

Regulation *of* and *with* Digital Platforms: An Empirical Perspective

Chiara Farronato (Harvard, CEPR, NBER)

NBER Digital Economics and AI Tutorial

Stanford, February 12, 2025

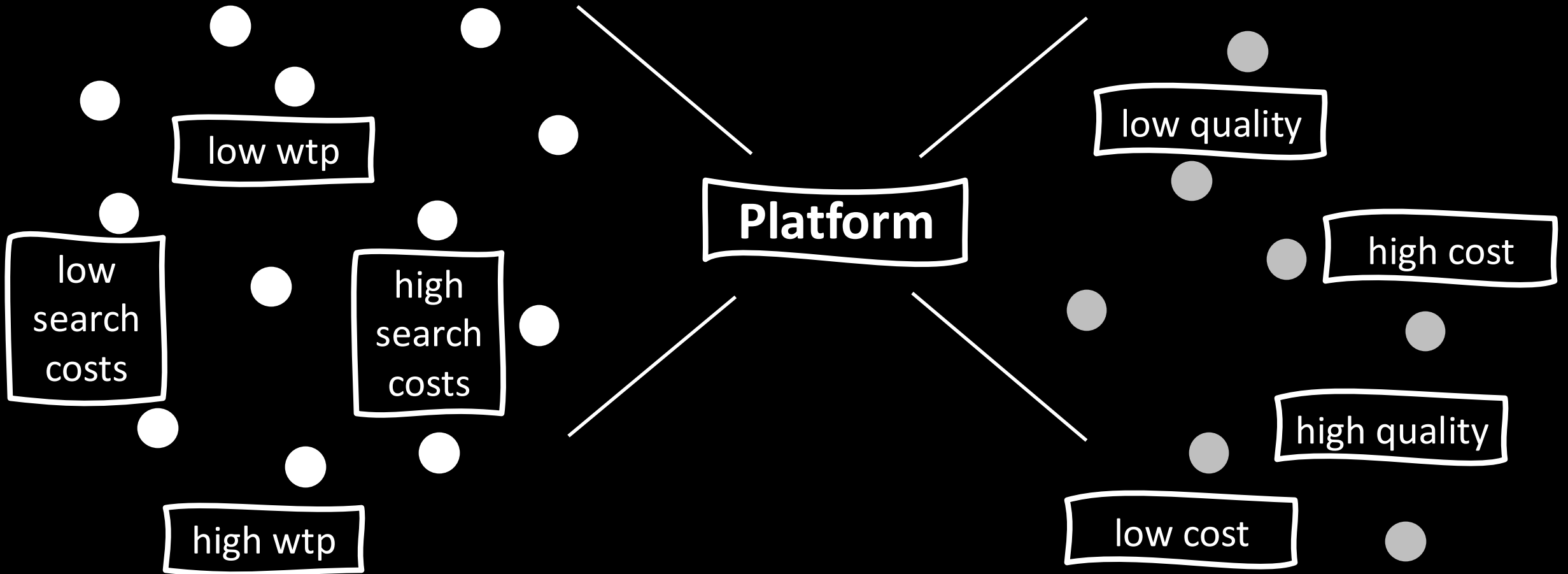


<https://www.ebayinc.com/stories/news/meet-the-buyer-of-the-broken-laser-pointer/>

facebook



Digital Platforms as Information Aggregators



Digital Platforms as Information Aggregators

Information as a double-edged sword:

- Can be valuable to reduce market inefficiencies.
 - PART 1: Consumer protection with the help of digital platforms.
- But can also be a source of market power.
 - PART 2: Antitrust regulation of digital platforms.



Regulating Consumer Protection *With* the Help of Digital Platforms.

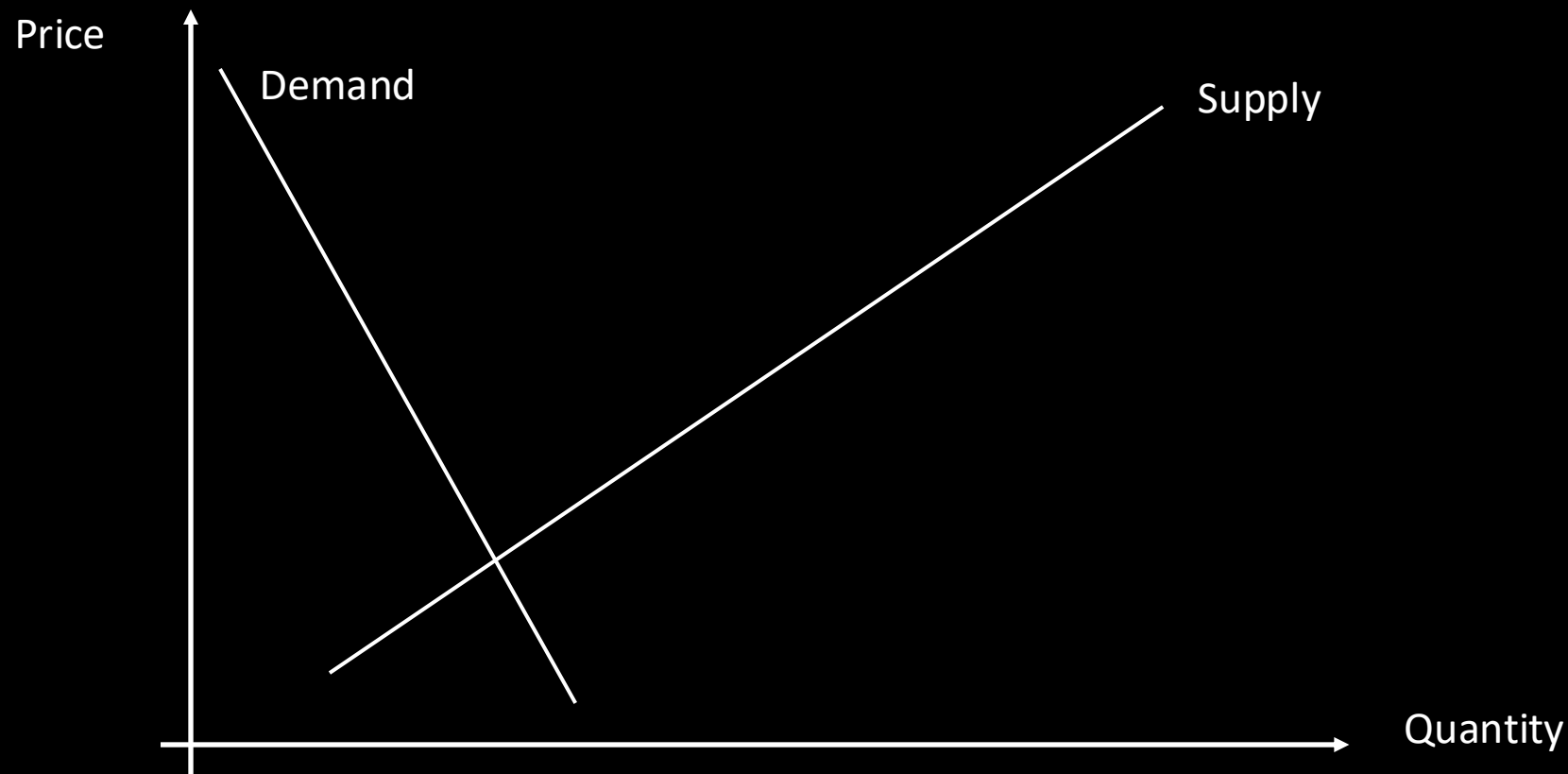
Consumer Protection

- Most digital platforms enter existing markets, which are already subject to regulation...
 - Occupational Licensing.
 - Certifications.
 - Health and Safety Inspections.



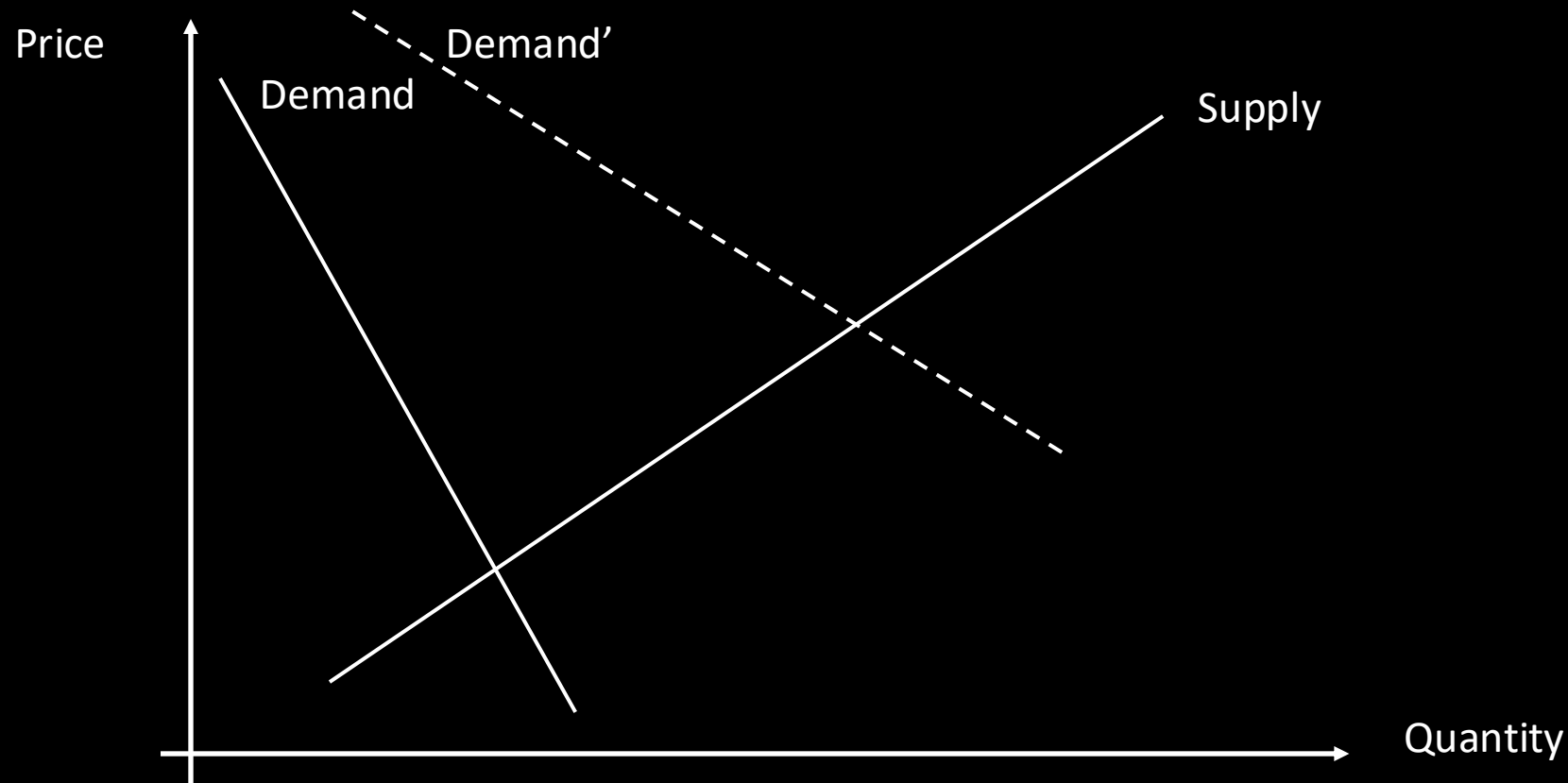
Consumer Protection

- Most digital platforms enter existing markets, which are already subject to regulation... designed to address asymmetric information.



