“Paperless Ticketing” and its Antitrust Impact on the Secondary Market

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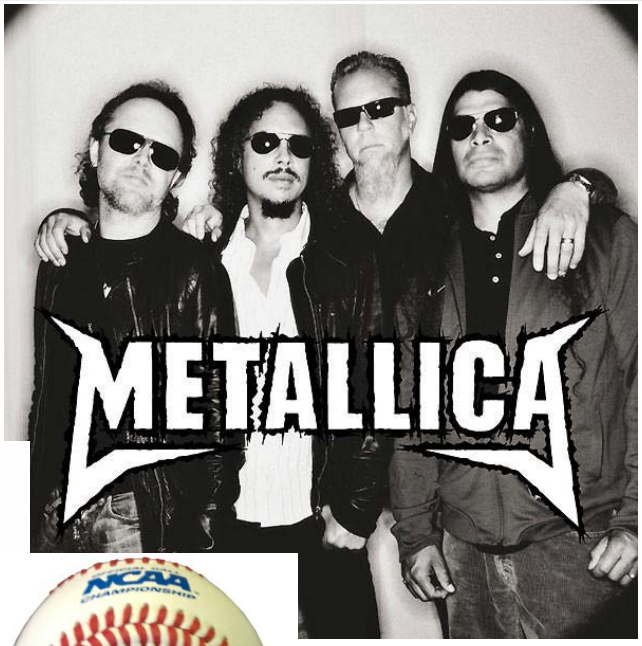
METALLICA


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CWS
NCAA


HOUSTON ROCKETS


CLEVELAND
CAVALIERS

What is “Paperless Ticketing”?

- Ticketless entry → credit card/ID → seating location slip
- Designed to curb the resale of tickets
  - Especially above face value.
  - Original purchaser must show up to the event and swipe their card to get someone in.
  - In April, 2010, Ticketmaster began allowing resale on its own secondary site TicketExchange.
- Resale can occur if original purchaser shows up and lets new customer in.
  - These tickets show up on StubHub, TicketLiquidator, TicketsNow (owned by TM), etc. Some of the exchanges try to remove them.
  - For some events TicketExchange is the exclusive reseller site (converts to pdf) → extra round of selling in the process.

Agenda

- The Pros and Cons of Ticketless Entry (or “Paperless Ticketing”)
- Is Monopoly Leveraging Feasible?
- What Happens to Competition with Paperless Ticketing?
- A Natural Experiment – Michael Bublé

Pros & Cons of Ticketless Entry

- Saves paper? → No, seating assignment printed at venue
- Can't lose or forget tickets? → Yes, but mobile phone tickets may be comparable
- Counterfeit? →
  - Don't allow resale
  - Allow resale through TMs site going from credit card to credit card
  - Currently, platforms guarantee the ticket
  - Integrate reseller platform with primary seller site (happens in MLB with StubHub)
  - Will reseller show up at venue with credit card once they have taken the buyers money?
- Gifts? → No, the "grandma problem"
- Speed at venue? → No, slower lines to get in – verifying credit cards takes longer than ticket readers or takers
- Group coordination difficulties? → Yes, can't break up tickets purchased in groups (to get group of seats). Could email the pdf of each seat to each attendee ahead of time. If one fan needs to sell her ticket, she'll have to get the credit card holder involved.
- Reduced Availability of Tickets? → Research Question
  - Seabrook (2009) says that amount of tickets on secondary market has been radically reduced. Many platforms won't allow Paperless Tickets to be resold because of guaranteed faces higher risk. General high cost of meeting at the gate to let someone in.
- Higher prices in secondary market? → Research Question
  - Will the higher costs and increased difficulty lead to fewer tickets available and higher prices?
- ***TM states that its goal is to reduce ticket resale***. Will it also be able to monopolize the secondary market?

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Is Monopoly Leveraging Feasible?

- How would TM make any money in such a competitive secondary market?

Paperless Ticketing that is Restricted to TM's Resale Site(s)

- <u>Antitrust Economics Concept</u>:
  - Barrier to Entry: technological barrier preventing competition

  → raising rivals' costs, foreclosure, essential facility

  → Turns a competitive market into a monopolistic one.

So What?

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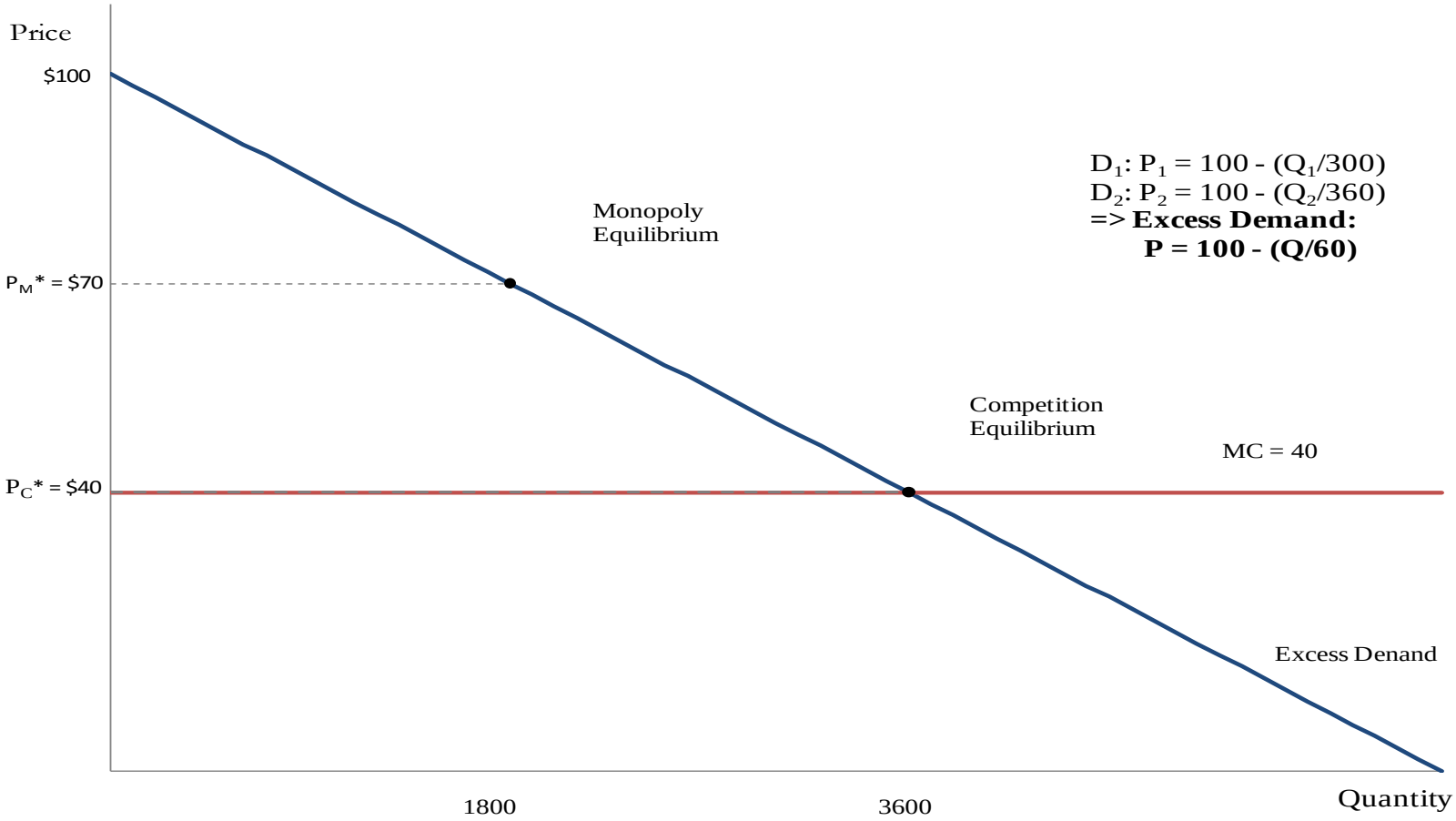
Secondary Market



