Amazon and the Evolution of Retail

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Motivation – How Are Indie Bookstores Doing?

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Brett Arends' ROI

Get ready for the bookstore massacre

Published: Aug. 17, 2010 at 1:48 p.m. ET

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EDITORS' PICK | Feb 12, 2020, 06:07am EST | 29,380 views

How Indie Bookstores Beat Amazon At The Bookselling Game: Lessons Here For Every Retailer

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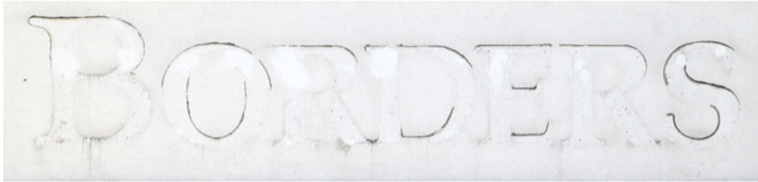
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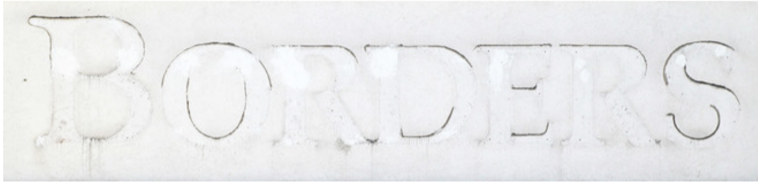
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Barnes and Noble closes over 400 bookstores

March 28, 2020 By Michael Kozlowski — 11 Comments

Research Questions

- Contrary to early 2010's forecasts, indie bookstores are doing well. How?

- Why aren't large chains?

- Can we learn lessons applying more broadly?

The Model – Main Set Up

- Sellers:

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    - Prices are constant and exogenously given.
        - We relax this assumption later.

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    - Buyers have *iid* valuations $v \sim G(\cdot)$, $v \geq 0$ for books of their type, 0 otherwise.

    - They also have *iid* preferences for b, $\omega \sim U(0, \bar{\omega})$.
        - Think of this as ideological aversion to Amazon, perks of shopping in person, not having to wait for books...
        - $\omega \geq 0$ is wlog, since Amazon dominates in the variety dimension, and prices are fixed.

Information Structure and Consumer Choice

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- Within that given bookstore, buy the one book that yields the highest value.

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- GENERALIST: stock $k/2$ books of genre x, $k/2$ of genre y.
    - Essentially a miniature Amazon: extensive margin.

- SPECIALIST: stock k books of either genre.
    - Give up half of consumers, become very appealing for other half: intensive margin.

Main Result: Optimal Specialization Decision

Proposition: Assume no exit. Then, a bookstore specializes if and only if Amazon is large enough:

$$\pi_{SPECIALIST}(k, z) \geq \pi_{GENERALIST}(k, z) \Leftrightarrow z > z_{gs} = z'(k, \bar{\omega}).$$

Moreover, $z_{gs}(k, \bar{\omega})$ is increasing in both k and $\bar{\omega}$.

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Moreover, $z_{gs}(k, \bar{\omega})$ is increasing in both k and $\bar{\omega}$.
- Smaller bookstores are more likely to become specialists.
- Less specialization in areas / product categories with more aversion to Amazon.

