

Evidence on the Secondary Market for Concert Tickets

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Abstract

Tickets for many live entertainment events are distributed in a primary market and then resold on a secondary market. How big is the secondary market? Why does it exist? To answer these questions, we analyze data from a set of surveys that we conducted at 30 scientifically selected concerts in the U.S. from August to October 2006. Over 3,000 fans were asked how they obtained their tickets, how much they paid for their tickets, why they turned to the secondary market, and other questions. We also present evidence from surveys of 1,700 fans at a Bruce Springsteen concert in 2002 and a U2 concert in 2005 to provide additional information on sold out superstar events. We find that the secondary market accounts for about 10% of all concert tickets purchased, and that the markup for resold tickets is 45% to 60%, on average. We estimate the total size of the U.S. secondary concert ticket market in 2006 to be around \$600 million. The main reason cited for buying tickets on the secondary market was to get better seats, which is confirmed by our observation that the resale rate for the best seats is twice that of average seats and close to five times that of the worst seats. Additionally, reselling is much more common for shows that sell a higher proportion of tickets in the primary market. We find that price premiums for resold tickets vary by when and where the ticket was purchased, and that the price tends to decline as the date of the show approaches. The markup is higher for seats that are priced higher in the initial market. We evaluate alternative explanations for the secondary market. Our findings suggest there is initial mispricing of tickets, especially for high-end seats. We conclude that a model that allows for social constraints on pricing – because performers do not want to be perceived as gouging their fans – offers the best explanation for our findings. This model can also explain why artists and promoters often oppose the secondary market and support anti-scalping laws. The faster growth of top-tier tickets points to the erosion of social constraints on pricing and suggests that pricing in the market for concert tickets is becoming more efficient. The internet, which makes reselling easier and is difficult to prevent, will likely hasten the erosion of social constraints on pricing in the initial market.

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1. Introduction

The resale market for live entertainment events has long intrigued economists. Some high-profile events like the Super Bowl or concerts by superstar performers regularly sell out, with tickets resold for multiples of their initial price on a secondary market. Why aren't the initial prices for these events set to clear the market? Even tickets for lower profile events are often resold above their list price, especially for good seats. We address two questions in this paper: How big is the secondary market for concert tickets in the U.S.? Why are tickets not priced to clear the market originally?

There is no shortage of theories to explain the secondary ticket market. One view is that tickets are set below the market clearing level to attract a larger crowd and create a "buzz" that increases demand. Another explanation is that fans are an input into the quality of the event, and promoters distribute tickets in a way to select the most enthusiastic fans. Yet another explanation is that tickets are resold because people's plans or interest change unexpectedly.

In this paper we bring evidence to bear on the secondary ticket market. Specifically, we have designed and conducted surveys at 28 concerts in the U.S. We began with two large scale surveys of fans in attendance at a Bruce Springsteen and the E Street Band concert in 2002 and a U2 concert in 2005. We then designed a survey of a smaller number of fans at a larger number of nationally representative concerts. These surveys provide the first available information on the size of the secondary ticket market, the price and source of resold tickets, the tickets most likely to be resold, and the reasons why customers enter the secondary market.

We use the data we collected to test various theories of the secondary ticket market. While the theories have merit, they cannot fully explain all the phenomena we document. Most importantly, we find that the best seats are most likely to be resold and that the price markup in the secondary market is highest for the best seats. In addition, most fans who bought a ticket on the secondary market said they did so because they wanted to

obtain a better seat, not because tickets were unavailable. These and other findings lead us to propose a model in which fairness concerns constrain initial pricing. In particular, performers do not want to be viewed as gouging their fans. They set their price below what the market will bear because doing so leads to greater demand in the long run.

The remainder of this paper is organized as follows. Section 2 summarizes the various economic models that have been proposed to explain the secondary market. Section 3 describes our survey data and Section 4 presents our main findings, which is the heart of the paper. Section 5 offers concluding remarks.

2. Models

Several models of the market for concert tickets have been proposed. We do not attempt here to provide an exhaustive review, but rather present some of the interesting models and their main features.¹ Rosen and Rosenfield (1997) apply price discrimination to ticket pricing, where a promoter optimally sets the price of high- and low-quality seats depending on the various types of buyers and their willingness to spend for each type of seat. While insightful, this model focuses on the primary market, and does not raise the issue that is a puzzle for many economists, as we noted in Connolly and Krueger (2006): that this “pricing results in excess demand for many concert performances, which leads to scalping.” Swofford (1999) compares the promoter’s profit maximization problem with that of the reseller, and suggests that the underpricing of tickets on the primary market may exist due to the promoter facing uncertainty over sales and being more risk averse, to the scalper having a lower cost function, or to the promoter having a long-term revenue function in mind, whereas the reseller is maximizing a one-period revenue function. It is not clear why primary ticket sellers are risk averse, however, especially because they often promote several concerts in a year and can therefore diversify risk. Courty (2003) rejects the conventional underpricing explanation and introduces two types of customers with time-varying preferences: the “diehard fans,” who secure their tickets early, and the

¹ See Courty (2000) and Depken (2006) for more exhaustive reviews of the literature.

