MAPPING THE RELATIONSHIP BETWEEN THE PRIMARY AND THE SECONDARY ART MARKET

Peter Baur*

University of Johannesburg

peterb@uj.ac.za

Gideon Els#

University of Johannesburg

gideone@uj.ac.za

Received: June 2014

Accepted: July 2015

Abstract

The article endeavours to construct a model that links the gap between returns to an investment in 'Fine Art' and the 'real' price of the 'Fine Art' being traded. Thus the process used in creating shared value within the market for 'Fine Art' is examined. Art prices are usually set in the primary market through the auction process, which should also typically reflect an efficient way of creating shared value. As the auction process in the primary art market is not efficient; it does not create shared value as would occur in a typical free market structure. Artificial rigidities exist within the primary art market; thus the links between the primary art market and the secondary art market are shown by incorporating the concepts of the 'Value of Information' and 'Strategic Uncertainty' into the transmission mechanism.

Keywords

Value of information, transmission mechanism, investor returns in the market for 'fine art', market rigidities

***Dr P Baur** is a senior lecturer in the Department of Economics and Econometrics, University of Johannesburg, South Africa.

#Prof G Els is an associate professor in the Department of Finance and Investment Management, University of Johannesburg, South Africa.

1. INTRODUCTION

Modelling the market for 'Fine Art' with the aim of understanding investor returns poses a whole new set of challenges that differentiate the market for 'Fine Art' from many other market structures The problem is twofold, firstly, the market structure is extremely different and secondly the asset holds characteristics very different from most other tradable assets. In terms of the asset, most financial assets are almost always liquid, readily diversifiable and can be selected on the basis of a relatively small set of criteria. Most financial markets are characterised by a large number of buyers and sellers, transaction costs are relatively low (Worthington & Higgs, 2004).

The leading problem is the lack of homogeneity for 'Fine Art'. This means that while art may be desirable as an alternative investment because it may hold a 'store of value', which in some cases may even exceed inflation, it is near impossible to predict the return to the investor. This is due to 'Fine Art' being endowed with a great deal of 'fundamentals' underling the desire to hold the asset. These 'fundamentals' are often in themselves connected to a cultural bias embedded within the social constructs. Therefore, there is no predetermined objective structure from which to measure a singular value. The most common trend used to measure such a 'value' is found in the construction of price index systems employed by different institutions which dominate over the market for 'Fine Art'.

2. RESEARCH OBJECTIVE

The article endeavours to construct a model that links the gap between returns to an investment in 'Fine Art" and the 'real' price of the 'Fine Art' being traded. Thus the process used in creating shared value within the market for 'Fine Art' is examined.

While indexes created by respective art institutions may show differences in methodology, different indexes appear to show similarity in the dynamics to how they perform when compared with other market indicators. This common trend found within the respective indexes can be considered as a rough measure of the aggregate prices for 'Fine Art' which is characterized aesthetically by a degree of substitutability. As most of the price dynamics are due to a common trend developed within the secondary art market, the distinctive effects of each 'work of art' can offset each other through the cumulative process. The overall effect of the aesthetic dividends derived from this depends predominantly on the specific identity of the respective 'Fine Art', which in turn, represents a fairly consistent second order element in the determination of the aggregate market price. These aggregated market prices present a limited influence the dynamics within the market (Candela & Scorcu, 1997).

Candela et al., (1997), go further to explain that most of the problems inherent within an art price index are attributable to the data used in an index. In most cases, the data most often used does not consider the different types of transactions, for example, collector to collector or sales made between the collectors and the museums. In addition, the auction sales represent only a small fraction of total market sales, and only auction prices are considered as adequate approximations of the equilibrium price for 'Fine Art'. Depending on the institution supporting the index, an index is comprised of a personal selection of a larger data set, based on specified tastes and preferences (Candela et al., 1997). This leads to the problem of determining a reasonable point of reference beyond the subjective.

3. DETERMINING THE COST OF PRODUCTION

The traditional view of a long run price is that, (for most products), the price of the product is, in effect, related to the cost of producing that product. 'Fine Art' in particular, is an exception. Also, at some point in time the supply curve becomes perfectly inelastic due to a fixed supply, and taking into account that there are persistent deviations from the cost of production of different 'works of art'. 'Fine Art' is often characterized by the lack of any "natural" price in any classic sense. Candela et al., (1997), mention that there are two main approaches to price determination in the market. There is no fundamental 'value' for a painting, the market price which is derived through the demand for art in the primary or secondary art market can waver, even though no artist, collector or market expert can say whether the market price for a particular 'work of art' is above or below the 'equilibrium' price.

Prices for 'Fine Art' are generally considered rather unpredictable due to this wavering effect on the demand for 'Fine Art'. Price changes are sometimes attributed to popular market trends, art is not homogeneous, and therefore capturing sufficient numbers of auction prices for the same work of art is very difficult to accurately follow. Singer (1983) also points to this by mentioning that resale records generally tend to be biased owing to the fact that works of art which are appreciating rapidly tend to be promoted by the auction houses in the primary art market, whereas the bulk of the lesser advancing art remains unpublicized and is often held back by the auction houses.