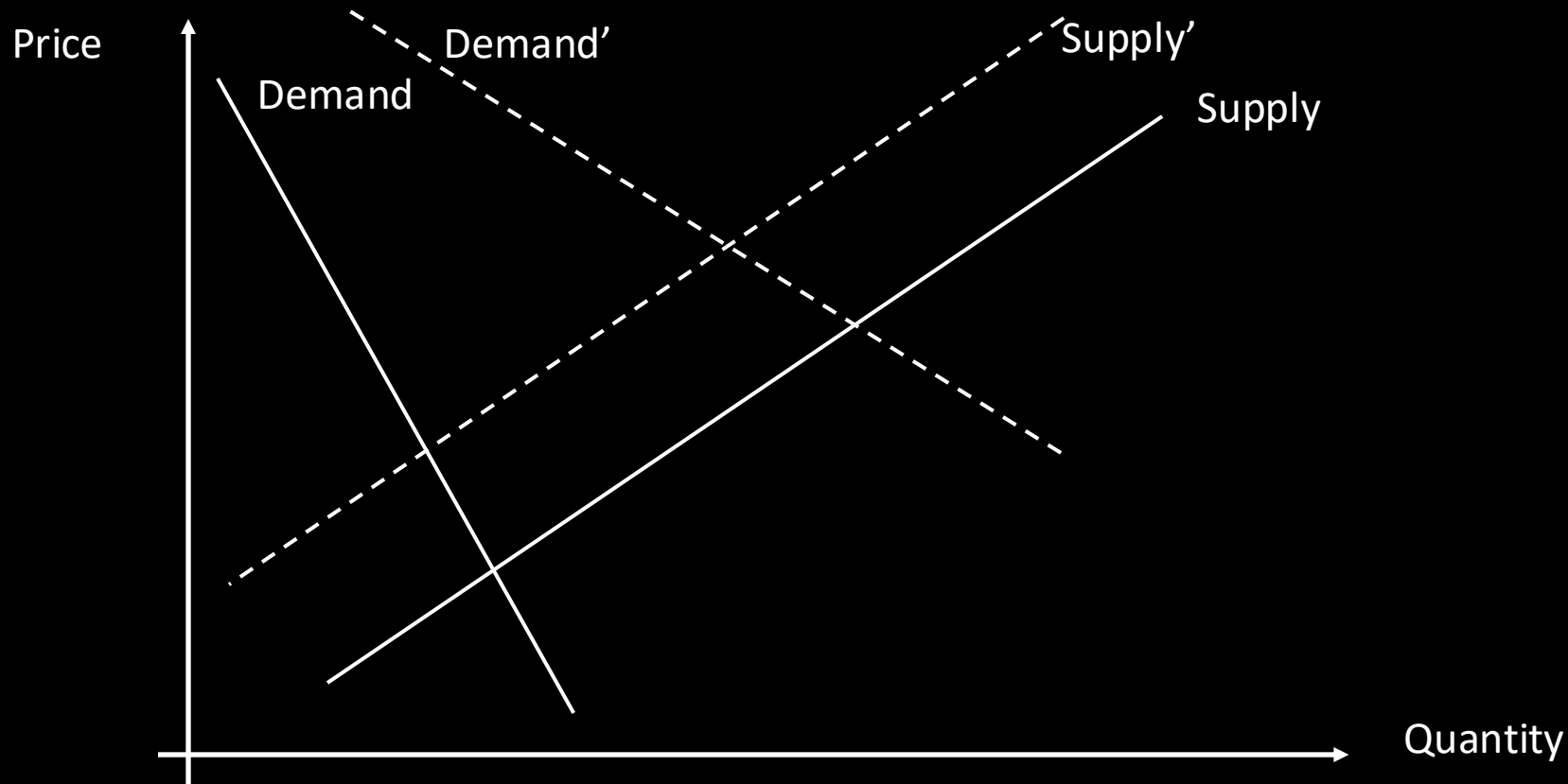
Consumer Protection

- Most digital platforms enter existing markets, which are already subject to regulation... designed to address asymmetric information.



Consumer Protection

- Most digital platforms enter existing markets, which are already subject to regulation... designed to address asymmetric information.



Consumer Protection

- Given it already exists, we could simply extend existing regulation to “online providers.” E.g.:
 - Extend safety/accessibility regulation for hotels to Airbnb hosts.
 - Extend taxi medallion requirements for taxis to Uber/Lyft drivers.

Consumer Protection









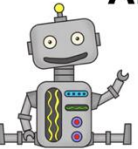
- Given it already exists, we could simply extend existing regulation to “online providers.” E.g.:
 - Extend safety/accessibility regulation for hotels to Airbnb hosts.
 - Extend taxi medallion requirements for taxis to Uber/Lyft drivers.
1. Is existing regulation justified in the first place?
 2. Does fundamentally different supply warrant different regulation?
 3. What other options are available to address asymmetric information?

1. Is Existing Regulation Justified in the First Place?

- Online platforms are becoming the primary way of finding professionals in many industries:
 - Platforms track transactions and reviews.
 - Platforms provide a new way to measure the effects of existing regulation.

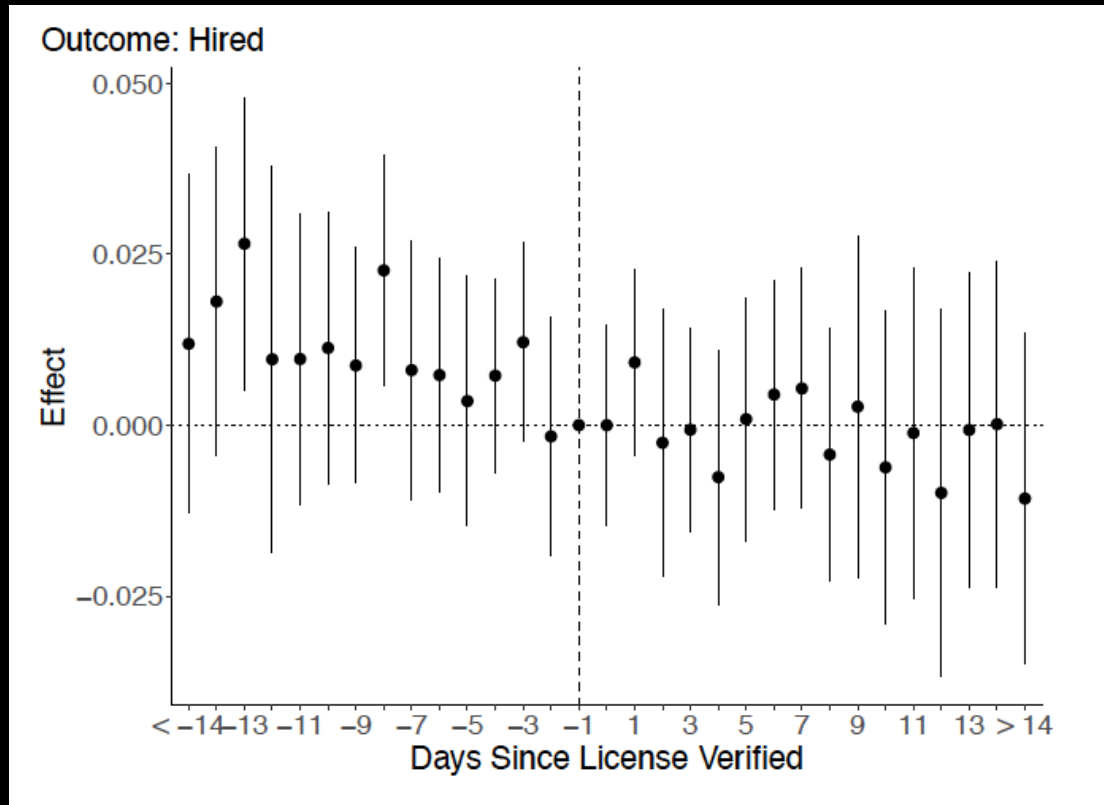
Consumer Protection in an Online World: An Analysis of Occupational Licensing ('24, joint work with Fradkin, Larsen, and Brynjolfsson)

