Incentives for Creating Hits:

Mechanical Royalties and Other Streams of Income for Popular Musicians

by

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Abstract:
Recorded music is a unique creative work in that its role in consumers' lives, given disruptive innovations in technology, has increased dramatically in consumer surplus and while costs of production and distribution have drastically reduced, yet its reference price has fallen to zero. In this study, I seek to understand whether the events of the past 20 years have lowered the annual concentration of mechanical royalties and revenues concentrated in the top 10 albums each year relative to the entire market for album sales. Inferring from the events that occurred in the era, from Long Tail theory and from increased niche competition, I hypothesize that both mechanical royalties and revenues for hit albums have decreased relative to the market for recorded albums. Using historical mechanical royalty rates and album prices along with Nielsen and RIAA data, I test these two hypotheses to find that mechanical royalties among hit albums hold constant share in the market while the revenues attributable to the same albums have decreased in value generated relative to the format's market. The results of the study call into question the role that mechanical royalties play for incentivizing hit music in a marketplace wherein the format on which those royalties are written has lost value itself. I explore the implications that this shift in income distribution has for record labels and "hit" artists in light of the concerns of new artists and the arguments raised by the IFPI.

For those who have supported this project
I would first like to express my sincerest gratitude to and appreciation for Professor Aswath Damodaran. His intellectual prowess and broad interests, extending in great depth from company valuation out to the music industry, have inspired me in the process of this project, in the context of my coursework and in my goals for an academic and professional career. I am very fortunate to have had his guidance and insight for this project.

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I. Background: shifts in the music business during the SoundScan Era

The Nielsen SoundScan/Broadcast Data Systems (BDS) era, 1991-present, has marked the recorded music industry's most drastic developments, including technological advances that sent profits soaring followed by disruptive innovations that shook the business model along the entire value chain and across the majority of related products and services. SoundScan and BDS data enforced honesty among record labels, distributors and retailers for the benefit of recording artists. The compact disc saw nearly no competition from other music formats, with consumers adopting it in high quantities at increasingly high prices. But by the end of the decade, the CD format was largely rendered useless with the advent of digital audio files and internet connectivity—innovation that struck harder at the music industry as technology improved. At this point, social networking and peer-to-peer file-sharing are at their greatest penetrations, a fact that seems to point to low revenue and less concentration of revenue among "hit" artists. This paper aims to test whether lower barriers to entry has diluted the mechanical royalties and revenue held at the top of the charts.

a. Nielsen SoundScan and BDS technology's introduction, relevance and impact

An artist's position on the *Billboard* charts has been, and continues to be, a metric by which the public tends to measure an artist's popular success. Prior to the introduction of SoundScan and BDS technology, *Billboard* received its information pertaining to best-selling albums by genre, as reported by participating "reporting" retailers.[1] This data was not cross-checked, and indeed, record labels were prone to influence retailers' responses, much in the way

[1] Hutchinson, Thomas; Macy, Amy; and Allen, Paul. Record Label Marketing. 2010.

payola influenced radio play in prior years.[2] Consequently, "hit artists" could have been those who had the strongest financial and marketing muscle behind them, which was largely concentrated in major record labels.

Nielsen SoundScan and BDS technology, introduced in 1991 and 1992 respectively, work together to correct for the inaccuracies of *Billboard's* previous ranking methodology. Jointly produced and developed by Mike Shalet, a record label promoter, and Mike Fine, a statistician, Nielsen SoundScan requires retailers to have an electronic inventory system using UPC codes and internet connectivity. SoundScan retrieves real sales data from over 14,000 retailers, which are supposed to be statistically representative of the market, and makes this data available to *Billboard*, which publishes the charts and makes them available to distributors, labels, artist managers, agents, promoters and retailers via subscription. The relative availability of the data promotes transparency and competition in the market for music talent.

Interviews with CFOs at Warner Music Group and Sony Music shed greater light on Nielsen SoundScan's impact on artists' royalties, as well as the selection of new artists. Cliff Silver, CEO of Sony Music, said new talent is valued as a percentage of a ceiling set by the best-selling comparable precedent artist and forecast in a discounted cash flow model. The record label bases its bid for an advance on the artist as a result of the output of the model. Before the *Billboard* charts gathered real sales data, these advances very well could have been mispriced, as the artists at the top of the charts could have been a direct product of their labels' promotion force. Additionally, Steve Macri, CFO of Warner Music Group, described artists as private equity or venture capital investments from the perspective of a record label. Labels anticipate

[2] "Payola" is a term for the now-illegal practice of paying a radio broadcaster to air particular artists, songs, or other programming without the disclosure of the payment and by whom the fee was paid. The FCC now regulates what material was sponsored and from whom the payment was received. The FCC provides more information at http://www.fcc.gov/cgb/consumerfacts/PayolaRules.html

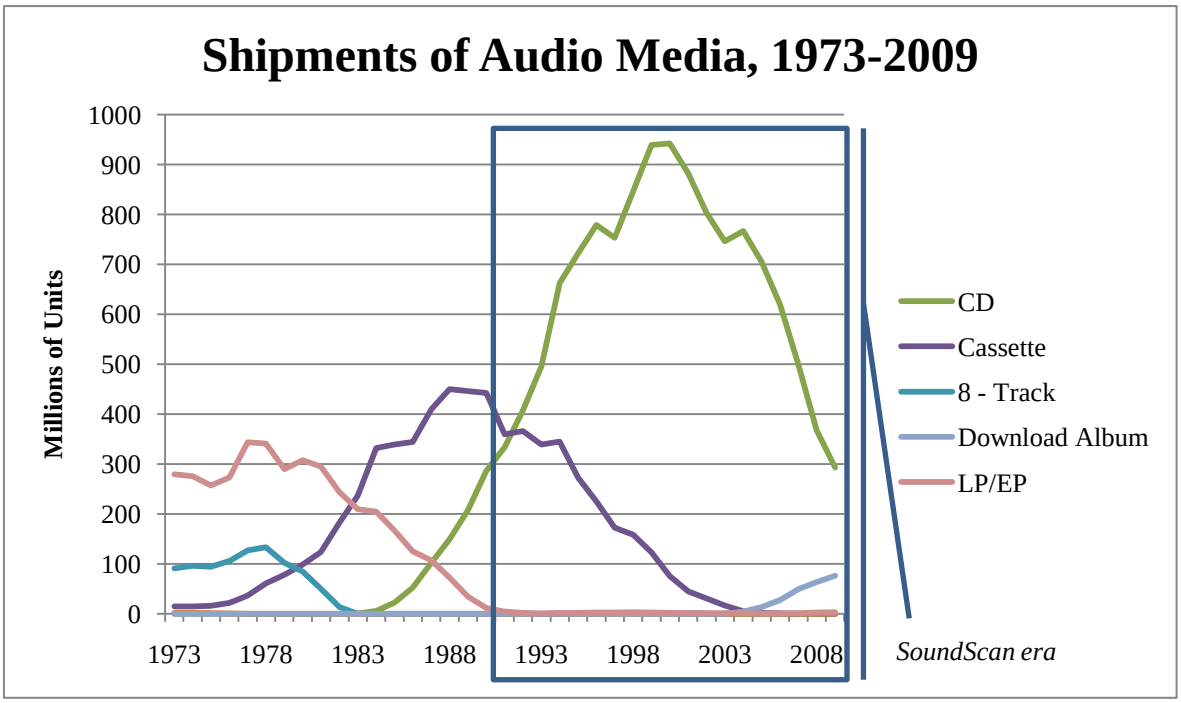
well-established artists to behave like private equity investments, generating relatively steady cash flows and therefore demanding more generous advances[3] from labels in anticipation of profit participation. "Venture capital" artists are expected to fail at a rate of 80 to 90 per cent; therefore, they receive less up-front financing with higher expected payoffs in growth. If the signing label has inaccurate information about an artist's sales, real or potential, the advance can be mispriced. If an advance is too low, the bid can be lost, a hit project can be underfunded, or the label will lose money on the back end that it could use to finance future artists. If the advance is priced too high, the artist might fail to produce a hit record and the labels will suffer a loss. Nielsen SoundScan data builds the potential for adequate financing of potential hits and mitigates this problem.

Along with advancing the transparency of music data in practice, SoundScan technology data plays a vital role for the validity of this research as well. Shipment data is also provided by the IFPI and RIAA, which uses shipment approximations to certify albums as "gold," "platinum," or "diamond," but this data is from the production perspective and lacks the point-of-sale precision provided by SoundScan. Chart rankings prior to 1991 would not permit sound analysis of the albums that were truly hits without raising the question of whether those rankings were legitimate.

[3] Advances act as debt financing, where labels recoup at the expense of the artist's royalties until the advance is retired. Advances are not receipts due to the artist; however, they are an adequate proxy for a record label's valuation of an artist, because higher advances mean that labels can recoup more royalties at the risk of a larger loss in the event of a default or flop record.

b. The rise and fall of the compact disc in the SoundScan era

Sony and Philips teamed together in 1979 to perfect an optical audio disc—a medium that, unlike the majority of entertainment format innovations, would face no tippy market competition. While beta videotapes combated with VHS, eight-track tapes with compact cassettes, and HD video with Blu-Ray technology, the CD was unanimously, albeit slowly, injected into the industry that it changed. The compact disc's functional benefits and manufacturing advantages ultimately effected changes in consumer behavior and corporate strategy in the music industry; these changes led to the drastic rise and fall of the format, captured in its entirety in the SoundScan era.



The CD's functions created consumer benefits, and consequently, consumer behavior changes, which would later prove detrimental to the format, including its capacity for time, feature for skipping songs, and use of digital audio. A researcher who worked to develop the CD claims that its length in time—which is a function of its physical dimensions because sounds sampled in binary code are physically represented by grooves in the format's substrate—was

decided by Philips management due to the successful size and length of the compact cassette.[4] The key insight from this innovation is the resulting newfound continuity in album playback. Artists and labels needed to consider constructing an album as a continuous work, rather than a product with two introductions and two conclusions. No longer would fans need to flip the album or tape to reach its second half; they could now play the work in its entirety without that added step or without additional technology that would perform the flipping process for them.

