

An analysis of ticket pricing in the primary and secondary concert marketplace

Terrance Tompkins¹

Abstract

This paper examines the various factors and trends impacting ticket pricing in the concert industry through a survey of literature published on the primary and secondary markets. It explores the primary market's motivation to price concert tickets below the profit maximizing level and the role of the secondary ticket market in capitalizing on excess demand by establishing a new price point for tickets in the market. The paper researches recent tools developed by the primary and secondary market stakeholders including the Ticketmaster Verified Fan Program and SeatGeek's "Deal Ranking" algorithm. Legislation associated with scalping in the secondary ticket market in the United States is reviewed. Finally, solutions are proposed for the primary ticket market to marginalize the impact of the secondary ticket market.

Keywords: Concert promotion, concert ticket pricing, dynamic pricing, touring, secondary tickets, scalping

1 Introduction

A New York Post headline read "Shameless Sandy Outrage" with the article arguing that scalpers should be ashamed for cashing in on a Hurricane Sandy benefit concert, taking place at Madison Square Garden. This concert featured performances by Bruce Springsteen, The Rolling Stones, Paul McCartney, Billy Joel, Bon Jovi, Eddie Vedder, The Who and the star-studded line-up sold out within minutes of going on sale. The tickets instantly appeared on secondary ticket sites like StubHub, selling at a minimum 273% mark-up on the face value of the ticket, charging

¹ **Terrance Tompkins** is Program Director and Assistant Professor Music Industry at Hofstra University in Long Island, NY. Tompkins held positions as Senior Director of Artist Relations at PledgeMusic, and Program Director/Instructor of Music Business at Bowling Green State University. Tompkins spent seven years at Columbia Records working in A&R where he discovered the Grammy Award winning multi-platinum recording artist John Legend. His experience in the touring industry includes talent buying for a prestigious rock club as well as a Showcase Director for the Philadelphia Music Conference, one of the largest music conferences in the United States at the time (terrance.r.tompkins@hofstra.edu).

\$560 per person for seats in the nose bleed section at Madison Square Garden. The most expensive ticket sold for \$3,700 and over 900 tickets were available on reseller sites causing the promoter of the benefit show to call out StubHub for their unfair practices (MacLeod 2012). Ticket scalping has been part of the U.S. culture for the past century, but technology has changed the nature of such ticket sales evolving from scalpers hawking tickets outside an arena to sophisticated computer programs snatching premium seats on the Internet. Economists suggest that, despite the rising cost of concert tickets in the primary marketplace, they are priced below profit maximizing price levels, thus opening the door for the secondary ticket market by establishing new price points.

2 Primary revenue streams in the music industry

Concert revenue is one of the three primary revenue streams in the North American live music industry. In 2017, the three primary revenue streams in the music industry accounted for over \$20 billion in North America:

North American Music Publishing Revenues: \$4.3 billion (2017)²

North American Recorded Music Revenues: \$8.7 billion (2017)³

North American Live Music/Concert Revenues: \$8.0 billion (2017)⁴

In North America between 2000-2016, concert tickets sales increased by 330%, growing the touring industry from \$1.7 to \$7.3 billion, reaching an all-time high of \$8.0 billion in 2017. During that time, concert ticket prices increased from an average of \$40.74 to \$78.93 per ticket.

² <http://www.crossroadstoday.com/story/38138746/music-publishing-market-2018-global-trends-market-share-industry-size-growth-opportunities-and-forecast-to-2023>

³ <http://www.riaa.com/wp-content/uploads/2018/03/RIAA-Year-End-2017-News-and-Notes.pdf>

⁴ https://www.pollstar.com/Chart/2018/01/2017YearEndBusinessAnalysis_634.pdf

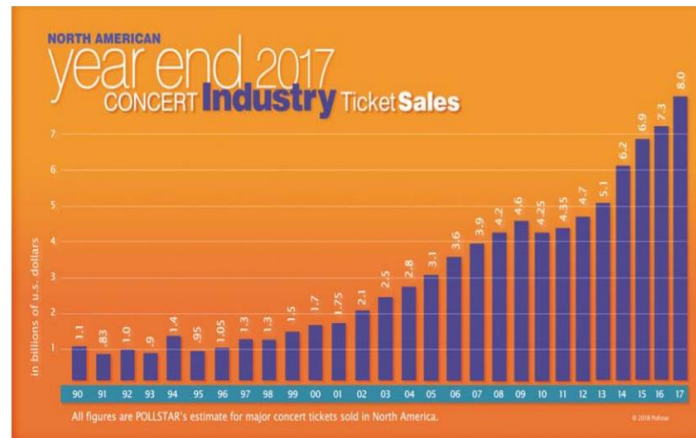


Figure 1: Concert ticket sales North America, 1990-2017 (Pollstar 2018).

