

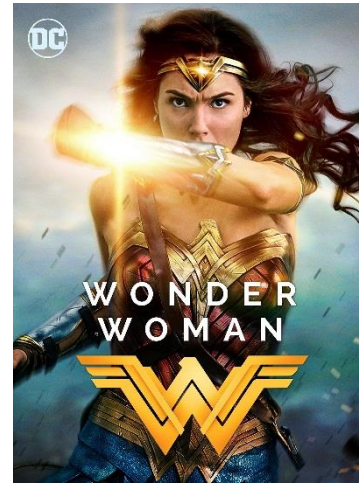
# Platform Market Structures: Superstars vs. the Long Tail

Competitive Strategies Within and Between Platform Markets

Lecture 5

Joost Rietveld | University College London (UCL)

# Let's talk about movies for a change...



## Top 5 movies released in 2017 by total North American box office receipts

| Rank | Title                             | Opening weekend | Total box office | Max theater count | Box office per theater |
|------|-----------------------------------|-----------------|------------------|-------------------|------------------------|
| 1    | Star Wars Ep. VIII: The Last Jedi | \$220,009,584   | \$618,710,718    | 4,232             | \$146,198.18           |
| 2    | Beauty and the Beast              | \$174,750,616   | \$504,014,165    | 4,210             | \$119,718.33           |
| 3    | Wonder Woman                      | \$103,251,471   | \$412,563,408    | 4,165             | \$99,054.84            |
| 4    | Guardians of the Galaxy Vol 2     | \$146,510,104   | \$389,813,101    | 4,347             | \$89,674.05            |
| 5    | Jumanji: Welcome to the Jungle    | \$36,169,328    | \$387,284,215    | 3,849             | \$100,619.44           |

Source: The Numbers.com, total number of US releases in 2017 = 615, results as of February 2018.



**Joost Rietveld**

@gjrietveld

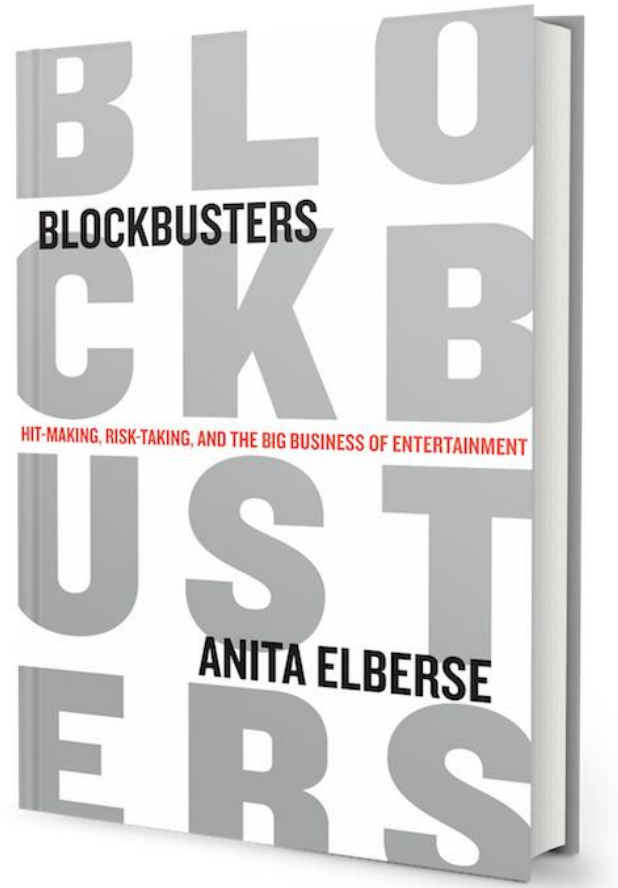


Lower barriers to platform entry and reduced search costs potentially lead to market structures with both longer and thicker tails for complementors. In many digital platforms, however, we see the tail getting longer but not thicker. [#BMME068](#) [#platformcompetition](#) [#longtail](#)

