Capital Market Predation in the Indian Internet Commerce Sector

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Contents

Executive Summary

This study seeks to investigate claims of predatory prices and to see if there are any anti-competitive activities in the Indian e-commerce sector. The e-commerce sector in India is going through a period of intense competition between newer companies established in India and bigger older companies established abroad. In two cases, cab-aggregator market and e-retail, the Indian companies started operations in India before the foreign firms. For instance, Ola was founded in 2010 while Uber entered the Indian market in 2013. Similarly, Flipkart was founded in 2007 while Amazon entered the Indian market in 2013. In the simple sequence of entrance, the Indian firm has the advantage in both cases. The interpretation of advantage changes when we consider capital market considerations. Here we see that Ola and Flipkart are dependent on external financing to survive and grow whereas Uber and Amazon with their worldwide presence have potentially deeper pockets. Another interesting aspect in this price war is that both Amazon and Uber operate in multiple markets while Ola and Flipkart are operational predominantly in India.

We begin our report with an overview of the Indian e-retail market and compare the e-retail market in India to that in China and USA. We next consider the role of investors. In a nascent market like e-commerce, investors play a large role and their role is crucial to understanding predation. It is instructive to focus on the cab-aggregator market to get a better understanding of investors roles. The industry is dominated by a few big investors such as SoftBank, Tencent, Public Investment Fund (Saudi Arabia) and China Merchants Bank who have invested large amounts in multiple cab-aggregators. Investors diversify by investing in firms in different countries (Tencent) but some also diversify by investing in competing firms (SoftBank). These few big investors have an inordinate bearing on the future of the e-commerce sector. This pattern of diversification of bets by investors affects the commitment of capital to e-commerce players, plays a role in their performance, and may influence mergers.

To understand if prices were indeed predatory we must keep in mind that predatory prices are characterised by the presence of two phases. In the predatory phase, the predator firm pushes the prices very low with the intention of pushing the prey out of the market or to

discipline them. The recoupment phase occurs once the prey exits and/or is disciplined and in this phase the prices are high enough to recoup the loss in the first phase. If we could observe both phases, then claiming predation would be easy but we in fact want to establish predation based on observing low prices in the predatory phase. To establish predation in such cases it is useful to have a theoretically valid explanation which explains the predation.

We consider two theoretical explanations of predation to understand if they are applicable to the Indian e-commerce sector or not. Financial market predation is possible if the prey is dependent of external financing and the financiers make future financing decisions based on current performance. In such cases the predator can choose to cut prices very low so as to impact the performance measures of the prey leading to the prey losing financing. In the Indian context, it is true that a lot of firms are dependent on external funding but it is not clear that the investors are not savvy enough to distinguish between poor performance due to predation and that due to bad management. Another form of predation possibly applicable to the Indian e-commerce sector is predation to establish a reputation. This kind of predation occurs when the predator is active in multiple markets and wants to establish a reputation via actions in one market which is observed by competitors in all other markets. Given the interconnectedness of markets and the spread of information, we think predation to establish a reputation is unlikely in the Indian context. This argument is further strengthened by the fact that firms (eg Ola) which started operations in India are now branching out to other parts of the world.

The discussion on predation needs to take into account that e-commerce firms in India connecting multiple stakeholders are in fact two-sided or multi-sided markets. Two-sided markets or platforms allow interactions between multiple types of economic actors (buyers and sellers/drivers and commuters) and are effective in significantly reducing the transaction cost of each interaction. These markets are characterised by the presence of externalities such that the value of the platform to a user from one side of the market is increasing in the presence of the actors from the other side of the market. The platform has market power over both sides of the market and the volume of transactions depend not only on the total price charged but also on the way the price is distributed to the sides of the market. Two-sided platforms may feature optimal price structures which involve below cost pricing to one

side. Both own price elasticity as well as cross price elasticity (between the sides of the market) are relevant for deciding the price structure. The presence of large fixed costs as well as usage and participation externalities can lead to the emergence of a few dominant players in the market. While there is a thrust towards monopolization, there are also factors such as congestion costs and competition which contribute to a push away from a single dominant player.

To analyse price predation in two-sided markets, simply extending rules for detecting predatory prices from one-sided markets is not feasible because of multiple reasons. Prices to one side of the market may not reflect the cost of serving that side of the market at all. An important feature of two-sided markets with relevance to predation is critical mass which refers to the minimum size of participation on both sides of an e-commerce platform such that the platform continues to be attractive to new members. If membership on one or both sides is a function of the prices, then to attain critical mass the platform may be forced to charge low prices. Hence, discounting both sides of the market may be considered a valid strategy in a new market or for a new entrant to an existing market. In mature markets where critical mass has been attained the price and costs on one side of the market may be such that a loss is made on that side but this must be offset by profit on the other side of the market.

We note that competition authorities in USA and EU have taken into account the two-sided nature of e-commerce markets. The Competition Commission of India has taken a similar stance and understands that markets for platforms connecting multiple sides need to be measured appropriately. The need for building critical mass has been highlighted by the CCI. The role of data in the e-commerce sector and its potential for enhancing the sector as well as the potential for its misuse has been noted by all three competition authorities.

We note that e-commerce is a disruptive sector that is characterized by an initial phase of ‘cash burn’ to get a critical mass of customers. Cash burn is not predatory but there is a likelihood of the transitory nature of this type of incentive resulting in customers on the platform making long-term decisions that do not account for the temporary subsidies due to

bounded rationality. Firms can also try to attain critical mass by using exclusive contracts by vendors and tying/bundling of products.

Platforms gather personal information provided by users and process that to provide further services to them or to induce demand for the goods/services transacted through the platform. This may increase customer switching costs and act as a barrier to entry. It is important that users have control over their data and that there is transparency regarding data processing.

An important part of the debate is whether e-commerce intermediaries should function as marketplaces or be allowed to stock inventory and resell. In a marketplace mode the intermediary is not a party to the contractual relationship between buyers and sellers – it is merely an enabler of those contractual relationships. Marketplace modes are preferred whenever the original supplier has information on a product that is not easily appropriable by a reseller intermediary. On the other hand, if marketing and other activities such as customer service or responsibility for order fulfilment generates spillovers across products, the reseller mode is the better suited way to structure the e-commerce intermediary. It is well known that short-tail (popular) products are usually provided in the resell mode and long-tail products in the marketplace mode. In e-commerce as product categories become more successful (sales exceed a threshold), the platform starts to sell it in resell mode.

Promoter-entrepreneurs in India have lobbied for dual voting type share structures to retain control and to make decisions in the long-term interest of the enterprise while bringing in outside investors. Dual voting in a fast growing organization can encourage a culture of complacency as a minority shareholder controls decisions. We advocate the corporate governance principle of a vote associated with every share that is owned. However, since a growing number of countries are allowing two share classes, if we do go down this road, it would be appropriate to no longer allow such corporations to be a part of share indices. S&P Dow Jones for instance does not allow such share classes to be a part of its indices.

Finally, there is a role that FDI can play in B2C e-commerce as well as in brick and mortar retail. It can create more efficient supply chains and generate higher demand by reducing

costs to customers. Sufficiently higher demand leads to higher productivity and job creation that more than offsets direct job losses caused by the initial entry of such entities. In this way enabling the demand side of the market can enable Make in India to be world class.

Introduction

Recently, Ola co-founder Bhavish Aggarwal raised a flag against what he called capital dumping by MNCs such as Uber and Amazon and sought policy intervention to offer a level playing field for local firms in the online space. His point was that those with deep pockets – Uber has spent over $ 1 billion in India and has committed over $ 3.5 billion from Saudi Arabia's Public Investment Fund according to news items – provide customers with lots of discounts and drivers with subsidies. These are withdrawn once the competition softens and that will hurt the ride-hailing ecosystem in India.

This study seeks to investigate such claims and to see if there are any anti-competitive activities in the Indian e-commerce sector. The Press Note 3 states that 'e-commerce' means the buying and selling of goods and services including digital products over digital and electronic network. It further defines an e-commerce entity. The e-commerce sector in India seems to be going through a period of price war between newer companies established in India and bigger older companies established abroad. The question is whether there is a price war and if there is, is it a regular consequence of competition or if it qualifies to be a case of predation where the predator is keeping price much below some acceptable measure of cost for a period of time long enough to push the prey out of the market followed by a period of high prices where the predator recoups the losses made in the predatory phase.

We would first like to argue that the usage of the term dumping is inappropriate. That applies to a price discrimination practice of charging a lower price for exported goods than for the same good sold domestically. Dumping requires that markets must be segmented so that domestic residents cannot easily purchase goods intended for export and imperfect competition so that firms can set prices. Dumping is possible when sales are more price responsive in one market than in another. Dumping is not a situation where a firm sells below cost which is what is being indicated in the example of Ola and Uber. In addition, both the organizations which raise capital funds – Ola and Uber – access capital domestically and abroad. Ola for instance has SoftBank from Tokyo invested in it in addition to RNT Associates, and Falcon Capital. By capital dumping they are referring to the fact that one is cash rich and

the other has a limited kitty of cash and the cash rich organization that happens to be an MNC is using its deep pockets to charge prices below cost in order to restrict the growth of the domestic firm and even induce it to exit from the market.

Such a phenomenon is more aptly labelled predation and not capital dumping. More appropriately it constitutes what may be called as capital market predation – a situation where due to the structure of contracts in capital markets there arises the chance of predatory pricing – a price reduction that is profitable because of the added market power the predator gains from eliminating, disciplining, or inhibiting the competitive conduct of a rival or potential rival.

Predatory strategies become possible because of capital market imperfections. In supplying capital, investors are faced with agency or moral hazard problems – the managers of the firm may take excessive risks, safeguard assets from creditors, not exert sufficient effort, or fail to protect investor interests. Suppliers of capital respond to this by spreading finance in staged commitments and imposing termination threats in case of poor performance. Debtholders may portend to liquidate the firm or deny new credit in the event of default. Venture capitalists refuse to extend additional funding if initial performance is poor. Predatory pricing by the predator exploits these termination threats to dry up the financing of a rival firm. A predator could reduce the price in order to drain the prey of sufficient funds to meet its financial commitments and thereby force default. If reduced earnings force the prey to pledge a larger share of future profits to its creditors then the manager of a firm has a lower incentive to maximize profits. Lenders may also toughen the terms of lending if they believe that the firms profits are going to be lower and riskier in the future.