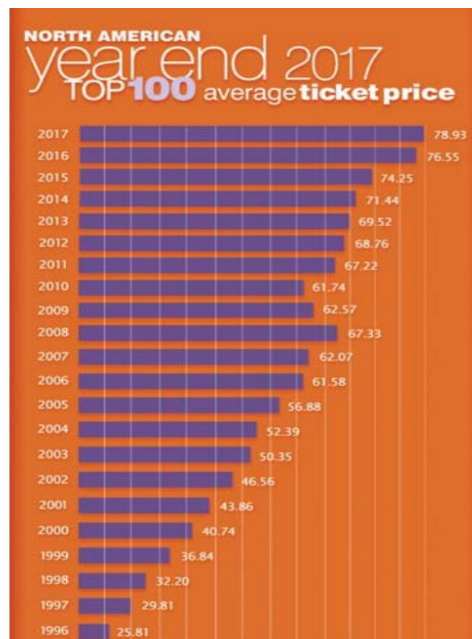


Figure 2: Average concert ticket price North America, 1996-2017 (Pollstar 2018).

3 The rising cost of concert tickets

In a September 23, 2005 lecture, "Rockonomics: Economics and Public Policy in the Rock and Roll Industry," economist Alan Krueger described his study of the economic causes and effects of the rising cost of concert tickets. Using box office information maintained by Pollstar, Krueger determined that concert ticket prices were growing significantly higher than the Consumer Price Index (CPI). For example, in 2005, concert ticket prices rose 45% faster than the CPI. Krueger found that between 1975 and 1995, concert ticket pricing increased 2% over the rate of inflation, and between 1996 and 2005 concert tickets doubled. Between 2005-2017, the average price of concert tickets increased 88%, from \$42.00 to \$78.93, a record high.⁵

4 The price of concert tickets in the primary ticket marketplace

Despite the rising cost of concert tickets in the United States, tickets are considered under-priced in the primary marketplace by not achieving their profit maximizing potential. There are three primary considerations for under-pricing tickets in the primary market:

- Ticket prices are set to accommodate the sale of complementary goods (parking fees, concessions and merchandise).
- Ticket prices are set to maintain the popularity of the artist and thus not negatively affect an artists' future income.
- Demand is uncertain and ticket prices vary based on the date of the event, the type of venue and seat availability.

⁵ https://www.pollstar.com/Chart/2018/01/2017YearEndBusinessAnalysis_634.pdf

4.1 Ticket prices and complementary goods

The promoter generally pays a 'guarantee' to the artist in advance and pays the rest of the net revenue from the show according to a 'split rate' after the show. The split rate for artists is usually 85-90 % of the net profits of the concert (Passman 2015). According to Live Nation's Vice President of Marketing Jim Steen, *"85 to 90 percent of the ticket price goes towards artist fees."*⁶ Fans buy T-shirts, posters or other products as souvenirs at a concert venue and the promoter will commission merchandising profit as well as ticket sales profit. On average an artist on a major tour receives most of a ticket's face value, while promoters earn most of their profits from ticket surcharges, parking fees, merchandise and concessions. Michael Rapino, CEO Live Nation states, *"Live Nation earns about \$4 out of every \$100 ticket on the ticket price and I lose \$80 million at the door every year. ... Every time a consumer walks in the door I earn \$12-\$14 on the ancillary business"* (ancillary includes parking, merch, concessions).⁷

Sellers within the secondary ticket market gain no benefit on complementary sales. Happel & Jennings (1995) claim the possible existence of other sources of revenue such as complementary concessions sales demonstrates one reason why concert ticket sales are priced below their market price. Total profits are maximized when tickets are priced in the inelastic section of the demand curve. The average ticket consumer buys more complementary goods than the marginal ticket buyer (the one who gets no surplus by attending the performance). Thus, promoters increase the price of complementary goods above the marginal cost and reduce the cost of tickets. By doing so, the promoter improves sales of complementary goods but attracts marginal ticket buyers (Rosen & Rosenfield 1995).

Conversely, the secondary ticket market sets prices according to whatever secures the highest financial return because that market does not have access to complementary profits. Economist James Swofford compares the promoter's profit maximization problem with that of the

⁶ <http://www.digitalmusicnews.com/stories/062811tickets>

⁷ <https://revenueanalytics.com/news/ticketonomics>

reseller, suggesting that underpricing tickets in the primary market may exist due to the promoter facing uncertainty over sales and being more risk averse, whereas the scalper has a lower cost function. It could also be a result of the promoter having a long-term revenue function in mind, in contrast to the reseller maximising a one-time revenue function (Swofford 1999).

Happel & Jennings (1995) suggest that promoters have a degree of "monopoly power" for a live event due to its uniqueness. To maximize profits a promoter wants a sell-out as this maximizes complementary revenues and introduce the "crowd effect", meaning that consumers who believe a concert will be a sell-out are more attracted to the event and demand for tickets will intensify. According to Krueger, tickets are set below the market clearing level to attract a larger crowd and create a "buzz" that increases demand (Krueger 2009). This crowd effect increases the sales of front row seats and private boxes. Setting the price of certain seats low can help also to encourage demand and create a "ticket line". The creation of a "ticket line" when a concert is in high-demand, with limited capacity events are part of the economic model that compels ticket sales (Happel & Jennings 1995). Fans can quickly lose interest in an artist whose performances do not meet expectations or are suspected of price gouging.