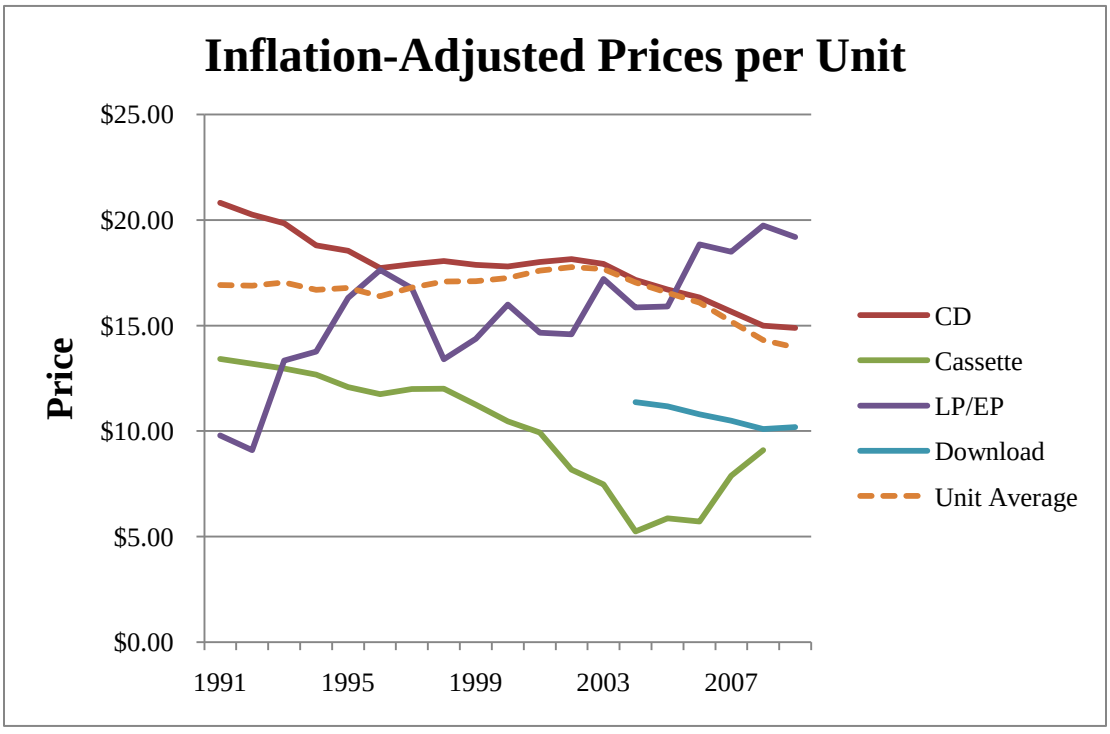
In contrast to the fluidity introduced by the continuous CD format, its song-skipping feature allowed consumers to seek the songs that they wanted to hear with much greater ease than permitted by earlier formats. While the vinyl album required dropping a needle and the compact cassette required rewinding and fast-forwarding, two haphazard trial-and-error search methods, the CD permitted the user to bypass unfavorable songs to access preferable ones and to listen repeatedly to the preferable tracks with minimal effort. This new benefit chipped slightly at the bundled pricing economic theory that benefited the "hits" industry in prior years. With the advent of the seek function in CD technology, songs started to become disaggregated from the album as a whole.

Since these disaggregated songs were stored on the CD format as digital audio files, the user was unintentionally allowed access to those files, increasing consumer control of the format and ultimately lowering the barrier to entry for piracy and digital distribution, which will be discussed in detail in parts (c) and (d). An article from *NPR Music* notes that "no one in the music industry thought about ripping or burning on a personal computer…CDs were the first widely available format that allowed consumers free digital copies of songs from a physical

[4] Immink, Kees A. Schouhammer. "The CD Story." http://www.exp-math.uni-essen.de/~immink/pdf/cdstory.pdf (this account differs from popular sentiment that the length of time on the CD format is attributable to Beethoven's 9th Symphony or some other work)

object."[5] The researcher from Philips further supported this claim, recalling that "from 1973 to 1976 two Philips engineers were given a mandate to develop an audio disc." Both of these quotes speak to the developers' genuine intention to produce a new medium for the music industry rather than the generic media storage format that the CD would later become. Regardless of the engineers' goals or the wants of the industry, by 1998 CD-ROM equipment was outselling CD audio players by a 40 per cent spread.[6] Access to the digital files contained in CDs was inevitable as the format gained momentum as a digital file storage medium.

Well-aware of the benefits that the new CD format provided to consumers, record labels charged consistently high prices for the format, even after the format was past its introductory phase of the product cycle in the 1980s.



[5] Rose, Joel. "The Legacy of the CD: Innovation That Ate Itself." http://www.npr.org/blogs/therecord/2011/03/09/134391895/the-legacy-of-the-cd-innovation-that-ate-itself

[6] Immink.

[7]

As demonstrated above by RIAA data, the CD has consistently pulled the average unit price of an album, only to be surpassed by the more costly-to-produce vinyl products in the 2000s. This meant soaring profits for the companies who produced, manufactured and promoted records in the form of the CD format. Jac Holzman, the founder of Elektra records, described the profitability of the format, saying "it would bring higher prices [than compact cassettes]…[and they] were lighter and easier to ship, which is a big consideration." As suppliers streamlined the CD manufacturing process, the format's real prices remained relatively constant. Indeed, in 2000, the Federal Trade Commission found that the labels were colluding to inflate artificially the prices of albums, "by withholding cash payments intended for cooperative advertising from retailers that advertised CD sales below the 'minimum advertised price'" (Burkart).[8] After years of accepting these artificially high prices, consumers were poised for greater tolerance of illegal piracy, or at the very least, a steep decline in their reference prices for recorded music.

c. Disruptive innovation in digital piracy, distribution and disintermediation

After the compact disc enabled audio digitization, the music industry's entire value chain was set for a shock, but this shock most directly affected the labels that procured, produced and promoted talent. The consumer's ability to store and copy digital audio files allowed for file-sharing, which peer-to-peer networks would exacerbate into piracy. The consumer's adoption of this illegal form of digital distribution compelled the marketplace to provide a proper legal digital distributor, one that was willing to provide a product with a starting reference price of zero dollars. Artists examined this change in the value chain, and some saw an opportunity in

[7] RIAA database as of 2011.
[8] Bokart. "Napster and the development of on-line music distribution."

disintermediation, abandoning the labels that financed them in order to obtain a greater share of the receipts attributable to their music.

Digital file-sharing found its roots in clients for tech-savvy users such as Internet Relay Chat (IRC), but Napster infamously spawned music piracy among casual Internet users, whose collective catalog of music enabled a symbiotic relationship that incentivized sharing. Released in 1999, Napster allowed users to connect to a client, search for music and download it from connected peers.[9] Napster's widespread adoption can be accredited to its user-friendly interface and the absence of bandwidth bottlenecks, which allowed more users to download more content faster and with fewer server crashes. Members associated with the Recording Industry Association of America (RIAA) immediately sued and sought injunction against Napster, and, after hit songs from Metallica and Dr. Dre leaked prior to their planned release dates, they too sued the company.[10,11] Most important, however, was that the technology and strategy of peer-to-peer file-sharing and piracy had gained ground with consumers, and the programs and websites implementing that strategy have since developed in complexity and widespread availability.

Lime Wire, Napster's most modern equivalent wherein users could simply search for songs or albums and download them immediately, is under a court injunction as of October 27, 2010, but BitTorrent software and legitimate file storage sites remain hotbeds for piracy. BitTorrent software consists of a network of uploading "seeders" and downloading "leechers." At any given time, users in this network download and upload pieces of songs or albums, rather than entire files, which results in optimal speed and bandwidth usage for each user. As of February 2011, some estimate total BitTorrent traffic to comprise 17.9 per cent of overall

[9] Taro, Karl. "Meet the Napster." Time. http://www.time.com/time/magazine/article/0,9171,998068,00.html

[10] Borland, John. "Unreleased Madonna single slips onto Net." http://news.cnet.com/2100-1023-241341.html

[11] "Napster settles suits." CNN Money. http://money.cnn.com/2001/07/12/news/napster/

internet traffic, of which the majority is "overwhelmingly used for the purposes of illegitimately sharing copyrighted data."[12] The Pirate Bay, which coined for itself the epithet of "the world's most resilient bittorrent [sic] site," has faced global legal threats and criminal legal action in its home country of Sweden, yet the site remains active, ranked 89th in global internet traffic, and hosts torrent files for movies as well as music.[13][14][15] In January 2011, the organization announced the upcoming launch of fear.themusicbay.org, cautioning that "the music industry can't even imagine what we're planning to roll out in the coming months."[16] Doubtless, illegal peer-to-peer hosts and copyright litigators will continue to engage in conflict, though that conflict has shifted shape since Napster's inception.

A less blatant but considerably significant form of piracy takes place over "cyber lockers," legitimate file hosting sites whose business model relies upon businesses and individuals purchasing online file storage as opposed to peer-to-peer hosts that generate revenue from advertising dollars or accept donations to operate their websites. In contrast to the Pirate Bay, which ignores legal complaints and even publishes them for entertainment, the majority of cyber lockers, such as RapidShare, MegaUpload, MediaFire, Sendspace and Hotfile, will remove any copyrighted content as soon as they are notified of its presence on their servers. These pages do not permit site-wide searches for content; instead, users who upload files receive a specific code and URL, which they can send to peers who need to access those files. There are other pages

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[12] Kirk, Jeremy. "U.S. P2P traffic lower than world average." http://www.computerworld.com/s/article/9207599/U.S._P2P_traffic_lower_than_world_average

[13] Jennings, Richi. "The Pirate Bay appeal fails, but site still not down." http://blogs.computerworld.com/17428/the_pirate_bay_appeal_fails_but_site_still_not_down?ta

[14] Alexa web statistics for The Pirate Bay. http://www.alexa.com/siteinfo/thepiratebay.org

[15] The Pirate Bay Google Search title tag. http://www.google.com/search?q=the+pirate+bay

[16] Castillo, Michelle. "The Pirate Bay To Return With The Music Bay?" http://techland.time.com/2011/01/24/the-pirate-bay-to-return-with-the-music-bay/

and means that enable these sites to be used for piracy, however. FilesTube, for example, crawls most of the cyber lockers, searching through the coded URLs and rendering links for users who enter simple queries. Users can also use the {site:} command in Google to crawl cyber lockers themselves; by entering that command and a cyber locker's domain, users can query any type of file and download it, until the cyber locker is notified of user violation.

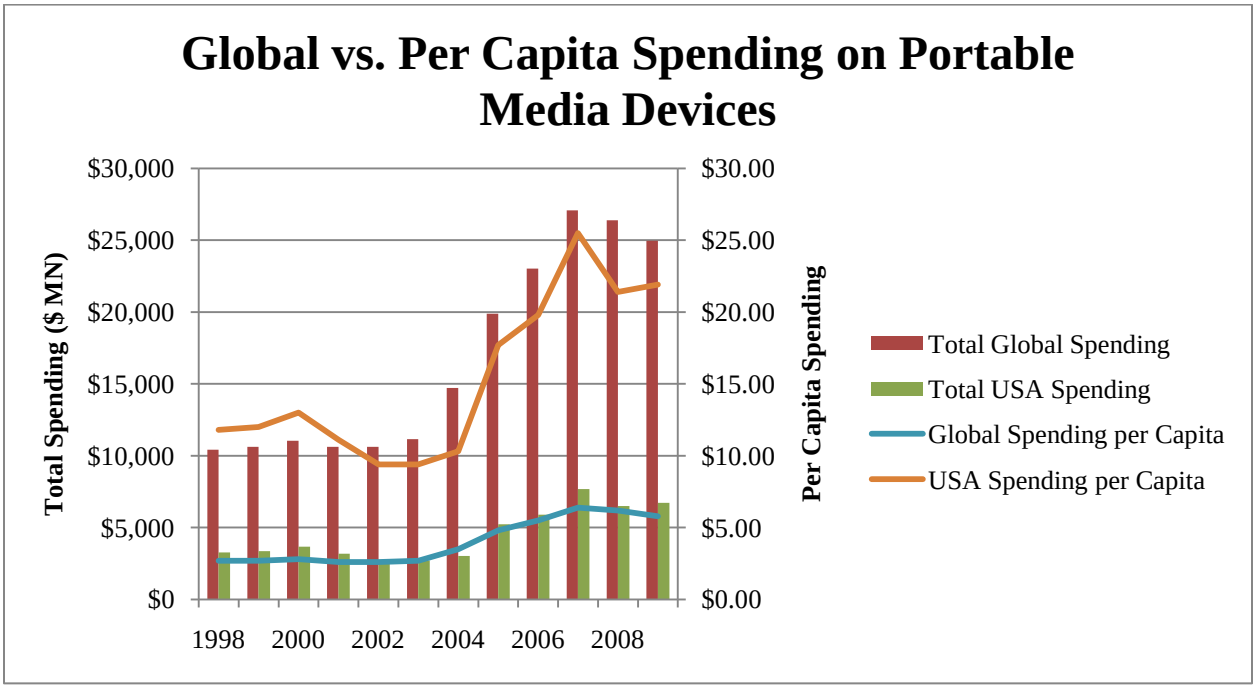
The screenshot above shows how such a search can be executed. This album, *If Not Now, When*, by Incubus, is slated for release on July 12, 2011—more than two months following the publication of this paper.[17] The first link leads to a dead end and the file cannot be downloaded; the second link is active. This example shows that piracy through legitimate file storage sites can be mitigated inefficiently at best; once a small number of users access the file, it can be spread to other cyber lockers and peer-to-peer networks. Some cyber lockers even pay users for uploaded content, but for all storage sites, legitimate or not, the approach for removing copyrighted content is reactionary.[18]

