

The Economics of the International Live Music Business

Alan B. Krueger

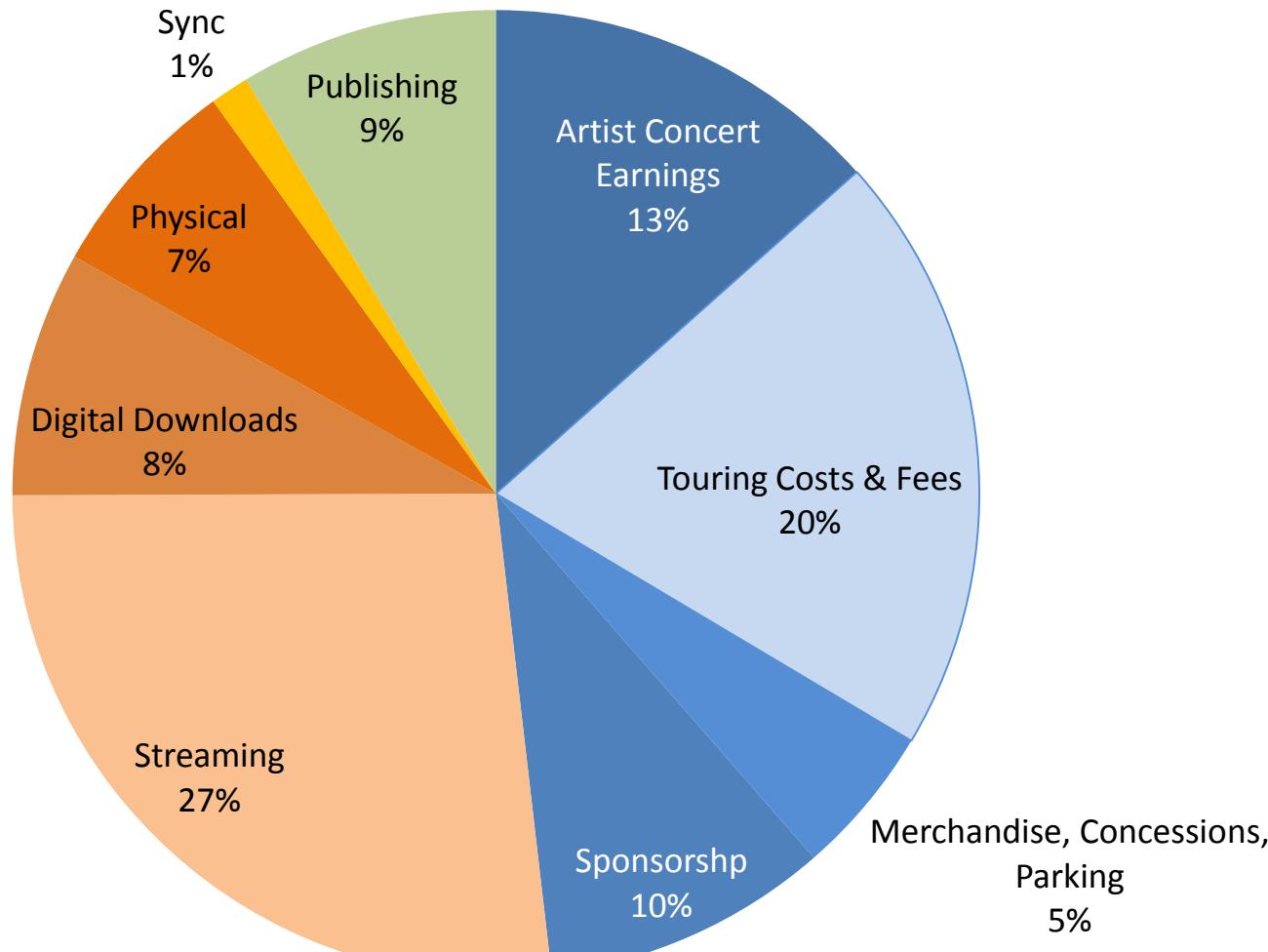
 @Alan_Krueger



Vienna
Music
Business
Research
Days



Division of Music Revenue, U.S.A., 2017

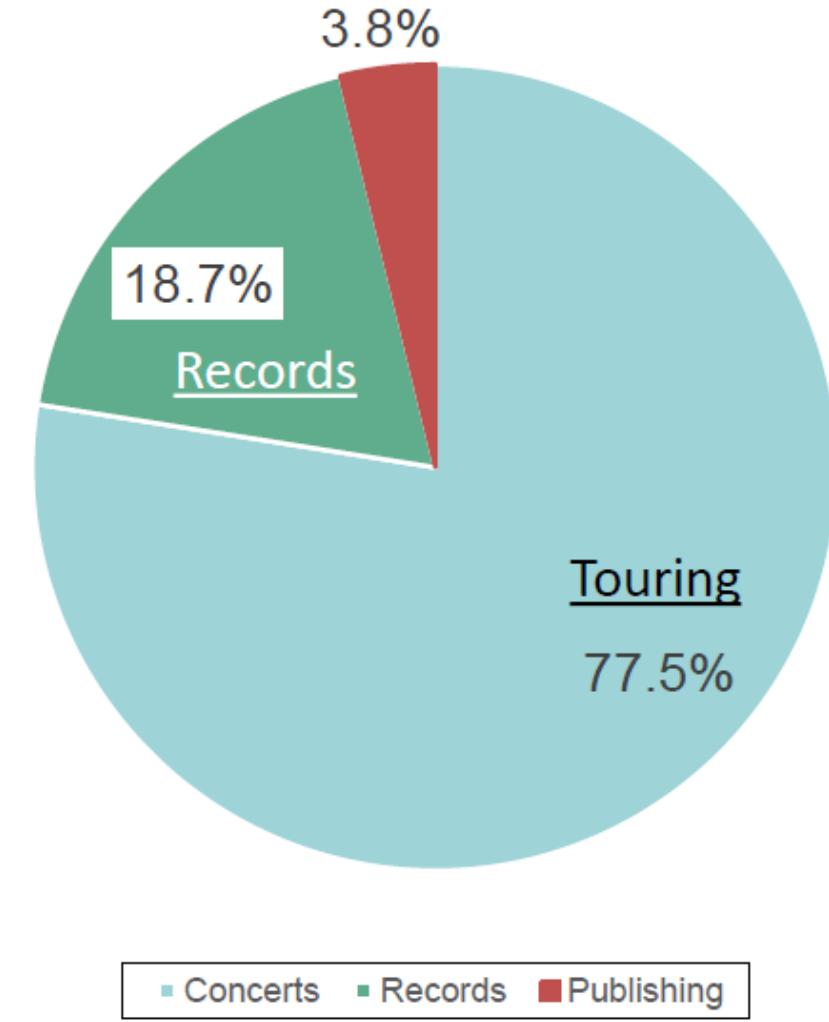


Source: Alan Krueger.

Gross income by source for top 35 artists who toured in 2016 (Mil. USD)

Rank	Artist	Live Concerts (touring)	Recordings (includes sales and streaming)	Publishing	Total Income
1	Beyonce	54.7	6.2	1.3	62.1
2	Guns N Roses	40.4	1.4	0.5	42.3
3	Bruce Springsteen	40.9	1.0	0.4	42.2
4	Drake	13.6	23.3	0.4	37.3
5	Adele	28.3	6.1	2.6	37.0
6	Coldplay	26.0	4.1	2.2	32.3
7	Justin Bieber	25.6	3.9	1.0	30.5
8	Luke Bryan	23.3	3.5	0.6	27.3
9	Kanye West	15.4	8.5	2.2	26.1
10	Kenny Chesney	23.5	1.5	0.3	25.4
11	Billy Joel	22.4	0.8	0.5	23.6
12	Rihanna	11.2	10.1	1.0	22.3
13	Twenty One Pilots	6.0	9.3	5.7	21.1
14	Carrie Underwood	17.8	1.8	0.3	19.9
15	Metallica	3.8	13.2	1.5	18.5
16	Paul McCartney	16.4	1.1	0.1	17.7
17	Future	13.9	2.2	0.8	17.0
18	Garth Brooks	8.2	7.7	0.1	16.0
19	Trans-Siberian Orchestra	15.1	0.7	0.1	16.0
20	Barbra Streisand	14.9	0.9	0.0	15.8
21	AC/DC	9.2	5.0	0.8	15.0
22	Dixie Chicks	14.2	0.5	0.1	14.8
23	Florida Georgia Line	10.5	3.5	0.6	14.6
24	Dave Matthews Band	13.7	0.5	0.3	14.4
25	Jason Aldean	11.7	2.6	0.0	14.3
26	Phish	13.5	0.2	0.1	13.7
27	Maroon 5	9.2	2.8	1.5	13.5
28	Zac Brown Band	10.4	1.9	0.5	12.8
29	Black Sabbath	11.3	0.9	0.3	12.4
30	blink-182	9.0	2.4	0.7	12.2
31	Jennifer Lopez	11.8	0.4	0.0	12.2
32	Elton John	10.6	1.2	0.3	12.1
33	Dead & Company	11.0	0.8	0.3	12.1
34	Keith Urban	8.9	2.2	0.4	11.4
35	The Rolling Stones	5.0	5.4	0.5	10.9
Average		16.6	3.9	0.8	21.3

Average of Top 35



Concerts Records Publishing

2018 Music Industry Research Association (MIRA) Musician Survey



2018 MIRA Musician Survey

- Survey of 1,227 musicians conducted April 12-June 2nd.
- Target Population: Individuals who earned a living as a musician or composer, or who were endeavoring to earn a living through making music.
- **Sample:** MusiCares' Clients (62%) and American List Council (30%) + Referrals (8%)
- Many questions taken from national surveys, so can compare to general public; focus on sources of income, mental health, drug use, challenges and opportunities; data available to MIRA Members; more details at: www.theMIRA.org.

Top 10 Genres Performed in Last Year

- Classical 37%
- Jazz 35%
- Pop 35%
- Folk 31%
- Blues 31%
- Country 28%
- Christian 27%
- Adult Contemporary 24 %
- Independent 23%
- Mainstream Rock 23%

