The economic consequences of digital platforms: some reflections

Maurizio Franzini – Sapienza Università di Roma

Workers and firms in the platform economy,
Inapp – Roma, 14 June 2018
<table>
<thead>
<tr>
<th>Activity</th>
<th>Some platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>John Deere, Intuit Fasal</td>
</tr>
<tr>
<td>Communication and networking</td>
<td>LinkedIn, Facebook, Twitter, Instagram, Snapchat, Tinder, WeChat</td>
</tr>
<tr>
<td>Consumption</td>
<td>Philips, McCormick Foods, FlavorPrint</td>
</tr>
<tr>
<td>Education</td>
<td>Udemy, Skillshare, Coursera, edX, Duolingo</td>
</tr>
<tr>
<td>Energy</td>
<td>Nest, Tesla Powerwall, GE, EnerNoc</td>
</tr>
<tr>
<td>Finance</td>
<td>Bitcoin, Lending Club, Kick-starter</td>
</tr>
<tr>
<td>Health</td>
<td>Cohealo, Simplyinsured, Kaiser P.</td>
</tr>
<tr>
<td>Work and professional services</td>
<td>Upword, Sitterciy, Fiverr, 99 designs</td>
</tr>
<tr>
<td>Retail</td>
<td>Amazon, Alibaba, Walgreens, Burberry</td>
</tr>
<tr>
<td>Transport</td>
<td>Uber, BlaBlaCar, Waze, Grab-Taxi, Ola Cabs</td>
</tr>
<tr>
<td>Operative systems</td>
<td>iOS, Android, MacOS, Microsoft W.</td>
</tr>
<tr>
<td>Travel</td>
<td>Airbnb, Tripadvisor</td>
</tr>
<tr>
<td>Media</td>
<td>Medium, Viki, YouTube, Wikipedia, Kindle publishing</td>
</tr>
</tbody>
</table>
Types of platforms
(N. Snricek, Platform Capitalism, 2017)

- Advertising platform
- Cloud platforms
- Industrial platforms
- Product platforms
- Lean platforms

Differences...still all are platforms sharing one or more (odd) features
Outline

• Economic oddities in the platform economy
  – Labour relations
  – Costs
  – Revenues
  – Competition

• Consequences...the biggest one
  – Economic power and income concentration

• What can be done?
Skipped for lack of time and because others will talk about it better than me.
Free inputs

- **Data**
  - Data as unpaid input
  - Not only in the ad market
  - Data and Machine Learning – from human knowledge to Artificial Intelligence

- **Other unpaid work**
  - From the network,
  - Kodak at the peak of its business employed 140,000 people and had a value of 28 billion dollars. Instagram was bought by Facebook for 1 billion dollars and employed 13 people. The difference in value per employee depends largely on the network effects. But no income goes to the network ...
Zero marginal cost

- Revenues can increase without any additional cost
- Extra revenues are entirely extra-profits (or rents...)
- Negative marginal profits possible only with negative prices....
- Winner can take all
- Implications for efficiency
Revenues

• Revenues not from the service provided
• “Forced barter”
  – The reasons and the story behind the “forced barter” between free services and free data
• Efficiency in the provision of the service cannot even be computed (price equal to marginal cost...
Barriers to competition
(joint or alternative)

- Network effects
  - The greater the number of connected people the greater the individual value

- Switch costs
  - If you have all your contacts in Gmail how much would it cost to you to switch? From a search engine to an ecosystem.

- Huge capital for new entrants, but.....
  - How much capital would it be needed to start a new Google?
  - But Airbnb, Uber, ecc. have no physical capital at all

- Intellectual property rights
Consequences

- Huge market shares
  - Platform based tech giants have market shares similar to Standard Oil ad the end of 18° century: 87% of refined oil for Standard, 75% of online book sales for Amazon, 2/3 of online advertising spending for Google and Facebook....Standard was broken up in 1911

- Sometimes also Monopsony power
  - According to Dube et al (2018) Amazon Mechanical Turk pays work up to 20% less than its productivity. The surplus created by this work is appropriate almost entirely by those managing the platforms

- In short: enormous market and economic power
- Is this due to special merits?
The “use” of economic power..... not necessarily to fuel profits.
## The Amazon case