“busy professionals,” who have higher valuations but can not commit in advance. The resellers cater to the latter type, optimally reallocating tickets to the busy professionals with higher valuations as the shows approaches. Depken (2006) starts from a Rosen and Rosenfield-type model with different types of customers as in Courty (2003), but adds a third category: the speculator. He focuses on the theoretical implication of scalping on the primary-market prices, and finds that scalping can raise, lower, or have no effect on prices, depending on the buyers’ reservation prices for the seats.

Becker (1991) introduced the notion of “social influence” on price in the context of restaurant pricing, a notion later exploited by DeSerpa and Faith (1996) as the “mob effect” and by Busch and Curry (2005) who introduce the use of line-ups as a screening mechanism, making sure that more of the desired customers (the better “input”) get tickets to the performance.

Our preferred model uses the concept of social constraints stemming from fairness perceptions from the customer, as documented in Kahneman, Knetsch and Thaler (1986) and Roth (2007). This section is still preliminary, but our model will introduce the concept of fairness perceptions as central to the promoter’s/artist’s pricing problem. In order 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 seen as gouging his fans for money and will thus set prices below the profit maximizing level. To build long-rung popularity, the artist has the intention of providing fans with a larger share of consumer surplus than would be the case if the artist were simply maximizing short-run profit. In the presence of scalping however, the middleman acts as an intermediary between the promoter and the fan, capturing some of the surplus meant for the fan. Billy Joel explains it this way: “The 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.”² If Billy Joel knows that “the market will bear a certain price,” why would he still underprice his tickets? The answer, we argue, is that he wants to maintain an image of being fair to his fans and therefore

² Cited in Spitzer (1999).

labors to prevent them from being “ripped off.” This social constraint leads to underpricing which is stronger for the best seats, consistent with our findings that the best seats are more likely to be resold. It is also consistent with our finding that the main reason concertgoers cite for buying on the secondary market is to get better seats. An interesting paper by Cheung (1977) proposes that the better seats are underpriced due to an enforcement constraint: the profit-maximizing way to keep low-price-ticket holders from moving to a better seat during the performance is actually to make sure none of the good seats are free, which can be achieved by underpricing the good seats. Cheung’s model implies that underpricing should be higher for shows that do not sell out, since people can not easily find an empty seat at a sold-out show. This is however inconsistent with our finding that the resale rate is higher when capacity utilization is higher, as will be presented in section 4.

While the underpricing of good seats is systematic, it is also starting to fade. Krueger (2005) documents that the price of tickets has been rising faster than the overall inflation, especially since the mid 1990s, and especially for the most expensive tickets. He argues that technological change that has weakened the complementarity between concert attendance and record sales accounts for the rapid rise in concert tickets. As the concert industry moves from a provider of social events to a commodity market, we expect that the social constraint faced by the artists and promoters will lose its power, enabling them to extract more of the high-value consumer surplus by raising the price of the good seats.

3. Data

We conducted two types of surveys to study the secondary ticket market. The first survey consisted of interviewing large samples of fans in randomly selected seats at two major concerts. The second survey consisted of interviewing a smaller number of randomly selected attendants at 28 concerts that were selected to be nationally representative. We describe each survey below.

i. Superstar Concerts Survey

The first survey, which is discussed in Connolly and Krueger (2006), was conducted at a *Bruce Springsteen and the E Street Band* show that was part of The Rising tour at the First Union Center (now Wachovia Center) in Philadelphia on October 6, 2002. The second was at a U2 concert part of the Vertigo tour at the Madison Square Garden in New York City on November 22, 2005. For both surveys, the samples consisted of a stratified random cluster sample of seats, and people were interviewed shortly before the start of the show. Lower-tier sections were over sampled for the Springsteen concert and weights were developed to adjust for the over sampling. For U2, sections were selected in proportion to representation in the venue, so the sample is self weighting. 858 fans were interviewed at the Springsteen concert and 903 at the U2 concert. Although it was not possible to compute a response rate, compliance with interview requests was very high.

ii. National Concerts Survey

For the national survey, data were collected during late summer and early fall of 2006. A large concert promoter provided us with a complete listing of all the shows under contract between August 6, 2006, and October 27, 2006. This universe represented a total of 1,068 shows and almost 300,000 tickets. For each week, three shows were selected at random with probability proportional to venue capacity, giving the shows in larger venues a higher probability of selection. Weights were developed to make the sample representative of all concert attendees over the sampled months (see appendix). At each selected show, concertgoers in random sections of the venue and concession stands were surveyed. The venues supplied four fan ambassadors or ushers to conduct the interviews. The Princeton Survey Research Center trained the interviewers and selected random sections of the venue. A total of 3,281 attendants at 28 shows were

interviewed. (Two concerts dropped for administrative reasons.) The sample size varied from 16 to 211 fans per show, with a mean of 141 and a standard deviation of 46.