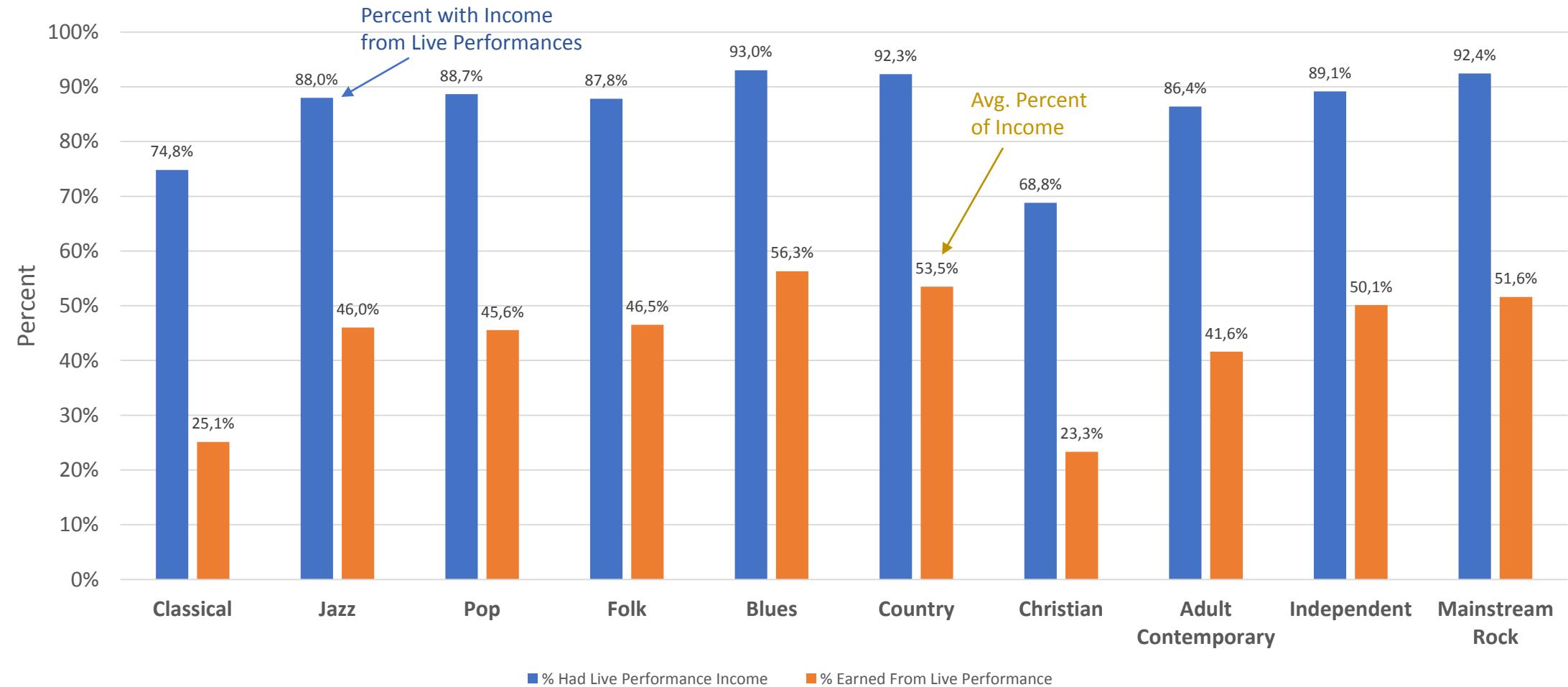


Table 1: Sources and Shares of Music-Related Income

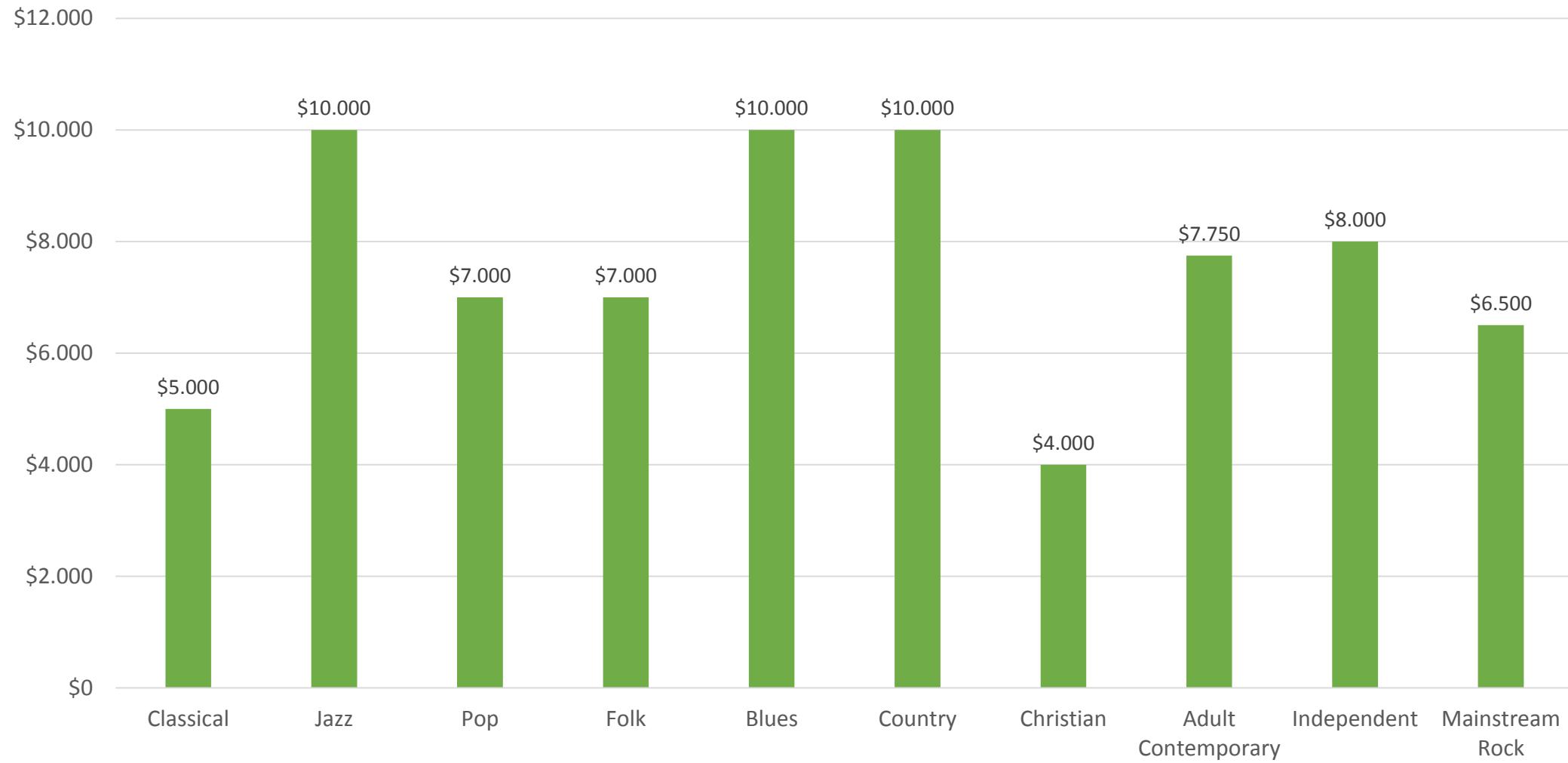
	Earned Income From	Share of Music- Related Income	Median Amount Earned
	(1)	(2)	(3)
Live Performances (Non-Religious)	80.8%	41.6%	\$5,427.50
Audio/Video Recordings	35.6%	3.6%	\$850.00
Songwriting/Composing	28.8%	4.2%	\$850.00
Salary from Band/Symphony/Ensemble	18.1%	4.9%	\$4,000.00
Merchandise Sales	27.4%	2.7%	\$500.00
Producing	14.7%	2.3%	\$2,000.00
Session/Sideman Fees	34.6%	4.0%	\$1,000.00
Fan Funding/Patronage	7.3%	1.3%	\$2,800.00
Sponsorship	5.0%	0.4%	\$2,000.00
YouTube Monetization	7.2%	0.1%	\$53.00
Streaming Royalties	28.1%	1.5%	\$100.00
Sheet Music Sales	6.0%	0.2%	\$112.50
Ringtones Revenue	3.7%	0.0%	\$300.00
Church, Choir, Other Religious	38.2%	15.9%	\$8,000.00
Record Label Advance	4.5%	0.3%	\$4,000.00
Give Music Lessons	41.8%	12.0%	\$4,000.00
Other Music Related	14.6%	5.1%	\$7,000.00

Note: Column 2 is the average share of music-related income from each source, taken over musicians. $\bar{s} = \sum_i^n s_i/n$ where s_i is musician i 's share of income from the source.

Income Earned from Live Performances, By Genre



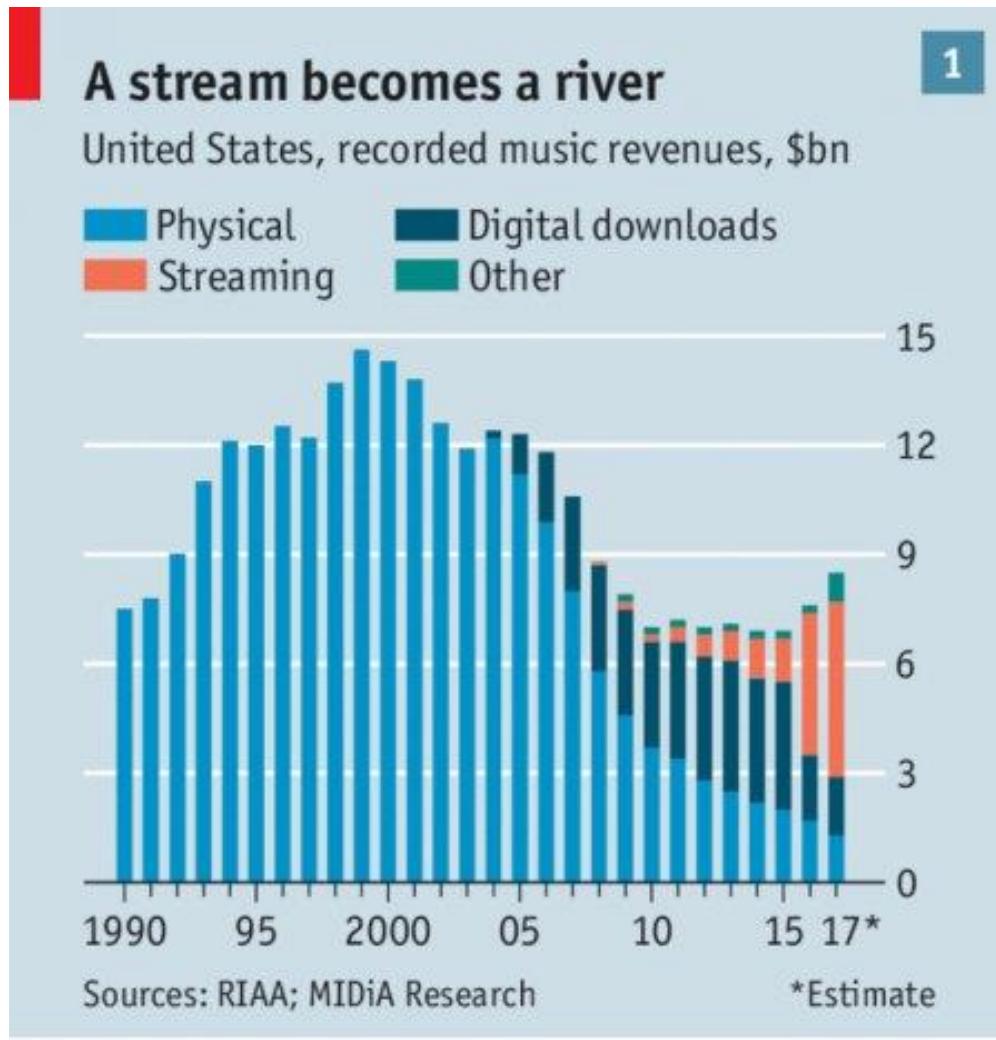
Median Income Earned from Live Performances, Conditional on Positive Income



Basic Economics of Pricing Tickets for Live Events

- Note: Very much a superstar market. Top 1% of performers earn 60% of total concert revenue worldwide. And top 1% have highest prices and most refined pricing strategies
- Price Discrimination – Segment audience (e.g., into better and worse seats) and charge more for those with higher willingness to pay.
- Dynamic Pricing – Like Airlines
- But social aspect of concerts constrain pricing: 1) More enjoyable for musicians and audience if show sells out; 2) Fairness considerations – artists don't want to be seen as gauging their fans.
- Leads to underpricing, especially of best seats
- Also leads to arbitrage opportunities for “scalpers” or ticket brokers and a secondary market for tickets
- Krueger Theory: Over time, entertainment events (concerts, sports, plays, etc.) begin to behave like a commodities market. Consumers come to accept price system as a mechanism for rationing.

Bowie Theory: Complementarities



“Music itself is going to become like running water or electricity. So it’s like, just take advantage of these last few years because none of this is ever going to happen again. *You’d better be prepared for doing a lot of touring because that’s really the only unique situation that’s going to be left.* It’s terribly exciting. But on the other hand it doesn’t matter if you think it’s exciting or not; it’s what’s going to happen.”

David Bowie
The New York Times
June 9, 2002

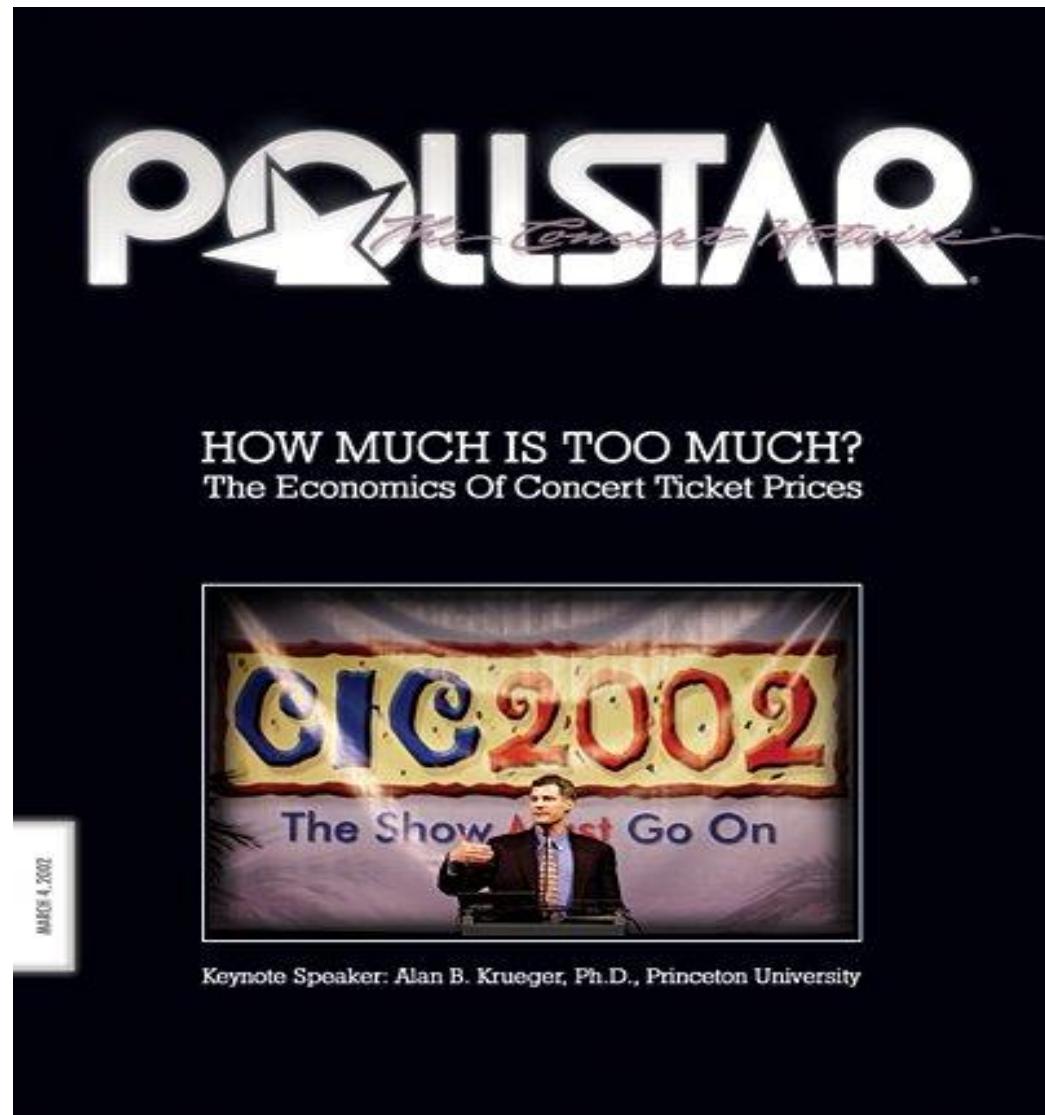


$$\frac{p_1 - C_1}{p_1} = \frac{1}{\varepsilon_{11}} - \frac{(p_2 - C_2)D_2 \varepsilon_{12}}{p_1 D_1 \varepsilon_{11}}$$



The Pollstar database by the numbers:

- 820,792 performances from 1981 to 2017
- 68,153 unique headliners
- \$125 billion in revenue
- 101 countries and over 6,000 cities
- All 50 US states
- 50,901 performances in 2016
- \$9.6 billion in revenue reported in 2016



Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Add Boxoffice

[Print Blank Form](#)

Please enter your Boxoffice information and click the "Submit Now" button when you're finished.

