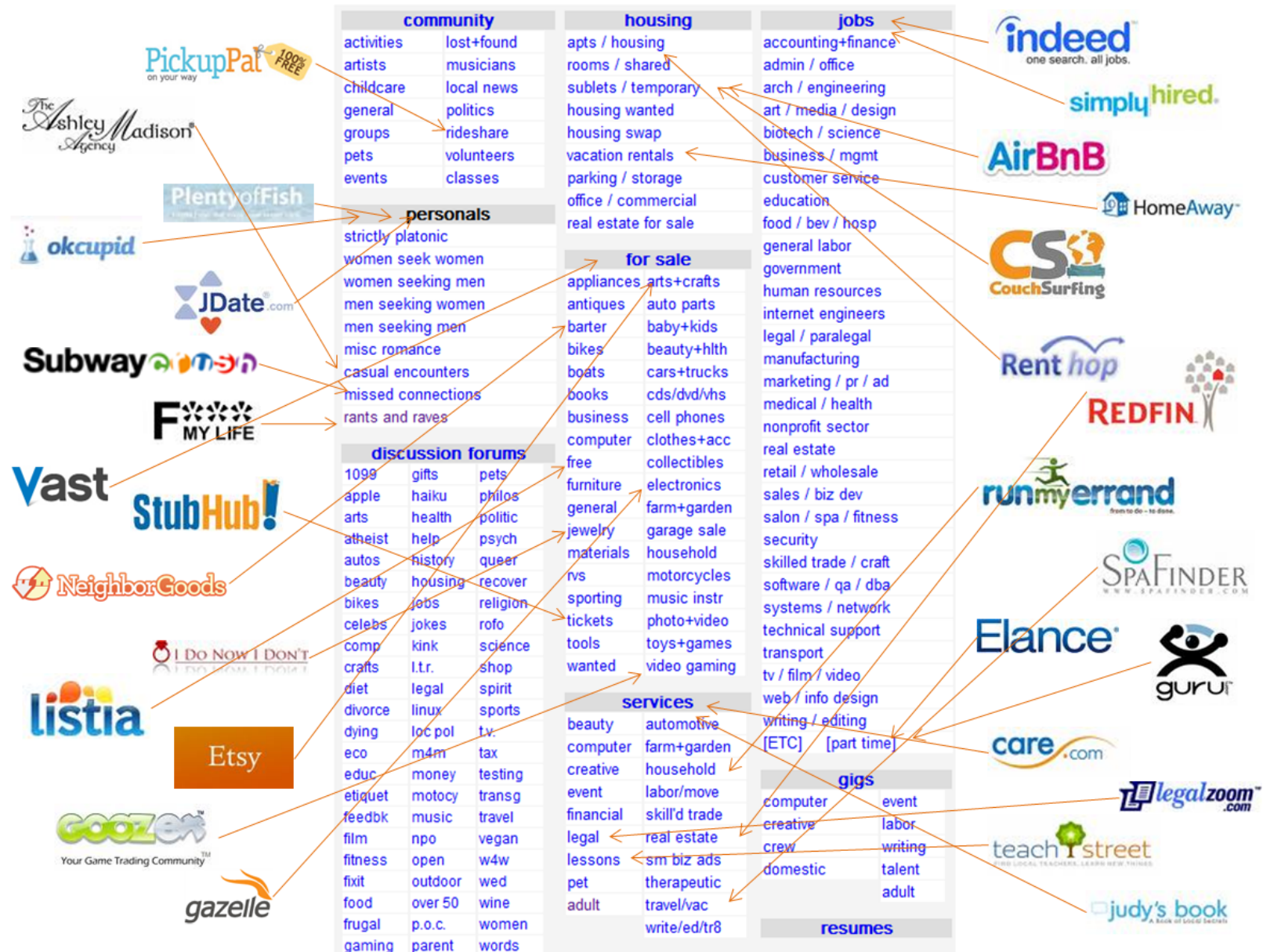


Economics of Peer-to-Peer Markets

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Stanford University

Lear Conference
July 25, 2015

Internet Marketplaces



On-Demand Services

THE WALL STREET JOURNAL.