Subjectivity should be factored into the pricing for 'Fine Art' because prices include some form of social belief or cultural habit, which is held within the public sector and are based on idealised fundamentals. Velthuis (2003) suggests that price setting is not purely economic, but should be considered as a portentous act, because, despite the business like connotations associated with the art market, actors in the art markets manage to express a range of cognitive and cultural meanings through prices.

Furthermore, market prices do not offer suitable information about 'equilibrium' values, and therefore the price of art cannot be effectively related to the evaluation of other assets. As mentioned, while popular trends may sometimes be present in the art market, they do not last into the long run price function, nor are they clearly distinguishable from the 'fundamental' values inherent in social culture (Candela et al., 1997).

These inherent fundamentals and the poor performance of the index methods developed by the market institutions, have greatly contributed towards the existence of an inefficient market environment for 'Fine Art', This perspective demands a suitable model to be mapped, to better understand the relationship that exists between the primary and secondary art market. By mapping this model, show how 'information' is used to create 'value' and how the interplay of 'information' is used by investors and organisations alike within the primary and secondary art markets.

4. MAPPING THE MARKET FOR 'FINE ART'

The starting point from which to develop this model begins in the secondary art market.

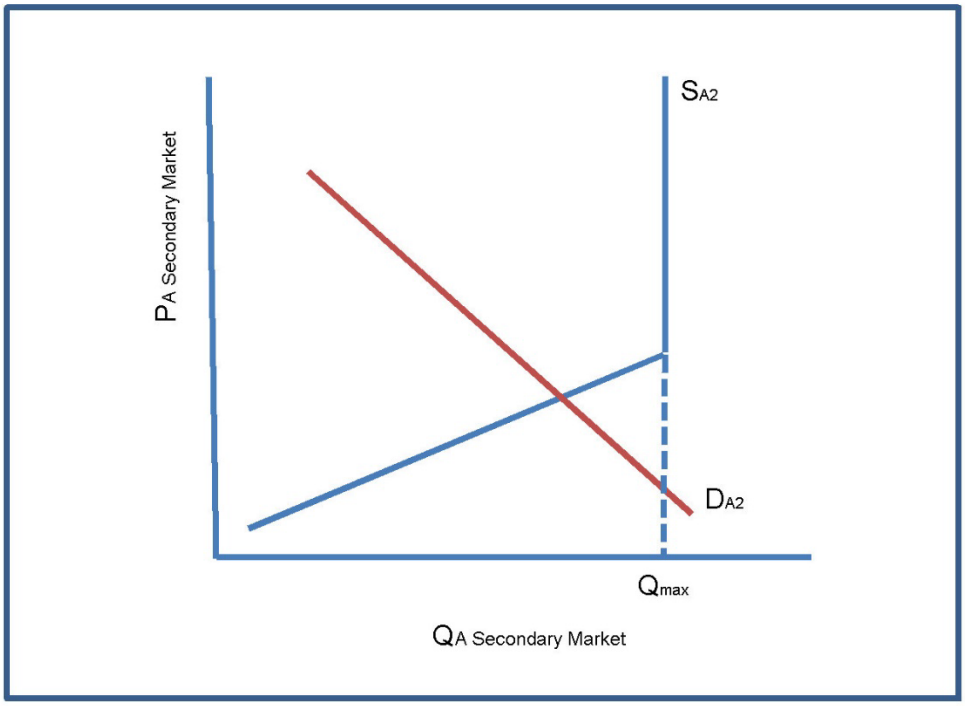

FIGURE 1: Demand and Supply relationship for 'Fine Art' in the secondary market.

Source: Authors' construct

FIGURE 1 shows the relationship between supply and demand in the secondary art market where the supply curve follows the traditional view that supply is positively related to the price of art. The higher the price for art in the secondary art market, the greater the quantity of art will be produced. However, the supply curve becomes completely inelastic at some point where supply is not curtailed, known as the 'museum factor' (Ralevski, 2008). This point is referred to as Q_{max} in FIGURE 1. As the demand for art for that specific artist begins to increase, there is a shift to the right, and prices begin to increase.

The increase in demand for art can be attributed to a number of factors, such as an increase in the popularity of the artist, an increase in cultural or social significance of the art. The motives for purchasing art is wide ranging and can include being in vogue, or even the showing off of new found wealth (Mamarbachi et al., 2008). Plattner (1998) also mentions that a high price functions as an indicator of high elite value, rather than as a result of scarce supply and high demand. The demand for art is variable and unsupported as it's based on a lot of intangible measures such as taste, fashion, mood, and cultural importance (Mamarbachi et al., 2008).

FIGURE 2 explains the interaction between uncertainty and the price of information. As the demand for art increases so too does the market price and the increase in price contributes towards the growing risk and increasing uncertainty associated with the higher prices. An increase in the uncertainty is associated with the more an investor is prepared to pay in search of additional information.