Lenders who back the organization may be willing to fight predation by financing the prey despite its inability to meet scheduled repayments. However, this puts lenders in a dilemma. By providing additional funding and softening the repayment terms she invites agency misconduct and could end up supporting poor performance by the prey. On the other hand, by imposing financial discipline it helps the predator. An optimal lending contract will have to balance minimizing agency problems with maximizing incentives to prey. Laying out the

details of such contracts is not straightforward and this raises the cost of capital, lowers the return on the enterprise, and inhibits competition.

In two cases, cab-aggregator market and e-retail, the Indian companies started operations in India before the foreign firms. For instance, Ola was founded in 2010 while Uber entered the Indian market in 2013. Similarly, Flipkart was founded in 2007 while Amazon entered the Indian market in 2013. In the simple sequence of entrance, the Indian firm has the advantage in both cases. The interpretation of advantage changes when we consider capital market considerations. Here we see that Ola and Flipkart are dependent on external financing to survive and grow whereas Uber and Amazon with their worldwide presence are less in need of external financial help. Another interesting aspect in this price war is that both Amazon and Uber operate in multiple markets while Ola and Flipkart are operational predominantly in India.

We begin with an overview of India's e-retail market and compare it to its counterparts in China and USA. We follow that with a look at the cab-aggregator market to understand the role of investors in e-commerce. We next evaluate the possibility of predation in the e-commerce markets in India. Here, we first look into economic theories of predation and why they might be applicable to the Indian e-commerce sector. We next look at the special consideration of two-sided markets with regard to predation and how to analyse predation in the Indian e-commerce sector where most of the firms happen to be multi-sided platforms connecting different users like drivers/riders and consumers/vendors. We then present the Competition Committee of India's position on predation in e-commerce. We present our conclusions and policy recommendations in the final section. In the appendix we have collected cases studies of various e-commerce firms active in USA and China.

India's E-Retail Market Overview

We begin with an overview of India's E-retail market and compare it to the market in China and USA. Figure 1 shows that from 2003 to 2017 Indian retail has grown from a total size of around $161 billion to a size of $614 billion. Non-store retail had increased from 0 .3% in 2003 to 5.4% 2017 of total retail.

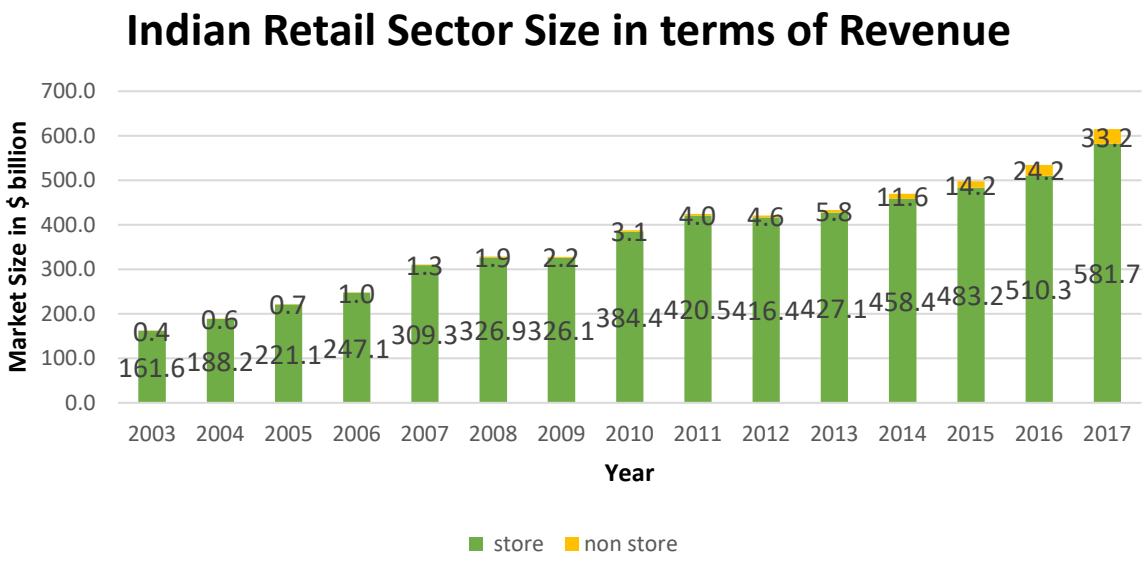


Figure 1: Indian retail market (Datasource:- Euromonitor)

Indian retail industry is very fragmented (Figure 2) with largest player being Flipkart with a market share of around 1.5%. Amazon is at second place with market share of around 1%. The other large firms are mostly store based firms and largest among them is Future Group with share of around .5 %. The big factors driving the growth of e-retail will be rise in GDP and also internet penetration. India internet penetration (Figure 3) while had grown in past years is still low at around 30% and hence there is a significant scope of improvement.

Total retail had a CAGR (compounded annual growth rate) of 13% while non-store retail had CAGR of 39%. If the present CAGR is sustained till 2022 non-store retail will be worth $167.08 billion, total retail will be worth $ 1099.84 billion and non-store retail will constitute 15.19% of total retail. The IBEF (Indian Brand Equity Foundation) gives an estimate of total retail market size of $1.1 trillion by 2020 of which online retail will be $120 billion or around 11%.

Euromonitor forecasts a CAGR of 21.9% till 2022 for the retail sector as a whole and predicts non-store retail to be around $ 86.6 billion by 2022.

Figure 4 takes a look at the funding patterns of some of the major players in the e-retail market which were founded in India. The data is from the Tracxn Database and looks at the how the total known investment till now is split up. The graph highlights the diversified nature of the investors and also that the platforms share common investors.

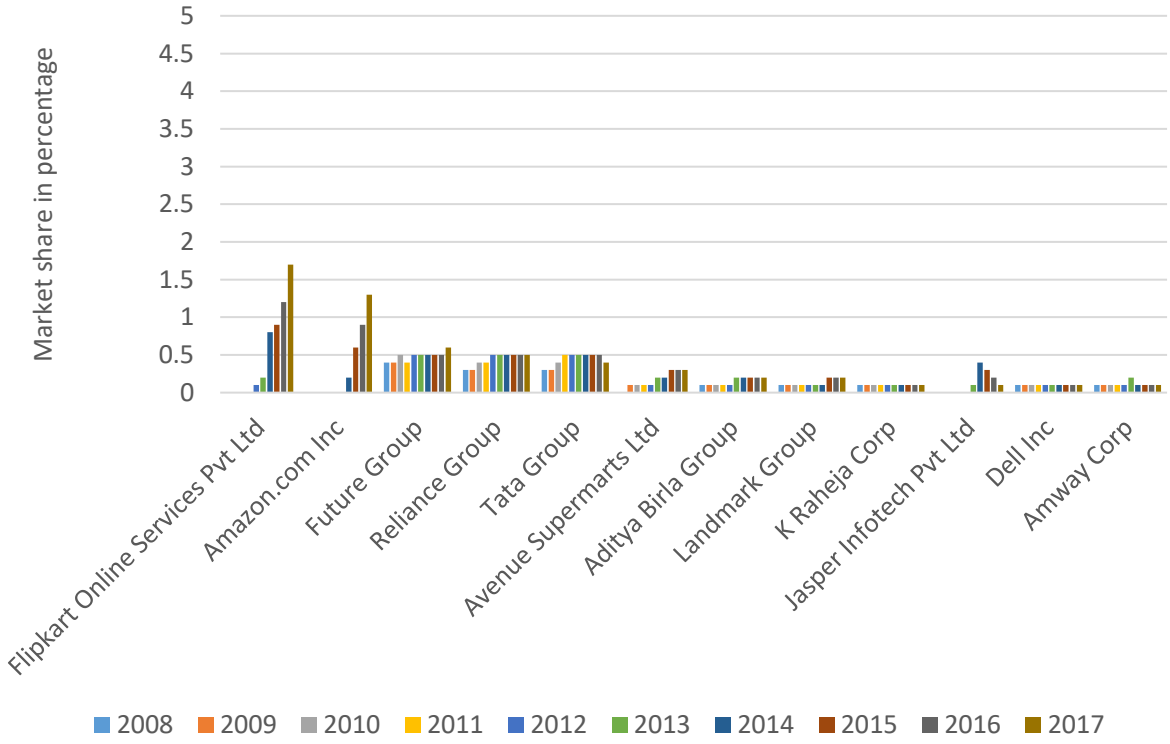


Figure 2: Big Players in the Retail Market (Datasource:- Euromonitor)

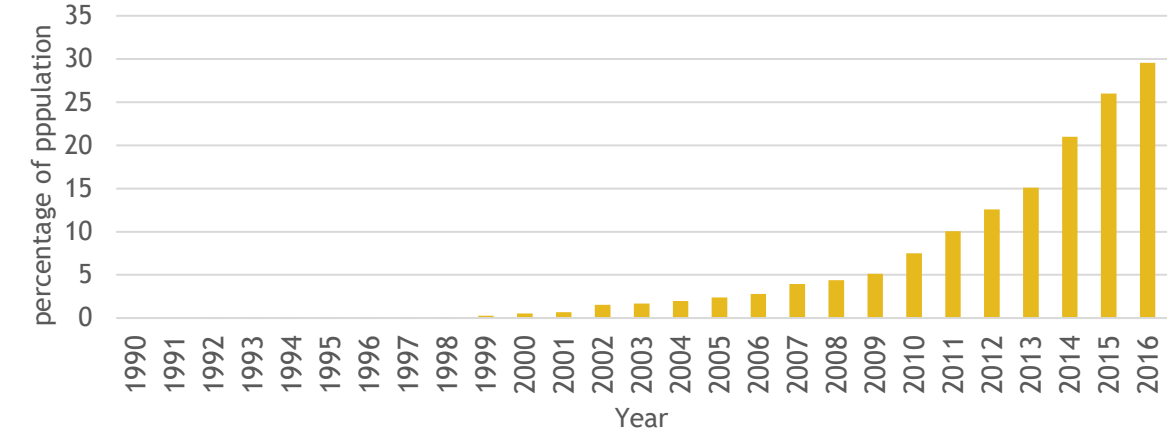


Figure 3: India's Internet Penetration (Datasource:- World Bank)