With music piracy's initial hold on the digital download market, the industry needed a legitimate, paid digital distributor, a role which was filled by Apple with the iTunes digital music

[17] Incubus website. www.enjoyincubus.com

[18] Seidler, Ellen (username fastgirlfilms). "Blogger, Cyber-Lockers and the Money Trail." User-generated video. http://vimeo.com/22368517

store. The store was introduced in the summer of 2003, on the heels of the successful iPod launch in 2001.[19] Its launch was aptly timed; by now, Napster's services had been deemed illegal and spending on personal media devices was just starting to enter a high growth phase—largely attributable to the iPod, iTunes Music Store and Windows capability—both on a per capita and gross basis, globally and in the U.S. [20] Net sales to Apple from the iPod and iTunes services were $8.3 million and $4.9 million, respectively.[21]



The introduction of the iTunes Music Store intensified to an extreme extent all the creative, economic, and consumer behavioral changes that were caused by the introduction of the compact disc, particularly those pertaining to album structure, pricing, cost, bundling, and end-user control. First, the iTunes Music Store permitted customers to purchase singles for $0.99

[19] Hormby, Tom and Knight, Dan. "A History of the iPod: 2000-2005," revised 2007. http://lowendmac.com/orchard/05/origin-of-the-ipod.html

[20] Data accessed from Euromonitor Global Marketing Information Database, via the NYU Virtual Business Library.

[21] Apple 10-K, filed 10/27/2010. http://files.shareholder.com/downloads/AAPL/1239206270x0xS1193125-10-238044/320193/filing.pdf

from their homes. By contrast, compact disc singles cost $4.34 at the time of iTunes's introduction, and consumers needed either to go to a store to purchase the single or order online and await its delivery.[22] Suddenly, the bundled, hits-driven full album sales did not contribute as much to consumer surplus as they did with the introduction of the compact disc format. For the record labels and artists supplying the music to iTunes, the margins increased while the price dropped in volume. Though the music suppliers retained 70 percent of digital sales versus a maximum of 50% from retail and variable and distribution costs dropped to almost nothing, unit prices were half for digital albums and a quarter for digital singles of the compact disc prices that preceded.[23] Volume would immediately need to increase 7 percent for albums and 360 percent for singles in order to compensate for the price reduction on iTunes digital products.

Beyond the reduction in price, consumers benefited from more choice and control over the music that they chose to consume. While compact discs allowed fans to skip songs with ease, the iTunes business model allowed them to choose with ease only the songs that they wanted to hear, providing them with a legal substitute for the Napster search model. Consumers could create playlists of the myriad songs that they wanted from any artist of their choosing, download the playlist to their iPod, and listen at their disposal. Consequently, the iTunes model transformed the fan, who was once confined by his wallet and by the tracks on an album led by a hit and pushed by a record label, to an individual creating his personal soundtrack and paying only for the songs that fit.

Digital distribution, lacking the shipping and manufacturing costs of physical media, appealed to unsigned and independent artists who lacked the financial and marketing muscle of

[22] Calculated from RIAA data, dividing total dollars generated from CD singles by the number of CD singles shipped during 2003.
[23] Course notes from the Entertainment Finance Spring 2010 course, an elective offered to undergraduates at the Stern School of Business, New York University.

major record label backing. Independent artists are able to distribute their music to iTunes, Amazon mp3 and emusic by using services provided by digital distribution companies. Within these companies, which include Pure Play Music, CD Baby and Tunecore, over 830,000 independent artists reach digital storefronts with no record label backing.[24,25,26] By sacrificing a portion of their revenue and paying a minimal upfront cost, these artists exercise disintermediation and deal a blow to one of the record labels' competitive advantages: relationships with distributors. Simultaneously, the independent artists' entrance into the digital marketplace raises competition with those artists who have record deals and established careers.

Established artists—Radiohead and Nine Inch Nails, for example—have also exploited the profitability of vertical integration, opting to exclude record labels from the entire process except physical distribution. This industry shakeup was initiated largely by alternative rock act Radiohead, a unique band in that it has almost exclusively benefited from digitization in the music industry rather than suffer from it. The band's first three albums never reached the top 20 US albums in a given week, but when its fourth effort, *Kid A*, leaked on Napster three months before it was due, the album debuted at number one on the US charts, with almost no radio airplay.[27] This bolstered the band's confidence in its independence as well as its fan base, so once Radiohead's record deal with EMI concluded, the band released its seventh album, *In Rainbows*, with no record label support. The unique aspect of the band's value proposition was

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[24] Resnikoff, Paul. "CD Baby Hits $150 Million In Artist Payouts: Is That Good?" http://www.digitalmusicnews.com/stories/080110cdbaby

[25] "TuneCore DIY Artist Colt Ford Sells 1.5 Million + Releasing New Album May 3." http://shorefire.com/index.php?a=pressrelease&o=4902

[26] Gamet, Jeff. "Pure Play Music Bringing Unsigned Artists to iTunes Store." http://www.ipodobserver.com/ipo/article/Pure_Play_Music_Bringing_Unsigned_Artists_to_iTunes_Store/

[27] Menta, Richard. "Did Napster Take Radiohead's Album to Number 1?" http://www.mp3newswire.net/stories/2000/radiohead.html

that fans could pay as much or as little as they wanted for the album; the album would be available in a deluxe, premium-priced box set and later released as a standard compact disc in retail outlets. According to a spokesperson for the band, Radiohead made more money in the three-month window between the download and physical release than it ever made on the album *Hail to the Thief*, released four years earlier; an independent survey found that a sample of 3,000 fans paid around $8 for the album.[28,29] The band's 2011 effort, *King of Limbs,* followed the same strategy, except that the album had a fixed price, tiered depending on the users' file quality preference. In 2008, shortly after Radiohead explored disintermediation, industrial project Nine Inch Nails opted not to renew its label contract and released two albums for free as digital downloads, with physical versions priced at a premium in limited quantities.[30,31] The stories told by Nine Inch Nails' and Radiohead's distribution strategies demonstrate that *Billboard*-topping acts find lucrative opportunities in disintermediation along with smaller, independent artists.

d. Social networking serving as a demand-side "pull" force in the music market

Following refined data tracking, advanced forms of media, and the introduction of piracy and digital distribution, the most recent shock to the music industry came with the development and adoption of social networking. This technology has provided the industry with a double-edged sword: on one hand, artists at every point in development can more easily access the most

[28] "Radiohead 'In Rainbows' sales data revealed." http://www.brooklynvegan.com/archives/2008/10/radiohead_in_ra.html

[29] Manjoo, Farhad. "A blockbuster for Radiohead's 'In Rainbows'? http://www.salon.com/technology/machinist/blog/2007/10/11/radiohead_sales/

[30] Anderson, Nate. "Reznor makes $750,000 even when the music is free." http://arstechnica.com/old/content/2008/03/reznor-makes-750000-even-when-the-music-is-free.ars

[31] Van Buskirk, Eliot. "Nine Inch Nails Gives Fans *The Slip.*" http://www.wired.com/listening_post/2008/05/nine-inch-nails/

important type of media marketing, which is word of mouth; on the other, negative publicity and music piracy can move with much more momentum and speed, as control shifts from the artists and their representation to the greater audience of the Internet.

Social networking has provided independent bands with a means to build a fan base without the upfront investment of a unique website. Popular sites include Facebook, Twitter and MySpace, where artists and fans can connect with each other and share music with their connections; such social networks comprise six of the top 25 websites in the world by web traffic.[32] The Arctic Monkeys, an independent band from the UK, exemplify the success an unsigned artist can enjoy from social networks. The group had a number one single in the UK without a record deal, and fans had created a MySpace page for the band without their knowing.[33] The band "sold out the Astoria, a top London venue, with tickets touted for £100," without having released a debut full-length album. [34] By the time the band was seeking record deals, it had already established leverage with sold-out tours. The example of the Arctic Monkeys is an exaggerated one, in which the band spent little effort developing a social media campaign, but it set a precedent that most up-and-coming bands tend to follow.

Social media can have a backlash for up-and-coming artists as well, since the brand equity of the artist is managed among users rather than the artist's management team. The most recent, relevant example is that of Rebecca Black. A 13-year-old singer, Black posted her own music video to YouTube.com on February 10th, 2011; at the end of April, the video has over 120 million views. There are nearly 2.5 million "dislikes" on the video, making it the most "disliked"

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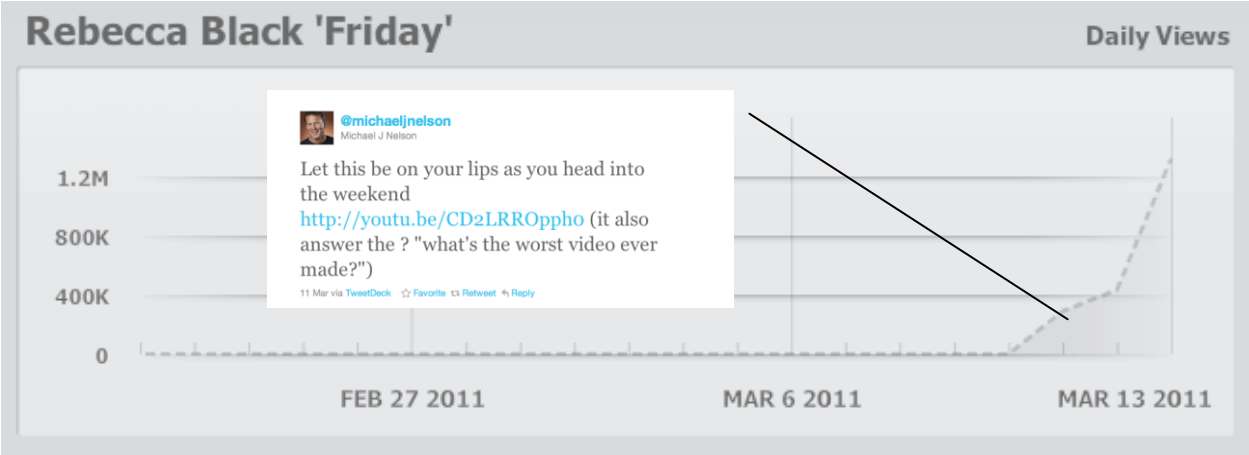
[32] Alexa statistics.

[33] Park, Dave. "Aren't fooling around." http://www.prefixmag.com/features/arctic-monkeys/arent-fooling-around-part-1-of-2/12565/

[34] Barton, Laura. "The question: Have the Arctic Monkeys changed the music business?" http://www.guardian.co.uk/music/2005/oct/25/popandrock.arcticmonkeys

video on the Internet, and there are over 2.5 million comments, of which the vast majority is negative.[35] Though YouTube is a social medium itself, this particular video went largely unnoticed until comedian Michael Nelson posted it to his Twitter account, dubbing it "the worst video ever," and spreading it to more than 19,000 followers.



Though Rebecca Black undoubtedly won fame as a result of social media, the control of her brand as an artist lies exclusively with the public, demonstrating one downside risk of social media marketing.