Competitive Market: CS=$108,000, PS=$0, W=$108,000

Monopolistic Market: CS=$27,000, PS=$54,000, W=$81,000

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Empirical Findings – Michael Bublé

- Ticketmaster sold some sections with traditional ticketing options and used Paperless Ticketing for certain sections.
- ***Natural experiment*** to compare traditional to Paperless Ticketing
  - controlling for venue, performer, relationship across nearby seat locations (with and without Paperless Ticketing)
  - Lady Gaga, Dave Mathews, Kings of Leon were the control groups
- Data: TM, SH, RazorGator, TicketCity, TicketLiquidator, TicketsNow taken directly off of their web sites.
- Verizon Center, Washington D.C., 11/27/10
- TD Garden, Boston, 11/30/10

Empirical Findings – Michael Bublé

Verizon Center

Paperless

Conventional

Empirical Findings – Michael Bublé

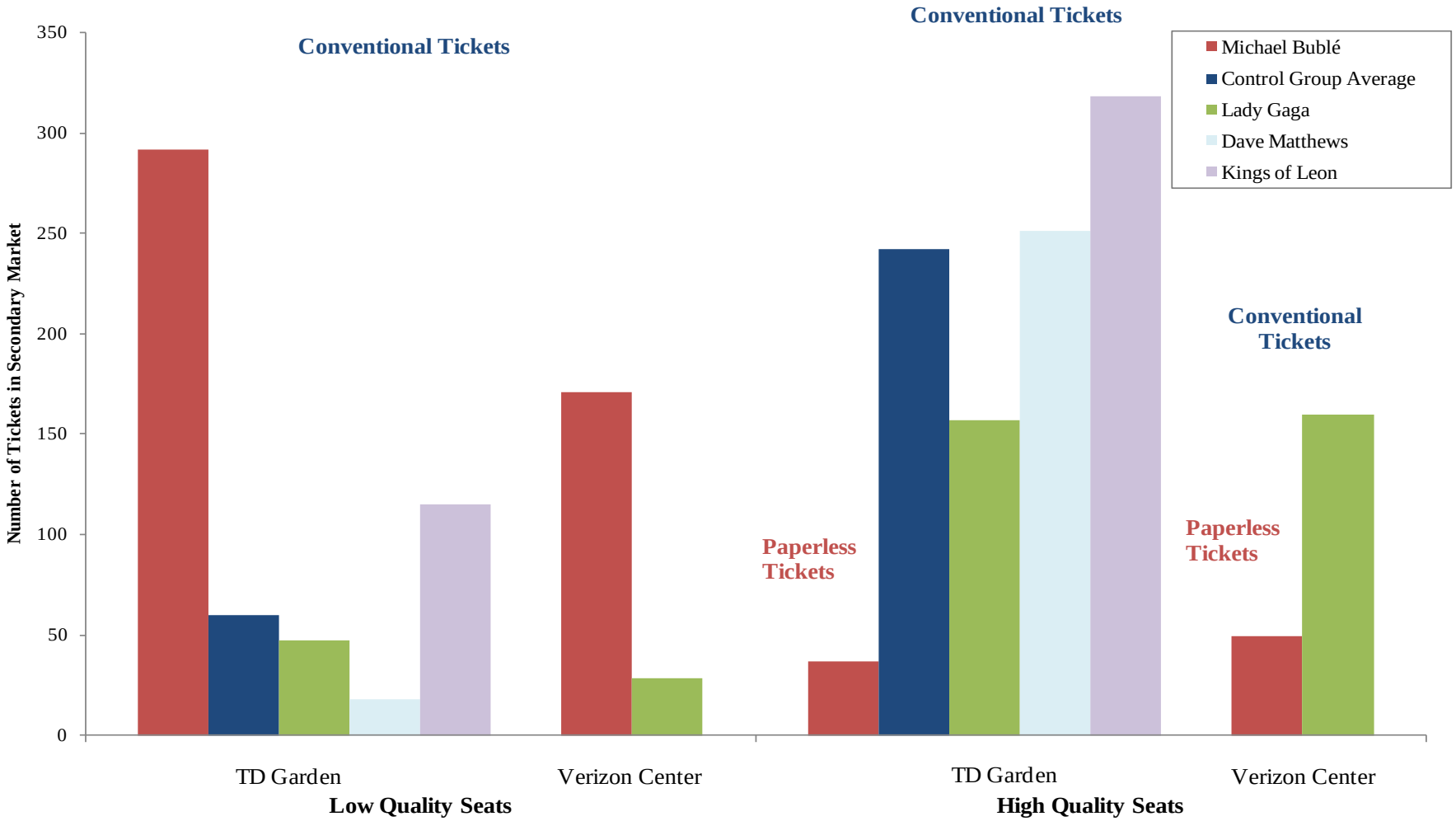
Paperless

Conventional

TD Garden

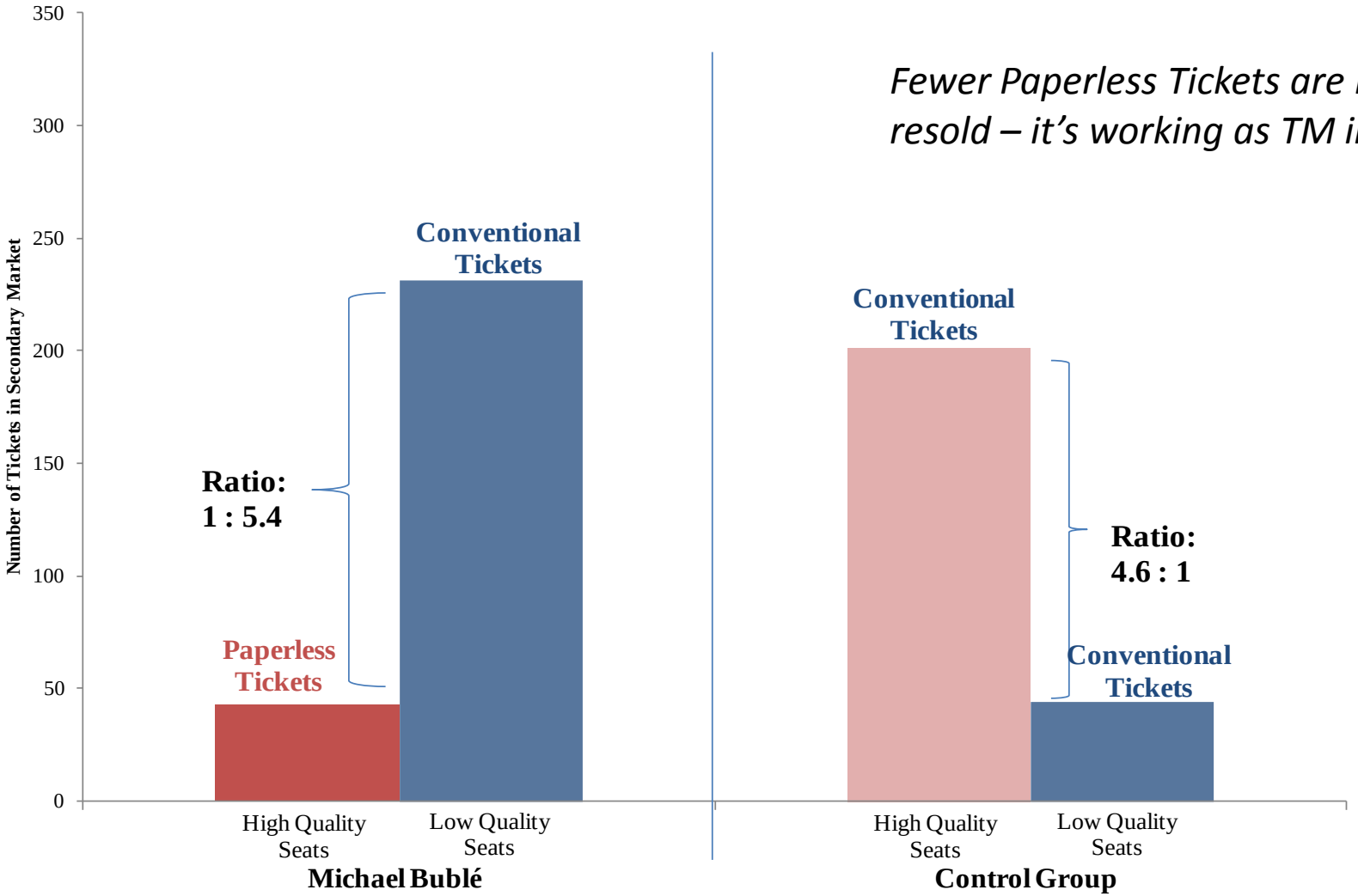
Empirical Findings – Michael Bublé

The "Paperless Ticket" Market had Much Lower Quantity Available for Resale



Empirical Findings – Michael Bublé

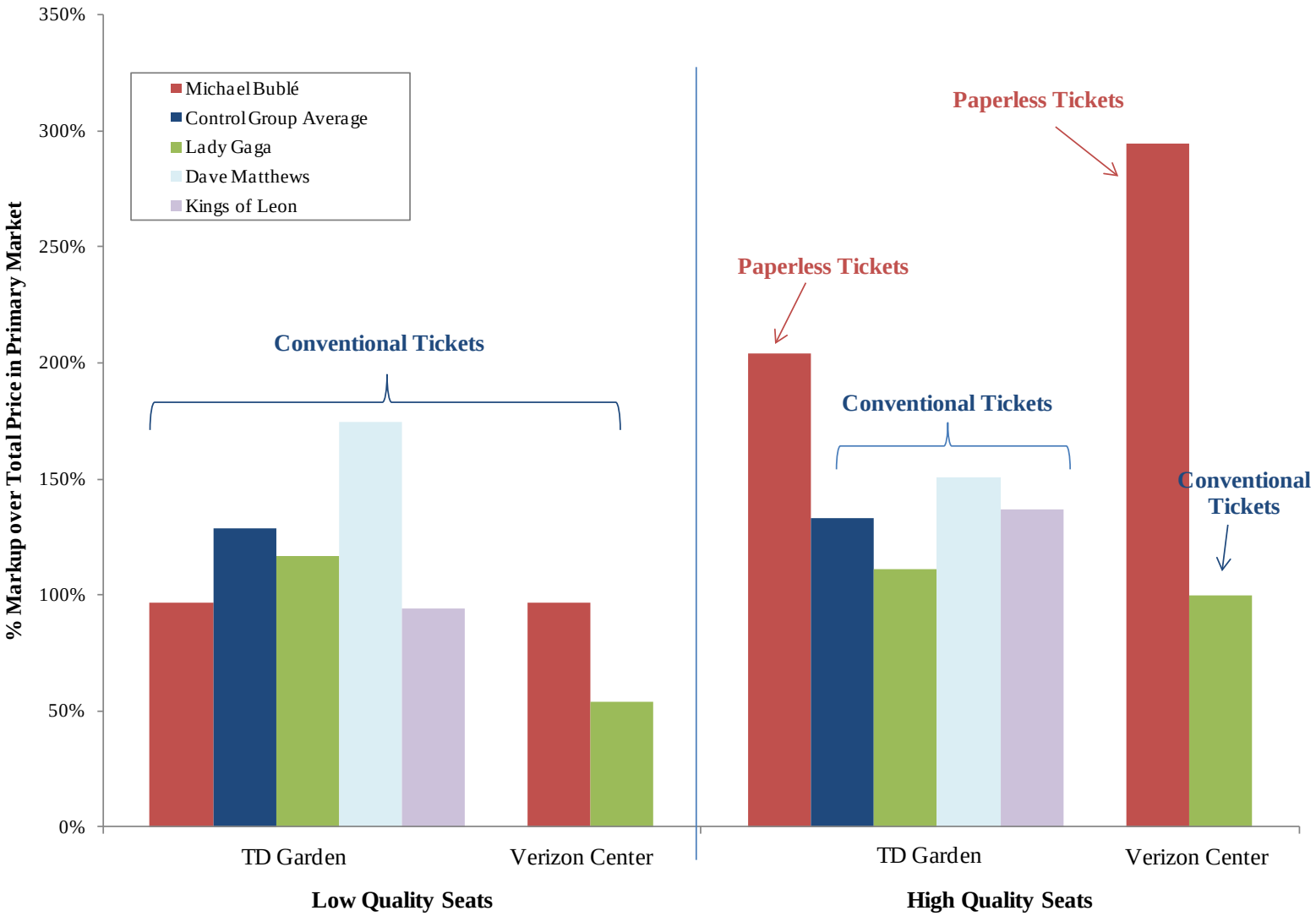
Ratio of Tickets for Resale for "Paperless Ticketing" and Conventional Ticketing



