

# Rise of Mega Industry 4.0 Firms: Reflections on the Role of the State

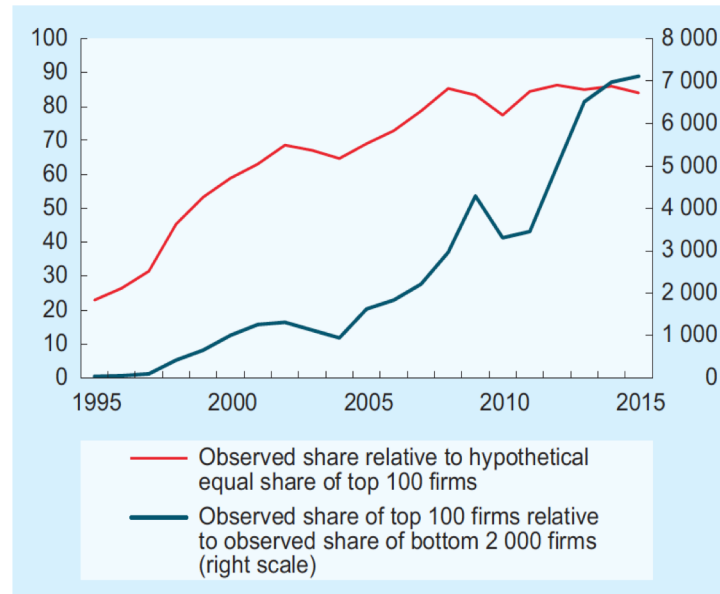
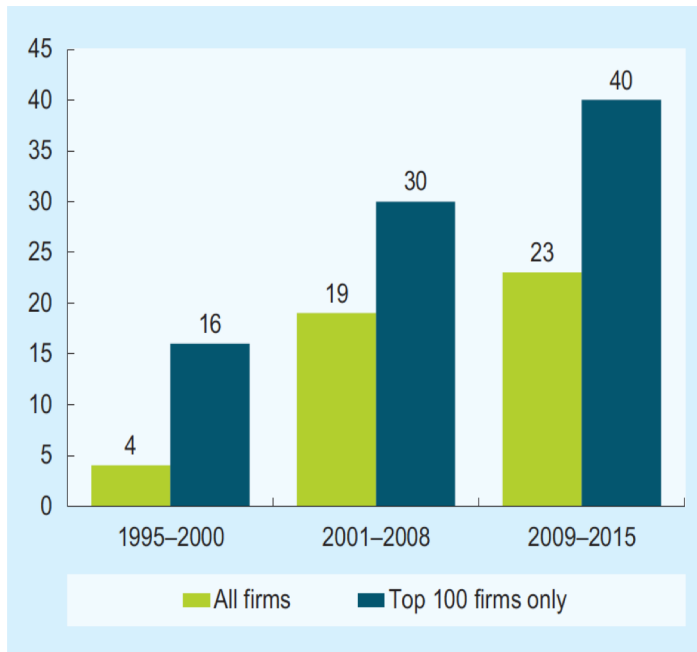
Padmashree Gehl Sampath

UNCTAD

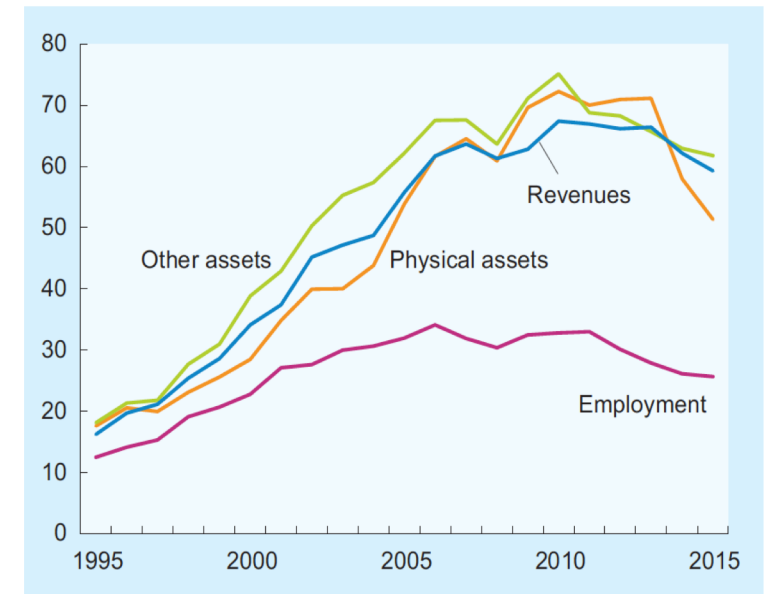
# Background:

## A core driver of corporate rentierism: Growing market concentration

Ratios of market capitalization,  
top 100 non-financial firms



Concentration indices,  
top 100 non-financial firms



- Growing market concentration widely reported in leading economies
- Attributable to regulatory failures to rein in burgeoning corporate power, including for so-called “superstar firms”

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# New work:

- Role of IPRs and market rents in select sectors, including ICTs and related technologies.
- Rising consolidation in 4 IR technologies and market concentration issues.