4.2 Artists future income

If an artist believes the price of their ticket affects their popularity, thus impacting future income, they will use that belief to set the price of tickets. Therefore, an artist may price tickets below the market price to maximize future profits (Byun 2008). Diamond (1982) and Swofford (1999) argue that when artists and promoters consider their future recording, tour or merchandising profits as well as their current ticket profits, they may charge lower prices. According to Krueger, to build loyalty from a large fan base (who will attend concerts in the future and buy recorded music), the artist wishes to avoid being viewed as "gouging fans" and will thus set prices below the profit maximizing level (Krueger 2005). To build long-rung popularity, the artist intends to provide fans

with a larger share of consumer surplus than would be the case if the artist were simply maximizing short-run profit. With scalping, the new middleman acts as an intermediary between the promoter and the fan, capturing the surplus meant for the fan. Billy Joel explains it this way:

"The brokers [secondary market ticket brokers] that drive the prices up are ripping me off because I'm not getting the money ... and they're ripping off the customer because the customer wants the ticket and they know that the market will bear a certain price."

If Billy Joel knows that *"the market will bear a certain price,"* why would he still underprice his tickets? The answer is that he wants to maintain an image of being fair to his fans to prevent them from being "ripped off" (Krueger 2009). On his 2017 tour, Garth Brooks set an 8-ticket purchasing limit for the \$60 ticket, which was set well below market value. Every seat was listed at the same price, therefore the person sitting in the front row paid the same as the person in the nose-bleed section. Brooks performed several shows in each city to satisfy the demand of fans interested to attend the tour. For example, Brooks performed seven shows in Nashville at the Bridgestone Arena, five shows in Indianapolis at Bankers Life Fieldhouse and seven shows in Kansas City at the Sprint Center. Subsequently, he needed to perform 73 shows on the 2017 tour to gross \$101 million in box office receipts.⁸

According to Fort (2003) and Krautmann & Berri (2006), concert ticket prices do not capture the full cost of attending a concert. Artists who set ticket prices higher would suffer revenue losses from merchandise sales. Ahn & Lee (2003) suggest that if attendance is habit-forming and fans substitution is small, artists are correct in considering non-ticket (but attendance-dependent) revenue in setting their price while also factoring in the effects of ticket price on future attendance. If a lower price decreases current revenue, the act can make up for the loss with future revenues.

⁸ <http://www.kdlt.com/2017/07/18/garth-brooks-puts-fans-first-unique-ticket-sales-approach>

4.3 Demand uncertainty

Concert ticket demand is uncertain as ticket prices vary according to the date of the event, type of venue and seat availability. Demand may vary in other unpredictable ways such as at outdoor sports events and concerts that are typically weather-dependant. The stochastic peak-load pricing model deals with situations of aggregate demand uncertainty (Crew, Frenando & Kleindorfer 1995). Aggregate demand uncertainty occurs when demand depends on the weather whereas individual demand uncertainty occurs because many consumers are not able to plan ahead of time. Some consumers only buy their tickets at the last minute when they are sure that they will be able to attend. Demand uncertainty alone does not distinguish ticket markets from markets for other goods and services. What makes this feature crucial is that tickets are perishable goods and lose all value after the performance starts. In theory, promoters could satisfy periods of high demand by holding large inventories of seats as is typically done in many other industries. Because tickets are highly perishable goods, however, the costs of holding large inventories can be quite high. Producers respond to these constraints by choosing venue capacities that may turn out to be too small in some markets. Consequently, capacity constraints may bind, which is illustrated by some performances selling out in minutes.

Supply for concert tickets is limited due to the fixed number of tickets available. The size of venue chosen to host the performance: club, theatre, large theatre, arena, amphitheatre and stadium are all determinant factors of supply by the promoter and artist. Some artists select a venue to deliver intimacy to the ticket holder while a smaller show will create excess demand and a market shortage. For example, in 2000, Paul Simon toured the US playing in theatres (capacity 1,000) as promotion for a new album release, "You're the One". Simon could have performed at 2,500 to 5,000 capacity venues on this US tour. This is considered an "underplay" in the concert industry as Simon underestimated the venue capacity to create intimacy at the performance thereby creating a shortage of supply in the marketplace.

Not all tickets are sold to the public, some tickets are held back from sale to the public by the primary market. These tickets, referred to as "holds" may go to news media, artist, managers, agents, the record company, the fan club, the promoter and the tour sponsor. A few years ago, an investigative team in Nashville unearthed the "holds" list for a Taylor Swift show at the Bridgestone Arena, a venue with a capacity of 13,330 seats. After Swift's fan club, management, agents, record label and opening acts' ticket allocation; after a radio-sponsored presale; and after American Express card members had access to a presale, only 1,591 tickets were made available to the public.⁹

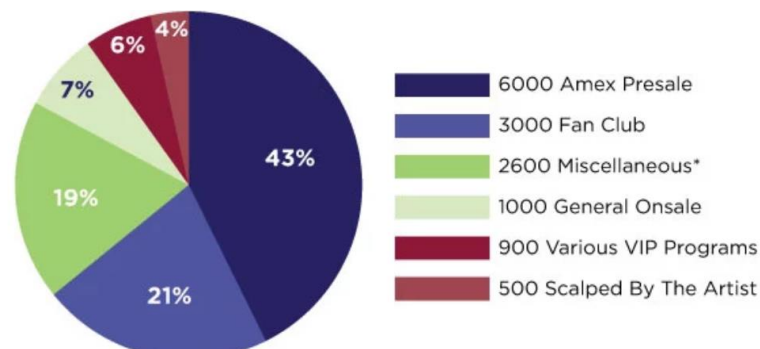


Figure 3: Taylor Swift ticket allocation (NPR, June 2012).

