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## Unnatural Value: or Art Investment as Floating Crap Game

By WILLIAM J. BAUMOL\*

I shall suggest on the basis of a priori considerations and several centuries of price data that in the market for the visual arts, particularly the works of noted creators who are no longer living, there may exist no equilibrium level, so that the prices of such art objects may be strictly *unnatural* in the classical sense. Their prices can float more or less aimlessly and their unpredictable oscillations are apt to be exacerbated by the activities of those who treat such art objects as “investments,” and who, according to the data, earn a real rate of return very close to zero on the average. If the art marketing process really is inherently rudderless, the imperfection of the available information on prices and transactions does not matter in the sense that better information about the behavior of the market really would not help anyone to make decisions more effectively.

### I. Supply Response: The Pricing Anchor for Manufactures

The art market contrasts sharply with those for manufactured products, such as steel bolts or ball bearings, in terms of determinacy of equilibrium price level. There the key to equilibration is responsiveness of supply. If, for example, a manufactured product's current market price happens to be well above its equilibrium level, as the text books tell us,

capital will flow into the production of the overpriced commodity, its output will be increased and its price driven downward. Thus the equilibrium price comes equipped with a powerful magnet capable of attracting actual market prices to it.

It is this mechanism that imparts value to pertinent information, for data on costs, on the nature of demand, and on the cost of capital are of value primarily because they help the observer to evaluate the equilibrium price, which is of practical interest *only* if there exist reliable forces pulling the actual prices in its direction.

### II. The Unanchored Prices of Noted Works of Art

We may well suspect, in contrast with the manufacturing case, that the equilibration process will be considerably weakened in a market where elasticity of supply is absolutely zero, as it is in the market for the noted works of noted but deceased artists (an occasional intrusion of forgeries aside).<sup>1</sup> One may even surmise that, as in stock prices, the market values of such works of art will exhibit random behavior.

Indeed, there are several distinctions between the workings of the securities and arts markets, all of which suggest that an equilibration mechanism is likely to be more feeble in the latter.

First, the inventory of a particular stock is made up of a large number of homogeneous securities, all perfect substitutes for one

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<sup>1</sup>I deal here with noted works by noted artists because the markets for the products of what are considered minor schools work very differently. As Montias has pointed out, a sudden rise in the popularity of such a group can elicit a flow of their works from attics and basements, thereby rapidly expanding their available supply.

another. Widely known paintings and sculptures are unique, and even two works on the same theme by a given artist are imperfect substitutes.

Second, a given stock is held by many individuals who are potentially independent traders on the near perfectly competitive stock market. The owner of a Cranach or a Caravaggio holds what may be interpreted as a monopoly on that work of art.

Third, transactions in a given stock take place frequently, indeed, almost continuously. The resale of a given art object may not even occur once in a century.

Fourth, the price at which a stock is exchanged is, generally, public information. The price at which an art work is acquired is frequently known only to the parties immediately involved. While, as I will argue, the availability of such information is not so helpful as is sometimes believed, it surely is unlikely to impede equilibration.

Finally, in the case of a stock we know, at least in principle, what its "true" (equilibrium) price should be—it is the stock's pro rata share of the discounted present value of the company's expected stream of future earnings. But, for a work of art, who would dare to claim to know the true equilibrium price? Distorting Oscar Wilde to my purposes, even those critics who claim to know the value of everything may know the true price of nothing.

In these circumstances it seems implausible that art markets possess anything like long-run equilibrium prices, let alone that there exist reliable forces that drive market prices toward them.

### III. On the Economic Value of Art Market Information

Those economists who helped to achieve it are proud of their role in the unbundling of the services of stock brokers, in good part because, as a result, the securities purchaser is no longer required to pay for research which most economists consider to be useless to the investor. If stock prices do indeed approximate random walks, as the evidence strongly indicates, then there is little that information can do to improve estimates of

future prices, the key forecast for the purchaser of stocks.

But, if art prices are no more orderly than the prices of stocks, and perhaps even considerably less so, how can data on past activity in the art market conceivably serve as a portent for the future? If stock market research is worthless for the stock market investor; if the stock purchaser can select as well by throwing darts at the financial pages as by following the advice of professional analysts (see, for example, Burton Malkiel, 1973), how much better off can the investor in art hope to emerge with the aid of similar data on art sales with all their warts and blemishes, or even with the help of someone who conducts some sort of "analysis" of those data, perhaps on the lines of the fundamental or technical approaches fashionable among stock market analysts?

### IV. Some Data and their Rate of Return Implications

While data on the art market are woefully incomplete and even those that are available are not easy to come by, there exists a remarkable source which permits analysis going beyond anything I have encountered in the literature. In one book of a three-volume set, Gerald Reitlinger (1961) provides an extensive compendium of the sales of art works by "...the best known painters of the world,"<sup>2</sup> extending over more than five centuries. A price is given for each reported sale, which seems to include every transaction involving the work of a painter on Reitlinger's list for which price data are known to be recorded. As the author describes it, "unless otherwise stated, the items refer to London sales. Until 1920 or thereabouts this means with few exceptions sales at Christie's" (p. 242).