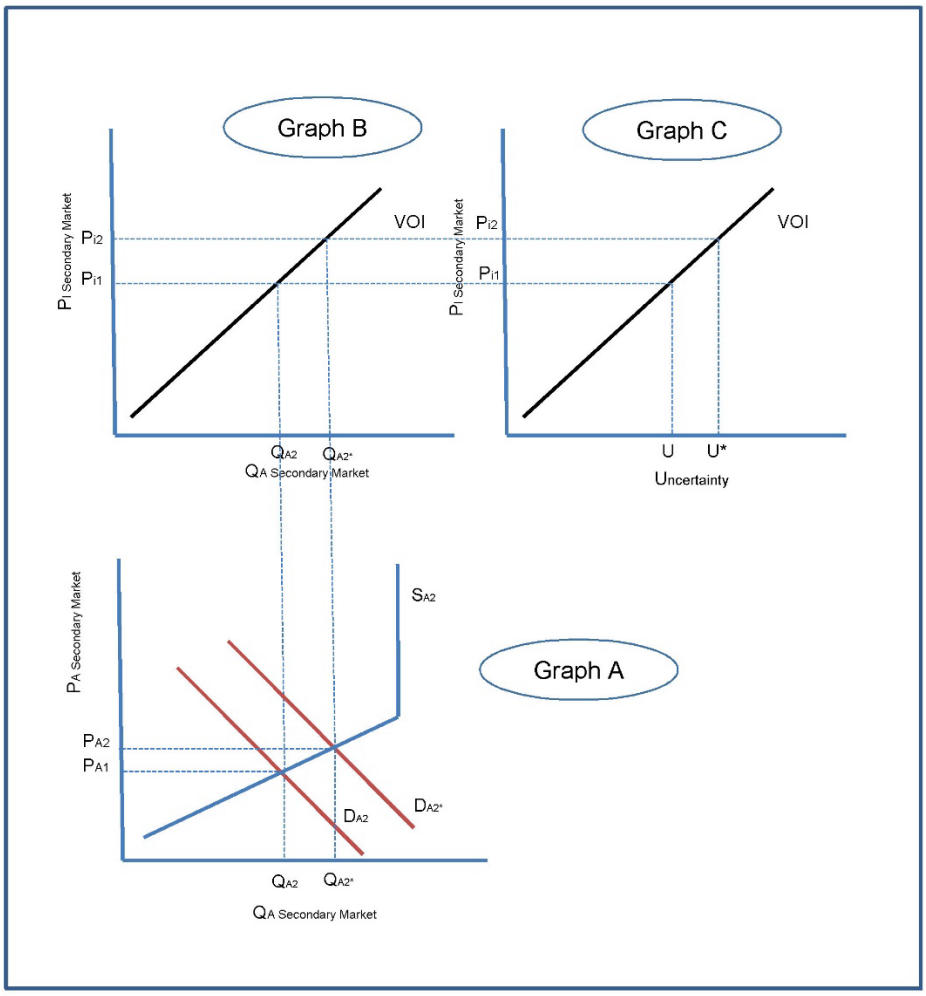

FIGURE 2: Uncertainty and the price of information.

Source: Authors' construct

As demand for art increases in the secondary art market the price increase from P_{A1} to P_{A2} (this is shown in panel A as a rightward shift of the demand curve from D_{A2} to D_{A2}*). An increase in demand for art initiates an increase in the quantity demand for art from Q_{A2} to Q_{A2}*. The increase in the quantity of art demanded initiates a search for additional information by people buying art. Thus, as the quantity of art increases, so does the search associated with that information increase.

As prices for art in the secondary art market increase, so too does the level of uncertainty. The growing levels of uncertainty (shown as a movement from U to U* in panel C), which is associated with the increase in the quantity of art been purchased. This is positively correlated to the 'value' or the price that people are prepared to pay for this information, (shown as a move from P_{I1} to P_{I2} in panel's B and C). This relationship is referred to as the 'Value of Information'.

Bhattacharjya, Eidsvik and Mukerji (2009) refer to the 'Value of Information' for a specific information gathering scheme as the maximum monetary amount that a decision-maker is willing to pay to acquire this information. The 'Value of Information' depends on several factors, including the decision-maker's utility curve. Velthuis (2003) mentions that an increase in the price level of an artist's work has a positive effect in that it conveys the message that the artist has a promising career and is being accepted in the art world. Furthermore, the increase in price can stimulate interest in the art by making collectors feel secure about the art purchased or that they intend to make from the art in the future. In other words, rising prices for art are perceived as a sign of success and as a conformation of the quality of the work produced by the artist.

'Value of Information' models have been used in the literature to decide whether it would benefit the decision-maker to make a decision using the available information or if it would be feasible for the decision-maker to gather additional information before making a decision. The main drawback of applying an existing 'Value of Information' based purely on data in the model is that existing data only accounts for variability and does not account for imprecision that it generates in simulation models and the impact of the value of the 'Information' in reducing other factors outside of 'information' which is not adequately accounted for in the decision-making process (Panchal, Paredis, Allen & Mistree, 2008).