Platform for Home Improvement Services

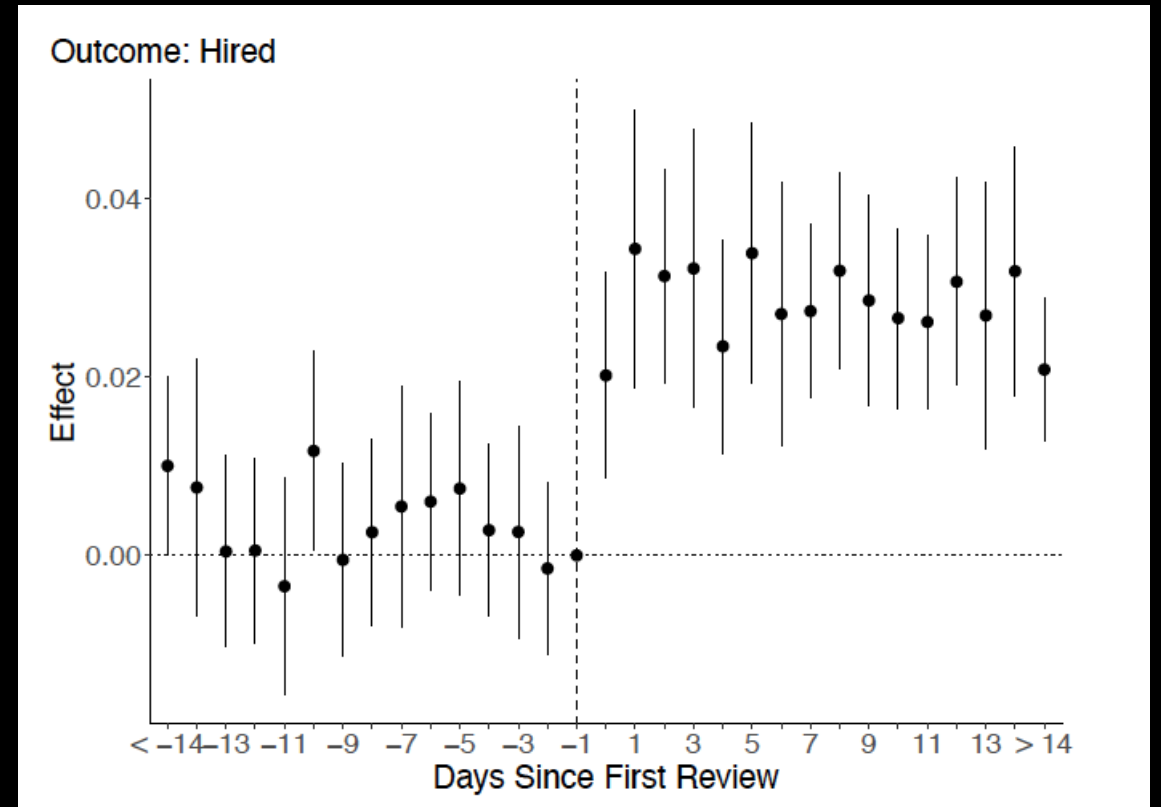
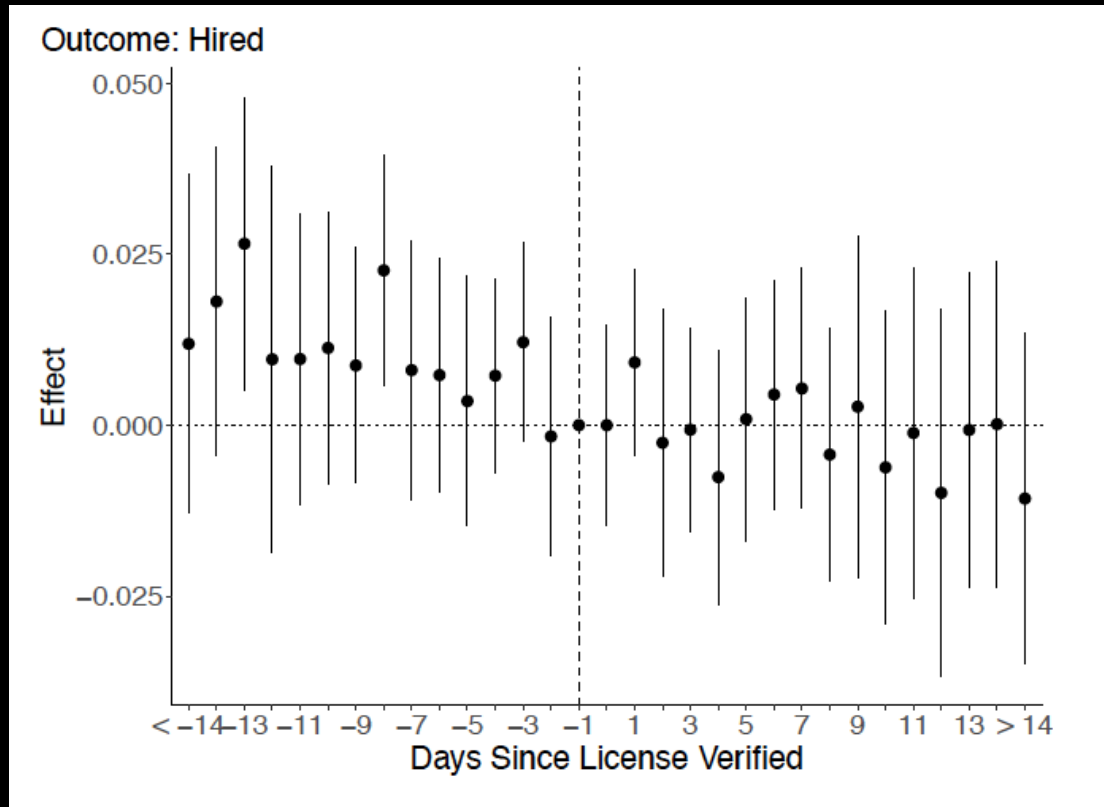
 <p>Interiors by Farronato ★★★★★ 1 Review \$324</p>	<h2>Interiors By Farronato</h2> <p> Chiara Farronato  (123) 456-7981  Oakland, CA</p> <p> Licensed in CA</p> <p>View Profile View Photos Website</p> <p>View Credential</p> <hr/>  <p>Chiara Farronato 3 Days Ago</p> <p>Hi Buyer,</p> <p>My price is \$324.</p> <p>I have availability in the next few days. References can be provided at your request.</p> <p>Thank you, Chiara Farronato</p> <p>Reply Hire Decline</p>
 <p>Fradkin Design LLC ★★★★☆ 25 Reviews \$303</p>	
 <p>Larsen Renovations ★★★★★ 7 Reviews \$212</p>	
 <p>AI Interior Design by Erik B. ★★★★☆ 3 Reviews \$95</p>	

Signaling Value of Licenses v. Reviews

Signaling Value of Licenses v. Reviews



Signaling Value of Licenses v. Reviews

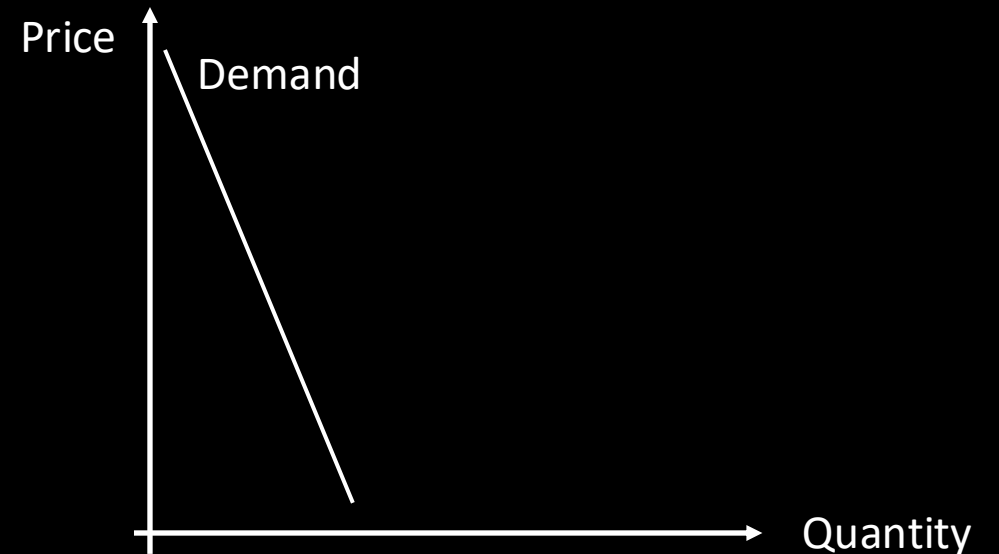


Equilibrium Effects of Licensing Stringency

- Exploit variation in licensing laws across US states and home improvement occupations.

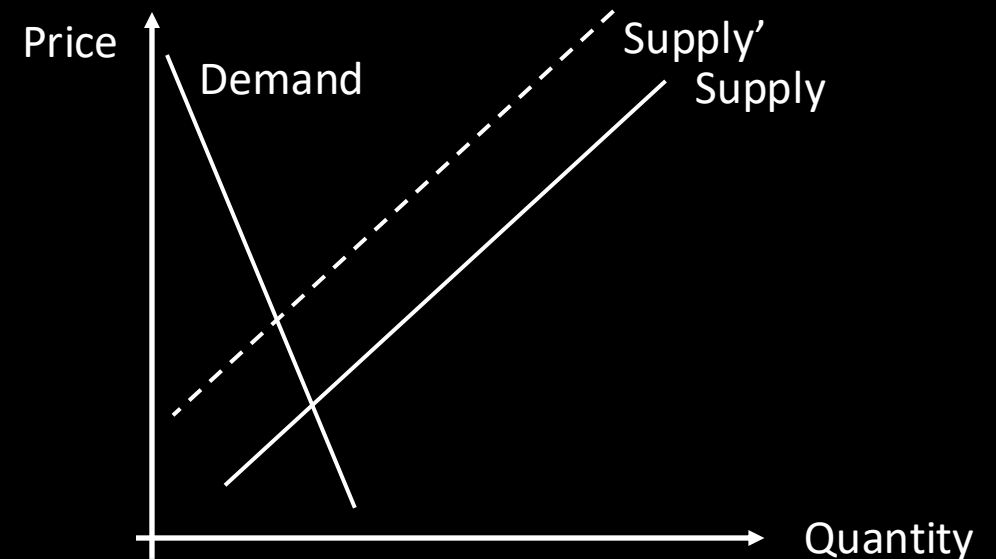
Equilibrium Effects of Licensing Stringency

- Exploit variation in licensing laws across US states and home improvement occupations.
- Effect of more stringent licensing regulation on:
 - Demand:
 - No change in aggregate demand
 - No change in customer satisfaction



