Stardom and Talent

By MOSHE ADLER*

The phenomenon of stars is defined by Sherwin Rosen to be one "wherein relatively small numbers of people earn enormous amounts of money and dominate the activities in which they engage" (1981, p. 845). Rosen sets out to explain two aspects of this phenomenon: persons with only a slightly greater talent command much higher incomes than those who are only slightly less talented; output is concentrated on those few who have the most talent. Rosen's explanation consists of two factors: lesser talent is a poor substitute for greater talent, and either the activity can be reproduced endlessly (for example, on records) at a fixed cost, or the cost of production does not rise in proportion to the size of the seller's market (a better surgeon can perform better operations and more of them within a given time).

Rosen explains why large differences in earnings could exist where there are only small differences in talent. This paper explains why large differences in earnings could exist even where there are no differences in talent at all. In other words, it explains why there could be stars among individuals known to have equal talents.

I. Analysis

The main argument of this paper is that the phenomenon of stars exists where consumption requires knowledge. The consumer's utility function is similar in spirit to the one developed by George Stigler and Gary Becker (1977), where consumers accumulate "consumption capital." As an example, consider listening to music. Appreciation increases with knowledge. But how does one know about music? By listening to it, *and by discussing it with other persons who know about it*. In this learning process lies the key to the phenomenon of stars.

The learning process in this paper adds to the learning process in the Stigler-Becker framework the element of discussion with knowledgeable individuals. By itself, the Stigler-Becker model is sufficient to yield that consumers will not diversify indefinitely either across activities, or across individuals within a given activity. (Stigler and Becker did not make this point.) An opera fan must forego some fields of interest (say, golf, rock music) for the sake of greater knowledge of opera. Once a field of interest is chosen, the fan must forego having very little knowledge about a great number of performers for the sake of greater acquaintance with the work of a few. Each person ends up with a limited number of artistic activities and, within each activity, a limited number of stars. What remains to be explained is why everyone would choose to have the *same* stars.

Here, the need to discuss with other knowledgeable individuals in order to know is essential. If every individual were knowledgeable about a different artist, no discussion would be possible. One is better off patronizing the same artist as others do. It is plausible to assume that the cost of searching for knowledgeable discussants is minimized if one chooses the most popular artist. Thus, if other artists are not cheaper by more than the savings in search costs, one is better off patronizing the star. Alternatively, if other artists are not sufficiently *better*, one is better off patronizing the star. To reemphasize, the star need not possess greater talent. Stardom is a market device to economize on learning costs in activities where "the more you know

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the more you enjoy." Thus stardom may be independent of the existence of a hierarchy of talent.

II. The Definition of Talent[1]

Assume an economy with identical consumers and nonidentical producers called artists, denoted by X, Y, and Z. Let a consumer's utility from the consumption of art, U, be independent of the consumption of all other goods.

$$U = U(x, y, z), \tag{1}$$

where x, y, and z are measured in units of time that the consumer devotes to the art produced by X, Y, and Z. For music this would be listening time and for paintings, observation time.[2]

Two artists, X and Y, are said to have lesser, equal, or greater talent if the utility function satisfies the respective condition:

$$U(x,0,0) \lesseqgtr U(0, y,0) \tag{2}$$

for all x, y such that $x = y$. It is not necessary that the inequals will have the same direction at all levels of $x = y = z$. It is assumed, however, that this is the case.

III. The Model

The simplest model assumes only two artists of equal talent, X and Y. Learning about the artists involves direct contact with their work (listening to their music, observing their painting, etc.), and discussing the work with other knowledgeable individuals. Assume that the learning process is of a fixed proportion between direct contact time and discussion time. In my model, there is no distinction between learning and consuming. One enjoys both direct contact with art and discussion of art, or one learns through consumption. Call the composite good of contact with art and discussion of art—art. The "addictive" nature of art where specialization is preferred yields concave indifference curves. A consumer prefers c units of x or c units of y to any combination of x and y totalling c units. Figure 1 depicts the indifference map.

