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Keynote Address
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Regulating competition in an era of tech giants

1. Mr. Gupta, Dr. Verma, Mr. Bishnoi and all the distinguished attendees, it is a great honor for me to be speaking to you. I thank the Chairman, Mr. Gupta for inviting me to address this august audience.
2. As appropriate for a conference on the Economics of Competition Law, I would like to talk about the inevitable continued rise of tech giants globally, and the challenge this poses for regulators, as the State reassesses its role. I plan to raise some questions and trigger debates, and leave the answers to the eminent audience and the expertise of the commission.
3. As anti-competitive as it may sound, and even as debates on the economic and social power wielded by tech giants have made headlines over the past decade, developing them has also become an aspiration for economies. In fact, a few weeks back I moderated a panel discussion that debated whether India would be successful in creating tech giants.
4. Why would any economy aspire to have them, instead of challenging their market power? Let us work through some examples.
5. First, if we take market capitalization as a measure of size, in the last 15 years, leadership globally has shifted from energy and financial firms to technology – Apple, Google, Microsoft and Amazon in the US to Alibaba, Tencent, Samsung Electronics and Taiwan Semiconductor Manufacturing Corporation (or TSMC) in Asia. A month back, the market capitalization of one major company was three trillion dollars, more or less the market capitalization of the entire Indian stock market. Not that the Indian market is a pushover: it is among the top 6 markets in the world in terms of market capitalization. If one thought that

stock markets tend to be fickle, its annual net profit after tax of 95 billion dollars was more than twice the combined profit of the top 100 listed companies in India. The annual capital expenditure of Samsung and TSMC is forty to forty-five billion dollars each, higher than the capex of several Indian industries.

6. Further, while stock markets may be fickle, there is some underlying logic in their behavior. Profits generated by the largest oil producer in the world may be considerably larger than the profits of the most profitable tech company, but its market value is a third lower. Why is the ratio of market value to profits, called the price to earnings ratio, lower for oil producing companies? Investors reward sustainability of profits. Current oil prices are unlikely to sustain beyond a few months or years, but over the next decade, technology is likely to be a major driving force in nearly every major sector. From finance to healthcare, mobility and education to food – sectors earlier considered immune to technology are all seeing a significant part of the value add shifting to software or semiconductors.

7. Therefore, this may not be the end of the dominance of technology firms in terms of market power, and may in fact be just the beginning.

8. Why do these firms dominate the way that they do? There is an element of inevitability about it.

9. Researchers have observed that the nature of investments globally has been changing. In the US, for example, intangible investments overtook tangible investments in the 1990s, and for most of Europe, this crossover occurred in the first decade of this century. In India as well, intangible investments account for nearly a third of all investments, and have been 40% of incremental investments in the last few years.

10. Intangible investments are not your usual plant and machinery and buildings – these are investments in software, brands, patents, and even the collective expertise of working together. Setting up a CRM application can be as much if not more valuable as adding a new storefront. Closer home, the largest consumer goods companies in India do not own any factories – they just own the brands. In a fragmented distribution system with several million retailers, the larger ones also have their own distribution setup, whose value is less in the warehouses, and more in the network of trust that allows them to provide their products to

customers more efficiently and at a much bigger scale than their competitors can. When a major airline company with a third of India's market share went under, there was very little to salvage – the only saleable assets it seemed to have were airport landing rights and aircraft leases! When a telecom company was teetering on the brink, it was found that the only assets of value was the spectrum, which too belonged to the sovereign and could not be resold.

11. In technology hardware, given the rapid obsolescence of technologies, just owning a brand is not sufficient, and distribution is mostly consolidated, and easily accessible to all competitors. A large handset company today is not just relying on its brand, but on harnessing the innovations in a giant network of suppliers to create products that would appeal to its customers. They do so continuously to stay ahead of competition. The innovations on battery technology, on touch-screens, fingerprint scanners, camera lenses, semiconductor fabrication, and even telephony standards are all occurring outside the company – the value of the firm is in its knowledge of how to package these innovations together. In theory, these suppliers can work with any handset OEM, but the market has evolved in such a way that a few firms dominate the profit pool.

12. If a company owns a factory, it is wedded to the technology used in the factory, and the capacity of the factory limits its output. Should the screen use thin-film transistor liquid crystal display (TFT-LCD) or organic light emitting diodes (OLED)? Should the casing be made of plastic, stainless steel or glass? Should the capacity be for 1 million smartphones or 100 million smartphones? However, when the company is nothing more than a brand and a complex network of supplier relationships, it has enormous ability to scale, as other specialists set up the capacity at hand.