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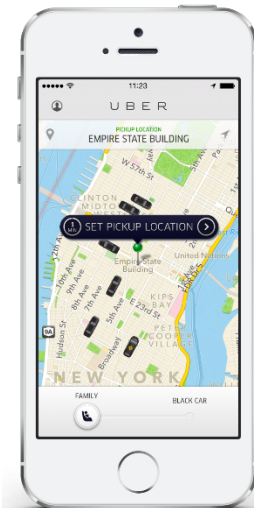
TECH | PERSONAL TECH | PERSONAL TECHNOLOGY

There's an Uber for Everything Now

Apps do your chores: shopping, parking, cooking, cleaning, packing, shipping and more



ILLUSTRATION: ROBERT NEUBECKER



Introduction

- Peer-to-peer business model
 - Use technology to facilitate matching of buyers and sellers
 - Allow small flexible suppliers to compete with larger ones.
 - Facilitate trade in personalized or time-varying goods and services
 - Reduce costs by bypassing regulation
- How do they do it?
 - Common themes: spot exchange, importance of structured search and matching, dynamic or flexible pricing, trust and reputation mechanisms.
 - But implementation take various forms: decentralized marketplaces (eBay, Airbnb), centralized exchange (Uber, on-demand services, Google AdWords).
- Concerns: quality standards, erodes “full-time” work, disruptive....

Outline of Talk

1. Market design problems
 - Matching, pricing & trust
2. Effect on Traditional Industries
 - When is “peer production” efficient?
 - Competition with traditional industries
3. Regulation and policy response
 - Who to protect: consumers vs. incumbents
 - How to do it: ex ante vs ex post vs self regulation

Market Design

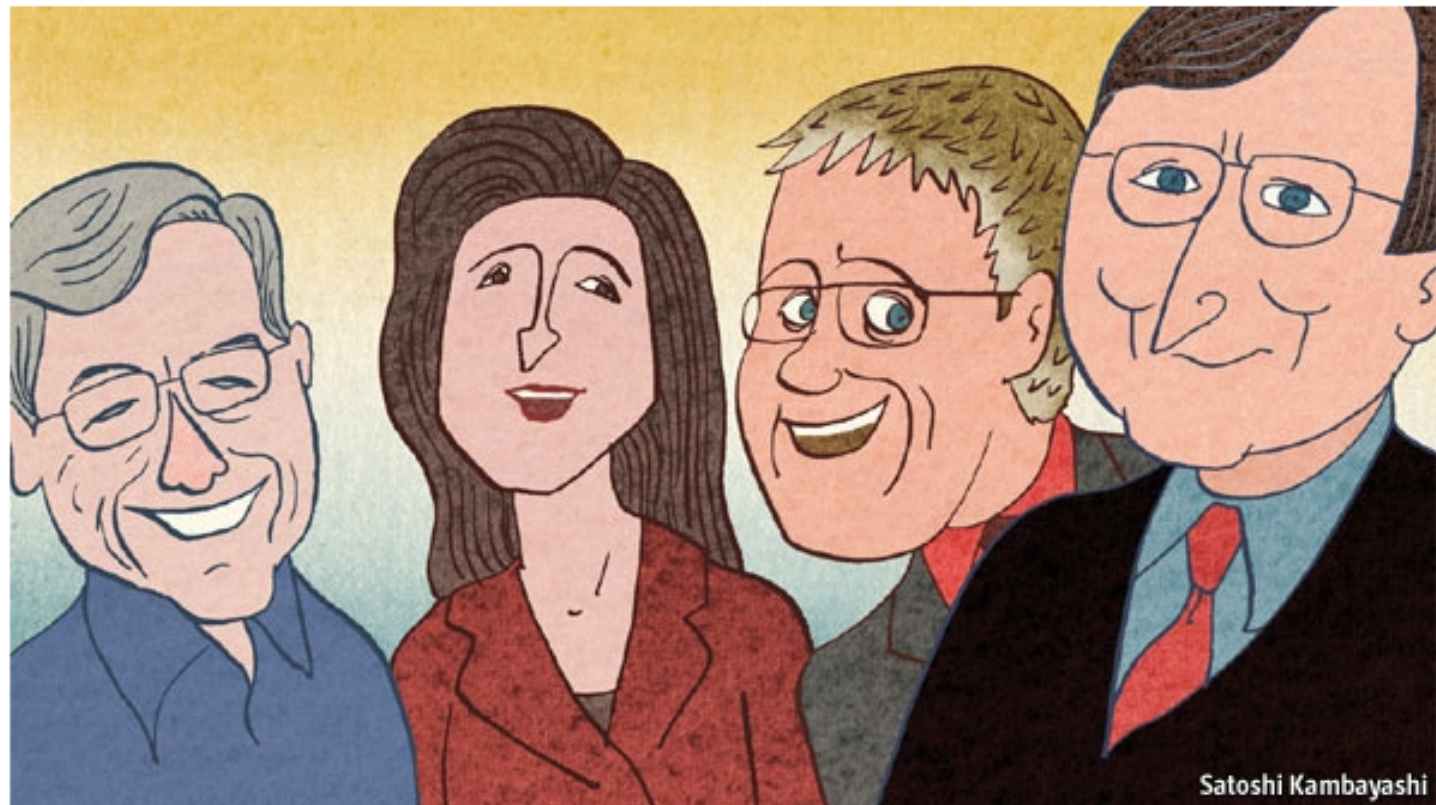
How to Design Efficient Large Scale Markets?