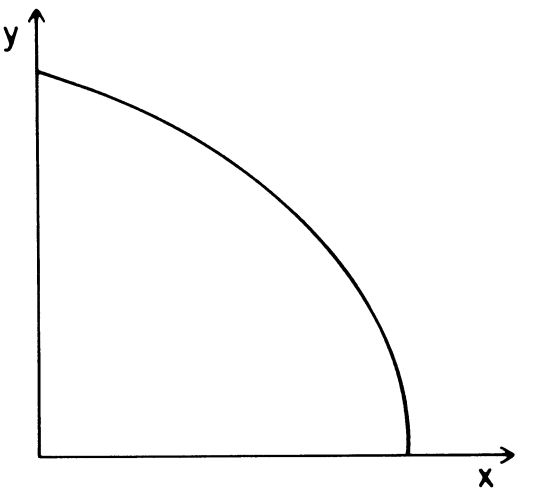


FIGURE 1

To illustrate, the indifference map could be generated by a separable utility function of the form

$$U(x, y) = u(x,0) + u(0, y). \tag{3}$$

Since x and y are of equal talent, u has only one parameter.

$$u = u(v); \qquad v = x, y, \tag{4}$$

if $x = y, u(x) = u(y)$. Because enjoyment increases with knowledge the marginal utility is increasing: $u' > 0, u'' > 0$.

To determine the consumer's choice, assume that the only cost in the consumption of art is time. This cost consists of two elements: the actual time devoted to art (direct contact and discussion), and the time devoted to the search for individuals with whom one could discuss the artist one chooses. Assume that the search time is $1/X$ and $1/Y$ where capital letters indicate the total number of consumers who choose the

[1] Thanks go to Leon Wegge for insisting that such a definition is required, and to Tom Russell for simplifying my definition.

[2] The time devoted to art includes the time devoted to the discussion of art. See below.

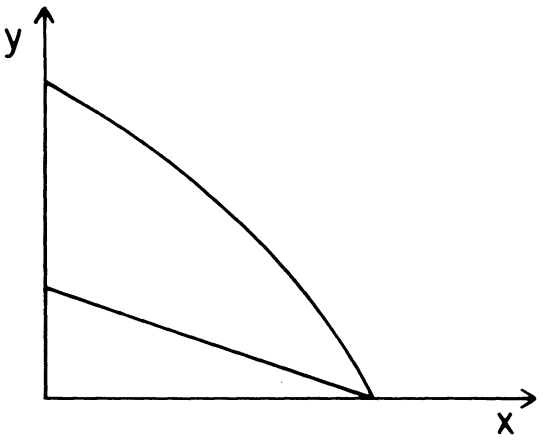


FIGURE 2

corresponding artist. Assume also that this search cost has to be incurred for each unit of art consumed. The consumer devotes I units of time over his or her life to art and the search involved. The budget constraint of our consumer is

$$(5) \quad x(1+1/X)+y(1+1/Y)=I.$$

From the budget constraint and the indifference curves it is clear that the consumer will specialize: he or she will either consume x or y, not both. If $X=Y$ the consumer will be indifferent between the two, but if more consumers consume x, $X>Y$, our consumer will be better off consuming x. Figure 2 depicts the maximization problem. In this discussion, the existence of a super star among equals is apparent.[3]

Note that whereas all individuals could have equal talents, not all individuals would be artists. An artist for the purpose of this paper is one who produces a good with the quality of increasing marginal utility in consumption. Only artists could be stars.

A. *More than One Star*

In the world of art, there is more than one star. A minor modification in the model would result in multiple stars. Assume that at low levels of consumption consumers prefer to specialize, but that at high levels diversification becomes preferable. In other words, the indifference curves are concave at low levels of utility and convex at high levels of utility. Figure 3 depicts the indifference map. A consumer who devotes little time to art would patronize only one artist. A consumer who devotes more time, would patronize both artists. This result can be generalized: the more time one devotes to art, the larger would be his or her set of stars.