This increase in the 'Value of Information' driving up the price (value) that decision-makers are prepared to pay for this information has a transmission effect by linking the secondary art market to the primary art market. For this transmission effect to be efficient, Broberg, Venugopal and Buyya (2008) mention that in an interrelated primary and secondary market, the allocation of information in one market invariably influences the outcomes in the other market. Within an efficient market, these interactions should typically occur without having to rely on a principal agent. This model reflects the decision-making of participants who are self-organising and follow their own interest, maximising their own utility. The approach used in this model thus assumes that there are autonomous decentralised agents, which have constant negotiation and price signalling occurring between them.

The changing amounts of competition for available information between the principal agents and the prospective investors in the 'Fine Art' market will be reflected by price changes that reflect the respective scarcity and demand for information. Participants are driven by self-interest and are utility maximising. The agents do not have global knowledge, and they can only act on information as it is made available to them, adapting to constantly changing signals from downstream and upstream entities. The dynamic nature of the market allows it to be a communications system, with price changes dictating whether an entity looks for alternative sources of information, within a dynamic market (Broberg et al., 2008).

FIGURE 3 illustrates the transmission mechanism that links the primary art market to the secondary art market. As the quantity of art purchased in the secondary art market increases, so too does the price that people are prepared to pay for the additional information. An increase in demand for art is reflected in panel B as an increase in quantity from Q_{A2} to Q_{A2}^*, and the price increase people are willing to pay for information moves from P_{i1} to P_{i2}, (shown in panel's B and E).

In the primary art market, an increase in the search for information can result in either an increase in demand for information or an increase in the supply of information, depending on the position taken by the principal agent. The principal agent can regulate this information by

increasing the supply of information from the private sector (experts and art institutions) into the public sector (investors or art traders).

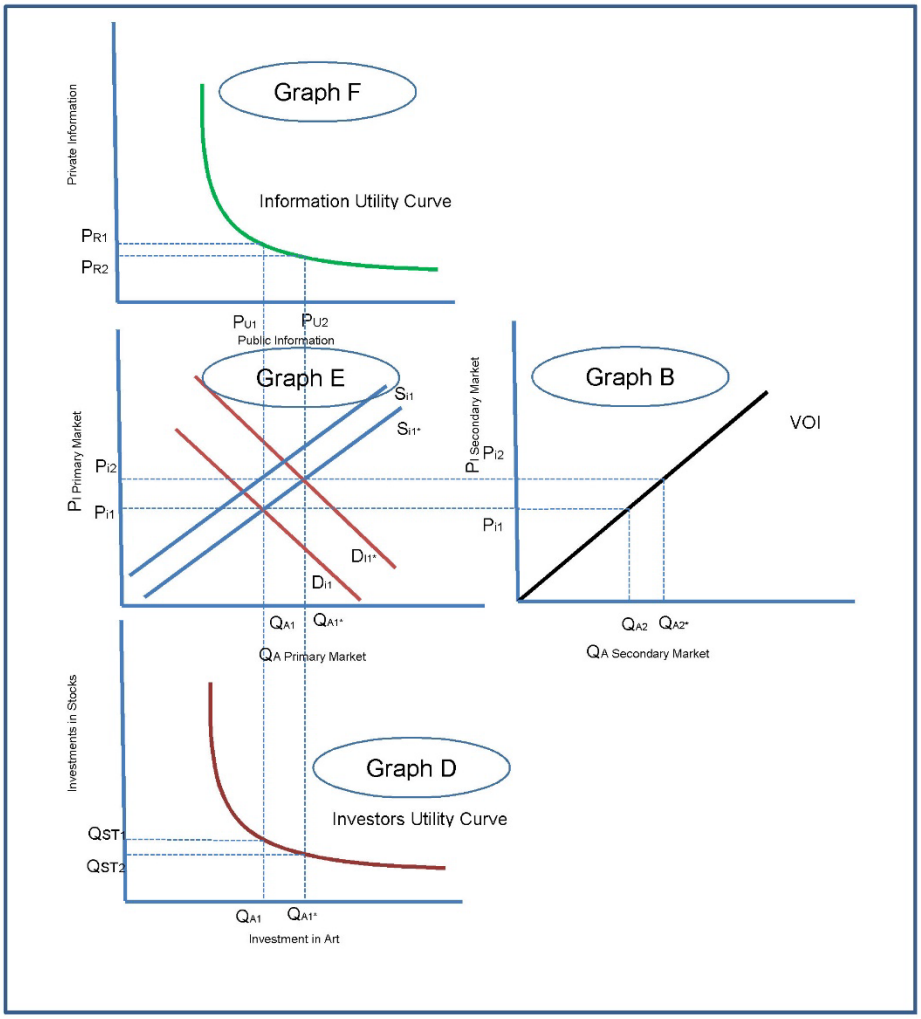

FIGURE 3: Transmission mechanism using 'Value of Information' from the primary market into the secondary market

Source: Authors' construct

An increase in information is shown in FIGURE 3 as a rightward movement along the Information Utility Curve (panel F). This shows that as information being transferred between the 'private sector' (PR1 to PR2 in panel F) and the 'public sector' (PU1 to PU2, also in panel F).

