The Superstar Phenomenon Within a Digitized Economy: Theories, Causes, and Case Studies Surrounding the Entertainment Industry and Beyond

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ABSTRACT

The primary focus of this writing is to examine a structural wage distribution approach across several entertainment industries and within the corporate structure – in the fields of sports and music and top executives in businesses. Given the digitization of the modern economy – an ongoing transition drastically changing purchasing and consuming behaviors – viewership has become more accessible to a broader audience. Nonetheless, this form of convenience and publicity also exacerbates a more profound economic scenario that televised celebrities, especially entertainers like athletes, artists, and musicians, experience: the superstar phenomenon, or the concentration of high wages attributed to a small group of earners when compared to others within the same business. This condition alludes to the notions of opportunity cost, willingness to compete, incentives and disincentives, marginal costs, scarcity rent, imperfect substitution, and the extreme value theory that assesses how different professions may be experiencing elements of the phenomenon that affect the outcome of industry structures and economic well-being. From these observations, a question arises: what economic factors contribute to the magnification of pay disparity to create the superstar phenomenon, and how does this effect permeate and reflect different industries' pay structure gaps? Upon analysis, the cause seems to deter from the metric of pure skill or talent evaluation but instead focuses on individuals' marketability, attractiveness, irreplaceability, and influence, offsetting the direct correlation of statistical performance to payroll.

Furthermore, the ability to mass replicate performances and scarcity in handling top managerial responsibilities for entertainers and executives, respectively, exaggerates consumers' biases in focusing on the victor or leader. In other cases, one's ability to acquire superstardom derives from obtaining endorsements and sponsorships in the case of athletes and musicians and reputability within businesses to form superstar firms. Lastly, it is integral to note that beyond reputation and its structural advantages in pay, a psychological advantage also emerges, particularly within individual athletics, where opponents facing a superstar feel intimidation and showcase sub-par performances. In turn, superstars experience more favorable outcomes, a cyclical advantage that yields more award money, attention, and brand deals. Thus, the trends within the phenomenon, both in group and singular, entertainment and corporate settings will play an analytical role when stakeholders assess an individual or a firm's profitability. The phenomenon also draws on financial distribution shifts as the economy digitizes and concentrates on the elite percentage of income earners. This, however, creates a widening margin between the superstars and the rest while having side effects of pushing workers positioned lower in the industry's ladder out of the market, exacerbating inequality, particularly within entertainment industries (Koenig, 2017). By looking at statistics in pay distributions and using the aforementioned economic principles, this paper will provide a comprehensive theoretical analysis exploring the origins and justifications of the superstar phenomenon.

Literature Review

On Digitization

The research argues that introducing technological advancements leads to broader exposure and audience, expanding the market that disproportionately benefits the superstars and dwindles others in the business simultaneously. This could be seen in the music industry as the transition from live concerts and record players to innovations like Napster and Apple's iPod greatly disrupts the systemic approach to music commercialization and consumption. For example, within European football, Cristiano Ronaldo, a Portuguese soccer star considered one of the best players ever in the sport, earns around $25 to $35 million annually as per varying reports during his past few seasons as a 37-year-old. On the other hand, Pele, a Brazilian icon of the sport in the 1950s and 60s, received a 3-year contract of $7 million from the New York Cosmos in 1975 when he was 35 years old – this salary, after adjusted for inflation, is around $37-38 million in current US dollars (*Pele to Play Soccer Here for $7-Million*, 1975). Although it is hard to compare the two legends of the game, it is unlikely for Ronaldo to be around three times better than Pele – as the salary gap would suggest if it directly correlated to purely skill levels. Therefore, the most reasonable explanation resides within the difference in television's availability across the globe, speaking to the idea of the entertainment industry's globalization through technological advancements. More specifically, in 1958, there were only 350,000 TVs in Brazil, with the first TV satellite, Telstar I, introduced in 1962, while there were over 25 billion online watchers for the 2010 FIFA World Cup in South Africa and 700 million people tuning in for the final (Porter, 2010). Hence, the difference in TV's availability and accessibility caused the gap between Ronaldo and Pele's contracts.