On top of brand management risks, there are intellectual property risks with social networking that tie with the piracy issues discussed in section (c). Users who have access to privileged copyrighted content can easily upload the content to a cyber locker and post a hybrid, shortened link to Facebook, Twitter, or a blog. Other eager fans can search for the tracks in real-time, providing almost no window for labels and artists to act in defense of their content. This spreading of leaked music specifically affects "hit" artists, as users on social networks speculate and "follow" search terms. By the time someone shares a file from one location, downloading users can upload it to another, dispersing the content and preventing any plausible containment of the track or album. Current top-selling digital artist Lady Gaga suffered the premature leak of

[35] Black, Rebecca. "Friday." http://www.youtube.com/watch?v=CD2LRROpph0. Accessed 4/26/11.

her single "Judas," which spread four days prior to its scheduled release date. For an artist who generates much of her recorded music sales through digital downloads, Lady Gaga was more than disappointed; she likened the experience to "a slow death," and needed to rush-release the single, which debuted at #4 on the *Billboard* downloads chart.[36] The legitimate download figure likely could have been greater, had there been no social media speculation on the single; the streaming song on YouTube garnered more than 10 million plays in its first week. Lady Gaga's leaked single example shows the curse of having an avid and active social networking fan base.

II. Hypotheses

Both of my hypotheses test the concentration of album revenue matched to "hit" albums versus the album revenue market. Long Tail theory, research pioneered by Chris Anderson in *The Long Tail*, suggests that the increase of availability and the lowering of search costs for music consumers—in conjunction with the decrease in manufacturing and distribution costs for suppliers—have caused a fattening in the tail of revenue allocation for niche artists. The events in the music industry, Long Tail theory suggests, speak to greater opportunities for independent labels and artists due to the formation of a demand curve more closely aligned with individualistic interests that tend to be narrow and satisfied by niche entertainment products. Implicit in this argument, demand for niche entertainment has shifted from the head of the distribution—"hit" albums—and, consequently, revenue attributable to both the creators and distributors of "hit" music should hold a lesser share in the market.[37] The events discussed in the background part (I) speak in favor of the decline of hits, as argued below.

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[36] Vena, Jocelyn. "Lady Gaga Calls 'Judas' Leak 'A Slow Death.'" http://www.mtv.com/news/articles/1662318/lady-gaga-judas-leak.jhtml

[37] Anderson, Chris. http://www.longtail.com/about.html

a. First hypothesis: relative decrease in mechanical royalties among hit artists

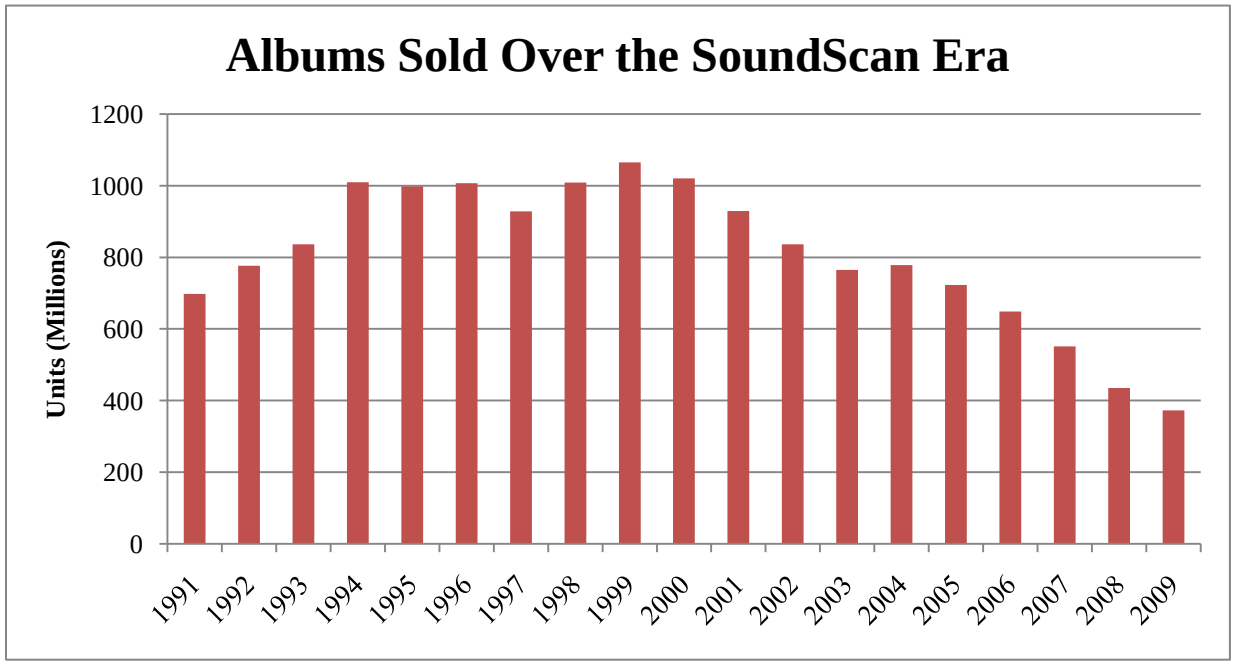
The first question that I aim to address is whether the concentration of income to creators of "hit" albums has changed relative to the overall revenue in the recorded albums market. The mechanical royalty, founded on copyright law, is the revenue stream that compensates the creators of recorded hit music.[38] Given the changes in the music business outlined in the background, I hypothesize that the concentration of mechanical royalties to top-10 albums has decreased on a relative scale to total album revenue in the industry. I infer this decline from the downfall of the CD format and the consequential dismantling of bundled pricing in the industry, along with the advent of digital distribution and social networking, which have heightened competition from independent artists by lowering barriers to entry and diluting the effects of record label marketing.

As discussed in the background (I.b) and (I.c), the CD format benefited hit artists in particular because their singles could serve as effective "pull" marketing strategies. Hit singles that received the most airtime on the radio could draw consumers into record stores to purchase entire albums. Of course, the fact that albums, LPs and EPs contain many tracks suggests the trivial conclusion that mechanical royalties were greatest overall in the era of the compact disc. Consumers could hardly rationalize purchasing standalone CD singles for over $6.00 in 1994 when a full-length album cost around $12.80. When consumers purchased an album instead of a

[38] Mechanical royalties accrue to music writers on a fixed payment, per-song basis, until a song surpasses a length of five minutes, at which point the mechanical royalty increases with each additional minute in the song. Though the share of mechanical royalties can be negotiated, diluted, or convoluted, varying with the record label or publishing deals and agreed-upon songwriting credits for a given track, the rate for mechanical royalties is federally mandated and is discussed in greater detail in the data description section (III). More information on mechanical royalties can be found at the website for the Harry Fox Agency, the firm responsible for the greatest amount in mechanical royalty receipts in the industry: http://www.harryfox.com/

single, the copyright holders received mechanical royalties conservatively tenfold of what they would have received, had consumers bought the single. The iTunes model, which allows $0.99 single downloads, disrupts the bundled pricing and its accompanying greater mechanical royalties. The CD model and format peaking in the 1990s and iTunes's unraveling of the album structure in the 2000's both speak to the argument that mechanical royalties among hit artists would have declined relative to the album market over the course of the SoundScan era.

One could counter this hypothesis by arguing that the downfall of the CD format and pricing structure would affect all artists and albums in the industry, offering no suggestion that mechanical royalties would decline with hit albums relative to the entire album market. Indeed, the number of albums sold, aggregate of physical and digital units, has decreased drastically over the era. [39]



However, the Long Tail argument suggests that the increased access to distribution for independent, niche artists —for example, distribution offered by TuneCore and CD Baby, as

[39] Graph constructed using RIAA data.

discussed in the background—actually siphons share of units away from hit artists. This argument is founded on the notion that, while consumers' choice and the availability of music have become virtually limitless, their available attention and time have contracted. The theory suggests that consumers will continue to dedicate less and less of their discretionary income and time on "hit" music, as music that caters to their individual interests becomes more available, more visible, and more effectively marketed from friends and word-of-mouth rather than record labels or promotion teams. Therefore, I hypothesize that, despite the advent of social media and its warm welcome from the Big 4 in the industry, the increased competition from artists with active online fan bases could depress the concentration of the hit mechanical royalties against the revenues in the market.[40]

b. Second hypothesis: Revenues of the top-10 hit albums decreased versus the album market

This statement from the IFPI in its 2010 *Investing in Music* report stimulated my second hypothesis: "achieving commercial hits is the basis of the 'circle of investment', by which music companies," the term that the IFPI uses to denote record labels, "plough back the revenues generated by successful campaigns to develop new talent and help fund the next generation of artists" (7).[41] The IFPI warns that the investment in new talent suffers mostly from "the pressure from reduced revenues, attributed to a large extent to illegal file-sharing" (9). The "music companies" would not likely invest more in developing and marketing new talent than its potential expected returns, so the shortage in reinvestment does not imply a lack of potential

[40] EMI, Universal Group, Sony Music Entertainment, and Warner Music Group.
[41] *Investing in Music*. 2010. IFPI. http://www.ifpi.org/content/library/investing_in_music.pdf

revenue sources *outside* of the hit markets. Rather, it suggests that the hits are garnering revenues relatively lower to the rest of the market than they had before illegal file-sharing became an issue.

The background sections regarding piracy, digital distribution and social networking's exacerbation of the two industry shakeups speak to the same argument as that of the IFPI. Hit artists tend to suffer greatly with piracy, as the internet speculates over the release of upcoming anticipated hit albums; when these albums leak ahead of the scheduled release date, sales would understandably decline. Social networking causes piracy to become harder for hit artists and record labels to police, as links to leaked albums can arise on Twitter or other networks and spread across the globe in a matter of minutes. The reference prices in digital distribution cause a different disadvantage for hit artists; while niche artists are able to sell many more albums in the aggregate than they could have managed in the era of the compact disc, the top-10 artists sell fewer albums at a greatly reduced price, arguably generating relatively lower gross revenue compared to the growing niche markets. The Arctic Monkeys example demonstrates another shortcoming of the digital age for revenue generated by hit albums, exaggerated by social media. With no upfront investment in the band, record labels missed its high growth phase, an opportunity to earn a return on its album sales, and nearly no bargaining power when negotiating a deal. A drastic example of relative growth in the niche market, the Arctic Monkeys case speaks to the pain expressed by the IFPI in a different light; when "music companies" miss artist and repertoire (A&R) opportunities due to a lack of available funds and a market for do-it-yourself acts, they lose a popular artist and the profit potential to invest in future artists. Given these challenges, my second hypothesis is that top-10 hit albums, post-digital-distribution and post-piracy, generate less relative return versus the market as opposed to the1990s before those shocks struck.

III. Data

a. Sources and collection

i. Nielsen SoundScan

The primary source of data used to test these hypotheses was Nielsen SoundScan data for the top 10 albums in terms of sales from 1991-2010. Film and TV soundtracks were excluded from the data set, with the exception of the soundtrack to *The Bodyguard*, 1992, because this album was credited as a Whitney Houston album. SoundScan data is proprietary, so the sales figures for the top 10 albums each year are those figures reported by *Billboard Magazine* at year-end. More recently, Nielsen Media Research has begun to release top-10 data via its own year-end press release. I accessed the year-end reports via Nielsen's year-end reports, Google Books, and historical copies of *Billboard* in microform at the New York Public Library for the Performing Arts.

