considered as quality labelers that enhance the artists' reputation and social identity, should have a positive impact on the prices of their art, because "the price of an artwork is strongly influenced by the reputation that is constructed around the artist" (Beckert and Rossel, 2013, p.179). Therefore, it was expected to observe a positive correlation between the artists' participation in Art 39 Basel and their price history, which is socially constructed and function as career signalers (Bourdieu, 1996). On the contrary, the outcome that resulted from this research showed that there is no correlation between these two variables. The two groups analyzed during the thesis do not show any considerable difference in their indexes and in relation with the "participation in Art39Basel" variable, which is not statistically significant.

It must be pointed out that the limitations faced during this research may have distorted the final result. First of all, the statistic sample chosen for the research was very limited in terms of the number of artworks analyzed (1,250 in total) and artists taken into account (178 artists, equally distributed between the two groups). The difficulties faced in gathering the information to construct the database may have reduced the sample to a number of artworks and artists that is too small to be considered as representative. This is the main limitation that could have misled the analysis of the data and distorted the final result.

Secondly, the use of the classic model of hedonic regression may not fit perfectly with the sample selected for this research. It could be asserted that the Heckit Model might have been a better choice because it includes a higher number of artworks (sold and unsold) in the regression, but different reasons discouraged me about using this technique. First of all, the total number of artworks included in the analysis would have increased by 25%, which is not enough to completely alter the

results of the regression. Furthermore, criticisms made by Seçkin and Atukeren (2012) made me doubt the reliability of this model, whose use is still debated among scholars.
Finally, another limitation is from the art market itself, characterized by a huge lack of information that strongly limits research in the field. The fact of only having access to data provided by auction houses dramatically narrows down the number of artworks included in the hedonic regression. Unfortunately, this latter limitation is common to every research that aims to study the art market through an academic approach.

Additional studies in this field could easily overcome some of the limitations discussed in this thesis. For instance, as already mentioned in p. 33, the time constraint and lack of funding that limited the gathering of data could be easily solved with the use of academic subsidies for research. Furthermore, this research could be enhanced upon and supported by a qualitative analysis that consists in interviewing both young artists and gallery managers that have participated in Art Basel. A qualitative approach could represent a valuable tool to countercheck the outcomes that resulted from the quantitative analysis and add further findings. The topic of art fairs is quite new in cultural economic literature, many studies can still be performed to discover more of what is currently known about the subject. This thesis only analyzed the relationship between the fair and the artist, but more aspects can be analyzed within this topic, such as the galleries' capacity to network by means of fairs, the economic return in investing in such events and the role that these platforms play within the complicated market dynamics of the art system.

Appendix:

1. Compounded analysis full results.

Compounded Analysis		
Variable	**Beta (β)**	**p-value**
intercept	2.67E+12	0
attendace to art39basel [YES]	0.252872	0.086039
medium [Canvas]	0.694353	4.03E-05
medium [Paper]	0.093796	0.594941
medium [Metal]	-0.75096	0.058923
medium [Board]	0.067327	0.798836
medium [Others]	0.31404	0.114019
medium [Panel]	0.634643	0.060186
category [Sculpture]	0.158078	0.834924
category [Watercolor]	0.199571	0.78699
category [Collage/Assemblage]	0.068608	0.927749
category [Drawing]	-0.09665	0.896271
category [Installation]	0.272039	0.746344
category [Painting]	0.070127	0.924555
category [Photograph]	-0.16545	0.828412
category [Print]	-0.60289	0.429917
size [perimeter between 151.00 and 350.00 (cm) or volume between 250001 and 5000000 (cm^3)]	-0.30278	0.00261
size [perimenter between 351.00 and 400.00 (cm) or volume between 500001 and 650000 (cm^3)]	-0.03235	0.857375
size [not given]	-0.17116	0.570959
size [perimeter less than 100.00 (cm) or volume less than 100000(cm^3)]	-1.06503	3.09E-10
size [perimeter between 101.00 and 150.00 (cm) or volume between 100001 and 250000(cm^3)]	-1.08768	4.44E-13
galleries [weighted average less than 1.0]	-0.37936	0.036605
galleries [weighted average between 1.0 and 1.99 included]	-0.55683	1.4E-06
signature [YES]	-0.00253	0.978765
birth [1974]	-0.60404	0.000325
birth [1975]	0.170435	0.488521
birth [1976]	-1.11614	8.47E-07
birth [1977]	0.032326	0.886769
birth [1978]	0.286348	0.436689
birth [1979]	0.169826	0.829994
birth [1980]	-0.56348	0.039528
birth [1981]	0.840596	0.027728
auction house [Belgium]	0.438278	0.569008
auction house [Bonhams]	-0.49057	0.398045