Examples – Specialization
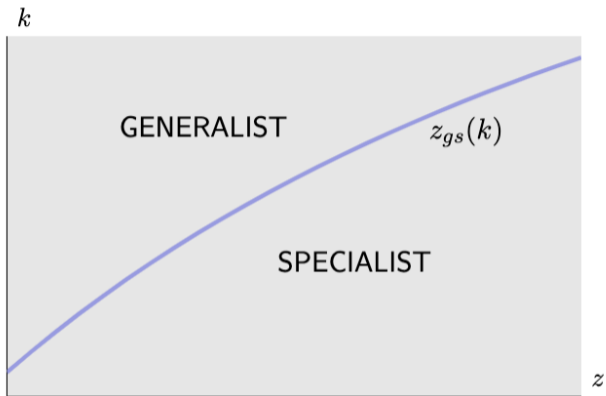
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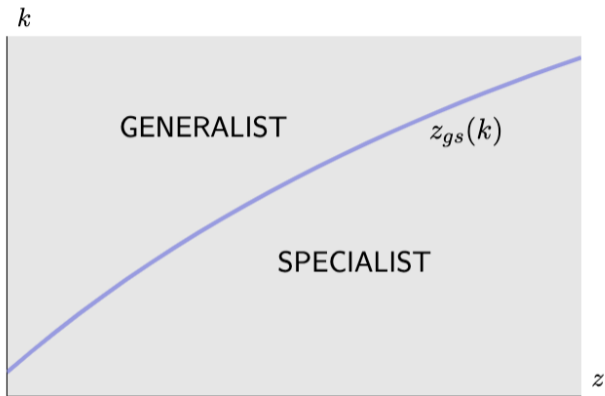
Remark: can interpret result as dynamic (*"As Amazon grows, more specialization"*) or as cross-sectional (*"Given Amazon's size, smaller bookstores specialize"*).

Stylized Facts – Specialization

New CEO Wants to Make Barnes & Noble Your Local Bookstore

James Daunt, who also runs U.K. chain Waterstones, will let individual stores help decide which books to promote and how to woo shoppers

By *Saabira Chaudhuri*
Aug. 8, 2019 6:00 am ET

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Mark Cohen: *"There is a tremendous resurgence of local bookstores, but these have relevance because (…) they're not trying to be all things to all people as B&N has always tried to be.* **They're either picking on a genre or curating an assortment that appeals to a local customer**.*"*

Examples of Specialization – Milan Edition

A safe harbor for all lovers of seafaring literature, Il Mare is stocked with some 30,000 books about boating, underwater exploration, marine life, and anything else sea-related, as well as nautical charts, maps, and photographs. And it turns out Italians really love the ocean—there's also a Libreria del Mare in Milan.

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Libreria della Natura

MICAMERA BOOKSTORE

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- Not a trivial extension: stocking policy for general store not trivial (fraction β of *x* titles may be higher than, equal to, or lower than α)

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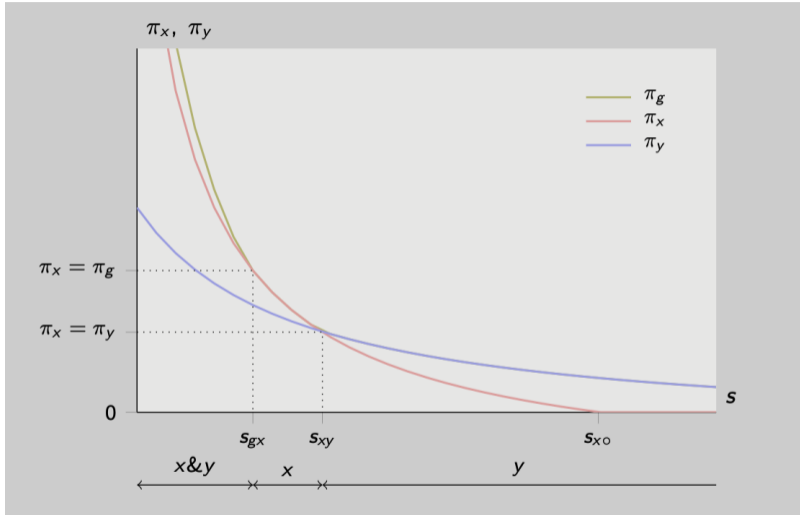
Linear case: $m(x) = x/(1 + x)$.