As more information is released, the information supply curve moves to the right from Si1 to Si1* (panel E), increasing the quantity of art desired to be traded in the primary sector shown as an increase in the quantity of art from QA1 to QA1* (panel E). This increase in the supply of information creates a greater degree of market efficiency by providing insight into art as an

instrument for investment. The effect is a movement by the investor from an investment into the conventional investment, to an alternative investment. This is shown as a rightward movement along the Investor's Utility Curve (panel D), highlighting a decreasing proportion of stocks (from Q_{ST1} to Q_{ST2}) and an increase in the proportion of investments in art (from Q_{A1} to Q_{A2} in panel D).

The transmission mechanism is not completely fluid and art is filtered between the primary and the secondary art market by the 'Principal Agents', or the holders of 'information' which act as regulators by regulating the amount of information which they choose to make available to the public sector. This relationship is best explained by Silvers (2012), who explains that the information held by the primary agent (private information) can serve as an instrument against risk. If there is an increase in the demand for information, the principal agent may choose to release private information into the public sector. Intuitively, the principal agents reasons that if they release information by making it public, then the principal agents exposes themselves and thus are unable to insure themselves against the realization of an adverse impact on the cost of releasing that information. The purchaser choosing to invest in art is assumed to be risk adverse. The expected cost of public-information decreases as information is released into the private sector. A game may develop within the market where an information trade-off ensues and the amount of available private information can exacerbate the principal agent's problem by turning the model into a signalling game. Therefore, the demand for information increases the likelihood that the decision-maker will invest into art. If the principal agent releases information and the decision-maker does not invest, then the value of the information decreases and the principal agent potentially loses the gain that they would have had by holding the private information in the first place. As the principal agent and the potential investor have different risk preferences, by applying risk-sharing possibilities means that the level of market efficiency would quite literally improve.

FIGURE 4 shows the relationship between the institution and the primary art market. Assuming that before the transmission mechanism, the demand for information rests at C_1 on D_{i1} (panel E). Due to the transmission mechanism between the primary and the secondary art market, the demand for additional information will shift the demand curve to the right from D_{i1} to D_{i1}^*. As a result, the increase in demand will cause the 'value' of the information to increase (P_{i1} to P_{i2}) and a new point of equilibrium will settle at D_1. The higher 'value' of this information may allow a shift from point A_1 to B_1 on the information utility curve, but may not be as a result of information provided by the principal agents, but rather due to market fundamentals. The principal agents can respond by increasing the amount of information into the public sector shown as a movement from A_1 to B_1 on the Information Utility Curve, by a rightward shift of the supply curve S_{i1} to S_{i2}. A new equilibrium will be established at E_1 (panel E), where the 'price' of information will decrease, allowing new investors the opportunity to invest into the market.

However, there are costs associated with holding this information as can be seen when the Principal Agent's Utility (isoquant) curve is considered. At point A_1 (panel F), it is cost effective for the principal agent to hold information as can be seen by the slope of the Y_2-X_2 cost curve (iso-cost). At this point, the cost of gaining new information in the public sector is high, represented by X_2. However, as information is released into the public sector, the cost to the investor becomes less, but the cost to the principal agent to hold additional information is now much higher, as can be seen by the new placement of the cost curve (X_1-Y_1).

In the situation that both the principal agent and the market enter into an information sharing situation, there will be a movement along the Information Utility Curve and the costs associated

with holding information to both parties would be lower, resulting in an increase in investments into art, as per FIGURE 3.