auction house [Canada]	-0.2411	0.703016
auction house [Switzerland]	-0.40178	0.578841
auction house [China]	0.838925	0.121753
auction house [Christie's]	0.476236	0.354711
auction house[Germany]	-0.32061	0.559645
auction house [France]	0.10504	0.848866
auction house [UK]	0.278982	0.592428
auction house [India]	-0.31009	0.558535
auction house [Italy]	0.08512	0.900547
auction house [Others]	0.399161	0.47811
auction house [Portugal]	-1.43528	0.074486
auction house [Sotheby]	0.524506	0.309828
auction house [U.S]	-0.02813	0.956572
nationality [China]	-0.33556	0.21999
nationality [India]	0.744354	0.000426
nationality [North of Eurpe]	0.123885	0.692621
nationality [Rest of Asia]	-0.28954	0.305421
nationality [South America]	0.366061	0.379564
nationality [South of Europe]	0.075481	0.837326
nationality [United Kingdom]	-0.70356	0.06036
nationality [USA]	0.426637	0.045813
nationality [United Arab Emirates]	0.830243	0.180211
nationality [Suoth Africa]	-1.25739	0.032488
auction date [2001]	1.929775	0.126985
auction date [2002]	3.337832	0.036262
auction date [2004]	3.49901	0.02237
auction date [2005]	3.447718	0.003134
auction date [2006]	3.85221	0.000754
auction date [2007]	3.619621	0.001459
auction date [2008]	3.728409	0.001056
auction date [2009]	3.444308	0.002468
auction date [2010]	3.855514	0.000683
auction date [2011]	4.009323	0.000425
auction date [2012]	3.40219	0.002788
auction date [2013]	3.299203	0.003751
auction date [2014]	3.002195	0.010524
intercept	-2.7E+12	0

2. Treatment group full results.

Treatment Group		
Variable	**Beta (β)**	**p-value**
intercept	8,67E+11	0
medium [Canvas]	0,599269	0,015117
medium [Paper]	-0,17598	0,436174
medium [Metal]	-0,59944	0,221545
medium [Board]	-0,13012	0,686006

medium [Others]	0,186037	0,439266
medium [Panel]	0,544715	0,117839
category [Sculpture]	-0,09182	0,888698
category [Watercolour]	0,240838	0,697547
category [Collage/Assemblage]	-0,2174	0,735354
category [Drawing]	0,04604	0,941086
category [Installation]	0,290873	0,697582
category [Painting]	-0,09842	0,874935
category [Photograph]	-0,18627	0,780563
category [Print]	-0,14039	0,832229
size [perimeter between 151.00 and 350.00 (cm) or volume between 250001 and 5000000 (cm^3)]	-0,91174	1,84E-11
size [perimenter between 351.00 and 400.00 (cm) or volume between 500001 and 650000 (cm^3)]	-0,83883	0,002111
size [not given]	-0.15325	0.611765
size[perimeter less than 100.00 (cm) or volume less than 100000 (cm^3)]	-1.24904	8.71E-11
size[perimeter between 101.00 and 150.00 (cm) or volume between 100001 and 250000 (cm^3)]	-1.15726	2.82E-11
galleries [weighted average less than 1.0]	-1.19867	0.031384
galleries [weighted average between 1.0 and 1.99 included]	-1.60342	1.77E-08
signature [Yes]	-0.13785	0.218646
birth [1974]	-1.28563	0.000298
birth [1975]	-0.53538	0.603978
birth [1975]	0.534474	0.167927
birth [1976]	-1.47744	6.98E-08
birth [1977]	0.329914	0.682352
birth [1978]	0.458814	0.254184
birth [1978]	-0.03323	0.96888
birth [1979]	-0.17216	0.874735
auction house [Bonhams]	-0.48739	0.499383
auction house [Canada]	-0.3377	0.642555
auction house [Switzerland]	-0.22103	0.805825
auction house [China]	0.536163	0.508682
auction house [Christie's]	0.570082	0.386446
auction house [Germany]	-0.36864	0.611072
auction house [France]	0.134294	0.844766
auction house [UK]	0.361472	0.58547
auction house [IND]	0.020882	0.975273
auction house [Italy]	0.250591	0.770306
auction house [Others]	-0.79671	0.297677
auction house [Portugal]	1.07045	0.306312
auction house [Sotheby]	0.640058	0.332806
auction house [U.S]	0.044536	0.94608
nationality [China]	-0.89338	0.327536