4. Findings

Overall, we find that 10% of tickets were bought on the secondary market in our nationwide survey, which is significantly less than the rates hovering around 30% in the superstars surveys (see summary statistics in Table 1).³ The average (median) ticket was listed at \$81 (\$74), and the overall average (median) price paid for a ticket was \$88 (\$86).⁴ Tickets bought from resellers were paid on average \$122, and had an average list price of \$91, consistent with the fact that more of the better, pricier seats were resold. The secondary market markup, computed as the percentage above list price at which a ticket has been bought, is also significantly lower in the nationwide survey than the superstar survey, with an average markup of 36% nationwide vs. 240% at the Bruce Springsteen concert and 145% at the U2 concert. All these summary statistics are consistent with the ones found by Leslie and Sorensen in their 2007 preliminary paper. Leslie and Sorensen use data from Ticketmaster, eBay, and Stubhub to study the welfare effects of ticket resale.

Table 2 presents information on the source of tickets for respondents to our nationwide survey, and Table 3 focuses on the secondary-market sources. The market share of scalpers (usually selling at the venue the day of the show) is half that of ticket brokers (online and over the phone/in person combined), who often advertise their tickets on the internet and sell through their websites. Of the tickets bought on the secondary market, eBay and online ticket brokers both account for about 20% of the market. The Herfindahl-Hirschman index for the secondary market is 1568, indicating moderate

³ Due to a low response rate to the source of ticket question, the resale rate was calculated using the price paid for a ticket for the superstars surveys. A ticket was deemed resold if the price paid was at least 20% above face value. This was not necessary for the nationwide survey, for which the resale rate was computed based on the source of the ticket.

⁴ There might have been some confusion with respect to the inclusion of the various fees in the price reported.

concentration.⁵ The market is quickly changing however, and those market shares may have changed already from 2006. Since then, Ticketsnow has been acquired by Ticketmaster (but for now continues to operate as an independent subsidiary), and Ticketmaster has launched its Ticketexchange program, providing an exchange platform for ticket holders to sell or buy their seats.

Table 4 reports the reasons for buying a ticket on the secondary market cited by concertgoers who bought from a reseller. Only 11.7% report being unsure of their ability to attend, giving little support to Courty's (2003) model where the high-value "executive" fans wait until the last minute to buy their seats. The main reason is by far that the respondent could get better seats from the reseller, with 51% of the responses. This is consistent with the findings illustrated in Figure 1, that the resale rate is higher for higher-priced seats. Only 3.3% of the lower-tier tickets are resold, compared with 12.3% of the top-tier seats. Second, but with only 14% of the responses, comes "Ticketmaster had sold out," leading us to believe that even when a show is not sold out, some fans might want to turn to the secondary market to find good seats. Figure 2 shows that the resale rate increases with the capacity utilization, sold-out or nearly sold-out shows having a higher resale rate.

To study the endowment effect, we asked each respondent one of two questions: "Would you have bought your ticket if it would have cost you \$300?" or "If someone offered you \$300 for your ticket, would you have sold it?" Our findings are reported in Table 5, and are supportive of the presence of an endowment effect, as reported in Kahneman et al. (1990). 89% said they would not be willing to pay \$300 for their ticket, indicating that their valuation of the ticket must be under \$300, yet only 47% said they would have sold their ticket for \$300. The same effect can be seen from concertgoers at the Bruce Springsteen and the U2 concerts.

⁵ The Herfindahl-Hirschman index is computed as $H = \sum_{i=1}^n s_i^2 = 0.1568$ (or 1568), where s denotes the market share of a given seller.

Figure 3 shows the distribution of the primary market prices (by looking at the list price of each ticket) vs. that of the secondary market prices. The secondary market shows more dispersion and a much longer right tail, even when the top 1% of the secondary-market prices are trimmed. With 10% of the tickets being resold, and an average resale price 51% higher than the average list price (\$122/\$81), we estimate the size of the secondary market to be about 15% that of the primary market. Pollstar estimates that North American concert ticket sales were \$3.6 billion in 2006. Including fees raises the market to about \$4 billion, which would suggest that the secondary market was about \$600 million.

Figure 4 shows how the resale price and the resale rate evolve as the concert date approaches. We find that the secondary-market price decreases as the date approaches, and that the resale rate increases. The first finding again does not lend support to Courty's model, in which the last-minute high-value fans would drive up the price of the tickets, and is consistent with the declining-price anomaly found in auctions. This figure shows the dynamic nature of the market for concert tickets and the perishable quality of a ticket: once the show is over a ticket loses all value. Thus as they get closer to the show, resellers still in the possession of tickets will be willing to lower their price to unload them before the show starts, thus clearing the market at an ever-lower price.