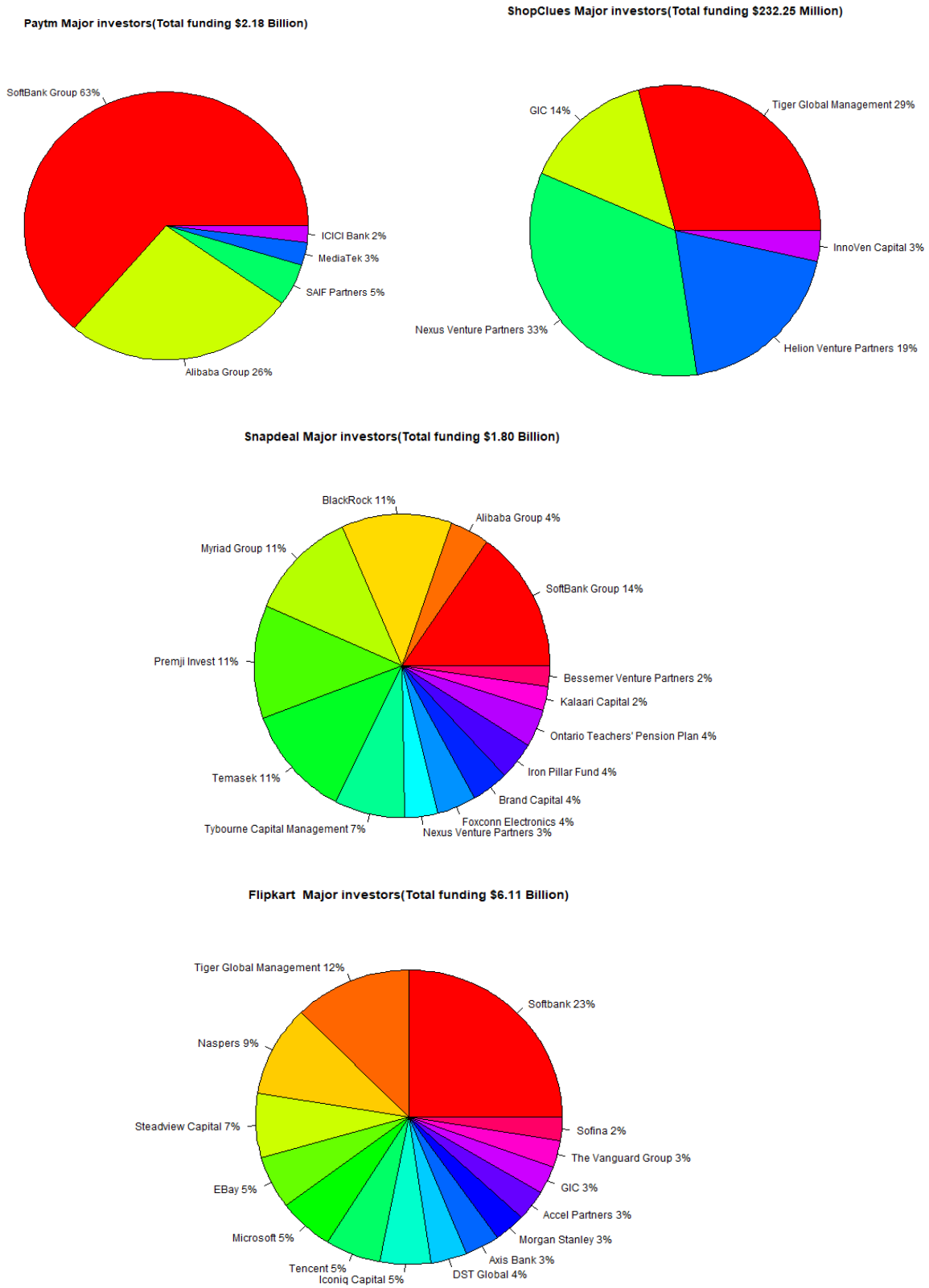


Figure 4: Investors in E-Retail (Datasource:- Tracxn Database)

If we compare the Indian e-retail market to that in the USA, we note some key differences. The US market is mature with a stable GDP growth rate and a high internet penetration of around 90%. The share of retail in total GDP is also stable at around 16%. Before the advent of e-retail, American market was already very organized with an oligopolistic structure. Walmart has continued as the biggest player with a stable share of around 10% of total retail. Amazon is now one of the bigger players in USA and has steadily built up its share from less than 1% in 2008 to around 6% in 2017. It controls about half of the e-retail market.

If we look at Chinese retail market we find that from 2003 to 2017 the market has grown from a total size of around $412 billion to a size of $2.2 trillion. Non-store retail had grown from 1% in 2003 to 21% by 2017. China's GDP is also growing and so is its internet penetration which is at 50% right now. China's retail as a share of GDP has been stable at around 20%. Before e-retail, there were no large retailers and the market was much more fragmented than USA. Alibaba and JD have consolidated their positions to grow into the largest players in the retail market. Alibaba grew from 1% to 8% of retail from 2008-2017.

As in China, India's retail market before e-retail was fragmented. The biggest retailers in China are now the e-retail stores Alibaba (8%) and JD (5%). Similarly, the e-retailers Flipkart (1.5%) and Amazon (1%) in India are the largest retailers. India's retail and e-retail market can be expected to grow for a longer time as compared to the more mature Chinese market.
Hence, one reason for concern in a market like India where retail is growing and organized players are not present to challenge e-retailers is that these e-retailers are in a position to control a huge percentage of the market. If they combine online with offline stores, they can potentially become market leaders. Hence even though the market is nascent, it is important to study the implications of this market which is poised to become much bigger in the coming years.

Investors Role in E-Commerce Markets: Evidence from Network Analysis of Cab-Aggregators

In a nascent market, investors play a large role. To get an understanding of patterns behind investments, we next consider the cab-aggregator market with data on funding collected from Tracxn Database. Cab aggregators function as a platform to connect cab drivers to consumers. The total number of firms with funding in this market is around 100 and the total disclosed funding has been of around $61 billion. Some of the major cab aggregators in the cab aggregator investor network are Didi Chuxing, Uber, Ola, and Lyft. Uber and Lyft are head quartered in the USA, Didi in China and Ola in India. Uber operates in multiple countries while the rest operate in the country they are headquartered in. Figure 5 makes it clear that there are many common investors for the firms. For instance SoftBank, Tencent, Sequoia, USM holdings and DS Global have invested in more than two firms.

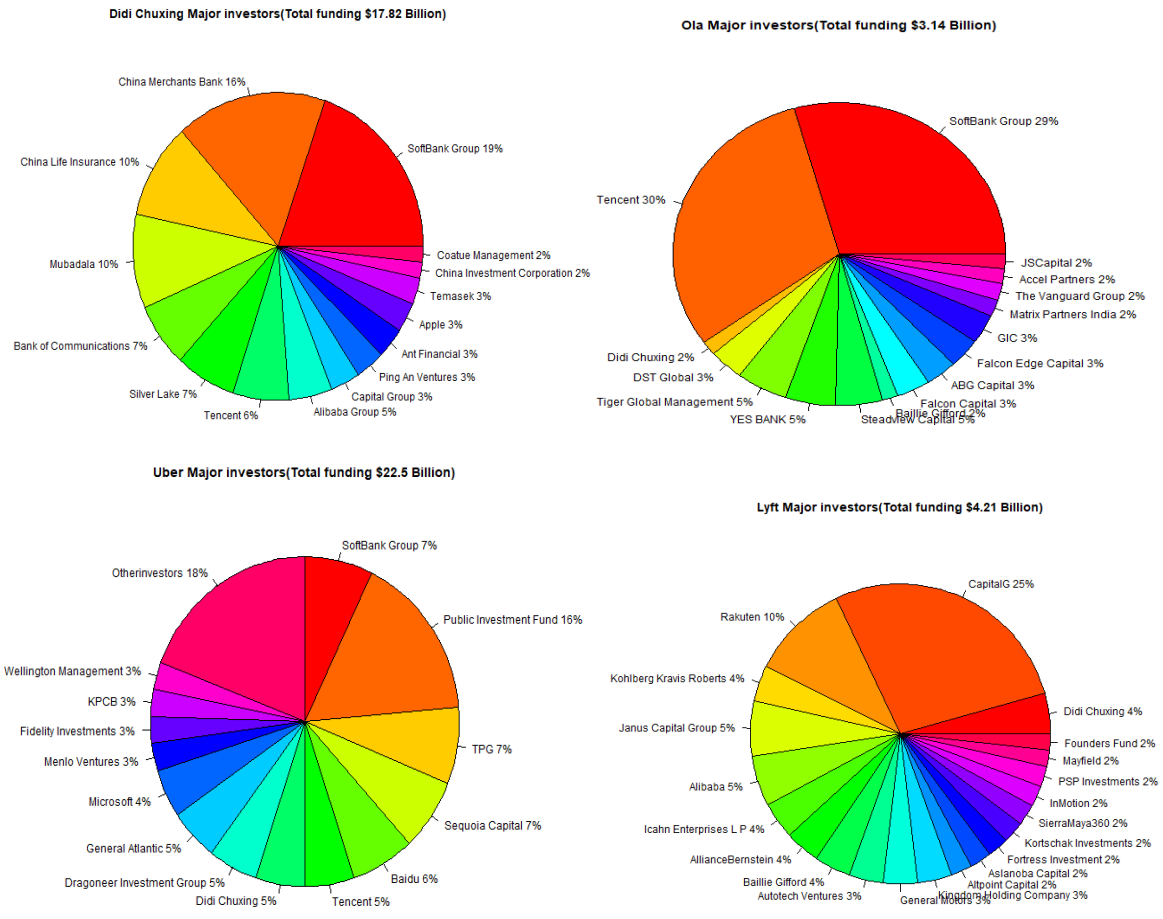


Figure 5: Major Cab-Aggregators Investors (Datasource:- Tracxn Database)

Using the funding data we construct a network where the nodes are the cab-aggregators and a link between two cab-aggregators if there is an investor who invests in both of them[1]. We find a highly connected network implying investors invest in multiple firms. We find a giant component of 24 aggregators that are connected to each other through some links and total number of links connecting them are 54. We identify the most central players by core periphery decomposition using k-core analysis. A node is said to have a coreness of k if it has a link with at least k other nodes with coreness k. Coreness of a node is an estimate for importance and centrality of node in a network.