nationality [India]	0.730714	0.000388
nationality [North of Europe]	-0.17277	0.769884
nationality [Rest of Asia]	0.214163	0.809314
nationality [South America]	-0.56465	0.262149
nationality [South of Europe]	-0.79211	0.171766
nationality [United Kingdom]	-1.83382	0.002476
nationality [USA]	0.043133	0.90657
nationality [United Arab Emirates]	0.725761	0.272006
nationality [Suoth Africa]	-0.91091	0.254796
auction date [2001]	2.59125	0.030616
auction date [2002]	2.686542	0.052991
auction date [2004]	3.147698	0.015557
auction date [2005]	2.892378	0.00456
auction date [2006]	3.525598	0.000426
auction date [2007]	3.091473	0.001803
auction date [2008]	3.331243	0.000793
auction date [2009]	2.72394	0.006032
auction date [2010]	3.157201	0.001364
auction date [2011]	3.266648	0.000972
auction date [2012]	2.988898	0.002535
auction date [2013]	2.825858	0.004377
auction date [2014]	2.394826	0.019772
intercept	-8.7E+11	0

3. Control group full results.

Control Group		
Variable	**Beta (β)**	**p-value**
intercept	9,77E+12	0
medium [Canvas]	0.347558	0.169954
medium [Paper]	-0.06263	0.831852
medium [Metal]	0.007745	0.991068
medium [Board]	-0.27114	0.530965
medium [Others]	0.155198	0.648312
medium [Panel]	1.592795	0.051543
category [Watercolour]	-0.18994	0.703106
category [Collage/Assemblage]	-0.14256	0.791565
category [Drawing]	-0.15824	0.726099
category [Installation]	0.435019	0.647381
category [Painting]	0.072562	0.83155
category [Photograph]	0.090315	0.850092
category [Print]	-1.36776	0.003321
size [perimeter between 151.00 and 350.00 (cm) or volume between 250001 and 5000000 (cm^3)]	-0.05654	0.755458
size [perimeter between 351.00	0.170696	0.543879