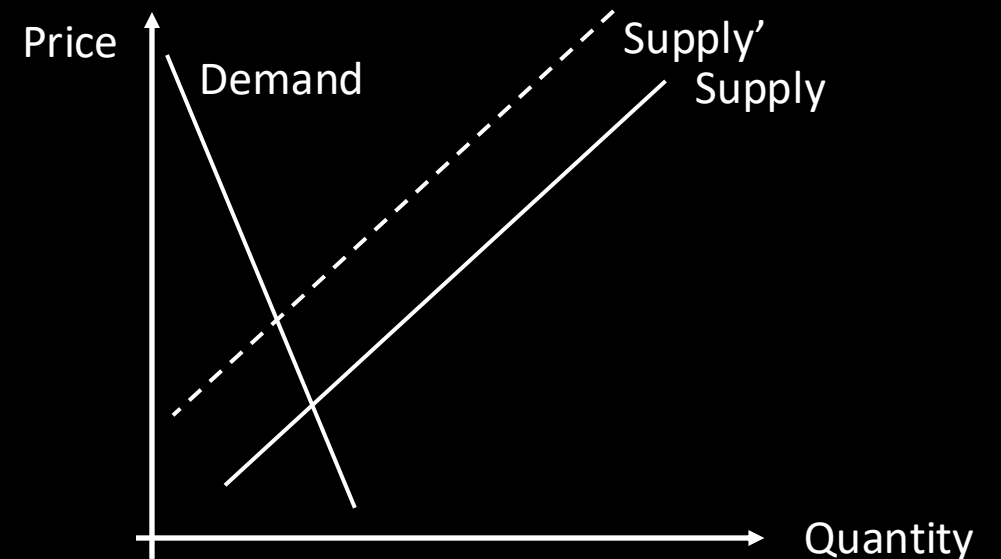
Equilibrium Effects of Licensing Stringency

- Exploit variation in licensing laws across US states and home improvement occupations.
- Effect of more stringent licensing regulation on:
 - Demand:
 - No change in aggregate demand
 - No change in customer satisfaction
 - Supply:
 - Reduction in number of options
 - Increase in price



Equilibrium Effects of Licensing Stringency

- Exploit variation in licensing laws across US states and home improvement occupations.
- Effect of more stringent licensing regulation on:
 - Demand:
 - No change in aggregate demand
 - No change in customer satisfaction
 - Supply:
 - Reduction in number of options
 - Increase in price
- Open Q:
 - How can we better measure quality we should care about?
 - Which requirements (school, on job training) have largest net benefits?



2. Does Fundamentally Different Supply Warrant Different Regulation?

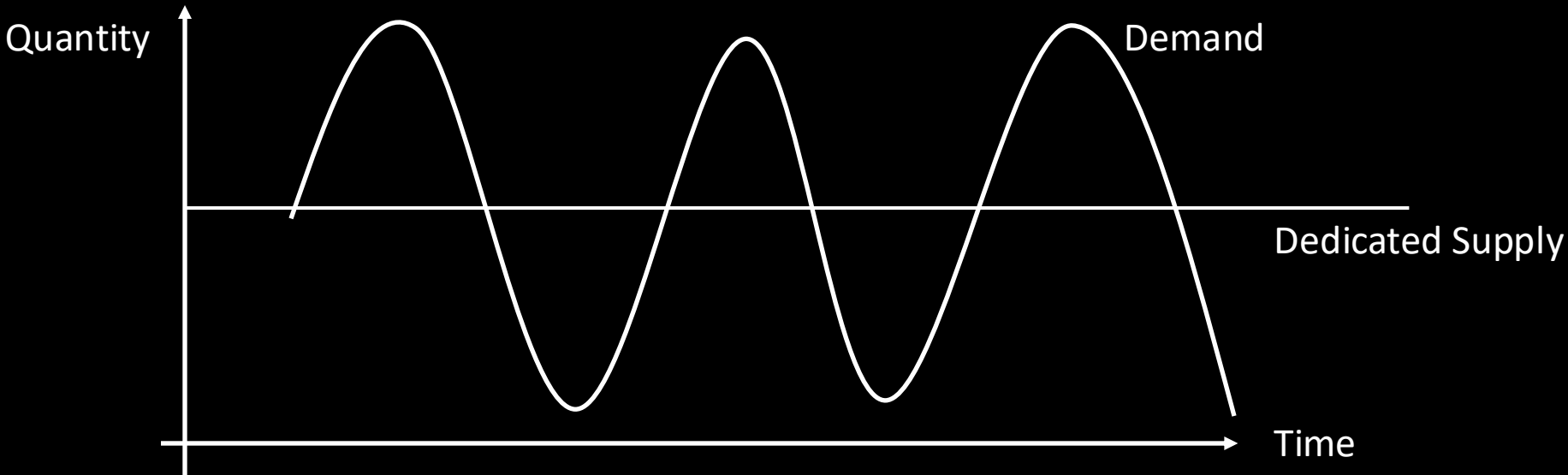
- Existing regulation is designed for “professional providers.”
- This tends to generate “dedicated supply:”
 - Hotels whose rooms are available ~365 days a year;
 - Taxis who are available in ~8-hour shifts.

The Welfare Effects of Peer Entry: The Case of Airbnb and the Accommodation Industry (`22, joint with Fradkin)

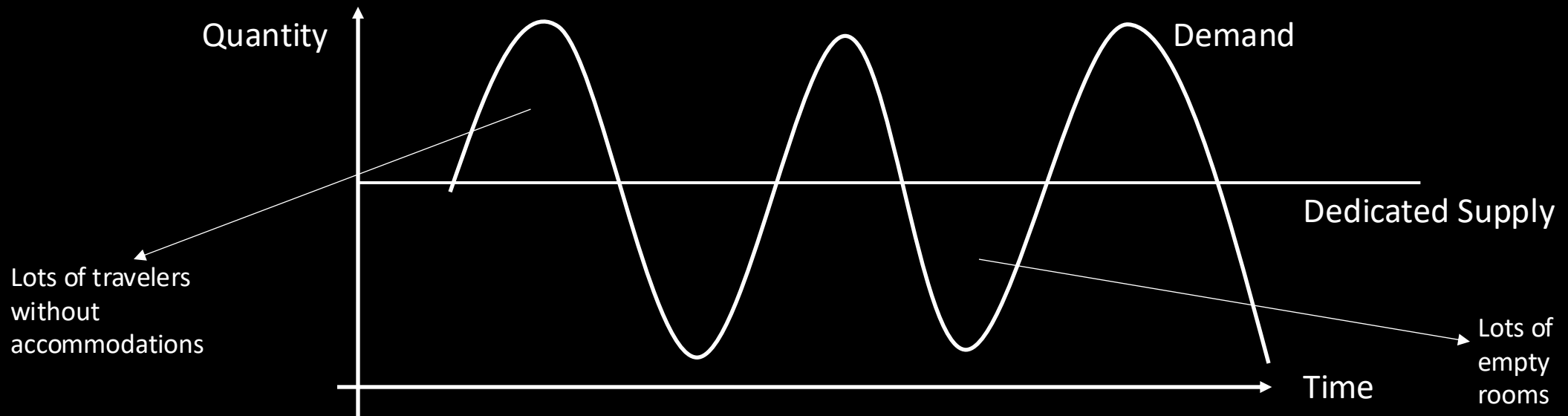
The Accommodations Market Before Airbnb



The Accommodations Market Before Airbnb



The Accommodations Market Before Airbnb



Airbnb Facilitates Entry of “Flexible Supply”

- Flexible supply is responsive to demand fluctuations, by entering when demand is high and contracting when demand is low.
- Large welfare benefits for consumers, by expanding choice set and reducing prices in periods when demand is highest and dedicated capacity is sold out.

Open Q: How to Adapt Regulation to a Mix of Flexible & Dedicated Supply?

- How should we design a two-part regulatory system while maintaining fair competition?
- How do we distinguish between “flexible” and “dedicated” supply?
 - In some cities, home-sharing hosts are subject to fewer restrictions than hotels but cannot rent to travelers for more than a few nights a year.
 - In others, ridesharing drivers are subject to fewer restrictions than taxi drivers, but also cannot perform the same pick-up/drop-offs as taxis (e.g., airports).

3. Other Options to Address Asymmetric Information?

- Existing regulation often relies on *experts' evaluations* of providers' quality.
- Can digital traces/online reputation substitute experts (Shapiro, 1986)?

Consumer Reviews and Regulation: Evidence from NYC Restaurants (WP, joint with Zervas)

Role of Online Reviews in Informing Consumers about Restaurant Hygiene



Peter C.

Fairfax, VA

👥 1 friend

★ 9 reviews

★☆☆☆☆ 1/3/2013

halfway finishing my pho , FOUND COCKROACH inside the pho broth and had big fight with server(seems like one of the owner) after he insist on me paying for the pho.. not even apologying , told me I still have to pay for other pho which I can almost guess that it was made from same dirty pot..

WILL DEFINITELY CALL HEALTH DEPT. and most DEFINITELY they wont see me again!

freakin, disgusting S#&#!

👍 Useful 11

😄 Funny 2

👌 Cool



Role of Online Reviews in Informing Consumers about Restaurant Hygiene

- On one hand:
 - Online reviews contain informative signals of restaurant hygiene.
 - These signals are effective at driving demand away from dirty restaurants.

Role of Online Reviews in Informing Consumers about Restaurant Hygiene

- On one hand:
 - Online reviews contain informative signals of restaurant hygiene.
 - These signals are effective at driving demand away from dirty restaurants.
- On the other hand:
 - Online reviews can be informative about some hygiene dimensions (pests and food handling practices) but not others (worker hygiene).

Role of Online Reviews in Informing Consumers about Restaurant Hygiene

- On one hand:
 - Online reviews contain informative signals of restaurant hygiene.
 - These signals are effective at driving demand away from dirty restaurants.
- On the other hand:
 - Online reviews can be informative about some hygiene dimensions (pests and food handling practices) but not others (worker hygiene).
- Open Q:
 - How can we leverage useful quality information to improve regulatory monitoring (i.e., achieve same quality with less expert effort or increasing quality with same expert effort)?