13. The ability to scale is even more dramatic in the case of software. A piece of code that is useful can be in theory used infinite times. In the early days of personal computers, the internet, and then in phones, there used to be inter-operability concerns. However, over time standards have emerged for interconnection, removing this hurdle. The more a product can scale, the more profitable it becomes – the incremental cost of providing it to a new customer is negligible.

14. For platforms that rely on networks for their profitability, like social media or ride-sharing companies, profitability and entry-barriers rise with scale.

15. The high levels of profitability these firms generate allow them to invest more in research and development, and even buy out emerging threats to their businesses. For a company worth two trillion dollars, buying a 65-70 billion dollar business is a walk in the park, allowing it to consolidate its position in an emerging business. In fact, many expect the battle for the metaverse globally will be between a few companies. Others may just have to reconcile with aligning with one or more of these giants.

16. In their book “Capitalism without Capital”, Haskel and Westlake also highlight two other features of intangible investments that giant firms exploit better – synergies with other intangible assets, as well as spillovers from investments made by other firms.

17. Such investments also come with risks. If a factory is not successful, its land, buildings and some machinery can be sold and reused. However, an unsuccessful intangible investment is written down to zero. Smaller firms also struggle to take advantage of spillovers from other firms’ intangible investments, and are thus less likely to succeed. A firm cannot use its rivals’ factories but can potentially use its rivals’ designs or ideas. This means firms reduce their investments in intangibles, and there are fewer spillovers.

18. Thus, the technology sector is susceptible to a winner-takes-all industry structure, with a few firms dominating the landscape. If a few firms are likely to dominate the global tech ecosystem, it is natural for countries to aspire to own a few. India has been noticeable by its absence in the global league tables. With 5 million engineers, India is an indispensable provider of resources to the software ecosystem, but with a miniscule share of global value-added. Our government too has accepted the importance of building champions: one of the most remarkable features of the Production-Linked Incentive (or PLI) schemes is that it selects a few large eligible for benefits instead of distributing them evenly across a much larger set.

19. After all, as an aircraft carrier pulls through a whole armada, some of these technology giants also create fertile ecosystems that allow numerous smaller businesses to develop. Several firms in north Asia have grown to more than 50 billion dollars in market capitalization allying with just one handset OEM. Some of the e-commerce platforms, by

aggregating customer demand, also help smaller suppliers in smaller towns and even villages to access customers.

20. Multinationals that offer products and services that other nations find indispensable are also a projection of soft power. Think about one of these giants stopping their services with a warning nation. As global linkages strengthen, these tech giants often create relationships parallel to the normal Government-to-Government links, like between South Korea and Vietnam. Just one Korean firm accounts for more than a quarter of Vietnam's merchandize exports. At the same time, it is difficult if not impossible for a government to compete – stepping back to let domestic firms grow bigger may be the only option.

21. Some of these firms also encourage open innovation, somewhat like the informal business networks in Japan called the keiretsu. Even if they appropriate a larger share of the value than may be justifiable, they drive productivity gains for the economy, and help their own ecosystem compete with others. The accumulation of large unencumbered pools of capital also allow them to invest in ambitious and challenging products where eventual profitability is unclear, like the business of creating and digitizing maps in India. Many prominent economists, including Keynes, have emphasized the importance of capital agglomeration for innovation and productivity growth. In fact, some say that the Industrial Revolution and some significant innovations would not have occurred without these changes.

22. This is not to say that significant innovation only needs concentrated and patient pools of capital. Collaboration between competing firms can sometimes carry the Industry forward, like done by industry associations in England and Wales in the late 19th century, which collectively improved the heights and temperature settings of blast furnaces, significantly improving the steel-making process. The German Mittelstand is another example of innovation and competitiveness without market concentration.

23. A result of large profits and low investment needs also means that such firms also often act like venture capitalists, as cash flows from a business that a firm dominates is used to fuel transformative innovation in other fields. Many of the tech firms also run their own investment funds – a pattern now starting to become visible in India as well. This is not new – in the 1960s, some of the significant profits EMI made from The Beatles' music was ploughed into new products, one of which was the CT Scanner. Similarly, AT&T's monopoly

profits helped fund Bell Labs, which was behind some of most transformative inventions of modern times. These trends are becoming much more commonplace now.

24. Such trends pose unprecedented challenges for competition regulators, who identify, investigate and prohibit anti-competitive behavior and abuse of a dominant position. Is a large profit pool a sign of anti-competitive behavior? If say a tech major had not acquired Youtube, would it have provided more competition? Is a video-sharing platform eating away the profits of media companies or just democratizing content? Are these questions, forward-looking ones, even appropriate for a regulator?

