

# The Economics of Rock Stars

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How much do rock stars make? How much more does a “big” star make than a “small” star — and what explains such differences? How do stars become stars in the first place? What is the relation between a rock star and a rock fan — and how does it differ from a standard buyer-seller relation? These are some of the questions we will address in this chapter.

## Income sources and distribution

The main sources of a rock musician’s income are concerts and recordings. As I show in the companion chapter, *Selling Records and Selling Concerts*, recording labels receive the lion’s share of recording revenues, whereas artists typically get a substantial portion of touring revenues. As a result, most of an artist’s revenue typically originates from touring, merchandizing, etc, rather than record royalties. Though in time this may change, it is certainly true as of 2009.

□ **Distribution skew.** The popular wisdom is that rock stars make a lot of money, though it’s not always clear what “a lot” means. A more precise way of addressing the issue is to look at the distribution of rock star revenues. One way to rephrase the idea that stars make a lot of money is to say that their revenue distribution is very right-skewed. Exhibit 1 shows the 2008 total earnings by top musicians. The ratio between the top and the 20th star on the list is a factor of 6.

In order to get a more systematic perspective on revenue skewness, one should look at the overall distribution and then compare it across time and against other revenue distributions. In 1982, the top 5% performers earned a little over 60% of total ticket revenue; by 2003, that percentage was greater than 80%. The evolution is even more impressive for at the very top: In 1982, the top 1% stars earned about a quarter of the total ticket revenue; by 2003, they earned more than one half!<sup>1</sup> By comparison, the top 1% of tax payers in 1998 earned 14.6% of total income.<sup>2</sup> In other words, by 2003 top stars were earning a lot more than top US income earners — and this despite the fact that US income distribution has become considerably more skewed in recent years.

□ **Price effect and quantity effect.** Having established that the distribution of star revenues is considerably right-skewed, one is naturally led to inquire into the source of such skewness. Knowing that revenue is the product of quantity and average price, one interesting question is whether the source of variation is primarily price or quantity.

The evidence is that cross-artist differences are primarily due to variations in quan-

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Written by Professor Luís Cabral for the purpose of class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. The author thanks Professor Alan Sorensen for sharing data and providing comments on an earlier draft. © Luís Cabral

tity, not price. When it comes to recording revenues, it is immediately apparent that the variation in CD prices is very small compared to the variation in number of CDs sold. For example, a *Rolling Stones* CD sells for approximately the same price as a *Flamin Groovies* CD; but the *Stones* record is likely to sell many more copies. To be sure, we should take into account that more popular bands receive a greater share of the royalty proceeds, but this increase is proportionately lower than the increase in units sold.

This disparity between price effect and quantity effect is also found in concert sales, though not as markedly. Exhibit 2 shows the average concert ticket price from a sample of concerts performed in the US in 2002. For example, average price at concerts that sold less than 1,000 tickets was about \$16, whereas average price at concerts that sold more than 15,000 tickets was about \$33. Although this is twice the price of a ticket to a small concert, the ratio in terms of attendance is much higher (greater than 15).

A different way to look at the data is at the artist level: artists in the top decile of touring revenues in 2002 earned nearly 200 times more revenues than artists in the middle (the 45th to 55th percentiles). But their average ticket prices were only 80% higher. Still another way to get at the same fact is to statistically regress the logarithm of ticket revenues on the logarithm of the number of tickets sold. The coefficient of such regression is 1.14. Notice that, if it were equal to 1, then *all* of the increase in revenue would be due to the quantity effect. The regression suggests that there is also a price effect, albeit smaller in magnitude.<sup>3</sup>

### The economics of superstars

As we saw above, the distribution of rock star earnings is very skewed: a very small number of stars earns a substantial fraction of the overall earnings. Why? Why should rock stars' income distribution be more skewed than in other professions and occupations? Scholars refer to this phenomenon as the "economics of superstars." To understand the idea, it is useful to start from a stylized fact regarding record sales earnings: differences between more and less popular bands are primarily due to quantity differences, not price differences.

Let us now consider an idealized, simplistic world where there is a clear ordering, in the eyes and ears of music fans, between the various bands available in the market. This is obviously not exactly true, but to a first approximation and for the sake of illustration will make a helpful starting point. So as not to offend any reader who might also be a music fan, let us simply denote the top band by *A*, the second top band by *B*, and so forth.