Fewer Paperless Tickets are being resold – it's working as TM intended

Empirical Findings – Michael Bublé

Markup on "Paperless Ticketing" Tickets for Resale vs. Conventional Ticketing



Empirical Findings – Michael Bublé

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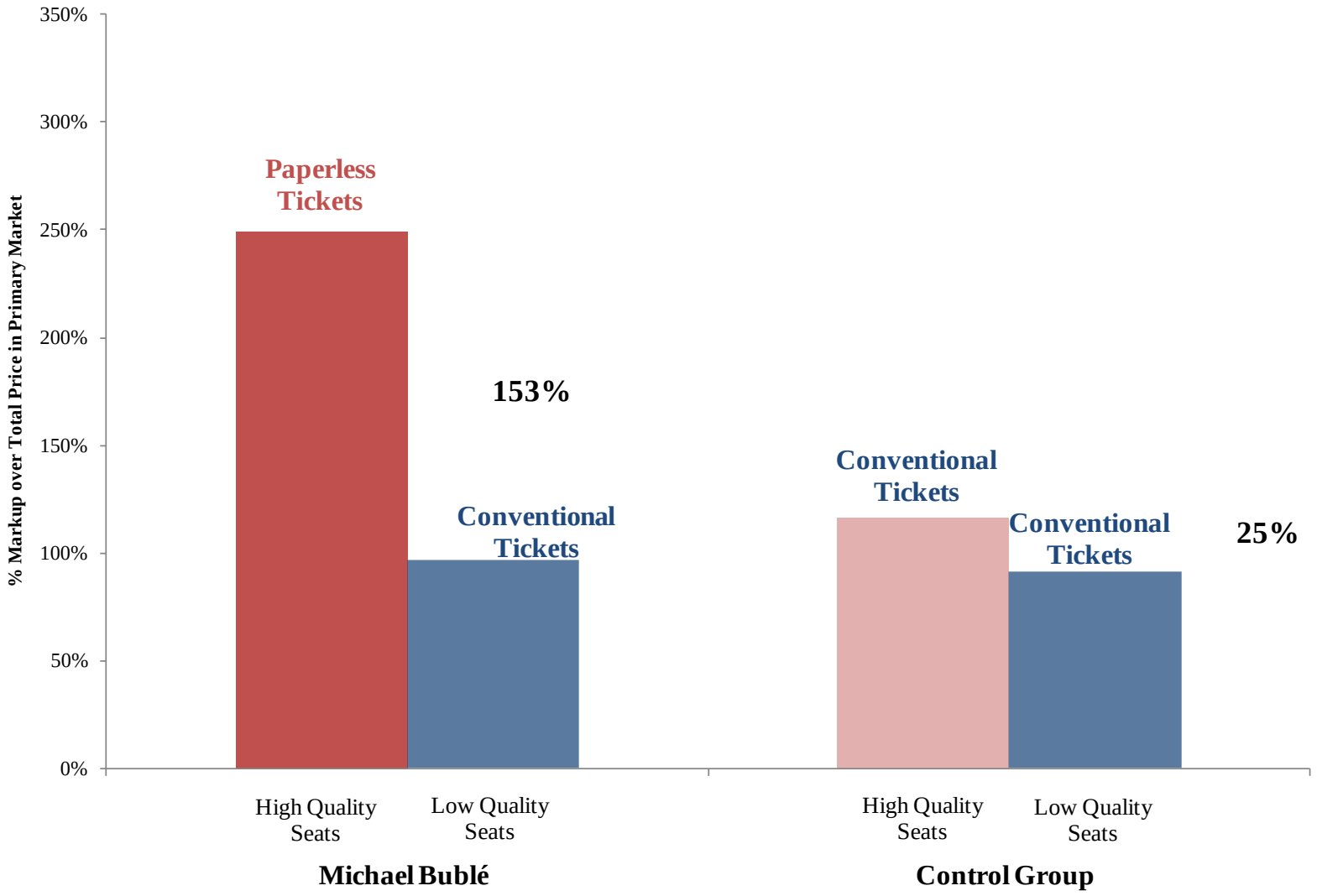


Empirical Findings – Michael Bublé

Empirical Model of Secondary Market Ticket Prices (in dollars)

F-Statistic	66.05****	200.59****	110.38****	83.38****
R-Squared	0.039	0.346	0.375	0.388
Number of Observations	1634	1634	1634	1634
Dependent Variable	Total Secondary Market Price	Total Secondary Market Price	Total Secondary Market Price	Total Secondary Market Price
Variables	**Coefficients**			
Paperless	64.94****	52.44****	93.95****	93.10****
Face Value	-	2.06****	2.00****	2.00****
Ticket Fees	-	-1.18	-1.42	-0.95
Razorgator	-	-	-	29.3***
Stubhub	-	-	-	12.57
Ticketliquidator	-	-	-	52.7****
TicketCity	-	-	-	7.9
VC Section 121, 112, TD Section 13, 22	-	-	8.44	9.78
VC Section 100, 111, TD Section 12, 1	-	-	-82.08****	-79.5****
VC Section 102, 109, TD Section 10, 3	-	-	-42.13****	-40.9****
Constant term	231.88****	55.78**	65.35**	32.17

Significance: * 10% level; ** 5% level; *** 1% level; ****.1% level

For the coefficients, "VC" refers to the Verizon Center and "TD" refers to the TD Garden venue.

