



## The Economics of Superstars: Reply

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## The Economics of Superstars: Reply

By SHERWIN ROSEN\*

Peter Bowbrick raises some interesting issues that deserve elaboration. Consider a differentiated product with attribute  $q$  that sells for  $p(q)$  per unit in the market. Assume an economy of scale in consumption of a particular type of good among a small group of buyers, a family, for example. Positive consumption of that variety requires incurring a fixed set-up cost  $k$ , independent of the quantity consumed. The fixed cost is incurred every time a member chooses an independent variety. For example, the location of consumption may be away from home. Then  $k$  represents the cost of transport in an auto with excess capacity. More generally,  $k$  derives from scale economies in home production, for which the good in question is intermediate product. Several types of outcomes are possible. Each member can go it alone and make a purely private consumption decision. This has the virtue of allowing members to consume their most preferred varieties, but entails duplication of set-up costs. Alternatively, the group may make a collective decision and choose a single variety that is consumed by all members.<sup>1</sup> The group decision is equivalent to choosing a public good. The variety actually chosen compromises among the most preferred choices of each person, but exploits the scale economy and allows greater consumption of other goods as compensation.

Some possibilities are illustrated in Figure 1 for a group of size 2. Bid-price functions (price-attribute indifference curves) for both members are shown by the curves labeled  $\theta^i$  (the utility direction is southeast). The opportunity locus is  $k + p(q)$  when consumption decisions are made independently. The optimum good for each person is char-

acterized by equality between marginal rates of substitution between  $q$  and other goods and the incremental cost of  $q$  for each person:  $\partial\theta^i/\partial q = p'(q)$ ,  $i = 1, 2$  (points  $a_1$  and  $a_2$  in Figure 1). Alternatively, the per capita opportunity locus becomes  $(k/2) + p(q)$  when members choose a single variety and share fixed costs. The figure illustrates a case where a public decision Pareto dominates individualistic ones. This happens whenever the per capita group constraint cuts through the shaded area in the figure, the locus of possible Pareto-improving group allocations relative to independent decisions at  $a_1$  and  $a_2$ . All points between  $b_1$  and  $b_2$  raise utility of at least one member without lowering utility of the other. All these points potentially satisfy a Samuelsonian public goods condition,  $(1/n)\sum_i \partial\theta^i/\partial q = p'(q)$ , depending on welfare weights among group members. For example, both persons achieve larger utility at point  $c$  than at their most-preferred independent locations. Cost savings due to exploiting group scale economies more than compensate for compromising on a variety somewhere in the middle.

More structure is needed to nail the precise location of the compromise, say, a Nash bargaining game or an effectively altruistic head. The resolved preference structure might replace my original specification of preferences, but the essential argument regarding concentration and skew of market shares and reward among sellers is otherwise not affected. Nevertheless, the point is clear that small collective decisions of this sort promote a tendency toward mediocrity of choices within groups, in the literal sense of the median. This illustrates one aspect of the "blandness" of goods to which Bowbrick refers, but is not necessarily assured, because group decisions need not dominate individualistic ones. Experimentation with the figure reveals that a public goods decision is more likely: (i) the larger the scale economy; (ii) the greater the uniformity of preferences;

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<sup>1</sup>Coalitions of various subgroups should be considered, but space does not permit that development here.

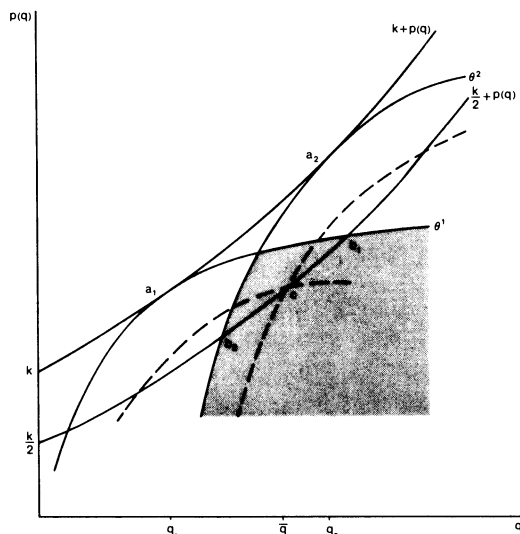


FIGURE 1

and (iii) the greater the degree of substitution between these goods and other goods.