25. The rising number and size of unicorns further complicates this process. In early February 2022, the world had 1000 unicorns, with a combined market value of 3.3 trillion US dollars, nearly 3% of the market capitalization of global stock markets. A decade ago, an unlisted firm with a market value above 1 billion US dollars was a rarity, the reason they got the name ‘unicorns’. There are three currently with valuation at or above 100 billion US dollars. Even in India, over the past year, existing unicorns saw a 64% increase in average value to 4 billion US dollars. There is likely to be some volatility in these trends, but the reasons behind this vertiginous expansion of the unicorn club are all likely to persist for a while.

26. The first of these is the surge in venture capital and growth investing (VC/PE). Among forms of capital, while debt has been around for thousands of years, and equity capital for at least a few hundred years (joint-stock companies already existed in the 15th century), formal venture capital is just decades old. In its early days in the 1960s, the industry managed a few hundred million dollars in assets, nearly all of it in the US, making small bets in early-stage companies. Since then, the industry has expanded geographically, and in size: it invested around 50 billion dollars in 2010, and the amount invested last year was twelve times larger: nearly 600 billion dollars. This is allowing firms to stay private for longer.

27. Changing demographics as well as growing inequality of wealth and income have contributed to a global surge in private equity investments in the last two decades. As these trends (among others like growing global trade) pushed down inflation and interest rates, large institutional asset managers like pension, insurance and sovereign wealth funds have been pushed to taking more risks, creating large pools of capital that is chasing growth, even

if at higher risk. In venture capital funds, very few investments drive the bulk of returns: often 5% of investments drive 60% to 80% of returns. This is inherently risky, and is unlikely to be the core destination for savings of most households. On the other hand, large pools like institutional funds and family offices can allocate some percentage to VC/PE strategies.

28. The second factor is, as discussed earlier, investments are increasingly in intangible assets, and the winner-takes-all model is unsuitable for traditional sources of capital like banks, but matches the expected return profile of VC/PE funds. Lastly, firms are also growing larger much faster than they used to.

29. Across the world, the combination of cheaper computing with surging internet penetration (even to rural areas, which are still large in Asia) is enabling new business models, removing inefficiencies from value-chains. Going forward, several promising innovations like rapid gains in energy storage transforming mobility, artificial intelligence applications bringing down costs substantially and thus improve penetration of hitherto expensive goods and services, the internet of things and new standards like 5G, are likely to continue to provide entrepreneurs opportunity to disrupt existing businesses and build new ones.

30. But the growth in unicorns also pose new challenges for regulators. First, disclosure norms for listed firms are more stringent, but only to protect minority shareholders. However, as private firms rapidly become an integral part of the economy, the economic risks from their potential failure also rise. For competition regulators, unique features of intangible-heavy industries mean that significant scale and anti-competitive behavior can arise very quickly.

31. Market forces can end monopolies too. For example, for much of three decades in which the size of the personal computer market rose dramatically, only two firms consistently made money: one made the operating system and the other the microprocessor. The second company that made microprocessors struggled to compete for two decades, but now, partly due to some shifts in the market, and partly due to some missteps by the former, the erstwhile number 2 is now the leader. Similarly, only two years back 80% of the advertising dollars going to just two firms was a big concern, as it was squeezing out media firms. One of those,

a social networking site, is now losing out to a new social media company, given the rising consumer preference for short videos.

32. So, should one wait for market competition and technological evolution to address the problems of market competition? How does one even define the market place? Should we define anti-competitive behavior as a concentration of capital, as a firm can use its significant profit pools in one business to disrupt and reshape competition in another? We have already seen evidence of that in India, and we may see more of that in the coming decade. Should we ignore size as a metric and instead focus on anti-competitive behavior? How would we define the market, in that case? How would we get to know? Can the structure of ownership of this capital be a factor – is diffused ownership of a firm better than having a single owner?

33. Taking the abstraction one level higher, is concentration of market powers a threat to innovation or to the State? Viewed in geopolitical terms, can the State take a step back, not feel threatened by the concentration of capital and market power, to enable a locally owned firm to compete globally? Intangible assets are also more mobile – there are no factories to tie a firm down to a country. It is becoming increasingly hard in the Software-as-a-Service space, for example, to distinguish between an Indian firm and an American one. Every firm has developers in India and sales people abroad.

34. There are no easy answers. Some considerations need a deep-rooted reassessment. Some solutions may require global collaboration and coordination. One must also be cautious in not overreacting – from the overly restrictive MRTP to having no control on companies abusing market powers, be it for customers or to supplier, and thus inhibiting innovation and progress.

35. The remarks from Mr. Gupta and Dr. Verma showed that the Commission is well-apprieved of the challenges ahead of us. It should give us comfort and confidence that we are in good hands.

36. With that, I would like to thank CCI and the Chairman, and end my address.