Consider now the decision of a music fan who has \$20 and wants to purchase a CD. With such a limited budget, the fan can only afford one record. Which CD is the fan going to purchase? You guessed it: band *A*'s record. It follows that, because there are no capacity constraints in producing CDs, the top band will serve every single fan. Even if the quality difference between bands *A* and *B* is not very significant, the earnings gap between the two bands will be enormous: the "superstars" phenomenon.<sup>4</sup>

Clearly, we are looking at an extreme outcome, which essentially results from the extreme assumption that all fans rank band *A* above band *B*. This is not true: most industries — including popular music — are characterized by vertical differentiation (everyone agrees that band *A* is better than band *B*) as well as horizontal differentiation (some prefer band *B* to band *C*, some prefer band *C* to band *B*). Horizontal differentiation softens the superstar phenomenon described above, but it does not eliminate it. Likewise, price competition (which I've assumed away in the above example) might soften the superstar phenomenon

(lesser bands sell CDs and concert tickets at a lower price, thus attracting some fans who might otherwise go with the bigger bands); but some superstar effect will still remain.

In this sense, one of the effects of globalization is to accentuate the phenomenon of superstars. A stylized view of globalization is that we go from a series of separate markets to a single global market. Before, the best artist in each market took the lion's share of that market. Now, the best band in the world takes the lion's share of the world market.

The above theory relies on the assumption that consumers agree on who the best performer is — and then purchase their records and attend their concerts. But the argument can be made that the superstar phenomenon takes place even when there are no differences in talent. The idea is that one learns about music by listening to it and by discussing it with other people who listen to it. In this context, an artist's popularity works like a sort of snowball: small initial differences in popularity across artists of similar talent are magnified over time by the self-reinforcing mechanism of consumers wanting to listen to what people are listening to. In other words, the top artist in sales is not necessarily the best talent, rather the particular talent that consumers “coordinate” on. As economist M. Adler puts it, “bills of all colors could serve as money and likewise all artists could be stars.”<sup>5</sup>

Even if consumers don't particularly care about coordinating their preferences with others (after all, most consumers listen to their music in their iPods), snowball effects may emerge from the consumers' buying strategies. There is a very large number of offerings in the market and it's impossible for a single consumer to learn about them all. Consumers therefore must rely on each other's information. As economists K. Hendricks and A. Sorensen argue,

Consumers buy the products they hear about, and they hear about the products that other consumers buy. As a result, a product's success reinforces itself, causing the distribution of success across products to be more highly concentrated.<sup>6</sup>

Still a third related explanation for the skewness of artist revenues is that an artist's success is the combination of talent and resources placed at his or her disposal. For example, leading artists get better songwriters working for them, thus producing better hits, thus cementing their reputation as leading artists.

The above theories have something in common: they are consistent with a dynamic process whereby stars are born out of a what economists refer to as *self-reinforcing dynamics*. This may sound like high-level jargon, but the idea is relatively simple: the more people listen to band *A*, the more people will be told about band *A* — through word-of-mouth, online social networks, etc — thus further increasing band *A*'s following. As a result, it may happen that two bands with relatively similar talent end up in very different positions. Some *small historical events* — a positive review of an initial hit, some radio play time — start a *snowball effect* that gradually distances band *A* from the equally talented band *B* that did not get the same initial break.

The companion technical note, *Self-Reinforcing Dynamics*, spells this out in greater detail. Going beyond the math, the idea of snowball effects begs the question of how stars come to be in the first place; that is, what is the nature of the small historical events that lead down the road to stardom. We next turn to this question.

## A star is born

Assuming that talent differences between stars and non-stars are very small compared to differences in market success, the natural following question is: what makes some singers stars and others only aspiring stars?

□ **Payola.** If stardom results from a snowball effect, then it pays to invest a lot during the period when the snowball is about to be formed. One important investment is radio air time. It is illegal to pay radio stations to play a certain hit unless an explicit announcement is made to that effect. Nevertheless, such undercover and undisclosed payments are a frequent practice. It has a name: payola (from “pay” and “Victrola,” a nickname of early radios from RCA Victor).