The practice of "holds" is common at popular arena gigs and takes place on a smaller scale at theatres and clubs. Seating location or type of section (front row vs. nose bleeds) and how many days a ticket is purchased before the date of the show are also important determinants of demand and profit margin for promoters. Industry professionals refer to "scaling the house" as the process of pricing the front rows (referred to as the 'golden circle') at high prices and reducing prices all the way to the nosebleed section. The practice of scaling the house varies from performance to performance. Scaled seating arrangements were com-

⁹ <http://www.npr.org/blogs/therecord/2012/06/04/154299904/theres-no-such-thing-as-a-sold-out-concert-even-for-justin-bieber>

monly employed at reserved seat rock shows during the sixties, but disappeared for the more youthful pop scene, when promoters introduced general admission tickets in the mid-seventies. Since the late eighties, however, house-scaled seating arrangements were the blue print for pop concerts (Giblin & Chadwell 1994). Artist fees can be covered with highest price premium seats allowing for the rest of the house to be more reasonably priced. For the Rolling Stones Bigger Bang Tour in 1996 top tiered seats went for \$250-\$500 per ticket. However, 50% of first 15 rows sold in secondary market. Ticket brokers rescale the house "*15-20% of best seats are empirically worth more than face value*" (Waddell 2007). Jeff Fluhr, Co-CEO of StubHub says "[there are] *over 1,000 ticket brokers in the country, taking inventory off the hands of promoters.*"

Since the pricing model of promoters and artists is not to optimise profits through ticket sales alone, Connolly & Krueger (2006: 676) state that "*this pricing results in excess demand for many concert performances, which leads to scalping*". Live music is one of the few businesses in which second-hand goods often sell for more than first hand goods. "*As soon as a show sells out, front-row seats appear on the web for more than face value,*" says Rob Hallett of AEG Live (The Economist 2005). Popular music concert tickets ordinarily resell at prices well above their face values. For example, \$39.50 tickets for Nickelback, a popular rock band, concerts were traded at around \$120 in the resale ticket market (Byun 2008).

Primary ticket market outlets like Ticketmaster have tried to seize some of the sales revenue of the secondary market by creating their own ticket exchanges (Tickets Now), but this often confuses consumers and creates buyer mistrust. It is not easy for a seller to take advantage of both the primary and the secondary market. According to former Ticketmaster CEO Nathan Hubbard:

"The resale market exists because ticket pricing is not perfectly efficient; supply and demand change over time and some fans wait until the last minute to make the decision as to if they can go to an event. The local ticket brokerage model has been built on this, providing services for

niche groups of customers who seek unique experiences at various price points that the market will bear at any given time."¹⁰

5 The secondary ticket marketplace

In the past, many concert enthusiasts had to wait in line at a box office for hours prior to tickets going on sale to ensure they could secure a concert ticket. In 2009, StubHub revolutionized the way consumers purchased tickets in the secondary market and its platform StubHub.com was the first major online secondary ticket agent selling tickets exclusively on-line as a ticket reseller. Since StubHub entered the secondary ticket marketplace, secondary ticketing has grown into a multi-billion-dollar industry that allows consumers to access ticket discounts or sold out concerts (Harrington 2012). One-third of all popular concert tickets are purchased in the secondary ticket market (Krueger 2008) and the secondary ticket market has grown to a \$15 billion-dollar industry with thousands of ticket resellers on-line. The key sellers for this market are StubHub.com and TicketsNow.com (Harrington 2012).

5.1 Secondary ticket market technology - "BOTS"

Some of these ticket resellers purchase tickets from the primary market using technology to acquire large quantities of the best seats within seconds of the tickets going on sale on the primary market. These "BOTS" are computer programs that can acquire large amounts of tickets automatically without human intervention (Harrington 2012). This process bypasses the human consumer who selects a seat and then enters in payment information through the traditional method within the primary market. The "BOTS" in the secondary ticket market essentially remove the supply of tickets from the typical fan or consumer resulting in a sell-out of tickets. An example of this process was the Justin Bieber North American tour which sold out in less than one hour at rate of more than 1,000 tickets per second (Ganz 2012).

¹⁰ Ticketmaster.com blog, 2011.

5.2 Secondary ticket market pros and cons

Advantages of the secondary ticket market includes the consumer's ability to obtain access to sold out concerts and the market becomes a one stop shop for all sport games, concert and other events (Burgess 2012). Brokers may be good also for social surplus because they add liquidity to the market (Leslie & Sorenson 2007). However, the secondary ticket market has downsides in that brokers extract surplus for themselves, reducing surplus available to the consumers and subsequently consumers are worse off (ibid.). Ticket prices on the secondary market are subject to change as ticket prices can escalate and a discount may not be obtainable (Burgess 2012). Websites in the secondary market also do not provide any insight to the consumer on future price movements (ibid.). In other words, the consumer is subject to the laws of supply and demand in the secondary market. According to Leslie & Sorenson (2007), seat quality is the key determinant of prices in both the primary and secondary markets as resale prices vary significantly according to seat quality. This is especially true for about twenty percent of the highest quality seats, where resale prices are a particular determinant of seat quality. However, consumers cannot evaluate the quality of the ticket prior to purchase nor judge for themselves if the ticket is a fair price for the seat location. Leslie & Sorenson (2007) cite numerous instances of low-quality seats resold at a higher price than a higher quality seat (for a given event) in their research on the secondary market. This is basic evidence of inefficiencies in the resale market, where on the one hand, the resale market allows price to be a more flexible function of seat quality but on the other hand, some friction in the resale market causes significant variance in price, conditional on seat quality. SeatGeek.com is a website that offers the consumer the ability to compare multiple secondary ticket market websites (Burgess 2012) to determine the best ticket deal based on seat location and price.