I used Nielsen SoundScan data as a data point for total album sales in the year 2010 because the RIAA did not include total sales figures for 2010 in its data set. Although some sources claim that RIAA and SoundScan use different research methodologies and cannot be interchanged, I cross-checked the overlapping data sources in 2007, 2008, and 2009, finding their total album sales figures within hundreds of thousands or a million units of each other, with digital album sales—the format with the highest growth in these years—to be exactly the same between the two sources. I found the differences insignificant enough to use SoundScan unit data for 2010 in the absence of RIAA data for the year.

ii. RIAA Shipment data

The Recording Industry Association of America offers two forms of historical data for research purposes: value generated by medium and units shipped by musical medium since 1973. This data is available for a weekly or annual subscription fee from www.riaa.com . RIAA total album value data serves as my estimate for the entire market of albums, against which I compare the top-10 artists' mechanical royalties and gross revenue generated per album.

iii. Tracks per album

To estimate total mechanical royalties per hit album requires the number of songs on each album. I searched for discographies, or histories of albums and track lists for each top-10 album since 1991 and removed tracks that were not musical compositions. Some of these eliminations came from my personal familiarity with the albums, such as albums of rapper and record producer Eminem, who utilizes skits that act as interludes at various points in his albums. I also used www.discogs.com to search for those artists with whom I am not familiar, and any track that was less than one minute and thirty seconds (1:30) in length or that was labeled a "Skit" was removed from my count for copyrightable musical compositions.

iv. Mechanical royalty term structure since SoundScan's inception

The basis for mechanical royalties has a federally mandated minimum of cents-per-song that must be distributed among creators of musical works. The total payments for mechanical royalties vary with units pressed, which allows me to calculate its gross receipts—indeed, it is the only artist income figure that can

be estimated without privately negotiated information. **The mechanical royalty converts payment strategies for pressed songs that exceed five minutes in length; I did *not* adjust for this payment structure in my estimation of mechanical royalties.** The additional mechanical royalties could be estimated if song length information is gathered for all of the songs on each of the top albums; after five minutes, the payment structure pays per minute (or fraction thereof), shifting to a time-variable payment scheme. For the sake of estimating mechanical royalties attributed to hit albums, which, over this period, generally tend to have radio-friendly song lengths shorter than five minutes. Importantly, the rate has only shifted 0.65 *cents* per minute over the past twenty years, while the fixed rate, by contrast, has increased 3.4 cents over the same period.

The next figure that requires data manipulation is the total revenue generated by each top-10 album in its year of charting. First, I require an average unit price to apply to the albums

sold in a given year. This unit price, utilizing the RIAA shipment and value data, derives from the following weighted-by-medium average equation:

$$\frac{}{}$$

Multiplying this weighted average price by the total albums sold by each artist and the 2010 inflation index for the observed year yields an estimate of the total revenue generated by the top 10 selling albums.

b. Research methodologies for testing the hypotheses

After calculating mechanical royalties and total revenue in the top 10 albums over the course of the SoundScan era, the hypotheses aim to test:

1. Whether the concentration of **mechanical royalties** within the top 10 albums has decreased versus the total recorded album market,
2. Whether the concentration of **gross revenue** from the top 10 albums has decreased against the total album market, and
3. Which, if any, of the significant changes to the music business outlined in the background section, are statistically accountable for the decrease, if any, in the

concentration of mechanical royalties and revenues among the top 10 artists in the SoundScan era.

First, I will calculate the concentrations by dividing the top 10 figures by the total value in the market and examine for differences over the era. Then, by attaching dummy variables to years that saw the introduction of Napster, the launch of the iTunes Music Store, and the adoption of social networking, I will run regressions to ascertain which events had a statistically significant relationship my hypothesized decrease in concentration of hit albums in the recorded music marketplace.[42]

c. Results

i. Descriptive statistics: average mechanical royalty concentration in top 10 albums

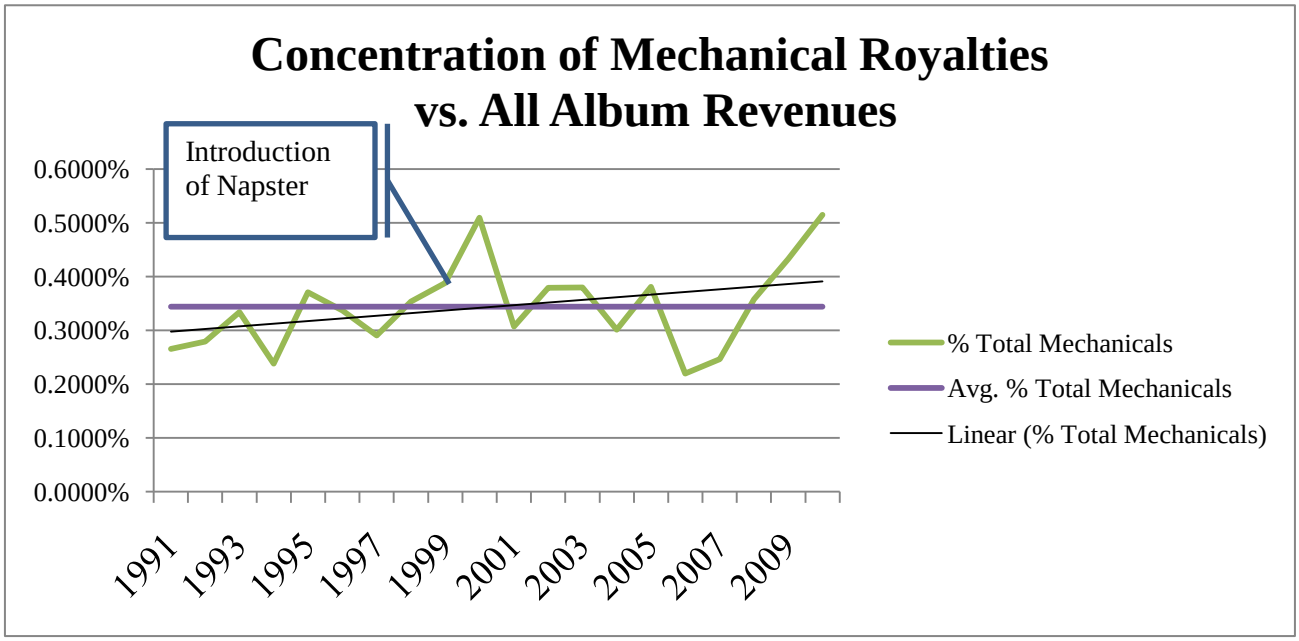
These are the descriptive statistics for mechanical royalties at an annually aggregated level and for mechanical royalties concentrated in the top 10 albums versus the revenue generated by all albums in the market:

[42] For the adoption of social media, I will employ a dummy variable in 2006, since this is the year that Facebook introduced its "News Feed" function (source: http://blog.facebook.com/blog.php?post=2207967130). This event is significant for the music industry because it is the first widely adopted—though adopted with reluctance, according to the comments on the announcement—instance of mass-social sharing, wherein one post by a given user can be seen on the homepages of everyone in his or her entire social network. Twitter has the same effect of sharing except on a more public, instantaneous level. I am less interested in the "social interaction" aspect of social media than I am in the speed with which users disseminate information over social networks; earlier versions of social networks required visiting a person's page in order to retrieve information, and the News Feed exponentially streamlined this process.

Estimated Annual Mechanicals	
Mean	$44,769,424.89
Standard Error	$4,103,483.14
Median	$45,459,470.87
Standard Deviation	$18,351,334.48
Range	$69,147,560.35
Minimum	$20,619,976.65
Maximum	$89,767,537.00

Concentration of Mechanicals versus Total Album Revenue	
Mean	0.344%
Standard Error	0.018%
Median	0.345%
Standard Deviation	0.081%
Range	0.295%
Minimum	0.220%
Maximum	0.515%

The descriptive statistics above suggest a disparity between the gross receipts to copyright holders and the concentration of those receipts relative to revenue in the album market. Both distributions show a very slight left skew, perhaps suggesting a confirmation of the hypothesis that mechanical royalties have not only shrunk during the SoundScan era—the receipts might have shrunk relative to total album revenue in the market. Notably, however, there is a significantly smaller relative standard deviation in the concentration of mechanical royalties versus the deviation among the sample.



The chart above shows that the small standard deviation indicated by the descriptive statistics is certainly not a function of time, or a range that has been decreasing over the SoundScan era. In fact, the trend line slopes upward throughout the period of observation. The concentration of hit mechanical royalties peaks in 2000 and 2010; neither of these years showed outlier hit albums.[43]

ii. Regression of mechanical royalty concentration on significant events

Despite the suggestion of the above graph that there exists no relationship between sequential events in the business and the concentration of mechanical royalties accrued to hit artists, I have run regressions using the events to see if any particular event caused a change in these concentrations. The royalty concentration was the dependent variable in the regression, with dummy variables measuring the emergences of Napster, iTunes, and social media.

[43] See appendix for the complete list of albums in the sample with quantity sold, number of tracks, and mechanical/gross revenue estimates, all subtotaled by year.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.418070592
R Square	0.17478302
Adjusted R Square	0.020054836
Standard Error	0.000799662
Observations	20

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	2.16703E-06	7.22342E-07	1.129613335	0.366756072
Residual	16	1.02314E-05	6.39459E-07		
Total	19	1.23984E-05			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.003086054	0.000282723	10.91546025	8.0126E-09	0.002486708	0.003685401
Napster	0.000874297	0.000489691	1.78540618	0.093162281	-0.000163801	0.001912396
iTunes	-0.000421471	0.000610752	-0.690085413	0.500028675	-0.001716207	0.000873265
Social Media	3.67202E-06	0.000583991	0.006287814	0.995060815	-0.001234333	0.001241677

The variation explained by these dummy variables is insufficient, and there is no single statistically significant dummy variable in this regression at the 95% level, yet the Napster dummy variable is significant at the 10% level at a sign opposite what I expected in my hypothesis. None of the variables, when tested individually, bear a statistically significant impact on hits' mechanical royalties against the album market. Finally, no two dummy variables together have a statistically significant impact, and Napster's introduction has a positive impact every time that it is employed in the regression.

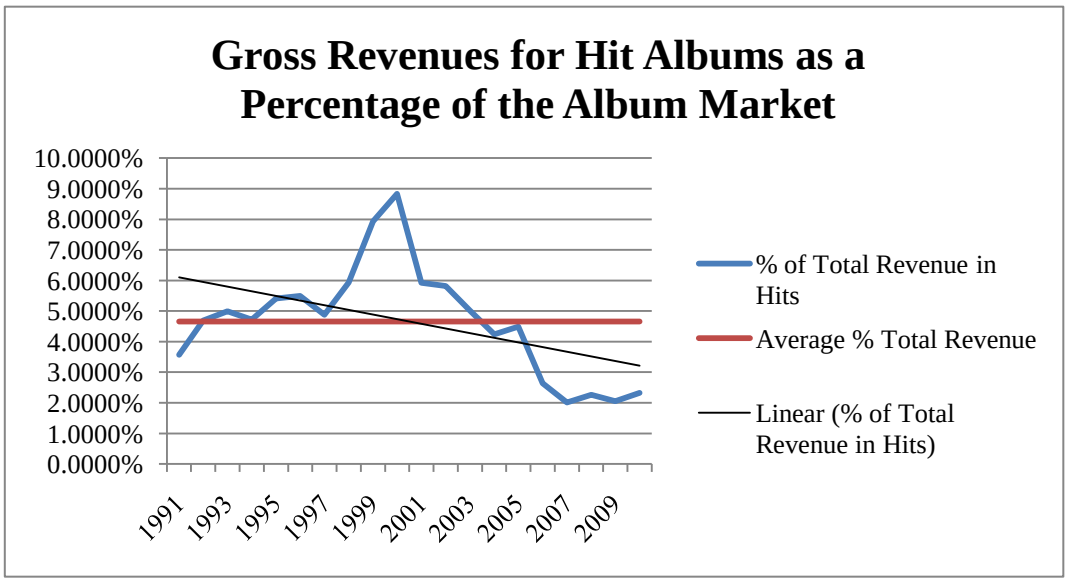
iii. Descriptive statistics: average gross revenue concentration in top 10 albums