Note: Submission fields marked with * represent required information to complete your report.

If you have problems or exceptions (eg. missing artists/venues/promoters) that cannot be handled via this automated form, use the [standard form](#).

- » [View Boxoffice Reporting Policies](#)
- » [View Routebook Reporting Policies](#)

** For ESTIMATED EVENTS, use the [standard form](#) with start date that's between December 15-31. **

Contact Information

Name:

Company:

Phone:

Email:

Mon, Dec 11, 2017 7:54 AM

[Reset Form](#)

Box Office Information

Search Artists Search Venues [\(?\)](#)

***Event Start Date:** [\(?\)](#)
 [Search](#)
***# of Shows:**

***End Date:**

***Ticket (Low):** [\(?\)](#)

Ticket (High): [\(?\)](#)

Use Native Currency

***Sellable Capacity:** [\(?\)](#)

***Tickets Sold:** [\(?\)](#)

1-Show Only (Deduct Comps/Kills)

Paid Attendance Only (No Comps/Kills)

Percentage: Determined by Tickets Sold / (Sellable Capacity * # of Shows)

***Box Gross:** [\(?\)](#)

Use Native Currency

Promoter 1: In-house [\(?\)](#)
 [Search](#)
***Promoter 2:**
 [Search](#)
***Promoter 3:**
 [Search](#)
***Promoter 4:**
 [Search](#)
Comments: [\(?\)](#)

Indicate any discrepancies from our data, special concerns or feedback that Pollstar should consider.

 Copy of Submission

Check here if you would like a copy of your submission. The copy will be sent to the listed email in the Contact Information.

[Submit Now](#)[Reset Form](#)**Sellable Capacity** [\(?\)](#)

Represents the tickets available for sale for 1 show, or average tickets available on multiple date engagements. This does not include complimentary tickets or kills.

Tickets Sold

Represents total paid tickets for 1 show, or total paid tickets for entire multiple date engagements. This does not include complimentary tickets or kills.

Box Gross [\(?\)](#)

Represents gross receipt total from show, NOT net. NOT to include any fees. Ex: 15.50 or 5500.00.



Limitations:

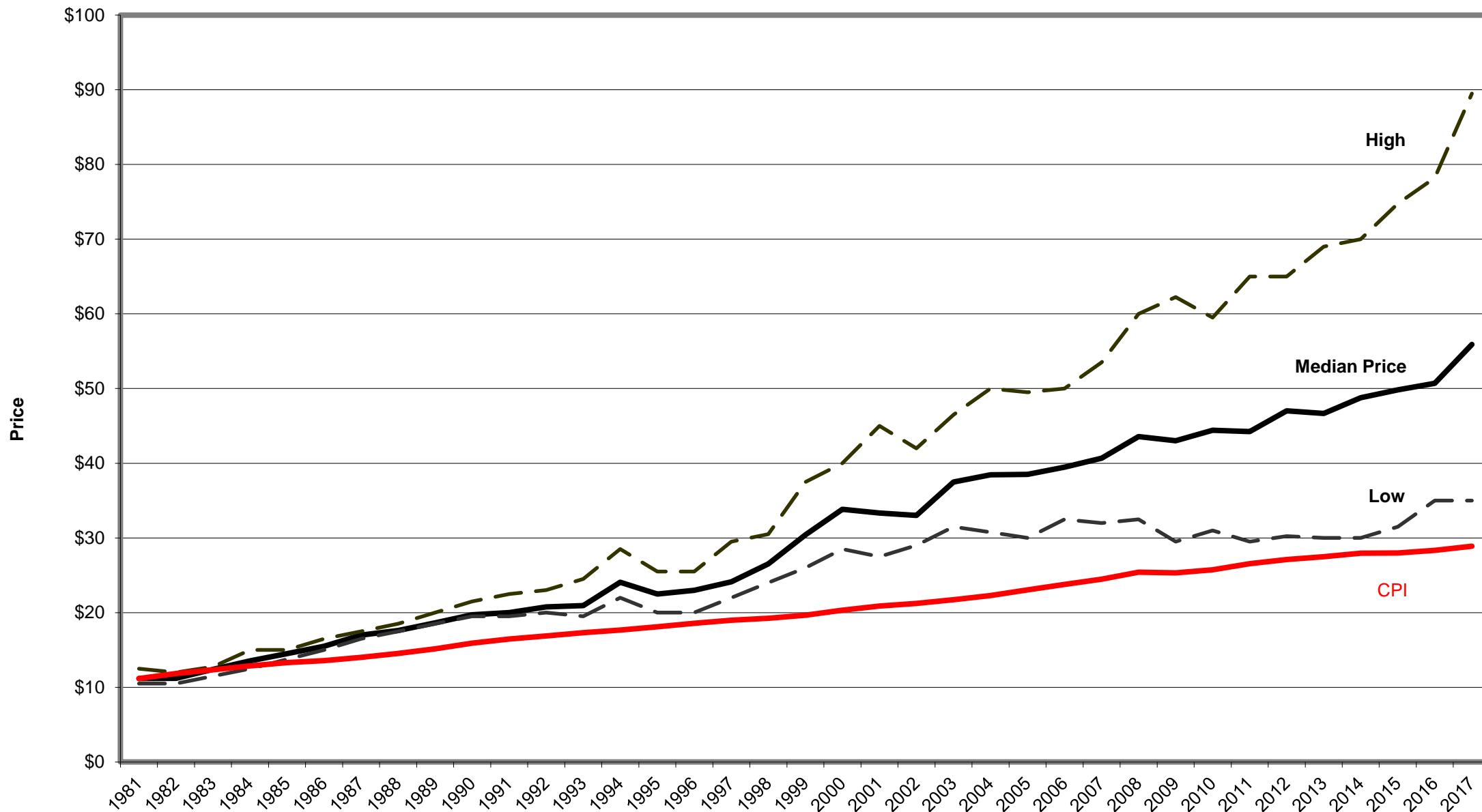
- Coverage increased over time, especially outside of North America after 1996
- No information on secondary market
- No information on concessions, parking, merchandise, sponsors, etc.
- Limited information on price tiers – average (revenue per ticket sold), high and low price



Source: www.usatoday.com

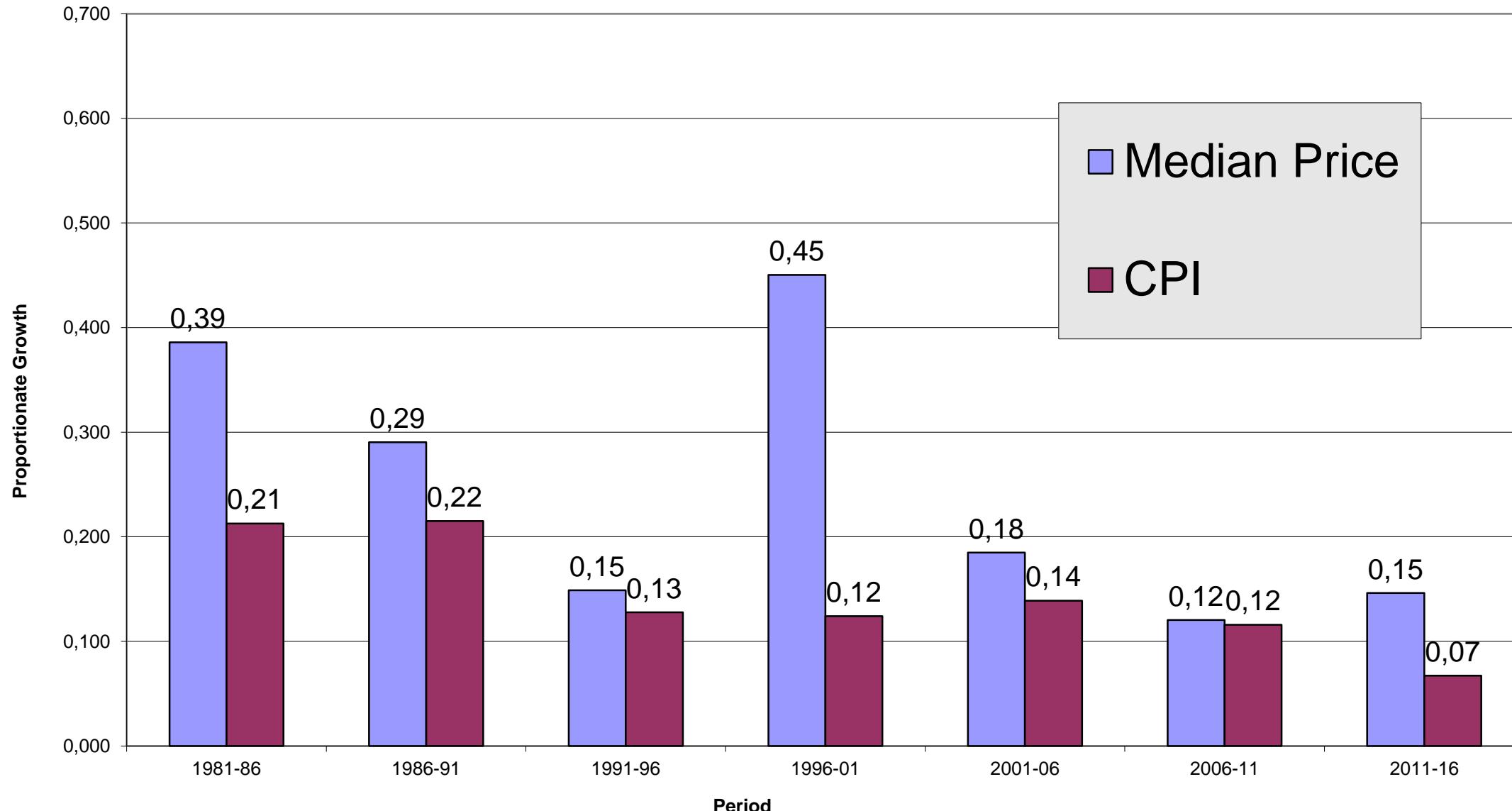
Median of Revenue per Ticket, High Price, and Low Price Tickets, and Overall Inflation Rate, 1981-2017