Empirical Findings – Michael Bublé

Empirical Model of Secondary Market Ticket Prices (in natural logarithms)

F-Statistic	92.93****	695.95****	359.20****	252.6****
R-Squared	0.048	0.578	0.606	0.622
Number of Observations	1634	1634	1634	1634
Dependent Variable	*ln* (Total Secondary Market Price)	*ln* (Total Secondary Market Price)	*ln* (Total Secondary Market Price)	*ln* (Total Secondary Market Price)
Variables	**Coefficients**			
Paperless	0.19****	0.20****	0.30****	0.30****
ln (Face Value)	-	0.78****	0.76****	0.76****
ln (Ticket Fees)	-	-0.05	-0.06	-0.02
Razorgator	-	-	-	.076****
Stubhub				0.001
Ticketliquidator	-	-	-	.134****
TicketCity				0.008
VC Section 121, 112, TD Section 13, 22	-	-	0.02	0.02
VC Section 100, 111, TD Section 12, 1	-	-	-.22****	-.21****
VC Section 102, 109, TD Section 10, 3	-	-	-0.08****	-0.07***
Constant term	5.38****	2.01****	2.09****	1.94****

Significance: * 10% level; ** 5% level; *** 1% level; ****.1% level

For the coefficients, "VC" refers to the Verizon Center and "TD" refers to the TD Garden venue.

Conclusion

- Upstream monopolist cannot gain maximum profits by simply pricing properly upstream.

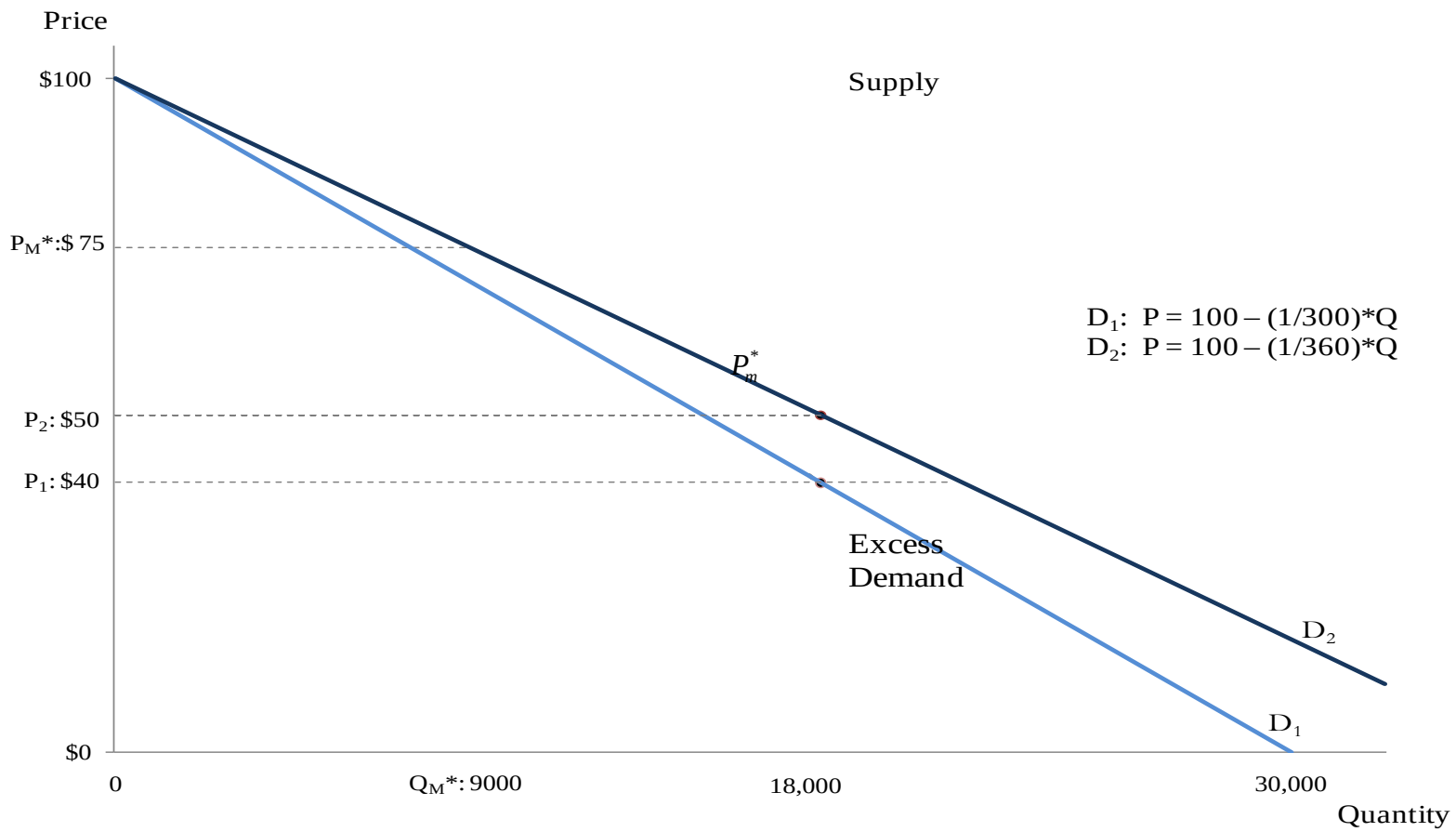
  → Incentive to move downstream

- Attempts to monopolize the downstream market with a technological barrier, raising rivals' costs.
- This increases transaction costs, decreases quantity supplied, and increases price.
- When resale is harder…
  - It likely hurts primary market demand
  - More tickets go unused (preventing Pareto improving exchanges), lowering ancillary revenues.

Does the Primary Market Benefit?

