

Fostering Innovation By Facilitating Markets

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Agenda

- ❑ Effective competition in product markets for fostering Innovation
- ❑ Competition in factor markets for fostering Innovation
- ❑ Encouraging pro-market behavior



Effective competition in product markets for fostering Innovation



Importance of innovation in today's economy

“Television will never be a serious competitor for radio, because people must sit and keep their eyes glued on a screen; the average American family hasn't time for it.” - New York Times, 1939

- ❑ Three-quarters of market value of companies in today's economy accounted for by intangible assets
- ❑ Google, Amazon, Infosys: not only huge value creators but also significant employment generators
- ❑ Innovation critical for entrepreneurship, job creation and economic growth



Innovation and Competition in Telecom Industry

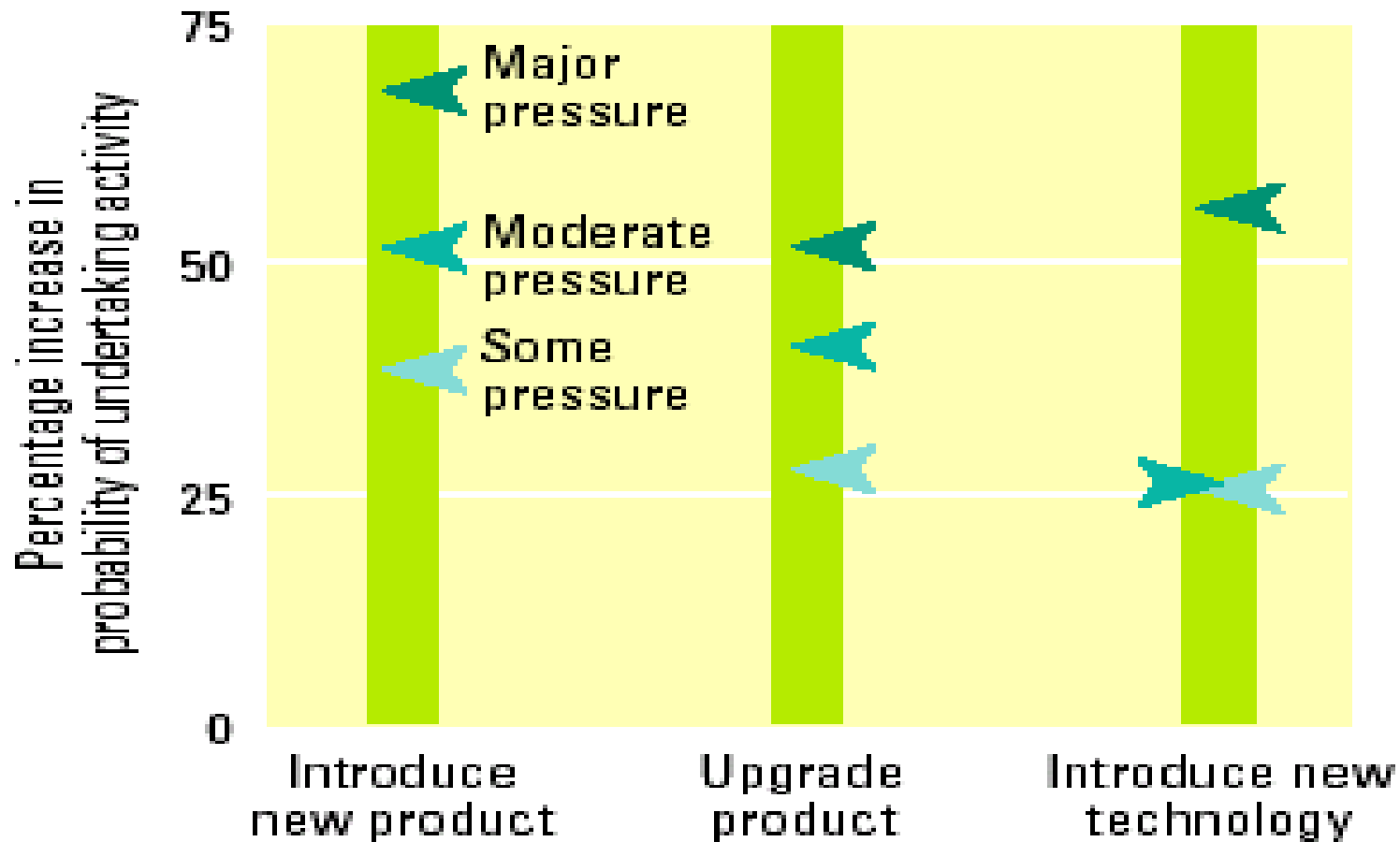
- ❑ In September 2002, telecom tariffs were assigned to competitive forces
- ❑ Requirement for service providers to obtain approval from the TRAI on tariff changes was dispensed with
- ❑ Significant technological innovation
 - Starting with analog technology, mobiles have evolved to 5G technology now
- ❑ Competition & innovation have gone hand-in-hand



