Competition policy challenges posed by data-driven businesses

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The role of data in the production process of firms

The ability of businesses to extract value from data has taken off in recent years with growing capacity to collect, store, and process data

- The role of data in production can be conceptualized in different ways depending on the specificities of different firms, industries, technologies, and the type of data being considered.
- Has implications for data as a barrier to entry, incentives to collect data and propensity for data concentration

**Data as a factor of production**
- Central input without which core objectives could not be fulfilled

**Data as a productivity enhancer**
- Driver of TFP – allow a more efficient use of factors of production

**Data as a byproduct of the production process**
- Digital footprints of individuals and things

**Data as an output**
- E.g. Data intermediaries, pollsters, aggregators
Data are used as an input to—and are produced as a byproduct of—economic activity

Revenue source for economic activities in advertising-based business models

**Data used to inform advertising**

**Data Inputs for economic activity**

*Data volunteered by users*
  - Open public data

Platforms and other data-driven businesses, using technologies including:
  - Big data analytics for insights/innovation including using AI
    - IoT devices / smart devices
  - Transactions facilitated by DLT (including blockchain)

**Economic activity (firms, entrepreneurs, farmers)**

Big data cleaning and storage

**Data produced as a byproduct of economic activity**

- Data observed on users, objects and processes through economic activity (including machine-generated data)
- Data inferred through analytics

Supported by: Network connectivity, storage capacity and processing capacity
Data-driven platforms are on the rise in low- and middle-income countries

- Across four key sectors (agriculture, tourism, transport/logistics and e-commerce), at least 959 digital platforms have a physical presence in 17 LMICs
- Most platform firms are recent entrants; 55 percent were established in the past five years
- They tend to be small – almost half have 10 or fewer employees
- Survival rate appears to be around 80% (except in SSA at around 50%)

Sources: WDR platforms background paper, forthcoming 2020. Based on the WBG Developing Economies Digital Platform Database 2020, using data from Crunchbase, Factiva, Thomsonreuters, and Alexa (downloaded in Q2: 2020); WBG World Development Indicators. Number of platforms cited here are likely to be a lower bound since those identified are limited to firms present in available databases.
Pathways to development from data in the production in process

- Better data-driven decision-making
  - Quality improvements
  - Cost reduction and process optimization
  - Product innovation
  - More effective intermediation and lower transaction costs

- Data-driven matching of demand and supply and transaction facilitation

- Related opportunities: Access to “free” services, adaptation to COVID-19 challenges, and support for the green agenda
But along with the opportunities, new risks are emerging from the use of data in the production process

Risks on market distortions
- Propensity for (some) markets to tip towards entrenched market power and increased consolidation through M&A
- Lack of access to essential data/restrictions to data flows prevents development of healthy ecosystems
- Need to protect suppliers to digital platforms against risk of lock in, misuse of their data, self-preferencing by platforms
- Unequal rate of adoption leading to displacement of more traditional firms

Risks directly impacting individual welfare
- Risks of excessive data collection on individuals
- Risks of discrimination/bias against individuals based on automated decision making
- Indirect management of the workforce through algorithms makes it easier to avoid classifying workers as employees
- Suboptimal investment in data governance by private firms. Cybersecurity issues risks losses to firms and individuals
The risks of entrenched market power has become a key concern of greater use of data in the production process – and can manifest in different markets

Potential sides of a platform
- Consumers
- Suppliers or service providers/“workforce” (where a product or service is provided by a third party)
- Advertisers (where the revenue model is advertising based)

Data as an input into economic activity

Data provides a competitive advantage to firms
Especially where:
- Data is proprietary or access is restricted
- Required data is less replicable
- Network effects are stronger

Economies of scale associated with data

Economies of scope associated with data

Tendency to increasing concentration within markets and entrenchment of market power

Tendency to conglomeration and ability to leverage market power between markets

Greater market power may allow for more data collection by firms since users have fewer alternative options

Source: WDR 2021 team.

a. Such data include observed and inferred data and data that need to be updated frequently.
This can be seen in the concentration of ownership and traffic in a few large platform firms

% of countries where Google, Facebook, and YouTube are in the top ten most-visited sites

- Google, Facebook, and YouTube are in the top ten visited sites for all low-income countries globally

- Across the top online services websites by traffic in the 17 LMICs sampled, 66% are owned by a group of 6 firms HQ’d in the US.

Source: WDR21 Background Paper, based on data from Alexa.com, downloaded April 2020.