Why should payola be considered illegal? One view is that listeners expect DJs to select the best songs, not the songs willing to pay for air time. But why shouldn't we simply consider payola as a sort of advertising expenditure? According to author J. Surowiecki,

Paying to play ... creates a rough marketplace democracy: if you can come up with the cash, you get a shot. But that's all. Labels can buy themselves exposure; they can't buy themselves a hit. If people don't want to hear a record, radio stations won't keep playing it on their own accord.<sup>7</sup>

In practice, payola has been into effect under a loophole: independent record promoters pay radio stations for air time on behalf of record labels. Since these “indies” (not to be confused with independent record labels) are not record labels, the radio stations do not feel obliged to report the payments received. However, the US Federal Communications Commission has recently declared that these deals should be treated as payola as well. Meanwhile, “indies” keep invoicing record labels at least \$3 million a week (a 2001 estimate).<sup>8</sup> Payola is big business.

□ **Talent shows.** Some artists saw their first glimpse of success by winning talent shows such as the Eurovision Song Contest or American Idol. Do these talent shows work as screening devices or rather as triggers of snowball dynamics? The first view is that there is an initial set of singers and bands of different levels of ability; and the role of talent shows is to select the best. Moreover, if it were not for this particular talent show, sooner or later the market would recognize the best talent. The second view is that winning a talent show is the “small historical event” that starts a snowball effect which divides the paths of two equally talented artists, one onto stardom, one onto oblivion.

In order to distinguish between these alternative theories, one would need to perform a conceptual test like the following: Suppose that ABBA had come second in Sweden's 1974 song contest. Had that happened, some other singer/band would have represented Sweden in the 1974 Eurovision contest. How would that singer and ABBA's careers have been different under this counterfactual? Under the first interpretation of talent shows (screening devices), the answer is: a lot in the short run but probably not a lot in the long run; that is, sooner or later the world would have found ABBA. Under the second interpretation of talent shows (triggers of snowball effects), the answer is: a lot in the short run and even more in the long run: Eurovision gave ABBA a break, which brought them contracts, which brought them resources, which led to more songs being written by them and for them, which continued the process of self-reinforcing dynamics.

Most likely, the answer is: a bit of both.

□ **Under-experimentation bias.** Talent shows notwithstanding, most new artists are discovered and promoted by agents, who scout clubs and listen to endless numbers of demo tapes. If it is true that there are many artists with similar talents to superstars, why do labels and promoters keep paying huge sums to singers who could be replaced by cheaper equivalent alternatives? To put it differently, why is there so little star rotation, why is there so little experimentation of new artists on the music scene?

Economist Marko Terviö, following on the work of G. Becker, thinks the answer lies in what economists call an *externality*.<sup>9</sup> An externality is the situation when an action by an economic agent (e.g., music promoter) results in a cost or benefit to other agents (e.g., a benefit to artists) which the first agent does not capture. Specifically, because it is difficult to write long-term contracts with artists, a promoter cannot avoid the possibility that an artist, once he or she becomes a star, moves on to a different agent. This implies that agents are unable to recover all or maybe even most of the investment they make in creating a star.

Under-experimentation in talent search leads to low average talent: there are many great artists out there who have not been discovered because of the misaligned discovery incentives. Moreover, the few high-talented artists who have been discovered enjoy a considerable degree of market power: they are insulated from would-be rival stars by the high entry barriers of artist experimentation. We thus have an additional explanation for the skewness in star earnings: the industry continues investing in proven stars because the private return on such an investment is higher than the private return on experimenting with new artists — even if the social return of such experimentation is higher.

□ **The Internet.** It has become a cliché to say the Internet has completely changed the way things are done — in just about every field of activity. Music is not an exception. What role does the Internet play in the process of discovering new stars? On the one hand, sites like MySpace make it very easy for a singer or a band to post their demos for the world to listen to. Together with the fact that recording technologies have decreased in cost, this lowers the barrier for new talent to enter the industry. On the other hand, however, the Internet has produced massive amounts of information regarding emerging talent; and to the extent that consumers have search costs, it may be that it is now more difficult for a new band to have access to the listeners' ears.

In other words, the Internet is certainly changing the way things are done; but whether this favors small players in the music industry is a debatable question. In the companion note, *The Long Tails*, I discuss some of the recent research on this matter, including C. Anderson's eponymous article and book. More generally, the companion chapter on the evolving business model of the music industry, *Selling Records and Selling Concerts*, expands on the role played by the Internet.