Outcomes from Competition & Innovation in Telecom Industry

Indicator	2002	2018
Total Subscribers	44 million	1191 million
Mobile Subscribers	6 million (13.6%)	1169 million (98.1%)
Tele-density	4.28	91.20
Monthly ARPU	Rs 871	Rs 67.39
Minutes of Usage	210	627
Internet Subscribers	3.42 million	560 million
Tariff per GB data per quarter		Rs 10.91

Higher the competitive pressure, greater the innovation



Note: Surveys cover 27 countries in Eastern Europe and Central Asia.
Source: World Bank Investment Climate Surveys/BEEPS II.



But, does greater competition always lead to more innovation?

- ❑ In a perfectly competitive industry, firms cannot charge a price greater than marginal cost
- ❑ => Returns not adequate
- ❑ => Not enough incentive to take the significant risks involved in pursuing innovation
- ❑ Thus, innovation low under perfect competition
- ❑ Example: commodity sectors where product innovation is usually low

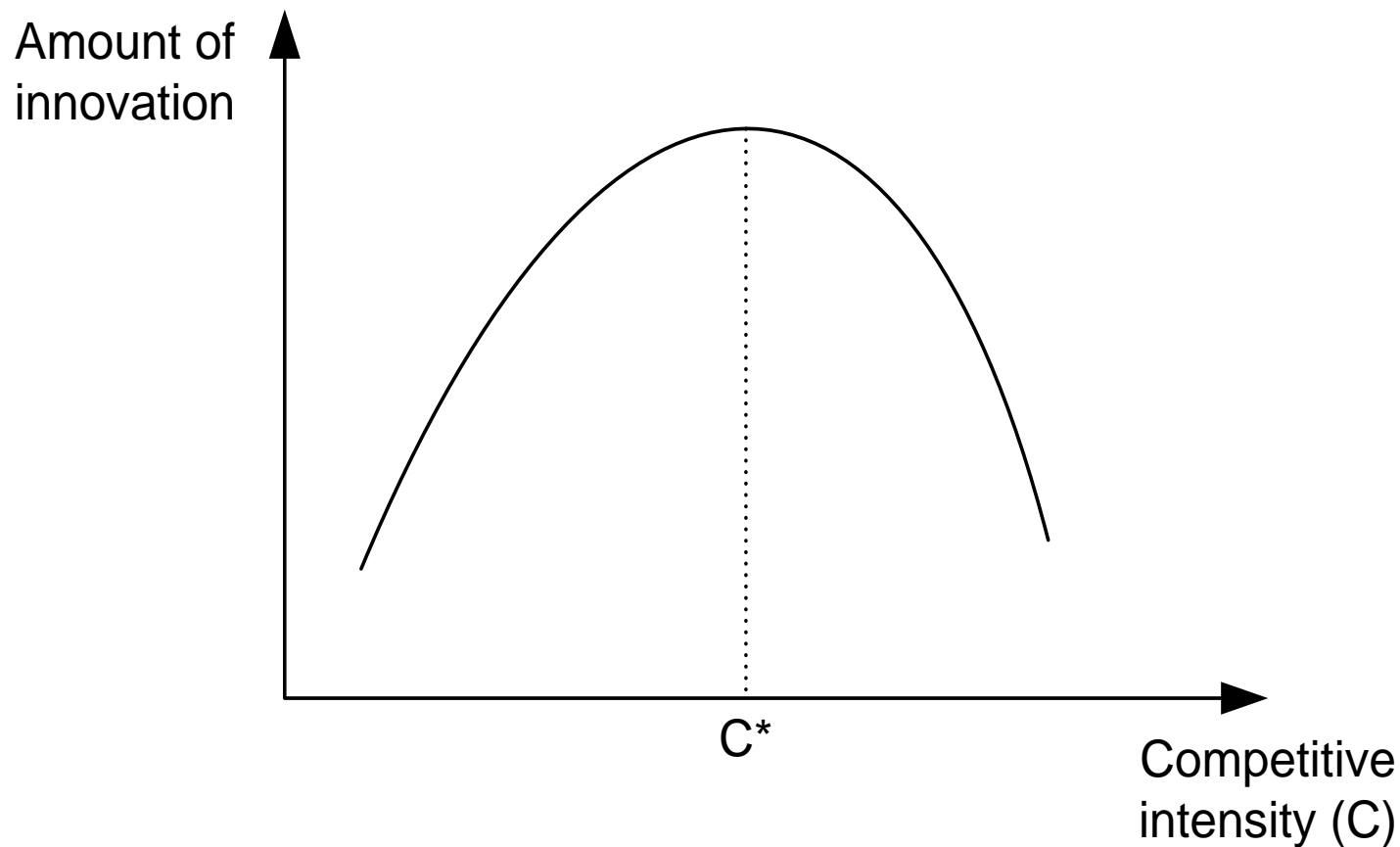


Does greater competition always lead to more innovation?

- ❑ If competition is very low, no pressure to take the risks and effort involved in innovation
- ❑ Thus, innovation low when competition is extremely low
- ❑ Example: highly regulated sectors



Innovation is highest for moderate levels of competition



Pro-market \neq Perfect competition!



Healthcare as an example of pro-market ≠ perfect competition

Three inherent and unchanging characteristics



Information asymmetry:
Patient doesn't know



Hyperbolic preferences:
Can't wait for cure



Uncertainty: Don't know
when sickness strikes

- ❑ Perfect competition not the best industry design
- ❑ Oligopsony (a few buyers) work better than several atomistic customers
- ❑ Oligopoly may generate maximum incentives for innovation



Takeaway #1

- ❑ At low levels, competition enhances innovation
- ❑ Pro-market \neq perfect competition
- ❑ Competition policy needs to be assessed sector by sector