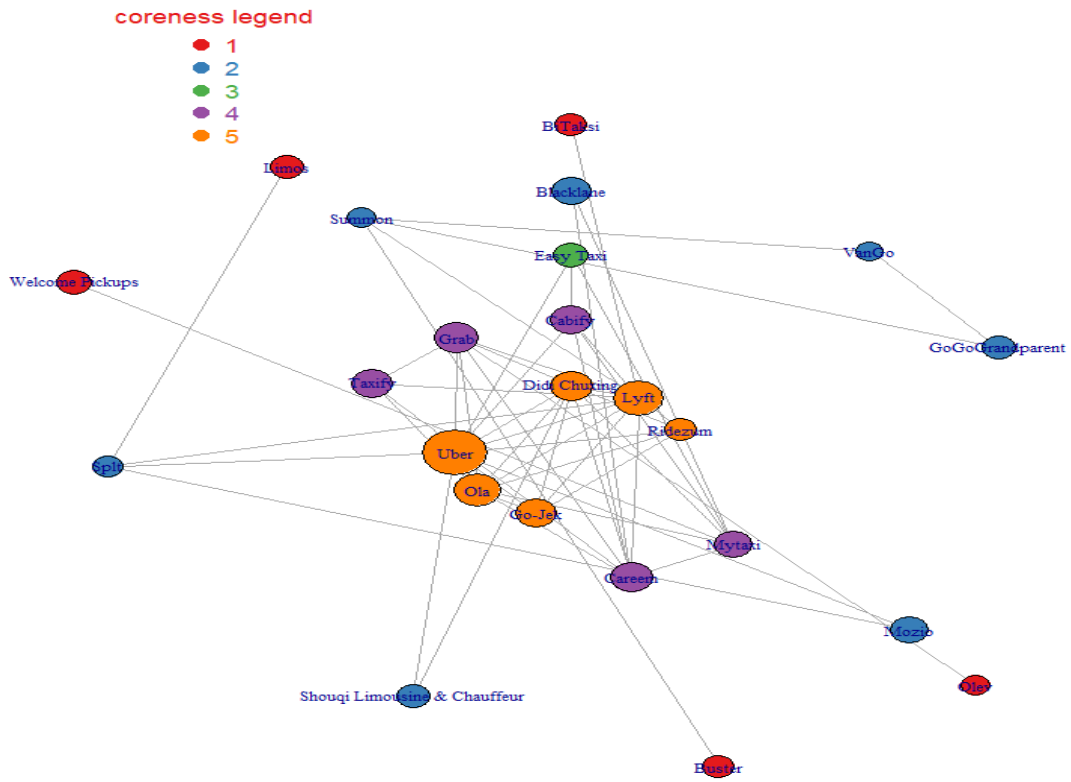


Figure 6: Major Cab-Aggregators Network (Datasource:- Tracxn Database)

Figure 6 shows that the deepest core consists of Uber, Didi Chuxing, Ola, Lyft, Go-Jek and Ridezum. The node size in the figure is correlated with web traffic and it can be seen that cab-aggregators with larger web-traffic also tend to be the more central nodes in the network. The deepest core is such that all of the firms in it share at least one common investor with the others. SoftBank is a major investor in Didi and Ola while also having a large investment

[1] We also constructed a weighted network with weights proportional to amount of funding that each cab-aggregator received from a particular investor. The results remain similar even after considering the weights, here we report results based on unweighted network

with Uber. Interestingly, Didi is also an investor with investments in Ola and Lyft. Other common investor is Sequoia Capital with investments in Ola, Uber, Ridezum and Go-Jek. Tencent is also a major investor with stake in Ola, Lyft and Didi. Baidu has a major stake in Uber and they have also taken a small holding in Didi Chuxing.

Investors in the Cab Aggregator Space

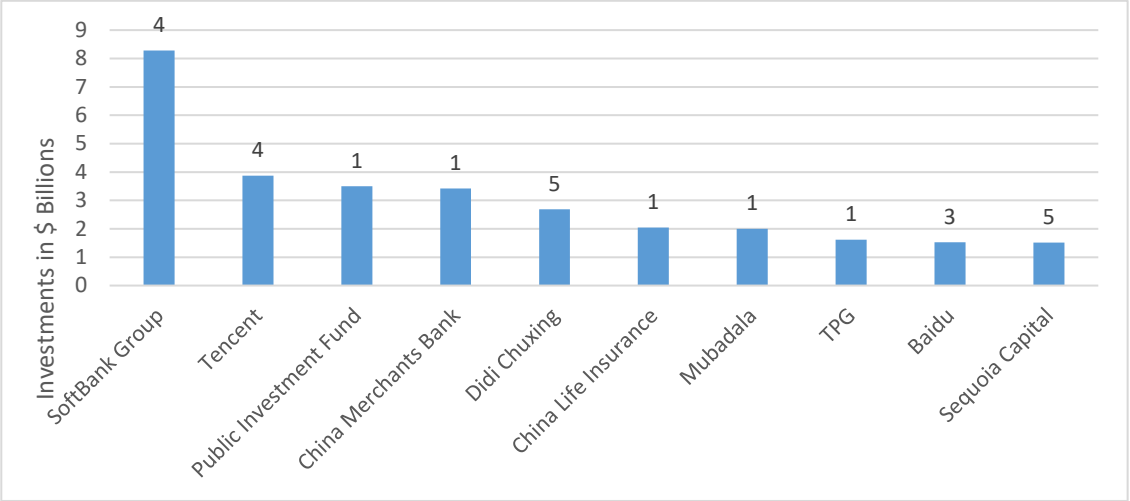


Figure 7: Major Investors in Cab-Aggregators (Datasource:- Tracxn Database)
(number on top denotes number of aggregators in which investment is made)

We now turn to look at the investors in the cab aggregator space to better understand the investment ecosystem. The total invested amount is in excess of $61 billion out of which major investors are SoftBank, Tencent, Public Investment Fund (Saudi Arabia), China Merchants Bank etc. The top 10 investors shown in Figure 7 have invested more than $30 billion in cab aggregator space. Given that in total there are 430 investors, the above graph makes it clear that the investor ecosystem is dominated by a few big players.

It is interesting to note that many of these investors are diversifying their bets. SoftBank had invested in 4 cab aggregators with investments including in Ola, Uber, Didi Chuxing and Grab. Interestingly it is making investments in competitors by investing in both Uber and Ola which compete in India. Uber has merged South East Asian operations with Grab and Chinese operations with Didi Chuxing in China. Both the mergers happened after SoftBank investments in these firms hinting at the role of the investor in such mergers.

Tencent followed a different strategy with investments in Ola in India, Didi in China, Lyft in USA and Go-Jek in Indonesia and hence in a way it had diversified its portfolio geographically and avoided competition within invested firms. Didi Chuxing apart from being a cab aggregator had also made major investments with investments in Grab in South East Asia, Lyft in USA, Ola in India, Careem in the Middle East and Taxify in Europe. Hence, it had invested initially in firms who weren't competing in same geography. Baidu had invested in Didi Chuxing and Shouqi Limousine & Chauffeur both in China and Uber headquartered in the USA. It's investment in Uber was made when Uber was still active in China hinting to local nature of Baidu investments. Sequoia is another major investor with a diversified portfolio with investment in Ridezum and Uber both in USA, Didi Chuxing in China, Go-Jek in Indonesia and Ola in India. Sequoia is also investing in competitors and across geography.

What emerges is that there are a few big investors who have invested large amounts. Investors diversify by investing in firms in different countries but some investors sometimes also diversify by investing in competing firms. We find that this network is organized by geographical region – Asia, Europe + Latin America, USA. Investors are more likely to invest in cab-aggregators head-quartered in the same region but different countries.

Hence, we see that the e-commerce space is dominated by a few big investors who have an inordinate bearing on the future of the e-commerce sector. These investors get to choose the winners in the sector as only those who are able to secure funding can go further. This can lead to inefficiencies creeping into the capital markets as they rely on the judgement of these few big players.

Predation in the Indian E-Commerce Sector

Predatory prices are characterised by the presence of two phases. In the predatory phase, the predator firm pushes the prices very low with the intention of pushing the prey out of the market or to discipline them. The recoupment phase occurs once the prey exits and/or is disciplined and in this phase the prices are high enough to recoup the loss in the first phase. It is thus important for regulatory bodies to distinguish between low prices due to higher efficiency and predatory prices. If the latter is suspected, the predator must be checked. Predation can clearly be established if the regulatory body were to observe the predatory phase followed by the recoupment phase.

How do we separate predation from intense competition? It is often very difficult to distinguish predatory strategies from ordinary competition.

Two conditions must be shown to hold for conduct to be deemed to be predatory:

(1) The practice reduces social welfare. Stated another way it leads to a monopoly. Any price reduction that benefits consumers without leading to a monopoly is not predation.

(2) The predation should be profitable to the predator. If a firm reduces prices and bears the loss there is no point for the regulatory system to step in. When the market compels a firm to shoulder the complete cost of its conduct, it levies a fine and that automatically discourages the conduct.

A predator loses money because it must expand sales to meet demand at the low price. A “deep pocket” predator it is claimed can resort to in-house sources of funds to finance its predation. – However, these internal sources of funds are not free – such funds have alternative uses and a predator must keep tabs that there are opportunity costs to deploying such funds. The opportunity cost of the fund will not be very different usually from the cost of borrowing.

From the stance of the victim, a large bank with a diversified portfolio of loans should be able to provide a loan at an appropriate rate of interest that covers the risk of failure. Such a loan in fact reduces the chance that the victim will come to nothing.