In Table 6 we investigate the price differentials between different reselling outlets for tickets bought on the secondary market. To do so, we ran regressions of the natural logarithm of the price paid for a ticket on source dummies. The different columns in Table 6 report the coefficients for the baseline regression and those incorporating controls like the number of weeks in advance of the show that the ticket was bought and show and price level dummies. The biggest secondary-market source, eBay, is the omitted category. We find that scalpers charge a significantly lower price than eBay, ranging from a 19% to 61% discount. Also at a discount are tickets bought on Craigslist, though the point estimates are not significant due to the small sample size. Results for tickets bought from a ticket broker over the phone or in person are not conclusive, and those for tickets bought on the websites Razorgator and Ticketsnow show a positive premium

ranging from 9% (but not significant) to a significant 36%. The one source consistently more expensive, even when controlling for list price level and thus seat quality to some extent, is Stubhub, with premium fetching up to 50–65% above eBay prices.

Table 7 presents various findings related to different survey questions. First we asked respondents how much they were planning to spend on parking, souvenirs, and at the concession stands. We find that apart from parking, people who bought their ticket on the secondary market are also bigger spenders on souvenirs and concession stands. Given that they paid more on average for their ticket, this might just be a product of the fact that the people who buy on the secondary market have richer and have more income to spend. It would be hard to argue however that they are also bigger fans: we also asked concertgoers how many songs by the lead performer they owned, how much they liked the band on a scale of 1 to 5, and the average number of concerts attended in the past 12 months. None of these answers are statistically different between those who bought on the secondary market vs. those who did not.

5. Conclusion

The pricing of concert tickets provides a challenge to standard economic models. We conducted surveys of fans at several concerts to learn more about the market for tickets. Rather than summarize our results, we conclude by interpreting our results in the context of two economic models.

The first model is standard: when consumers bear more risk for a product, in equilibrium they pay a lower price. This model seems to accord well with our findings on the price premium associated with the source of resold tickets. Tickets that are purchased from eBay or scalpers, which are likely regarded by fans to be the riskiest sources, are less expensive than tickets that are purchased from StubHub, Razorgator or Ticketsnow, which provide some protection or recompense for fans who sold fraudulent tickets. Likewise, the tendency for prices to decline as the date of the concert approaches

is also consistent with a risk premium, as the risk of not obtaining a ticket rises as the date of the show approaches.

Our second model concerns why tickets are systematically priced below their market clearing level in the primary market. In particular, we find that list prices for the best seats in the venue are more likely to be resold and for a higher premium than the worst seats. Moreover, the secondary market is larger, and the resale premium higher, for superstar performers, who charge the highest prices and who tend to sell out in the primary market. These facts are hard to reconcile with previous models of the secondary market. For example, Cheung's ingenious model cannot explain why under pricing of the best seats and the resale rate would be higher for concerts that regularly sell out. The model we propose deviates from previous models in one respect: there is a cost to performers if they are seen as gouging their fans. In the simplest view, fans' perceptions of the performers' dedication to fairness depends on the highest price charged in the venue, as this is the most visible indicator of the performers' willingness to charge high prices. In this situation, demand depends on perceived fairness, and performers (and their agents) would choose to distribute the best seats to concerts at below their market price. Another implication of this model is that performers would bemoan the existence of the secondary market charging a higher price for the best seats. Of course, they could eliminate the secondary market by marking to market, but they prefer not to that because they want to maintain their image of charging a fair price.

One final observation is that the Coase theorem implies that the primary market prices should be irrelevant for who attends concerts and the price that they pay because tickets should be redistributed to those who value them most highly. If tickets do flow to those who are willing to pay the most for them, then performers cannot influence the price paid by those seating in the audience. However, evidence that we present concerning the endowment effect suggests that fans who obtain tickets in the primary market are very likely to hold on to them, even if they would not pay the secondary market price for those tickets.

Appendix: Weights for the National Survey

Within each concert, the probability of being interviewed is $1/N_c$, where N_c is the number of fans in attendance. So the weights are the inverse of the sample size time probability of being interviewed:

$$w_c = \frac{1}{n_c * \frac{1}{N_c}} = \frac{N_c}{n_c},$$

where w_c is the weight associated with each respondent within concert c , N_c is the attendance at concert c , and n_c is the sample size collected at concert c .

The weight for a given concert within a certain week is the inverse of the capacity for the venue over the total number of seats for the whole week (the sum of all capacities for the shows that week):

$$w_{cwk} = \frac{1}{N_c / \hat{a}_{c\ wk} N_c} = \frac{\hat{a}_{c\ wk} N_c}{N_c},$$

where w_{cwk} is the weight associated with concert c in week wk , and N_c is the capacity of the venue for concert c .