Further studies dive more specifically into the market that skews the distribution of pay, where box office appeal or unreplicable talent also skews the demand or attention rate both in terms of willingness to pay and reward the most talented or marketable, well-known individuals within the entertainment industry (Rosen, 19821, p. 846). Ticket sales and exposure to the fan base, including gaining supporters, acquiring bigger brand deals, and traction, then factor into the magnification of income disparity as an individual may have the ability to increase franchise revenue, leading to reasoning surrounding units of service, outcome, performance value, and diseconomies of scale (Rosen, 1981, p. 846, 849-850). Nonetheless, from a more general sense, a way to explain how pay became so concentrated to selected elites in their respective industries is by comprehending the idea of marginal production costs resulting from simplistic large-scale replication of entertainment material through technology like TVs, as seen from the Ronaldo-Pele example (Groot, 1998, p. 547). Thus, with the capability of mass distributing performances and the reputability of the individual – where being a victor or accomplished athlete, musician, or executive reaps higher admiration – consumers are likely to fall under the bandwagon effect, contributing to monopolistic power and retention under quality and production surplus (Groot, 1998, p. 547). Nevertheless, there are other factors in which an individual can achieve superstardom status.

Scottish economist and philosopher Adam Smith proposed two components to income: the idea of scarcity price pertaining to the "rarity" or "beauty" of talent and the compensation for discredits suffered (Groot, 1998, p. 549). Through a more contemporary lens, Rosen uses the concept of imperfect substitution – for example, this means that consumers are willing to pay more than 10% for a lawyer who is only 10% more successful than the next best alternative – which garners more concentrated marketability or value to an individual to explain the phenomenon (Rosen, 1981, p. 847, 851). When supported by costless reproduction and high opportunity costs of consumption, this idea magnifies the disparity in pay. In the realm of subjectivity, Stigler and Becker suggest that identifying preferences through consumption experiences is a learning process in lieu of taking talent or performance skill-level differences into consideration, which, over time, establishes a consumption capital that restricts oneself to specific genres and artists (Stigler and Becker, 1977, p. 89 and Groot, 1998, p. 552). Adler laid out similar claims that superstardom and the hierarchy of talent do not correlate but are more dependent on the consumers' preferences (Adler, 1985, 208). Finally, Macdonald suggests that there is a threshold to break through to achieve the status of a superstar, drawing parallels to a lottery-like structure where, for the vast majority of athletes, they invest their income into training but

unable to acquire stardom, creating income deviations; in other words, a successful superstar's superior earnings is like a compensation for lower rewards earned during the come-up phase (MacDonald, 1988, p. 156).

On Sports

The superstar phenomenon is an idea in which athletes or artists alike – both of whom fall under the entertainment industry umbrella – enjoy significantly higher payroll than others within the same business due to their marketability, capabilities, and reputation that could benefit a franchise both in terms of their athletic or artistic prowess or financially through other forms of inward cash flow. Nonetheless, this effect, beyond being dictated by consumer behaviors, which usually dictates the profitability of an individual, also affects competitors, who may be intimidated by their presence. For instance, Tiger Woods is a prime example of a dominant athlete who instills fear and moral intimidation into his rivals; as an opponent, this moral disadvantage leads to poorer performances with an additional average of 0.8 strokes – an aspect of the phenomenon that plays into economics and salaries (Miller, 2020 and Lehrer, 2011). However, the seemingly negligible differences of 0.8 strokes can lead to estimated compensation losses of up to $1.8 million in prize money (Paul, 2010). In turn, especially for individual sports like golf, the presence of superstardom magnifies the performance gap, leading to a boost of $5 million in PGA earnings for elite players (Lehrer, 2011).

With superstars garnering further attention through individual success, the case study of baseball stars also factors into the conversation surrounding endorsements that widens the pay gap (despite being a group sport, individual performances are still an integral determining factor of one's pay). For instance, although the Los Angeles Angels failed to make the playoffs for the past seven years, their rising star and 2021 MVP, Shohei Ohtani, earned around $6 million last year, with Forbes predicting a total of $20 million this year in endorsements alone before taxes or agent fees (Bollinger, 2022). When compared to the average MLB salary of $4.4 million and Babe Ruth's salary of around $1.7 million in the late 1920s to early 1930s as per varying sources, this number is absurdly large.

