

The Effect of Scarcity on Anticipated Price Appreciation

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Researchers in psychology and marketing have found that consumers' perceptions and evaluations of a product's attractiveness, desirability, expensiveness, quality, and taste are affected by knowledge that the product is scarce. This study examines scarcity's effect on a new variable-anticipated price appreciation. Although scarcity does not affect a product's actual potential for price appreciation, news reports of scarce collectibles that have appreciated in value may lead people to develop naive economic theories associating scarcity with price appreciation. Consistent with this expectation, we found that scarcity increased the anticipated price appreciation of two collectible products. The practical implications of this result are discussed along with issues for future research.

Marketers often use scarcity appeals in advertising and promotion. Products as varied as art prints, automobiles, collector's plates, coffee mugs, dolls, fashions, guns, lipstick, liquor, shoes, watches, and wines are produced in limited quantities and are promoted as rare, scarce, or difficult to obtain. The pervasiveness of these scarcity appeals makes scarcity's effects on consumers' perceptions and evaluations of products an important topic of study. Researchers in psychology and marketing have found that scarcity positively affects consumers' perceptions of product attractiveness (Szybillo, 1975), desirability (Fromkin, Williams, & Dipboye, 1973; Lynn, 1989), expensiveness (Atlas & Snyder, 1978; Lynn, 1989; Verhallen & Robben, 1994), quality (Atlas & Snyder, 1978), and even taste (Ringold, 1988; West, 1975; Worchel, Lee, & Adewole, 1975). As Adam Smith noted over 200 years ago, "the merit of an object, which is in any degree either useful or beautiful, is greatly enhanced by its scarcity..." (Smith, 1776/1937, p. 172).

This paper examines scarcity's effect on a new dependent variable-anticipated price appreciation. Consumers may believe that scarcity increases a product's potential for price appreciation because they have heard about scarce products whose prices increased, and have consequently developed naive economic theories causally linking scarcity to price appreciation (Lynn, 1992b). The news media often contain reports about antiques and other collectible goods that have sold for much more than their original prices. Invariably, these products are scarce at the time of the reported sale, so consumers may learn to associate scarcity with price appreciation.

It is important to point out that scarcity has no effect on a product's actual potential for price appreciation-any consumer beliefs in such a causal relationship are simply wrong. Scarcity is not a

necessary condition for price appreciation (although increasing scarcity is), because the prices of many originally common products, like Depression glassware, have appreciated over time. Nor is scarcity a sufficient condition for price appreciation, because few scarce products ever increase in price. For example, it has been estimated that 98% of all artwork never appreciates (Deutschman, 1992).

Economic theory makes it clear that scarcity is reflected in current, not future prices. Of course, price appreciation is a function of increasing scarcity, which is why there are scarce collectibles whose prices have increased. Consumers who hear about such collectibles and learn to associate scarcity with price appreciation are making an error by failing to distinguish between current scarcity, which affects only current prices, and increasing scarcity, which affects price appreciation.

The possibility that consumers may believe that scarcity increases a product's potential for price appreciation has both theoretical and practical importance. From a theoretical perspective, scarcity's enhancement of anticipated price appreciation may help to explain some scarcity effects on product desirability, because expected price increases should appeal to consumers looking for investments. This is not to suggest that anticipated price appreciation mediates all scarcity effects on desirability. Numerous other processes also underlie this effect (see Lynn, 1992a, for a list). However, anticipated price appreciation, if related to scarcity, may be a previously unconsidered mediator of some scarcity effects on desirability.

A possible scarcity effect on anticipated price appreciation has practical importance because a product's potential for price appreciation can be used to sell the product as an investment. For example, the ad copy for a recently marketed collector's plate read, "And like exceptional collector's plates that command hundreds of dollars on the plate market, Solitary Watch appears to have what it takes to go up in value once the edition closes." In this case, the Bradford Exchange attempted to increase sales of the plate by leading consumers to anticipate an appreciation of the plate's market price. Similar attempts to sell consumer goods as investments are possible for other collectible products as well. As Swatch store owner Raman Handa noted about selling collectible watches, "When they (consumers) think they are investing, it makes the sale much easier" (Oliver, 1993, p. 343). Even consumers not explicitly looking for an investment may feel more comfortable buying something that is expected to appreciate in value, because such expectations reduce the financial risks of buying something people may later decide they do not want.