5.3 Ticket prices in the secondary market

The primary ticket marketplace drives most of its revenue from complimentary goods and therefore has created a market for alternatives that

maximize profit on ticket sales (Krueger 2008). As a result, consumers are unable to purchase tickets at face value on the primary market, so for consumers to purchase concert tickets, they must utilise the secondary ticket market and pay the true market value price of the ticket. There are three major reasons that may determine the new market value price of a ticket on the secondary market. Firstly, consumers are willing to purchase higher price tickets from reliable websites such as StubHub or TicketsNow but are less likely to purchase tickets from Craigslist or a street scalper because they are considered higher risk and often do not run official businesses (Chan, Mathew & Ruggie 2009).

Secondly, consumers are afraid tickets will not be available in the future, so they buy tickets early when prices are high (Chan 2009).

Thirdly, the supply of the tickets has been dramatically reduced to only a few tickets per concert. This will drive up the price since they are capturing the limited number of people willing to pay a price higher than face value. The secondary market premium is higher for superstar performers who charge the highest prices and tend to sell out in the primary market (Krueger 2009).

5.4 Superstar concerts survey

A survey was conducted by Princeton Survey Research Center on two superstar concerts. The first event was a Bruce Springsteen and the E Street Band "The Rising" tour date at the First Union Center (now Wells Fargo Center) in Philadelphia on October 6, 2002 and the second was a U2 "Vertigo" show at the Madison Square Garden in New York City on November 22, 2005 (Krueger 2008). A total of 858 fans were interviewed for the survey, which revealed that thirty percent (30%) of the tickets were sold on the secondary market. The average face value price of the ticket was \$94 while the average ticket purchase price for the secondary market was \$245 (ibid.)

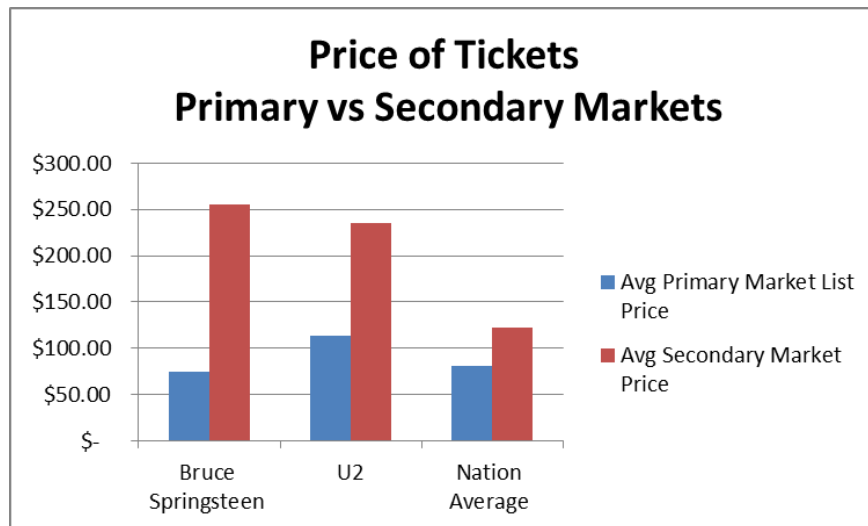


Figure 4: Primary vs. secondary market ticket price survey (Krueger 2008).

The mark up for the secondary market was 240% above face value from the primary market. The Princeton Survey Research Center also conducted a natural survey with a total of 300,000 consumers at 1,068 concerts interviewed for the poll. It was determined that 10% of the tickets were obtained on the secondary market (Krueger 2008). The average face value ticket was \$81 and the average mark-up 36%, while the average ticket purchase price for the secondary market was \$122 (ibid.). Popular artists can demand higher prices on the secondary market.

5.5 Secondary ticket market – consumer uncertainty

In a survey by Sorenson & Leslie (2007), the average mark-up in the secondary ticket marketplace was 40% over face value and 25% of resold tickets obtained mark-ups above 66%. The downside for resellers showed that 28% of tickets were sold below face value and 50% of resale transactions occurred within 24 days of the event in the secondary market. The consumer was not only uncertain about prices in the resale

market, they were also uncertain about which ticket (if any) they would be able to buy in the resale market.