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# IP trends in general and for industry 4.0:

- Strong trends in IP filings:
  - In 2015, over 3 million patent applications were filed – the most ever filed in a single year and showing a 8.3% growth over the previous year.
  - Similarly, applications for trademarks grew a reported 13.7% also in 2015.
- The increase in filings, according to WIPO, represents the sixth consecutive year of increase for patents and trademarks.
- International norm-setting activities:
  - the contested proposal by some developed countries for a new Design Law Treaty.
  - New proposal to create a sui generis right on data (EU Communication Jan 2017)
- On the trade front, weakened multilateralism, IP protection remains a key priority item in some bilateral and plurilateral trade agreements.



# Value creation in the digital economy is two fold:



*"I heard on TV that everyone is getting rich on the internet. Is this little slot where the money comes out?"*

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Who's reaping the value in the platform economy?



What about data?

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# IPR issues in the fourth IR technologies:

- Big data:
  - copyright in the raw data?
  - What rights in the databases?
  - Who owns the tools used to analyze the data?
- Derived data on new works
  - Does the copyright owner have the exclusive right to create a derivative work?
  - Are insights from data transformative (Transformative work – Altering the original with new expression, meaning or message)
- Patents:
  - Patentability of algorithms, methods of analysis?
  - Is identification of patterns in data patentable? What about the insights derived from the patterns?



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# Despite the lack of clarity, what we have is...

- All e-commerce systems, business models, search engines or technical applications on the internet are likely to be protected by patents or utility models.
- Copyright protection and patent protection (depending on context and jurisdiction) are available for software, website designs, website contents and certain kinds of digital products (such as virtual agents).
- Databases, algorithms and source codes are usually protected through copyrights or sui generis database laws in some countries.
- Other business particulars, such as domain names, logos, product names, are geerally protected by trademarks.
- Industrial designs can be used to protect web pages, graphics, user interfaces, and the designs of other digital products.
- In addition to all this, trade secrets can be used to protect many other hidden aspects of the technology that entails the real technological know-how.



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## In sum:

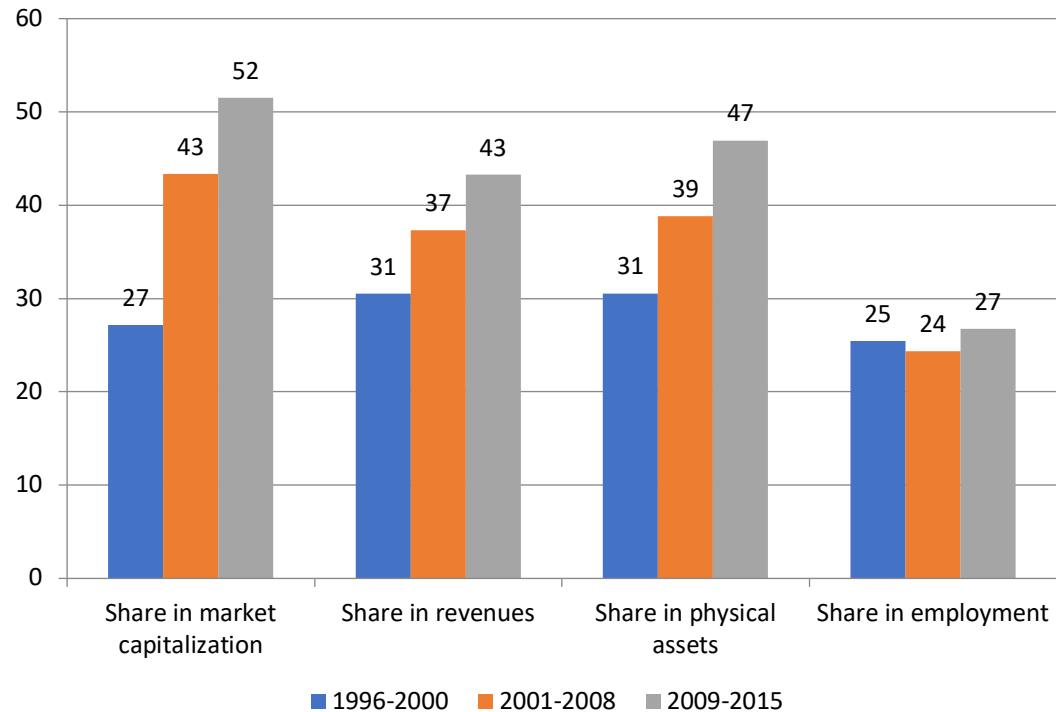
- Ideally, development of standards is an innovation process (in a Schumpeterian technological evolution model)
  - But tendency to choose standards based on IP portfolios and market positions
  - Raising issues of how private incentives can possibly be aligned with social benefits.
- Use and misuse of IPRs in many ways threatens the creation of a data economy
  - There are overlaps between interoperability and innovation.
  - Solution: A new data producer right (EU Commission 2017), which can have its own detrimental effects on competition and innovation.
- Broadly raising the issue of whether one is getting an income not as a reward for creating wealth through real creativity, or is one grabbing a larger share of creativity (and preserving it for longer) that would have been produced anyway/ belongs to the public domain?