<table>
<thead>
<tr>
<th></th>
<th>Revenues</th>
<th>Net income</th>
<th>Net income as a share of revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-2007</td>
<td>40,96</td>
<td>1,61</td>
<td>3,9%</td>
</tr>
<tr>
<td>2008-2011</td>
<td>125,96</td>
<td>3,33</td>
<td>2,6%</td>
</tr>
<tr>
<td>2012-2015</td>
<td>331,84</td>
<td>5,90</td>
<td>0,2%</td>
</tr>
<tr>
<td>2016</td>
<td>135,99</td>
<td>2,37</td>
<td>1,7%</td>
</tr>
<tr>
<td>2017</td>
<td>177,87</td>
<td>3,03</td>
<td>1,7%</td>
</tr>
</tbody>
</table>
Amazon's Long-Term Growth

Amazon's revenue and net income from 1997 through 2015 (in billion U.S. dollars)
Recent developments

• IN Q1, 2018 net income of $1.6 billion, up 121% in 1 year (revenues increased by 43%)
• Main drivers of profits: Amazon Services (cloud) and Amazon ad
• Is this a U turn? Difficult to say, however net income is still a small share of revenues and enormous power and huge wealth were built up in almost two decades with no profits
No profits still huge wealth

• Stock prices
  – Today more than $1,600, ten years ago less than $100.
  – In three years they quadrupled.
  – P/E ratio above 200 ("normal" is 30 or less)

• Jassy, the highest paid manager at Amazon, received in 2016, $175,000 as salary and $36 million as stock options

• Bezos has no stock options, only stocks. His salary is $85,000 plus a bonus (security) of $1,600,000.
The stock market

- How does the stock market work?
- Is Keynes’ “beauty contest” the key?
- What about manipulation of expectations?
- If expected growth with ever growing market share is the driving force, what is the responsibility of too loose antitrust policies?
A wider view on inequality

- Wage share very low in “superstar companies”
- Redistribution from wages to managers’ compensation
- Inequality is also affected by difficulties faced by Start-ups
True profits?

- Most profits are monopoly profits (above the normal return) leading to monopoly-related wealth (82% of the stock mkt value in 2015 in US – Estimated by Kurz 2017)
- Actually most non-wage income is rent rather than profit (also because capital is lacking in some cases...)
• Consumers are better off.
  – “They love the platform giants”
• Prices are lower and are not “predatory prices” set below costs to eliminate competitors
  – ...almost impossible if marginal costs are zero
• But if it is inefficient, everyone could be better off (not only as consumer...)
• ...and it is inefficient according to economic theory
What can be done?

• Break up the monopolies (as in the past)
  – “We break these guys up because we are capitalists and it is time” (S. Galloway, a self-professed fan of tech giants).
  – Is it easy?
  – The negative experience with banks before the financial crisis

• Nationalisation
  – “tinkering with minor regulations while AI companies amass power won’t do” (N. Srnicek).

• Tougher regulation
  – Change antitrust approach. Low prices cannot be the only criterion
  – Which new rules?
  – The case of free data
Consequences of free data

- Impaired competition
- Restricted freedom
- Consumer/voter manipulation
- Enormous inequalities
- Inefficiencies (also in the quality of data)
Data: policy options

• Restricting the use of data (centralization - EU)
• Giving the producer of data the right to prohibit their use (California proposal)
• Taxing the use of data
• Creating a true market of data
A market for data?

• A full data market if properly working could yield the best results in terms of freedom, equity, efficiency (mainly in terms of data quality) etc.

• But if opportunities, power and consciousness about the working of key technologies (AI algorithms) are unevenly distributed...social groups might be forced to produce (and sell) data with scarce benefits...

• A market demands a clear assignments of property rights, an effective enforcement technology and – when this is the case – prevention of opportunistic behaviour on the part of data producers.

• Difficult? Impossible?...
Conclusions

- Platforms are changing the functioning of markets and societies. They can lead to serious inefficiencies and inequities, with a huge concentration of economic power.

- Radical changes in the institutional settings are necessary to avoid this.

- Such changes cannot but also affect property rights in the broadest meaning.
Thank you
Platforms as market gatekeepers?

• The control of massive information networks leads to the accumulation of massive market shares and dominant positions

• Key drivers of market dominance:

  i) information-related returns to scale – network effects (once the network is settled its enlargement means increasing returns at close-to-0 marginal cost )
  ii) strategic investments and M&A (platforms fixed assets are mostly aimed at controlling all strategic network nodes and information sources)
  iii) pushing the ‘lean-production’ concept to the extreme with massive efficiency gains
  iv) radical outsourcing of production phases and related risks
  v) subsidizing and cross-subsidizing demand and supply to ensure market shares accumulation
  vi) operating within un-regulated environments escaping tax and social security burdens as well as regulation on data protection and competition
“Amazon, as best I can tell, is a charitable organization being run by elements of the investment community for the benefit of consumers.”

Matthew Yglesias