A collage of financial and legal symbols including a gavel, coins, and banknotes. The background is a light beige color with a torn paper effect. A large wooden gavel is positioned diagonally across the upper center. To the left, there are several gold coins. To the right, there are several banknotes, including a 100 Euro note and a 100 US dollar note. A blue pen is visible in the bottom right corner. The word "ANTITRUST" is written in a large, serif font across the center of the collage.

ANTITRUST

Antitrust Regulation *Of* Digital Platforms.

What Makes Digital Platforms Different?

Confluence of:

- Marginal and distribution costs ~ 0 .
- Strong economies of scale and scope.
- Increasing marginal returns to data.
- Strong network effects.

Taken from Scott-Morton et al., 2019, "Committee for the Study of Digital Platforms," Report, Stigler Center for the Study of of the Economy and the State. (*Stigler report*)

What Makes Digital Platforms Different?

Confluence of:

- Marginal and distribution costs ~ 0 .
- Strong economies of scale and scope.
- Increasing marginal returns to data.
- Strong network effects.
 - Outside of the Big 5, unlikely to be strong enough to justify concentration of activity on a single platform (“Dog Eat Dog: Balancing Network Effects and Differentiation in a Digital Platform Merger,” ‘24, with Fong and Fradkin).

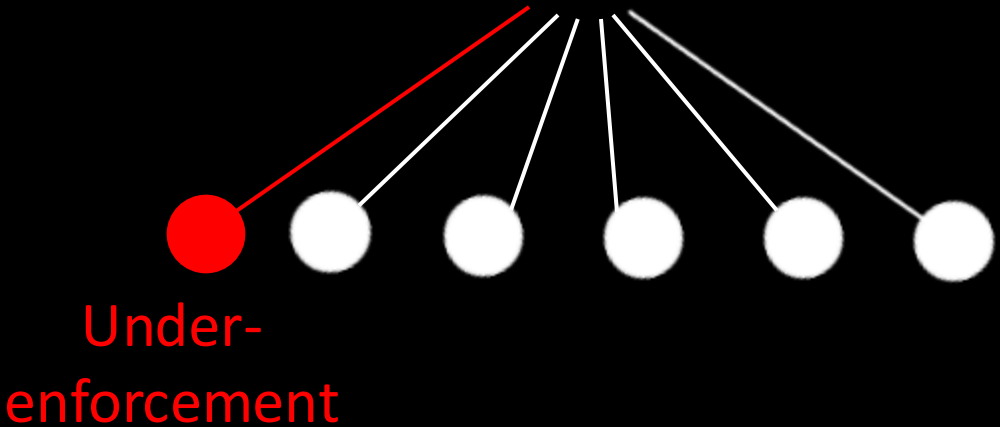
Taken from Scott-Morton et al., 2019, “Committee for the Study of Digital Platforms,” Report, Stigler Center for the Study of of the Economy and the State. (*Stigler report*)

Antitrust Regulation of Digital Platforms until Recently



Under-
enforcement

Antitrust Regulation of Digital Platforms going Forward



Incredibly Exciting Time to Study Platform Antitrust, but How?

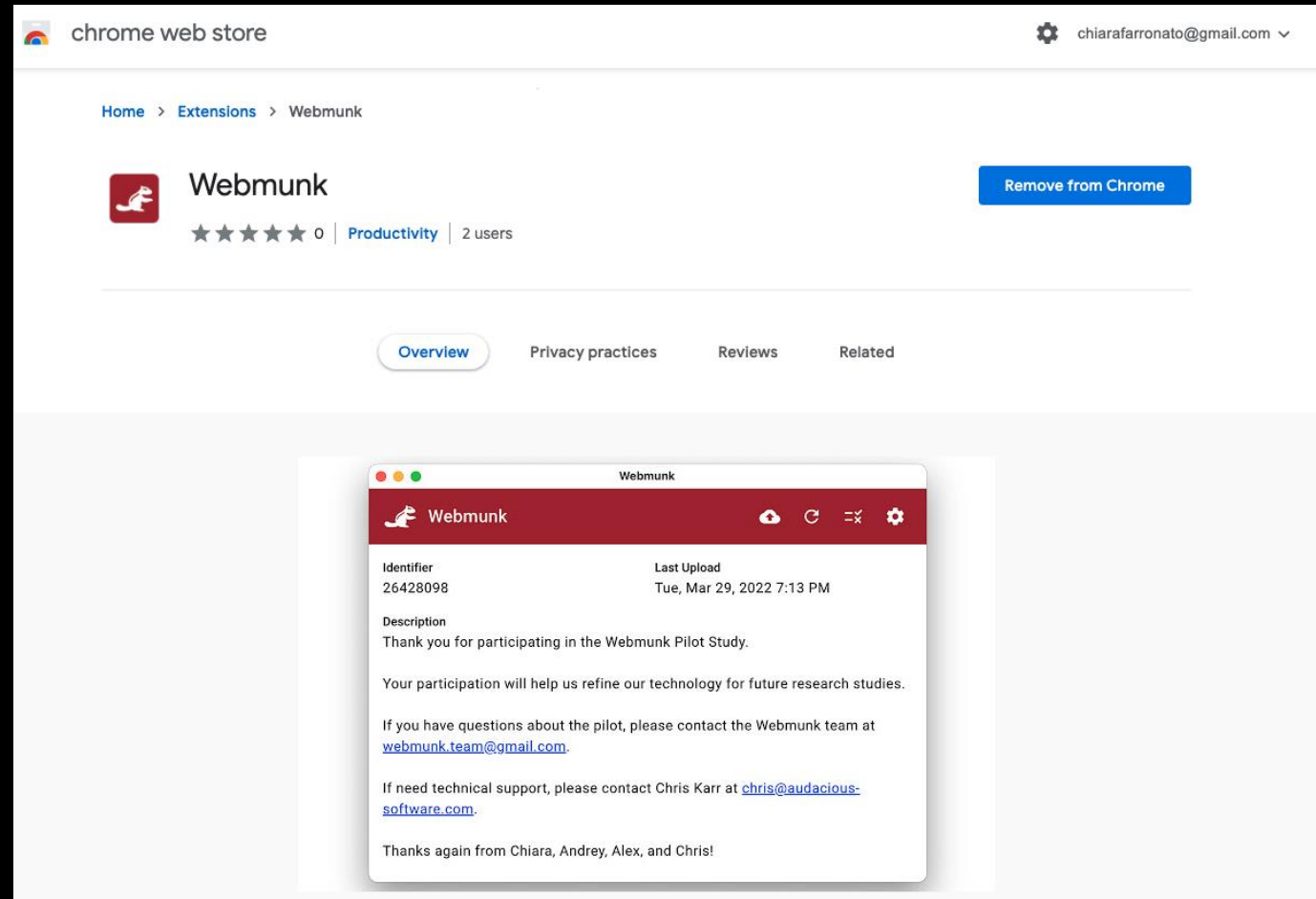
- We need more work quantifying the trade-offs of various policy recommendations.
- Platforms are information aggregators, so they have plenty of data to look at.
- Heightened scrutiny of digital platforms' practices:
 - Digital Markets Act in EU;
 - DOJ and FTC lawsuits in the US.
- Try knocking on Amazon's door: "I'd like to use your data to study whether you give priority to your products..."

Webmunk: A New Tool for Studying Online Behavior and Digital Platforms ('24, with Fradkin and Karr)

A browser extension that can:

- Manipulate your browsing experience;
- Track your browsing behavior;
- Prompt you to complete additional tasks.

webmunk.org



Application of Webmunk: [Self-Preferencing at Amazon: Evidence from Search Rankings \('23, with Fradkin and MacKay\)](#) + ongoing work (same authors)

Recruited participants through Facebook:

- Ask them to install Webmunk and keep it installed for a few weeks.
- ~1,200 Amazon users tracked for ~8 weeks.
- Collect a combination of:
 - Incentive-compatible browsing,
 - Organic browsing.

Research Questions:

- What is the (short-run) effect of Amazon offering own brands that compete with third-party products on consumer choices and satisfaction?
- Are outcomes influenced by self-preferencing practices?

RESULTS

<p>Energizer AAA Batteries, Triple A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1) 32 Count (Pack of 1) ★★★★★ - 9,566 \$22⁹⁸ (\$0.72/Count) \$21.83 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items Bundles available</p>	<p>Duracell Coppertop AA Batteries with Power Boost Ingredients, 20 Count Pack Double A Battery with Long-... 20 Count (Pack of 1) ★★★★★ - 45,560 \$19⁸⁶ (\$0.99/Count) \$36.99 \$18.87 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items Bundles available</p>	<p>Duracell Coppertop AA Batteries 28 Count Pack Double A Battery with Power Boost Ingredients, Long-... 20 Count (Pack of 1) ★★★★★ - 613 \$23¹⁹ (\$1.16/Count) \$35.99 \$22.03 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items</p>	<p>Duracell Coppertop AAA Batteries with Power Boost Ingredients, 20 Count Pack Triple A Battery with... 20 Count (Pack of 1) ★★★★★ - 59,771 \$17⁹⁹ (\$0.90/Count) \$17.09 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items</p>	<p>Energizer AA Batteries and AAA Batteries, 24 Max Double A Batteries and 24 Max Triple A Batteries Comb... 48 Count (Pack of 1) ★★★★★ - 54,646 \$32⁷⁵ (\$0.68/Count) \$99.98 \$31.11 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM More Buying Choices \$31.42 (13 new offers)</p>
---	---	--	---	---

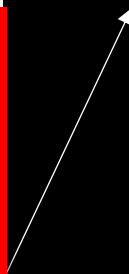
HIGHLY RATED

<p>Energizer AAA Batteries, Triple A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1) 32 Count (Pack of 1) ★★★★★ - 9,566 \$22⁹⁸ (\$0.72/Count) \$21.83 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items</p>	<p>Energizer AA Batteries, Double A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1) 32 Count (Pack of 1) ★★★★★ - 18,424 \$23⁰⁶ (\$0.72/Count) \$21.91 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items</p>	<p>Duracell Coppertop AA Batteries with Power Boost Ingredients, 20 Count Pack Double A Battery with Long-... 20 Count (Pack of 1) ★★★★★ - 45,560 \$19⁸⁶ (\$0.99/Count) \$36.99 \$18.87 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items</p>	<p>Energizer D Batteries, D Cell Long-Lasting Alkaline Power Batteries 12 Count(Pack of 1) 12 Count (Pack of 1) ★★★★★ - 3,118 \$22⁹⁹ (\$1.92/Count) \$21.84 with Subscribe & Save discount ✓prime Two-Day FREE delivery Wed, Apr 19</p>	<p>Duracell Coppertop AAA Batteries with Power Boost Ingredients, 20 Count Pack Triple A Battery with... 20 Count (Pack of 1) ★★★★★ - 59,771 \$17⁹⁹ (\$0.90/Count) \$17.09 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items</p>
--	--	--	---	---

