

# On the rate of return in the art market: Survey and evaluation

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## Abstract

Existing estimates of rates of return on single art objects and whole collections are surveyed and critically evaluated. The psychic benefits from art are, in the few cases they are considered at all, derived from the difference to financial returns on other markets. This paper discusses determinants of psychic benefits and suggests rental fees and willingness to pay studies as a possible way to analyze and estimate the psychic benefits from art.

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## 1. A host of studies

The contribution by Baumol (1986) opened the way to a great number of studies on the rate of return of paintings. While there were earlier works, well known ones such as Anderson (1974) and Stein (1977), and less known ones such as Wagenführ (1965), Baumol (1986) put the return studies into the perspective of

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the modern economics of the arts (see, e.g., Throsby, 1994). His results are here to stay: the (financial) rate of return on paintings is lower than for investment in financial assets (given higher risk in the former market) because paintings also yield a psychic return from owning and viewing the paintings. Table 1 provides an overview of major studies corroborating this insight. It documents that the studies have gone beyond paintings and have considered other art works such as prints, violins and even beer mugs. They also differ greatly with respect to the period covered and its length, as well as many other attributes such as the (minimum) length of the holding period.

The studies are subject to four major problems, which can only be touched upon briefly:

(1) *Data*. Most analyses are based on auctions (because the data are easily available and reliable) but disregard other sales which may be quantitatively more important and may exhibit different price movements. Moreover, auction prices should be interpreted as wholesale prices referring mainly to dealers; private collectors usually buy at higher and sell at lower prices to art dealing houses (see Guerzoni, 1994). Thus, dealers enjoy a systematically higher and collectors a systematically lower rate of return than suggested by the studies reproduced in Table 1.

(2) *Transaction cost*. Most studies (an exception is Frey and Pommerehne (1989)) disregard the high auction fees, which range from about 10 to 30 percent when buying and selling, as well as insurance and other handling cost because they vary considerably between countries, periods, auction houses and individual transactions (e.g., in the case of very high prices, auction fees are determined by bargaining and are likely to be lower; in other cases they may be even higher). At least for the past, such cost are often unknown or unreliable but due to their size they significantly influence the calculated rates of return.

(3) *Taxation*. No study seriously takes into account the taxes due when transacting and holding an art object though it is widely known that in many countries investment in art is one of the major possibilities to escape or at least lower the tax burden. It is, however, practically impossible to calculate rates of return net of taxes because they vary greatly between countries and periods. Moreover, it is often unknown where an art object bought is finally located (and thus unclear which country's taxes apply), and, above all, what the differences between formal tax codes and actual taxation are. In view of the significant size of many of the taxes involved this is a major, but perhaps inevitable shortcoming.

(4) *Comparison to financial assets*. Almost all studies only make a rather superficial comparison to the rates of return for alternative investment opportunities. The relevant alternative investments are unclear, and for past periods insufficiently known. Even a comparison to the rates of return in stocks is unsatisfactory as they normally do not consider dividends (see, e.g., Goetzman, 1993, p. 1374). For these reasons, most analyses make a comparison with interest rates on U.S.

and British government bonds or with U.S. stocks and thus neglect investments in other countries and in other assets such as houses or land.

A more *general shortcoming* of the art returns studies is their undue focus on mechanistic calculations and their disregard of the underlying behavior of the

Table 1  
Returns on investments in art and collectibles

Authors	Object	Time period	Return (in percent)		Return on alternative investments (in percent)
			Real	Nominal	
Stein (1977)	Paintings in general <sup>a</sup>	1946–1968		10.5	14.3 (stocks)
Baumol (1986)	Paintings in general	1652–1961	0.55		2.5 (rough estimate)
Frey and Pommerehne (1989)	Paintings in general	1635–1949	1.4		3.3 (government bonds)
	Paintings in general	1950–1987	1.6		2.4 (government bonds)
Goetzmann (1993)	Paintings in general	1716–1986	2.0		3.8 (B. of Engl. rate) <sup>b</sup>
	Paintings in general	1850–1986	3.8		1.8 (B. of Engl. rate) <sup>b</sup>
Anderson (1974)	Paintings in general	1800–1970		3.3	about 6.6 (stocks) <sup>c</sup>
	Late Renais. paint.	1951–1969		7.8	
	Impressionist paint.	1951–1969		17.2	
	Drawings	1951–1969		27	
Buelens and Ginsburgh (1993)	Paintings in general	1700–1961	0.9 <sup>d</sup>		
	Impressionist paint.	1700–1961	3.0 <sup>d</sup>		
	English paintings	1700–1961	0.6 <sup>d</sup>		
Rouget et al. (1991)	Paint. from the 50'	1960–1990	5.9		
Chanel et al. (1994)	Paintings of selected artists	1960–1988	6.7		higher (Japanese stocks) lower (US stocks)
Mok et al. (1993)	Modern Chinese paint.	1980–1990		53	
Holub et al. (1993)	Watercolors	1950–1970	15.8		
	Drawings	1950–1970	11.3 <sup>a</sup>		
Pesando (1993)	Prints	1977–1992	1.5		2.5 (US gov. bonds), 8.1 (stocks)
Graeser (1993)	Antiq. furniture	1967–1986		7	7.3 (90-day T-bills)
	Tables	1967–1986		3.5	
	Beds	1967–1986		15.3	
Ross and Zondervan (1993)	Violins of Stradivari	1803–1987	2.2		