Within the realm of European football, individual players are not the only ones experiencing the phenomenon. The notion of the "Big Five," referring to the top five leagues – Premier League in England, LaLiga in Spain, Serie A in Italy, Bundesliga in Germany, and Ligue 1 in France – in terms of competitiveness speaks to the hierarchy of a footballer's abilities. With the introduction of satellites, which globalized football consumption, the top 20 teams earned a combined revenue of $3.9 billion in 2009, 25% more than all other European teams combined (Porter, 2010). Empirical analysis of how age, statistics, and overall performance play into the gaps in wage distribution is also consistent with the idea of imperfect substitution in top European football leagues; conversely, smaller divisions seem to forego this phenomenon due to lack of media coverage, widespread reputation, or attention (Lucifer and Simmons, 2003, p. 52).

On Music

In the case of music streaming platforms, digital services impacted consumer behavior by insinuating a sense of "tyranny of choice." In 2013, MIDiA Consulting, operated by music industry analyst Mark Mulligan, reported that the artists' total record-music income share increased from 14% to 17% within the 2000 to 2013 interval. However, the principal benefactor resides within the top 1% of songs, where it accounts for 77% of all artist revenues (Dredge, 2014). Moreover, the difference in streaming and subscription revenue between superstars and the remainder differed by a staggering $210 million – $300 million and $90 million, respectively (Dredge, 2014). One way to understand this ever-growing deviation is by analyzing the consumer behavior through a reputation-based lens, where the reputability of the artist's name, coupled with the music's cultural or trendy shifts, lures more listeners into tuning in on a selective few's works. Beyond the streaming platforms, concerts are another primary source of pay that distinguishes superstars from the others. For instance, the top 1% of pop stars accounted for 26% of concert ticket revenues in 1982; this percentage surged to 56% by 2003 (Porter, 2010).

On Corporate Structure

Within the American capitalist economy, the tangencies between the position within the corporate structural ladder and wage distribution is apparent, with an elite chief executive (CEO) of a top-100 company earning approximately 50 times more than the average employee in 1977; however, this disproportionate allocation of income widened to 1,100 times by 2007 (Porter, 2010). In another study from the 1970s, statistics show that the top 10% of executives made double that of others in similar roles – the difference became quadrupled by the early 2000s (Porter, 2010).

When attributed to this exponential increase, studies have shown that CEOs' leadership capabilities, tied directly to asset management to increase value and a corporation's profitability, strictly fall under 'pay-sensitivity relations' as per extreme value theory (Gabaix, 2006). From this model's analysis, extracted results include predictions on a direct relationship between CEO compensation's one-for-one increase with the 'average market capitalization of large firms in the economy'; the five-fold growth in CEO pay, then, is an outcome of the five-fold expansion of market capitalization (Gabaix, 2006).

Additionally, Waldman suggests that workers with higher capabilities receive positions requiring a high marginal product of output – speaking to the hierarchical concept of the direct correlation between responsibility or level of experience and pay in the corporate structure (Waldman, 1984, p. 255-56). Kremer proposed the o-ring theory in which there is no possible substitution of quality or quantity or vice versa; hence, the ability to complete tasks proficiently or adequately relies on a certain few groups of people, distinguishing the most efficient workers from the mediocre or average (Kremer, 1993, p.551). Both studies conclude that 'what you put in is what you will receive' explains the skewed wage distribution graph that illustrates the superstar phenomenon.

Economic Theory and Methodology

Scarcity of rents (the using up of limited resources), human capital (the economic value of an individual), and demand (that dictates the market value of an individual) are the primary aspects contributing to the phenomenon, where reputation is a crucial metric to assess the spectrum of pay amongst individuals or firms. The lower cost of reproduction, or instead zero marginal cost of production, of materials, then fed into the demand curves of each individual (entertainment-industry specific), resulting in market expansion and continued and relayed status of players that either continue to receive high volumes of attention or media coverage or the opposite (continue to not receive media recognition) (Lucifer, 2003, p. 37). For instance, music streaming services enable easy access to be listening to songs across different devices and platforms, akin to conveniences when watching sports across different channels or services (although the aforementioned concept applies more to music or film industries). When coupled with ideas such as replacement, whether regarding factor or labor, effects, profit-share components, output scale effect, skill-biased technological change, market power skews, and labor share reductions, markets consequently cause a substantial increase in earnings for the elites in their respective industries while replacing lower-tiered workers or firms (Korinek, 2017). These ideas, when together, speak to a more complex supply and demand structure embedded within focuses on marginal outputs and costs. The concentration on a small group, too, speaks to the overarching theme of monopolistic media rights and power dictated by consumer behaviors through preferences and subjective evaluations of who or what they wish to pay attention to or purchase.