### **The rocky relationship between stars and fans**

A stylized fact from popular music concerts is that they are systematically underpriced. For example, of the world's top ten concerts from January-May 2009, six sold out; nine sold more than 90%; and only the Jonas Brothers playing in Buenos Aires sold less than 90% (83.4%, to be more precise).<sup>10</sup>

Concert ticket prices are typically set by the artists themselves — or at least based

on the artists' input. The above numbers suggest that the equilibrium price of tickets — that is, the price that would balance supply and demand — is greater than the face-value price. Evidence from ticket resale corroborates this suspicion. For example, consider the July 10, 2004, Hershey Park Stadium concert by the Dave Matthews Band. Tickets in the primary market all cost less than \$80 (in fact, there were only two ticket price levels). In the secondary market, some tickets sold by less than face value. However, the great majority sold by far more than the face value — some for more than \$300.

A simple-minded economist might say that there is money left on the table, that artists should set higher ticket prices. The data certainly suggests that consumers are willing to pay more than they currently pay in the primary market. But such an approach might be simple minded for at least two reasons. First, there is some uncertainty about demand for a particular show; and since a full house is an important ingredient of an exciting performance, artists prefer not to risk. Second, and possibly more important, there is an important relationship between fans and the artist that goes beyond buyer and seller. Specifically, the artist wants to be thought of as more than a profit-maximizing seller, as someone who is fair to the fan.

To illustrate this and other aspects of the difficult relation between stars and fans, we next consider three recent examples: Trent Reznor (of the *Nine Inch Nails* band), Neil Diamond, and *Radiohead*.

□ **Investing in fan loyalty: Trent Reznor.** On May 5, 2008, American industrial rock band *Nine Inch Nails* (NIN for short) released its eight album, *The Slip*. During the recording, the band released a single, “Discipline,” which was available for free download from iLike. The file’s mp3 tag included a message encouraging fans to visit the band’s website on the release date. Those who did so were welcomed by band leader Trent Reznor with the message: “Thank you for your continued and loyal support over the years — this one’s on me.”<sup>11</sup> Yes, the entire album was (and is) available for download free of charge. Moreover, like previous album *Ghosts I–IV*, *The Slip* was released under a special commons license, basically allowing fans to use the material for non-commercial purposes: “we encourage you to remix it, share it with your friends, post it on your blog, play it on your podcast, give it to strangers, etc.”<sup>12</sup>

The free release of *The Slip* was not an isolated event in the unorthodox career of a musician who has been called “the Ralph Nader of the music industry” and included in *Time* magazine’s list of the year’s most influential Americans.<sup>13</sup> Reznor has been a frequent and constant critical voice in the music industry establishment. In May 2007, he posted a controversial and much-talked-about rant condemning Universal Music Group for their pricing approach: “As the climate grows more and more desperate for record labels, their answer to their mostly self-inflicted wounds seems to be to screw the consumer over even more.”<sup>14</sup> In between songs at a concert in Australia, Reznor followed up by saying (edited for content):

Last time I was here, I was doing a lot of complaining about the ridiculous prices of CDs ... Has the price come down at all? I see a no, a no, a no ... Okay, well, you know what that means — STEAL IT. Steal away. Steal and steal and steal some more and give it to all your friends and keep on stealin’.<sup>15</sup>

But Reznor’s stand-up to the music establishment is not limited to the recording side of the

business. Concert tickets, in particular the secondary market for concert tickets, is another point of contention:

There are some people who would be willing to pay \$1,000 and up to be in the best seats for various shows, but MOST acts in the rock / pop world don't want to come off as greedy pricks asking that much, even though the market says its value is that high. The acts know this, the venue knows this, the promoters know this, the ticketing company knows this and the scalpers really know this.

So the venue, the promoter, the ticketing agency and often the artist camp (artist, management and agent) take tickets from the pool of available seats and feed them directly to the re-seller (which from this point on will be referred to by their true name: SCALPER) . . . StubHub.com is an example of a re-seller / scalper. So is TicketsNow.com . . . They could have (and can right now) stop the secondary market dead in its tracks . . . Why don't THEY do it? It's obvious — they make a lot of money fueling the secondary market.<sup>16</sup>

Next, Reznor explains what his band does in order to treat fans fairly:

NIN gets 10% of the available seats for our own pre-sale. We won a tough (and I mean TOUGH) battle to get the best seats. We require you to sign up at our site (for free) to get tickets. We limit the amount you can buy, we print your name on the tickets and we have our own person let you in a separate entrance where we check your ID to match the ticket. We charge you a surcharge that has been less than TicketMaster's or Live Nation's in all cases so far to pay for the costs of doing this — it's not a profit center for us. We have essentially stopped scalping by doing these things — because we want true fans to be able to get great seats and not get ripped off by these parasites.<sup>16</sup>

The end of Reznor's post provides an apt segue into our next example.