- Williams (1994) shows that markets that allow resale have higher primary prices in the NFL (by about $2).
- Depken (2006) shows that cities that do not allow resale, average season ticket prices are higher by about $10 → ↑ team revenues.
- Sweeting (2008) finds that MLB cities (2000-2007) with the most listings and highest secondary market prices are those with the highest realized attendances. Also, higher demand games have more tickets available in the secondary market.
- Spindler (2003) argues that SMMs increase primary demand because they have different revenue and cost structures allowing them to make money.
  - Courty (2003) says that SMMs sell to higher income/more uncertain buyers right before event occurs. SMMs act as primary seller's sales agent.
- Karp and Perloff (2005) and Geng et al. (2007) note that SMMs help primary market sellers earn profits associated with price discrimination. This can benefit the primary seller and consumers.
- Thiel (2003) note that efforts to prevent secondary markets simply raise the cost of reselling and benefit no one.
- Leslie and Sorenson (2007) – primary market sellers' revenues decline with revenues captured by resellers. Note that they assume primary market prices are exogenous and consumers constitute 45% of resold tickets, not professional resellers.

Primary Market Monopolist Sets Fees, not Prices



T=Fixed Fee: P^*_m=50+T/2, T^*_m=$50, π = $375K.

tP=Proportional Fee: t^*_m=0.67, π = $375K.

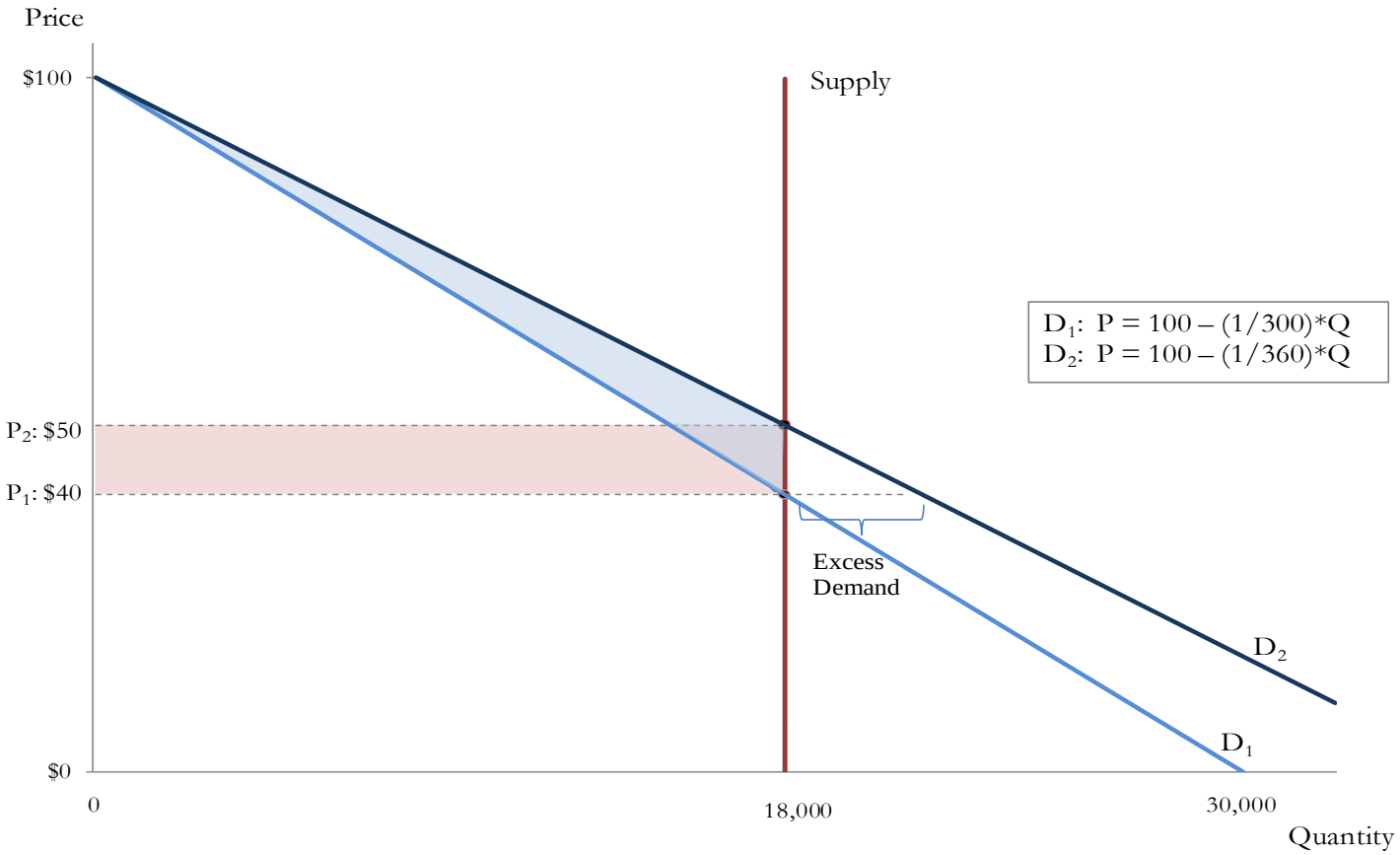
Why does the Secondary Market Exist?

- Prices below myopic monopoly pricing - reward true fans, value buzz, ancillary revenues, great experience for fans (repeat customers and buyers of complementary products/mp3s), risk aversion cause want a sellout. (Krueger and Pray, 2008)
- Experience goods often have lower prices because of the asymmetry of what is actually being purchased (Krueger, 2005)
- Coarse pricing at venues (often just 2 or 3 different prices). (Leslie and Sorenson, 2007).
- Excess Demand – secondary markets facilitate Pareto improving transactions.
- Schedules change – even if perfect price discrimination occurred, the time lapse between purchase and consumption can cause personal demand to change. Secondary markets are a form of insurance (Courty, 2003; Drayer et al., 2008).
- Differential cost and revenue functions of resellers compared to primary seller.

Secondary Ticketing and Pricing

- General need for competition in secondary market
  - Elfenbein (2006) shows that in markets with anti-scalping laws, there are fewer secondary market transactions, fewer resellers, higher concentration, and higher resale prices, analyzing over 400,000 NFL transactions on eBay.
- Welfare
  - Courty (2003), Spindler (2003) show efficiency gains from secondary markets and primary market gains also.
  - Leslie and Sorenson (2007) show that total welfare ↑ by 16% if secondary markets were frictionless.