The following tables provide descriptive statistics for gross revenue in the top hits, both within the sample and compared against all the gross revenue attributable to album sales:

Total Gross Revenue for Top 10 Albums	
Mean	$550,804,515.77
Standard Error	$48,759,887.34
Median	$566,866,092.15
Standard Deviation	$218,060,845.35
Range	$806,122,136.85
Minimum	$237,831,176.56
Maximum	$1,043,953,313.41

Percent Concentration of Total Album Revenue Among Hits	
Mean	4.660%
Standard Error	0.413%
Median	4.796%
Standard Deviation	1.845%
Range	6.821%
Minimum	2.012%
Maximum	8.833%

In the case of gross revenue, the relative standard deviation and relative range is similar between the hit albums' gross revenue and the concentration of revenues in the market. This contrasts with the mechanical royalty analysis, where the data points varied more widely among themselves than they varied with the album market. The following chart expresses how the concentration of revenues in hits varies against the sample average and a linear trend line for the period:



Similar to the mechanical royalty concentration chart, the gross revenue chart shows a peak in 2000, but there is a very clear decline in concentration following 2000, unlike mechanical royalty concentration that seems randomly distributed around its sample average.

iv. Regression of gross revenue concentration on significant events

The regression output for the gross revenue data set explains some of this variation:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.912816877
R Square	0.83323465
Adjusted R Square	0.801966147
Standard Error	0.008210639
Observations	20

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	0.005389338	0.001796446	26.64773073	1.84303E-06
Residual	16	0.001078634	6.74146E-05		
Total	19	0.006467971			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.049583571	0.002902899	17.08070642	1.07336E-11	0.04342969	0.055737443
Napster	0.021681792	0.005027969	4.312236504	0.000536799	0.01102297	0.03234061
Social Media	-0.023216163	0.005996203	-3.87181065	0.001351725	-0.03592754	-0.01050478
iTunes	-0.025460479	0.006270979	-4.06004840	0.000909706	-0.03875436	-0.01216659

All variables in this regression analysis are statistically significant beyond the 99 percent confidence level. The dummy variables in the analysis explain 83 percent of the concentration variation in the data set. The base case average (Intercept) states that

roughly five percent of the total album receipts is concentrated in hits. The concentration peaked during the Napster period prior to iTunes's emergence, and has actually shrunk since the advent of social media.

IV. Conclusions

a. First hypothesis: disproven with no statistically significant evidence

The major alterations in the music business inarguably squeezed margins and volume across the recorded music market, but much of the talk about piracy is expressed in the form of empathy for the creative artist; when one steals music, one directly harms the artist who created that music. As Lady Gaga expressed her outrage with her leaked single, the fan is led to believe that the disintermediation, the sharing and the unfairness of it all, hurts the top artists like Lady Gaga herself, who presumably spends fortunes producing her music and marketing her image. The data, however, does not speak in defense of the hit artists of today's music business environment; if nothing else, the data tells us that essentially nothing has changed, that, as of 2011, the top composers of hit albums are currently in an uptick with their recorded music, receiving more in mechanical royalties relative to the rest of the hurting industry than they have ever before received.

The same notion speaks for Dr. Dre, who produced his own albums and much of Eminem's work. When he sued Napster in 2000 over the illegal sharing of his material, he happened to be receiving relatively more for his creative work than the rest of the market, and relatively more than the artists who preceded him in the boom of the CD format. Last year, Eminem's music topped the sales charts, garnering even more in mechanical royalties for Dr. Dre. The entire pie of mechanical royalties has diminished, but hit artists need not complain,

since they continue to outperform the market or waver around the average proportion that they have received over the last twenty years.

Mechanical royalties are only one stream of income to hit writers and performers, and this is a vital notion to highlight because copyrights are the subject of the greatest debate in the industry. Performance royalties, which are supposed to accrue to the artist every time a song is played in public, have in not suffered from the changes in the recorded music industry. Synchronization and licensing fees are sensitive to the markets for ad spending and other forms of entertainment, independent of the health of music copyright enforcement, and touring and merchandising continue to expand and maintain high margins. In light of all of these other income drivers for musicians, the public demands recorded music but, to some degree, refuses to pay for all of it.

Knowing that Long Tail theory does not statistically hold water for the artists who create the hit music should allow them to reconsider their perspectives on the situation of recorded music. Even with lesser margins and lower volume, the sustained proportion of revenue that accrues to these hits suggests that the public places relative value on well-produced recorded popular music, that the favor of holding a top-10 album outweighs the threats of piracy and the Long Tail, and that there currently still exists incentives for a hit album in a multi-track format, which generates the most in mechanical royalties for its creator.

b. Second hypothesis: substantiated with unexpected conditions

The most surprising aspect to this study's findings is the statistical validation of Long Tail theory from the revenue generated by the top 10 albums—in spite of the fact that the theory did not apply to those who collect mechanical royalties on the exact same albums. Though the

concentration of revenue in hits peaked during the Napster era—which contrasted with my hypothesis that peer-to-peer sharing would damage hits more than lesser-known albums—that concentration declined first with the introduction of iTunes and digital distribution and continued to decline with the introduction of social media.

The IFPI seems to be correct in its concerns for the financing of new artists, according to this study, since Long Tail theory implies that the distribution of revenue increases for more niche-focused markets at the expense of hit records. However, increasing sales at the head of the distribution does not seem to be practical nor optimal, given that those artists maintain a relatively consistent stream of income from their records while the rest of the profit attributable to those hits decreases on a relative scale. Moreover, disintermediation allows for some mid-tier successful artists, such as the Arctic Monkeys and Radiohead, to finance their music sufficiently enough to gain bargaining power that trumps the value of a record label's offerings. Such artists' newfound self-sufficiency adds risk to a label's artist and repertoire strategy; maintaining those "private equity" artists is relatively less profitable than before, up-and-coming "venture capital" artists remain as risky as before, and growing mid-tier acts see little or no value added from a major record deal.

The fact that mechanical royalties have remained constant, percentage-wise, among hit albums, despite the relative decrease in actual revenues attributable to those albums, begs the concept of mechanical royalties into question. For example, Metallica's mechanical estimates from its chart-topper in 1996, *Metallica*, constituted 0.025% of the total album market, while its albums generated 0.42% of all album revenue. Twelve years and a piracy lawsuit later, Metallica's *Death Magnetic* generated mechanical revenues approximately equal to 0.023%--only two thousandths of a percent less than their self-titled effort—while their albums' revenues

only contributed 0.19%. The relative concentration of revenues accruing to Metallica as songwriters has remained nearly constant, while the album's share of the album market has nearly halved. One might want to consider whether and why the current, fixed-rate mechanical royalty scheme has any relevance in an industry where demand has drastically dropped and largely redistributed into niche markets. The mechanical's fixed payoff on a number of songs, even accounting for its five-year-stagnant rate, cuts into the revenues of the record labels that finance those hits. True to the IFPI's expressed concerns, the music companies have lost revenue for their hit albums, but this research shows that the current royalty structure may play a significant role in the loss of this revenue along with piracy.

Furthermore, record labels, in collaboration with the IFPI and the RIAA, often work in litigation that fights piracy on the grounds of copyright infringement. Mechanical royalties, however, found their necessity in copyright law, which developed the fee as a cost that varies with the physical (and now digital) production of a copyrighted work. While the rate itself remains sufficiently high and a burden to record labels that finance the copyrighted work's production, the music companies are the ones to bear the costs of litigation to defend that same intellectual property in the hopes of preserving sales in a dying industry.

One possible implementation for this finding would be restructuring and divestment on behalf of major record labels; the patterns in the business almost suggest that they are "too-big-to-succeed." While Long Tail theory shows that the niche markets hold the lion's share of the record sales, the "hits" are still responsible for a similar cost as a function of all album sales. One might suppose that the industry would correct itself with such a strategy, since the opportunity seems to lie with niche markets; the threat seems to stem from mid-tier, self-sufficient acts; and the weakness lies in the revenue-sharing with current top-charting albums. Yet, the album market

share among the top four labels has actually increased over the past two years relative to independent labels, with share largely shifting around among the top four.

c. Caveats with sample size and Nielsen data

Notably, there are caveats with this data set and its lack of statistical significance. First, there are only 20 observations in the data set—the past 20 years—which do not comprise a statistically significant sample and could have impacted my ability to get sound results from statistical testing. Second and equally challenging to statistical validity, the Nielsen method of reporting has only recently reached the thousands level of precision; *Billboard* reported sales at the hundred thousands level during the early 90s. The dataset is attached in an appendix to demonstrate the severity of this dilemma. My method of obtaining every album's number of tracks and applying the appropriate mechanical royalty rate in every given year accounts for these caveats on a minor level, permitting relative comparison among data points within the sample at the very least.

V. Further research

Lady Gaga may have missed potential royalties with the leak of "Judas," but in 2009-2010, she earned an estimated $62 million in personal wealth—roughly 36 times greater than the mechanical royalty estimate that I derived from her album sales in 2010. Further research should be conducted to find out exactly from where all of that money came.

Forbes conducts its annual estimates of the wealthiest celebrities annually and states that its income statistics "include dollars earned solely from entertainment income…[from] sources includ[ing] *Billboard, Pollstar,* Adams Media Research, The Nielsen Company and SNL

Kagan.[44] If further research estimated the income to as many artists as for whom there is data and disaggregated that income by source and type, truly rich knowledge about the changes in the business could emerge. How much are artists gaining in sponsorship deals, in licensing, in synchronization fees? What percentage of artist income is attributable to performance royalties, and how do those royalties relate to album sales in the modern marketplace? Such income information could be key in helping artists discover where income is truly growing while helping record labels determine how to close deals with top artists without suffering from the "winner's curse."

Collecting information about how much artists receive from advances in record deals could answer further open questions in academics and in the business itself, which could prove particularly helpful for up-and-coming musicians. Compared against each artist's sales, other income streams and fan base, advance figures could allow for a valuation approach of sorts for unsigned artists to determine whether an advance properly compensates them for their potential marketability and financial feasibility. Artists and labels very purposefully keep the majority of such income figures private information, but Forbes' ability to estimate annual performer income by reaching out to a number of research firms proves that income approximation can be entertained with research. Academic collaboration among market research firms, artists, labels and academic institutions, analyzing how the money that remains in this industry has shifted, could aid all of the players in the business in understanding how to add value in the current environment.