and 400.00 (cm) or volume between 500001 and 650000 (cm^3)]		
size [not given]	-1.12215	0.174357
size [perimeter less than 100.00 (cm) or volume less than 100000 (cm^3)]	-1.68962	8.33E-07
size [perimeter between 101.00 and 150.00 (cm) or volume between 100001 and 250000 (cm^3)]	-1.67439	1.95E-07
Galleries [Point-of-sale]	-0.11951	0.711254
Galleries [Springboard]	-0.17679	0.306222
Signature [Yes]	0.149478	0.341016
Birth [1974]	-1.52735	0.003896
Birth [1975]	-0.78278	0.042229
Birth [1976]	-0.85146	0.365137
Birth [1977]	-0.90273	0.02528
Birth [1978]	-0.32238	0.707477
Birth [1979]	1.364815	0.291317
Birth [1980]	-1.16305	0.016842
Birth [1981]	-0.33742	0.518791
auction house [Belgium]	0.094871	0.944067
auction house [Bonhams]	-0.47575	0.678651
auction house [Switzerland]	-0.23615	0.855259
auction house [China]	0.941971	0.372053
auction house [Christie's]	0.405879	0.695865
auction house [Germany]	0.391338	0.705912
auction house [France]	0.315708	0.782237
auction house [UK]	0.289808	0.780412
auction house [India]	0.245907	0.824414
auction house [Italy]	0.156436	0.90889
auction house [Others]	0.819112	0.492324
auction house [Portugal]	-1.25944	0.406701
auction house [Sotheby]	0.690786	0.504916
auction house [U.S]	0.625709	0.597715
nationality [India]	-0.31135	0.583712
nationality [North of Europe]	0.627172	0.163656
nationality [Rest of Asia]	-0.20942	0.56183
nationality [South America]	1.807421	0.034097
nationality [South of Europe]	0.749512	0.262911
nationality [United Kingdom]	-0.45328	0.444313
nationality [USA]	0.013973	0.983944
auction date [2005]	1.649999	0.219748
auction date [2006]	1.785646	0.111716
auction date [2007]	1.910284	0.084066
auction date [2008]	1.903867	0.0858
auction date [2009]	1.850247	0.095813
auction date [2010]	2.279087	0.039163
auction date [2011]	2.687264	0.015561
auction date [2012]	1.7538	0.113515
auction date [2013]	1.876755	0.090595

intercept	-9.8E+12	0

4. Treatment group

Name	Year of birth	Nationality
Sam Lewitt	1981	US
Lei Benben	1977	CN
Wen Ling	1976	CN
Fan Anxiang	1975	CN
Qin Qi	1975	CN
Adrìan Villar Rojas	1980	AR
Flavia Da Rin	1978	AR
Leandro Erlich	1973	AR
Valentina Liernur	1978	AR
Qiu Xiaofei	1977	CN
Song Kun	1977	CN
James Beckett	1977	ZW
Liang Yuanwei	1977	CN
Barnaby Furnas	1973	US
Jay Heikes	1975	US
Adam Helms	1974	US
William J. O'Brien	1975	US
Jesse Chapman	1974	US
Yi Chen	1974	CN
Sue de Beer	1973	US
Kon Trubkovich	1979	RU
Ivette Zighelboim	1979	VE
Richard Aldrich	1975	US
Abel Auer	1974	DE
Dee Ferris	1973	UK
Roger Hiorns	1975	UK
Colter Jacobsen	1975	US
Dorota Jurczak	1978	PL
Ellen Gronemeyer	1979	DE
David Musgrave	1973	UK
Giuseppe Gabellone	1973	IT
Johanna Billing	1973	SE
Anja Kirschner	1977	DE
Claire Hooper	1978	UK
Benoit Maire	1978	FR
Eline Mcgeorge	1975	NO

Bruno Pacheco	1974	PT
Ruth Proctor	1980	UK
Arabella Campbell	1973	CA
Gareth Moore	1975	CA
Isabelle Pauwels	1975	BE
Jedediah Caesar	1973	US
Rosson Corow	1982	US
Gordon Cheung	1975	UK
Claudette Schreuders	1973	ZA
Hank Willis Thomas	1976	US
Sarah Stolfa	1975	US
Ranjani Shettar	1977	IN
Pedro Barateiro	1979	PT
Ricardo Valentim	1978	PT
André Cepeda	1976	PT
Josh Smith	1976	US
Justin Ponmany	1974	IN
Seher Shah	1975	PK
Shilpa Gupta	1976	IN
Jitish Kallat	1974	IN
Ham Jin	1978	KR
Noori Lee	1977	KR
Kristin Baker	1975	US
Elizabeth Neel	1975	US
Swoon	1978	US
Kehinde Wiley	1977	US
Serkan Ozkaya	1973	TR
Hernan Bas	1978	US
Tobias Buche	1978	DE
Christian Hellmich	1977	DE
Jonas Lipps	1979	DE
Mircea Cantor	1977	RO
Domenico Mangano	1976	IT
Alessandro Piangiamore	1976	IT
Ariel Schlesinger	1980	IL
Nika Span	1976	SI
Karl Haendel	1976	US
Michal Helfman	1973	IL
Netally Schlosser	1979	IL
Marcel Dzama	1974	CA
Tim Braden	1975	UK
Ewan Gibbs	1973	UK
Mai-Thu Perret	1976	CH
Alexandra Leykauf	1976	DE