Don't buy from scalpers, and be suspect of artists singing the praises of the Live Nation / TicketMaster merger. What's in it for them?<sup>16</sup>

□ **PR nightmare: Neil Diamond's ticket pricing.** Singer Neil Diamond (Brooklyn, 1941) released his first recording in 1962 and to this date remains one of the most popular artists in America. Diamond fans are “mostly white, middle class and middle-aged.”<sup>17</sup> (That was a quote from twelve years ago, so the “middle-aged” part might have changed.)

On August 25, 2008, Diamond was scheduled to give a concert at Ohio State University in Columbus. A doctor had diagnosed him with acute laryngitis. Nevertheless, Diamond went on stage, his voice sounding “raspy.” The next day, in a statement posted on neil-diamond.com, the artist offered an apology — and a refund to anyone requesting it before September 5. “I haven't let you down before and I won't let you down now.”<sup>18</sup>

A few days earlier, from August 12–16, Diamond had given a series of four concerts at New York's Madison Square Garden. Less than a minute after tickets went on sale, more

than 100 seats were available at TicketExchange. The tickets were presented as fan-to-fan transactions. The listed prices were hundreds of dollars higher than their face value.

Following a March 2009 story by the *Wall Street Journal*, Ticketmaster's then-chief executive, Sean Moriarty, acknowledged that they had used TicketExchange to sell 160 of those tickets, on Neil Diamond's behalf, at marked-up prices. "That's a choice up to Neil and management," Moriarty said. Neil Diamond's manager, Irving Azoff, added that "it's our job to make our clients aware of every opportunity that exists."<sup>19</sup>

In the artist's defense, the *Wall Street Journal* reveals that

Virtually every major concert tour today involves some official tickets that are priced and sold as if they were offered for resale by fans or brokers, but that are set aside by the artists and promoters.<sup>19</sup>

Other than Diamond, the list of offenders includes Bon Jovi, Celine Dion, Van Halen, Britney Spears, and others.

In a letter to the *Journal's* editor (March 16, 2009), Ticketmaster claimed that "our dynamic pricing helps artists." Their website states that TicketExchange shouldn't be considered scalping, and that its "goal is to give the most passionate fans fair and safe access to the best tickets."

It is not clear what effect this episode (and the *Journal's* story) have had on fans, if any.

□ **Exploiting fan loyalty: The Radiohead experiment.** On October 10, 2007 British rock band Radiohead rocked the music world (pun intended) by running an experiment: Their seventh studio album, *In Rainbows*, was released online. The price?—Whatever each downloading fan decided was fair. Fans could also choose to purchase the Discbox, which includes a vinyl album, bonus CD, and some extras for \$80 U.S.

Many analysis were surprised at the number of paying downloaders and the high prices offered by some of them. As Exhibit 3 shows, more than a third of all downloaders paid money (though they needn't). In fact, as Exhibit 4 shows, 4% consumers paid more than \$12, twelve dollars more than they had to.

Many other analysis were rather surprised by the number of downloaders who paid at all. According to Jim Larrison, general manager of corporate development at Adify, a provider of online ad network services,

The high percentage of users actually paying more than a few dollars for this download is actually pretty impressive. I expected the vast majority of users to download the album for free or at most a few dollars. With 40 percent of consumers willing to pony up real money, this is a true win for the music industry as it shows there is still perceived value in the digital form of entertainment. Of course it does suggest that the marketplace is continuing to migrate and the music industry needs to shift with consumer behavior. There are numerous methods to monetize the music, via shows and concerts, merchandising and box sets, commercial licensing, and even advertising; which is where the industry needs to progress towards, as the 40 percent paying for music might not be sustainable.

Fred Wilson, managing partner of Union Square Ventures disagrees:

I am surprised by the number of freeloaders. The stories to date about the In Rainbows ‘pick your price’ download offer have been much more optimistic. I paid \$5 U.S. and had no reluctance whatsoever to take out my card and pay. It’s a fantastic record, the best thing they’ve done in years. But, this shows pretty conclusively that the majority of music consumers feel that digital recorded music should be free and is not worth paying for. That’s a large group that can’t be ignored and it’s time to come up with new business models to serve the freeloader market.