Table 1

Authors	Object	Time period	Return (in percent)		Return on alternative investments (in percent)
			Real	Nominal	
Kelly (1994)	Mettlach beer steins	1983–1993	– 1.1		3.3 (T-bills)
Frey and Serna (1990)	Collections of:				
	– H. Mettler: impressionist paint.	1915–1979	2.8		1.2 (Swiss gov. bonds)
	– G. Guterman: old masterpieces	1981–1988	3.2		6.9 (US gov. bonds)
	– British rail pension fund: overall			6.9	7.5 (Fin. Times Index)
	Asiatica, old masterp.	sold 1987		3	
	Impressionist paint.	sold 1989		9.9	

<sup>a</sup> Only artists who died before 1945.

<sup>b</sup> Art and stock return (including dividends) are about equal over the period 1850–1986 (see Goetzmann, 1993, p. 1374).

<sup>c</sup> See Anderson (1974, p. 25).

<sup>d</sup> See Buelens and Ginsburgh (1993, p. 1358, Table 5).

<sup>e</sup> Paintings had about the same performance as drawings (see Holub et al., 1993, p. 65).

various actors. This paper looks at these missing *behavioral* foundations. In particular, we seek to analyze the determinants of the *psychic returns* from art, an aspect which has been completely disregarded in the literature. This should come as a surprise as in many studies the implied psychic return is at least as large as the financial return on art investment (e.g., Frey and Pommerehne, 1989). Section 2 inquires into the behavior of actors in the art market and identifies its essential characteristics. In Section 3 we analyze the factors influencing the distribution of art as an investment and as a consumption good, and the final Section 4 studies possibilities to empirically estimate the psychic benefits of art.

## 2. Behavior in art markets

We propose that a major characteristic of art markets is the greater importance of *behavioral anomalies*, i.e. of systematic deviations from the von Neumann-Morgenstern axioms of rational behavior and, in particular, from subjective expected utility maximization (see, e.g., Machina, 1987). It has been shown that irrationalities such as the January-, Holiday-, Christmas- and Small-Firm-effects are relevant in financial markets (Thaler, 1993), i.e. that arbitrage does not wipe out supernormal profits in this most perfect market. Due to the data limitations and other problems mentioned above it is not possible to strictly test for efficiency in

the art market, but there are good reasons why particular anomalies are even larger and more widespread in the art as opposed to the financial markets:

(a) Many private collectors are not profit oriented and are therefore particularly prone to behavioral anomalies (see, e.g., Eichenberger, 1992). Circumstantial evidence suggests that private collectors are strongly subject to the endowment effect (an art object owned is evaluated higher than one not owned), the opportunity cost effect (most collectors isolate themselves from considering the returns of alternative uses of the funds) and the sunk cost effect (past efforts of building up a collection play a large role). A bequest aspect is also relevant: gifts of parents to their children in the form of art objects are valued more highly by the bequesters than the corresponding monetary value because they transfer therewith also part of their own 'nature'.

(b) Corporate collecting, apparently undertaken in a profit oriented setting, is often the province of the leading persons of the firm and is purposely managed outside the realm of profit thinking. Rather, especially when firms start to collect art, this activity belongs to the top managers' discretionary room and is used for consumption purposes. It is also typical that the best known institutional art investment was undertaken by the British Railway Pension Fund, i.e. an institution not under competitive pressure, which indeed made a lower return than it could have made with financial investments (Table 1).