RESULTS

<p>Energizer AAA Batteries, Triple A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1) 32 Count (Pack of 1) ★★★★★ - 9,566 \$22⁹⁸ (\$0.72/Count) \$21.83 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items Bundles available</p>	<p>Duracell Coppertop AA Batteries with Power Boost Ingredients, 20 Count Pack Double A Battery with Long-... 20 Count (Pack of 1) ★★★★★ - 45,560 \$19⁸⁶ (\$0.99/Count) \$26.99 \$18.87 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items Bundles available</p>	<p>Duracell Coppertop AA Batteries 28 Count Pack Double A Battery with Power Boost Ingredients, Long-... 20 Count (Pack of 1) ★★★★★ - 613 \$23¹⁹ (\$1.16/Count) \$25.99 \$22.03 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items</p>	<p>Duracell Coppertop AAA Batteries with Power Boost Ingredients, 20 Count Pack Triple A Battery with... 20 Count (Pack of 1) ★★★★★ - 59,771 \$17⁹⁹ (\$0.90/Count) \$17.09 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items</p>	<p>Amazon Basics 48 Pack AA High-Performance Alkaline Batteries, 10-Year Shelf Life, Easy to Open Value... 48 Count (Pack of 1) ★★★★★ - 693,388 \$15⁶⁷ (\$0.33/Count) \$16.49 \$14.89 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items Amazon brand</p>
---	---	--	---	--

<p>Amazon Basics 36 Pack AAA High-Performance Alkaline Batteries, 10-Year Shelf Life, Easy to Open Value... 36 Count (Pack of 1) ★★★★★ - 661,764 \$13⁷⁰ (\$0.38/Count) \$13.02 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items Amazon brand</p>	<p>Amazon Basics 24 Count AA & AAA High-Performance Batteries Value Pack - 12 Double AA Batteries and 1... 1 Count (Pack of 1) ★★★★★ - 2,640 \$14⁸⁴ (\$14.84/Count) \$14.10 with Subscribe & Save discount ✓prime One-Day FREE delivery Tomorrow, Apr 18 Or FREE delivery Overnight 7 AM - 11 AM on \$25 of qualifying items Amazon brand</p>	<p>Energizer AA Batteries and AAA Batteries, 24 Max Double A Batteries and 24 Max Triple A Batteries Comb... 48 Count (Pack of 1) ★★★★★ - 54,646 \$32⁷⁵ (\$0.68/Count) \$99.98 \$31.11 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM More Buying Choices \$31.42 (13 new offers)</p>	<p>Amazon Basics 9 Volt Performance All-Purpose Alkaline Batteries, 5-Year Shelf Life, Easy to Open, Packaging... 8 Count (Pack of 1) ★★★★★ - 146,964 \$12⁹⁹ (\$1.62/Count) \$12.34 with Subscribe & Save discount ✓prime One-Day FREE delivery Tomorrow, Apr 18 Amazon brand</p>	<p>Energizer AA Batteries, Double A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1) 32 Count (Pack of 1) ★★★★★ - 18,424 \$23⁰⁶ (\$0.72/Count) \$21.91 with Subscribe & Save discount ✓prime Same-Day FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items Bundles available</p>
---	---	---	--	---



RESULTS



Sponsored

Energizer AAA Batteries, Triple A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1)

★★★★☆ - 9,566

\$22⁹⁸ (\$0.72/Count)

\$21.83 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

Bundles available



Sponsored

Duracell Coppertop AA Batteries with Power Boost Ingredients, 20 Count Pack Double A Battery with Long-...

★★★★☆ - 45,560

\$19⁸⁶ (\$0.99/Count) \$20.99

\$18.87 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

Bundles available



Sponsored

Duracell Coppertop AA Batteries 28 Count Pack Double A Battery with Long-...

★★★★☆ - 613

\$23¹⁹ (\$1.16/Count) \$26.99

\$22.03 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Sponsored

Duracell Coppertop AAA Batteries with Power Boost Ingredients, Long-...

★★★★☆ - 59,771

\$17⁹⁹ (\$0.90/Count)

\$17.09 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Amazon's Choice

Sponsored

Amazon Basics 48 Pack AA High-Performance Alkaline Batteries, 10-Year Shelf Life, Easy to Open Value-...

★★★★☆ - 693,388

\$15⁶⁷ (\$0.33/Count) \$16.49

\$14.89 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

Amazon brand



Best Seller

Amazon Basics 36 Pack AAA High-Performance Alkaline Batteries, 10-Year Shelf Life, Easy to Open Value-...

★★★★☆ - 661,764

\$13⁷⁰ (\$0.38/Count)

\$13.02 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

Amazon brand



Amazon Basics 24 Count AA & AAA High-Performance Batteries Value Pack - 12 Double AA Batteries and 1...

★★★★☆ - 2,640

\$14⁸⁴ (\$14.84/Count)

\$14.10 with Subscribe & Save discount

prime One-Day

FREE delivery Tomorrow, Apr 18

Or FREE delivery Overnight 7 AM - 11 AM on \$25 of qualifying items

Amazon brand



Energizer AA Batteries and AAA Batteries, 24 Max Double A Battery and 24 Max Triple A Batteries Comb...

★★★★☆ - 54,646

\$32⁷⁵ (\$0.68/Count) \$39.98

\$31.11 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM

More Buying Choices

\$31.42 (13 new offers)



Best Seller

Amazon Basics 9 Volt Performance All-Purpose Alkaline Batteries, 5-Year Shelf Life, Easy to Open, Packaging-...

★★★★☆ - 146,964

\$12⁹⁹ (\$1.62/Count)

\$12.34 with Subscribe & Save discount

prime One-Day

FREE delivery Tomorrow, Apr 18

Amazon brand



Energizer AA Batteries, Double A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1)

★★★★☆ - 18,424

\$23⁰⁶ (\$0.72/Count)

\$21.91 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

Bundles available

HIGHLY RATED



Sponsored

Energizer AAA Batteries, Triple A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1)

★★★★☆ - 9,566

\$22⁹⁸ (\$0.72/Count)

\$21.83 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Sponsored

Energizer AA Batteries, Double A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1)

★★★★☆ - 18,424

\$23⁰⁶ (\$0.72/Count)

\$21.91 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Sponsored

Duracell Coppertop AA Batteries with Power Boost Ingredients, 20 Count Pack Double A Battery with Long-...

★★★★☆ - 45,560

\$19⁸⁶ (\$0.99/Count) \$20.99

\$18.87 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Sponsored

Energizer D Batteries, D Cell Long-Lasting Alkaline Power Batteries 12 Count(Pack of 1)

★★★★☆ - 3,118

\$22⁹⁹ (\$1.92/Count)

\$21.84 with Subscribe & Save discount

prime Two-Day

FREE delivery Wed, Apr 19



Sponsored

Duracell Coppertop AAA Batteries with Power Boost Ingredients, 20 Count Pack Triple A Battery with-...

★★★★☆ - 59,771

\$17⁹⁹ (\$0.90/Count)

\$17.09 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

RESULTS



Sponsored

Energizer AAA Batteries, Triple A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1)

★★★★☆ - 9,566

\$22⁹⁸ (\$0.72/Count)

\$21.83 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

Bundles available



Sponsored

Duracell Coppertop AA Batteries 28 Count Pack Double A Battery with Long-...

★★★★☆ - 613

\$23¹⁹ (\$1.16/Count) \$26.99

\$22.03 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Amazon's Choice

Sponsored

Amazon Basics 48 Pack AA High-Performance Alkaline Batteries, 10-Year Shelf Life, Easy to Open Value-...

★★★★☆ - 693,388

\$15⁶⁷ (\$0.33/Count) \$16.49

\$14.89 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

Amazon brand



Best Seller

Sponsored

Amazon Basics 36 Pack AAA High-Performance Batteries Value Pack - 12 Double AA Batteries and 1...

★★★★☆ - 2,641

\$13⁷⁰ (\$0.38/Count)

\$13.02 with Subscribe & Save discount

prime One-Day

FREE delivery Tomorrow, Apr 18

Or FREE delivery Overnight 7 AM - 11 AM on \$25 of qualifying items

Amazon brand

HIGHLY RATED



Sponsored

Energizer AAA Batteries, Triple A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1)

★★★★☆ - 9,566

\$22⁹⁸ (\$0.72/Count)

\$21.83 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Sponsored

Energizer AA Batteries, Double A Long-Lasting Alkaline Power Batteries, 32 Count (Pack of 1)

★★★★☆ - 18,424

\$23⁰⁶ (\$0.72/Count)

\$21.91 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Sponsored

Duracell Coppertop AA Batteries with Power Boost Ingredients, 20 Count Pack Double A Battery with Long-...

★★★★☆ - 45,560

\$19⁸⁶ (\$0.99/Count) \$20.99

\$18.87 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items



Sponsored

Energizer D Batteries, D Cell Long-Lasting Alkaline Power Batteries 12 Count(Pack of 1)

★★★★☆ - 3,118

\$22⁹⁹ (\$1.92/Count)

\$21.84 with Subscribe & Save discount

prime Two-Day

FREE delivery Wed, Apr 19



Sponsored

Duracell Coppertop AAA Batteries with Power Boost Ingredients, 20 Count Pack Triple A Battery with-...

★★★★☆ - 59,771

\$17⁹⁹ (\$0.90/Count)

\$17.09 with Subscribe & Save discount

prime Same-Day

FREE delivery Today 2 PM - 6 PM on \$25 of qualifying items

How Does Amazon Rank Products?

- Strongest predictors of higher position:
 - Prime eligibility 
 - Number of ratings
 - Best Seller badge 
 - Sponsored

How Does Amazon Rank Products?

