

PRACTICE PAPERS

A case study: How to rationalise concert entertainment ticket pricing

Louis J. Volpano* and **Volodymyr Bilotkach**

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*ascertain-ment[®], Entertainment Industry Research and Strategic Analysis, 260 Newport Center Drive, Suite 100, Newport Beach, CA 92660, USA

Tel: +1 949 999 0810

Fax: +1 949 999 0868

E-mail: lou@ascertain-ment.com

Lou Volpano is Chairman of *Op-Tix.com Ticket Pricing, Inc.*, which develops the technology to determine profit-maximized pricing for concerts, in addition to the managing partner of *ascertain-ment[®]*, the only entertainment and media consulting company focused on finding the hidden value in America's largest export: copyrights and IP, for private equity, V.C's, and media companies. Current clients lead the markets in *TelecomTV*, *direct response TV*, and the internet. Volpano served as director of corporate development for turn-around firm *Kibel/Green, Inc.* and also as director of strategic marketing and licensing sales for *Discovery Channel's Great Chefs[™]*. From 90 to 99, his consulting assignments included *House of Blues* and *Billboard Live*, and production companies, *Dick Clark Productions*. Based in Chicago from 75 to 89, he produced the world's largest music festivals and led the vanguard of event marketing. He was also an integral member of the team that personally managed the *Blues Brothers* band and brand.

Volodymyr Bilotkach, PhD, an advisor to *ascertainment*, is an economist at the University of California in Irvine, California.

ABSTRACT

KEYWORDS: *entertainment, ticket pricing, yield management, consumer surplus, Ticketmaster, ascertain-ment*

*This paper demonstrates how we can rationalise ticket pricing to capture the surpluses, commonly found in ticket markets, for the artist. In the past two months, ascertain-ment collected data and analysed ticket prices for Eric Clapton's sold out concert in Oklahoma City, OK. Clapton's tickets were sold at a face value of \$65 and \$85 through Ticketmaster. Yet the secondary market of ticket brokers found demand could yield as much as \$700 per ticket. We determined that over \$250,000 in surplus revenue was not captured by Clapton. The primary data we collected have generated statistical links between prices and demand for tickets. Specifically, we have found that tickets must be sold for a wider array of prices, and we have determined an exponentially priced schematic to estimate an optimal set of prices to reduce the differential between primary and secondary ticket prices, capturing more revenue for concert artists. *Journal of Revenue and Pricing Management* (2008) 7, 3–6. doi:10.1057/palgrave.rpm.5160119*

INTRODUCTION

Current ticket pricing is sub-optimal, as demonstrated by the presence of both ticket

brokers and empty seats. The margin ticket brokers trade on could be accruing to the artists by optimally pricing high-quality seats. Conversely, empty seats could be eliminated profitably by reducing prices for low-quality seats, as the cost of selling to an additional customer is approximately zero when there are empty seats. A change in price depends, of course, on demand for the attraction. Such price discrimination would allow for a more efficient allocation of seats based on intensity of demand and has the potential to increase revenue relative to standard pricing practices.

RESEARCH METHODS

Our study was of ticket sales for Eric Clapton’s performance in Oklahoma City (Ford Center) on 5th March, 2007. Venue capacity was 13,000 seats. The load factor was 96 per cent. The show grossed \$947,390. We observed two ticket prices in the primary market, \$85 and \$65.

We monitored the ticket prices and quantities offered in the secondary market for this show from 7th February, 2007 until 4th March, 2007. Data collection was done daily, and we inferred a ticket seller’s disappearance (or fewer tickets available next day for the same offer) as a sale.

That is, we assumed no offers were withdrawn, and if we saw a seat available yesterday which is not available today, it means that this seat was sold at the price we observed yesterday.

We acknowledge we may have missed some transactions; however, we are confident this was the most efficient method to complete an analysis.

Over the time period for sales of Clapton’s show, we recorded 101 transactions in which 329 tickets changed hands, a total of 2.5 per cent of the total tickets. While this appears to be a small number of transactions, keep in mind that we do not exactly know what share of the secondary market we actually observed.

The fact that the lowest price we observed was \$120 per ticket, or almost twice the ticket’s minimum face value, tells us that the demand for this show was rather strong. Also, most of the transactions were at the floor level, where 200 (or more than half) of the tickets were resold in our sample. Only one transaction was observed at the upper level (with six tickets sold).

For each transaction, we recorded the following information:

- beginning sales price (the price initially offered for the ticket(s))
- final sales price (the price at which ticket(s) were sold)
- number of tickets sold
- days on the market (time elapsed from first observing the offer till the ticket is sold)
- days before concert (number of days between the transaction and the concert date).