Whether the experiment was beneficial to Radiohead is still an open question. What seems clear is that this sort of strategy does not bode well for publishers. Michael Laskow, CEO of TAXI, the world’s leading independent A&R (Artist and Repertoire) company puts it this way:

While the band, its fans and artists alike are celebrating what looks like a success for Radiohead’s bold move in releasing their new album using the ‘pay what you’d like’ model, I think everybody has overlooked one very important aspect of this, and it doesn’t bode well for the future of the music industry: Radiohead has been bankrolled by their former label for the last 15 years. They’ve built a fan base in the millions with their label, and now they’re able to cash in on that fan base with none of the income or profit going to the label this time around. That’s great for the band and for fans who paid less than they would under the old school model. But at some point in the not too distant future, the music industry will run out of artists who have had major label support in helping them build a huge fan base. The question is: how will new artists be able to use this model in the future if they haven’t built a fan base in the millions in the years leading up to the release of their album under the pay what you’d like model?

*CNN Money* found Radiohead’s experiment worthy of their “101 Dumbest Moments in Business” list. “Can’t wait for the follow-up album, ‘In Debt,’” the network jested. But was it really a dumb idea? During the first 29 days of October 2007, 1.2 million people worldwide visited the site. A “significant percentage” of visitors ultimately downloaded the album. Of these, 62% chose to pay nothing. The remaining 38% paid an average of \$6.<sup>20</sup> As Exhibit 3 shows, this corresponds to an overall average of \$2.26 per download. Assuming (optimistically) that all visits turned into a download, this translates into a total of about \$2.7 million in sales. Previous studio albums by Radiohead sold in the 200 to 500,000 range. Assuming a price of \$15 per copy, this works up to \$3 to \$7.5 million per album.

While \$2.26 million fall short of the \$3–7.5 million range, one must note that this is not the end of the story. First, the fraction of the online revenues that accrue to the band is much greater than the fraction of CD sales would have been. Second, as comScore analyst Edward Hunter puts it,

It is important to note that Radiohead has single-handedly accomplished a milestone that the recording industry has failed to achieve

— they've eliminated much of the profit attrition related to piracy or illegal copying. Moreover, they have garnered good faith with the music consumer at a time when it's all the rage to bash the industry and the artists who ally themselves with it. And then you have the reduction in cost of sale, cost of promotion and production. I'd call this a resounding success for Radiohead and music fans everywhere and a fantastic artistic effort as well.

**Exhibit 1**

Top 2008 moneymarkers (touring, albums, digital tracks and ring tones). Source: *Billboard*.

1	Madonna	242,176,466
2	Bon Jovi	157,177,766
3	Bruce Springsteen	156,327,964
4	The Police	109,976,894
5	Celine Dion	99,171,237
6	Kenny Chesney	90,823,990
7	Neil Diamond	82,174,000
8	Rascal Flatts	63,522,160
9	Jonas Brothers	62,638,814
10	Coldplay	62,175,555
11	The Eagles	61,132,213
12	Lil Wayne	57,441,334
13	AC/DC	56,505,296
14	Michael Buble	50,257,364
15	Miley Cyrus	48,920,806
16	Taylor Swift	45,588,730
17	Journey	44,787,328
18	Billy Joel	44,581,010
19	Mary J Blige	43,472,850
20	Kanye West	42,552,402

**Exhibit 2**

Number of tickets sold and average price.<sup>21</sup>

Number of tickets sold	Number of concerts	Average price
<1000	10,195	15.65566
1000–5000	6,253	26.96732
5000–10000	1,747	28.19898
10,000–15,000	900	31.21433
>15,000	595	33.1656

**Exhibit 3**

Radiohead *In Rainbows* online album downloads. Source: comScore.com, Inc.

	Worldwide	U.S.	Non-U.S.
Percent Who Paid for Download	38	40	36
Percent Who Downloaded for Free	62	60	64
Total	100	100	100
Average Price per Paid Download* (\$)	6.00	8.05	4.64
Average Price (All Downloads)* (\$)	2.26	3.23	1.68

\*Excludes credit card transaction fees.

**Exhibit 4**

Radiohead *In Rainbows* online album sales: price distribution. Source: comScore.com, Inc.

Price (\$)	Share of	
	Downloaders	Dollars
0.00	62	0
0.01– 4.00	17	8
4.01– 8.00	6	12
8.01–12.00	12	52
12.01–20.00	4	27

## Endotes

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