Note: Individual Events Weighted by Total Ticket Sales



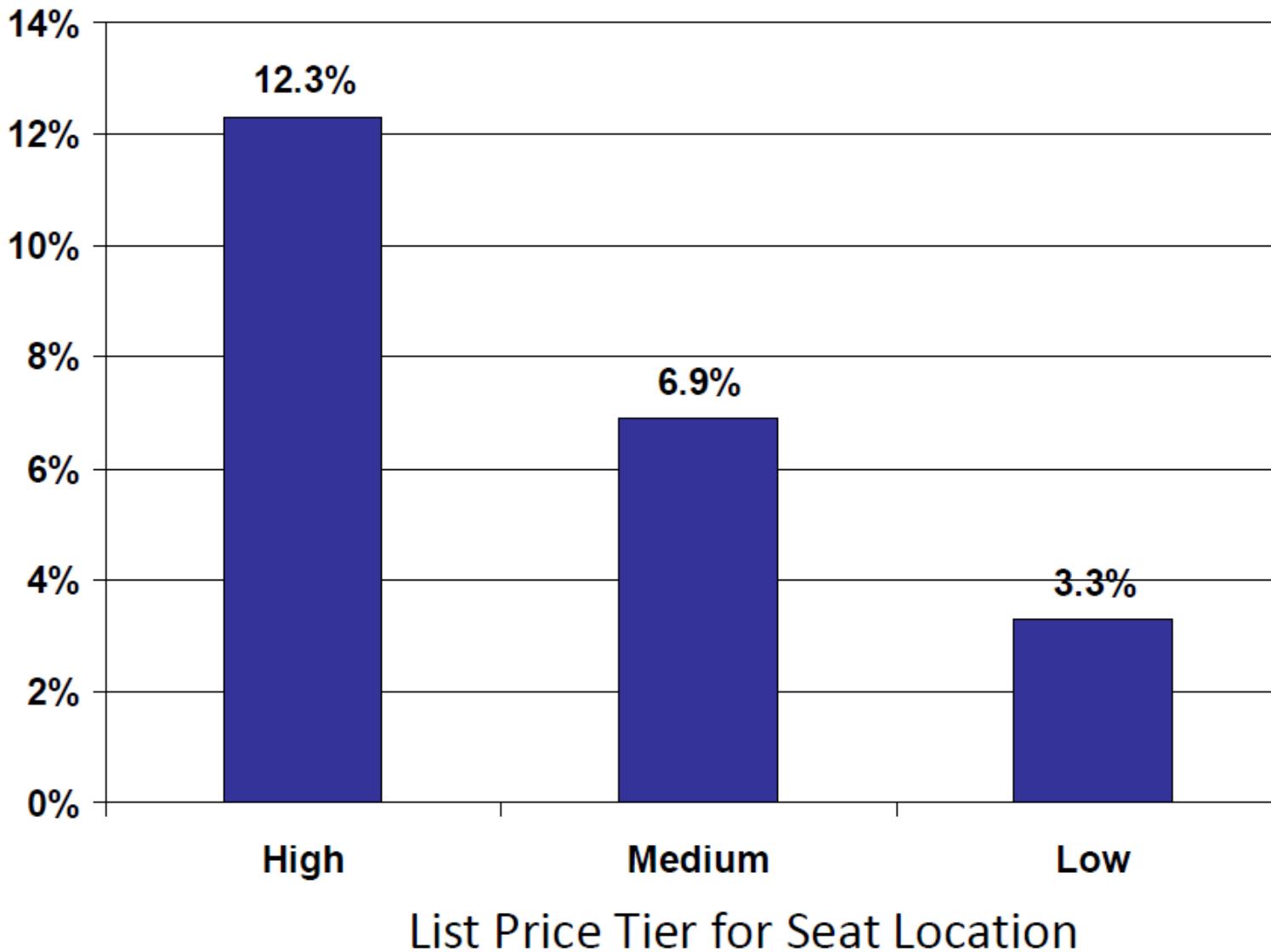
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Proportionate Growth in Median Price, Five Year Intervals, 1981-2016



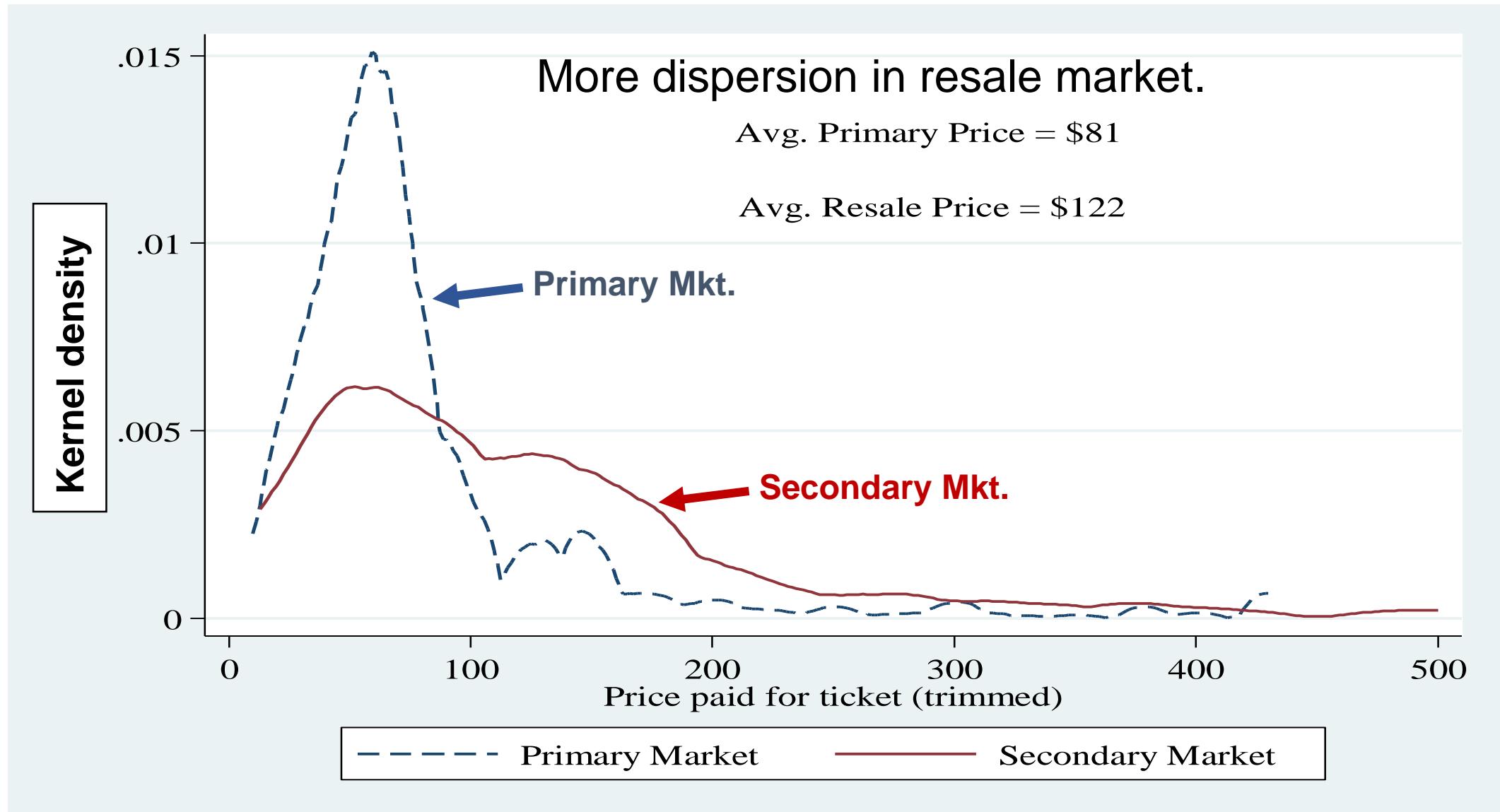
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Resale Rate by Primary Market Price Tier



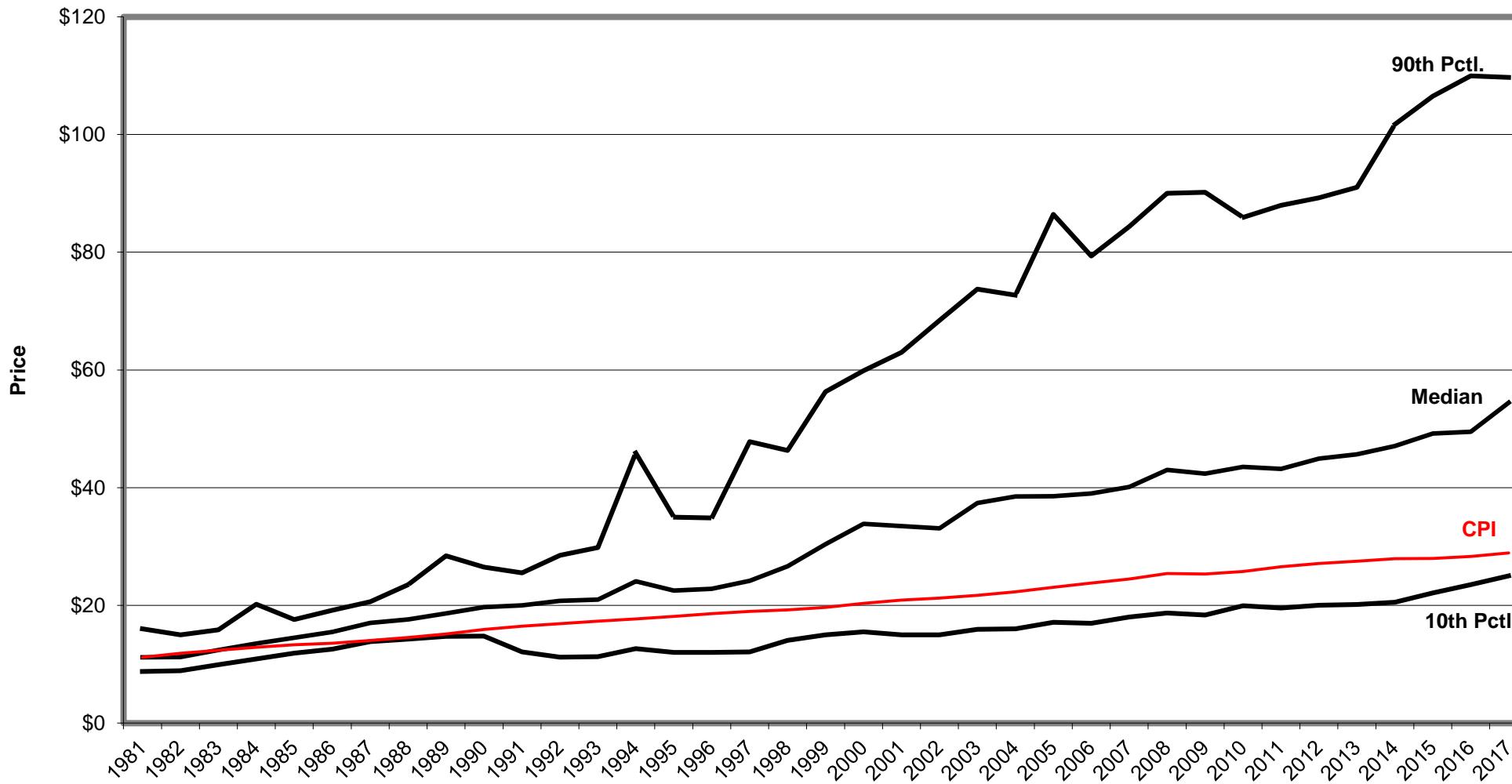
Source: Connolly and Krueger, 2006 survey of 30 concerts.

Histograms of Prices



Prices are Growing Faster at the Top

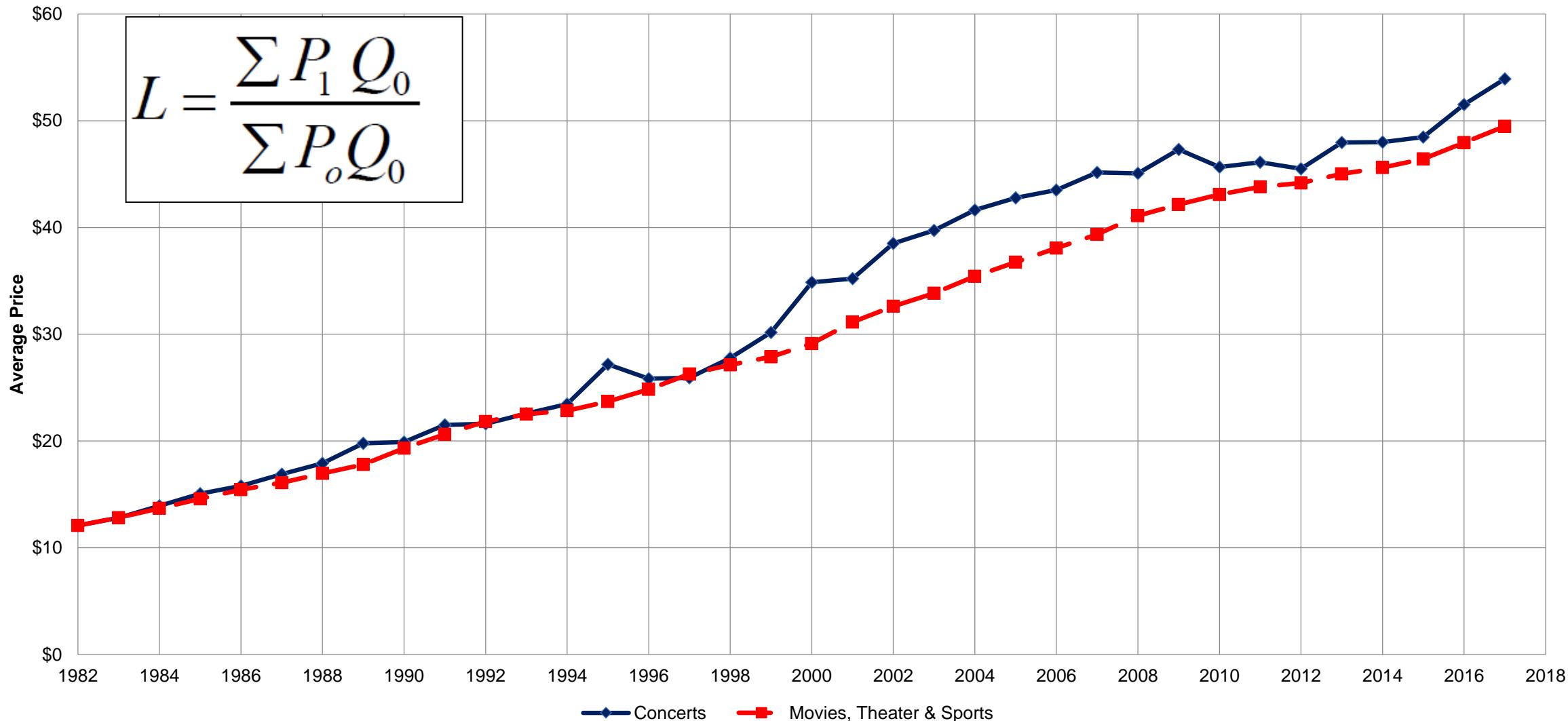
Price of the 90th, 50th, and 10th Percentile of Concert Prices for all Artists and Shows in the U.S.



Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

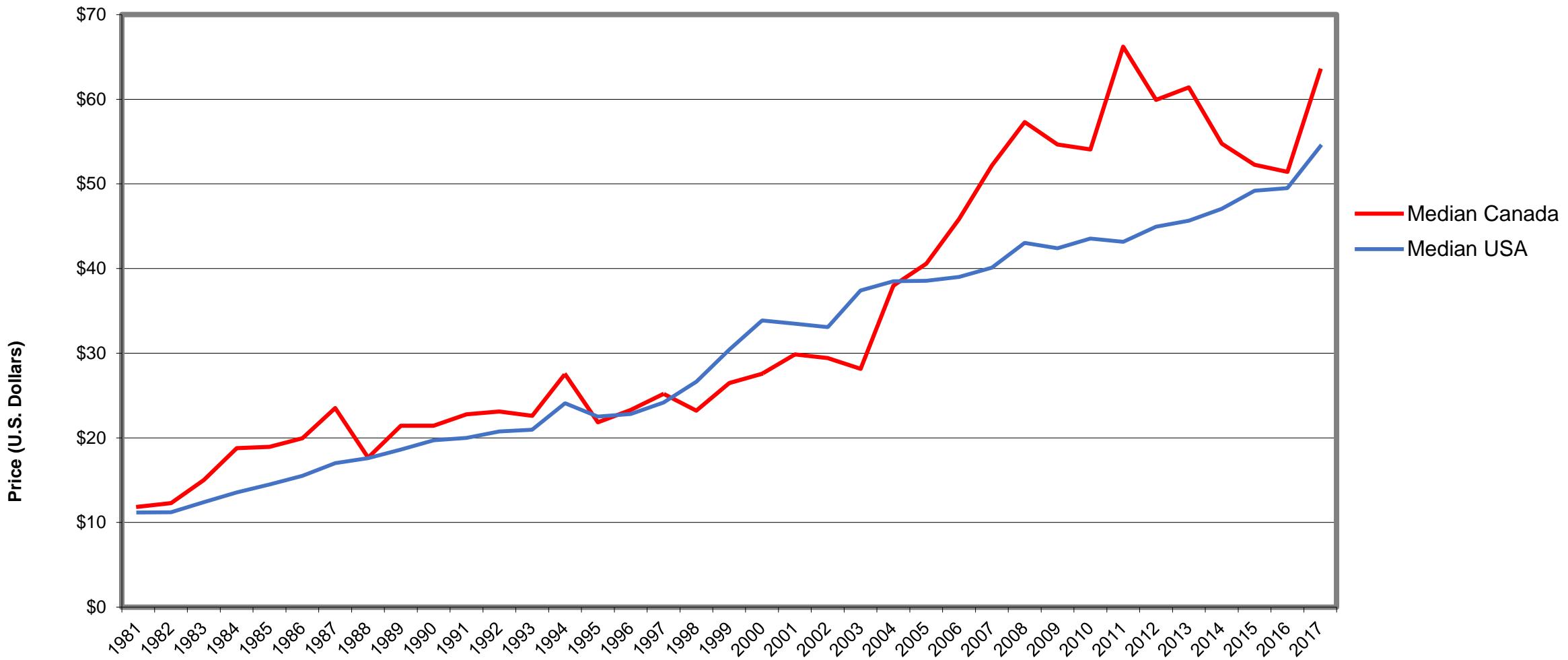
Concert Prices Tracked Movie, Theater and Sports Tickets Until 1997

Venue Laspeyres Price Index versus CPI-U for Movies, Theatre and Sports Events



Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

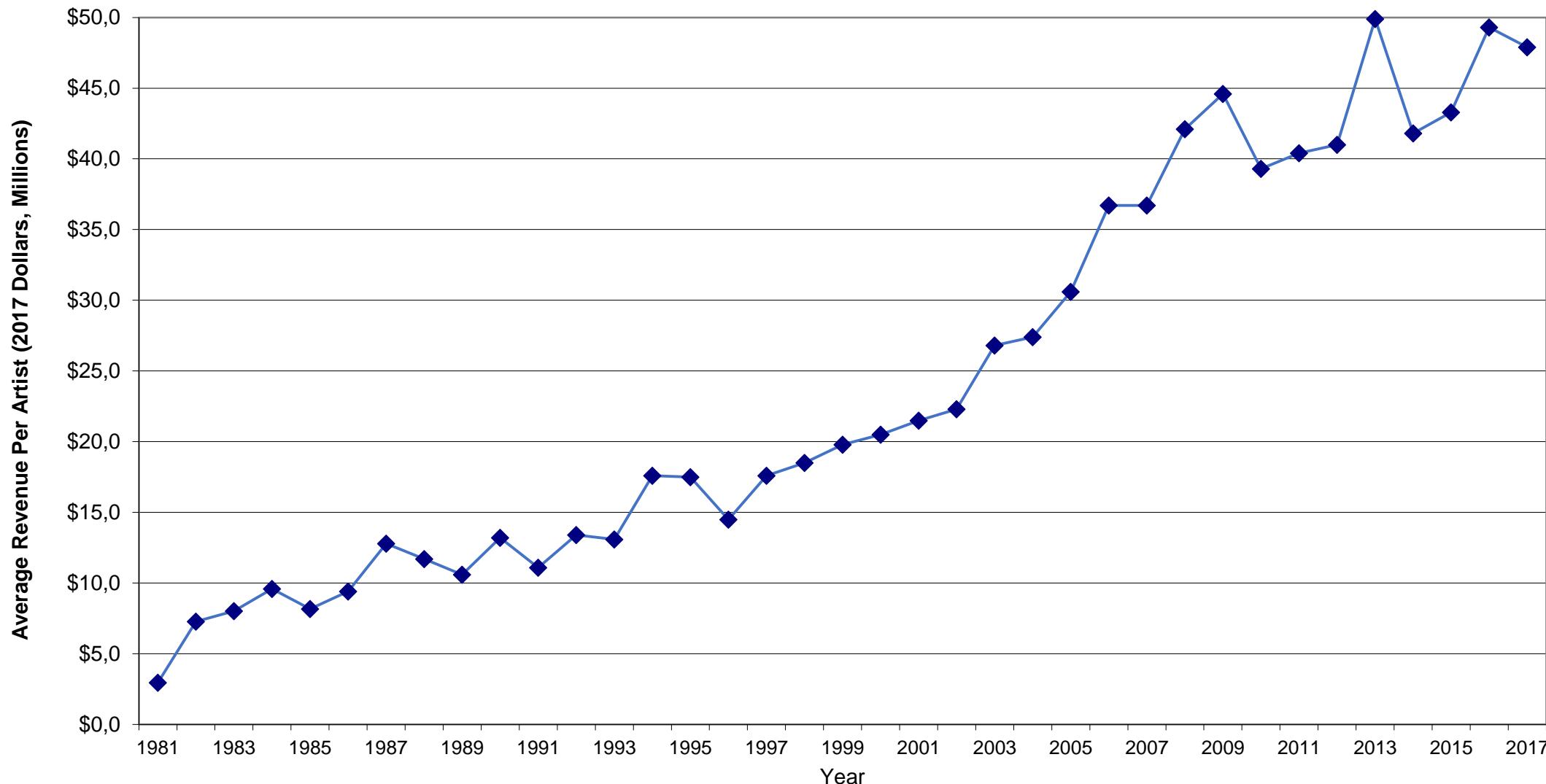
Median Concert Ticket Prices in The U.S. and in Canada



Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Average Annual Revenue for the *Top 100 Artists by Revenue*

2017 Dollars, World Wide



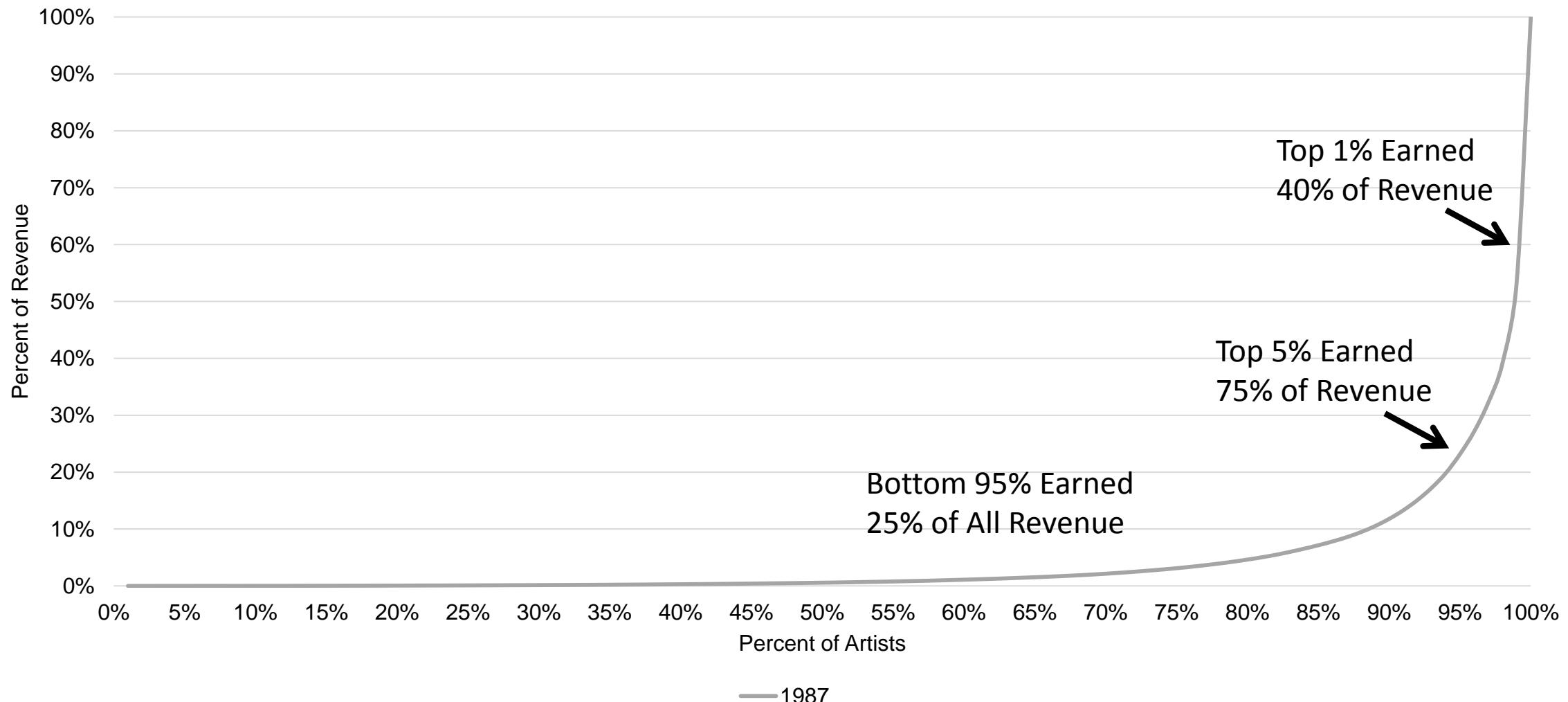
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

The Economics of Superstars

- Sherwin Rosen (*AER* 1981)
- If undergoing heart surgery, willing to pay a lot more for the best surgeon over the second best surgeon; Same with music
- Imperfect substitutes → Convex reward function
- Plus, size of market → Best can reach more customers because of *scale economies*
- Top talent/most popular earn a lot more than the next level
- Luck looms large – stars have to align to produce a superstar