- Hire an economist!

Meet the economists who are making markets work better

October 24, 2012

www.economist.com



Market Design: Problems and Solutions

How to *match* buyers and sellers, and establish “terms of trade”?

- A key insight is trade-off between information & transaction costs
- Decentralized vs centralized models: Airbnb gives renters a choice of apartment; Uber lets riders pick destination but not driver.
- Auctions vs posted prices: economic theory says auctions often optimal, but hassle drove eBay, Prosper, oDesk to posted prices
- Trade-off improves with data: Google quality scores, Prosper risk scores, Uber scarcity forecasts, or by making *unit of transaction* less information sensitive (e.g. hours not tasks on Taskrabbit).

How to make transactions “safe” for buyers and sellers?

- A key insight here seems to be reliance of platforms on “ex post” reputation mechanisms, rather than “ex ante” screening and quality standards (although latter are used as well).

Market Design and Policy

- Can be tempting to view market design choices as strategic
 - Platforms attempting to foreclose rivals,
 - Or unfairly taking advantage of buyers or sellers.
- Important to keep in mind that in many cases, first order objective should be to make the market more efficient.
- Two examples may be illustrative
 - Uber surge pricing: more expensive to ride during rush hour, and sometimes price may change quickly (seems “unfair”) ... but balances demand/supply.
 - Uber (or Airbnb) two-sided reviews: seems invasive to be reviewed *as a customer!* – but in these cases sellers also need to be trusting.

P2P and Traditional Industries

A Simple Model

- Two types of supply technology

Dedicated: Pay $k(q)$ to build capacity q
Then costs \underline{c} to produce. (think hotel)

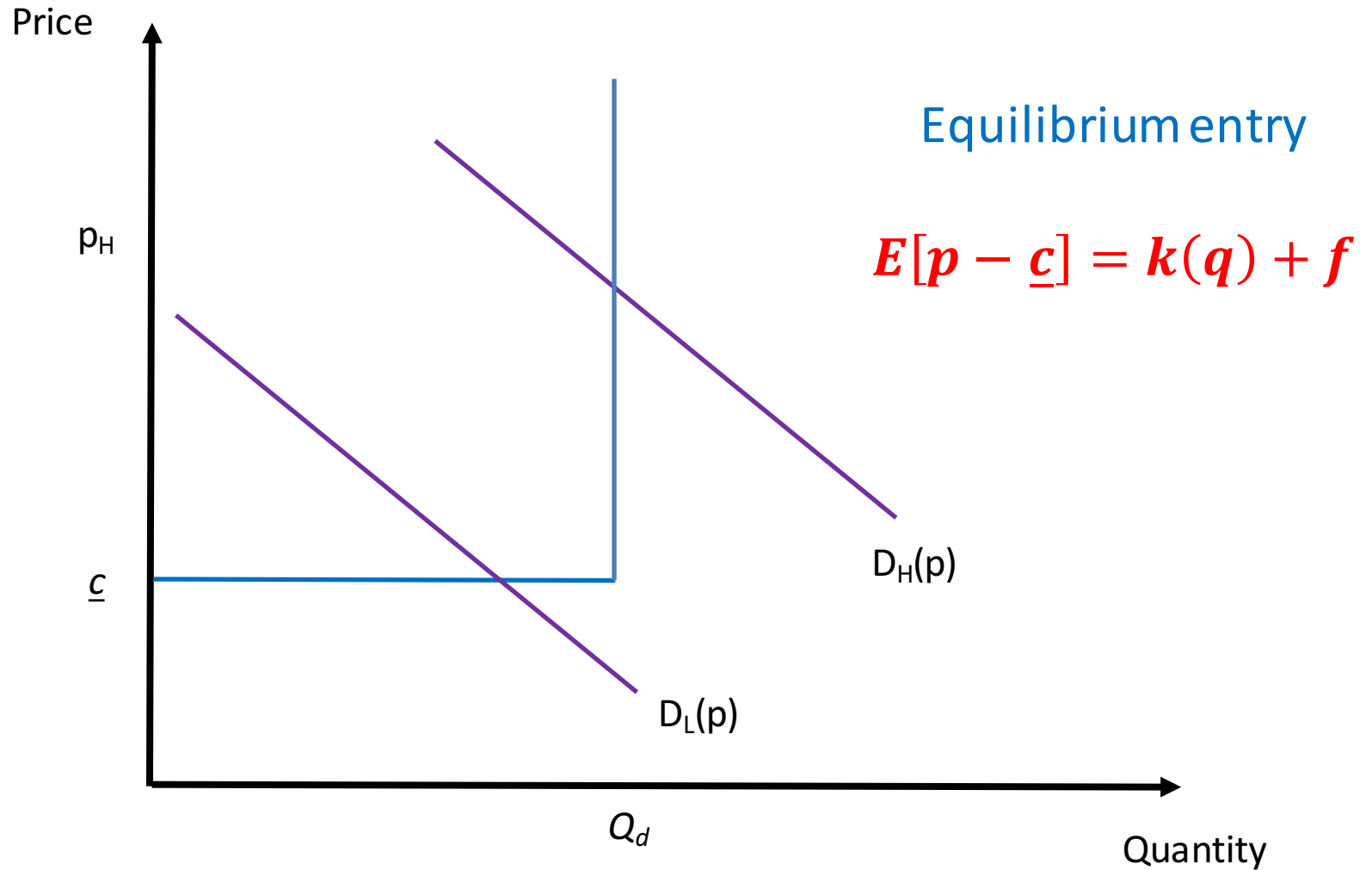
Flexible: Zero up-front cost, unit capacity
Then pay c G to produce. (think my apartment)