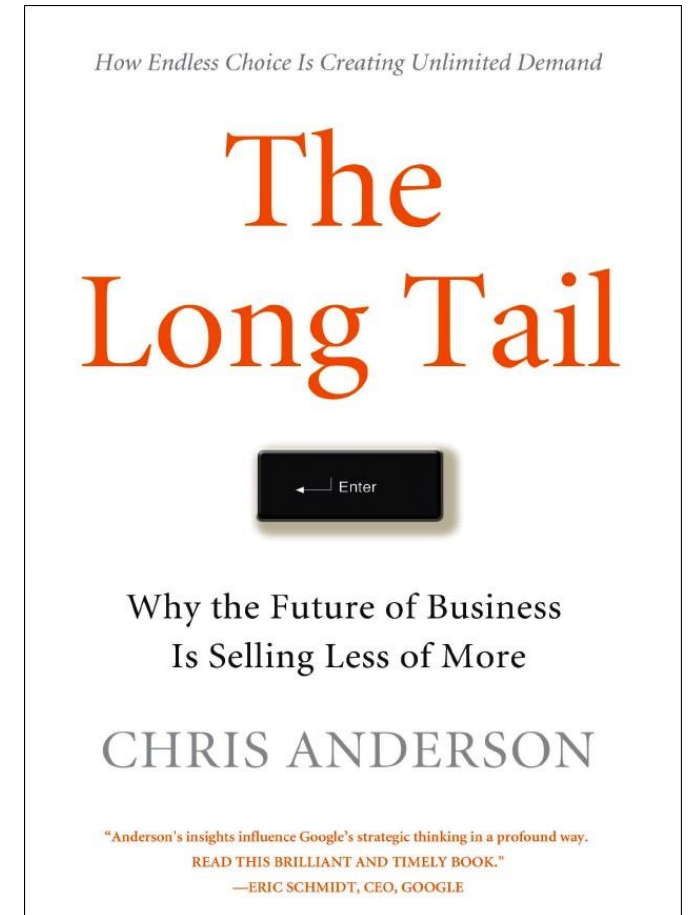
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# Superstars vs. The Long Tail



vs





### **Anita Elberse**

- Tenured marketing professor at HBS
- Quantitative research on movie industry
- Teaches Marketing in the Creative Industries and Entertainment: Many successful cases including Spotify, LeBron James, The Rock, and Marvel
- Author of “Blockbusters” book
- Dutch 😊

VS

### **Chris Anderson**

- Acclaimed science journalist
  - Editor for *WIRED*
- Author of the “The Long Tail”
- Author of “Free” and “Makers”
- Featured in Time: Top 100 Thinkers (2007)

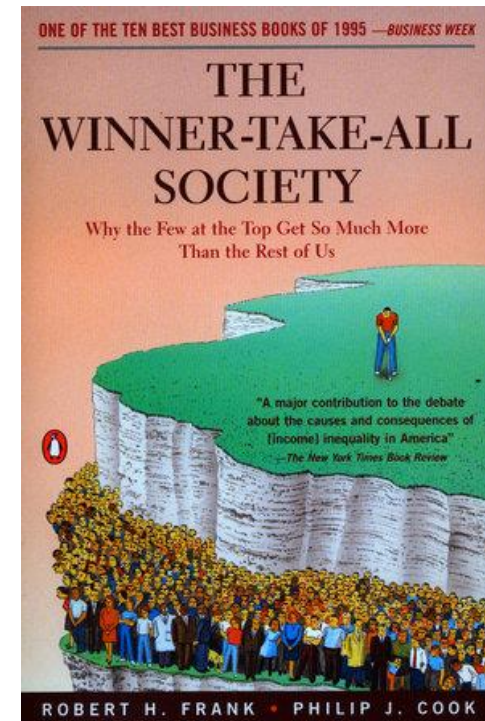


