
54 Superstars

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Introduction

What makes a star a star? Why are Madonna, Luciano Pavarotti or Tom Cruise so immensely rich? The competitive model in its simple version tells us that people are remunerated according to their (marginal) productivity. This would imply that, given the enormous differences in income between the average writer or actor and, say, Stephen King or Sean Connery, there would have to be a huge gap between the talent of the stars and of those that come next but do not enjoy a star status. If you agree with me that Britney Spears' talent is not *hugely* different from that of your local music club's singer, there must be more to the superstar phenomenon than the simple competitive model would be able to portray.

This is what we investigate in three steps. The next section presents the theoretical arguments, the third section discusses the empirical evidence for the arts, and the last section points out some extensions. Although the superstar phenomenon is not limited to the cultural sector – there are superstar law firms, doctors, managers, professors and of course athletes – the focus here is on superstars in the arts.

Theoretical concepts

In his seminal paper on 'The Economics of Superstars', Sherwin Rosen explains how small differences in talent translate into large differences in earnings. The underlying reason for that is the concurrence of imperfect substitutability of different qualities (of the otherwise 'same' service) on the demand side and a production technology that allows for joint consumption. He starts by acknowledging that different qualities of a narrowly defined service (for example, the performance of a particular Beethoven concert) are imperfect substitutes in consumption: people rationally favour fewer high-quality services rather than more of the same service at mediocre levels.¹ That might be true for a number of services (such as medical services) and this higher willingness to pay alone would lead to a difference in pay. It already explains the convexity of the function that translates quality into income.² The enormous income differentials between superstars and their colleagues of lesser talent, however, are only explained if the consumption technology is taken into consideration. Public performances of, say, a concert exhibit the characteristics of a club good – unit costs decrease

with rising audience size, although there will be congestion costs at some point as a classical live concert is more enjoyable in a medium-sized concert hall than in a football stadium. These congestion costs put a limit on the optimal size of audiences and therefore lead to non-degenerate market equilibria (more than one supplier). Still, artists of higher quality command higher prices *and* a greater audience and thus larger income. Congestion is absent for 'canned performances' such as CD productions, TV performances, books, videos or movies. In Rosen's set-up, this leads to a single artist (or single group of artists) – the best – to serve the whole market. Potential market entry limits the market power of the artist, but since she is perceptibly better than the one second to her she enjoys an economic rent which leads to a higher price than her closest competitor would need to charge to enter the market. This quality difference can be small, although it needs to be perceptible, but it is leveraged through the scale economies in production and can make total rent very large in equilibrium.

Rosen has put forward a powerful idea in a simple model; given the beautiful simplicity of his arguments he has left many important aspects for others to explore. He deliberately disregarded product differentiation as he defined his competitive market very narrowly and did not adopt a monopolistic competition model *à la* Lancaster or Dixit–Stiglitz.³ There are far more than only two or three movie superstars of each gender or a handful of superstar rock'n'roll bands, as his model would predict: heterogeneous tastes or a love of variety become an important limitation to star power, in addition to the threat of entry of close competitors. Moreover, he did not explain why people prefer a single superstar performance to a series of performances of lesser quality, but rather assumed it. Lastly, he did not explain the emergence of superstars, but rather assumed a given and observable distribution in quality among artists. Adler (1985) and MacDonald (1988) filled some of the gaps.

MacDonald (1988) provides a dynamic version of Rosen's model. In a two-period stochastic model, performers decide whether to perform and if they do the quality of their performance (either good or bad) is observable to all interested. Since outcomes are serially correlated for each artist, first-period reviews have predictive power for the second period's performance. This accumulation of knowledge leads to a separation of market segments in the steady state: those with bad first-period reviews leave the business for an exogenous alternative occupation while those with a good first-period performance command a larger crowd and a higher price than the newcomers, because consumers face a much smaller risk with regard to the performance quality and are willing to pay for this. These artists experience a vast income growth compared to their first-period income – they rise to become stars.