If a victim is unable to find adequate funding it is possible that large firms with deep pockets could buy out the victim.

To take an example suppose a firm were predating for 20 years in the hope that in the 21st year and thereafter it could charge a monopoly price. Let the annual loss be INR 1 million for each of the first 20 years and let π_m be the annual flow of monopoly profits thereafter. The discounted present value of the 20 years of annual loss is

$\frac{1}{r}\left[1-\left(\frac{1}{1+r}\right)^{20}\right]$. This is equal to INR 8.51 mn. if r = 10%

The discounted present value of an annual profit of π_m beginning in the year 21 is

$\frac{\pi_m}{r}\left(\frac{1}{1+r}\right)^{20}$. This is equal to INR $1.49\pi_m$.

Hence, for the gain to exceed the loss, we must have $\pi_m > \frac{8.51}{1.49} = 5.71$ mn.

If the predation was for 10 years instead of 20, then we must have $\pi_m > 1.6$ mn. For a 15 year predation period, $\pi_m > 3.2$ mn.

Apart from obtaining a loan or convincing other firms to buy them out a firm that is subject to predation could set long-term contracts with buyers. Buyers should be willing to sign fixed competitive price contracts at prices below the monopoly price that the predator will charge once it is successful. If the customers frequents the market then a long term contract is feasible by allowing the right to purchase from the victim assignable from one customer to another.

This is not easy to do when customers are small and purchase occasionally as would be the case for consumer durables where they would be averse to signing up contracts in advance. In that case consumers could be safeguarded from predatory monopoly pricing by warehousers, retailers, and distributors who could sign long-term contracts so as to secure their own supply at the least possible prices.

As long as victims and customers have rational expectations about the future behavior of predators then the victim should always be able to offer some pricing scheme that is more appealing to purchasers of the product than the predators offer of lower prices now followed by higher monopoly prices later.

We evaluate the possibility of predation in the Indian e-commerce sector by first looking at theories of predation which lay out the economic conditions under which it might be rational for companies to practice predation. Next, we delve into the special considerations of two-sided markets to understand how measuring predation in such markets is different and also why such markets present very specific business justifications for low prices.

Economics of Price Predation

Predation can be established by observing only the predatory phase if certain additional market conditions hold. We next show how those market conditions must involve some asymmetric information. Predation is not a rational choice in a world with perfect information. If all market participants know and understand that a predatory phase is going on, competition could just wait out the predatory phase knowing full well that the next phase of recoupment with high prices must follow. A case might still be made for the prey that they lack financing to last the predatory phase but the lack of deep pockets is not a rationale for the prey to exit the market with perfect information since the investors would know that the predatory phase must end soon and will be willing to wait out.

Accepted theories of predation include **financial market predation** (Bolton and Scharfstein (1990), Poitevin (1989), Snyder (1996), Wiseman (2017)) and **signalling theories of predation** (Milgrom and Roberts (1982), Fudenberg and Tirole (1986), Saloner (1987), Benoit (1984)). Financial market predation is possible if the financier of the prey sees the decline in profitability and cannot know for sure whether this is due to predation or mismanagement and hence predation might lead to a stop in the inflow of funds for the prey. Signaling theories of predation discuss scenarios where the predator has more information than the other market participants. The **reputation theory** says that the predator wishes to establish a

reputation of price cutting in one market while recouping these losses in another market. The **test market signal jamming theory** says that the predator can try to jam signals in the prey's test market. This happens when the prey surveys a section of the market for profitability and in this market section the predator cuts prices so that prey is unable to get correct data on demand for its product. The **cost signalling theory** says that the predator can signal their low cost via low prices while this may not be true.

The reason it is important to study possible predatory practices is that such practices may negatively impact social welfare in the long run. While the period of price war is great for the consumers, it is invariably followed by a period of recoupment. Predation also increases the entry barriers for other possible entrants who might have been more cost effective and would have increased the level of competition in the market. On the other hand, it is harmful to consumers if episodes of price competition are labeled as predatory leading to an intervention that raises prices and discourages future prices cuts and thus reduces consumer surplus.

To identify a predatory phase there are cost measures that have been proposed to identify the range of prices that can be defined as predatory. In perfect competition, price is equal to marginal cost (MC) and in all other market forms profit maximizing price is above MC. Hence, it is commonly accepted that price below MC can be deemed predatory. The problem is that MC might not always be easy to measure. Areeda and Turner (1975) proposed using average variable cost (AVC) instead MC. To best approximate the MC, AVC can be measured by taking into account variable costs of producing goods at the margin without including any fixed costs. While the Areeda-Turner test is a well accepted benchmark, there are critiques that price greater than short run MC might still be predatory and that AVC is often less than MC and hence the test underestimates predation. To take that into account a joint test including average total cost (ATC) was proposed as modification of the orginal Areeda-Turner test where prices are deemed predatory if less than AVC but prices can be predatory as long as they are less than ATC unless there is a clear business motive for doing so. In short the joint test deems prices less than AVC as predatory and prices greater than ATC as non-predatory. It is hard to know the allocation of fixed costs for a single product from a multi-product firm and hence it is not always easy to measure ATC. Some more recent measures of costs to

approximate MC include average incremental cost (AIC) and average avoidable cost (AAC). AIC for a product is defined as all the variable costs for that product and fixed costs that are specific to that product. AAC is just AIC less sunk costs. AAC are thus all the costs that the firm can avoid if it were to not increase its output and thus reduce prices. A price less than AAC cannot be profit maximizing choice for a firm and the current consensus is to deem price less than AAC as predatory.

To establish that low prices are indeed predatory, there must be the possibility of recoupment in the future. Market dominance of the predatory firm and barriers to entry are two important factors to take into account. Dominance and more generally market power makes recoupment very easy. Dominant firms will usually have enough excess capacity to be able to carry out the predatory phase. Next, barriers to entry and re-entry make it likely that in the recoupment phase, new players do not enter the market or the prey do not come back to market making the predation exercise pointless. We next consider in more depth two rational explanations for predatory behaviour that best fit the Indian internet commerce industry.

1. Financial market predation:

Financial market predation is possible under the following conditions. First and obviously the prey must be dependent of external financing. This reliance on outside funding creates agency problems as discussed before and exposes the prey to predation. To the extent that firms established in India or with Indian founders are more in need of financing than their competitors, they are susceptible to predation.

Second the prey's outside funding hinges on its initial performance. Capital market contracts typically commit increased capital contributions over given performance intervals based on performance indicators such as revenues or initial market penetration. Outside investors focus on these performance indicators in order to ensure they are not at the receiving end of agency problems. Again for some e-commerce sectors in India where there is competition between a firm which started its operations in India and is competing with a much more established firm with its own financing, further rounds of funding could very well be contingent on performance indicators. At the same time, for financial market predation to be

possible, it must be established that these financiers are unable to distinguish between bad performance due to predation and bad performance due to inefficient management. Our conversations with market participants indicates that financiers in India are savvy enough to understand the real reasons of lower performance.

Third predators reduce the prey's performance sufficiently so as to threaten the prey's access to sustained financing. This occurs through strategies such as pricing below cost or increasing output significantly so as to reduce residual market share for the prey. This condition is seemingly true in the e-commerce sector in India but in the subsection after the next we present the view that this need imply predation in the case in two-sided markets.

Fourth the predator realizes that the continued viability of the prey depends on its outside funding and it actively tracks the extent and conditions for external capital funding by the prey. At the same time the predator must have markedly greater access to external credit than the prey. This is an important condition for such predation to occur because if the predator does not have superior access to external credit or have deeper internal pockets then it faces the same agency risks and financial constraints as does the prey. The predator should face an insignificant risk of a cut in its sources of capital so that it is not restrained from predatory conduct when it initiates a confrontation with the prey over price or other measures that affect revenues. Again, this may be applicable for some e-commerce sectors in India.

2. Predation to Establish a Reputation

The predation might be a result of the predator trying to set up a reputation of a tough player and hoping to deter competition in any other market/time. For such a reason behind predatory prices, it must be that the predator is active in multiple markets while the prey is active in one. Most importantly, the behaviour of the predator is observed by all market players and has an impact of entry decisions by future entrants. Note that in such cases the argument of price matching if raised by the predator is harder to support as the predator can recoup losses from other markets. The reputation concerns should be stronger for firms with international presence such as Uber and Amazon with respect to their operations in India.

However, given the interconnectedness of markets and the spread of information, we think predation to establish a reputation is unlikely in the Indian context. This argument is further strengthened by the fact that firms (eg Ola) which started operations in India are now branching out to other parts of the world.

Legitimate Business Justifications

It is important also to keep in mind **legitimate business justifications** which justify a period of low prices. One such argument is meeting the competition or price matching. In general, an argument of price matching raised by the predator must be dealt with caution. If such arguments are allowed, then an inefficient predator in a dominant market position will always be able to push out more efficient new entrants by matching their prices.

It is difficult in practice to distinguish between which capacity decisions are predatory and which are efficient. If demand is growing, as is the case during the initial phase of an industry, some firm must grow. A firm may want to put up plant so that capacity is geared up to meet demand. Large increases in demand will usually be accompanied by sizable increases in capacity and new cost cutting machinery and processes. In such a situation it is an unnecessary disincentive to firms when such decisions are questioned as being undertaken so as to exclude other firms.

During the start up phase of a commercial activity it is usual for the firm to invite consumer awareness by running price promotions. Such promotions build interest for future transactions from customers and this is rational profit maximizing behavior. It is possible to think of even goods given away for free as indulging in short run promotional activity and a planned investment that draws in future customers. An investment in plant and machinery is not expensed but rather is amortized over time. One could think of price promotions in a similar way.

A product could also be provided at a loss in the short run so as to signal to the market that the firm intends to provide the product in future as well. If a firm has an apprehension that potential customers may purchase goods from a rival and would be unwilling to switch later

when the firm is in a position to produce cost effectively, then, it may behave in this manner. IBM should have expected to incur losses when it introduced the supercomputer and it was signaling to customers that it will provide the machine at the time as well as in the future.