- Strongest predictors of higher position:

- Prime eligibility 

- Number of ratings

- Best Seller badge 

- Sponsored

- ... and Amazon Brand 

Effect of Amazon Brands on Consumer Choice

	Amazon Brand (1)	Price (2)	Reviews (3)	Stars (4)	Major Brand (5)	Prime Eligible (6)	Sponsored (7)
Hide Amazon	-0.076*** (0.007)	-0.758 (0.402)	-9,049.732*** (1,669.677)	0.030 (0.015)	0.044*** (0.013)	-0.006 (0.021)	-0.028 (0.018)
R ²	0.085	0.109	0.111	0.077	0.296	0.116	0.032
Observations	5,200	5,120	5,135	5,193	4,789	4,734	3,482
Mean of Y	0.092	21.083	27930.659	4.538	0.36	0.603	0.416
Category fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Treatment is effective at removing Amazon brands from consumer choices...

Effect of Amazon Brands on Consumer Choice

	Amazon Brand (1)	Price (2)	Reviews (3)	Stars (4)	Major Brand (5)	Prime Eligible (6)	Sponsored (7)
Hide Amazon	-0.076*** (0.007)	-0.758 (0.402)	-9,049.732*** (1,669.677)	0.030 (0.015)	0.044*** (0.013)	-0.006 (0.021)	-0.028 (0.018)
R ²	0.085	0.109	0.111	0.077	0.296	0.116	0.032
Observations	5,200	5,120	5,135	5,193	4,789	4,734	3,482
Mean of Y	0.092	21.083	27930.659	4.538	0.36	0.603	0.416
Category fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Treatment is effective at removing Amazon brands from consumer choices...

But substitute products are fairly comparable, except for reviews and major brands.

Effect of Amazon Brands on Consumer Choice

	Amazon Brand (1)	Price (2)	Reviews (3)	Stars (4)	Major Brand (5)	Prime Eligible (6)	Sponsored (7)
Hide Amazon	-0.076*** (0.007)	-0.758 (0.402)	-9,049.732*** (1,669.677)	0.030 (0.015)	0.044*** (0.013)	-0.006 (0.021)	-0.028 (0.018)
R ²	0.085	0.109	0.111	0.077	0.296	0.116	0.032
Observations	5,200	5,120	5,135	5,193	4,789	4,734	3,482
Mean of Y	0.092	21.083	27930.659	4.538	0.36	0.603	0.416
Category fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Treatment is effective at removing Amazon brands from consumer choices...

But substitute products are fairly comparable, except for reviews and major brands.

No change in: search effort, propensity to use Amazon again, customer satisfaction.

These Choices Allow Testing for Self-Preferencing

Based on Becker 1957 (+ Aguiar et al. `21 and Reimers & Waldfogel `23):

“A platform is biased in favor of a product if the product attains smaller success conditional on ex-ante assessment.”

- Ex-ante assessment: assigned product rank
- Success: demand

$$product\ selected_{isj} = \alpha amazon_{isj} + \mu_{isj} + \gamma X_{isj} + \epsilon_{isj}$$

No Evidence of Self-Preferencing in Search

	(1)	(2)	(3)	(4)
Amazon Brand	0.013*** (0.003)	0.008** (0.003)	0.013*** (0.003)	0.007* (0.003)
Log(Reviews + 1)		0.003*** (0.000)		0.003*** (0.000)
Price			0.000** (0.000)	0.000** (0.000)
Prime Eligible				0.012*** (0.001)
Major Brand				0.003* (0.001)
Star Rating				0.012*** (0.001)
Fast Delivery				-0.002 (0.002)
Free Delivery				0.005** (0.002)
R ²	0.034	0.036	0.034	0.037
Observations	278,736	278,736	278,736	278,702
Page-User fixed effects	Yes	Yes	Yes	Yes
Realized Rank fixed effects	Yes	Yes	Yes	Yes

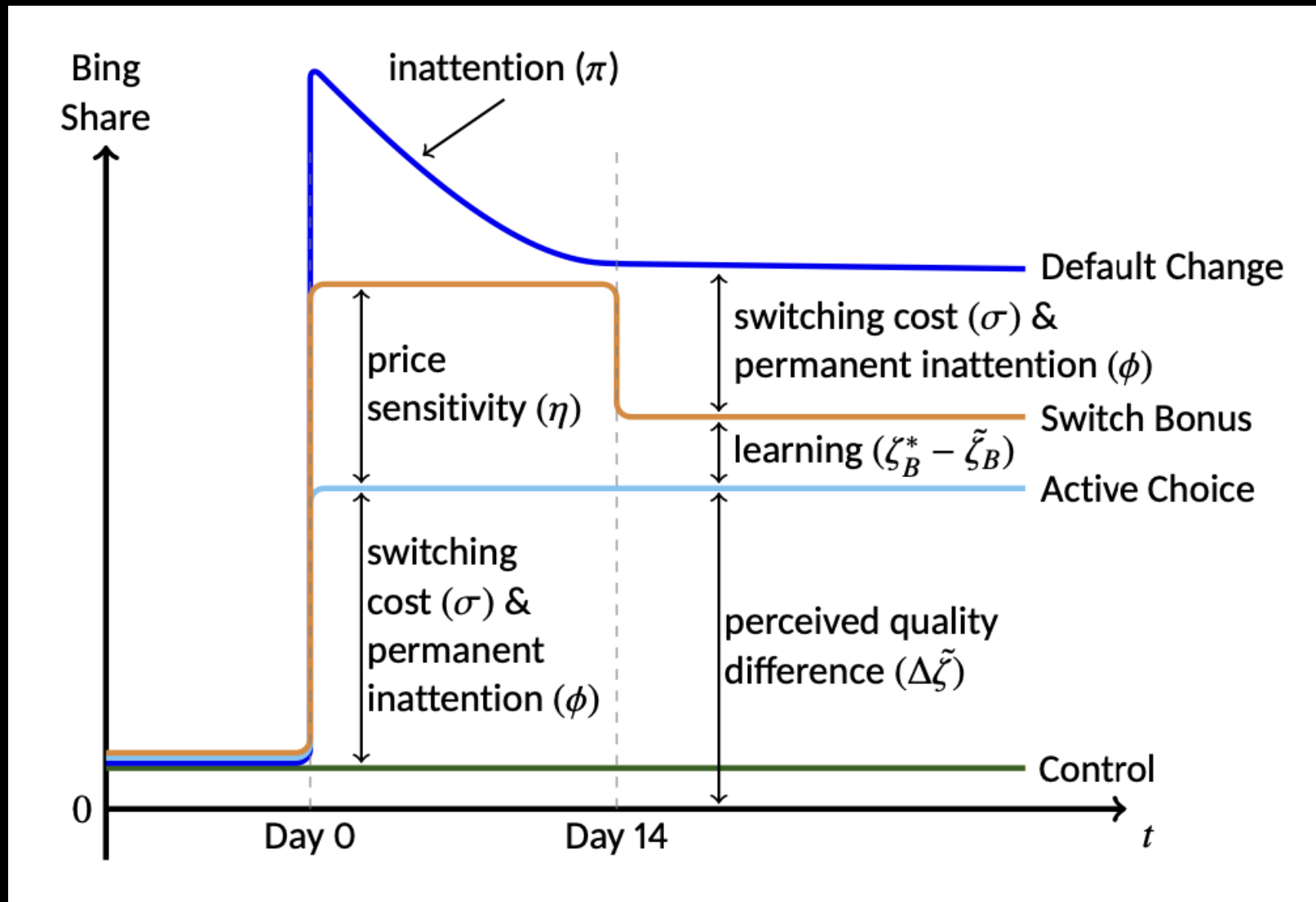
Why Do Digital Platforms Enjoy Market Power?

In the context of online search:

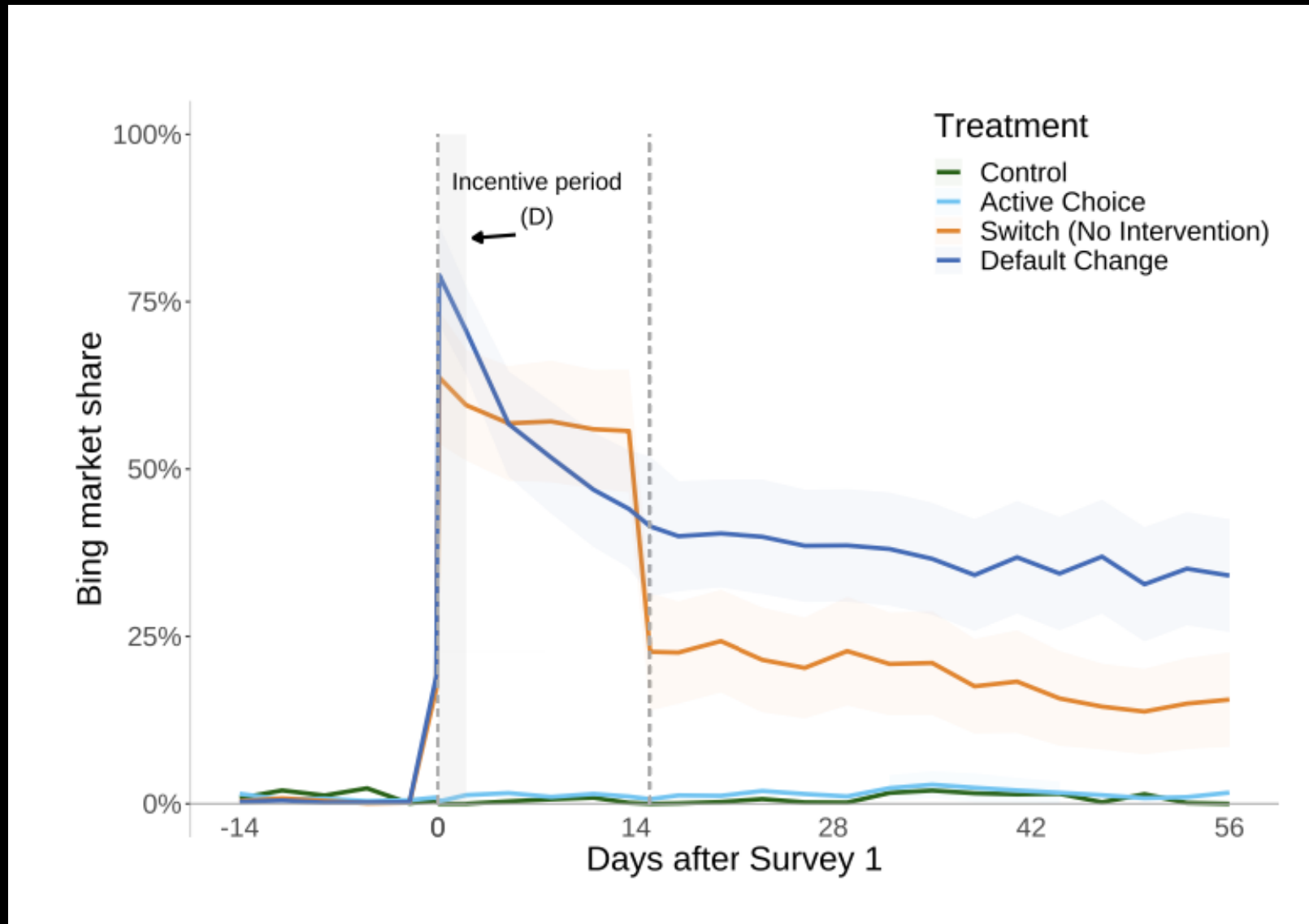
- True quality differences (perhaps driven by economies of scale)?
- Quality misperceptions (experience goods)?
- Default effects (switching costs and inattention), which may reinforce quality misperceptions?