Hall and Krueger (2015):
“Drivers who partner with
Uber appear to be
attracted to the platform in
large part because of the
flexibility it offers”

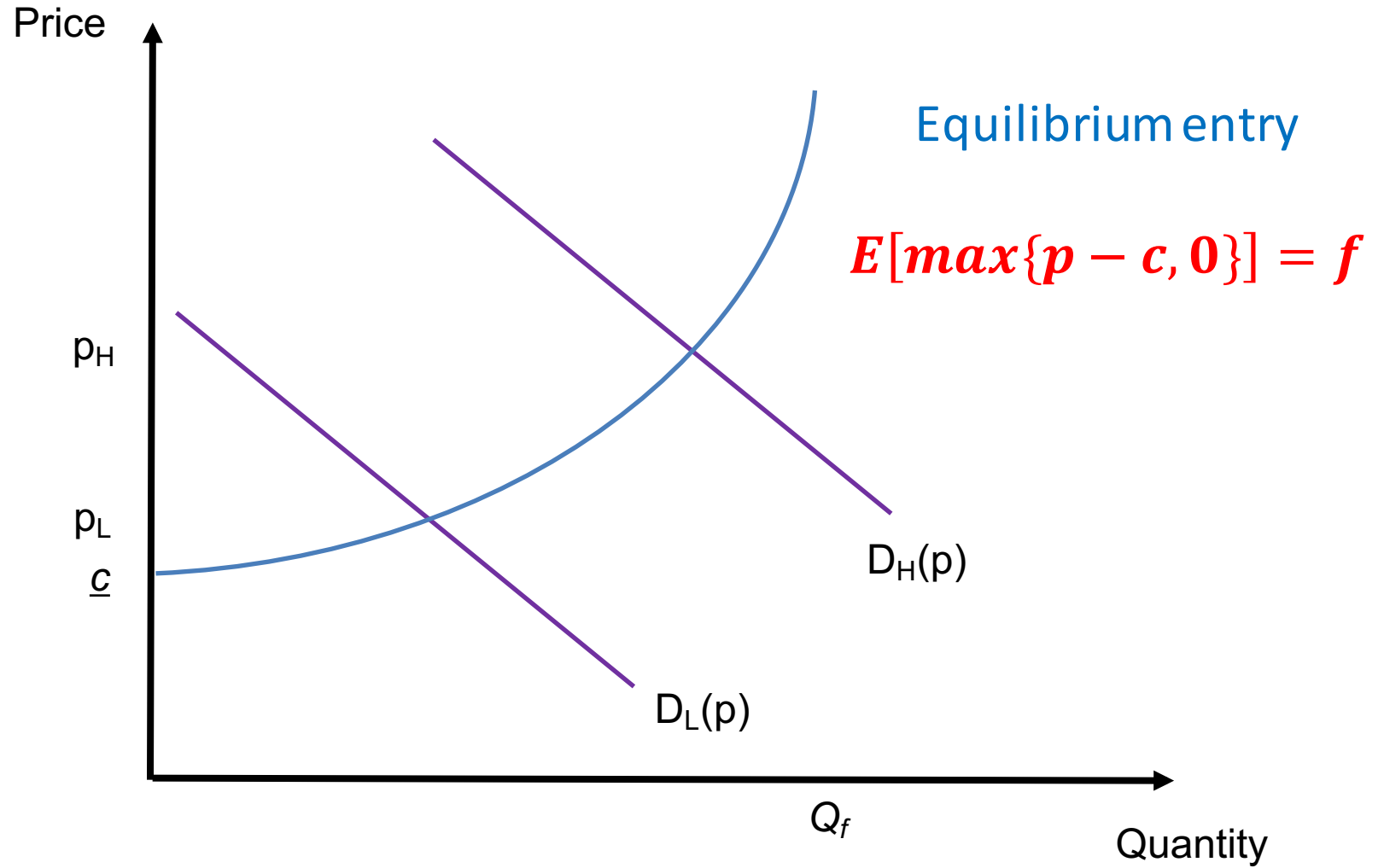
- All sellers must pay f to “become visible” to buyers.
- Demand sometimes high, sometimes low.
- Buyers and visible sellers trade at market-clearing price.