[44]Celebrity 100. *Forbes*. http://www.forbes.com/lists/2010/53/celeb-100-10_Lady-Gaga_8UOG.html

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Artist	*Album*	*Year*	*Units (thousands)*	*Total Sales*	*Estimated Mechanicals*	*% Total Mechanicals*	*% Total Revenue*
Garth Brooks	Ropin' the Wind	1991	4000	$67,709,653	$4,012,800	0.034%	0.573%
Metallica	Metallica	1991	3400	$57,553,205	$3,720,960	0.031%	0.487%
Natalie Cole	Unforgettable	1991	3200	$54,167,723	$6,420,480	0.054%	0.458%
Guns N' Roses	Use Your Illusion I	1991	2800	$47,396,757	$4,085,760	0.035%	0.401%
Michael Bolton	Time, Love and Tenderness	1991	2700	$45,704,016	$2,462,400	0.021%	0.387%
Guns N' Roses	Use Your Illusion II	1991	2200	$37,240,309	$2,808,960	0.024%	0.315%
Hammer	Too Legit to Quit	1991	1800	$30,469,344	$2,298,240	0.019%	0.258%
Michael Jackson	Dangerous	1991	1800	$30,469,344	$2,298,240	0.019%	0.258%
Nirvana	Nevermind	1991	1600	$27,083,861	$1,751,040	0.015%	0.229%
U2	Achtung Baby	1991	1400	$23,698,379	$1,532,160	0.013%	0.201%
		1991 Total	**24900**	**$421,492,592**	**$31,391,040**	**0.266%**	**3.566%**
Billy Ray Cyrus	Some Gave All	1992	4700	$79,366,330	$4,553,125	0.035%	0.672%
Garth Brooks	Ropin' the Wind	1992	4000	$67,545,813	$4,262,500	0.033%	0.572%
Pearl Jam	Ten	1992	3400	$57,413,941	$3,623,125	0.028%	0.486%
Whitney Houston	The Bodyguard Soundtrack	1992	3300	$55,725,296	$4,155,938	0.032%	0.472%
Kriss Kross	Totally Krossed Out	1992	3200	$54,036,650	$4,650,000	0.035%	0.457%
Garth Brooks	No Fences	1992	3100	$52,348,005	$3,303,438	0.025%	0.443%
Garth Brooks	The Chase	1992	3100	$52,348,005	$3,303,438	0.025%	0.443%
Nirvana	Nevermind	1992	2700	$45,593,424	$3,138,750	0.024%	0.386%
Def Leppard	Adrenalized	1992	2700	$45,593,424	$2,615,625	0.020%	0.386%
Metallica	Metallica	1992	2600	$43,904,778	$3,022,500	0.023%	0.371%
		1992 Total	**32800**	**$553,875,666**	**$36,628,438**	**0.279%**	**4.686%**
Whitney Houston	The Bodyguard Soundtrack	1993	5500	$93,745,878	$6,747,813	0.047%	0.793%
Janet Jackson	janet	1993	4300	$73,292,232	$10,956,938	0.077%	0.620%
Pearl Jam	Vs.	1993	3800	$64,769,880	$4,303,500	0.030%	0.548%
Kenny G	Breathless	1993	3800	$64,769,880	$5,738,000	0.040%	0.548%
Mariah Carey	Music Box	1993	3300	$56,247,527	$3,114,375	0.022%	0.476%
Eric Clapton	Unplugged	1993	2900	$49,429,645	$3,831,625	0.027%	0.418%
Dr. Dre	The Chronic	1993	2900	$49,429,645	$4,379,000	0.031%	0.418%
Garth Brooks	In Pieces	1993	2800	$46,061,887	$2,642,500	0.019%	0.390%
Stone Temple Pilots	Core	1993	2800	$47,725,175	$3,171,000	0.022%	0.404%
Meatloaf	Bat Out of Hell II: Back into Hell	1993	2600	$44,316,233	$2,699,125	0.019%	0.375%
		1993 Total	**34700**	**$589,787,982**	**$47,583,875**	**0.334%**	**4.990%**

Artist	*Album*	*Year*	*Units (thousands)*	*Total Sales*	*Estimated Mechanicals*	*% Total Mechanicals*	*% Total Revenue*
Ace of Base	The Sign	1994	4900	$81,768,393	$6,180,174	0.037%	0.692%
Boyz II Men	II	1994	4300	$71,755,937	$5,840,604	0.035%	0.607%
Counting Crows	August and Everything After	1994	3800	$63,412,223	$4,055,436	0.024%	0.537%
Green Day	Dookie	1994	3400	$56,737,252	$4,618,152	0.027%	0.480%
Tim McGraw	Not A Moment Too Soon	1994	3200	$53,399,767	$3,104,640	0.018%	0.452%
Stone Temple Pilots	Purple	1994	3100	$51,731,024	$3,308,382	0.020%	0.438%
Offspring	Smash	1994	2900	$48,393,539	$3,939,012	0.023%	0.409%
Mariah Carey	Music Box	1994	2700	$45,056,053	$2,619,540	0.016%	0.381%
Pearl Jam	Vitalogy	1994	2600	$43,387,311	$3,531,528	0.021%	0.367%
Toni Braxton	Toni Braxton	1994	2500	$41,718,568	$2,910,600	0.017%	0.353%
		1994 Total	**33400**	**$557,360,068**	**$40,108,068**	**0.238%**	**4.716%**
Hootie & the Blowfish	Cracked Rear view	1995	7000	$117,448,192	$7,267,260	0.043%	0.994%
Alanis Morissette	Jagged Little Pill	1995	4200	$70,468,915	$4,756,752	0.028%	0.596%
Mariah Carey	Daydream	1995	3900	$65,435,421	$5,153,148	0.031%	0.554%
TLC	CrazySexyCool	1995	3800	$63,757,590	$5,738,304	0.034%	0.539%
Garth Brooks	The Hits	1995	3800	$63,757,590	$6,455,592	0.039%	0.539%
Live	Throwing Copper	1995	3500	$58,724,096	$4,624,620	0.028%	0.497%
Boyz II Men	II	1995	3400	$57,046,265	$4,492,488	0.027%	0.483%
The Beatles	Anthology 1	1995	2900	$48,657,108	$16,422,120	0.098%	0.412%
Eagles	Hell Freezes Over	1995	2800	$46,979,277	$3,963,960	0.024%	0.397%
Shania Twain	The Woman In Me	1995	2800	$46,979,277	$3,171,168	0.019%	0.397%
		1995 Total	**38100**	**$639,253,730**	**$62,045,412**	**0.371%**	**5.409%**
Alanis Morissette	Jagged Little Pill	1996	7400	$121,303,510	$8,578,524	0.052%	1.026%
Celine Dion	Falling Into You	1996	6000	$98,354,197	$8,114,820	0.049%	0.832%
Fugees	The Score	1996	4500	$73,765,648	$7,390,283	0.045%	0.624%
No Doubt	Tragic Kingdom	1996	4400	$72,126,411	$5,950,868	0.036%	0.610%
Mariah Carey	Daydream	1996	3000	$49,177,099	$4,057,410	0.025%	0.416%
2 Pac	All Eyez On Me	1996	3000	$49,177,099	$7,825,005	0.047%	0.416%
Metallica	Load	1996	3000	$49,177,099	$4,057,410	0.025%	0.416%
Toni Braxton	Secrets	1996	2900	$47,537,862	$3,361,854	0.020%	0.402%
Shania Twain	The Woman In Me	1996	2800	$45,898,625	$3,245,928	0.020%	0.388%
Oasis	(What's the Story) Morning Glory	1996	2600	$42,620,152	$3,014,076	0.018%	0.361%
		1996 Total	**39600**	**$649,137,702**	**$55,596,178**	**0.337%**	**5.492%**

Artist	*Album*	*Year*	*Units (thousands)*	*Total Sales*	*Estimated Mechanicals*	*% Total Mechanicals*	*% Total Revenue*
Spice Girls	Spice	1997	5300	$89,060,414	$5,009,560	0.032%	0.754%
Jewel	Pieces Of You	1997	4300	$72,256,563	$5,690,104	0.036%	0.611%
Puff Daddy & The Family	No Way Out	1997	3400	$57,133,096	$5,463,256	0.035%	0.483%
Garth Brooks	Sevens	1997	3300	$55,452,711	$4,366,824	0.028%	0.469%
Hanson	Middle of Nowhere	1997	3200	$53,772,326	$3,932,032	0.025%	0.455%
The Notorious B.I.G.	Life After Death	1997	3100	$52,091,941	$7,325,300	0.047%	0.441%
The Wallflowers	Bringing Down The Horse	1997	3100	$52,091,941	$3,223,132	0.021%	0.441%
Celine Dion	Falling Into You	1997	3000	$50,411,555	$3,969,840	0.025%	0.427%
LeAnn Rimes	You Light Up My Life - Inspirational Songs	1997	2900	$48,731,170	$3,289,296	0.021%	0.412%
Matchbox 20	Yourself or Someone Like You	1997	2700	$45,370,400	$3,062,448	0.020%	0.384%
		1997 Total	**34300**	**$576,372,116**	**$45,331,792**	**0.291%**	**4.877%**
Celine Dion	Let's Talk About Love	1998	5900	$100,851,848	$7,858,564	0.046%	0.853%
Backstreet Boys	Backstreet Boys	1998	5700	$97,433,141	$6,507,576	0.038%	0.824%
Shania Twain	Come On Over	1998	4900	$83,758,314	$7,458,976	0.043%	0.709%
N Sync	N Sync	1998	4400	$75,211,548	$5,442,008	0.032%	0.636%
Garth Brooks	Double Live	1998	3900	$66,664,781	$9,647,196	0.056%	0.564%
Will Smith	Big Willie Style	1998	3700	$63,246,074	$5,984,306	0.035%	0.535%
Savage Garden	Savage Garden	1998	3200	$54,699,307	$3,348,928	0.019%	0.463%
Matchbox 20	Yourself or Someone Like You	1998	3200	$54,699,307	$3,653,376	0.021%	0.463%
Beastie Boys	Hello Nasty	1998	3200	$54,699,307	$6,697,856	0.039%	0.463%
Brandy	Never S-a-y Never	1998	2900	$49,571,247	$4,414,496	0.026%	0.419%
		1998 Total	**41000**	**$700,834,876**	**$61,013,282**	**0.354%**	**5.930%**
Backstreet Boys	Millennium	1999	9400	$160,769,707	$12,240,116	0.067%	1.360%
Britney Spears	…Baby One More Time	1999	8400	$143,666,547	$9,375,408	0.051%	1.216%
Ricky Martin	Ricky Martin	1999	6000	$102,618,962	$7,812,840	0.043%	0.868%
Shania Twain	Come On Over	1999	5600	$95,777,698	$8,333,696	0.046%	0.810%
Limp Bizkit	Significant Other	1999	5000	$85,515,802	$6,975,750	0.038%	0.724%
Santana	Supernatural	1999	4700	$80,384,853	$5,682,911	0.031%	0.680%
Kid Rock	Devil Without a Cause	1999	4300	$73,543,589	$5,599,202	0.031%	0.622%
TLC	Fanmail	1999	4200	$71,833,273	$6,640,914	0.036%	0.608%
Christina Aguilera	Christina Aguilera	1999	3700	$63,281,693	$4,129,644	0.023%	0.535%
Dixie Chicks	Wide Open Spaces	1999	3500	$59,861,061	$3,906,420	0.021%	0.506%
		1999 Total	**54800**	**$937,253,185**	**$70,696,901**	**0.388%**	**7.930%**