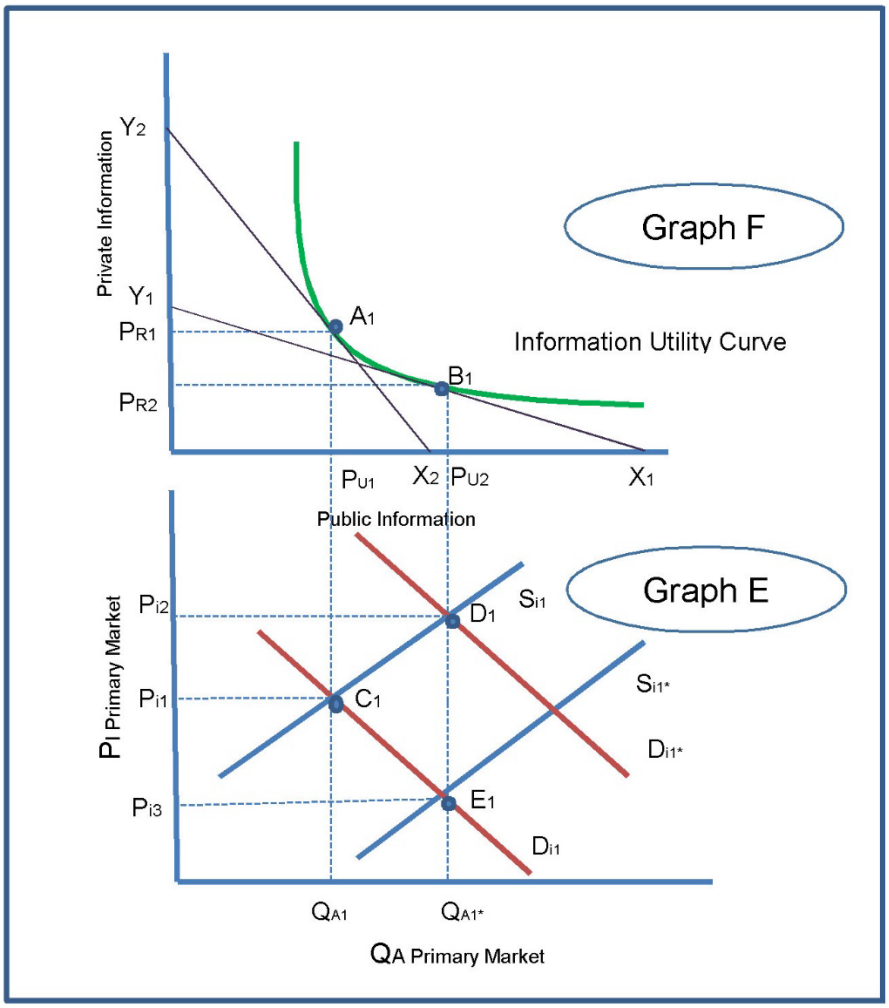

FIGURE 4: The role of the institution and the demand for information in the primary art market

Source: Authors' construct

How the principal agent and the investor measures and maximises their respective utilities depends on the system in which it is operating. The behaviour exhibited in a shared system where market driven techniques are used to regulate access differs greatly from a typical profit driven market system (Broberg et al., 2008).

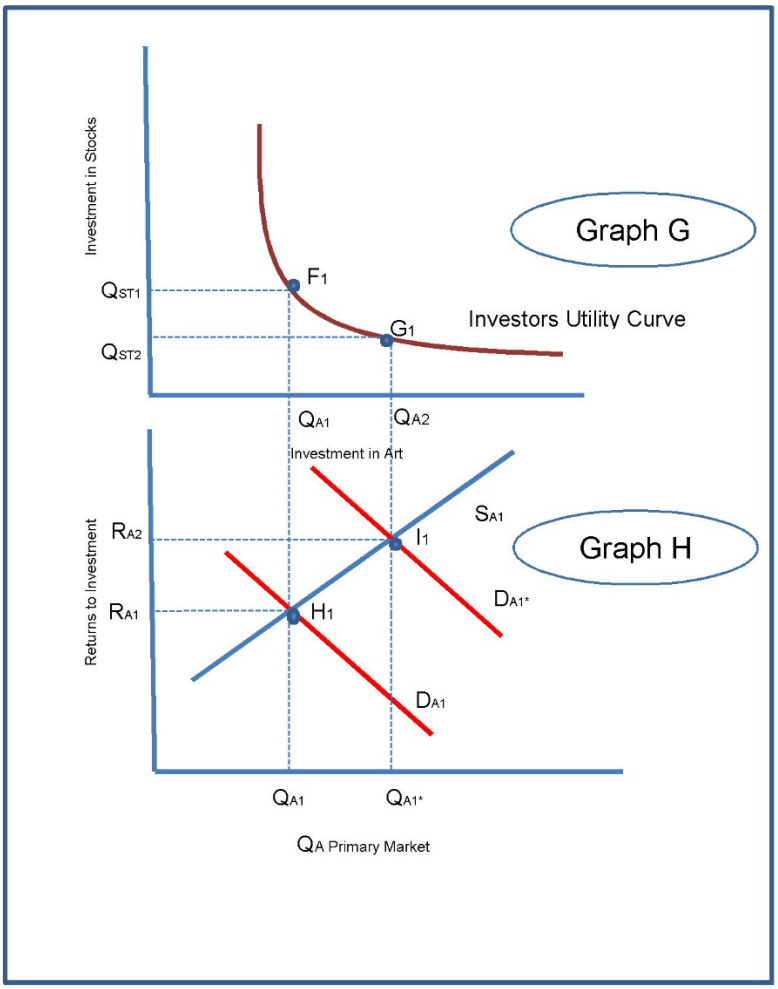

FIGURE 5: Alternative investments and the return to investors for 'Fine Art'

Source: Authors' construct

FIGURE 5 indicates the shift towards alternative investments and the return of 'Fine Art' to investors. As mentioned when discussing FIGURE 3, the increase in the supply of information that was created also increased the level of market efficiency by providing additional insight into 'Fine Art' for investment. The result is an increase of investment into the market for 'Fine Art'. In FIGURE 5, the rightward movement along the Investors Utility Curve (from point F1 to point G1 in panel G) shows a decreasing proportion of stocks or bonds from Q_{ST1} to Q_{ST2} and an increasing proportion of investments in 'Fine Art' from Q_{A1} to Q_{A2}. This in effect, is shown as a rightward shift or an increasing demand for 'Fine Art' investments, shifting market equilibrium from H1 to I1 (on the S_{A1} curve of panel H). As the demand curve moves to the right (from D_{A1} to D_{A1}) the quantity increases from Q_{A1} to Q_{A1}*. Investor returns increase from R_{A1} to R_{A2} panel H). As the demand for 'Fine Art' grows in the primary art market, so too do the potential investor returns.