Note: drawn from Einav, Farronato, Levin (in progress)

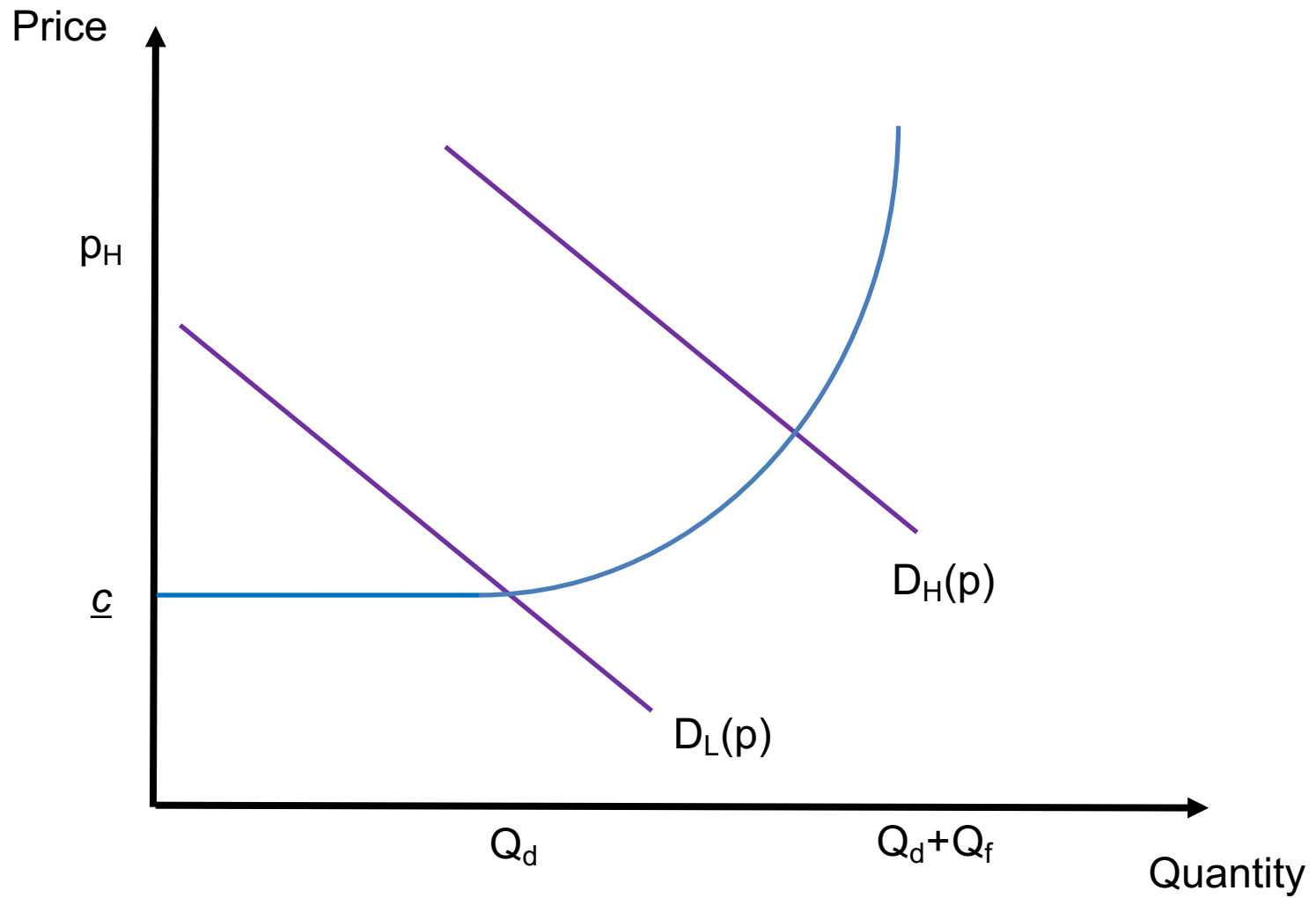
Dedicated Sellers



Flexible Sellers



Dedicated *and* Flexible Sellers



Technology and Peer Production

- What makes dedicated vs flexible production efficient
 - Scale economies in capacity, or full-time work => dedicated
 - Time-varying or specialized demand => flexible
 - **Visibility fixed costs** (advertising or reputation barriers)
- Advent of P2P platforms
 - Platform invests up-front ... makes participating sellers visible to buyers
 - Charges to recoup costs: best to charge per transaction, say t .
 - Scale economics in *intermediation* => market structure of platforms.
- What are the effects?
 - Entry by flexible sellers
 - Reduces prices *on average* ... consumers better off.
 - What about incumbents?

Not everyone is a winner ...



Protest of Uber by Cab Drivers in London

Regulation

Public policy approach is uncertain...

SF supervisors postpone vote on airbnb legislation, issue poised to go to ballot

Bay City News Source
Published: June 11, 2015, 9:14 pm



Related Coverage

[Airbnb pays millions in back taxes to San Francisco](#)

[Airbnb to Pay S.F. Hotel Tax](#)

SAN FRANCISCO (BCN) — When the San Francisco Board of Supervisors this week postponed by a month a vote on legislation that would regulate short-term rentals in the city, it sparked concerns among some proponents about behind-the-scenes deal making.

San Francisco Supervisor David Campos is the author of legislation that would limit short-term rentals on platforms such as San Francisco-based Airbnb while Supervisor Mark Farrell and Mayor Ed Lee have introduced conflicting legislation that would also regulate short-term rentals, albeit less

April 5, 2015 1:50 pm

Boost for Uber as Brussels considers regulation of ride sharing

Duncan Robinson in Brussels