# Superstar economics

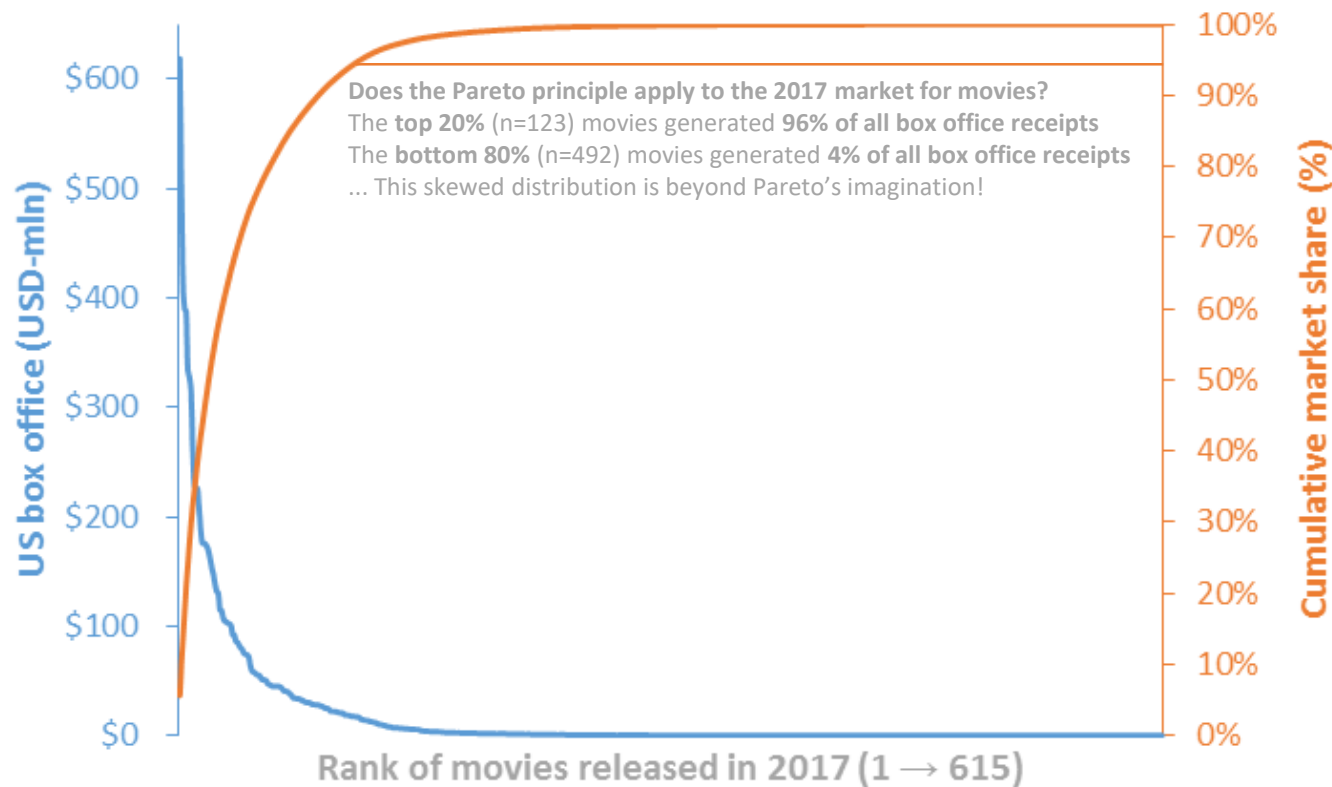
- Concentration of output among a few **entities** (e.g. firms, artists, athletes), marked skewness in the associated distributions of wealth (e.g. revenues, earnings, income), and very large rewards at the top
  - Substantial difference in earnings between ranks
  - Marginal differences in quality between ranks
  - Imperfect substitution between entities
  - Technology allows for “joint consumption”
    - A relatively small number of entities can service the entire market
    - Effect becomes stronger as technology gets cheaper (e.g. from VHS to Streaming)
  - Amplified by increasing returns to adoption or “bandwagon effects”