(c) Public museums are relevant buyers of art. The top administrators are subject to many severe constraints; thus they are (with few exceptions) neither able nor willing to sell art objects (see Frey, 1994), nor do they change the speciality of their collections, and thus prevent arbitrage. In order to buy a particular art object of some value they have to lobby for specific funds with the responsible ministry, and cannot use these for any different purpose. Moreover, fundraising is easier during business upturns (where prices tend to be high) and for acquisitions of the 'latest hyped contemporaries' (Singer and Lynch, 1994, p. 22). As a result, sellers to museums enjoy a systematically higher rate of return (Pommerehne, 1994). The managers of private museums are also strongly restricted in their activities by the trustees, who often interfere and – being collectors themselves – tend to transfer their own anomalies to their museum.

In response it could be argued that for a market to be efficient it suffices to have a limited number of persons arbitraging. However, the market was only partly open in the past. Though the situation improved during the 20th century, arbitrage is still restricted. Short selling is impossible and supply is rather inelastic in the short term, as it takes about 3 to 6 months to market an object (i.e. to have it accepted by the auction house, to take photographs, to print and distribute the catalogues, to publish appropriate advertisements, etc.). Moreover, asymmetric information is prevalent in many instances. In line with these arguments, Pesando (1993) presents evidence of striking anomalies even in the market for prints which, due to multiplicity, is more liquid than that for other art objects. However,

especially top paintings of top artists are traded in a very thin market. Art speculators may correctly forecast rising demand for top paintings, but it is nearly impossible for them to foresee whether export and other restrictions, arbitrarily imposed by government in response to fickle public pressure, leads to a dramatic fall in price. More generally, the dependence of art prices on political and administrative interventions hinders successful arbitrage. The incompleteness of art markets which is partly institutionally induced makes it relatively uninteresting to study average returns over, say, the market for paintings as a whole. Important are the vast differences in the possibilities to exploit market imbalances which lead to some great gains but also to great losses. It follows that further progress in the economics of the art market requires a thorough analysis of actor's behavior which depends crucially on institutional determinants such as the way museums are organized or governments and public administrations intervene.

### 3. Art as an investment or as a consumption good

The return from owning art does not only consist in expected price rises but also in the psychic return, i.e. art is also a consumption good. Economists' research on the (financial) returns has almost completely disregarded this aspect which basically distinguishes the art market from pure financial markets. In the following we analyze the determinants affecting the marginal choice between buying and holding art as an investment or as a consumption good, with the respective consequences for financial returns. Our analysis also contributes to knowing what type of actors, in the extreme 'pure collectors' and 'pure speculators', dominate the art market, and what short run gains and losses occur due to adjustments during disequilibria.

We distinguish five determinants:

- (1) *Change in risk.* 'Pure speculators' *ceteris paribus* leave the market when unpredictable financial risk (price variations) as well as other risk factors (such as uncertain attribution) increase. 'Pure collectors' are, at least in principle, insensitive to these risk factors; they buy and hold an art object because they like it and do not mind if its price variability increases or if its attribution becomes more uncertain. The more pure collectors dominate the market, the lower is the financial return in equilibrium; the major part of the return is made up of psychic benefits.
- (2) *Change in cost.* An increase in the cost of selling an art object, or a restriction in selling due to government intervention tends to drive out pure speculators but should not affect pure collectors because the latter do not intend to sell their holdings (though they sometimes actually do). A rise in the cost of storing and insurance may also systematically shift the balance between types of buyers and sellers because they are likely to affect them differently.
- (3) *Unexpected change in taxes.* When transactions in art are taxed more heavily,

financial speculators find it profitable to move to other markets. On the other hand, when the taxes are generally raised, people buying art only for financial reasons are attracted to the art market if it offers better chances to avoid or cheat on taxes than investments in other assets. The art market is then increasingly dominated by pure speculators, and equilibrium financial net return equals that in any other market. A major consideration for collectors is whether an increase in the value of their holdings is taxed (in most countries, it should be, but taxation is often not carried out) or whether it is taxed only when sold. In the latter case, the market is made even thinner.

(4) *Unexpected change in regulations.* Despite GATT liberalizations and large scale integrations (e.g., the European Union) the restrictions on the trade in art are becoming more severe. This hampers international trade in art, leads to the establishment of local markets and tends to favor pure collectors who do not intend to trade.