In his article, 'Stardom and Talent', Moshe Adler describes a learning process as the key to understanding the superstar phenomenon. Learning about art is so important because art consumption is positively addictive in that marginal utility from art consumption increases with the ability to appreciate art, which is a function of past art consumption (Stigler and Becker, 1977): the more you know, the more you appreciate it. In the course of consuming art 'consumption capital' is accumulated and thus marginal utility from art consumption rises over time.⁴ This learning process does not refer to art in general but to specific art forms and even artists. Artist-specific consumption capital is built up by consuming the art service provided by the artist in question and by discussing it with others likewise knowledgeable about this artist. The latter effect creates positive network externalities as it is costly to search for someone to interact with about a specific artist.⁵ This explains the existence of stars: stars may be born because initially (slightly) more people happen to know one artist than any other artists of possibly equal talent and communicate about him or her more with others. Artist-specific consumption capital is built up more rapidly, and this artist will snowball into a star.

Empirical evidence

Hamlen (1991, 1994) tries to single out a superstar effect in the American record industry using a sample of 115 singers for the years 1955–87. Since the superstar phenomenon in the Rosen (1981) sense requires that 'small differences in talent become magnified in large earnings differences, with greater magnification of the earnings–talent gradient increasing sharply near the top of the scale' (p.846), an empirical analysis requires a quantifiable concept of 'talent'. Hamlen uses data on the *harmonic content of voice*, a concept taken from the technical literature on voice, that measures 'depth' and 'richness' (for details, see Hamlen, 1991, p.731). He runs the total record sales (Hamlen, 1991) and number of hit singles and hit albums (Hamlen, 1994) on the measure of quality and other singers' attributes such as the year in which the singer first released a single or album, dummies for sex, race (black/non-black), whether the artists write their own songs, whether they have appeared in a movie, and whether they have a recognized band. In his second paper he incorporates the fact that success in the 'low-end' singles market may serve as a signalling device for quality that feeds into consumers' choices in the 'top-end' albums market.⁶

Although talent, measured by voice quality, increases sales Hamlen (1991, 1994) fails to find a magnification effect. Rewards for talent are far less than proportional to differences in talent. Hence he cannot identify a superstar phenomenon in the Rosen sense. Furthermore, the low-end singles market functions as a quality filter for the albums market, which is

in line with MacDonald's idea of a multi-period information accumulation process. While voice quality is important in the singles market it is less so in the albums market, in which success in the singles market serves as a quality indicator. Other singers' attributes apart from voice quality, such as sex, race, appearances in movies, and a good band, influence success as well. That already indicates that there is more to success than just talent.

Chung and Cox (1994) show that the distribution of gold records in the period 1958–89 follows the specific Yule distribution $f(i) = 1/i(i+1)$, $\sum f(i) = 1$ where $f(i)$ is the share of performers which have earned i gold records ($i = 1, \dots, \infty$). Yule distributions in general have been shown to describe a variety of sociological, biological and economic phenomena such as the distribution of incomes by size, of cities by population, of scientists by the number of papers and so on. The underlying probability process can be described as a sequential buying process: one consumer after the other buys one record first, then in the second round each consumer buys a different record and so forth. The choice of records in each round follows two assumptions: (i) the probability that consumer $k+1$ buys a record that has been chosen by exactly i of the k previous consumers is proportional to i ; (ii) there is a constant small probability that consumer $k+1$ chooses a record that has not been chosen previously. Assumption (ii) represents a snowball effect in the sense of Adler (1985). The fact that the observed distribution of gold records coincides with a pattern that results from a stochastic process which incorporates such a snowball effect leads the authors to conclude that the superstardom phenomenon is merely the result of a probability mechanism which predicts that 'artistic outputs will be concentrated among a few *lucky* individuals' (Chung and Cox, 1994, p.771, emphasis in original). Difference in talent is not necessary for superstars to emerge, but rather luck that initially increases the user base and reinforces itself. This supports Adler's idea of the emergence of superstars.