Scarcity's effect on anticipated price appreciation was tested in a 2 x 2 between-subjects experiment reported below. Subjects read an advertisement for either a U.S. stamp or a U.S. coin. The ad contained information about the product's supply (either 15,000 issued/minted, or 1,500,000

issued/minted), along with a picture of the product and other product descriptions. After reading the ad, subjects rated the product on anticipated change in price, as well as several other dimensions.

Method

Subjects and Procedure

One hundred fifty undergraduate business students participated in this study for extra class credit. They were given one of four randomly ordered experimental booklets containing a stimulus advertisement and numerous rating scales. Each of these elements is described in greater detail below.

Stimulus Advertisement and Manipulations

Subjects were shown an advertisement for a collectible good that contained the experimental manipulations. Half the time the advertisement was for a "United States Lunar Landing Commemorative Stamp" and half the time it was for "The American Eagle Silver Bullion Coins." In each product replication condition, the ad contained a photocopied picture of the advertised good, along with written information about the good. This information did not include the price of the stamp or coin, but it did contain the scarcity manipulation, among other facts. Half the time the stamp or coin was described as scarce-only 15,000 stamps issued (or coins minted). Half the time the stamp or coin was described as plentiful-over 1,500,000 stamps issued (or coin minted).

Dependent Measures

The next page of the booklet contained three rating scales. Subjects were asked: "What do you think the market price of this stamp (or coin) will be like several years from now?"; "What do you think that demand for this stamp (or coin) will be like several years from now?"; and "What do you think the supply of this stamp (or coin) will be like several years from now?" Subjects responded to these questions on numbered 9-point scales whose endpoints were labeled much less than current (price/demand/supply, for the three questions, respectively) and much more than current (price/demand/supply). Instructions at the top of this page permitted subjects to look back at the ad when completing those rating scales.

The final page of this booklet contained four rating scales. Subjects were asked: "How much would you like to have this stamp (or coin)?"; "How expensive do you think this stamp (or coin) is at this time?"; "How large do you think the current demand for this stamp (or coin) is?"; and "How large do you think the current supply of this stamp (or coin) is?"

Subjects responded to these questions on numbered 5-point scales whose endpoints were labeled *not at all* (_____/expensive/large/large, for the four questions, respectively) and *very* (much/expensive/large/large). Instructions at the top of this page asked subjects to complete the scales without looking back at the advertisement or their previous ratings.

Results

Manipulation Check

Subjects were asked to rate the current supply of the stamp/coin in order to check the effectiveness of the scarcity manipulation. A 2 x 2 between subjects ANOVA on this measure produced a significant effect for the manipulation of scarcity, $F(1, 146) = 10.76$, $p < .002$, but not for the manipulation of product, $F(1, 146) = 2.15$, ns, or the interaction of scarcity with product, $F(1, 146) = 2.32$, ns. As intended, subjects thought that the current supply of the stamp/coin was smaller when only 15,000 were said to be produced than when 1,500,000 were said to be produced ($M = 2.53$ vs. 3.15).

Price Appreciation

The principal dependent measure in this study was a rating of the future price of the stamp/coin. This rating was made on a 9-point scale ranging from 1 (much less than current price) to 9 (much more than current price). The mean rating was 6.17, so, overall, subjects thought that the price of the stamp/coin would increase in the future. A 2 x 2 between-subjects ANOVA on this measure produced a significant effect for the manipulation of scarcity, $F(1, 146) = 7.91$, $p < .006$, but not for the manipulation of product, $F(1, 146) = 1.00$, ns, or the interaction of scarcity with product, $F(1, 146) = 0.27$, ns. Consistent with the research hypothesis, subjects thought that the price of the stamp/coin would increase more when only 15,000 were said to be produced than when 1,500,000 were said to be produced ($M = 6.25$ vs. 5.81).