# The Pareto principle

- A small proportion of the entities in a population accrue a large proportion of the overall distribution (Pareto, 1964)
- Also known as the “80/20 rule” or the “law of the vital few”
  - National economic wealth is Pareto efficient
  - Individual productivity is Pareto efficient
  - Customer complaints are Pareto efficient
  - Markets for information goods are Pareto efficient
    - Markets for movies are Pareto efficient
    - Markets for books are Pareto efficient
    - And markets for complementary goods are Pareto efficient!



In 2017, **615 motion pictures** opened in theaters across the **North American movie territory** (consisting of the United States, Canada, Puerto Rico and Guam). On average, these movies opened in **635 theaters**, generating **\$5.5m in their opening weekend** and grossing **total box office receipts of \$17.9m** (as of February 2018).



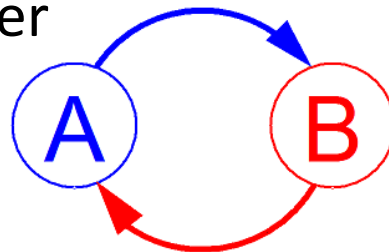
Source: The Numbers.com, results as of February 2018.

### Key stats:

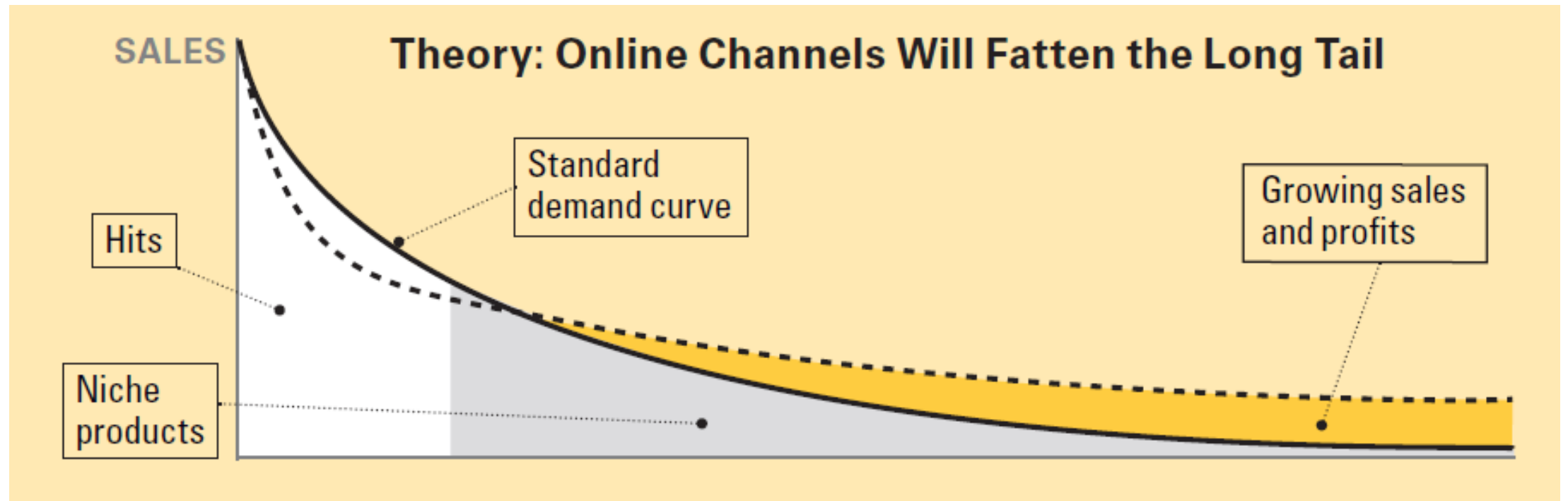
- Average box office receipts for all movies = \$17.9m
- Median box office receipts for all movies = \$225k
- Box office receipts for top ranked movie (*Star Wars Ep. VIII*) = \$619m
- Box office receipts for bottom ranked movie (*The Student*) = \$138
- Total box office receipts for all movies = \$11b
- Total box office receipts for top 20% ranking movies = \$10b
- ...
- Most effective movie (BO/theater) = *Star Wars Ep. VIII* (\$146k)
- Least effective movie (BO/theater) = *Amityville: The Awakening* (\$74)
- Surprise hit = *Hostiles* (top 20% rank, opened in 3 theaters, only 0.08% of BO generated in opening weekend)
- Number of movies not to make it past opening weekend = 26