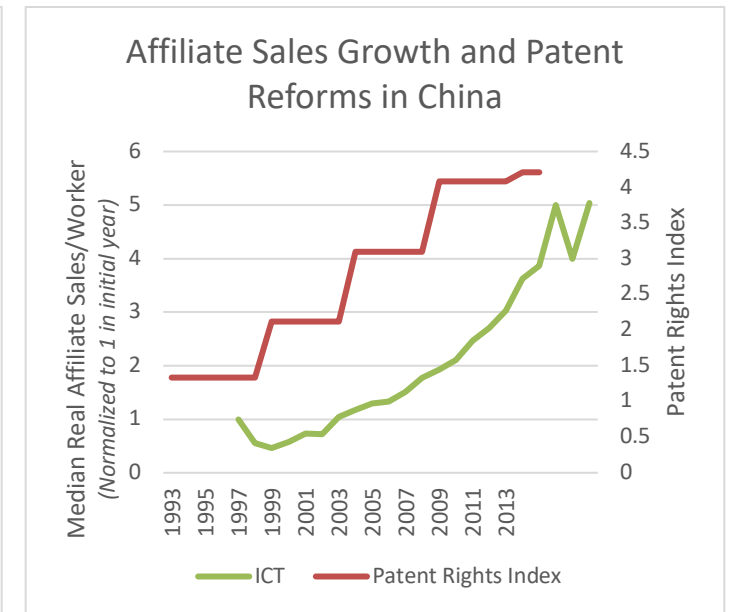
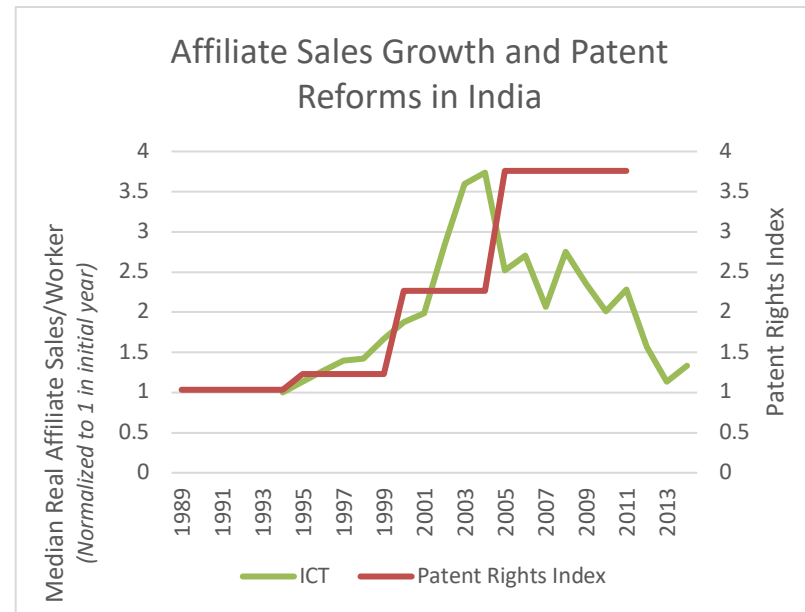
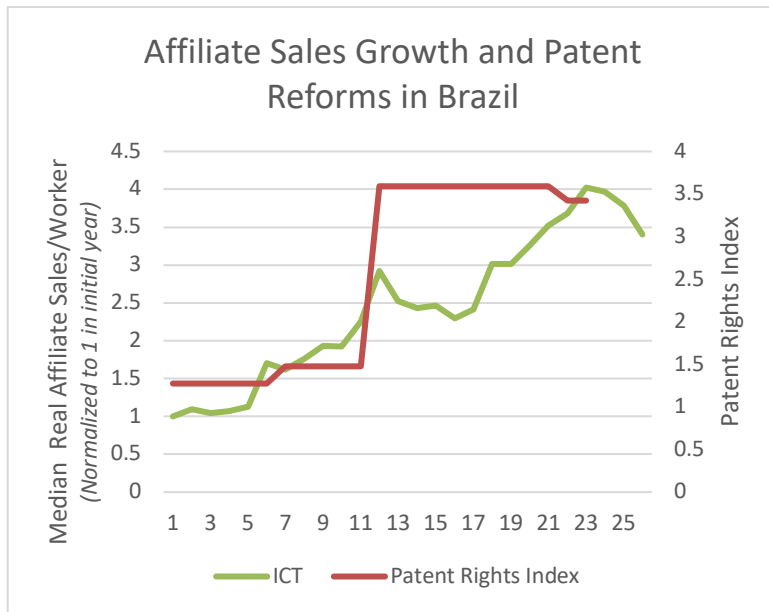
# So how is this impacting the global ICTs sector?

