Course 3 - A Focus on the Music Industry

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Introduction

Rosen [1981] writes:

> Performers of first rank comprise a limited handful out of these small totals and have very large incomes. There are also known to be substantial differences in income between them and those in the second rank, even though most consumers would have diffi- culty detecting more than minor differences in a "blind" hearing.

What Sherwin Rosen says is that there are very few differences in talents at the very top.

> The elusive quality of "box office appeal," the ability to attract an audience and gener- ate a large volume of transactions, is the issue that must be confronted. Recognition that one's personal market scale is important ,1 in the theory of income distribution has a long history, but the idea has not been devel- oped very extensively in the literature.2 I hope t
>
> Rest assured that prospective impresarios will receive no guidance here on what makes for box office appeal, sometimes said to involve a combination of talent and charisma in uncertain proportions. In the formal model all that is taken for granted and represented by a single factor rather than by two, an index q labeled talent or quality.
>
> Albert Rees is a good introduction to the size distribution of income. The selectivity effects of differential talent and comparative advantage on the skew in income distributions are spelled out in my 1978 article, also see the references there. Melvin Reder's survey touches some of the issues raised here. Of course social scientists and statisticians have had a long standing fascination with rank-size relationships, as perusal of the many entries in the Encyclopedia of the Social Sciences will attest.

0.1 Data on the size of concert halls

1 Data on the number of downloads on the Apple Store?

2 Data on the Number of listens on Spotify?

3 Highest Grossing tours

3.1 Data

More and more music revenue for highest grossing tours?

```
data.tours <- "https://en.wikipedia.org/wiki/List_of_highest-grossing_concert_tours" %>%
  read_html %>%
  html_table(header = TRUE, fill = TRUE)

data.tours[[1]][, c(1, 2, 3, 4)] %>%
  as.tibble
```

```
## # A tibble: 20 x 4
##     Rank `Actual gross` `Gross adjusted for inflat~ Artist
##    <int> <chr>          <chr>                       <chr>
##  1     1 $736,421,584   $801,130,818                U2
##  2     2 $558,255,524   $658,868,741                The Rolling Stones
##  3     3 $523,033,675   $533,331,898                Coldplay
##  4     4 $480,900,000   $490,368,636                Guns N' Roses
##  5     5 $458,673,798   $481,869,587                Roger Waters
##  6     6 $441,121,000   $495,041,025                AC/DC
##  7     7 $408,000,000   $465,399,721                Madonna
##  8     8 $389,047,636   $472,277,371                U2
##  9     9 $364,300,000   $364,300,000                Garth Brooks and Tris~
## 10    10 $362,000,000   $411,460,278                The Police
## 11    11 $355,600,000   $405,627,796                Bruce Springsteen and~
## 12    12 $320,000,000   $513,928,805                The Rolling Stones
## 13    13 $316,990,940   $316,990,940                U2
## 14    14 $311,000,000   $413,729,016                The Rolling Stones
## 15    15 $306,500,000   $312,534,803                Bruce Springsteen and~
## 16    16 $305,158,363   $325,284,041                Madonna
## 17    17 $301,000,000   $301,000,000                Billy Joel
## 18    18 $290,178,452   $299,967,998                One Direction
## 19    19 $279,200,000   $318,479,417                Celine Dion
## 20    20 $275,700,000   $284,640,994                Paul McCartney
```