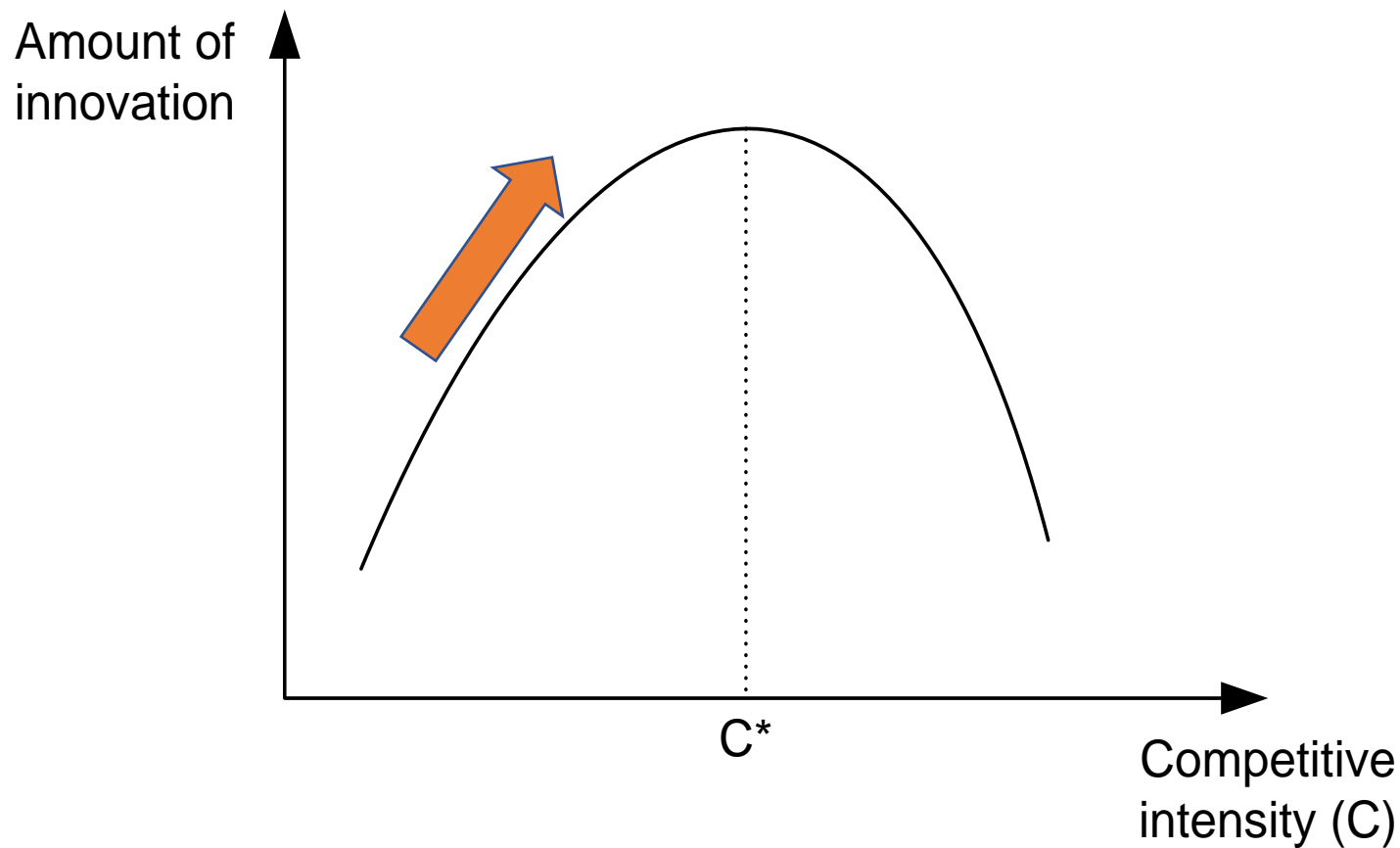
Global Competitiveness Index

Category	2018	
	Rank	Score
Overall	58	62
Product market	110	50.9
Labour market	75	55.8
Financial System	35	65.8
Business Dynamism	58	58.8
Innovation capability	31	65.8

The extent to which a country provides an even playing field for companies to participate in its product markets



Innovation is highest for moderate levels of competition



Empirical evidence of the effects of competition on innovation

- ❑ Total factor productivity in India could be 50% higher just through greater competition (Hsieh and Klenow, 2009, 2012)