Micol Assael	1979	IT
Christian Frosi	1973	IT
Francesco Gennari	1973	IT
Tue Greenfort	1973	IT
Massimo Grimaldi	1974	IT
Jeppe Hein	1974	DK
Victor Man	1974	RO
Michael Sailstorfer	1979	DE
Gedi Sibony	1973	US

5. Control Group

Name	Year of birth	Nationality
Carlos Aires	1974	ES
Abdelkader Benchamma	1975	FR
Tsang Kin-Wah	1976	CN
Eugenio Merino	1975	ES
Manish Pushkale	1973	IN
Phil Frost	1973	US
Robert Salanda	1976	CZ
Saputra Handiwirman	1975	ID
Paolo Arao	1977	PH
Jeremy Lipking	1975	US
Miguel Florido	1980	CU
Craig Wylie	1973	ZW
Adam Ball	1977	UK
Craig Kucia	1975	US
Alison Brady	1979	US
Falk Gernegroß	1973	DE
Freddy Chandra	1979	ID
Dean Monogenis	1973	US
Andrew Schoultz	1975	US
Allison Schulnik	1978	US
Oskar Schmidt	1977	DE
Henriette Grahnert	1977	DE
Jean Davidoff	1976	DE
Seo	1977	KR
Yelena Popova	1977	RU
Simon Keenleyside	1975	UK
Tobias Lehner	1974	DE
Karin Godnic	1977	AR
Michael Dean	1977	UK
Wolfgang Flad	1974	DE
Alice Guareschi	1976	IT

Gordon Cheung	1975	UK
Michelangelo Galliani	1975	IT
Jamie Shovlin	1978	UK
Conrad Ventur	1977	US
Jiha Moon	1973	KR
Davide Balula	1978	FR
Domingos Loureiro	1977	PT
João Pombeiro	1978	PT
Han Yajuan	1980	CN
Wang Yabin	1974	CN
Wang Yaqiang	1977	CN
Yang Yong	1975	CN
Wei Jia	1975	CN
Gao Yu	1981	CN
Li Jikai	1975	CN
Chen Bo	1973	CN
Han Bing	1974	CN
Andrew Morrow	1973	CA
Cristiano De Gaetano	1975	IT
Lucia Leuci	1977	IT
Michael Johansson	1975	SE
Bruno Dubner	1978	AR
Praticio Gil Food	1977	AR
Manuel Caeiro	1975	PT
Jorge Miño	1973	AR
Mat Brown	1980	CA
Steve Viezens	1981	DE
Drew Simpson	1977	CA
Erik Benson	1973	US
Joey Fauerso	1976	US
Vincent Valdez	1977	US
Chen Ke	1978	CN
Samuel Salced	1975	ES
Christine Ay Tjoe	1973	ID
Christian Eisenberger	1978	AT
Chris Duncan	1974	US
Jay davis	1975	US
Andrew Guenter	1976	US
Zachary Wollard	1974	US
Titus Kaphar	1976	US
Sebastian Blanck	1976	US
Patrick Lundeen	1978	CA
Shana Lutker	1978	US
David Schutter	1974	US
Robin O'Neil	1977	US
Andrea Facco	1973	IT
Andrea Mastrovito	1978	IT

Nicola Taffolini	1975	IT
Jenny Michel	1975	DE
Sarah Schoenfeld	1979	DE
Emma Bennett	1974	UK
Alex Gene Morrison	1975	UK
Patrul Dash	1974	IN
William Pohwida	1976	US
Surinder K Mishra	1974	IN
Gigi Scaria	1973	IN
Oren Eliav	1975	IL
Dana Levy	1973	IL
Gilad Ratman	1975	IL

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