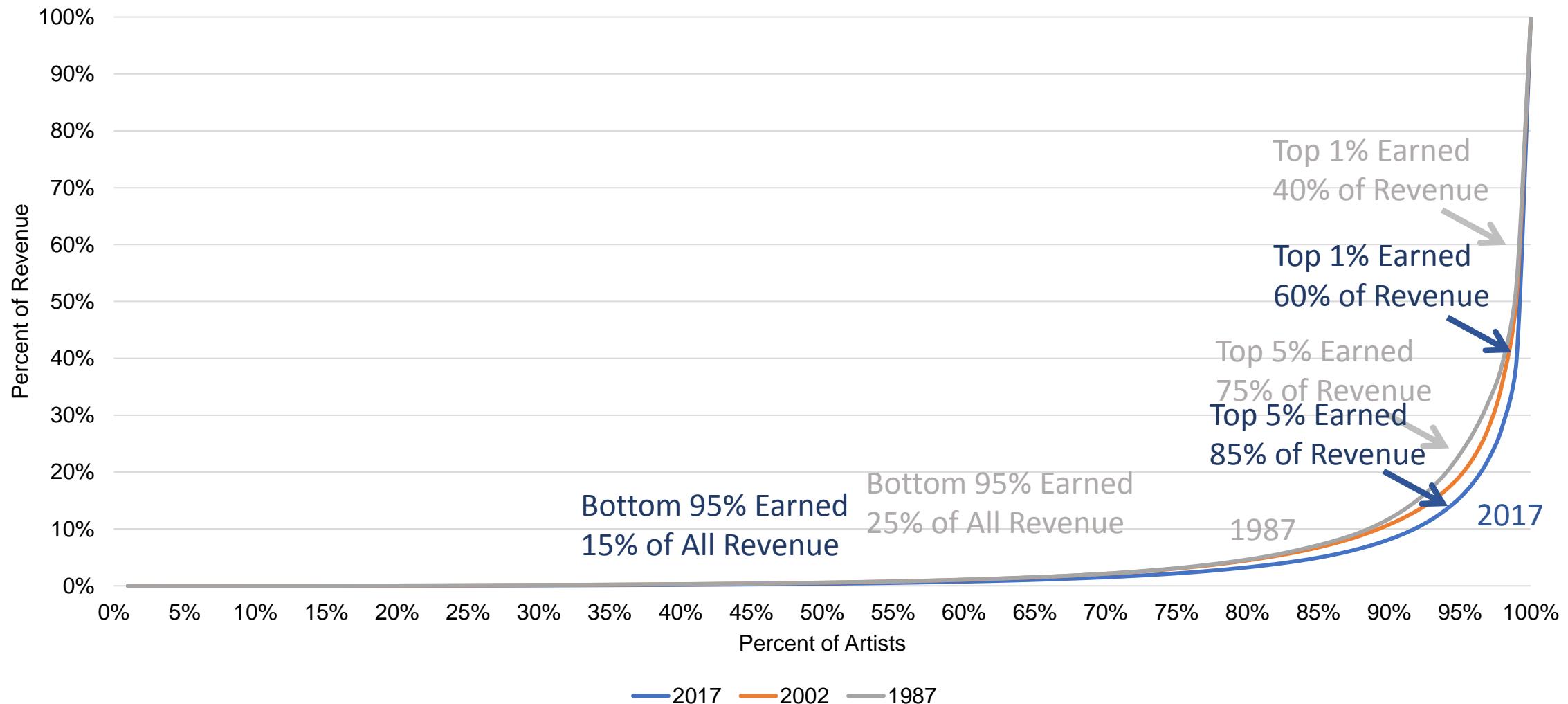


Lorenz Curve for 1987 (Share of Revenue & Share of Artists, Worldwide)



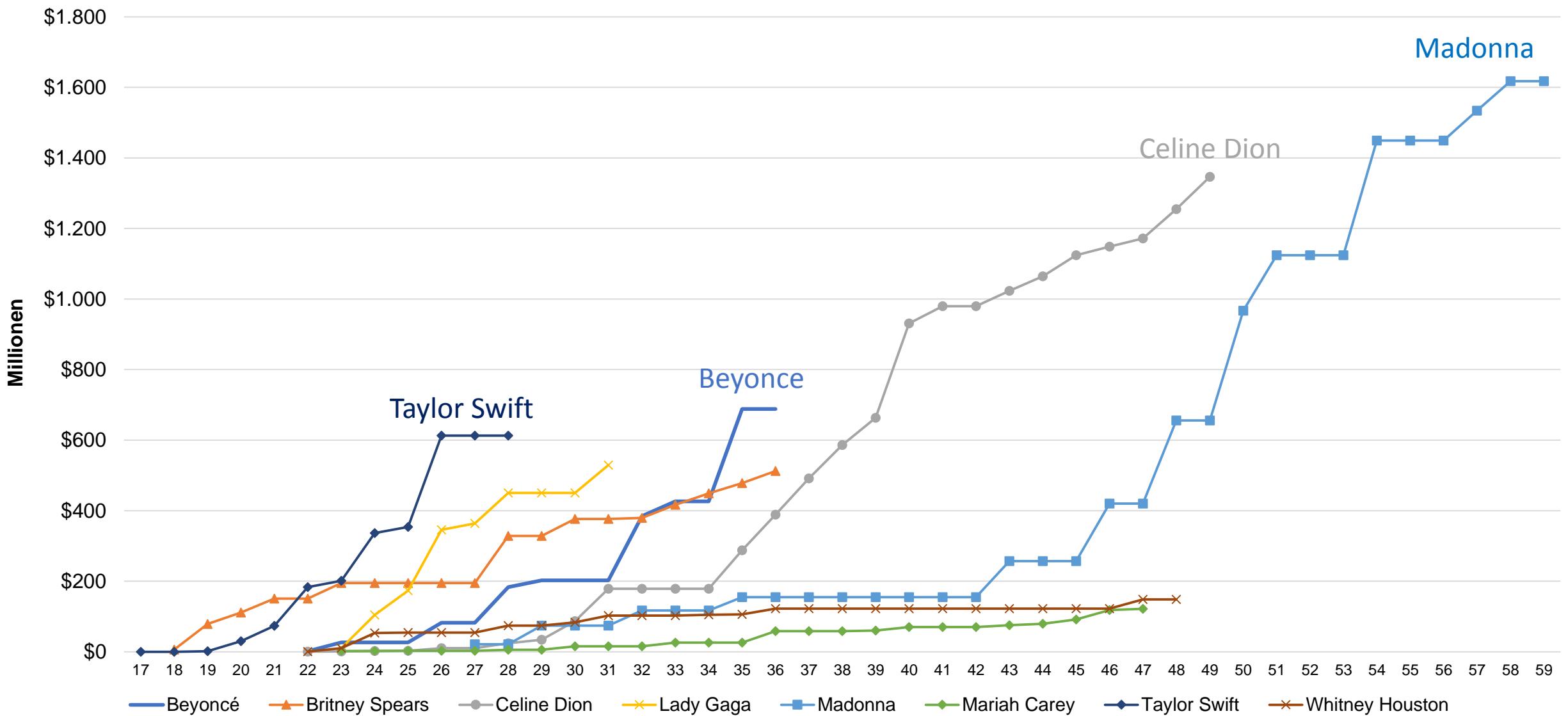
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Lorenz Curves for 1987, 2002 & 2017 (Share of Revenue & Share of Artists, Worldwide)



Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

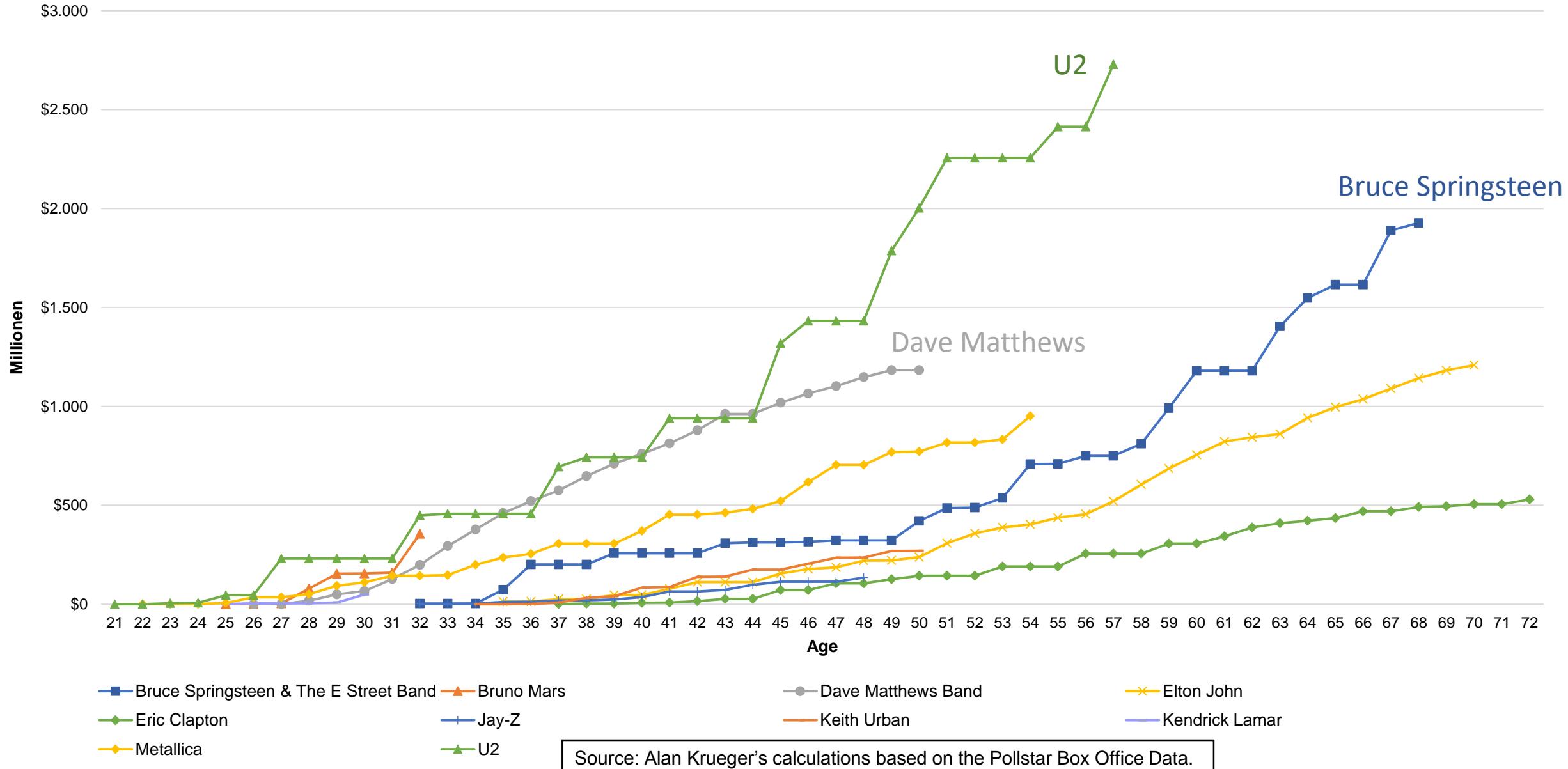
Cumulative Revenue Over Career, Selected Artists (2017 Dollars, Worldwide)



Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

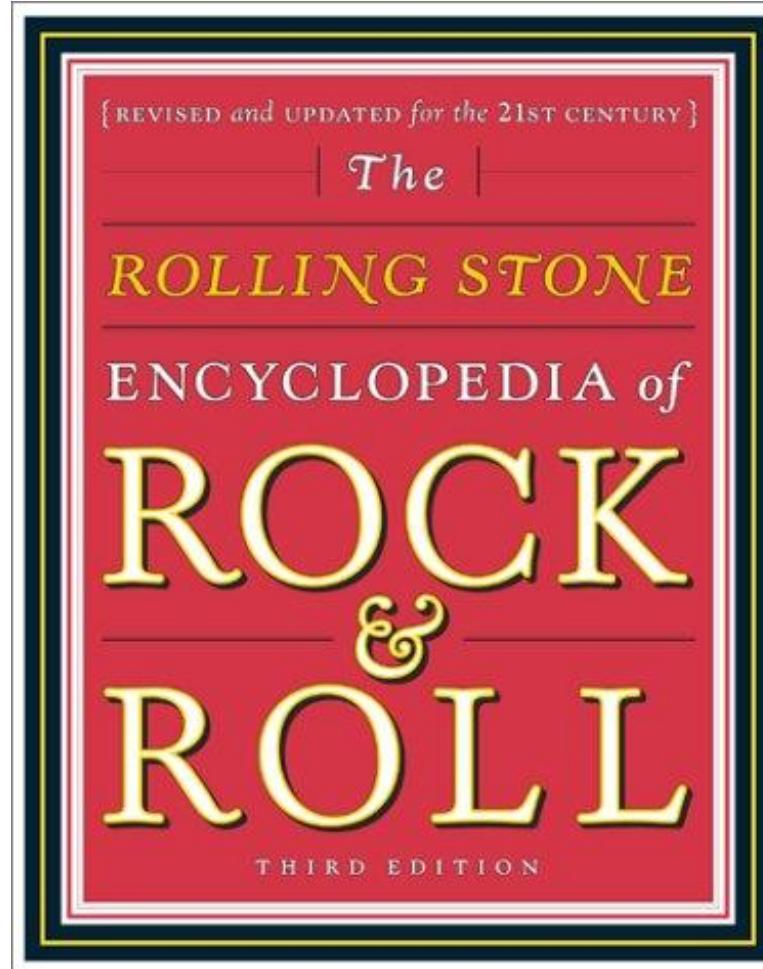
Note: Revenue adjusted for shows held before 1997 to account for under coverage of international shows.