- ❑ Productivity increases manifest from innovation => greater product market competition can play an important role in fostering innovation in India



Takeaway #2

- In general, i.e. across most sectors, greater product market competition can play an important role in fostering innovation in India



Competition in factor markets for fostering Innovation



Competition in factor markets to foster innovation

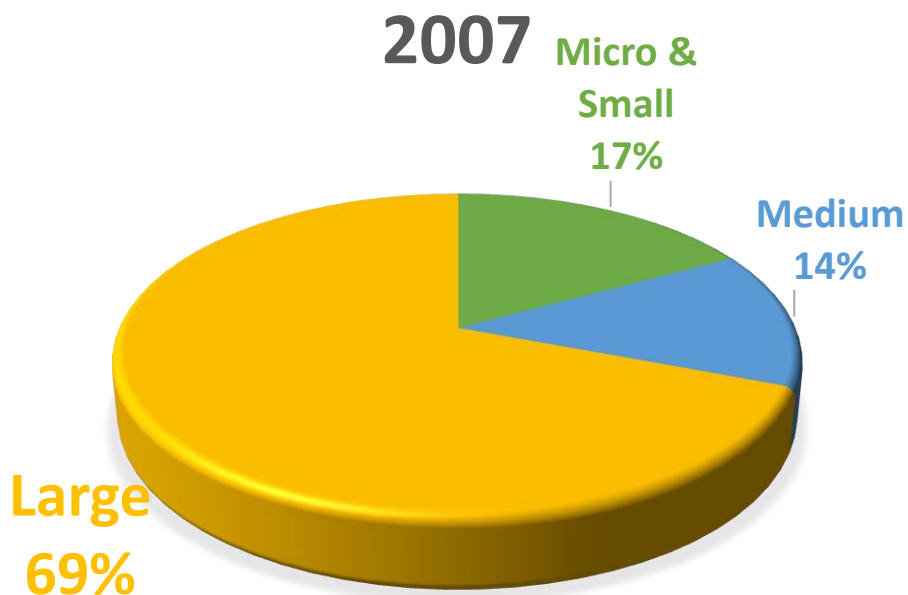
□ Factors of production required for innovation:

- Access to finance, especially “risk capital”
- Skilled labour, especially scientists undertaking basic research