The US government alleged that IBM introduced the 360/90 with the full expectation that the system would lose money, perhaps as much as $ 50 million. It also alleged that IBM engaged in this behavior for predatory purposes in order to eliminate the potential competitive threat that Control Data Corporation (CDC) posed to IBM's monopolization of the market. The IBM 360/90 and CDC 6600 were sold in the market for large, scientific computers. Internal IBM analyses estimated this market size to be about 70 machines, and since IBM anticipated selling at most 24 computers in the 360/90 series the firm it could be argued could not have expected to drive anyone from this market.

Two critical determinants of the existence of market power are market share and barriers to entry. With regard to market share IBM had a share of about 70 per cent in the general purpose computer market. However, this was not the market in which the 360/90 or the CDC 6600 competed. In that market for scientific computers IBM's share was much less, in the range of about 45 per cent. Was entry difficult? As Pittman (1984) argues probably not too much should be made of the entry of CDC as it possessed on its staff a genuinely scarce resource – computer pioneer Seymour Cray. It is hard to conclude that an action expected to achieve one-third of the potential business for that size system was also expected to drive CDC or any other competitor out of business.

IBM it can be argued was engaged in product market signaling rather than predation. Prospective purchasers of general purpose computers in 1964 faced much more serious information problems concerning product quality than they face today. A response to this was for general purpose buyers to emulate the purchasing decisions of better informed purchasers of scientific computers. Thus sales of scientific computers performed a signaling function for the other products of the firm and the firm found it rational to sell such computers at a price below its cost.

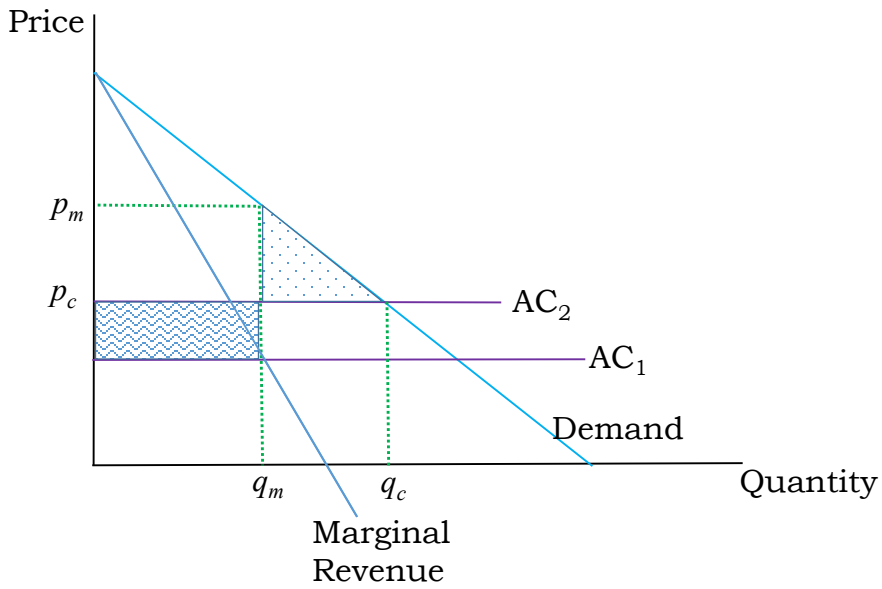
In a similar vein price can give the impression that it is lower than short run marginal cost when there is learning by doing. It is well known that the cost of production of a firm decreases as it produces more because it learns how to produce in a more cost effective manner. In such situations a firm's costs are initially high but decline over time. By charging a low price to begin with the firm trades with many buyers and accumulates the experience that make it possible for the firm to lower its costs in the future. Even when the present day price is lower than the cost of production, the likelihood of reducing costs in the future because of knowledge accretion justifies the lower price as a crucial investment for the firm. For firms that are engaged in dynamic learning over time it is not relevant to look at the current short run cost of production. In its place one should examine the cost today plus the present discounted value of the change in cost in the future that stems from increased production today.

Many complaints about predation are by firms against rivals who are indirectly protesting about a more efficient firm that charges lower prices rather than a firm that sets prices below costs. If predatory pricing regulation is strict it could prevent efficient firms from lowering their price and that would be detrimental rather than helpful to customers. – Such an argument is contested, however, with claims that the exit of even a less efficient producer can reduce consumer welfare. This sort of claim rests on the distinction between allocative efficiency and productive efficiency. Allocative efficiency exists in a market if it allocates goods to all those who value them at more than the cost of production. Productive efficiency exists when goods are made at the lowest possible average cost.

Let's assume that a monopolist can manufacture the product for AC_1, while the firms in a competitive market can do it for AC_2. The shaded triangle is the allocative loss – the inability of customers to purchase the product because they value it at less than p_m (but less than p_c). The productive loss is the shaded rectangle – the larger cost of producing goods at AC_2 instead of at AC_1, times q_m.

If the area of the shaded triangle is less than the area of the shaded rectangle, the monopoly will be considered the better option for society because it has a more efficient production.

When we consider predation against less efficient firms it seems that such an appraisal is required.



However, the practice of firms striving for cost reduction is itself a required goal of any modern society. It would be absurd to prevent an innovator from flourishing at the cost of its competitors. If we halt such activities it would diminish the incentive to reduce costs because the innovator would not be able to appropriate the gains from the innovation. When we compare allocative efficiency with productive efficiency we require that firms who have been bested by a more efficient firm to be protected. This could damage the course of competition.

A most widely cited example of price predation is the creation of Standard Oil. Rockefeller is supposed to have bought small, independent oil refineries after lowering the price to drive them out of business. McGee (1958) examines the historical record and concludes that Rockefeller's rivals were bought out on rather favourable terms.

If a firm succeeds in predation and forces its rivals into bankruptcy, it should obtain the power to manage its assets or see that they are permanently retracted from the market. Otherwise, when the successful predator raises its price a rival could again use those assets or another

firm could buy those assets and compete with it. The assets of a rival firm that have been bought over by a firm in a different market could also be redeployed in order to compete with the predator. A predator can raise its price with no apprehension of entry only if such circumstances prevail. The assets of the victim are typically purchased by new owners for meager amounts as the victim is unable to make a profit. The new owner has a lower average cost than the predator as the factory cost less and over the long-run they could possibly underprice the predator.

Hence, to summarize valid business justifications include price matching, new product launch and promotional pricing, loss leading where one product is priced very low to induce consumers to buy other products, low prices to get rid of obsolete inventory or due to industry downturn and the case where costs fall with production (learning curve) such that initial prices might be kept low.

Economics of Two-Sided Markets

E-commerce firms in India connecting multiple stakeholders are in fact two-sided or multi-sided markets. The definition of what comprises two-sided broadly encompasses three elements. First, two-sided markets or platforms allow interactions between multiple types of economic actors (buyers and sellers/drivers and commuters) and are effective in significantly reducing the transaction cost of each interaction. Second, these markets are characterised by the presence of externalities such that the value of the platform to a user from one side of the market is increasing in the presence of the actors from the other side of the market. The externality can be further broken down to usage and participation externality. The usage externality exists if all participants benefit from a transaction being made and the participation externality exists if users on one side benefit from an increase in membership size of the other side. Note that the externalities can be negative as in the case of readers who are connected to advertisers via newspapers. Third, the platform has market power over both sides of the market and the volume of transactions depend not only on the total price charged but also on the way the price is distributed to the sides of the market. This leads to

prices often being below cost on one side while being much higher on the other side of the market.

Hence, a critical feature of two-sided markets is that the price structure (or how the total price is allocated to the two sides of the market) is important in determining the volume of transactions. Note that if the conditions for the Coase theorem were to be true, then the price structure is irrelevant since the two parties can bargain away any inefficiencies. Hence, for two-sided markets to exist, a necessary condition is the failure of Coase theorem or failure of two sides to bargain. For a market to be two-sided it must be that either transaction costs for buyer and seller to bargain are very high or that they are not allowed to bargain.

Elasticity in two-sided markets is likely to be higher than that for one-sided markets. Two-sided markets are distinct from one-sided markets due to the presence of externalities and their role in restricting their market power. Prices raised on one side will reduce participation on that side, the other side and through feedback effects further reduce participation on the first side. Hence, in general elasticity with own price will be higher for each side vs in the case of a one-sided market. This is true with regard to other strategies (eg: advertising, quality) as well and in general demand is more sensitive to changes in strategy than in one-sided markets.

Another very important aspect of two-sided markets is the need for *critical mass*. A critical mass of participants on both sides of the market is needed for firms to survive. If there are not enough users on one side, participants on other side will not join and this might lead to the membership eroding to zero on both sides because of the lack of critical mass. Once critical mass of participation is attained on both sides of the market, the two-sided market can grow in membership and usage. Hence, the need for critical mass can be seen as an entry barrier. New entrants/startups (Julien 2011) will need to attain critical mass for which they may offer steep discounts to the more price sensitive side.

Optimal Pricing in Two-Sided Markets

Prices can be charged for participation on the platform or per transaction or both. We begin our discussion with two seminal papers in two-sided markets. The first focuses on price per transaction (Rochet and Tirole (2003, 2006)) and the second focuses on price per member (Armstrong 2006).

Suppose prices are charged per transaction as is the case when only usage externalities matter. This is true, for instance, in a mature market where membership is given. The firm's profit can be expressed as prices charged to the sides less the cost of serving them times the marginal demands of each side. The marginal demand of each side is a function of the price charged to that side only. Then a Lerner index like formula can be derived for the total price per transaction where the mark-up over cost is inversely related to the elasticity of the volume with respect to the price. The total price is split between the two sides. The prices charged to two sides are further analysed as a mark-up over the `opportunity cost'. The opportunity cost of raising the price on one side such that there is one less transaction is the loss of price collected from the other side less the total cost of a transaction. It is shown that the mark-up of price charged to one side over this opportunity cost divided by the price is inversely related to the 'semi-elasticity' of demand for transactions from that side. The semi-elasticity measures the sensitivity of demand to own price keeping participation from the other side constant.