Cummulative Revenue, Select Artists (2017 Dollars, Worldwide)



Consistent Universe of Artists

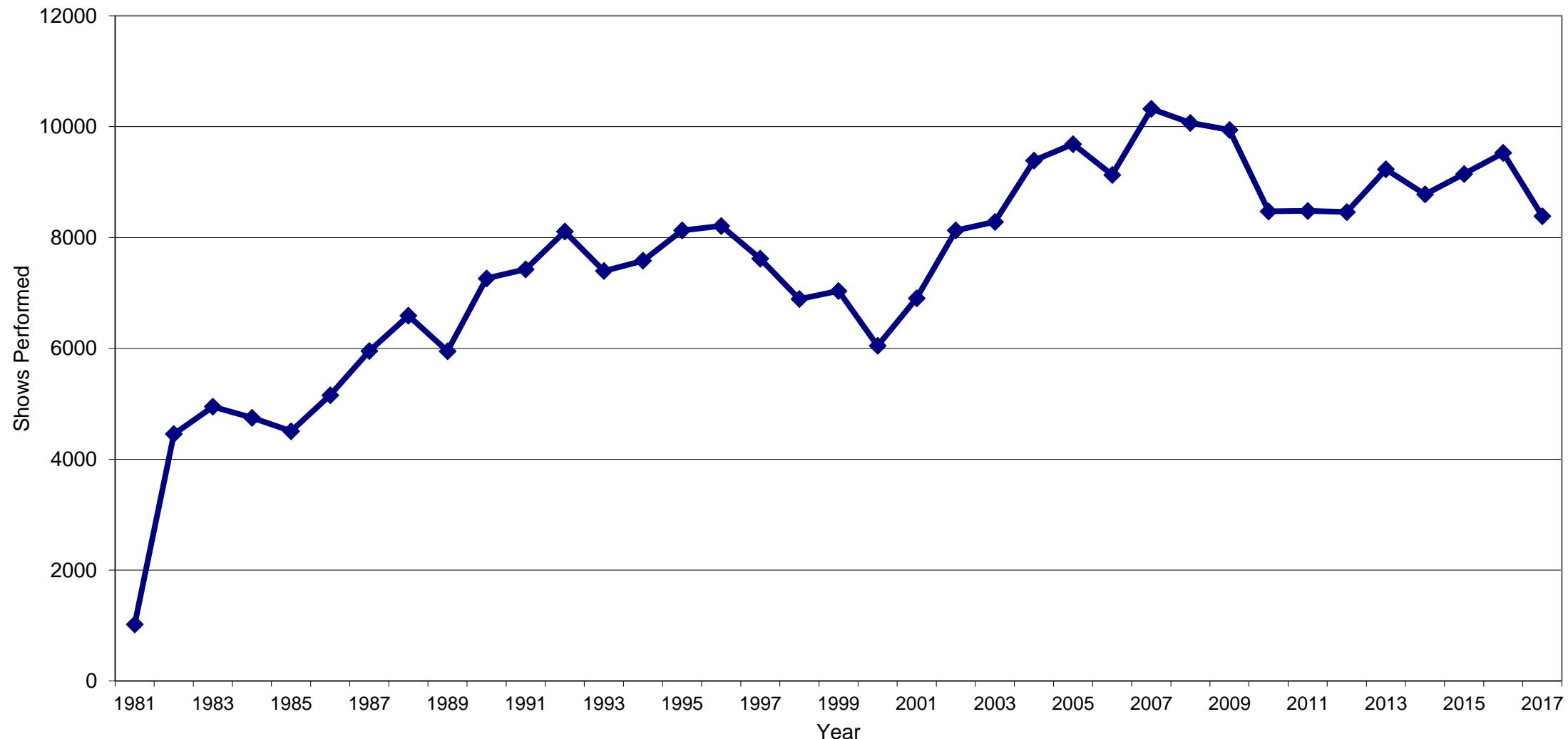
billboard
THE HOT
100



- October 2001 edition of Rolling Stone's *Encyclopedia of Rock and Roll*
- Billboard Year-End Hot 100 Song's Artists' 1960 - 2017
- Consistent universe of artists
- 3,635 artists, from *Abba* to *ZZ Top*; 2,161 in Pollstar database
- Represent 3.63% of total artists in Pollstar database
- Responsible for 60.82% of ticket sales, 1981 – November, 2017

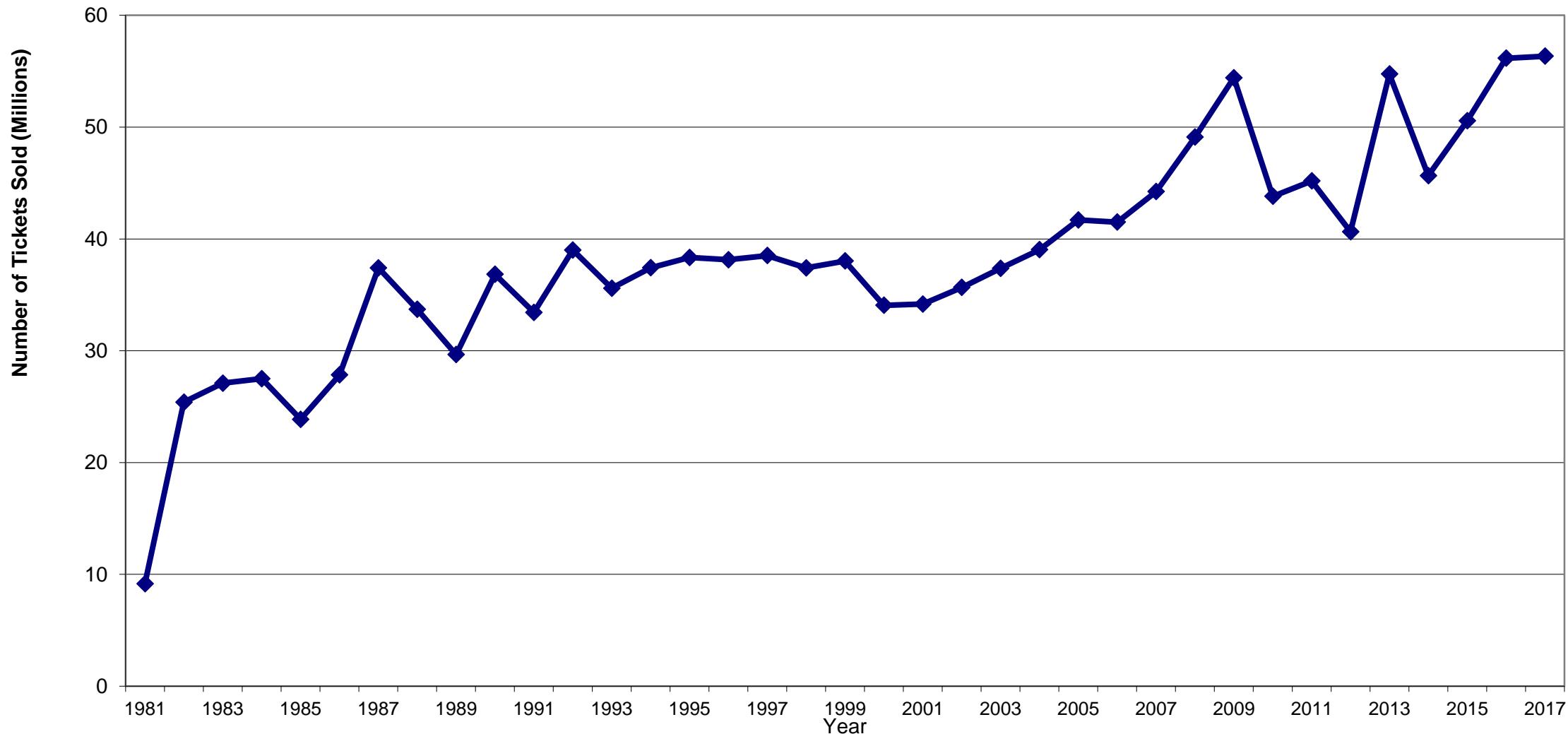
Number of Shows Each Year

Rolling Stones Encyclopedia & Annual Billboard Top 100 Songs' Artists (Worldwide)



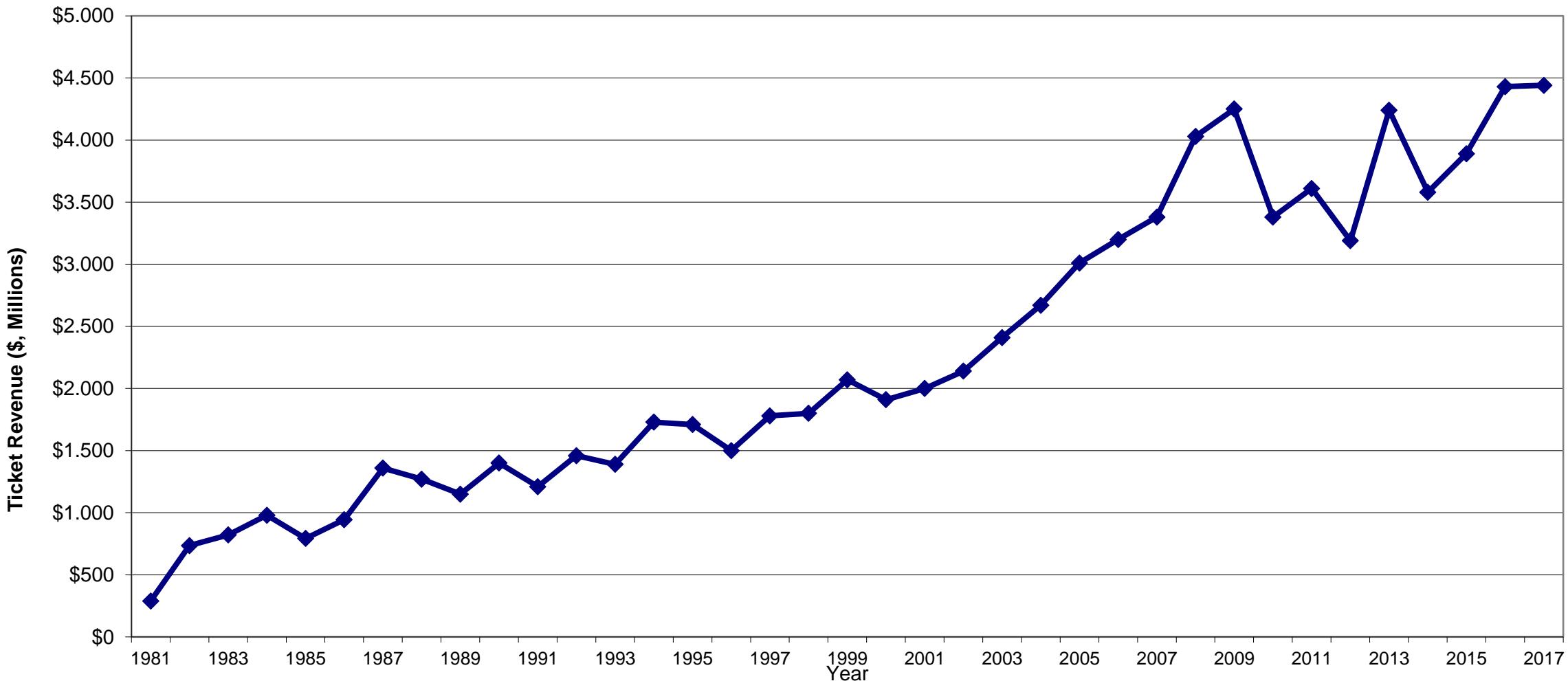
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Number of Tickets Sold Each Year Rolling Stone Encyclopedia & Billboard Top 100 Songs' Artists (Worldwide)



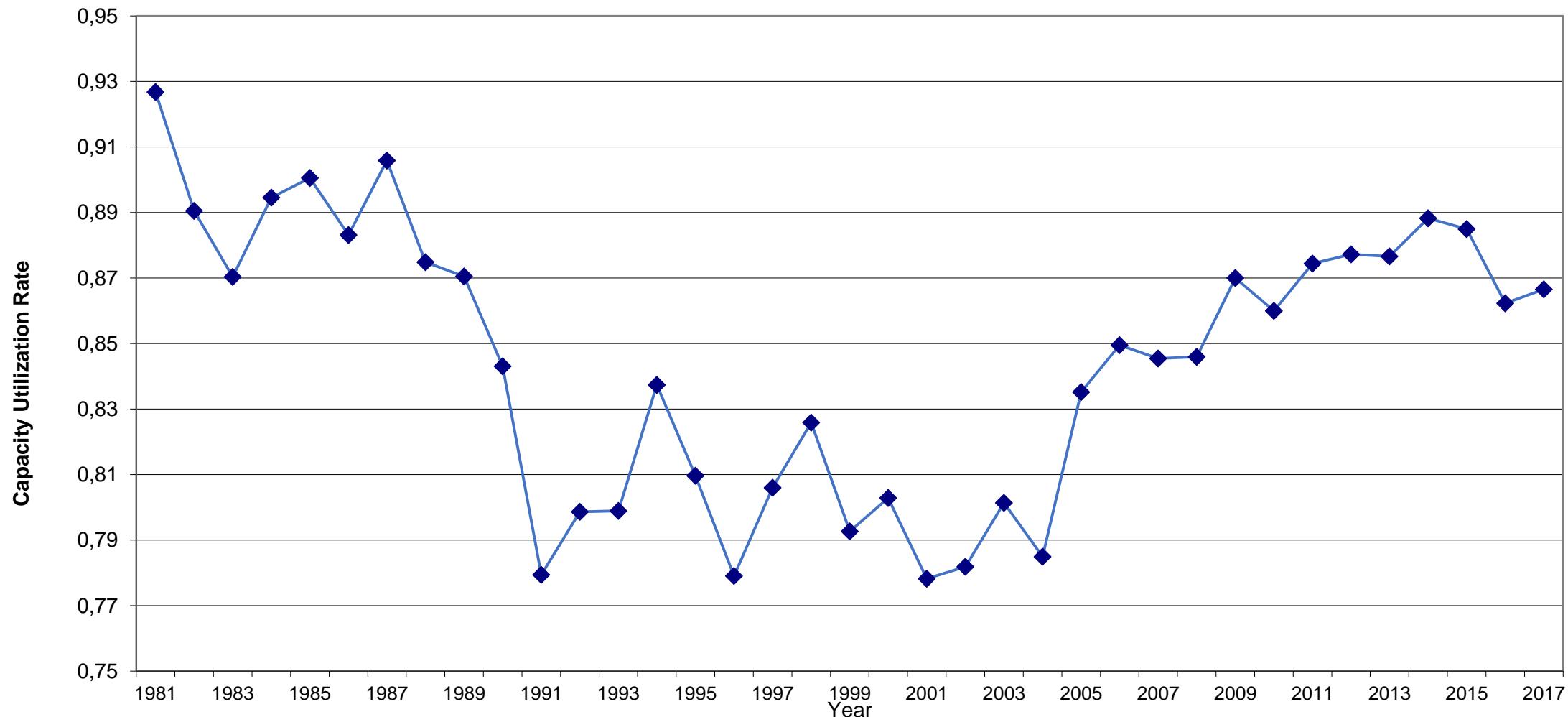
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