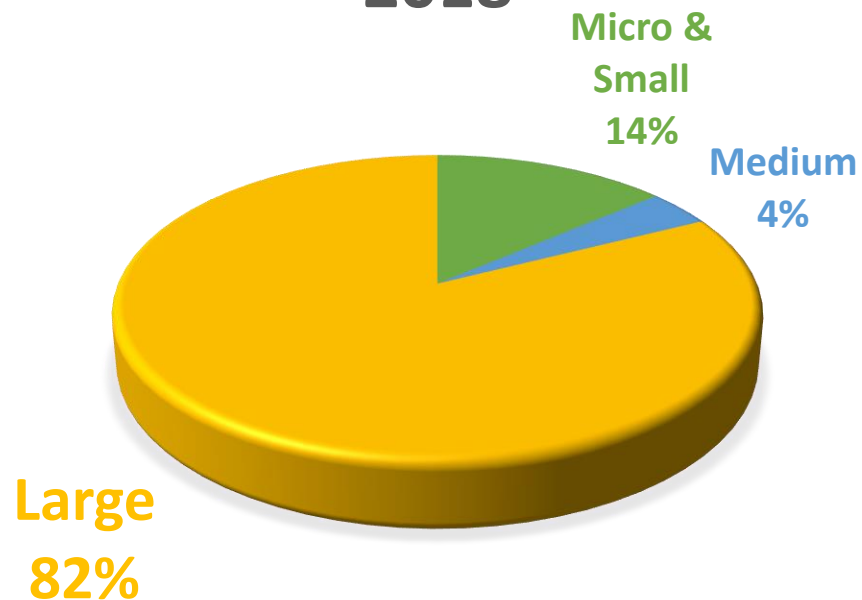


Proportion of credit flowing to smaller firms has shrunk over the last decade

2007



2018



Role of financial sector in fostering innovation

- ❑ New firms with pathbreaking ideas need funding
- ❑ Yet, such firms have no track record => information asymmetry
- ❑ Financial intermediaries best placed to acquire this information and reduce information asymmetry
- ❑ So, deep financial markets critical for funding of new ideas
- ❑ When new firms challenge incumbents, incumbents must innovate continuously to avoid being “creatively destroyed”



Role of financial sector in fostering innovation

- ❑ Financial development has almost **twice** the effect on
 - the growth of new firms in an industry than
 - growth in the size of the firm in the industry.
- ❑ Thus, financial development especially important for entry of new, young firms
- ❑ Countries with developed financial sectors
 - increase their investment more in growing industries and
 - decrease their investment more in declining industries
 - than countries with underdeveloped financial sectors.
- ❑ In countries with developed financial sectors
 - Industries with highly skilled workers grow faster and
 - Undertake more research and development



Competition in the Financial Sector

□ Lower barriers to entry and exit in the financial sector has generally led to:

- greater product differentiation,
- lower cost of financial intermediation,
- more access to financial services, and
- enhanced stability (Claessens, 2009)

□ The evidence for these effects is fairly universal:

- US,
- EU and other developed countries
- many developing countries



Competition in “Market for Research”

- ❑ A crucial factor market for innovation is the “market for research”
- ❑ Represented by competition among universities for
 - research grants,
 - research scholars,
 - collaboration with industry
- ❑ This factor market currently exhibits no competition



Takeaway #3

- Competition in factor markets for innovation (finance and skilled personnel) essential for fostering innovation in India



How to encourage pro-market behavior



How to foster pro-market behaviour: Deterrence

- ❑ Competition regulation and its enforcement create incentives that shape the behavior of all firms, including those never found in violation.
- ❑ Primary benefits accrue from the deterrence of anti-competitive conduct, which is never observed.
- ❑ Effects of speed limits on driving speeds:
 - Cannot focus only on those drivers caught for speeding
 - Need to examine the impact of speed limit enforcement on the vast majority of drivers not caught for speeding.



How to foster pro-market behaviour: Deterrence

- ❑ Similarly, many managers may never personally be involved in a legal case of anti-competitive conduct
- ❑ But managers hear about others who are and they modify their behavior accordingly
- ❑ The behavioral change following IBC is a good example



How to foster pro-market behaviour: Deterrence

- ❑ The behavioral change following IBC is a good example
- ❑ Enforcement of bankruptcy process on large and small firms
 - Little difference in enforcement of IBC between small and large firms
- ❑ Similarly, enforcement of competition regulation must create deterrence
 - Without any distinction between large and small firms



How to foster pro-market behaviour: Deterrence

□ The deterrent effects of anti-competitive enforcement

depends upon

- expected probability of detection
- expected probability of conviction upon detection, and
- magnitude of penalty upon conviction

□ To create meaningful deterrence, all three factors should be non-trivial



In Sum...

□ Effective competition in product markets and factor markets is important for fostering innovation in the Indian economy

➤ Jobs

➤ Entrepreneurship

➤ Economic growth

□ Deterrence is crucial for encouraging pro-market behavior



THANK YOU