The final weight w is the product of these two weights, w_c and w_{cwk} :

$$w = w_c * w_{cwk} = \frac{N_c}{n_c} * \frac{\hat{a}_{c\ wk} N_c}{N_c}.$$

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Table 1: Summary Statistics, Superstar Events and Nationwide Survey

	Bruce Springsteen (October 2002)	U2 (November 2005)	Nationwide Survey (Aug.–Oct. 2006)
Resale Rate ¹	28 %	37 %	10 %
Source of Tickets			
Primary Market	55.5 %	25.8 %	78.1 %
<i>Ticketmaster, Promoter and Box Office</i>	55.5 %	25.1 %	73.9 %
<i>Fan Club</i>		0.7 %	4.2 %
Secondary Market	25.2 %	30.7 %	9.4 %
<i>Ticket Broker</i>	15.1 %	2.0 %	3.4 %
<i>Internet</i>	8.5 %	28.0 %	4.4 %
<i>Scalper</i>	1.6 %	0.7 %	1.7 %
Unknown/Comped	19.3 %	43.5 %	12.5 %
Average List Price	\$75	\$114	\$81
Average Resale Price ²	\$255	\$235	\$122
Average List Price of Resold Tickets	\$75	\$97	\$91
Average Markup ³	240 %	145 %	36 %
Median Markup ³	220 %	93 %	4 %
N	858	903	3,281

Note:

Data from the Bruce Springsteen column were collected at the First Union Center in Philadelphia on October 6, 2002 at a Bruce Springsteen and the E Street Band concert part of The Rising tour. Data from the U2 column were collected at Madison Square Garden in New York City on November 22, 2005 during a U2 concert part of the Vertigo tour. Bruce Springsteen results are weighted using sampling weights. Data for U2 are self-weighted. See Data section for details on the nationwide survey. Sampling weights were used.

¹ For the Bruce Springsteen and U2 data, a ticket is deemed resold if the price paid is 20% or more above the list price. For the nationwide survey, the source of the ticket was used.

² Average of price paid for tickets bought on the secondary market, excluding zero prices.

³ Markup is computed as the ratio of the price paid for a ticket over its list price, minus one.

Table 2: Source of Tickets, Nationwide Survey

Source of Ticket	Percentage
Ticketmaster	56.5 %
Promoter	10.0 %
Box Office	7.4 %
Fan Club	4.2 %
Comped/Won	6.5 %
Secondary Market	9.4 %
Unknown	6.0 %

Note:

Sample size is 3,281. The 28% of respondents who said they obtained their ticket through a friend were assigned friend's method. Sampling weights used.

Table 3: Source of Tickets on Secondary Market, Nationwide Survey

Source of Tickets (Secondary Market)	Percentage
Ticket Broker (online)	19.7 %
eBay	19.5 %
Scalper	17.5 %
Ticket Broker (phone/person)	16.4 %
Stubhub	11.8 %
TicketsNow	7.1 %
Craigslist	4.7 %
Razorgator	3.5 %

Note:

Sample size is 303. The 28% of respondents who said they obtained their ticket through a friend were assigned friend's method. Sampling weights used.

Table 4: Reason for Secondary Market Purchase, Nationwide Survey

Reason	Percentage
Could get better seats from reseller	50.6 %
Ticketmaster had sold out	14.1 %
Was unsure of ability to attend	11.7 %
Tickets were cheaper than Ticketmaster	8.2 %
Other	15.4 %

Note:

This is the answer to the question "If purchased from a secondary seller (e.g. Stubhub, eBay, Scalper...), why?" Sample size is 183. Sampling weights used.

Table 5: Endowment Effect, Bruce Springsteen, U2, and Nationwide Sample of Concerts

Endowment Effect	Bruce Springsteen (October 2002)			U2 (November 2005)			Nationwide Survey		
	Yes	No	N	Yes	No	N	Yes	No	N
Would you have bought your ticket if it would have cost you \$800?	9 %	91 %	382	6 %	94 %	220			
If someone offered you \$800 for your ticket would you have sold it?	50 %	50 %	448	32 %	68 %	169			
Would you have bought your ticket if it would have cost you \$300?				22 %	78 %	232	11 %	89 %	1,579
If someone offered you \$300 for your ticket would you have sold it?				32 %	68 %	254	47 %	53 %	1,588

Note:

At the Bruce Springsteen concert and during the nationwide survey, two different versions of the surveys were distributed, each with one of the questions. At the U2 concert, four versions were used.

Table 6:
Price Differentials for Tickets Bought on the Secondary Market, Nationwide Survey

Dependent variable: Natural logarithm of price paid for ticket	(1)	(2)	(3)	(4)	(5)
Number of weeks before show that ticket was bought ¹	—	0.033 (0.013)	0.025 (0.013)	0.030 (0.012)	0.021 (0.012)
Source of Ticket					
<i>Scalper</i>	-0.605 (0.158)	-0.529 (0.159)	-0.192 (0.160)	-0.572 (0.144)	-0.344 (0.144)
<i>Craigslist</i>	-0.243 (0.260)	-0.216 (0.257)	-0.210 (0.257)	-0.251 (0.232)	-0.126 (0.226)
<i>eBay</i>	<i>Base</i> <i>group</i>	<i>Base</i> <i>group</i>	<i>Base</i> <i>group</i>	<i>Base</i> <i>group</i>	<i>Base</i> <i>group</i>
<i>Ticket Broker (Phone/Person)</i>	-0.210 (0.165)	-0.223 (0.163)	0.178 (0.167)	-0.135 (0.151)	0.142 (0.152)
<i>Razorgator and Ticketsnow</i>	0.333 (0.183)	0.216 (0.186)	0.497 (0.185)	0.087 (0.170)	0.361 (0.167)
<i>Ticket Broker (Online)</i>	0.248 (0.157)	0.161 (0.158)	0.602 (0.165)	0.065 (0.146)	0.416 (0.153)
<i>StubHub</i>	0.465 (0.172)	0.413 (0.171)	0.649 (0.171)	0.258 (0.157)	0.524 (0.155)
F-test of the joint significance of the source of ticket dummies (p-value)	9.25 (0.00)	5.79 (0.00)	6.11 (0.00)	5.24 (0.00)	5.95 (0.00)
27 Show dummies	No	No	Yes	No	Yes
4 List price level dummies	No	No	No	Yes	Yes
R-squared	0.23	0.25	0.49	0.41	0.62