Artist	*Album*	*Year*	*Units (thousands)*	*Total Sales*	*Estimated Mechanicals*	*% Total Mechanicals*	*% Total Revenue*
N Sync	No Strings Attached	2000	9900	$170,828,724	$11,391,138	0.065%	1.445%
Eminem	The Marshall Mathers LP	2000	7900	$136,317,871	$13,634,847	0.077%	1.153%
Britney Spears	Oops!...I Did It Again	2000	7900	$136,317,871	$9,089,898	0.052%	1.153%
Creed	Human Clay	2000	6600	$113,885,816	$8,226,933	0.047%	0.964%
Santana	Supernatural	2000	5900	$101,807,017	$7,354,380	0.042%	0.861%
The Beatles	1	2000	5100	$88,002,676	$13,203,365	0.075%	0.745%
Nelly	Country Grammar	2000	5100	$88,002,676	$8,313,230	0.047%	0.745%
Backstreet Boys	Black & Blue	2000	4300	$74,198,335	$6,184,583	0.035%	0.628%
Dr. Dre	2001	2000	4000	$69,021,707	$6,903,720	0.039%	0.584%
Destiny's Child	The Writing's on The Wall	2000	3800	$65,570,621	$5,465,445	0.031%	0.555%
		2000 Total	**60500**	**$1,043,953,313**	**$89,767,537**	**0.510%**	**8.833%**
Linkin Park	Hybrid Theory	2001	4810	$84,683,570	$5,360,168	0.033%	0.717%
Shaggy	Hot Shot	2001	4520	$79,577,908	$5,876,497	0.036%	0.673%
N Sync	Celebrity	2001	4420	$77,817,335	$6,156,950	0.038%	0.658%
Enya	A Day Without Rain	2001	4410	$77,641,277	$5,323,950	0.033%	0.657%
Staind	Break the Cycle	2001	4240	$74,648,303	$5,118,719	0.031%	0.632%
Alicia Keys	Songs in A Minor	2001	4100	$72,183,500	$6,091,944	0.037%	0.611%
Destiny's Child	Survivor	2001	3720	$65,493,322	$5,181,867	0.032%	0.554%
Creed	Weathered	2001	3580	$63,028,520	$3,657,024	0.022%	0.533%
Jennifer Lopez	J.Lo	2001	3040	$53,521,425	$4,234,644	0.026%	0.453%
Dave Matthews Band	Everyday	2001	2940	$51,760,852	$3,276,277	0.020%	0.438%
		2001 Total	**39780**	**$700,356,011**	**$50,278,040**	**0.307%**	**5.926%**
Eminem	The Eminem Show	2002	7608	$135,144,359	$11,046,816	0.074%	1.143%
Nelly	Nellyville	2002	4916	$87,325,141	$7,138,032	0.048%	0.739%
Avril Lavigne	Let Go	2002	4121	$73,203,194	$5,185,866	0.035%	0.619%
Dixie Chicks	Home	2002	3690	$65,547,146	$5,357,880	0.036%	0.555%
Eminem	8 Mile Soundtrack	2002	3498	$62,136,563	$5,417,702	0.036%	0.526%
Pink	M!ssundaztood	2002	3145	$55,866,063	$4,262,104	0.029%	0.473%
Ashanti	Ashanti	2002	3100	$55,066,708	$5,101,360	0.034%	0.466%
Alan Jackson	Drive	2002	3055	$54,267,352	$3,844,412	0.026%	0.459%
Shania Twain	Up!	2002	2909	$51,673,888	$5,350,233	0.036%	0.437%
Norah Jones	Come Away With Me	2002	2661	$47,268,551	$3,606,187	0.024%	0.400%
		2002 Total	**38703**	**$687,498,965**	**$56,310,593**	**0.379%**	**5.817%**

Artist	*Album*	*Year*	*Units (thousands)*	*Total Sales*	*Estimated Mechanicals*	*% Total Mechanicals*	*% Total Revenue*
50 Cent	Get Rich Or Die Tryin	2003	6536	$115,571,155	$9,333,408	0.069%	0.978%
Norah Jones	Come Away With Me	2003	5137	$90,833,694	$6,846,594	0.051%	0.769%
Linkin Park	Meteora	2003	3478	$61,498,849	$4,304,373	0.032%	0.520%
Evanescence	Fallen	2003	3365	$59,500,756	$3,844,176	0.028%	0.503%
OutKast	Speakerboxxx/the Love Below	2003	3090	$54,638,138	$11,766,720	0.087%	0.462%
Beyonce	Dangerously In Love	2003	2527	$44,683,034	$3,367,986	0.025%	0.378%
R. Kelly	Chocolate Factory	2003	2440	$43,144,679	$3,948,896	0.029%	0.365%
Hilary Duff	Metamorphosis	2003	2406	$42,543,482	$2,977,666	0.022%	0.360%
Toby Keith	Shock'n Y'all	2003	2324	$41,093,538	$2,654,938	0.020%	0.348%
Coldplay	A Rush of Blood to the Head	2003	2184	$38,618,024	$2,287,085	0.017%	0.327%
		2003 Total	**33487**	**$592,125,349**	**$51,331,840**	**0.380%**	**5.010%**
Usher	Confessions	2004	7979	$136,010,575	$12,479,156	0.094%	1.151%
Norah Jones	Feels Like Home	2004	3843	$65,508,039	$4,883,492	0.037%	0.554%
Eminem	Encore	2004	3517	$59,951,021	$5,844,375	0.044%	0.507%
Kenny Chesney	When The Sun Goes Down	2004	3072	$52,365,520	$3,303,168	0.025%	0.443%
Gretchen Wilson	Here for the Party	2004	2931	$49,962,025	$2,865,053	0.022%	0.423%
Tim McGraw	Live Like You Were Dying	2004	2787	$47,507,391	$4,358,868	0.033%	0.402%
Maroon 5	Songs About Jane	2004	2708	$46,160,752	$3,176,484	0.024%	0.391%
Ashlee Simpson	Autobiography	2004	2577	$43,927,717	$3,022,821	0.023%	0.372%
		2004 Total	**29414**	**$501,393,040**	**$39,933,417**	**0.301%**	**4.242%**
Mariah Carey	The Emancipation of Mimi	2005	4968.606	$82,284,132	$6,622,158	0.055%	0.696%
50 Cent	Massacre	2005	4852.744	$80,365,363	$9,701,606	0.081%	0.680%
Kelly Clarkson	Breakaway	2005	3496.192	$57,899,766	$3,994,050	0.033%	0.490%
Green Day	American Idiot	2005	3360.394	$55,650,841	$4,158,824	0.035%	0.471%
Black Eyed Peas	Monkey Business	2005	3037.251	$50,299,332	$4,337,194	0.036%	0.426%
Coldplay	X & Y	2005	2615.28	$43,311,151	$3,236,671	0.027%	0.366%
Rascal Flatts	Feels Like Today	2005	2511.209	$41,587,651	$2,868,805	0.024%	0.352%
Gwen Stefani	Love.Angel.Music.Baby	2005	2505.39	$41,491,284	$2,862,158	0.024%	0.351%
Kanye West	Late Registration	2005	2413.58	$39,970,836	$3,906,138	0.033%	0.338%
The Game	The Documentary	2005	2275.646	$37,686,537	$3,899,547	0.033%	0.319%
		2005 Total	**32036.292**	**$530,546,891**	**$45,587,150**	**0.381%**	**4.489%**

Artist	*Album*	*Year*	*Units (thousands)*	*Total Sales*	*Estimated Mechanicals*	*% Total Mechanicals*	*% Total Revenue*
Rascal Flatts	Me and My Gang	2006	3479.994	$55,995,951	$4,446,180	0.043%	0.474%
Carrie Underwood	Some Hearts	2006	3015.95	$48,529,103	$4,149,706	0.040%	0.411%
Nickelback	All the Right Reasons	2006	2688.166	$43,254,791	$2,906,122	0.028%	0.366%
Justin Timberlake	Futuresex/Lovesounds	2006	2377.127	$38,249,919	$3,037,113	0.029%	0.324%
James Blunt	Back to Bedlam	2006	2137.142	$34,388,364	$2,100,383	0.020%	0.291%
Beyonce	B'Day	2006	2010.311	$32,347,549	$1,975,734	0.019%	0.274%
Dixie Chicks	Taking The Long Way	2006	1856.284	$29,869,129	$2,554,098	0.024%	0.253%
Hinder	Extreme Behavior	2006	1817.35	$29,242,649	$1,786,092	0.017%	0.247%
		2006 Total	**19382.324**	**$311,877,454**	**$22,955,427**	**0.220%**	**2.639%**
The Eagles	Long Road out of Eden	2007	2608	$39,623,336	$4,983,888	0.060%	0.335%
Alicia Keys	As I Am	2007	2543	$38,635,792	$3,401,771	0.041%	0.327%
Daughtry	Daughtry	2007	2497	$37,936,914	$2,863,060	0.034%	0.321%
Linkin Park	Seven Minutes to Midnight	2007	2099	$31,890,101	$2,406,713	0.029%	0.270%
Fergie	The Dutchess	2007	2064	$31,358,346	$2,563,798	0.031%	0.265%
Taylor Swift	Taylor Swift	2007	1951	$29,641,537	$2,050,599	0.024%	0.251%
Kanye West	Graduation	2007	1892	$28,745,151	$2,350,148	0.028%	0.243%
		2007 Total	**15654**	**$237,831,177**	**$20,619,977**	**0.246%**	**2.012%**
Lil' Wayne	Tha Carter III	2008	2874	$41,133,494	$4,226,389	0.068%	0.348%
Coldplay	Viva La Vida	2008	2144	$30,685,529	$1,970,550	0.032%	0.260%
Taylor Swift	Fearless	2008	2112	$30,227,536	$2,523,481	0.041%	0.256%
Kid Rock	Rock N Roll Jesus	2008	2018	$28,882,182	$2,225,693	0.036%	0.244%
AC/DC	Black Ice	2008	1915	$27,408,017	$2,640,115	0.042%	0.232%
Taylor Swift	Taylor Swift	2008	1597	$22,856,712	$1,614,583	0.026%	0.193%
Metallica	Death Magnetic	2008	1565	$22,398,719	$1,438,392	0.023%	0.190%
T.I.	Paper Trail	2008	1522	$21,783,291	$2,238,192	0.036%	0.184%
Jack Johnson	Sleep Through the Static	2008	1492	$21,353,922	$1,919,816	0.031%	0.181%
Beyonce	I Am…Sasha Fierce	2008	1459	$20,881,617	$1,475,064	0.024%	0.177%
		2008 Total	**18698**	**$267,611,020**	**$22,272,275**	**0.358%**	**2.264%**

Artist	*Album*	*Year*	*Units (thousands)*	*Total Sales*	*Estimated Mechanicals*	*% Total Mechanicals*	*% Total Revenue*
Taylor Swift	Fearless	2009	3217	$44,905,468	$3,881,825	0.075%	0.380%
Susan Boyle	I Dreamed a Dream	2009	3104	$43,328,124	$3,745,473	0.072%	0.367%
Michael Jackson	Number Ones	2009	2355	$32,872,980	$3,934,640	0.076%	0.278%
Lady Gaga	The Fame	2009	2238	$31,239,800	$2,492,774	0.048%	0.264%
Black Eyed Peas	E.N.D. (Energy Never Dies)	2009	1787	$24,944,380	$2,488,040	0.048%	0.211%
Eminem	Relapse	2009	1735	$24,218,523	$2,415,641	0.046%	0.205%
Jay-Z	Blueprint III	2009	1515	$21,147,586	$2,109,335	0.041%	0.179%
Kings of Leon	Only by the Night	2009	1398	$19,514,406	$1,427,386	0.027%	0.165%
		2009 Total	**17349**	**$242,171,268**	**$22,495,113**	**0.433%**	**2.049%**
Eminem	Recovery	2010	3415	$46,734,619	$5,283,005	0.116%	0.395%
Lady Antebellum	Need You Now	2010	3089	$42,273,276	$3,092,089	0.068%	0.358%
Taylor Swift	Speak Now	2010	2960	$40,507,898	$3,771,040	0.083%	0.343%
Justin Bieber	My World 2.0	2010	2319	$31,735,748	$2,110,290	0.046%	0.269%
Susan Boyle	The Gift	2010	1852	$25,344,806	$1,685,320	0.037%	0.214%
Lady Gaga	The Fame	2010	1591	$21,772,995	$1,737,372	0.038%	0.184%
Sade	Soldier of Love	2010	1300	$17,790,631	$1,183,000	0.026%	0.151%
Drake	Thank Me Later	2010	1269	$17,366,393	$1,616,706	0.036%	0.147%
Usher	Raymond V Raymond	2010	1183	$16,189,474	$1,507,142	0.033%	0.137%
Ke$ha	Animal	2010	1143	$15,642,070	$1,456,182	0.032%	0.132%
		2010 Total	**20121**	**$275,357,911**	**$23,442,146**	**0.515%**	**2.330%**