# Premise of The Long Tail

- Digital platforms *lengthen* the tail of the distribution:
  - No longer restricted by capacity constraints and facilitated by cheap technology, more firms will enter digital platforms
  - Expansion of target audience will trigger production of diverse complements
- Digital platforms *thicken* the tail of the distribution:
  - Search engines and recommender systems will lead consumers to “dig deep” to discover and consume content that best fits their tastes
  - Demand for diverse and obscure complementary goods will increase at the detriment of the most popular complements (“unlimited demand”)
  - Unlimited shelf space also allows complementary goods to enjoy longer lifecycles (back-catalog sales will surge)...



# Goodbye Pareto, hello Long Tail?



Source: Elberse, 2008; 90.

# Evidence of a *longer* tail...



30,000,000 songs  
Typical brick-and-mortar  
retailer offers 15,000 albums



6,000,000 books  
Typical Barnes and Nobles  
carries 130,000 books



2,200,000 apps  
Typical Wal-Mart store sells  
120,000 products

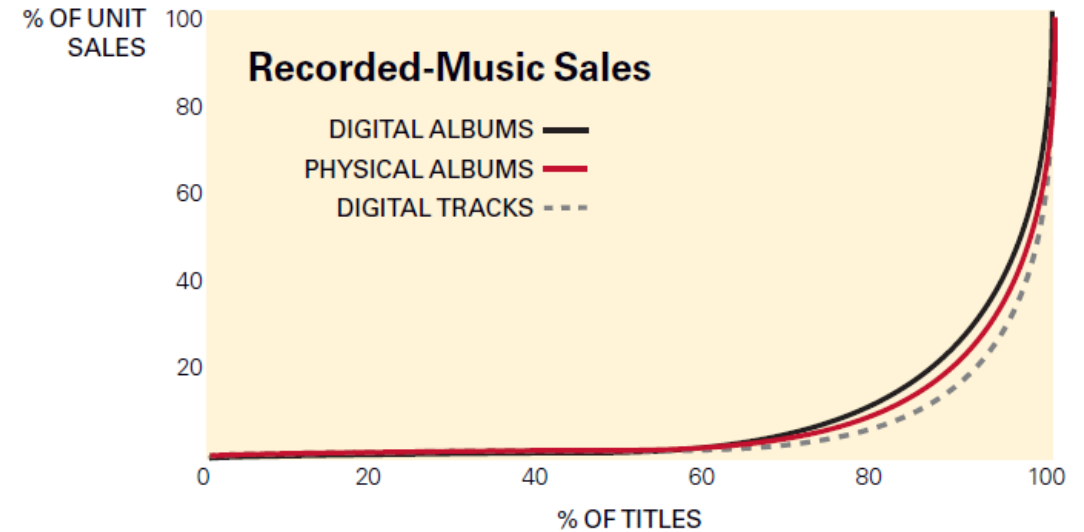
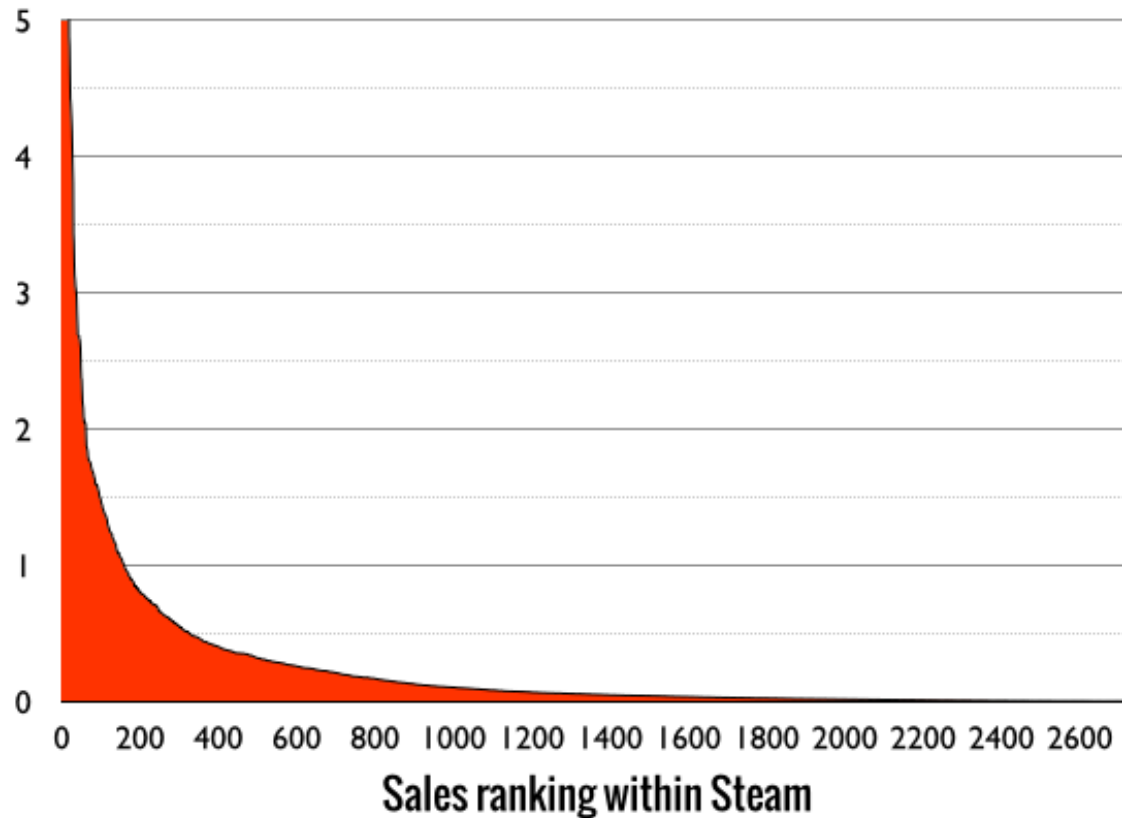


11,000 games  
Typical game consoles offers  
about 900 games

# Evidence of a *thicker* tail?

## ESTIMATED SALES PER TITLE, ORDERED BY SALES RANK

Millions



# Evidence of a *thicker* tail?



4,000,000 songs have never been played once - *Forgotify*



37% of all games have never been played once; 17% was played for less than one hour

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## Only 40 Self-Published Authors are a Success, says Amazon



% OF U  
SAI

The cat is out of the bag, finally we know exactly how many self-published authors make it big: 40.

Yes, that's not a typo.

**40 self-published authors “make money”**, all the others, and they number in the hundreds of thousands, don't. This interesting statistic, recently revealed in a New York Times article, applies to the Kindle Store, but since Amazon is in fact the largest digital publishing platform in the world, it is a safe bet that self-published authors are not doing any better elsewhere.