The following table gives descriptive statistics of the data, by the arena’s level. This provides an overview of ticket quantities available by section, their prices and the number of days these sales required (Table 1).

Thus, the total surplus we observed captured by the secondary market is \$62,845, or 6.6 per

Table 1: Descriptive statistics

	<i>Floor level</i>	<i>Lower level</i>	<i>Club level</i>	<i>Upper level</i>
Number of tickets	200	87	36	6
Average beginning price	\$364.70	\$249.27	\$205.87	\$153.00
Average sales price	\$332.98	\$237.44	\$192.62	\$153.00
Minimum sales price	\$189.00	\$155.00	\$120.00	\$153.00
Maximum sales price	\$705.00	\$412.00	\$224.00	\$153.00
Average days on market	10.18	5.1	8.75	21.00
Average days before concert	12.24	10.03	14.37	5.00
Total surplus	\$44,518	\$13,599	\$4,200	\$528

cent of total gross revenue of that very concert, and this is based on only 2.5 per cent of tickets resold that we observed via one of potentially many ticket resale channels. In fact, the prices we observe (as well as rather insignificant differences between the beginning and final sales prices) suggest that there probably was a lot more secondary market activity that we did not observe.

At the floor level, we naturally observe the most activity, the highest prices and the largest surplus captured on the secondary market. Two hundred tickets we observed resold here correspond to 8.5 per cent of total capacity of this level. The tickets are traded in wide range of prices, and the surplus captured is \$225.59

Table 2: Average prices at the floor level

<i>Section</i>	<i>Average price on secondary market</i>
1 — front	\$280.48
2 — front centre	\$419.50
3 — front	\$315.66
4	\$200.00
5 — centre	\$200.00
6	\$196.10
7	\$169.15
9	\$187.00

Table 3: Regression Results

<i>Variable</i>	<i>Coefficient</i>	<i>(t-statistic)</i>
Constant	139.93**	(3.18)
Centre section	118.30**	(2.61)
Front section	91.14*	(1.95)
Days before concert	-0.28	(-0.09)
Days on market	7.27*	(1.81)
<i>F</i> -statistic=6.30;		
<i>R</i> -squared=0.49		

Notes: Dependent variable is price

Number of observations=31

**significant at 5 per cent; *significant at 10 per cent level

Table 4: Suggested pricing at the floor level

<i>Section</i>	<i>Suggested seat price</i>
1 — front	\$230
2 — front centre	\$345
3 — front	\$230
4	\$140
5 — centre	\$255
6	\$140
7	\$140
9	\$140

per seat resold. The number of tickets resold should permit a more thorough investigation of price sensitivity at this level. The floor level for this particular concert consisted of eight sections (numbered 1,2,3,4,5,6,7,9), with sections 1, 2 and 3 being front sections, and sections 2 and 5 being centre sections. We have collapsed the transactions observed to the section-row level for further analysis. The average prices by section (weighted by the number of tickets sold) are shown in Table 2.

To determine how prices change as we move away from the stage, we conducted a simple regression analysis, using the section-floor level collapsing of transactions (this resulted in only 31 observations for the floor level).

Price was dependent variable in this regression; we included indicator variables for centre and front sections, as well as number of days on the market and number of days before concert (again, averaged at the section-row level, weighted by the number of tickets in transaction) (Table 3).

Given the number of observations we have and the level of aggregation we used, our regression explains half of all the variation in data. More interesting, our results actually suggest the following price scheme for the floor-level sections.

- The baseline price (as indicated by the constant term in the regression) should be \$140.

- The centre sections (sections 2 and 5) should be \$118 more expensive (let us round it to \$115, for the total centre sections ticket prices of \$255).
- The front section ticket should be \$90 above the baseline.

Therefore, the most expensive section will be section 2 (front centre), with tickets priced at \$345 (\$255 + \$90).

Sections 1 and 3 will be priced at \$230 (\$140 + \$90) (Table 4).

CONCLUSION

Given these prices, and assuming we would be able to sell all floor-level tickets at those prices

(recall that even though we only observe a fraction of seats traded via the secondary market, evidence suggests substantial trade via the channels we did not observe here), the gross revenue we would be able to get at the floor level is about \$471,000 (there are 2,331 seats at the floor level, and we assumed the seats are equally distributed across the eight floor-level sections). The same floor-level seats actually sold at \$85 per seat (we have no reason to believe that 4 per cent of seats which remained unsold were at the floor level) only generated \$198,135 in gross revenue, or 137 per cent less than the potential, as revealed by data.