B. *Pricing*

So far I have assumed that the only cost to the consumer in the consumption of art is time. However, stardom produces savings in time costs and the star could absorb part of these savings.

Assume that the cost of production of art is zero. If there are pecuniary costs to the consumption of art, the budget constraint becomes

$$(6) \quad x(P_x+w+w/X)+y(P_y+w+w/Y)=Iw,$$

where P_X and P_Y are the rental prices per unit of time of X and Y, respectively, and w is the wage rate. The consumer will choose X over Y as long as $P_x-P_y<w/Y-w/X$.[4]

C. *Amateurs Who Excel*

My model allows the star to remain a star even though an amateur could have a greater talent. To see this point, denote by U_1 the utility from the consumption of X, U_2 the

[3] This paper has much in common with the literature on the bandwagon effect. It adds, however, to this literature by explaining the effect in one set of goods. Moreover, this set of goods is probably more prone to the bandwagon effect than other goods. One could imagine, for instance, a system without fashion in clothing. This would be the case where uniforms were required. Since, however, the source of the bandwagon effect in this paper is knowledge, the phenomenon of superstardom would be much more difficult to uproot in the goods discussed here.

[4] The X markup could be even larger, since the utility from an artist that consumers already know is greater. See the discussion of Figure 4 below.

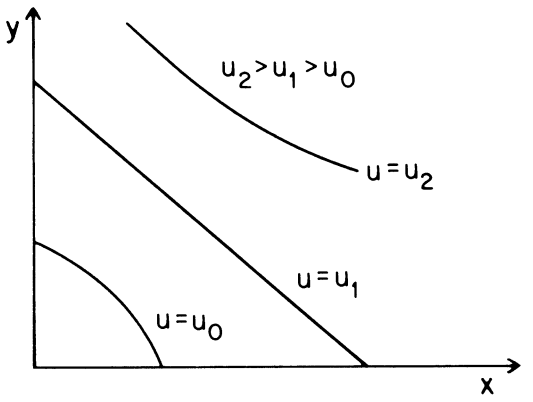


FIGURE 3

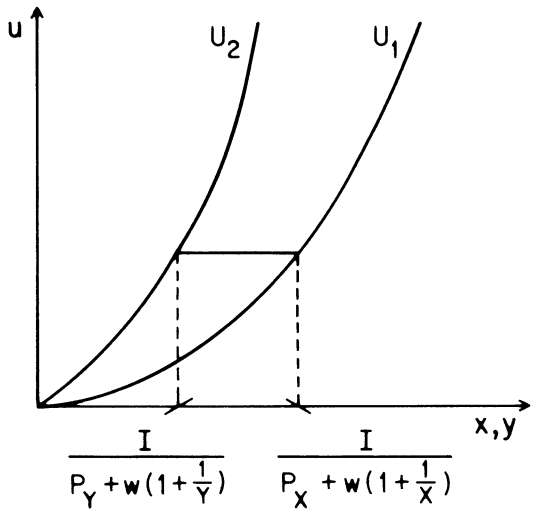


FIGURE 4

utility from the consumption of Y. If Y is more talented, then for $x = y, U_1(x) < U_2(y)$. The quantities of x and y that the consumers could consume given his budget, I, are $I/(P_X + w(1+1/X))$ and $I/(P_Y + w(1+1/Y))$, respectively. The consumer will continue to pick x as long as

$$(7) \quad U_1\left(I/P_X + w\left(1+\frac{1}{X}\right)\right) > U_2\left(I/P_Y + w\left(1+\frac{1}{Y}\right)\right).$$

Figure 4 depicts this condition.