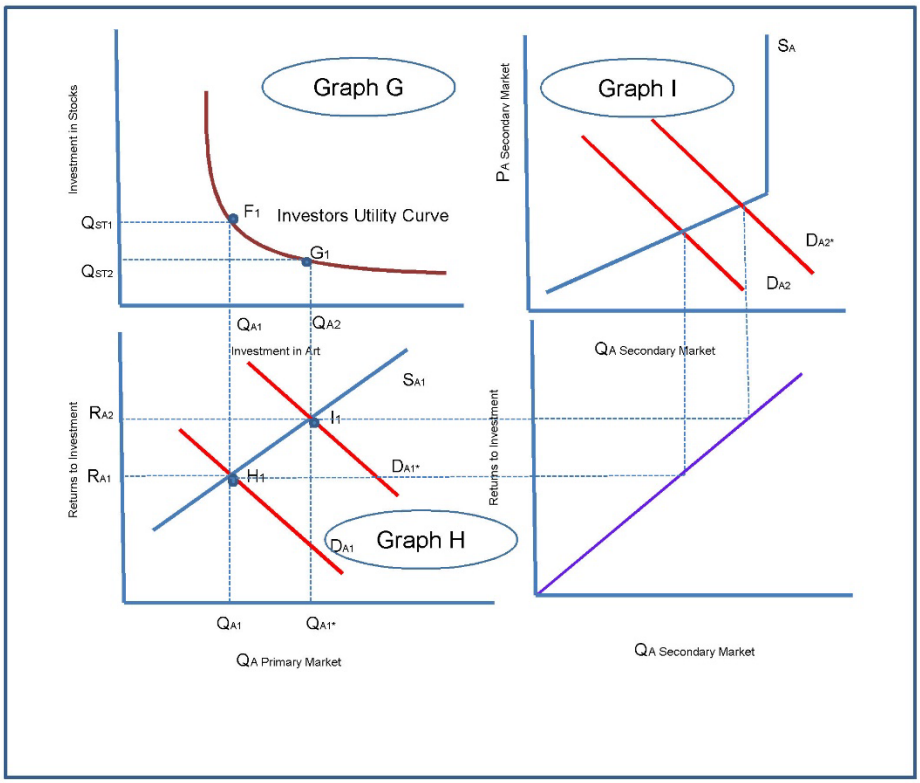

FIGURE 6: The effect of changes in the primary art market into the secondary art market

Source: Authors' construct

The supply curve for 'Fine Art' does not increase rapidly in the short run, unless it is a homogenous product with little or no chance of mass production (Bourdieu, 1985). Similarly the supply curve does not increase when there are supply constraints and rigidities, which are further induced through the reluctance of auction houses to include 'Fine Art' that has not shown signs of significant investment growth. There is also a tendency for the primary art markets to create a substantially limited concentration of potentially successful artists (Singer, 1990).

This increase in the returns to investment influences the demand for art in the secondary art market through a reverse transmission mechanism. This final stage of the model which links the primary art market with the secondary art market, (as shown in FIGURE 6), indicates that there is a direct positive relationship between the primary art market and the secondary art market. As the demand for art in the primary art market increases, which is indicated with a rightward shift of the investor demand curve from DA1 to DA1* (panel H), the returns to the investment in 'Fine Art' increase from RA1 to RA2. As investor returns increase the effect of a rightward shift of the demand curve in the secondary art market changes from DA2 to DA2* (panel I). The overall effect will be an increase in the price of 'Fine Art' in the secondary art market.

Considering all that has been said on price determination in the secondary art market, it would be fair to say that an increase in prices within the primary art market, (indicated by greater

investor returns), would result in an increase in prices in the secondary art market, but the respective elasticity of the demand curve, for any specific work or art, art genre, etc., may differ. Much of this depends on the market fundamentals, along with the cognitive and social constructs of those that are involved in the market (Singer, 1988).

Worthington et al., (2004) state that there is a stationary long-run relationship and significant short and long-run causal linkages between the stock markets and the market for 'Fine Art'. The problem rests with determining the percentage of variance, as many of the markets for 'Fine Art' are relatively isolated. The fundamentals found in the market for 'Fine Art' is generally more useful in explaining the variance that exists between the primary art market and the secondary art market. Returns on 'Fine Art' are much lower and the risks associated with investing into 'Fine Art' market are much higher than in the stock markets (Worthington et al., 2004).