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Uber has received a boost in its struggle to overcome regulatory barriers after the European Commission gave the clearest indication yet that it is considering ways to regulate the ride-sharing service at a European rather than national level.

Plans for an in-depth study into the European taxi market to “provide the necessary background for the commission to decide on the need for — and possible character of — any further action at EU level” emerged in a private letter from the commissioner for transport.



The commission, which received complaints from Uber after some of its services were banned in France and Germany, told the FT it supported the development of new and innovative mobility services.

More

ON THIS TOPIC

[Uber's total funding nears \\$10bn](#)

[FT View Law threatens to hit the brakes on Uber](#)

While services such as [Uber](#) should not circumvent national rules, member states have to respect the general principles of EU law such as proportionality,

... and key issues are up for grabs.

TECHNOLOGY

423 COMMENTS

California Says Uber Driver Is Employee, Not a Contractor

By MIKE ISAAC and NATASHA SINGER JUNE 17, 2015

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In a ruling that fuels a long-simmering debate over some of Silicon Valley's fastest-growing technology companies and the work they are creating, the California Labor Commissioner's Office said that a driver for the ride-hailing service Uber should be classified as an employee, not an independent contractor.

[The ruling](#) ordered Uber to reimburse Barbara Ann Berwick \$4,152.20 in expenses and other costs for the roughly eight weeks she worked as an Uber driver last year. While Uber has long positioned itself as merely an app that connects drivers and passengers — with no control over the hours its drivers work — the labor office cited many instances in which it said Uber acted more like an employer. Uber is appealing the decision.