Now suppose prices are charged for membership only (Armstrong 2006.) The firm's profit is the sum of profit from each side where for each side the profit is the membership fee charged less the cost of servicing times the demand from that side. The equilibrium demand from each side is a function of the price charged to that side and the membership of the other side. Again, a Lerner index like formula is found for prices charged to each side with the cost being replaced by opportunity cost. Note that the opportunity cost of increasing the membership fee for one side is the loss of interacting with that member for all members of the other side less the cost of servicing that member. The mark-up of the profit maximizing price charged to one side over this opportunity cost divided by the price is inversely proportional to the

elasticity of demand for membership from that side to its own price given the membership for the other side.

Weyl (2010) introduces user heterogeneity and generalizes the results of the previous two models. In the case of competing platforms, Caillaud and Jullien (2003) show that if the platforms are exactly the same and members can choose only one of the two platforms, then it must be that in equilibrium all agents choose a single platform. Armstrong (2006) extends the above to differentiated platforms and finds that when the equilibrium price charged by the two platforms is the same to both sides, this price is the sum of the cost of serving that side plus the market power as captured by the level of product differentiation (as in a standard Hotelling framework) less the value to the members of the other side of each additional member on this side. Hence, the indirect network externality pushes the prices down and that when one side creates a large enough indirect network externality for the other side, the price for this side can be zero or even negative.

Comparative Statics

Multi-homing occurs when users register on multiple platforms. Suppose only one side can multi-home. Here, interestingly, the literature seems to show that the side that multi-homes faces higher prices. This happens because the platforms try to attract more of the single-homing side with lower prices and then use their monopoly over these agents to attract the multi-homing side at a higher price. Now suppose both sides can multi-home. Suppose both sellers and buyers can multihome but only buyers can choose which platform to interact over. For instance, while commuters and drivers can both multihome, commuters choose whether they interact with drivers over Uber or Ola. In that case lowering the price for sellers allows for “steering” or getting more sellers to singlehome with the low priced platform. Low prices for the sellers increases the size of sellers registered on the platform by getting new sellers with lower willingness to pay to register on the platform as well as by “steering” some sellers who were earlier multihoming. Hence, multihoming in this case will lead to relatively higher prices for the buyers. At the same time, it may happen that platforms compete more aggressively to be the chosen ones and hence offer the lower prices to the choosing side. Multihoming can be reduced by platforms demanding exclusive contracts.

In general, any factor that raises the price on side will lead to lower prices on the other side. This is the "topsy-turvy principle" of two sided markets. For instance, suppose there are marquee buyers. These are buyers who spend more money and time on the platform as well as work to get the word out about the platform. These buyers are very valuable for the platform. If there are such buyers, then seller prices are higher and buyer price is lower. The practice of 'tying' might be welfare increasing in two-sided platforms by allowing platforms to better balance the act between buyers and sellers. Debit and credit card from the same provider is an example of tying. Hagiu (2009) shows that the greater the demand for variety from consumers, the greater is the rent the platform extracts from sellers. Another factor to be considered is switching costs. If platforms compete for two-periods such that there are switching costs in the second period, then in the presence of higher switching costs both platforms charge a lower price in the first period. If there is an increase in the switching cost for one side, then price goes down for the other side.

Welfare

Platforms may serve multiple stakeholders and it is important to correctly identify them all. Welfare must be seen from both from the perspective of the price level and the price structure. The former is not any different than standard analyses but the latter is specific to two-sided markets. While actions might lead to the reduction of welfare for one set of stakeholders, they might lead to an aggregate increase in social welfare. Rochet and Tirole (2003) and others propose using Ramsey prices to find the benchmark socially efficient prices. Ramsey prices are those that maximise the total surplus to the two sides of the market under the constraint that the total price is equal to the cost.

Monopolization

The presence of large fixed costs as well as usage and participation externalities can lead to the emergence of a single dominant player in the market. First movers in such market will have a clear advantage and this advantage (in terms of membership and/or transactions) might widen with time due to the presence of externalities. While there is a thrust towards monopolization, there are also factors which contribute to a push away from a single dominant player. The counterpart of positive indirect network externality is congestion and very large networks leads to diminishing returns and inefficient matching for participants.

Competitors can and do engage in product differentiation which acts to curate both sides of the market and leads to a more efficient matching outcome for all participants. Competition can come from other multi-sided platforms (where one or more side coincides with the platform in question) or also from single-sided firms. Note that in this case monopolization might in fact increase total welfare. Given the externalities, monopolization might lead to an increase in welfare since a greater mass of users on both sides of the markets increases the utility for all users.

Predation in Two-Sided Markets

Many researchers are actively working on the problem of anti-trust in two-sided markets. There is no uniform consensus on how to approach the problem but we mention some of the practical solutions proposed below. Evans and Schmalensee (2014) and more recently OECD (2018) provide an overview of the literature on anti-trust analysis of platforms.

Simply extending rules for detecting predatory prices from one-sided markets to two-sided markets is not feasible because of multiple reasons. Prices to one side of the market may not reflect the cost of serving that side of the market at all. Further prices much above the cost or below the cost (when looking at one side of the market only) are not indicative of market power or predation. This is so because a two-sided platform will often charge a high price on side of the market and at the same time subsidize the other side of the market. A very good example of this is a newspaper that connects readers to advertisers by charging very little from readers while extracting a high price from advertisers. It is important to keep in mind that such a price structure may be a permanent feature of the market and does not go away as the market matures.

Because of the presence of indirect network externalities, it is not entirely apparent that more competition is necessarily good. A single firm (instead of two competing firms) allows users on both sides to connect to a larger number of users on the other side. Hence, the value to consumers maybe greater with a single firm vs multiple firms.

Critical Mass

A chicken-and-egg problem exists for two-sided platforms because of the need of critical mass. All platforms face the problem that at certain prices set by them, no one from either side of the market joins the platform. A critical mass is needed for the platform to even start functioning. Hence, *discounting both sides* of the market maybe considered a valid strategy in a new market or for a new entrant to an existing market.

Critical mass refers to the minimum size of participation on both sides of an e-commerce platform such that the platform continues to be attractive to new members. If there are fewer members on either side, then the platform risks seeing membership reducing on both sides of market such that is eventually left with no-one. Since participation on one side depends on the other side, a critical mass needs to be defined separately for both sides. Suppose the platform connects buyers and sellers and we denote the critical mass on the buyer and seller side by C_b, C_s. We denote by $N_b(t), N_s(t)$ the participation in time t by buyers and sellers. The indirect network externalities imply that the participation by buyers (sellers) depends on the participation by sellers (buyers). In that case, critical mass is such that if the buyer side does not have critical mass ($N_b(t) \leq C_b$) then it will be that the sellers who choose to participate this period will fall or $N_s(t) \leq N_s(t-1)$ implying the beginning of a vicious cycle where the buyer participation will fall further next period leading to an eventual unravelling of participation on the platform.

Evans and Schmalensee (2010) consider precisely the problem of critical mass in platforms in a dynamic setting. They assume switching costs are low and also that participation on buyer side in time t is increasing in the participation on the seller side in time t while it is decreasing in non-pecuniary costs and price. A similar assumption is made for the seller side. An equilibrium in this setting is the number of buyer and seller participants N_b, N_s such that when there are N_b buyers participating exactly N_s sellers want to participate and given N_s sellers participate then exactly N_b buyers want to participate. Such a system can have multiple equilibria where zero participation on both sides is always an equilibrium. There may be no other equilibrium in which case this platform never takes off. In case there is another equilibrium with positive mass, there will be a critical mass (which may be 0) defined for both

sides of the market, such that when actual participation is above that level the two sides of the market converge to the equilibrium level.

Market Definition and Market Power

Market definition for anti-trust analysis is a bit more complex with two-sided platforms. It is important to define a common market encompassing both sides of the market whenever the indirect network effects are strong for both sides of the market. This is often the case when the platform is a transactions platform which is able to monitor the transactions taking place between members of the two sides and is also able to charge a two-part tariff. If the platform does not monitor transactions, then two interrelated markets for the two sides maybe more appropriate. In case it is determined a common market is to be defined then Filistrucchi (2008) and Filistrucchi, et al (2014) have some practical solutions to the problem. The traditional tests of SSNIP (Small but Significant Non-Transitory Increase in Price) cannot be applied as is and must be modified to take into account the indirect network externalities. In case the price on side of the market is zero, it is more appropriate to use SSNDQ (Small but Significant Non-Transitory Decrease in Quality). When defining a common market taking into account the two sides of the market, the analyst should take into account both the impact of change in the price level (sum of prices charged to the two sides) and also the optimal price structure following the increase in price level. For example, with two sides exerting positive externalities on each other, any increase in prices on one side will lead to lower participation on that side which leads to a lower participation on the second side which in turn further lowers the participation on the first side. Hence, the SSNIP must consider the optimal price structure while looking at an increase in price level.

To see if a firm has market power, it is important to consider the definition of the single market encompassing both sides. As noted above, this is especially important when there are strong network effects across the two sides of the market. A traditional means of understanding market power was price elasticity of demand but with network effects this simple test is no longer possible. Any test that measures market power via responsiveness of demand must take into account the fact that increase in price on one side has a direct impact

on the demand of that side but also an indirect effect of reducing the demand on the other side and thus a further indirect impact on the demand on the first side. Stepping aside from the problem of measuring responsiveness of demand, an estimate of the Lerner index may be calculated using information on profit, fixed costs and revenue. Lerner index applied to the aggregate price charged to both sides maybe be appropriate in some cases (R&T2003 kind of models).

Other tools to measure market power which do not need to measure responsiveness of demand may be used in two-sided platforms. Such tests include market shares, barriers to entry and exit, measures of concentration and profitability and patterns of use. Within patterns of use, single or multi-homing is an important factor to be taken into account. For market share, we can use volume (number or value) of transactions or some adjustment based on shares on both sides. Profitability can used as a measure of market power but that comes with accounting problems.