Note:

Only those tickets that were bought on the secondary market and for which source is known are used in this regression. Sampling weights used. Standard errors in parentheses. Sample size is 197.

¹This variable is constructed from the answer to the question “When did you purchase your ticket?”

Table 7: Answers to Various Questions, by whether Ticket was Bought on Secondary Market, Nationwide Survey

	Source of Ticket		Statistical Difference ¹ (p-value)
	Primary Market	Secondary Market	
Average Amount Spent on Category of Spending			
<i>Parking</i>	\$4.21	\$4.51	0.51
<i>Souvenirs</i>	\$18.26	\$24.73	0.00
<i>Concessions</i>	\$27.69	\$34.02	0.00
Total Ancillary Spending	\$49.84	\$60.70	0.00
Average number of songs by performer owned ²	24	22	0.19
Average answer to “How much do you like the lead band?” ³	4.37	4.30	0.25
Average number of concerts attended in the past 12 months	4.7	5.3	0.35

Note:

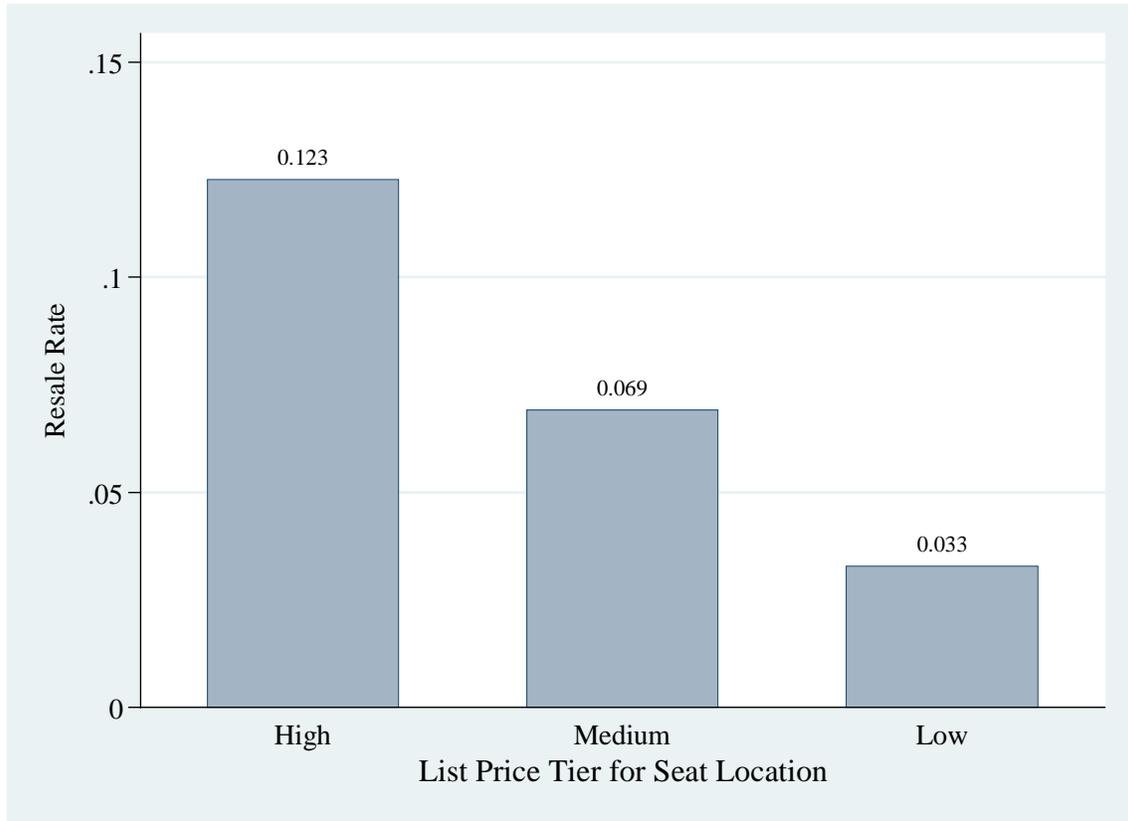
Sampling weights used. Sample size varies by question asked (between 2,692 and 3,202).

¹ The number reported is the p-value of the statistical difference between the primary and secondary market.