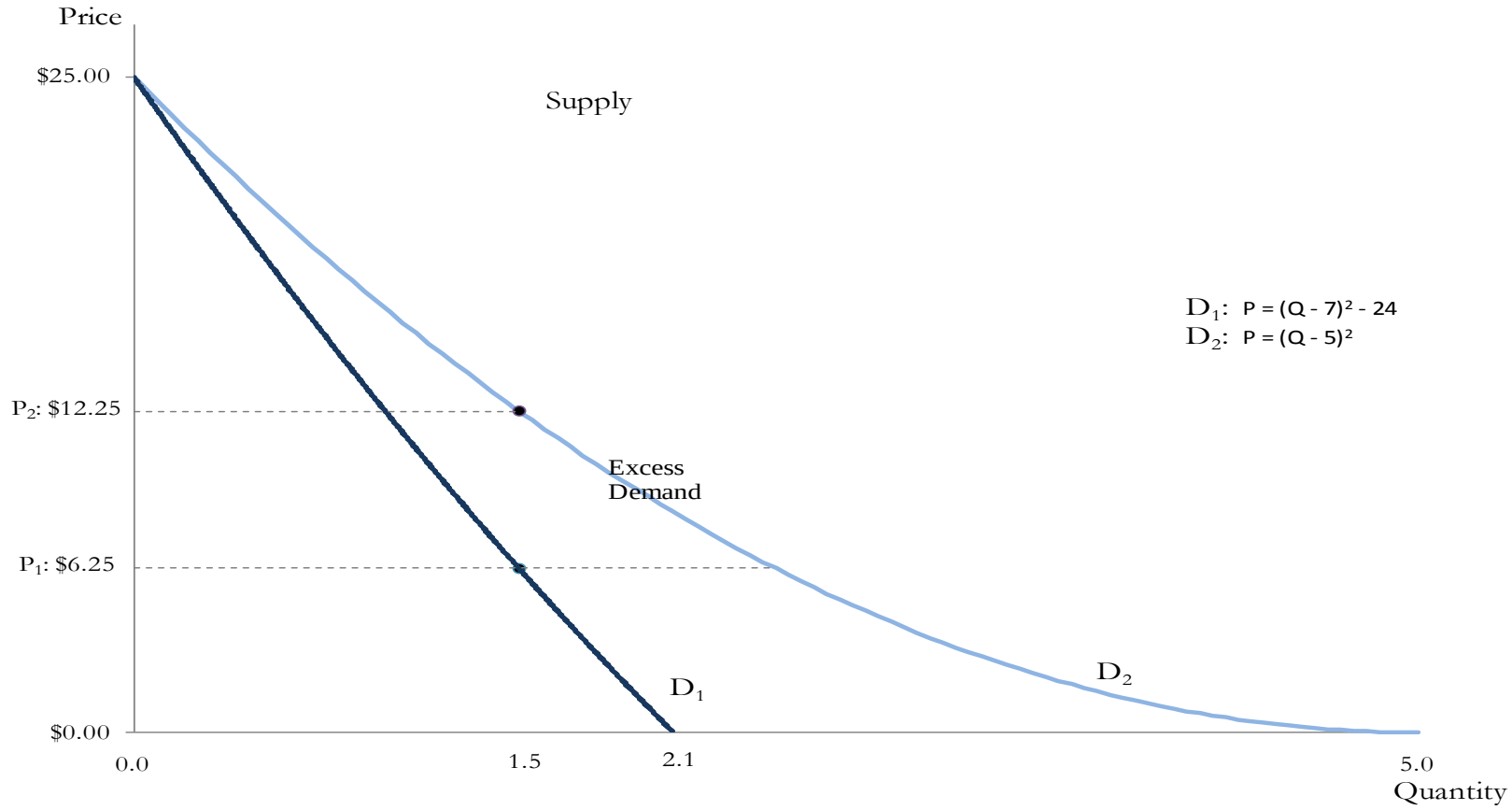
Theoretical Model of Paperless Ticketing – Linear D