<sup>2</sup>It is a noteworthy comment on the haphazard fluctuation of tastes that in the same passage in which Reitlinger ponders on the curiously long period during which Vermeer was ignored, he justifies his inclusion of Turner by the fact that he was a "...Monarch...in the salesroom of [his] day and a very curious chapter in the history of taste, which is so often the history of bad taste" (p. 241).

The art market simply does not provide the continuous data or even the continuous transactions that would be required for a systematic analysis of sophisticated issues such as a random walk hypothesis. However, analysis of simpler issues remains possible. Specifically, I will turn now to examination of the rate of return on investment in art.

Of the thousands of sales recorded between pages 241 and 506 of Reitlinger's book, there are a substantial number of cases in which a given work of art was resold two times and more during a 300-year period. We compiled a complete list of such multiple sales and their prices, and sought to determine what range of rates of return the investor could have hoped for during this period.

Specifically, the following procedure was employed: from the complete list of multiple sales we eliminated all cases in which an interval of less than 20 years intervened between the sales. Approximately 25 listings involved some inconsistencies and were eliminated. In another 25 or so, there were no firm price figures but only word of mouth financial information, and they too were eliminated.

This left us with a total of 640 transactions extending from 1652 to 1961. The reported prices were then deflated by a price index to transform them into pounds of constant purchasing power. For the years 1652 to 1952, the E. H. Phelps-Brown and Sheila Hopkins (1956) index of the prices of consumables was employed. For the period 1955–61, deflation was carried out using the International Monetary Fund Consumer Price Index (1979). The two indices, of course, do not match perfectly but permit a workable deflation procedure.

Finally, from these deflated figures, rate of return figures were calculated for each painting for the period between adjacent transactions. These were calculated from the standard continuous compounding formula  $y_t = y_0 e^{r(t-t_0)}$ . From these a set of measures of central tendency, that is, the mean, median, standard deviation, etc. were determined and a histogram of the observations was prepared. Let us, then, see what these showed.

## V. Results

As a standard of reference it should be noted that, apart from the time of the Napoleonic wars and a few other episodes that were relatively brief, the rate of inflation during the period that encompasses our data was extraordinarily low by current standards. Indeed, by and large the nineteenth century can be characterized as a period of deflation. Over the 300-year span containing our cases, the Phelps-Brown and Hopkins price index rose at an average rate less than 0.7 percent per year. At the same time, according to Sidney Homer (1977), the rate of interest on the safest securities of the British government ranged from a high of some 6 percent near 1800 during the Napoleonic wars, to a low of about 2.25 percent during the Victorian "great depression" of the 1890's in Britain. These include the famous "consols" which have no redemption date and which, literature recounts, were the mainstay of Victorian widows or surviving spinster daughters from financially comfortable families. Probably about 3.25 percent was a representative nominal rate of return for the period, providing a real return of, perhaps, 2.5 percent.

Now it should be recognized that ownership of a painting is a risky affair, aside from whatever financial uncertainty may be involved. A painting can be stolen or destroyed in a fire. English collectors after the restoration were spared the risk caused by wars and revolution (though the affair of the '45 glamorized by "Bonnie Prince Charlie" may have seemed rather a near thing at the time). Yet, London had undergone its great fire in 1666 which left, perhaps, one-fifth of the walled city intact, and organized firefighting techniques only arose well into the nineteenth century. The implication is that whatever the apparent rate of return the ownership of a painting yields, a substantial risk premium must be deducted from the figure to get at the true underlying rate of return.

In addition, the sales commissions charged by the sales agent should of course be subtracted from an art work's resale price in

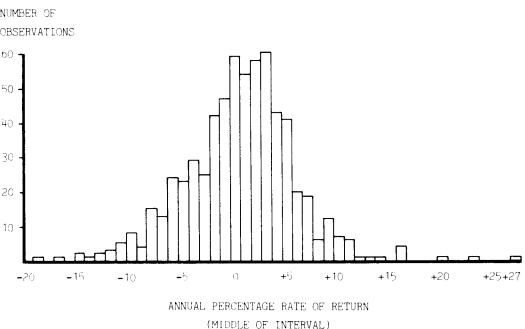


FIGURE 1

order to evaluate the true rate of return to the investor. Having no data on such selling fees in earlier centuries, we made no attempt to carry out the required subtraction. As a result of the omission of this adjustment as well as that of the risk premium, our calculated rates of return are undoubtedly over-evaluations.