# Evidence of a *thicker* tail?

ESTIMATED SALES PER TITLE, ORDERED BY SALES RANK  
Millions

**Supercell**

**4 apps**

**180 employees**

**€2.6bn revenue (2015)**

**≈10% of *all* global game app revenue**



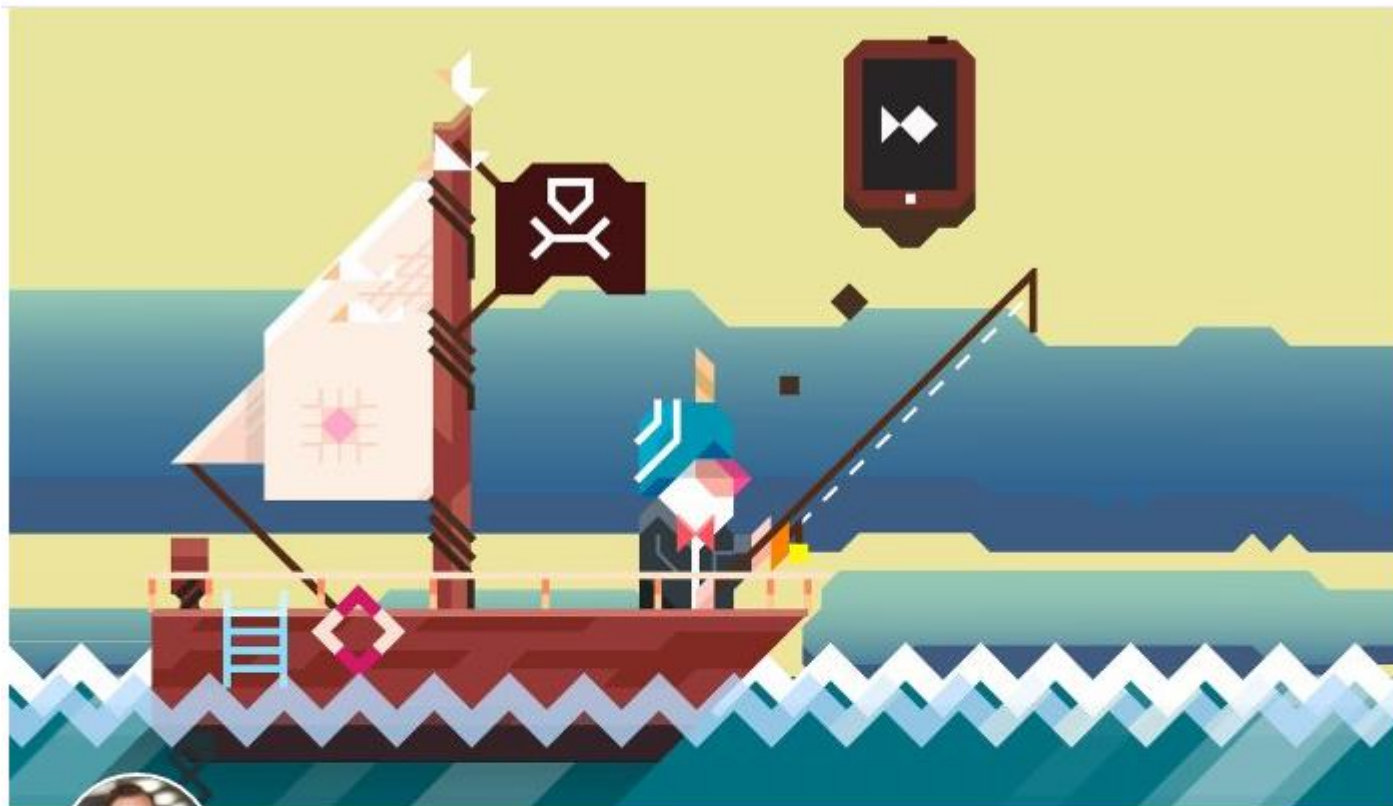
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**Joost Rietveld**

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# Why isn't the Tail thickening?

*“Rather than bulking up, the tail is becoming much longer and flatter. That is the truth of the long tail.” (Elberse, 2008; 91)*

Why is the tail getting longer but not much thicker?

1. Superstar economics still apply
2. Only “heavy users” venture in the long-tail
3. Recommender systems can further skew complements' popularity  
→ In some platforms the tail *is* getting thicker, nuance is needed