D_1: CS=$540K, PS=$720K, W=$1.26M

D_2: CS=$450K + $90K, PS=$720K + $90K, W=$1.35M

Theoretical Model of Paperless Ticketing – Non-linear D



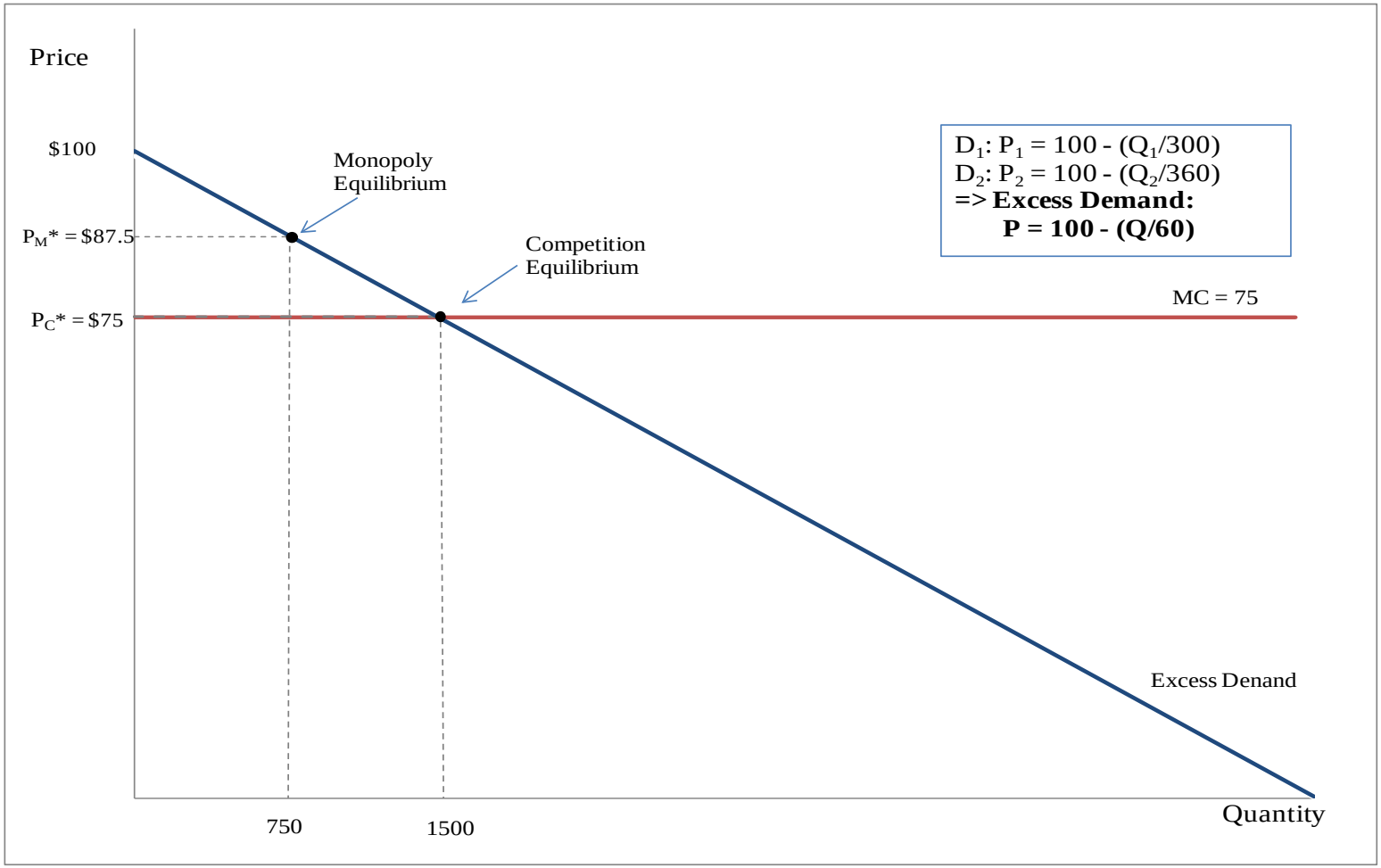
D_1: CS=$13.50, PS=$9.375, W=$22.875

D_2: CS=$9 + $4.50, PS=$9, W=$27.375

How a Firm Sets Fees in Primary and Secondary Markets

- **Monopolist** in secondary market could unilaterally set fees unlike in primary where they are jointly set.
- Even if TM could monopolize and price the primary market, there would still be a secondary market (from scheduling issues and uncertainty) that TM might want to move into.
- In primary market, TM charges a *fixed fee* per ticket sold, or a *proportional fee* based on the percentage of the price, or a hybrid of the two.

Secondary Market Monopolist Sets Fees, not Prices



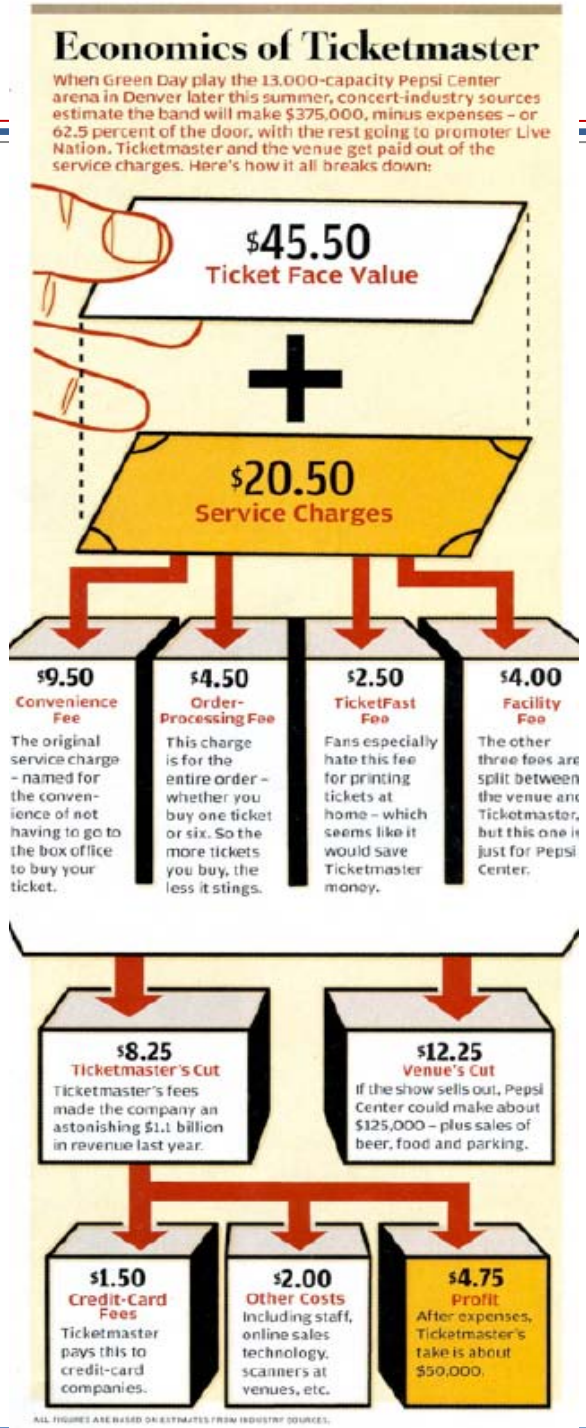
P*m=$87.50, DWL=$4,687.50, pi=$9,375. T* = $12.50

Economic Issues with Paperless Ticketing

- Is preventing ticket resale a laudable goal?
- If not, should the secondary market be largely controlled by an upstream near-monopolist or consist of multiple third-party platforms?
- Market shares
- Ticket resale
- Welfare
- Downstream integration
- Natural experiment

Details…

- Less than **10% of tickets are resold** (Leslie & Sorenson, 2007) in music, but higher in sports (due to season tickets).
- The downstream market is highly fragmented (800+ entities)
- There are platforms like eBay, StubHub, RazorGator (some act as both a platform and reseller)…
- TM-owned TicketsNow and TicketExchange are sometimes **designated as the only reselling platform when Paperless Ticketing is used**.
- Individual resellers
  - Sweeting (2008) estimates that for MLB, **70% of resellers are consumers reselling**.
  - Leslie & Sorenson (2007) estimate that **45% of resellers in the music concert market are individual sellers**.
- Secondary ticket prices tend to decline as event approaches in sports, and are U-shaped in music.
- Better seats are resold more commonly than poor seats.



Rolling Stone, July 9-23, 2009

Pros of Resale

- Possible ↑ season ticket sales
- Increases attendance (Drayer et al., 2008)
  - Ancillary sales
  - Excitement and HFA
- Internet → ↓ uncertainty and improved markets
- Usual gains from trade
- Harrington (2010) shows that when states repealed anti-resale laws, quantity of tickets resold rose substantially while price remained fairly steady (NHL games)

Cons of Resale

- Purposeful low pricing can be thwarted by secondary markets
  - "True fan" problem
- Gain in CS may be captured by professional brokers
  - Although prices can sell for below face value
- "Bots" buy lots of tickets
  - TM uses technology to try to prevent this
- Counterfeit tickets and ill-will toward team/artist/venue
  - Online sites have guarantees
  - Technology is often integrated with primary seller