Furthermore, superstardom is a finite one-of-one resource, whether in sports, arts, or business, as one's talent and influence are hard to replicate – that is, there is only one copy of each superstar with no "perfect" replacement or substitute. Given this climate, the magnification of earning differences ties back into the scarcity of rents and human capital, especially if the individual distinctively fits into the system and yields profitable outcomes that cyclically create more attraction. This also refers to artificial scarcity talent scarcity through quantitative approaches in assessing data through statistical methods on athletes, performers, and CEOs in analyzing their values and impacts on a team, performance, service, or firm (Autor, 2018). Nonetheless, it is critical to note that the *role* of a superstar remains

regardless of changes in stardom, where the downfall of one, whether due to age, injury, or other factors, will lead to the uprise of another to replace one's place (Groot, 1998, p. 549). Frank and Cook also believe that the 'winner takes all' market relies on the type of consumers the entertainers or workers attract – an externality based solely on a case-by-case study that leads to inefficiencies as too many contestants vie for stardom (the study arrived to this conclusion through a hypothetical economy experiment with two occupations, potters and singers, that highlighted societal losses that comes with winning the contest) (Groot, 1998, p. 553-54). For instance, most buyers are willing to pay a little more for a service, while a smaller number of buyers are intensely interested in performance to assess value – with the first being more of a stable contributor to the phenomenon and the latter more volatile. As a result, this consumer market widens the gap between superstars and the rest that endured economic losses trying to reach the top-performer status, which is an economically inefficient outcome.

Generally, various studies used empirical models and statistical evidence to quantitatively assess an individual's service or performance value as metrics to define or justify the phenomenon. Other papers use methods to summarize and reason the superstar's disproportionate effects on the economy, referring to the interdependence between producers and consumers. However, the presence of superstardom contradicts the Neoclassical theory of a perfect market where everyone's pay correlates with their marginal product (although it aligns more with the corporate structure of executives, gaps still exist amongst top leadership roles).

Data Analysis

When putting the idea of superstardom in sports from a statistical context, the MLS, NHL, and NBA salaries in 2014 show a left-skewed distribution of pay where only a handful of individuals stood out in figure 1. The phenomenon is especially more in-effect for MLS, where only 13 players exceeded the $1 million mark, with the top earners like Kaka, Dempsey, Bradley, and Defoe (all of whom with > $6 million) earning up to 6 times that of other superstars like Martins, Morales, and Gonzales ($1-2 million).
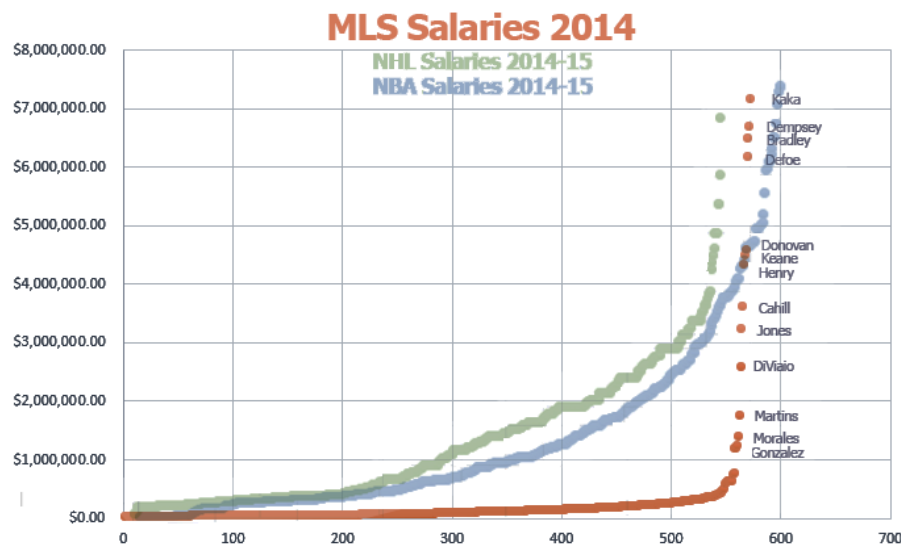

Figure 1: The distribution of salaries for MLS, NHL, and NBA for the 2014-2015 season, where the y-axis indicates the salary and the x-axis shows a reversed-ordered rank of a player's salary (with a higher number equaling a higher salary) (Source: Olsen, 2015). Note: The labeled names are only of MLS superstars.