² Answer to the question “How many songs of the lead band have you purchased? (*on CD, or for your iPod or MP3 player*)”

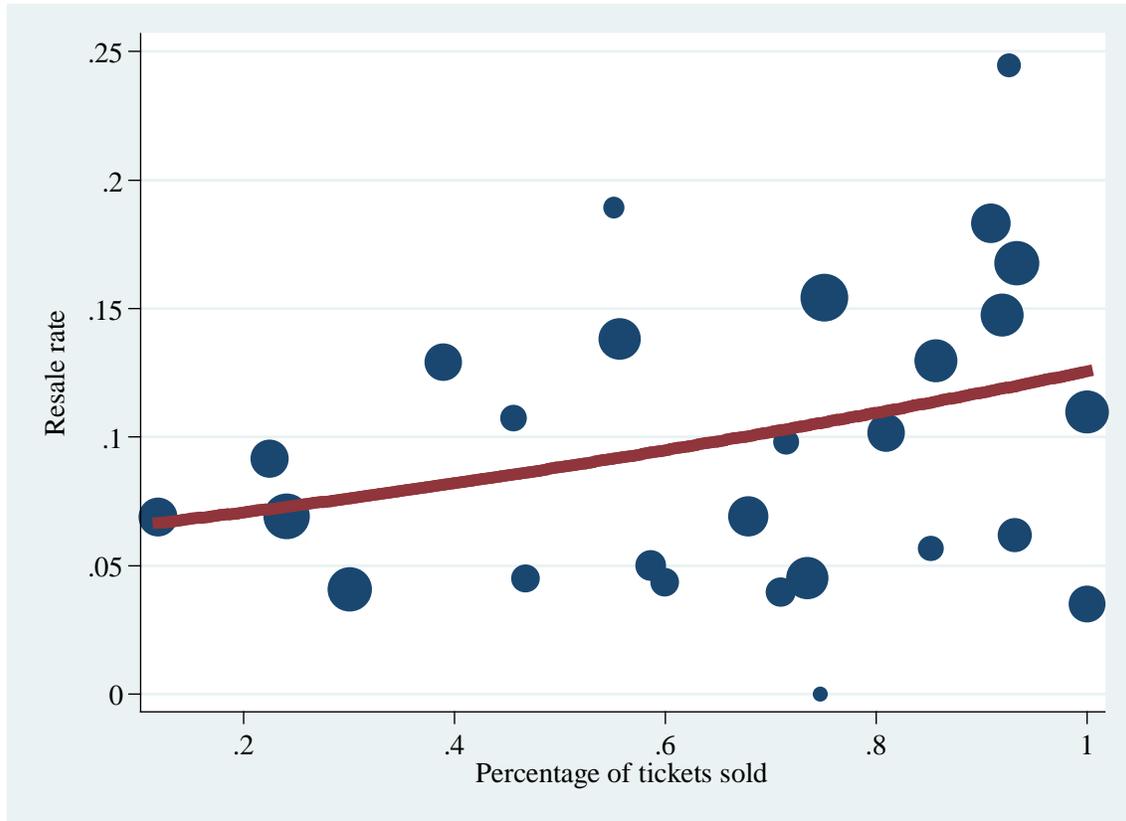
³ The answer to that question was on a scale from 1 to 5, where 1 means “not at all,” and 5 means “very much.”