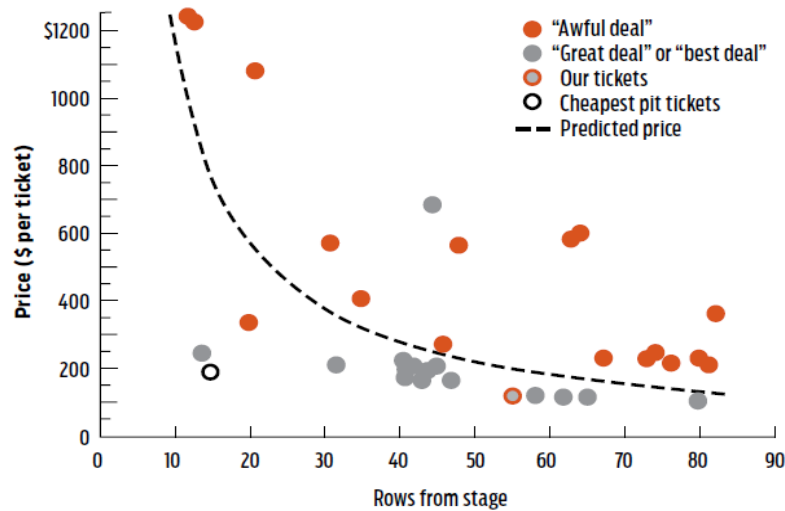
5.6 Timing of ticket sales

The price of secondary market tickets falls as the concert date approaches, because the tickets are a perishable good (Chan, Mathew & Ruggie 2009). As time passes, the challenge of finding a buyer to purchase a ticket well above face value increases, therefore sellers have to drop their prices to find a buyer, otherwise, the ticket is worth nothing (ibid.). The strategy for the secondary ticket market seller is to start with a high price, peak about nine to ten days prior to the concert and drop the price below face value, which increases the number of willing buyers (ibid.). Some of the lowest price tickets can be found within one hour of the concert because the reseller needs to unload the ticket (ibid.).

5.7 SeatGeek and the secondary ticket market

The website SeatGeek.com provides consumers with comparison information to determine if a ticket on the secondary market is a good value (Harrington 2012). This website, like Kayak within the airline industry, gathers ticket prices and seat location on many secondary ticket market websites; it has developed an algorithm to predict the price of the ticket based on three variables: the quantity of supplied tickets on the second ticket market, the location of the seat and the popularity of the concert. SeatGeek compares the asking price of each of ticket to the predicted price and assigns a "deal ranking".

Explaining SeatGeek's Deal Scores



The estimated regression using 86 packages offered on May 28, 2012, is $Predicted Price = -13.6 + 12078 (1/Row)$ with a t-statistic on the slope of 9.86.

Figure 5: SeatGeek Deal Score (Harrington 2012).

SeatGeek sorts the tickets by their "deal" score which reflects the gap between the asking price and the predicted market price (Harrington 2012). If there are only one or two seats for sale on the secondary ticket market, the predicted price will be higher than if fifty or sixty are for sale for the same show. SeatGeek allows consumers to purchase concert tickets without assuming a high-priced ticket is the only available option. SeatGeek also makes the demand for listing (resell) tickets more elastic (Harrington 2012). Although many consumers purchase tickets exclusively at StubHub which dominates the secondary ticket market with a 25% share, SeatGeek allows smaller secondary ticket market sellers with less popularity than StubHub to gain visibility to consumers, which forces StubHub to keep their prices and fees aligned with the price of the ticket market (ibid.).

6 Proposed solutions for the primary ticket market to compete with the secondary market

Secondary ticket legislation has been prominent for the past hundred years. In 1927, the United States Supreme court upheld a law forbidding the resale of tickets at more than fifty cents in excess of the face price of a ticket (W.F.D, 1927, The Yale Law Journal Review). Despite this judgement, the presiding Supreme Court Justice Sutherland stated that "*ticket scalpers may not be controlled.*" Ticket scalping has evolved over the course of the past century; from individual sellers outside of arenas and stadiums to on-line resellers. The secondary ticket has grown to a multi-billion-dollar industry and has been met with opposition from various organizations including the government and primary ticket marketplace sellers.

The current laws around scalping are inconsistent and cannot achieve industry compliance. Anti-scalping laws vary from state to state given there is no federal law that prohibits the resale of concert tickets. Gaining access to tickets, the cost of distribution and fraud are the key challenges that preoccupy regulators (Vascellaro 2005). Massachusetts' ticket resale law allows a maximum ticket mark-up of only two dollars (*ibid.*), while Pennsylvania allows brokers to resell tickets with a maximum mark-up price of twenty-five percent. New York, Connecticut and Minnesota require a resale license, a fee that is paid to the state. Over time, state laws have recognised the benefits of ticket resales and amended ticket legislation to improve the economic wealth of the state.

The barriers to entry in the secondary ticket market have evolved beyond state legislation. In 2007, Ticketmaster filed a lawsuit against eBay and named StubHub the subsidiary of eBay as a co-defendant. The suit primarily focused on the profit of sales that StubHub gained for a Lynyrd Skynyrd/Hank Williams Jr. "Rowdy Frynds" tour. A Wall Street Journal article explains that StubHub violated Ticketmaster's exclusive right to sell tickets to events at the venues on the tour, including the Conseco Fieldhouse in Indianapolis and the Palace of Auburn Hills, Michigan.

6.1 Paperless ticketing

Primary ticket sellers have attempted to circumvent the secondary market through paperless ticketing technology, which acts as a tool to ensure that the individual attending the event is the same person who purchased the ticket from the primary market. The ticket purchaser is required to show identification at the ticket window of the event, meaning the secondary ticket reseller cannot re-sell tickets from the primary ticket marketplace. In 2009, Miley Cyrus offered a paperless ticket as the only option for her tour (eliminating the ability of the secondary market to gain access to resell tickets for the tour) and Don Vaccaro, CEO of StubHub, claimed that paperless ticketing violated antitrust laws.