Sources of Market Power in Web Search: Evidence from a Field Experiment (Alcott, Castillo, Gentzkow, Musolff, Salz)

Why Do Digital Platforms Enjoy Market Power?



Why Do Digital Platforms Enjoy Market Power?



Why Do Digital Platforms Enjoy Market Power?

Description	Switching cost & inattention?	Misper- ceptions?	Direct effects (fixed quality)		Equilibrium effects (endogenous quality)	
			Google share (%)	CS gain (\$/year)	Google share (%)	CS gain (\$/year)
Status Quo	✓	✓	88.9	0.00	88.9	0.00
No Frictions			73.8	6.01	72.9	6.04
+ Data Sharing					71.9	6.31
Chrome Choice Screen		✓	87.6	0.09	87.5	0.09
No Misperceptions	✓		78.4	0.46	77.9	0.47
+ Data Sharing					77.1	0.72
Bing Default	✓	✓	48.9	-70.92	47.7	-70.61
+ Delayed Chrome Choice Scr.	✓	✓	72.1	0.04	71.4	0.08

Information Collection and Privacy: Data Sharing and Website Competition: The Role of Dark Patterns (WP, with Fradkin and Lin)

[Continue without accepting >](#)

Select your cookie preferences

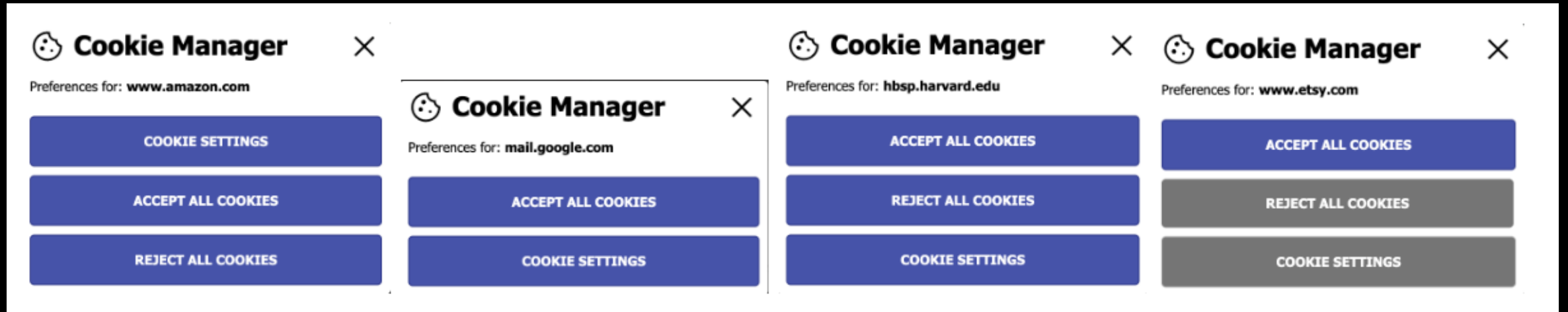
We use cookies and similar tools that are necessary to enable you to make purchases, to enhance your shopping experiences, and to provide our services, as detailed in our [Cookie Notice](#). We also use these cookies to understand how customers use our services (for example, by measuring site visits) so we can make improvements.

If you agree, we will also use cookies to complement your shopping experience across Amazon stores as described in our [Cookie Notice](#). This includes using first- and [third-party cookies](#) which store or access standard device information such as a unique identifier. Third parties use cookies for the purposes of displaying and measuring personalised advertisements, generating audience insights, and developing and improving products. Click 'Continue without accepting' or 'Customise Cookies' to decline these cookies, make more detailed choices or learn more. You can change your choices at any time by visiting [Cookie Preferences](#), as described in the Cookie Notice. To learn more about how and for what purposes Amazon uses personal information (such as Amazon Store order history), please visit our [Privacy Notice](#).

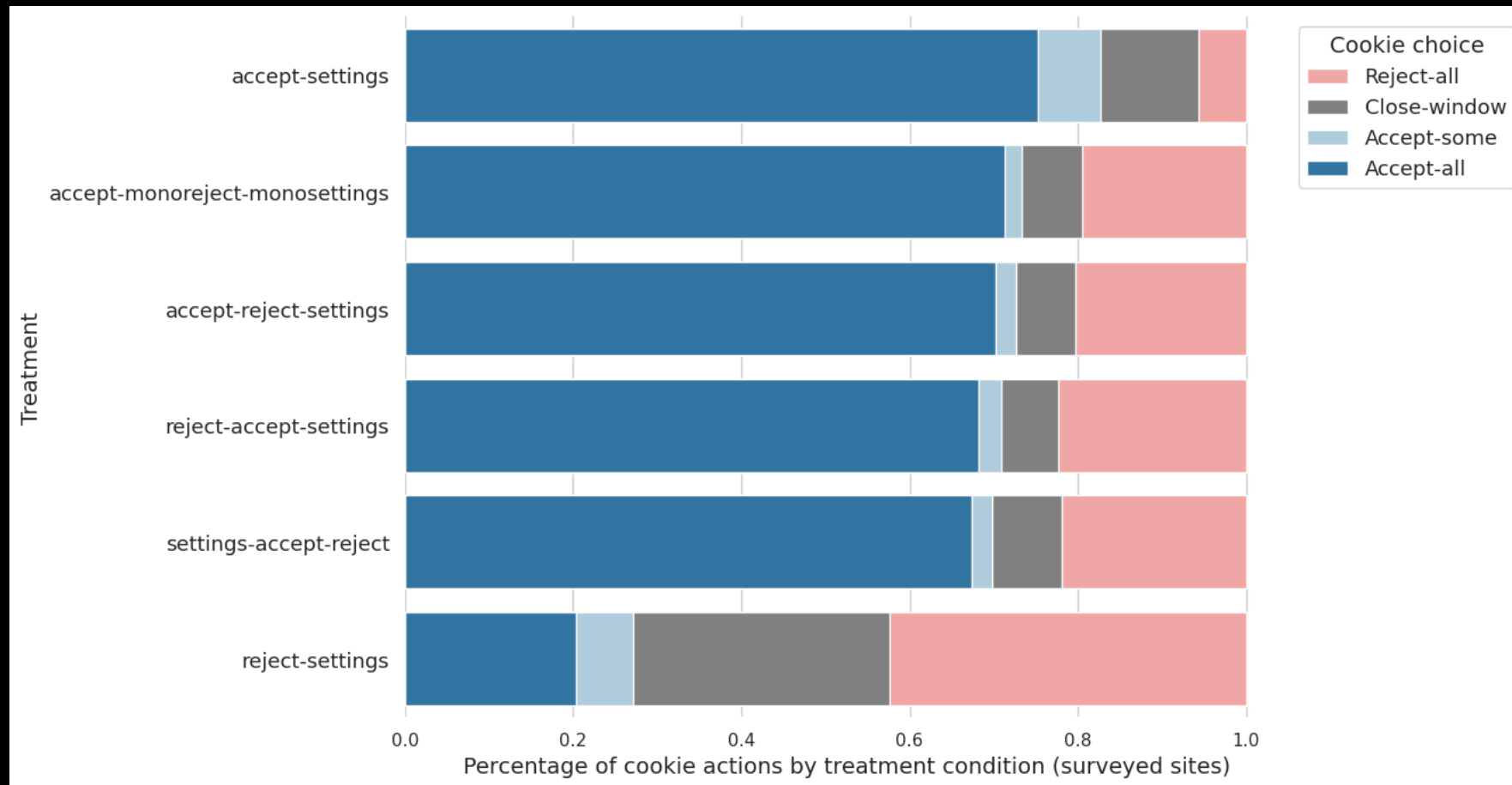
Accept and continue

Customise

How Do Consumers Make Privacy Choices Online?



How Do Consumers Make Privacy Choices Online?



Concluding Thoughts

- Incredibly exciting time to study regulation of digital platforms.
- Increasingly difficult to get companies to collaborate on some of these topics.
- Must be creative in data collection methods:
 - Freedom of Information Act (FOIA) requests, Article 40 of DSA;
 - Enroll study participants and track their digital behavior (but make it as realistic as possible);
 - Combine actual and hypothetical (surveys) choices;
 - Scraping (when allowed by journals and websites);
 - Access data from third parties/intermediaries (e.g., AirDNA).
- Look out for policy changes (e.g., GDPR in 2018, DMA in 2022, more to come in the US) → and don't just focus on the unintended consequences 😊

Thank you.

cfarronato@hbs.edu

[And thanks to my co-authors in these papers & ongoing work:
Andrey Fradkin, Erik Brynjolfsson, Jessica Fong, Chris Karr, Bradley
Larsen, Tesary Lin, Alexander MacKay, Giorgos Zervas]