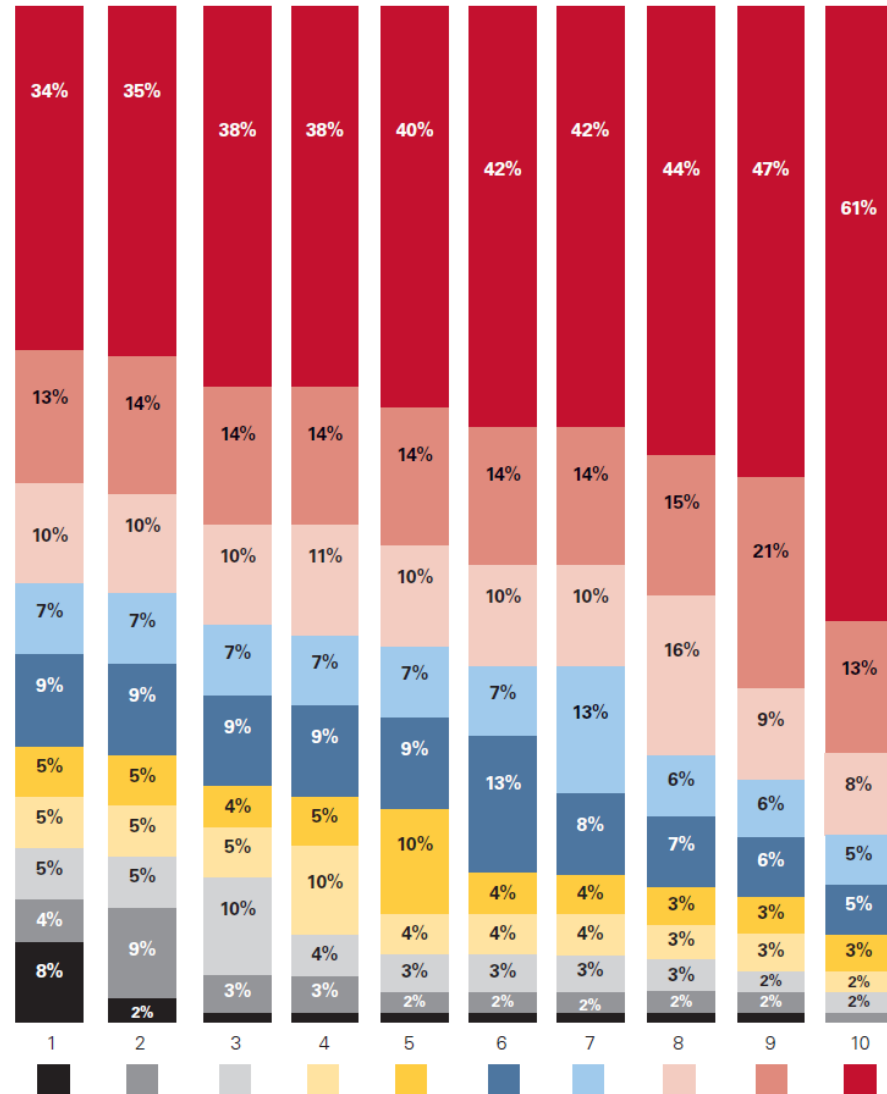
# Superstar economics still apply

- Lesser talent is still a poor substitution for greater talent
  - And there are simply a lot of bad quality products in the tail
- People remain inherently social and value consuming the same goods
  - Bandwagon dynamics haven't changed
  - Online connectivity has increased network externalities
- With zero marginal production costs, hits pay off
  - Zero marginal production costs allow for truly joint consumption
  - The weight of production costs have shifted to marketing
- Too much choice is overwhelming and can “paralyze” consumers

# Only “heavy users” venture in The Long-Tail

- Distinction between heavy users and light users (McPhee, 1963)
- *Natural monopoly*: A disproportionately large share of the audience for popular products consists of relatively light consumers
  - Hit products seem to “monopolize” light users
- *Double jeopardy*: Consumers of obscure products generally appreciate these products less than they do popular products. The more obscure a title, the less likely it is to be appreciated
  - Obscure products suffer a double loss: light users do not know about them while heavy users tend to know better.

## The Shopping Carts of Quickflix Video Customers



SOURCE: QUICKFLIX

## Natural Monopoly and Double Jeopardy in Quickflix

Each vertical bar represents a decile of DVD popularity; DVDs in decile 10 are the most popular. Each bar is subdivided to show how, on average, customers who rent at least one DVD from within that decile distribute their rentals over all the deciles. Customers who shop in the bottom decile, for example, choose only 8% of their rentals from among its titles – and 34% from among top-decile titles.

# Recommender systems can further skew complements' popularity distribution

- Recommender systems help consumers discover new products and may change the distribution of sales (Brynjolfsson *et al.*, 2003)
- Based on sales, ratings, date of release (+ other factors) and may thus recommend already popular products enforcing the superstar effect

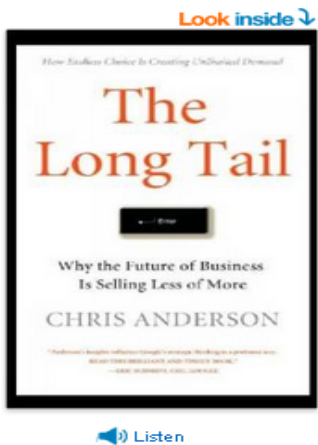
Research by Fleder & Hosanagar (2009):

1. Recommenders can lead to a rich-get-richer effect for popular products and a poor-get-poorer effect for unpopular ones;
2. It is possible for individual-level diversity to increase - can push each person to new products, but often push users toward the same products;
3. Outcomes clearly strongly depend on design of algorithm (see also Oestreich-Singer & Sundarajan, 2012)

# Some evidence from Spotify



- Main findings from “Changing Their Tune”:
  - Listeners increased their music consumption after adopting Spotify
  - Listeners increased the variety in music consumed after adopting Spotify
  - Listeners discovered more new (to them) music after adopting Spotify
  - However, on average, this new music had much lower value to listeners
  - Yet, if listeners discovered new (to them) music they liked, the effect is sticky
- My interpretation:
  - Digital platforms and new business models clearly create value
  - Effects are local (or personal) effects, says little about overall distribution
  - Results are fully consistent with McPhee’s heavy and light users