Embarrassment of Niches

Chris Anderson: *"The theory of the Long Tail can be boiled down to this: Our culture and economy are increasingly shifting away from a focus on a relatively small number of hits (mainstream products and markets) at the head of the demand curve, and moving toward a huge number of niches in the tail.* **In an era without the constraints of physical shelf space** *and other bottlenecks of distribution,* **narrowly targeted goods and services can be as economically attractive** *as mainstream fare."*

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Our point: Precisely because shelf space is limited, physical retail world is turning into "narrowly targeted goods."

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- **Welfare** – is specialization good for consumers?

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- Firm b then set price, either p_g or p_s, depending on its type.

- Treat p_a as exogenously given. (Our firm b represents one of multiple fringe firms.)

Extension: Pricing

Proposition: There exists a threshold $z'(k, \bar{\omega})$ such that store b optimally chooses to be a specialty store if $z > z'(k, \bar{\omega})$. In the right neighborhood of $z'(k, \bar{\omega})$, the specialty store sets a higher price ($p_s > p_g$), captures a lower market share and earns a higher profit than a general store.

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- Note: endogenous pricing $\Rightarrow$ more specialists.

Welfare Analysis – Insufficient Specialization

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- Related to Waldfogel's "tyranny of the majority"

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- About six million transactions: x copies ordered of title t during month m by store s.

Sales Concentration by Channel

N	Book Chains	Bookstores	Mass Merch.	Amazon
# titles	43,887	39,267	12,875	47,903
# copies	127,602,337	31,701,747	171,420,650	163,995,077
copies/title	2,907	807	13,314	3,423
% top 100	11.2	11.1	21.4	14.7
% top 1000	39.9	36.1	71.2	45.7
% top 10000	86.6	83.3	99.9	87.4
% niche sales	2.7	4.6	0.6	3.7

Niche Genres

Subgenre	Sales (units)	Share of total (%)
Fiction	231,189,777	43.592
Juvenile Fiction	86,342,965	16.280
Biography & Autobiography	33,603,160	6.336
Young Adult Fiction	29,578,303	5.577
Cooking	18,774,375	3.540
Business & Economics	17,566,118	3.312
...	...	...
Architecture	70,984	0.013
Foreign Language Study	54,450	0.010
Non-Classifiable	15,917	0.003
Bibles	6,036	0.001

Niche Genres Sales
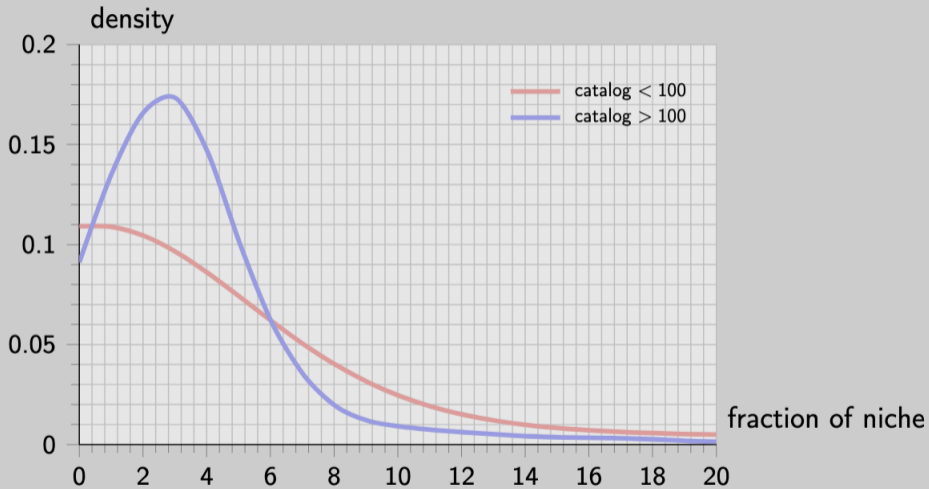
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- Amazon contributes to two long tails: its own, directly; and an offline one, indirectly, by forcing brick and mortar stores to focus on niche products.

- Small brick and mortar stores can actually thrive in a fragmented market!

Thank You!