With these observations in mind, what do our data show? To come to the central point they show that, on the average, the purchase and subsequent resale of a painting (making no allowance) for sales commissions, maintenance costs, etc.) brought an annual compounded rate of return of 0.55 percent in real terms. The median was somewhat higher: 0.85 percent. These returns are obviously far from princely. In comparison with government securities they imposed an opportunity loss upon the holder of the painting of close to two percentage points per year. That is, the rate of return on a median painting was about one-third as high as that on a government security, and the average return was only about one-sixth of the latter.

Not only were rates of return on painting as investment remarkably low, they were also remarkably dispersed, meaning that this form of investment was quite risky. Figure 1 is a histogram showing the frequency distribution of the rates of return on resales of paintings. We see that there are cases with compounded rates of return as high as 27 percent per year and others as low as -19 percent per year. In more than 40 percent of the cases returns were negative, and about 60 percent of the cases incurred an opportunity

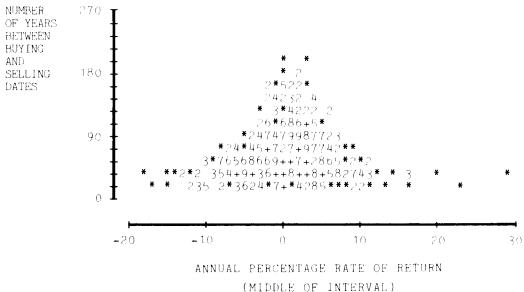


FIGURE 2

*Note:* Each point is plotted with an asterisk. When more than one point falls on the same plotting position, a count of the number of points falling there is given. When more than nine points fall on the same plotting position, the + symbol is given.

loss in the sense that they returned less than the real yield of government securities.

It may be noted that Figure 1 bears a remarkable resemblance to a normal probability distribution. This conjecture derived support from a Kolmogorov-Smirnov test of the divergence of our observed distribution from a normal distribution. Our calculation showed that the hypothesis that the two distributions are the same could not be rejected at the 0.05 percent confidence level. To that degree we can indeed conclude that art prices do behave randomly.

Figure 2 shows another attribute of our observations. The vertical axis represents length of time that elapsed between the purchase and sale of an art work, while the horizontal axis shows annual rate of return. The graph indicates that large gains or losses are experienced only by persons who hold works for a *relatively* brief period (say, less than fifty years) while as the holding period increases beyond that the range of earnings narrows and approaches very close to zero. This is, of course, what one should expect in a random process whose mean is approximately zero.

### VI. More on the Possibility of Profiting Through Knowledge

It is tempting, after looking at the preceding results and the Reitlinger data, to con-

clude that investment in art is indeed perilous, but that it is dangerous primarily for the amateur who does not know what he is doing. According to this view, people who understand art, who can foresee what works will emerge triumphant from the test of time, can surely do better. Particularly the professionals who have devoted their lives to art can expect to outperform the amateur who ventures into purchasing with the temerity derived from ignorance.

Dispassionate judgement of such contentions can only give rise to skepticism. First of all, the notion that professionals are better than amateurs as prophets of price in anchorless markets is certainly belied by the well-documented performance of stock market analysts.

Beyond the caution with which the analogy with the stock market should imbue us, the evidence of the history of art connoisseurship provides strong warnings of its own. It tells us that the main lesson imparted by the test of time is the fickleness of taste whose meanderings defy prediction. Vermeer, as we know, virtually disappeared from sight for several centuries, only to be resurrected as a producer of works of the most priceless variety. El Greco is another modern rediscovery. Turner, who for a while was a leader of the British art world, is said later to have become an embarrassment to the Tate gallery because of the large collection of his works stored in their cellars; though they are now among the most valued items in the museum's collection. The pre-Raphaelites are "in" once more. Reitlinger's list of painters contains many unrecognizable names such as Wouverman, Berchem, and Van Ostade, who once were anxiously sought after but who were all but forgotten when Reitlinger wrote. Apparently some of them have again become more fashionable. Who knows if that will happen to others and, if so, when that will occur?

It is true, of course, that the profitable investments in our sample were made by those who purchased Vermeers, Turners, and pre-Raphaelites when they were not à la mode, and the heavy losers were the early

buyers of Berchem, Van Ostade, and their ilk. But that is only to say that a winner is a winner and a loser is a loser. It is, perhaps, a helpful observation to the art historian, whose very legitimate metier is an exercise in hindsight. It is, however, no help to those who would foresee the future in making art purchases for investment. Only those critics who have succeeded as instruments for the redirection of general tastes seem really to have been in a position to profit from their judgement.

## VII. Concluding Comment

I have argued here that if prediction as applied to stock prices is a losing game, it is certainly unlikely to be a winner in the market for works of art. Of course, none of this implies that people should desist from the ownership of art works. It may well represent a very rational choice for those who derive a high rate of return in the form of aesthetic pleasure. They should not, however, let themselves be lured into the purchase of art by the illusion that they can beat the game financially and select with any degree of reliability the combination of purchase dates and art works that will produce a rate of return exceeding the opportunity cost of their investment.

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