Both empirical approaches fail to provide conclusive evidence for the superstar phenomenon. In the Hamlen approach it is by no means clear that the *harmonic content of voice* is the relevant measure for artistic quality for singers of non-classical music (rock, folk and so on). Charm, sex-appeal, the contents of the lyrics and the show on the stage are also very important factors for success for singers,⁷ yet they are very difficult to measure. Thus Hamlen's approach suffers from an omitted variable bias. Chung and Cox's coincidence result does not tell us anything about the underlying *reason* for the selection of consumers; the fact that the outcome is consistent with a pure reinforcing probability mechanism does not strictly prove it is at work. The observed outcome could also be explained by a preference for what consumers regard as the highest quality coupled with a certain preference for variety and somewhat heterogeneous tastes.

(Possible) extensions

Superstars are not limited to the arts, but play an important role in sports and other areas. The empirical problems described above are not as serious in sports, since quality is easier to measure. 'Soft skill' like charm, looks or lyrics play a less important role; performance is measurable in inches, milliseconds or goals. Therefore empirical analyses of the superstar phenomenon in sports are more promising.

Adler's idea of the importance of individuals' interaction for the acquisition of artist-specific consumption capital and MacDonald's idea of an information accumulation process point towards the important role of the mass media for the acquisition of information and thus consumption capital. It should be incorporated in empirical analyses. Lehmann and Schulze (2003) combine these two aspects by looking at the role of the mass media for superstars in soccer.

Ruth Towse (1992) analyses the role that intermediaries play for superstar singers in classical music by reducing search and information costs of opera houses. In this market, the honorarium serves as a signal for quality and popularity and thus its reduction would not increase the demand for the singer. Other extensions look at the role of superstar museums and the consequences for museum policy (Frey, 2000, ch. 4) and efficiency consequences of the existence of superstars (Richter and Schneider, 1999).⁸

Notes

1. As a convenient modelling trick he assumes that utility derived from this particular service y is the product of quantity n and quality per unit of output z , $y = n z$, thereby adopting a smooth quantity-quality substitution technology (comparable to the concept of labour in efficiency units). This allows him to use a competitive framework for the single market for y instead of modelling monopolistic competition in products of different quality. Imperfect substitutability is introduced through a fixed cost of consumption per unit of *quantity*, which gives rise to a preference of cost-minimizing consumers for fewer services of high quality (instead of more services of less quality) as this reduces the fixed costs. See Hamlen (1994) for a Dixit-Stiglitz model of artistic variety.
2. Rosen (1981, p.846) writes: 'Hearing a succession of mediocre singers does not add up to a single outstanding performance. If a surgeon is 10 percent more successful in saving lives than his fellows, most people would be willing to pay more than 10 percent premium for his services.'
3. See fn. 1 in Rosen (1981) and Rosen (1983) on this.
4. The idea goes back to Alfred Marshall, who wrote, 'It is therefore no exception to the law [of diminishing marginal utility] that the more good music a man hears, the stronger is his taste for it likely to become' (Marshall, 1962, p.94). There is substantial empirical evidence for such an addictive effect; see, for example, Smith (1998).
5. The mechanism is very similar to positive network externalities for the usage of word processors and other computer programs, which are more valuable the larger the user base – exchange of files, recommendations and trouble shooting become easier the larger the group of people that share the same software.
6. Publication of singles typically precedes publication in the album market (although established stars sometimes go back to the singles market).
7. The success of Bob Dylan, who is not renowned for his harmonic voice, or that of Britney

Spears, The Spice Girls or AC/DC, and many others are evidence that there is more to a singer's success than just a beautiful voice.

8. See also Bonus and Ronte (1997).

See also:

Chapter 7: Artists' labour markets; Chapter 18: Criticism in the arts; Chapter 25: Demand; Chapter 56: Taste formation.

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