Note: RHS The panel shows the percentage of the top 25 websites owned by the listed parent organizations in the sample. Total sample includes 425 websites from 17 low-income and middle-income countries (Armenia; Bangladesh; Brazil; Colombia; Egypt, Arab Rep.; Indonesia; Kenya; Malaysia; Morocco; Nigeria; Peru; Philippines; Russia; South Africa; Sri Lanka; Tunisia; Ukraine). Ownership is defined as majority shareholding. Note LHS: based on data from Alexa.com, downloaded April 2020. Sample of 1270 websites (top ten websites in 127 countries). YouTube is owned by Google.
In SSA, Naspers, ROAM and Jumia are the 3 most prevalent holding companies - with a diverse portfolios of businesses that, in some cases, compete in overlapping markets and countries

- **Naspers** owns 21 subsidiaries across two countries in SSA
- **Ringier One Africa Media (ROAM)** owns 20 subsidiaries across seven countries in SSA
- **Jumia** owns 47 subsidiaries across 30 countries in SSA
  - Among 631 B2C online marketplaces in Africa, Jumia alone had 24 percent of visitors in 2019 (ITC African Marketplace Explorer)
  - Of the total funding going to the top ten highest-funded firms in Africa, 77 percent went to firms owned by Naspers, ROAM and Jumia (equivalent to USD 1.06 billion according to CB Insights)

Image source: https://vemaps.com/africa-continent/af-c-04
Increasing focus on the responsibility of competition policy to curb the market power of digital platforms

- Specific features of data-driven markets render competition issues more complex and hold implications for firm behavior
  - Exclusionary behavior: Potential to exclude rivals
  - Exploitation: Scope for excessive data-collection
  - Collusion: Digital platforms can disrupt cartels but greater transparency and algorithms can facilitate collusion
  - Mergers: Data-driven mergers; Killer/zombie acquisitions

Calls for policies to safeguard competition in digital markets by: preventing anticompetitive firm behavior, mitigating risks of dominance, and ensuring a level playing field
**Competition policy tools in the data-driven economy**

### Two competition policy tools in the data-driven economy

1. **Antitrust enforcement:** Prevent anticompetitive firm practices ex post and prevent anticompetitive mergers
   - Adapting competition analysis to address abuse, collusion or anticompetitive mergers by data-driven firms
   - Designing antitrust remedies to restore competition in data markets

2. **Pro-competition ex ante regulation:** Allow firms to enter and compete on a level playing field
   - Enabling pro-competition use of data through regulation
   - Overseeing industry-led schemes for data-sharing
   - Providing smaller firms with fair access to platforms
   - Ensuring traditional regulations promote competition
   - Protect those that connect to platforms

### Interface between data protection, user privacy preferences and competition policy

- Ensuring consumer data regulation are designed to minimize competition distortions while maintaining the rights of users
- Understanding whether firms compete on data protection in order to analyze market dynamics
- Accounting for differences in valuations of privacy in developing countries when assessing competition on privacy
Competition authorities all over the world are looking at these issues

• Europe leads the geographic distribution followed by EAP & LAC

• 40% of cases were in less developed jurisdictions – but no cases in low-income countries yet

• Most practices cases found misconduct by firms

• Over 90% of mergers were approved – a quarter with conditions

• Majority involve a foreign firm – Google and Uber involved in highest number of cases

Based on a database of all finalized digital antitrust cases globally as at Jan 2020 (>100 case

Source: WBG Global Digital Antitrust Dataste
More than half of antitrust cases are focused on three sectors.

- E-commerce, passenger transport and software/operating systems account for 56 percent of all cases globally.

Developed jurisdictions:
- Retail E-commerce, 21%
- Online search and advertising, 15%
- Software/OS, 15%
- Tourism (accommodation services), 13%
- Social Media/Communications services, 10%
- Online real estate platforms, 5%
- Passenger transport, 8%

Developing jurisdictions:
- Retail E-commerce, 22%
- Software/OS, 19%
- Passenger transport, 32%
- Mobile financial services, 8%
- Others, 11%
- Online search and advertising, 8%
Different sectors may be prone to certain types of anticompetitive behavior.
Adapting tools for data-driven markets

Economics of platform firms

- Complications from the multisided nature of platforms
  - Definition of relevant markets and market share – e.g. Kenya updated guidelines on market definition
  - Platforms as a “buyer” of services or “employer” – e.g. regulations on abuse of buyer power in SA
  - Advertising cross subsidizing services – driven by collection of data
- Consumer harm in markets where products are provided for “free”
- Non-price dimensions of competition, such as privacy.
- Collusive algorithms
- Ecosystem dynamics where interconnecting firms act as complementors and potential competitors

Merger-specific issues

- Potential for killer/zombie acquisitions
- Mergers driven by desire to acquire new data/IP
- Less likely acquisition of data-driven firms trigger merger review - update thresholds, allow for clawback or shift presumption of anticompetitive effects

Institutions

- Need to build capacity – staff with specialist expertise competition in the digital economy
- Cooperating across borders given global nature of large platforms – e.g. regional authorities, BRICS, AFCFTA
Competition authorities are increasingly considering data related issues

- The most frequently assessed factors still tend to be more traditional, e.g. price competition

- But data use and data as a barrier to entry are increasingly being investigated

- Scope for developing jurisdictions to increase focus on these issues

Analysis of factors related to data in antitrust cases

- Data protection/privacy
  - Middle Income: 3%
  - High income: 13%

- Data transparency
  - Middle Income: 7%
  - High income: 5%

- Data as a barrier to entry
  - Middle Income: 20%
  - High income: 32%

- Use of data
  - Middle Income: 23%
  - High income: 42%
## Assessing data in competition cases

<table>
<thead>
<tr>
<th>Case</th>
<th>How was data assessed?</th>
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| India | **Data as barrier to entry in online search and advertising:**  
- Google had an insurmountable scale advantage in indexing data for search.  
- Google was also found to give prominence to its own content which in turn allowed it to collect more user data thus reinforcing its advantage.  