The main distinguishing feature between art markets and pure financial markets is that the expected return from art investment consists not only of price rises, but also of the psychic return derived from holding the works of art. These psychic returns are derived through their aesthetic qualities, their social characteristics, and for their cultural significance. Without exception, and for obvious reasons, most studies of art investment have been unable to quantify these psychic returns associated with art in order to deepen our knowledge on the financial returns from art as an investment. The art markets are segmented, and this in part accounts for the presence of the behavioural anomalies that are lesser understood in most modern financial markets (Worthington et al., 2004).

5. CONCLUSION

Art markets differ from the most of the financial markets, in that the product traded is far from homogenous. The reasons for holding art include factors that are hard to quantify, such as culture and cognitive reasoning. Much of the reason for holding stocks may be motivated by profit. The degree of market liquidity is also lower in the art markets, which differentiate it still further from the conventional financial markets.

However, what makes this market so different is the existence of two very different markets within one overall structure. The largest part of the market is made up of the secondary art market which includes private sales and informal markets in which art is traded or purchased directly from the artist. The primary market is separate from the secondary market in that it is dominated by institutions and the movement between the markets is highly regulated. The regulation of the market breeds its own inefficiency.

The regulation of the market is both informal and driven by the market. This is only possible because the there is no one standard to determine an equilibrium price or make a sound comparison. Indices have been constructed, but these indices, while fundamentally sound, are constructed from subjective reasoning. While they may serve a function, they are not sufficient to create universal meaning. The reasons within this lie once again in the very weak homogeneity of art. A further extension of this article is to consider the impact of market fundamentals on the decision to invest in 'Fine Art' both in the primary and the secondary art markets.

LIST OF REFERENCES

Anderton, C., & Carter, J. (2009). *Principals of Conflict Economics A Primer for Social Science.* New York: Cambridge University Press.

Aquastat. (2010). *South Africa*. (U. Nations, Producer, & Food and Agricultural Organisation of the United Nations) Retrieved from Aquastat: www.fao.org/nr/water/aquastat/countries.../south_africa/index.stm

Chadwick, M., Highton, N., & Palmer, J. (1985). Developing Coal in Developing Countries. *Ambio, 14(4/5)*, pp. 249-252.

Chu, S. (2010). *Scaling up Clean Energy.* Washington DC: Clean Energy Ministerial.

Corfee-Morlot, J., Maslin, M., & Burgess, J. (2007). Global Warming in the Public Sphere. *Philosophical Transactions: Mathematical, Physical and Engineering Sciences, 365(1860)*, pp. 2741-2776.

Department of Energy. (2011, March). *Integrated Resource Plan for Electricity 2010-2030.* DoE.

Duca, M. D., & Fuscoe, J. (1966). Application of Advances in Space Technology to Water Resources Management. *Water Pollution Control Federation, 38(6)*, pp. 976-989.

Duncan, R. (2001). World Energy Production, Population Growth, and the Road to the Olduvai Gorge. *Population and Environment, 22*(5), 503-522.

Eberhardt, R., & Pegram, G. (2000). *The Water Sector, a position paper.* WWF, Macroeconomic Reforms and Sustainability Development Project. Johannesburg: DBSA, Midrand in association with the Palmer Development Group.

Freedman, D., Rothenburg, T., & Sutch, R. (1983). On Energy Policy Models. *Journal of Business & Economic Statistics, 1*(1), 24-32.

Friedman, L. (2010, June 2). New South African coal plant seeks emission credits for 'cleaner' coal function. *New York Times*.

I-Net Bridge. (2011, September 26). AfDB, Eskom sign $365m in loan pacts. *Business Report*.

International Energy Forum. (2010). The Evolving Roles of International Organisations and the Private Sector in Energy Security and Sustainability. International Energy Forum.

Jones, W. (2003, April). How Much Water Does it Take to Make Electricity. *IEEE Spectrum*.

Kumar, C. (2003). *Fresh Water Resources: A Perspective.* India: National Institute of Hydrology.

Lund, T. (2011, March). Power mad: Government's Tilt at an Energy Plan. *FIN Week*, pp. 15-18.

Meyer, W. N. (2007). *The Economics of Water*. Pretoria: Van Schaik Publishers.

Moosa, V. (2007). *Climate Change Information sheet.* Johannesburg: Eskom.

Quantec. (2010). Electricity generation and consumption: Eskom: Electricity produced - Gigawatt-hours. *EasyXL*. Johannesburg: StatsSA, P4141. Retrieved from www.quantec.com

Ravenga, C., Brunner, J., Henninger, N., Kassem, K., & Payne, R. (2000). *Pilot Analysis of Global Ecosystems: Wetland Ecosystems.* Washington, D.C.: World Resource Institute.

Smith, L. (2005). *South Africa: testing the waters of Private-Public partnerships.* Amsterdam: Transnational Institute (NI) and Corporate Europe Observatory.

Sovacool, B. (2007). Coal and Nuclear Technologies: Creating a False Dichotomy for American Energy Policy. *Policy Sciences, 40(2)*, pp. 101-122.

WorldBank. (2010). World DataBank. *World Development Indicators (WDI) & Global Development Finance (GDF)*. Washington DC: World Bank. Retrieved from http://databank.worldbank.org/ddp/home.do