The Live Nation/Ticketmaster platform Verified Fan is an attempt to circumvent secondary ticket sales. Vulture.com states:

"In March 2017, Live Nation and Ticketmaster announced their Verified Fan presale technology where fans can register ahead of sale dates by providing personal information that's vetted by the companies. Fans receive a code that allows them to purchase tickets and beat the scalpers at their own game. To date, more than one million users have registered for Verified Fan services. ... In addition to partnering with acts like the 1975 and Ed Sheeran, Live Nation/Ticketmaster most recently promoted shows with Twenty One Pilots for five homecoming dates in Columbus, Ohio, taking place at venues of varying sizes between June 20 and 25, 2017, all of them sold out. The spill over to the secondary market was almost non-existent by industry standards, as there were no tickets available for the first three shows on StubHub, and, according to Live Nation/Ticketmaster, the subsequent pair of shows had resales on the secondary market of just 4.1 percent and 3.7 percent. As at the date of the article, available options hovered around 350 tickets per show at arenas that seated up to 18,500 patrons. By using the Verified Fan program, the company had reduced scalping on the secondary market by 90 percent."¹¹

¹¹ <http://www.vulture.com/2017/05/everyone-wants-concert-tickets-but-no-one-is-getting-them.html>

According to Live Nation CEO Michael Rapino: *"Music has accounted for about 80% of Ticketmaster's growth in recent years, making it imperative for us to extend our focus from venues to those artists who are filling the venues."* He estimates that 80 artists utilized Ticketmaster's Verified Fan platform, selling 3 million tickets.¹²

The verified fan platform has not been without issues. Digital Music News wrote in January 2018 about *"a serious misfire on Swift's 'Verified Fan' program."* That program gave priority access to certain Taylor Swift fans. Fans were required to build up points — oftentimes by purchasing Taylor Swift products including purchases of Swift's latest album, a snake bracelet and more which theoretically gave fans priority access. Once tickets went on sale, however, that prioritization seemed spotty. Some "prioritized" fans got lucky, but many others were left waiting. Most were given 'special access' to high-priced tickets, while others were forced into the general sales bucket a few days later. Of course, none of that went over well with fans — or their parents. As a result, Digital Music News headlined: *"Taylor Swift's 'Reputation' Tour is a Flop: Half-Filled Stadiums, Thousands of Unsold Seats, 0 Sellouts."*¹³

6.2 Dynamic pricing

Dynamic pricing, also known as time-based pricing, is one method of price discrimination and is the practice of charging different prices to different consumers for similar goods thus dividing customers into two or more groups with separate demand curves and different prices charged to each group. When successful price discrimination can increase the firm's profits by enabling it to capture consumer surplus. This is part of the seller's aim to capture what economists label "consumer surplus" — the difference between what a consumer is willing to pay for a good and the amount they must pay. The price that a consumer is willing to pay is the "reservation price". The secondary ticket marketplace has thrived on the concept of dynamic pricing.

¹² <https://www.billboard.com/articles/business/8221386/live-nation-104-billion-record-revenue-2017-q4-earnings-drop-report>

¹³ <https://www.digitalmusicnews.com/2018/01/02/taylor-swift-reputation-tour-flop>

Today, internet-based companies can gather large amounts of consumer information through click loggers, ad sites, and search engines operating in many common web functions. Now primary market ticket sellers can compete with the secondary market and utilize dynamic pricing whereas in the past it was more difficult for primary markets ticket sellers to judge individual consumers' reservation prices. Price discrimination is more about separating consumers into groups than aiming at individual consumers. Essentially the process of dynamic pricing is one of "price discovery" where the buyer and seller actively engage in activities that identify the exact highest amount that the consumer would pay for the good before walking away, therefore capturing the entire consumer surplus.

Zach Cross, VP Revenue Analytics states *"Understanding customer buying patterns allows companies to develop price points that meet the needs of price-sensitive customers, the key is making sure you do not displace the high paying demand"*. It is possible for 75% of revenue to be derived from 25% of seats, sourcing VIP packages + Premium Seats.¹⁴ The key is demand forecasting by sourcing variables such as genre, venue, event, section, row and customer segment as well as making optimal inventory allocation decisions. Bill Zysblat of RZO Productions says, *"The idea is to have exactly one person wanting a ticket at every sold-out show"*. Dynamic Pricing can significantly improve ticket sale volume for events where interest is low and reduce the number of tickets resold on the secondary market. According to Billboard

"the sales for JAY-Z's 4:44 Tour represents a paradigm shift in concert tickets, by aggressively pricing front row seats, VIP experiences and platinum tickets, concert promoters are getting increasingly more skilled at commanding high prices and record grosses from their best seating inventory. ... That's bad news for ticket resellers — by pricing tickets clos-

¹⁴ <https://revenueanalytics.com/news/ticketeconomics>

*er to actual market value, JAY-Z and Live Nation are capturing more revenue and creating little room for brokers to mark up the best seats.*¹⁵

Ticketmaster has recently rolled out dynamic ticket pricing to adjust prices of available tickets based on sales and other metrics pertaining to demand such as StubHub prices, artist popularity and days until the event. They have established that dynamic pricing is a group pricing activity.