When using the NBA as an example, figure 2 illustrates a right-skewed graph that shows over 120 players earning an estimated $1.75-3.5 million and over 70 earning $3.5-5.25 million. In comparison, the top earners – Stephen Curry from the Golden State Warriors and Lebron James from the Cleveland Cavaliers, earn 20 times that of the lowest category of earners with $33.35-35 million. Equally notable, each classification of salaries earned in millions following the $7 million-bracket did not exceed 20 players.
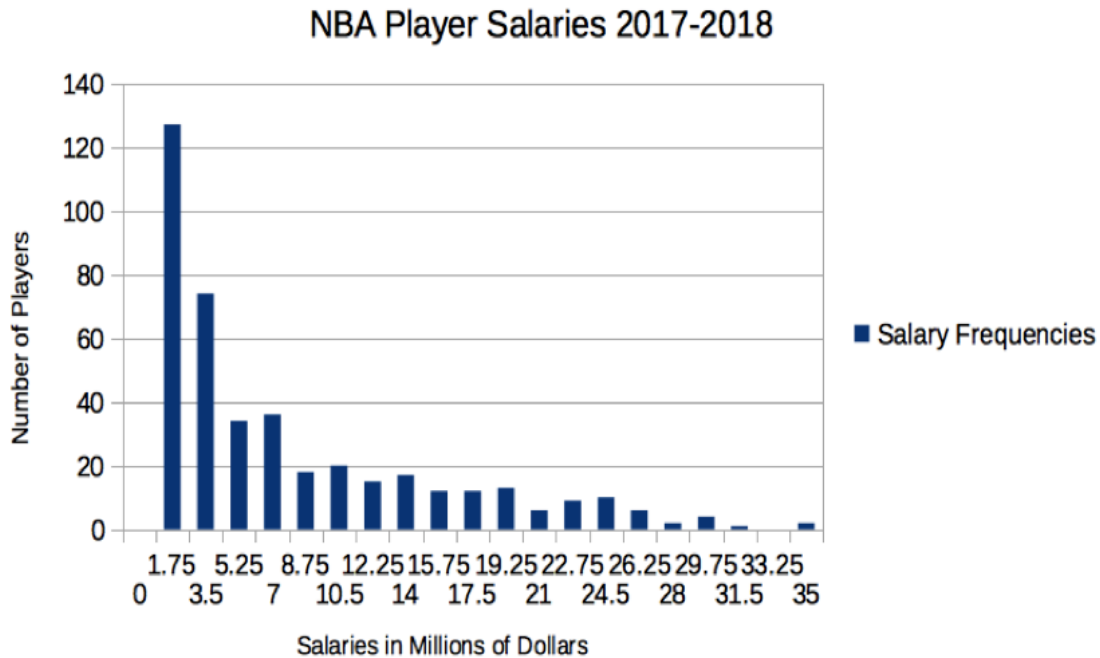

Figure 2: A frequency chart showing the distribution of NBA wages for the 2017-2018 season, from $1.75 to $35 million (Source: Richards et al.)