That collective decisions within households reduce variety among members has no additional relevance for the superstar phenomenon unless there are scale economies for sellers. Profitability and rents are only weakly related to firm or personal market size in the absence of scale economies in market production; and the skewed and concentrated market share and reward distributions I attempted to explain do not arise, whether or not there are collective decisions within families. Market scale economies are necessary for superstars even if firm's outputs are jointly produced (multiple actors).

The broader issues raised by Bowbrick's remarks refer to which varieties appear on the market, and are related to Harold Hotelling's theory of spatial competition. Scale economies in market production remain necessary for observing large concentrations of market shares and rewards and for focusing the varieties actually offered toward median preferences. A reinterpretation of Figure 1 illustrates the point. Now think of a continuous distribution of preferences among consuming units in the market as a whole. Tangencies along the upper opportunity locus represent the spectrum of equilibria when

everyone independently consumes their most preferred variety. This would be the market solution were there no scale economies in production. If a seller can exploit scale economies by massing customers with varying preferences on a particular variety, the good can be sold on better terms. For example, a seller who could configure a variety and price at the intersection of  $\theta^1$  and  $\theta^2$  would attract all consumers with intermediate preferences, and unit costs of production would fall. If the price were lower that variety would attract consumers whose preferences are even more extreme than those of  $\theta^1$  and  $\theta^2$ , and unit costs would fall even more. Scale economies in market production therefore push the market to reach compromises among buyers that resemble a local public goods equilibrium.<sup>2</sup> We expect to see firms concentrating some of their competitive energies on designing goods to cater to "mass tastes" under these circumstances. Persons with minority preferences might not be served very well or at all.

There are many real problems where considerations such as these are relevant. A single provider of television programs must compromise between families as well as within them. The same is true of subscription schedules of major symphony orchestras, where works of modern day composers are seldom played because they cater to minority tastes and offend the majority. Cases such as these involve large elements of public goods for the market as a whole. More competition, if feasible, would provide greater variety. This is clear enough in contrasting most print media with television. Perhaps production economies are smaller for the former, but licensing restrictions probably contribute to these differences as well. Surely cable television ultimately will increase program variety and alter rents to stars in that activity. Greater variety itself reduces the size of each submarket, which works to reduce rents; but better matching of tastes with variety increases both willingness to pay and attracts additional consumers who previously did not purchase, which works to increase them.

<sup>2</sup>This is a spatial model of monopolistic competition. See Kelvin Lancaster (1975).

There remains intuitive plausibility to the idea that some products and services must be “degraded” to appeal to large numbers of buyers. Yet one can take comfort only in introspection on that score and none whatsoever in economic theory, which admits no such concepts: neoclassical value theory is value free! I finessed this issue in my paper by defining markets very narrowly and by maintaining a specification that preserved pure competition rather than monopolistic competition. Competition among sellers implied a unique market equilibrium price of services. Degradation of a seller’s product occurred through congestion and external diseconomies, with relatively more “crowding out” and larger market shares of better sellers in equilibrium. This specification was technically necessary for limiting scale economies and achieving a nondegenerate distribution of sellers, while maintaining pure competition.<sup>3</sup> A monopolistically competitive formulation limits scale economies in another way, namely, by a seller losing buyers to competitors at his market fringes. My specification has the effect of putting the distinction between, say, serious novels and trashy ones on the same footing as that

<sup>3</sup>I have extended the basic problem to firm size and managerial reward distributions across ranks in hierarchical firms in my 1982 article.

between legal services and baseball—entirely different markets. Why writers of trash have larger audiences than serious novelists is better argued over lunch than in print, but the thought that it might be as meaningful a categorization on the supply side as that between economists and rock musicians is perhaps not entirely implausible. The fact that the highly talented take home most of the marbles within these narrow categories can be explained within the standard competitive framework, but a monopolistically competitive model undoubtedly would improve our understanding of this problem even more.

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