Figure 1: Resale Rate Higher for Higher-Priced Seats, Nationwide Survey



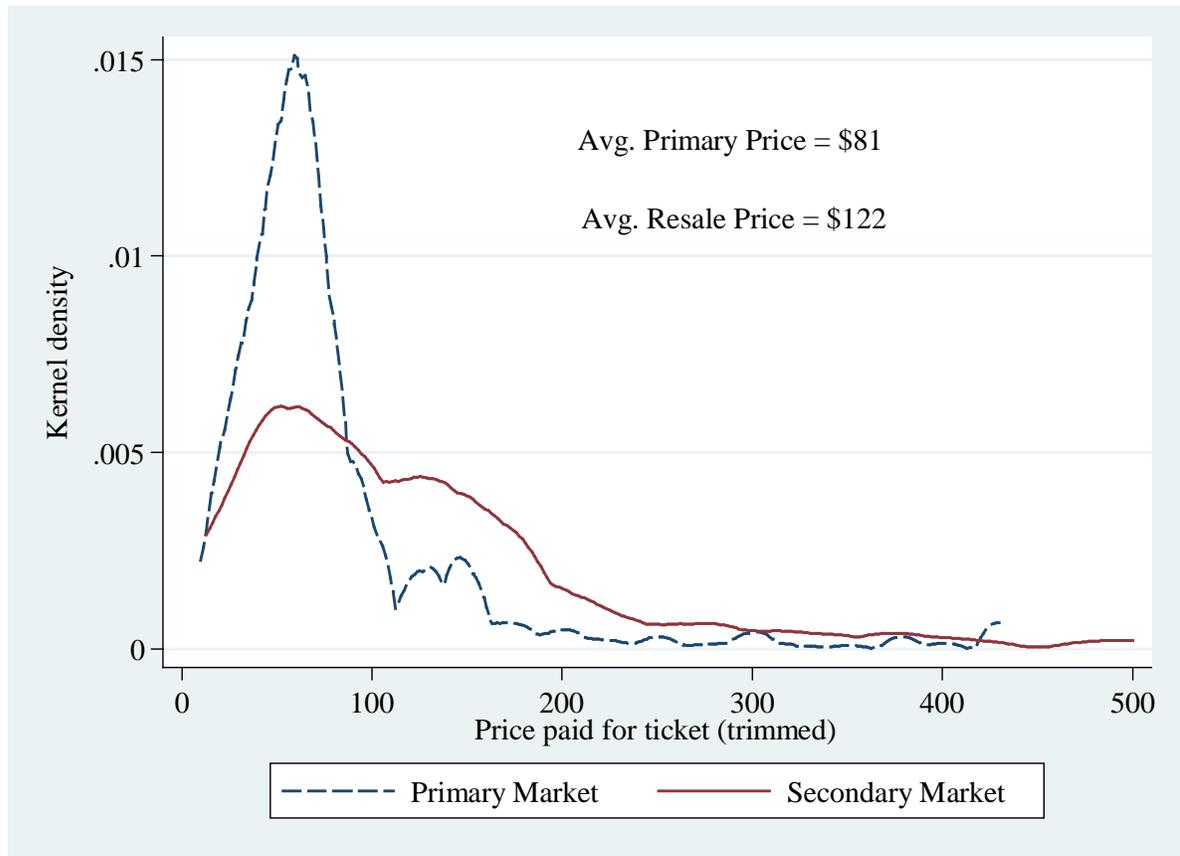
Note:
Sampling weights used.

Figure 2: Resale Rate and Percentage of Tickets Sold, Nationwide Survey



Note:
Each circle represents one concert and is weighted by number of survey respondents.
Dark line represents a quadratic fit.

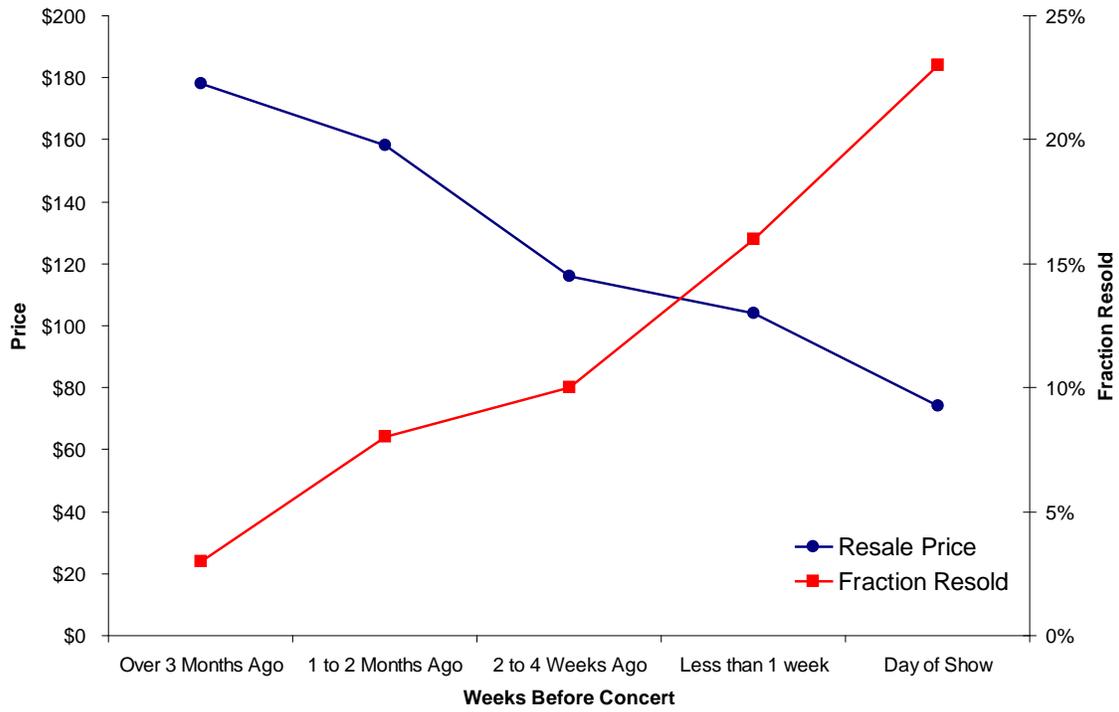
Figure 3: Ticket Price Dispersion in Primary and Secondary Markets, Nationwide Survey



Note:

Top and bottom 1% of prices trimmed. Sampling weights used. Kernel density computed using Epanechnikov kernel.

Figure 4: Resale Price and Fraction of Tickets Resold by When Ticket Was Bought, Nationwide Survey



Note:

X-axis not to scale.

Sample size is 266 for resale price, 2,885 for fraction resold.