In order to understand the effects dynamic pricing has on price, Kauffman & Wang (2001) stated: *"Even though different functional forms have been proposed for the demand-price relationship, there is a consensus that at the aggregate level demand for a product decreases as the price increases under both monopoly and competitive settings."* As a result, we expect that there will be a high demand when the price drops in the group-buying context. The former is a movement along a single demand curve. The latter emphasizes the role of expectations in decision-making and exists by the construction of the group-buying market microstructure. Demand externalities are realised through the upward shift of the demand curve due to potential adopters' high willingness-to-pay. As a result, in the context of group-buying, a price effect is reflected in an increase in orders due to a price drop, while demand externalities are associated with the current group size. Thus, when the current group size increases, demand externalities capture the fact that potential buyers are more likely to place an order due to the expected larger final group size, even though the current price remains the same. With this behaviour in mind they anticipate that when a buyer develops an expectation that the price will drop in the near future, they expect that the likelihood of purchasing the product will increase in a group buying setting.

In the short run, because the price will only drop to the next lower price-tier, a consumer will only be motivated to make a purchase when the reservation price is less than the current price but greater than or equal to the next lower one. In this case, when the price drops to the

¹⁵ <https://www.billboard.com/articles/business/8023168/jay-z-444-tour-highest-grossing-tickets-stubhub>

next level, which is no greater than the reservation price, the consumer will get a non-negative surplus from this purchase. In the group-buying setting, when an individual perceives that the price is likely to drop to the reservation price or lower – and the purchase action can facilitate this process – the consumer is more likely to place the order if the consumer is risk-seeking. By contrast, a risk-averse person may wait until the price changes to make the purchase, even if the consumer expected that the price would change. As a result, they expect more orders to be placed right before and right after the price drop point.

Artists are also offering dynamic ticket pricing for concerts through to the primary ticket marketplace. Wilco partnered with concert promoter Higher Ground to offer tickets for a concert sold through a unique combination of "name your own price" auction and lottery. The first 500 tickets were sold to bidders who make the highest offers. Those customers whose bid did not score one of the first 500 tickets were part of an exclusive random lottery. Bidders drawn from a hat were offered the opportunity to purchase a pair of tickets at whatever price they named on their original bid. *"It's an experiment, which we hope proves to be more civilized, fair, and more fun than the standard mode of ticket sales,"* said director Joseph Thompson.¹⁶

A case study by McAfee & Vera te Velde (2007) of the California Institute of Technology researched dynamic pricing in the airline industry. They classified dynamic pricing as a revenue yield/revenue management tool, a set of pricing strategies aimed at increasing profits. Most yield management research deals with how to maximize revenue. One approach is to assume that customers arrive to request a flight, state the price they will pay, and then the firm decides if to serve them. As you see the interaction between seller and buyer in the airline industry utilizes a system of "Price Discovery". Although this is the broad theory the pricing tools are adjusted to ensure maximum profitability. According to McAfee & Vera te Velde (2007: 4), one variance is that *"within the airline industry rather than dynamically changing prices to maximize revenue,*

¹⁶ <http://www.hypebot.com/hypebot/2012/04/jeff-tweedy-wilco-experiment-with-dynamic-concert-ticket-prices.html>

some authors ration capacity with price classes to ensure that high-paying customers are served, effectively implementing a mark-up policy based on remaining capacity and if seat allocation between classes is dynamically controlled, remaining time." This can be accomplished by classifying the high-paying customers as a separate group hence accounting for their needs and utilizing price discover tools on this group separately. The same rule follows through for the economy class travelers this method enables the industry to capture the entire consumer surplus. Thus, the conclusion from the research stating; *"dynamic price discrimination is primarily driven by customer dynamics rather than price discrimination over an existing set of customers"* (ibid.: 33). Dynamic pricing of concert ticket pricing is receiving increasing attention in the industry today because it holds the potential to significantly improve the ticket sale volume for events where interest is low. Secondly, the implantation of dynamic pricing will reduce the number of tickets resold on the secondary market. As adjustments are made on the primary market utilizing consumer information and behaviour to adjust the price on the primary market more efficiently the secondary market may be rendered obsolete. Randy Phillips, CEO of AEG Live states it best, *"dynamic pricing puts the fan on an even playing field with the broker, in terms of access to the best seats in the house, where the market more than greed determines the price of a ticket. It's the ultimate example of laissez-faire economics at work"* (Waddell 2007).

7 Conclusion

Despite the rising costs of concert tickets in the US over the past fifteen years, concert tickets prices in the primary ticket marketplace are not optimized for profit maximization. The three main reasons for not meeting the profit maximizing price point are the benefit of sales from complimentary goods, the artist not gouging the fan to enhance future concert ticket sales and demand uncertainty. Under-priced concert tickets create opportunities for the secondary market to re-establish the market price. Tickets sold on the secondary market are impacted by several

factors: access to best seats, the popularity of the artist and the timing and date of the event. Solutions to battle scalping include legislation, technological advances and dynamic ticket pricing. Dynamic pricing assists the primary market in establishing a profit maximizing ticket price, providing an opportunity to sell tickets at variable prices based on the aggregate demand and lessens the impact of tickets sold in the secondary marketplace.

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