**Provision of data on advertising performance:** Google refused to provide advertising firms with details of their “quality scores” to understand the performance of ads. Accusation dismissed as Google provides several granular data metrics beyond the quality score. |
| Mexico | **Access to strategic data from competitors:** The merged firm’s access to data on competing retailers might lead to concerns over how the data could be used by Walmart. |
| Egypt | **Data as barrier to entry:** The merged firm would have access to superior mapping data due to its control over the combined datasets of the two firms – time and cost to build a rival dataset would deter new entry.  

**Use of data in price discrimination:** Ability of the merged firm to combine trip and customer-behavior datasets may exacerbate the risk of personalized pricing being introduced in future. |

- Walmart’s proposed acquisition of Cornershop was blocked  
- Partially due to potential harmful effects on smaller retailers. |

- Uber’s acquisition of Careem was cleared subject to conditions,  
- Conditions incl. obligation to provide data on mapping and trips to potential entrants |
Deterring anticompetitive behavior and remedying harm

Are fines a sufficient deterrent?

- Fines were imposed for only 34% of cases where wrongdoing was found.
- In developing jurisdictions fines have only been imposed in Russia, India and S. Africa.
- The overall median fine of USD 14.5 m is low relative to the global revenue of many platforms.
  - Even the record largest fine by the EC was less than 4% of Google’s 2018 worldwide revenue.
  - India’s USD20m fine of Google was only 0.01% of Google’s global revenues in 2018.
- Consensus is growing that imposing fines may be insufficient.

Attention has turned to remedying harm caused by anticompetitive firm behavior

- In some cases, measures targeting data and algorithms may be helpful to restore competition.
  - However, remedies are difficult to design and monitor.
  - Evidence on their efficacy is scarce.
Examples of data-related antitrust remedies

Uber mergers (Egypt and Singapore)
- Grant competitors and users access to data
- Concerns over monitoring. Different approach taken in Singapore

Amazon abuse of dominance case (Germany)
- Reduce Amazon’s rights to use data on products of third-party sellers
- Actions of national authorities can impact the policies of platform firms globally

Facebook abuse of dominance in data processing (Germany)
- Prohibit combining user data across platforms and end collecting data from 3rd party sites without consent.
- Could be considered an internal divestiture of Facebook’s data.
Three key avenues to promote competition through ex ante regulation

Just as important as competition enforcement – if not more - especially where there is no functional competition authority

1. **Mandatory and voluntary schemes to improve access to data.**

<table>
<thead>
<tr>
<th>Rules to facilitate multihoming</th>
<th>Right to portability of personal data</th>
<th>Data interoperability</th>
<th>Encouraging data sharing/pooling or other voluntary schemes</th>
</tr>
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<tbody>
<tr>
<td>Relatively simple but may not go far enough - especially in presence of strong network effects</td>
<td>Untested even in the most advanced markets</td>
<td>Eases data sharing from a technical perspective</td>
<td>E.g. One Million Farmer Project, Solid, the Data Transfer Project</td>
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<td>Technical feasibility is an issue</td>
<td>Useful when continuous access to data is required</td>
<td>Lack of incentive from larger players</td>
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<td>One-time transfers of data unlikely to solve competition bottlenecks</td>
<td>E.g. Open Banking regimes</td>
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Three key avenues to promote competition through ex ante regulation II

2. *Regulating the structure and behavior of data-driven platform firms*
   - Could include data sharing schemes as above
     - Targeted and grounded in economic analysis – e.g., “essential facilities”-style framework
     - Time bounded or limited to specific markets or data types? Asymmetric regulation?
     - Ensure data protection in sharing personal data.
   - Growing discussion on break-up of large data-driven platform firms
     - But given potential impact on certainty and incentives should be very carefully targeted e.g. when market power is entrenched and durable
     - Could reduce economies of scope and risk of self preferencing
     - But may not be a panacea if network effects that led to dominance persist
   - Regulation of terms provided to (often small) suppliers that act on these platforms
     - Provide access to small suppliers on a fair, consistent and transparent basis
     - E.g. EU P2B Regulation 2019

3. *Leveraging offline regulation*
   - Traditional regulation that protects incumbents (e.g. restrictions on entry for data-driven firms)
Recommendations

Establishing prerequisites

Low-income countries with limited institutional capacity
- Create a level playing field for data-driven businesses
- Build on existing sectoral regulations
- Develop capacity for dealing with data-driven businesses

Countries with greater institutional capacity
- Establish data repositories.
- Develop guidelines for portability and interoperability
- Consider ex ante regulations of large platforms—Carefully assess the merits of case by case
- Create markets for data intermediaries

Where a functioning antitrust enforcement regime exists
- Adapt the antitrust approach
- Publish clear guidelines—including on regulatory remedies
- Develop capacity in antitrust agencies
- Encourage cooperation among regulators
- Promote international cooperation on antitrust

Optimizing the system
Thank you!