The ruling does not apply beyond Ms. Berwick and could be altered if Uber's appeal succeeds. Uber has also prevailed in at least five other states in keeping its definition of drivers as independent contractors. Yet the California ruling stands out because officials formally laid out their arguments for why Uber drivers are



Uber drivers protested working conditions in Santa Monica, Calif., last year. Lucy Nicholson/Reuters



Regulatory Issues

- Regulatory Advantages

- Hard to get a hotel zoned but Airbnb makes it easy to open a small one
- Hard to get a taxi license, but Uber lets almost anyone be a taxi driver
- Lower burden for health, safety and occupational regulations

- Tax Advantages

- Online sellers in US often collect no tax on inter-state sales.
- Airbnb renters often pay no hotel tax (16.4% in Chicago ...), although now started collecting in San Francisco (14%) and Portland (11.5%)
- Online service providers may not report all income

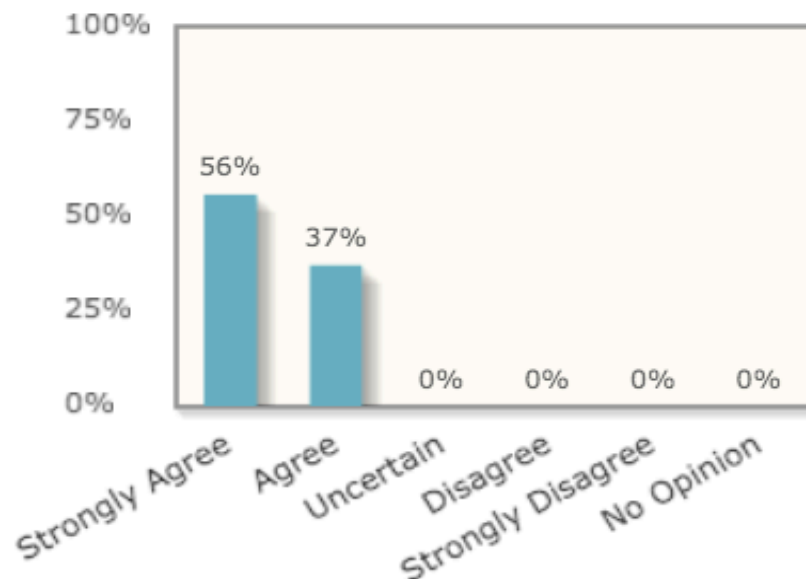
Economists seem to favor a light touch

Monday, September 29, 2014 9:10am

Taxi Competition

Letting car services such as Uber or Lyft compete with taxi firms on equal footing regarding genuine safety and insurance requirements, but without restrictions on prices or routes, raises consumer welfare.