To put the superstar phenomenon into a macroeconomic context by assigning elite income earners to the definition of superstardom and viewing the concept through the lens of superstar firms in a capitalistic economy, figure 3 below depicts the total income shares attributed to the top % of earners, as labeled by the legend, from 1913 to 2013. It is integral to note that the surges in the 1920s are primarily due to the rapid industrialization through the continual expansion of factories, railroads, and automobiles for more convenient commute, spurring economic activity both for producers and consumers and growing the labor force – this became widely known as the Second Industrial Revolution.
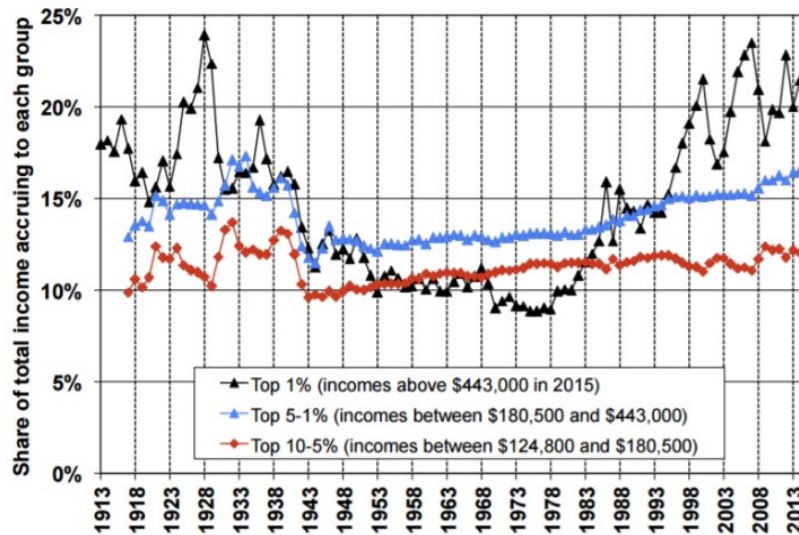
Figure 3: Top income shares categorized into groups from 1913 to 2013 in the US (Source: Piketty and Saez, 2015)

From figure 3, one trend is apparent – the top 1% of earners with incomes above $443,000 in 2015 seem to increase their share from around 17% to around 23% during the early 2000s when the economy began to digitize. When analyzing the pattern for the other groups – income between $180,500 and $443,000 for the top 5-10% and $124,800 to $180,500 for the top 10-50%, the growth is a lot more stagnant and progressive, with the first group hovering around the 15-17% range and the latter around 12-13%.

The various elements of financial gain reflecting higher concentrations of income distributed to elite earners include capital gains (realized capital gains net of losses, excluding government transfers), capital income (interest income, dividends, rents, royalties, and fiduciary income), business income (sole proprietorships, partnerships, S-corporations), and, as a result, salaries (including wages, bonuses, stock options, and pensions). As shown in figure 4, which shows the data on the top 0.1% of income share and its compositions, all of the factors above increased in similar fashions. From 2001 to 2007 alone, capital gain rose from around 7.5% to just over 12%; capital income from around 5.5% to 8%; business income from approximately 5% to 6%; and salaries from 3% to around 3.5%.
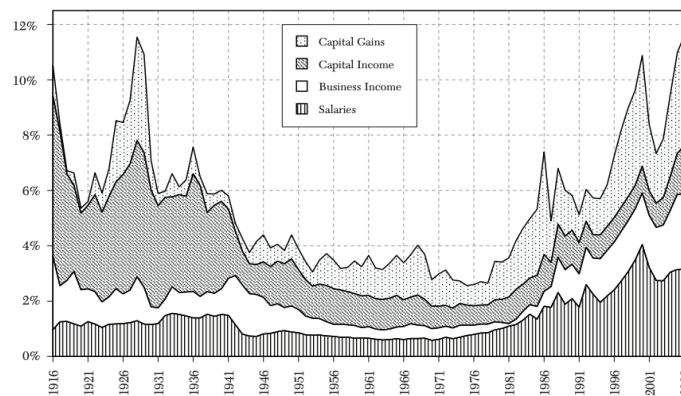

Figure 4. The top 0.1 percent income share and composition (including capital gains, capital income, business income, and salaries) from 1916 to 2007 in the US (Source: Piketty and Saez, 2011).

Table 1 further suggests the widening gap between the top and average income earners regarding annual growth, with the top 1% capturing more than half of the growth with 58% from 1976 until 2007. Even between the Clinton and Bush periods, while the top 1% remained consistent at around a 10% increase rate, the bottom 99% lost more than half of their growth rate, decreasing from 2.7% to 1.3%. Thus, the difference in the annual growth rate for the superstars compared to the rest, which is evident from the fraction of total growth captured by the top 1% that jumped from 45% to 65% from 1993 to 2007, shows the ever-so growing presence of the phenomenon.