(5) *Change in genres and tastes.* For some genres of paintings, demand follows a systematic time sequence. Portraits are at first of little interest except for the persons represented and his/her family and company, and are therefore traded infrequently. Provided the painter turns out to become famous, the genre becomes unimportant and the picture is traded. An example would be portraits by Titian where it matters little today who is represented. Social determinants affect the psychic benefits of owning particular genres of art objects. For instance, religious pictures representing crucifixion or the torturing of saints, motifs offensive to other religions, paintings of bloody war scenes or of dead game, and other ‘politically incorrect’ pieces of art, are out of taste today and are therefore less demanded by private collectors. The corresponding market, as far as it exists at all, is dominated by buyers who are little affected by such considerations, in particular art museums which can argue that they are only interested in the art historic aspects, or in their traditional area of collection. Thus pure collectors tend to dominate the market, and in equilibrium psychic benefits are high and financial art market returns low in such paintings. Speculators will be active in such art markets only if they are able to foresee a change in taste – a rather unlikely event.

#### **4. Measuring the psychic benefits of art**

So far, the psychic benefits of art have been measured by looking at the differences between the financial returns of art investment compared to the respective returns in financial assets. This residual method is wrought with serious difficulties as is well known from the measurement of technical progress in growth theory, and of compensation differentials in labour markets. We therefore suggest that two more direct approaches are considered.

The consumption benefits of viewing art should be revealed in the *rental fees for art objects*. In that case, the consumer pays for enjoying art while he or she is

unaffected by changes in art prices. However, a market for renting art objects does not exist.<sup>1</sup> The question is why such a market revealing ‘pure’ psychic benefits from art is absent. The arguments normally offered are not convincing: The cost of transaction are not higher than in other rental markets, and the risk of lending can be covered by appropriate insurance and by securities; after all art objects in private collections and objects given to special exhibitions are routinely covered (a representative rate is 3% p.a.).

We submit that the reason must be sought in the property rights and a corresponding *ownership effect*. An art object yields *additional* benefits if it is owned (and not just rented) because the art object’s ‘aura’ (see Benjamin, 1963) is therewith appropriated. Consequently, neither are potential hirers willing to pay ‘market’ rents (covering capital cost, insurance, etc.), nor can present owners be sufficiently compensated by such rents for foregoing the art object when it is rented out. It may be argued that this holds for private collectors but not for galleries and museums. However, most owners of private galleries are art lovers themselves and often behave more like private collectors than like purely commercial enterprises. Indeed, many major gallery owners have a sizeable private collection of their own (Beyeler of Basle is a good example). Museums and galleries with very few exceptions only *exchange* art objects among themselves, but do not unilaterally rent out (Frey (1994) discusses the reasons). This leaves purely commercial galleries – usually organized in chains – where the owners are not subject to the ownership anomaly. We expect and predict that such firms will rent out paintings and other art objects in the future but that this market will remain unimportant compared to the major galleries where important and expensive art is bought and sold. Thus, the art rental market is not likely to inform us about the *quantitative* aspect of the psychic benefits of art.

A more promising, but largely untried approach to measure the size of psychic benefits from art objects is to estimate the marginal willingness to pay for viewing art in museums for which several approaches may be useful. One is to analyze the determinants of popular referenda on cultural budget expenditures or on buying specific works of art, such as the two Picasso paintings in Basle in 1967 (see Frey and Pommerehne, 1989, ch. 10). A more indirect method is to infer the citizens’ willingness to pay for museums from median voter models which presuppose

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<sup>1</sup> This statement is based on our extensive survey of auction houses and major galleries. Of course, commercial art renting exists to a limited extent (examples are given by Stein (1977, p. 1029)), but it is not of any great importance compared to say, car or house rentals; moreover, expensive works are explicitly excluded (an example is Art Concept, Leasing Gesellschaft für moderne Kunst, in Wuppertal, Germany, which excludes from renting all art objects worth more than DM 15000). Where commercial art renting exists it is often connected with renting other objects, such as furnished houses, or museum rooms for special occasions. But even this is on a small scale only. However, in Europe, most art renting programmes are heavily subsidized and concentrate on comparatively inexpensive contemporary art (examples are in the Netherlands and Denmark; for ‘artotheks’ in general, see Dietze (1986)).



stringent conditions on the politico-economic process. For some museums located rather isolated in the country-side the travel cost method may be appropriate. Hedonic property price and wage equations may be used when the respective markets are known to function well. In any case, such analyses require that unconnected aspects such as the location and attractiveness of the museum building itself be carefully separated from the benefits derived from the art objects. Most likely, a skillful combination of the estimates based on a variety of approaches will yield the most satisfactory and robust estimates of the psychic benefits from art.

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