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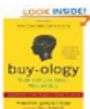
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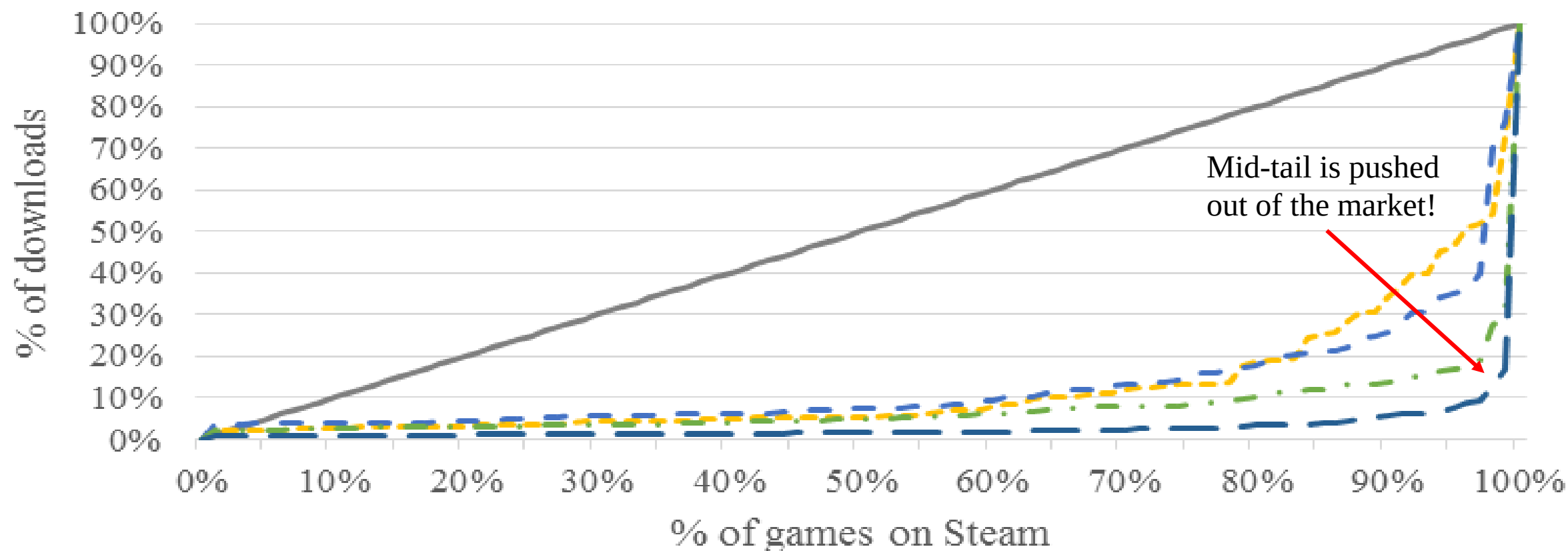
# The truth is in the middle

- Market structures on digital platforms will have both superstar and long tail effects (Bar-Isaac *et al.*, 2012):
  - Competition in the head of the distribution revolves around a few high-quality-broadly-appealing complements. User acquisition and mass-marketing campaigns drive adoption by end-users;
  - Competition in the tail of the distribution revolves around MANY lower-quality-but-highly-differentiated complements. Price and targeted marketing campaigns are weapons of choice;
  - Firms in the middle will either be pushed out of the market or will deflect to the tail of the distribution by offering niche products.

# What's Really Going On?

- Market structures on digital platforms will have both superstar and long tail effects (Bar-Isaac *et al.*, 2012):
  - Competition in the head of the distribution revolves around a few high-quality-broadly-appealing complements. User acquisition and mass-marketing campaigns are weapons of choice;
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  - Firms in the middle will either leave the market or will deflect to the tail of the distribution by offering niche products.

# Steam: Distribution of Downloads Among Top 100 Games by Year (2010-2013)



--- Lorenz 2010 ( $G = .752$ )    - - - Lorenz 2011 ( $G = .748$ )  
- . - Lorenz 2012 ( $G = .854$ )    - - - Lorenz 2013 ( $G = .941$ )

# Implications for platform owners

- Benefit to the extent that users are “money side”
- The long-tail adds up
- Alter competitive dynamics through governance mechanisms:
  1. Cap on competitive entry by complements
  2. Quality assurance and screening at the gate
  3. Direct consumers to valuable complements (e.g. selective promotions)
  4. Regulate pricing of complements
  5. Design of recommender systems
    - Design based on type of users on platform (i.e. “heavy” vs “light”)

# Implications for complementors

- Producers of superstar complements:
  - “Go big or go home”
  - Benefit from the tail by offering back-catalog complements
  - The long tail can add up for producers with very large portfolios
  - Do not drastically alter your resource allocations
- Producers of obscure complements:
  - Don’t be blinded by a few surprise hits by niche producers
  - Focus only on only the best complements
  - Partner with skilled marketers/publishers for exposure
  - Keep costs low and innovate

# Lecture recap

- Intra-platform competition, between providers of complementary goods follows a skewed, *Pareto efficient*, distribution
- Competition on digital platforms potentially is more evenly distributed with welfare increases for all stakeholders:
  - The tail of the distribution grows **longer** due to lower barriers to market entry, unlimited shelf space, and increased demand
  - The tail of the distribution grows **thicker** due to lower search costs, better matching by recommender systems, and longer product lifecycles
- In reality, many digital platforms still display strong superstar economics with skewed distribution and very long, but thin, tails
- This has important implications for platforms and complementors



**Joost Rietveld**

@gjrietveld



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# Thank you!



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