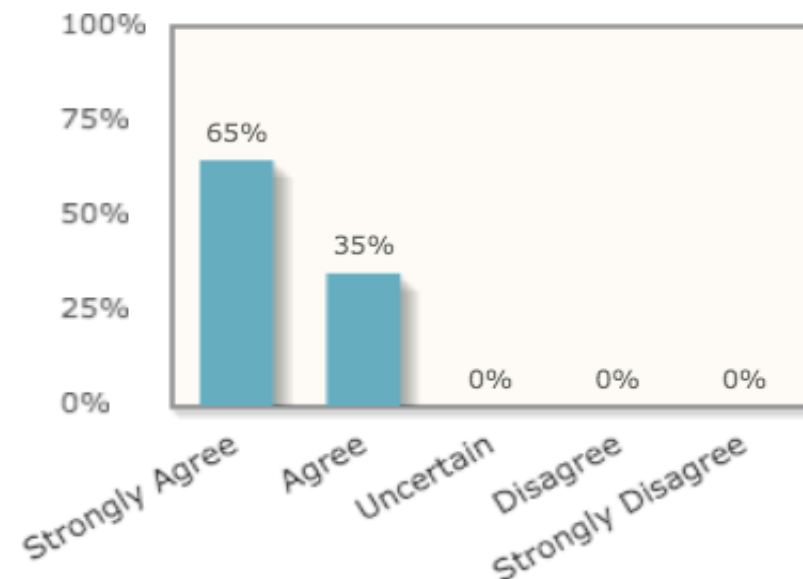
Responses



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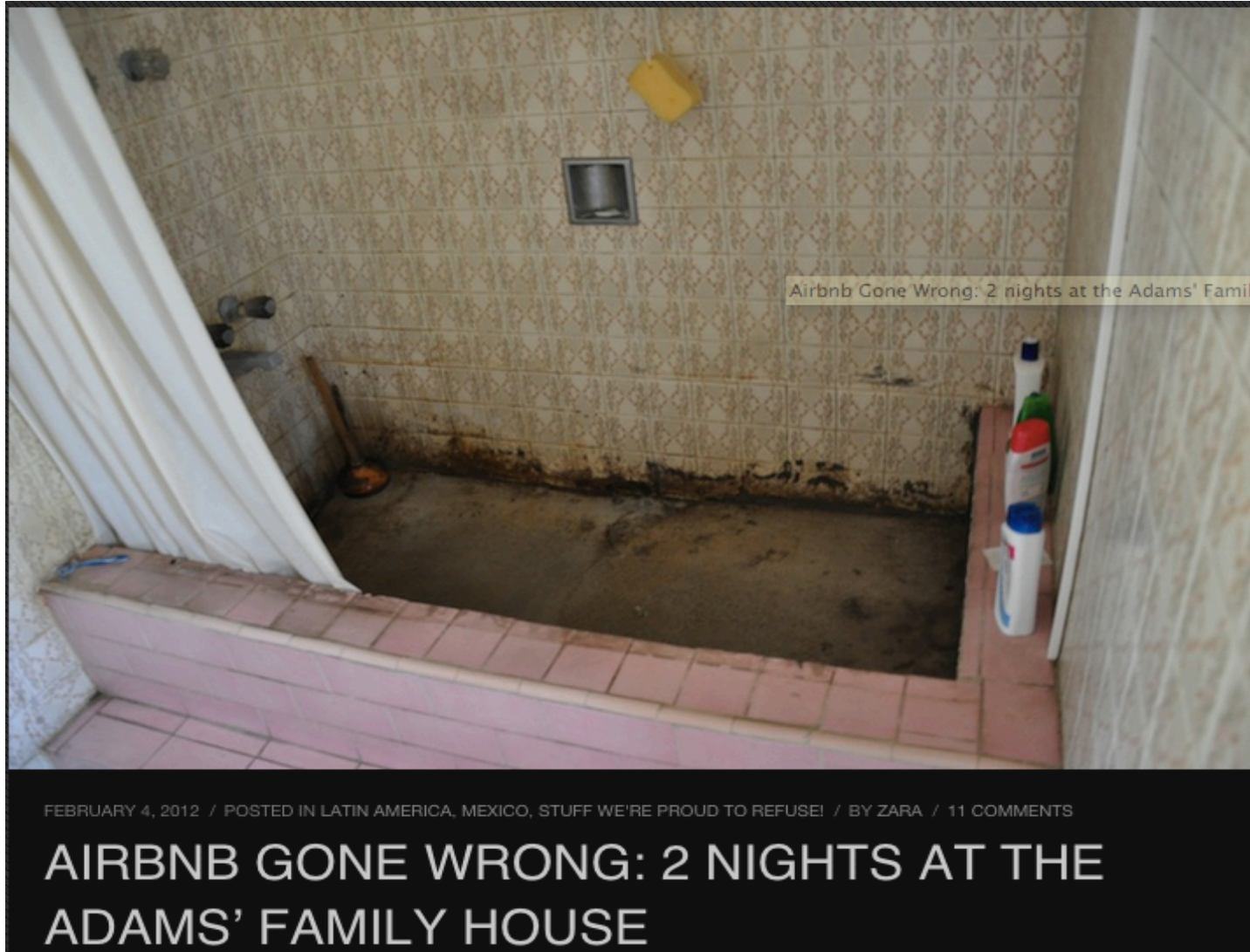
Responses weighted by each expert's confidence



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Consumer Protection



Consumer Protection

- Many regulations in this category
 - Licensing requirements
 - Health and safety regulations
 - State usury laws for lenders
 - Regulated taxi fares
- Traditional economic view
 - These regulations can create costs for consumers by limiting entry + competition, but also can protect consumers from unscrupulous sellers or from themselves, or even prevent market failures.
- Reasons P2P may be different
 - Trad. approach has high up-front costs, P2P model premised on lowering them.
 - P2P platforms have strong incentive to self-regulate.
- Modern data environment arguably shifts benefit-cost calculus toward an ex post, rather than ex ante enforcement model.

Regulation, Protection and Capture

- Peer-to-peer businesses also run up against regulatory policies that are aimed at protecting classes of citizens other than consumers
 - Zoning restrictions to preserve neighborhoods
 - Employment laws guaranteeing certain benefits or protections
 - Can view licensing requirements this way too ... as protecting incumbents.
- In these cases, political processes may not be optimized for consumers
 - Competitive benefits of P2P entry *for consumers* seem sufficiently large that we should be leery of regulating new businesses out of existence.
 - Plenty of evidence that political process can favor incumbent interests.
- Even if one is skeptical of P2P model, we should be leery of over-regulating *now*, while the potential benefits and costs are still unknown.

Thank You