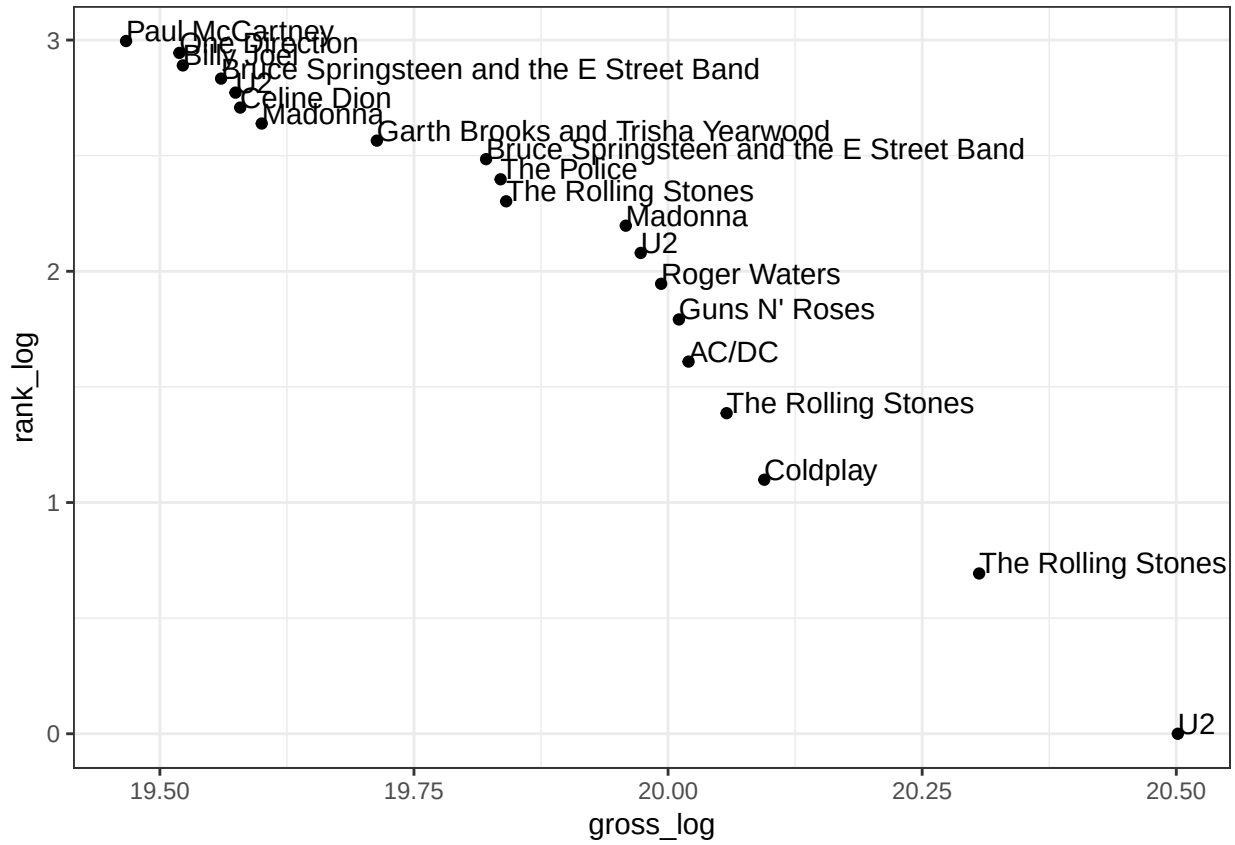
```
names(data.tours[[1]])
```

```
##  [1] "Rank"
##  [2] "Actual gross"
##  [3] "Gross adjusted for inflation(2018 $)"
##  [4] "Artist"
##  [5] "Tour name"
##  [6] "Year(s)"
##  [7] "Shows"
##  [8] "Attendance"
```

```
##  [9] "Average gross per show (millions)"
## [10] "Average attendance per show"
## [11] "Ref."
```

4 Plot

```
data.tours[[1]][, c(1, 2, 3, 4)] %>%
  as.tibble %>%
  select(gross = "Gross adjusted for inflation(2018 $)", "Artist") %>%
  mutate(gross = gross %>% substr(2, 13) %>% gsub(",", "", .) %>% as.numeric) %>%
  arrange(-gross) %>%
  mutate(rank = 1:n()) %>%
  mutate(rank_log = log(rank),
         gross_log =log(gross)) %>%
  ggplot(aes(x = gross_log, y = rank_log, label = Artist)) + geom_point() + theme_bw() +
  geom_text(aes(label = Artist), hjust = 0, vjust = 0)
```



References

Sherwin Rosen. The Economics of Superstars. *The American Economic Review*, 71(5):845–858, 1981. ISSN 0002-8282. URL http://www.jstor.org/stable/1803469.