D. *Different Tastes*

Thus far I have assumed identical consumers and an identical unspecified artistic activity which they all consume. If consumers have different tastes, there would be different artistic activities (singing, painting, pottery) and within each activity different types of that activity (opera vs. rock music, abstract vs. realistic paintings). Consumers of each category have similar tastes, but this need not be the case across categories. Each category constitutes a market with its own stars. Of course, if there isn't any group of consumers with similar tastes there might not be any stars. But this is equally valid in the model developed here and in many other models, including Rosen's.

E. *Who Would Be the Star?*

If everybody could be, who would be the star? My answer would be: luck would determine. (By luck, I mean factors other than talent.) But before I elaborate, a word on the relevance of the question to this paper.

According to this paper, stardom and money have similar characteristics. First, bills of all colors could serve as money and likewise all artists could be stars. Second, efficiency calls for only one money and likewise efficiency calls for very few artists with public recognition. Both characteristics exist in the case of money regardless of the process that determines which good would be the medium of exchange. I assert that the same independence exists here: the characteristics of stardom do not depend on the process by which a star evolves. Bearing this qualification in mind, the literature on the development of the medium of exchange, especially Robert Jones (1976), suggests a tentative outline of an answer, and is applied presently with some modifications.

Assume that at first consumers believe that all artists are equally likely to become stars, and that each consumer picks one artist at random. Assume that consumers live n periods and revise their prior distributions after each period. If there were a slight majority of consumers that picked X as their choice, X would snowball into the star because after each period this majority would increase. In

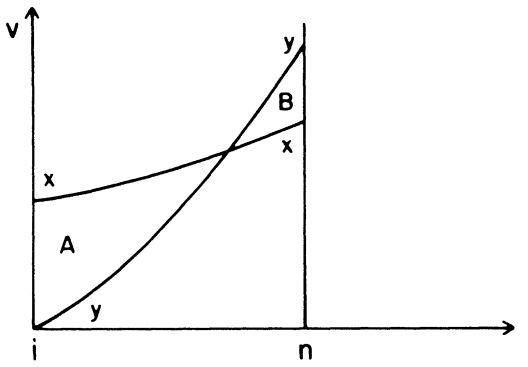


FIGURE 5

other words, if at any period of time an artist had a market share only slightly larger than everybody else, this share would increase steadily. Nonetheless, the lucky artist need not capture the whole market even if a time would come when everybody would recognize him or her as the star. A consumer who did not find whom the star was for a long time might be better off continuing with an erroneous choice than switching. He or she would be only beginning to learn about the star, whereas his or her knowledge about the other artist (who is equally talented) is already extensive. This advantage in knowledge about the nonstar has to be weighed against lower search costs for discussants if one were to switch to the star.

Figure 5 depicts a consumer who thought that X was the star, but in period i finds out that he was wrong. V is the "indirect" utility function, or the utility the consumer derived at period $i, i < n$ from consuming $I/(1+1/X)$ units of X where I is the amount of time the consumer devotes at each period to both art and search cost. (As was shown, the consumer will choose either x or y, not both.) Since knowledge increases utility, previous consumption is an argument of the utility function: $V = V(I/(1+1/X), \bar{x})$, where $\bar{x}$ is the prior consumption of art. The terms $\bar{x}$ and X could be replaced by $\bar{y}$ and Y.

At period i, when the consumer discovers who the true star is, his indirect utility would be higher if he consumed the "false star" (the xx curve in Figure 5). However, since his search costs for discussants would be lower with the true star, V would grow faster if he switched (the yy curve). Only if area B is greater than A in Figure 5, will it pay to switch.

IV. Conclusion

This paper explains why a hierarchy in income could exist without a hierarchy in talent. In other words, it explains why there could be stars among individuals known to have equal talents. The main argument was that the phenomenon of stardom exists where consumption requires knowledge. The acquisition of knowledge by a consumer involves discussion with other consumers, and a discussion is easier if all participants share common prior knowledge. If there are stars, that is, artists that everybody is familiar with, a consumer would be better off patronizing these stars even if their art is not superior to that of others.

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