Table 1: Top percentile share and average income growth in the US from 1976 to 2007, separated into the Clinton and Bush expansion periods (Source: Piketty and Saez, 2003)

	Average income real annual growth (1)	Top 1% incomes real annual growth (2)	Bottom 99% incomes real annual growth (3)	Fraction of total growth captured by top 1% (4)
Period				
1976–2007	1.2%	4.4%	0.6%	58%
Clinton expansion				
1993–2000	4.0%	10.3%	2.7%	45%
Bush expansion				
2002–2007	3.0%	10.1%	1.3%	65%

Conclusion

Superstar economics "reduces the spoils available to the less gifted in the business," alluding to its widespread applicability across different industries (Porter, 2010). From a macroeconomic standpoint, countries with poor economies have experienced increasing inequality regarding income distribution. For instance, the top 1% of Chinese workers' share in the national income doubled from 1986 to 2003 – the desire to climb the social ladder through enhanced productivity became prominent (Porter, 2010). Nonetheless, the unlikely odds of being selected for entrance to the 'elite clutch of superstars' also backfires for those who believe the probability of success is significantly below their willingness to try, disincentivizing contribution and, therefore, activity. This leads to the shortcomings of the incentive-mechanism approach and the lottery structure.

Inequality, specifically, is a turn-off for workers, with a recent UC study concluding that "those who earned less than the typical wage for their pay unit and occupation became measurably less satisfied with their jobs and more likely to look for another one if they found out the pay of their peers" (Porter, 2010). Thus, this implies that the winner-take-all structure leads people to cheat or find more profitable alternatives rather than commit to working their way up the social ladder. In this sense, the opportunity cost to switch jobs or professions outweighs investing in one position. This scenario is likely to play out within the US, where the top 10% earns roughly 16 times more than the bottom 10%; in Britain, that difference is 8, and in Sweden, 5, according to the Organization for Economic Cooperation and Development (Porter, 2010)

Further discussions on the interconnectedness of the phenomenon, attributing to the entertainment industries and beyond in the corporate structure, illustrated more directly the implications of the phenomenon beyond an industry-based or consumer-reliant case. Nonetheless, by understanding the ideas of technology's ability to distribute content with minimal cost, along with the emphasis on talent, irreplaceability, scarcity, and individual preferences, one can understand how the phenomenon permeates the entertainment industry and beyond in the corporate financial structure of other professions. Additionally, by understanding trends and consumer behavior, stakeholders will become more cognizant of the ongoing changes in the market (or even future one's post-pandemic when certain parts of the industry shift to remote settings, and therefore more online, mass-(re)production activity).

There are already observed trends that indicate the wide-scale applicability of this phenomenon in assessing the concentration of superstar firms in different industries. For instance, using IRS data sampled from the top 0.1% of earnings from 1979 to 2005, several occupations saw more representation of elite earners or superstars upon dissecting the income distribution structure by different occupations through Bakija Cole and Heim (2012)'s study. Notable industries observing the prominent presence of the superstar phenomenon include real estate, finance, arts, media, and sports (Korinek, 2017). Even more, manufacturing, services, utilities and transportation, retail trade, and wholesale trade also experience varying degrees of increasing market concentrations based on a fraction of sales and fraction of industry employment for the largest four and twenty firms in each respective industry (see appendix 1). Another market-trend finding states that income distribution gaps have been increasing between the top 0.1% compared to the top 0.5% – or between super-super stars and superstars – with the ratio between the two groups rising to 7 times (Korinek, 2017). Furthermore, the role of superstar characteristics, alluding to role-model effects, influences external stakeholders' organizational identification within the realms of sports and beyond in similar fashions (Hoegele and Schmidt, 2012). Thus, given the current trends of market concentration, whether within the sports, music, or corporate industries, stakeholders and economists should acknowledge the role of technology's impact on pay distributions in response to the profitability of individuals or firms – the superstar phenomenon, then, could become a metric to assess how the dynamic works within an organization and hint at potential returns on investments or future projections. Conclusively, this concept helps to reason about the changes in a post-pandemic world, where the reliance on technology and the inevitability of pay-structural changes are more significant and impactful than ever.

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