**Shares of top 1% companies by intangible assets in the sector of technology, software and IT services (%), 1996-2015**



Source: Gehl Sampath, P, Park W. G. and Bouhia, R (2018), Rise of Predatory Mega Firms in Industry 4.0 Technologies.

# 1. IPRs and market concentration in digital economy

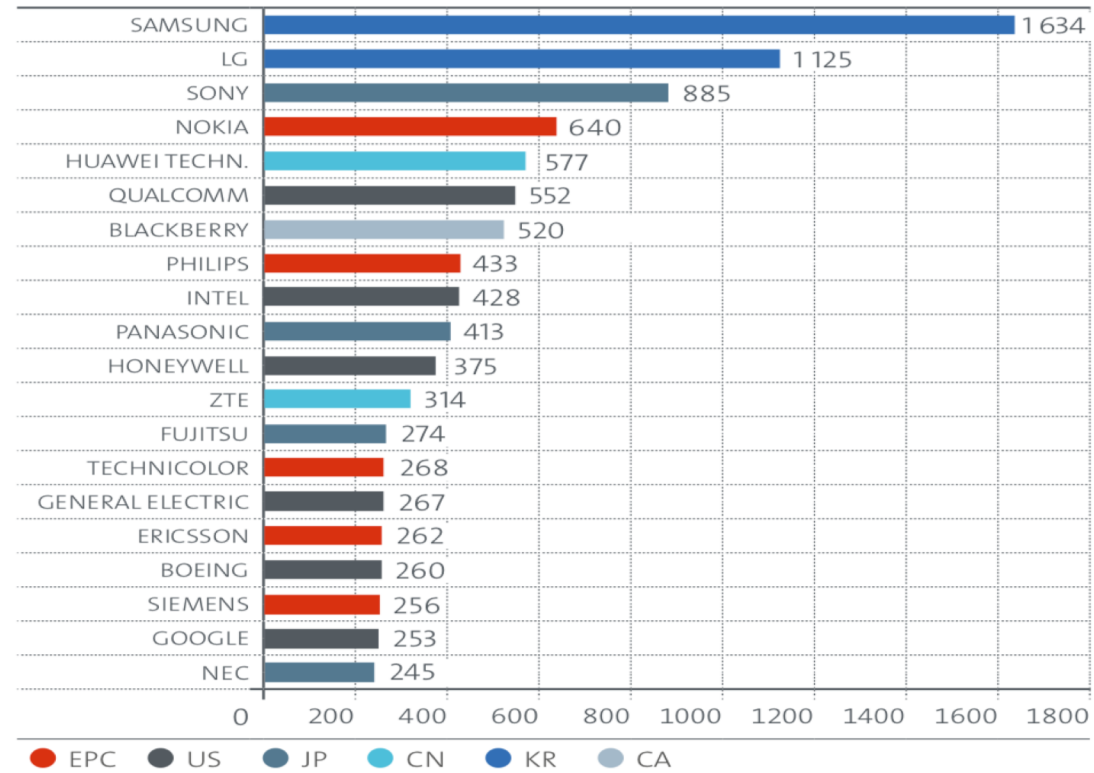


Source: Gehl Sampath, P, Park W. G. and Bouhia, R (2018), Rise of Predatory Mega Firms in Industry 4.0 Technologies.

## 2. Findings are supported by other evidence

- IPRs strengthen existing positions in general across sectors: EPO (2017).
- WIPO (2017)-intangibles in GVCs
- Main driver: big data, helping expansion of traditional firms into new sectors.
- Combinations with issues of interoperability to create closed systems – example – Apple and Qualcomm - raises issues for competition policy.

Top 20 4IR applicants at the EPO 2011-2016



Source: European Patent Office

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## 3. Issues for competition policy:

- What's really happening in the sharing economy?
- We should not forget the real issues of IPRs for the future
- Other considerations:
  - A more nuanced regime for data?
  - System needs multilateral application!



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Thank you  
[padmashree.gehl.sampath@unctad.org](mailto:padmashree.gehl.sampath@unctad.org)