Additional Measures

Subjects were also asked to rate the change in demand, the change in supply, the current expensiveness, and the current demand for the stamp/coin as well as how much they would like to have it. These measures were collected to replicate previously demonstrated scarcity effects and to explore other potential effects of scarcity. Each of the variables was subjected to a 2 x 2 between-subjects ANOVA. However, none of these analyses produced a significant scarcity main effect: change in demand ($M = 5.44$ vs. 5.85), $F(1, 146) = 2.21$, ns; change in supply ($M = 3.88$ vs. 3.49), $F(1, 146) = 1.38$, ns; current expensiveness ($M = 2.71$ vs. 2.67), $F(1, 146) = 0.12$, ns; current demand ($M = 2.80$ vs. 2.73), $F(1,$

146) = 0.08, ns; and desire to have ($M = 2.81$ vs. 2.72), $F(1, 146) = 0.16$, ns. Nor did these analyses produce a significant scarcity by product interaction (all F s < 2.33, ns).

Discussion

This study expands the scarcity literature in psychology and marketing by demonstrating a previously unstudied effect of this independent variable. We found that scarcity increased the anticipated price appreciation of collectible products. This effect was not mediated by scarcity effects on perceptions of change in demand, change in supply, current expensiveness, current demand, or product desirability because scarcity did not significantly affect these variables in this study. Although it would be difficult to prove for certain, this effect is probably due to a naive economic theory associating scarcity with price appreciation. Such a naive economic theory might result from the repeated pairing of scarcity with price appreciation in news reports of scarce collectibles that have sold for much more than their original prices. These news reports may lead consumers to believe that price appreciation is caused by scarcity, although it is actually increased scarcity that is responsible for the price increases in these cases.

This study also contributes to the scarcity literature by suggesting a new explanation for scarcity's enhancement of desirability. People may desire some scarce products more than available ones because they believe that the scarce products will increase in price over time. Such price appreciation is a desirable attribute in a product because it means that the product could be sold at a profit in the future. Even if a buyer never intends to sell the collectible, he or she may take pride in possessing an object whose value increases over time. Scarcity's effect on anticipated price appreciation did not translate to increased desirability in this study, but the subjects in this study were not selected from among coin and stamp collectors. Presumably, scarcity's enhancement of price appreciation would more strongly affect the desirability of a collectible among those people interested in that category of collectibles.

In addition to expanding the scarcity literature, this study has practical implications for marketers' use of scarcity appeals in advertising and promotion. Specifically, it suggests that scarcity claims can be used in marketing communications to heighten consumers' beliefs that a collectible product will appreciate in value over time. The manufacturers of limited-edition collectibles will find this effect helpful in marketing their products as investments. Even the manufacturers of more commonplace, noncollectible products can benefit from this effect by giving away limited-edition premiums with purchases of their products. Many premiums have become hot collector's items

themselves, so consumers may value at least some premiums as potential investments. If so, then the promotional value of premiums would be enhanced if they were described as scarce and were, as a consequence, perceived as having stronger potentials for price appreciation.

The results of this study clearly demonstrate that scarcity can increase the anticipated price appreciation of a product. However, it is not clear how generalizable this effect is across different products and populations. Most products depreciate rather than appreciate in value. Since this is widely known, it is doubtful that scarcity will produce anticipations of price increases for any and all products. Most likely, scarcity's enhancement of anticipated price appreciation is limited to collectibles and other product categories that have some visible history of appreciation. Future research should test this hypothesis and identify other product characteristics that moderate scarcity's enhancement of anticipated price appreciation.

The sample in this study was drawn from undergraduate business students at a large, urban, commuter university. The ages and life experiences of these students tend to be more diverse than those of typical undergraduates at more traditional schools. Nevertheless, there is some question about the generalizability of this study's results to other populations. In particular, it is not clear how much these results depend on the relative ignorance of the subject population about collectibles and collecting. Since scarcity does not increase actual potential for price appreciation, it is possible that highly knowledgeable collectors would not make the error of believing scarcity to be a cause of price appreciation. Consistent with this possibility is the fact that Wooley's (1982) chapter on collectibles in the Encyclopedia of Investments does not mention scarcity in his discussion of special attributes that make a collectible a good investment. Here is one knowledgeable collector who apparently knows that scarcity does not increase price appreciation. Of course, many collectors are amateurs with little expertise, so the results of this study probably do generalize to the majority of collectors, even if they do not generalize to the most knowledgeable ones. This is another empirical question that should be addressed in future research.

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