**Total Ticket Revenue in 2017 Dollars
Rolling Stone Encyclopedia & Annual Billboard Top 100 Songs' Artists (Worldwide)**



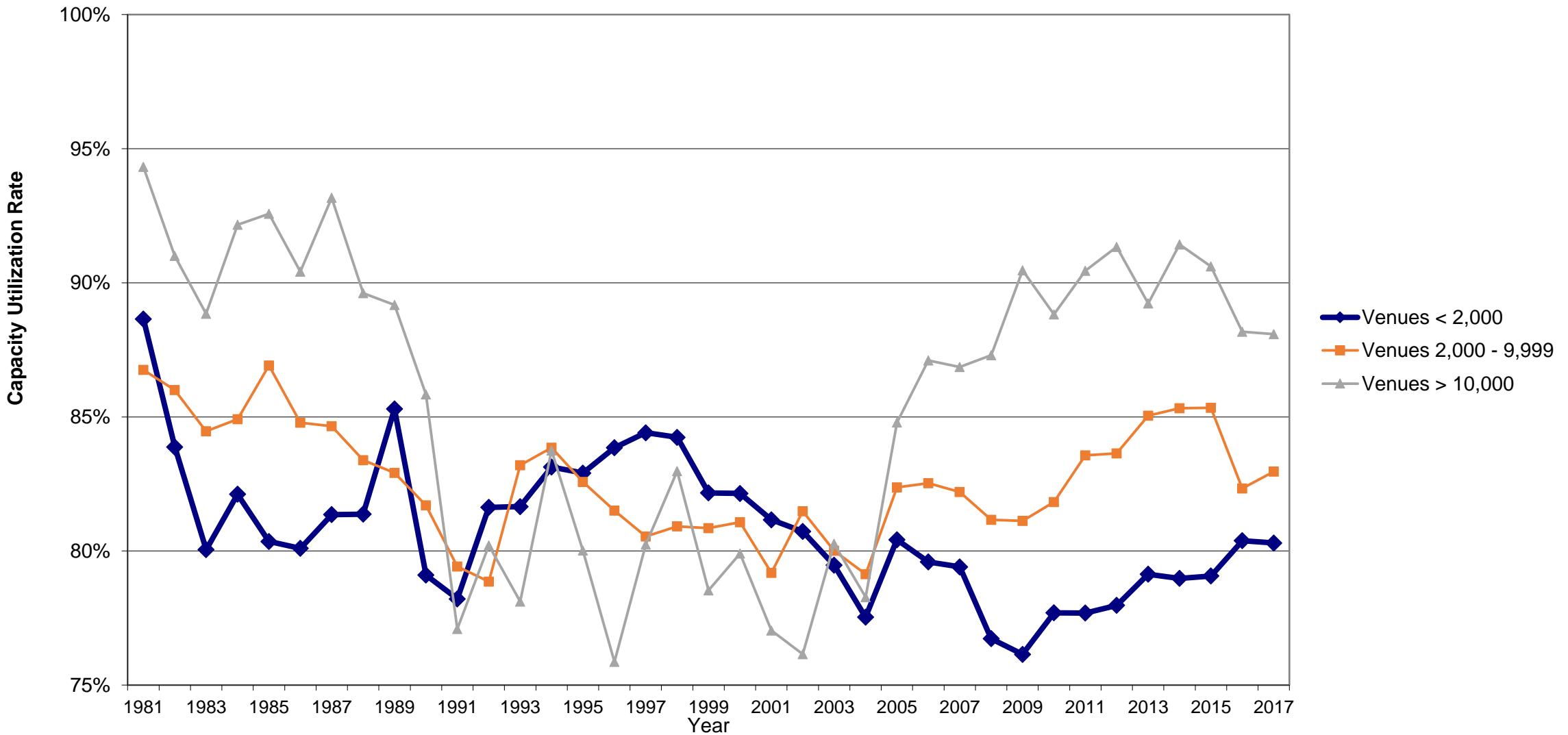
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

**Capacity Utilization Rate for Concerts held by Artists appearing in the Rolling Stone Encyclopedia
and the Annual Billboard Top 100 Songs (Worldwide)**



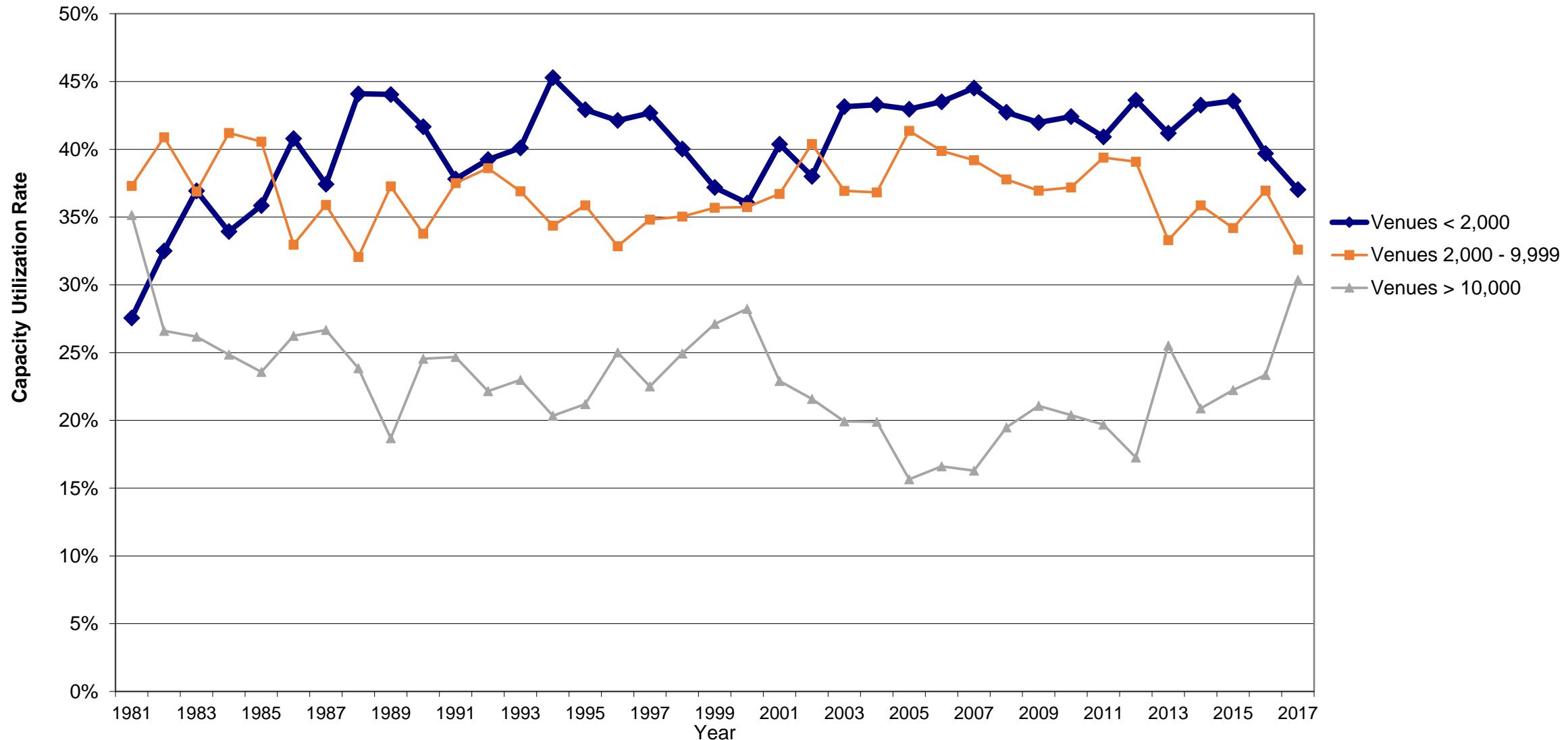
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Capacity Utilization Rate for Concerts held by Artists Appearing in the Rolling Stone Encyclopedia or the Annual Billboard 100 Songs by Venue Size (Worldwide)



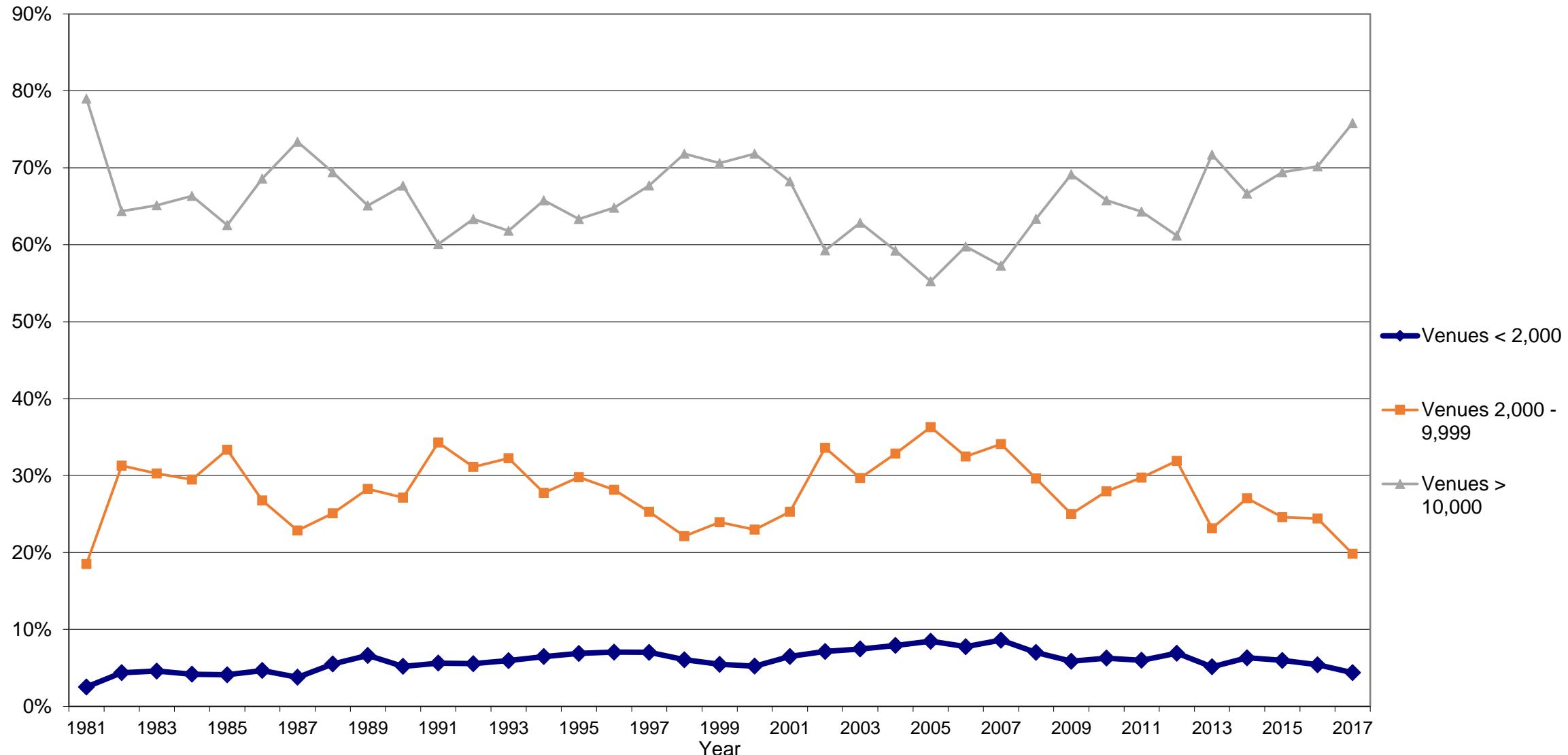
Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Share of Concerts held by Artists Appearing in the Rolling Stone Encyclopedia or the Annual Billboard 100 Songs by Venue Size



Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Share of Tickets Sold by Artists Appearing in the Rolling Stone Encyclopedia or the Annual Billboard 100 Songs by Venue Size



Source: Alan Krueger's calculations based on the Pollstar Box Office Data.

Conclusions & Future Research Directions

- Concert prices have continued to grow faster than consumer price inflation
- Arena shows have rebounded – Healthy Market for Live Music
- Live market is even more of a superstar affair

Future Research

- Estimate price differentials by city holding artists constant, and link to wages, income, etc.
- Link with streaming data by city/performer
- Model career trajectories