Measuring Predatory Prices

Predatory prices might exist if prices on both sides are low enough to lead to overall losses for the platform. Note that this does not apply if the platform is trying to attain/maintain critical mass. The Areeda-Turner test for predatory prices can be extended to two-sided markets under certain circumstances. In some cases, the total price charged to the two sides (or the bid-ask spread) is the relevant measure of price which should be compared to the total cost of serving the two sides. If the sum of the prices charged for each interaction is less than the marginal cost of facilitating an interaction, then it might indicate predatory prices. The problem might be that there might be non-monetary prices in some cases – for instance, there is no clear way to measure the disutility for a consumer from adverts on a platform even when the platform is otherwise free for them. Another problem is the possibility of one-sided predation where prices are very low on one side only to corner the market on that side and hence not allow any other platform to exist.

Behringer and Filistrucchi (2015) suggest how the classic Areeda-Turner test can be extended to two-sided markets where we look beyond the total price to cost comparison as mentioned above. We will discuss a simplified version of their test. Consider a platform connecting buyers

and sellers where the demand from buyers and sellers is given by x_b, x_s and prices charged to the sides are p_b, p_s. The demand from each side can be thought to be a function of the demand from the other side and price charged. The platform is assumed to incur a constant cost c_b, c_s of serving the two sides respectively. The modified test for platforms to check for predatory prices involves seeing if at least one of the two equations below is negative:

$$(p_b - c_b) + (p_s - c_s)\frac{\partial x_s}{\partial x_b}$$

$$(p_s - c_s) + (p_b - c_b)\frac{\partial x_b}{\partial x_s}$$

These equations imply that while the price and costs on one side of the market may be such that a loss is made on that side but this must be offset by profit on the other side of the market. For instance, the buyer price may be too low to cover the costs on that side, but the low prices encourage more buyers to be present and hence increase the number of sellers present who can then be charged a price which recovers the loss on the buyer side.

Exclusionary conduct

Exclusive contracts can be used to tie some users on one side/both sides/complementary goods. This may stop a more efficient entrant from gaining critical mass and deter entry. On the other hand, exclusive dealing by an entrant maybe seen as pro-competitive. Overall, whether exclusive dealing is procompetitive depends on whether it allows to attain or maintain critical mass. Similarly, whether practice of tying/bundling is exclusionary depends on the context.

Predation in E-Commerce Markets: EU and USA

The European Commission published a report titled “Final report on the E-commerce Sector Inquiry” in 2017. We discuss the findings in that report which are relevant to our study. E-commerce has lead to greater price transparency and thus increased price competition. At the same time increased price transparency allows for better tracking of prices and possibly greater ease of monitoring retail prices for manufacturers as well as the possibility of automized price coordination. The competition concerns highlighted by the commission include:

- Selective distribution as the manufacturer enters retail and is also able to monitor and control retail prices set by other retailers as well as their distribution systems.
- Vertical restraints faced by the retailers include recommended resale price to retailers where deviations from such recommendations are punished by the manufacturer. Increased price transparency can also make it easier for collusion between retailers. The EU prohibits Dual Pricing or charging different prices from the same retailer but the commission recommends considering exceptions on case by case basis. Manufacturers are putting restrictions on the sales channel for retailers for instance by banning online sales in some cases. The EC does not recommend marketplace bans as being automatically incompatible with EC guidelines and should be considered on a case by case basis. There have also been cases where the geographical boundaries have been set by manufacturers for retailers.
- The commission highlights that use of big data is key in e-commerce. One the one hand it may increase efficiency but on the other hand it does have competition concerns.

The Directorate for Financial and Enterprise Affairs Competition Committee of the United States released a document titled “Implications of E-commerce for Competition Policy - Note by the United States” described as the “written contribution from the United States submitted for Item 5 of the 129th OECD Competition committee meeting on 6-8 June 2018”. The report notes the increasing interaction and competition between online and offline

marketplaces and hence the need for careful market definition. They emphasize the need to evaluate each case on its own merits to see if the transaction or conduct had an impact on consumer welfare via reduced output, raised prices or stifled innovation. They highlight the possibility of algorithmic collusion but at the same time point out that there is little reason to believe it is currently a common practice. The report also focuses on e-commerce firms with market power and their conduct. Vertical restraints by such firms are a matter of concern but cannot automatically be deemed anti-competitive. Overall, the report emphasized the need to evaluate each case on its merit and deemed that the current policy framework was adequate to deal with issues arising in e-commerce marketplaces.

CCI Position on Predation in E-Commerce Market

We consider cases related to e-commerce that were considered by the CCI to understand it's stand. Below we present details of four cases decided upon by CCI which bring forth that:

- While deciding the relevant market, the CCI seems to define a common market where indirect network externalities are strong for both sides of the market and two interrelated markets when it is not the case. It has been open to including offline and online channels under the same market.
- To calculate market share in the case of a single market encompassing multiple sides, it has considered the volume of transactions.
- The CCI does take into account the need for critical mass in two-sided markets and that this requirement can effectively act as an entry barrier.
- It has evaluated the possibility conflict of interest where the platform promotes its own affiliated products and services to the detriment of consumer welfare and competition.
- The CCI has also recognized the role of data in augmenting monopoly powers.

CCI Case Summaries:

1. Case No. 17 of 2014 with the CCI was filed by Mr Ashish Ahuja against Snapdeal and SanDisk Corporation. The Informant was selling SanDisk and other products on Snapdeal's website when their products were taken off the website due the SanDisk only selling via a confidential list of authorised partners. The informant had procured the products in the open market and was willing to sell at lower prices than those of the authorized partners. SanDisk later circulated a letter stating that it only recognized and provided after sales support for products sold via four authorised national distributors.

The CCI's view was that the relevant product market was the market for portable small-sized consumer storage devices such as USB pen drives, SD Memory Cards and Micro SD Cards in India. **The CCI views offline and online markets as different channels of distribution of the same product but they do not constitute two different relevant markets**. This market has

many players and is not concentrated. While SanDisk is a market leader, the CCI did not find its behaviour anti-competitive. The CCI does not consider Snapdeal as a dominant player in e-commerce given the extent of competition.

2. Case No 80 in 2014 with the CCI was filed by Mr Mohit Manglani against Flipkart, Jasper Infotech, Xerion, Amazon Seller Services, Vector E-commerce and other e-commerce/portal companies for their exclusive agreements to sell products only on their portal and in no other portal or physical channel. Evidence was also gathered from All Delhi Computer Trader Association (ADCTA) who had a similar complaint against e-portals/e-commerce companies. As an example, Chetan Bhagat's book was exclusively sold on Flipkart. It was alleged that the portals entering into exclusive agreements can monopolize that particular product's market.

The e-portals claimed that they play the role of an intermediary between buyers and sellers. They also claim that is incorrect to define the market for a single product and for instance all books in a certain category should be included in the same market. They also said that online and offline retail are just different channels of distribution and do not constitute separate markets. The e-portals contended that online retail should be seen as a part of all organized retail and in that case their market share is miniscule. The e-portals also said that any exclusive contracts were vis-à-vis other e-portals and did not exclude physical channels. Hence, there was always physical stores to compete with.

The CCI investigated if the exclusive agreements had any appreciable adverse effect on competition (AAEC). For any vertical agreement, AAEC must be shown for it to be anti-competitive. "Therefore, the Commission has to consider various factors laid down under section 19(3) of the Act such as: a) creation of barriers to new entrants in the market; b) driving existing competitors out of the market; c) foreclosure of competition by hindering entry into the market; d)accrual of benefits to consumers; e) improvements in production or distribution of goods or provision of services; and f) promotion of technical, scientific and economic development by means of production or distribution of goods or provision of services to assess the effect of such exclusive arrangement between manufacturers and e-portals."

Entry barriers are not likely as there continue to be competitive constraints and in fact new e-portals continue to enter. It seems that consumers are better off in the market given that there is **increased price transparency**, easier to compare product attributes and access to home delivery. The CCI does not agree that every product has its own market and **market must be broadly defined**. It finds **none of the e-portals are dominant given how many there are** and thus did not investigate the abuse of dominance claim.

3. Case No. 7 and 30 of 2012 with the CCI were filed by Matrimony.com and Consumer Unity & Trust Society (CUTS) against Google. Google is two-sided platform for search and advertisement. It was accused of manipulating its search to favour its partners. This included favouring its other products like YouTube and Google News. The relevant market was claimed to be online search market and online search advertising market in India where it has a dominant position. It was alleged that Google was abusing this dominant position.

Google connects users who want to use its search engine and users looking to advertise. In this case the indirect network externality is clearly more relevant for the advertisers who care about the number of consumers who come onto the platform to search. The CCI decided that there are two relevant markets for Google:

- Online General Web Search Service in India
- Online Search Advertising in India

While doing so it recognized that online and offline advertising are distinct and further that online search advertising is distinct from other online advertising. Google was found to be dominant in both markets by looking at its market share.

The CCI recognized the need for a critical mass of users for platforms such as Google and highlighted that the **critical mass acts as a barrier to entry**. It also noted other barriers to entry such as high cost and technology. The CCI also found abuse of dominant position by Google due its **conflict of interest** by giving preference to its own subsidiaries. Results from its own affliated services/subsidiaries are placed higher as search options which reduces consumer welfare and competitiveness in these related markets. Google was also found to be **using the data it collects unfairly**. For instance, it gives undue advantage to its House Ads

whereas the other advertisers are unaware of their score which determine their place in the adverts.

4. Case No. 6 and 74 of 2015 with the CCI were filed by Fast Track Call Cab and Meru Travel Solutions against ANI Technologies (OLA). The case alleged that all three were operators of radio taxi services operating in Bangalore and that Ola was abusing its dominant position in the market by offering discounts to passengers and incentives to drivers. Ola countered this by claiming that it was actually a technology company connecting passengers and drivers and did not own any part of the fleet as opposed to the other two companies.

The CCI decided that firms that either owned their fleet or did not own or owned a part of the fleet should all be considered to be operating in the same market. The relevant market was deemed to be market for services of radio taxi in Bengaluru. The market share was measured by considering the **volume of transactions** or the rides. While Ola was dominant in parts of the time frame seen, at the same time period Uber was picking up market share more rapidly. Since both drivers and consumers could **switch platforms easily**, it was hard to exercise market power. The CCI noted the need for **critical mass** for any platform to succeed.

The CCI concluded that Ola was not a dominant player and that both Ola and Uber were using **`below-cost pricing strategy'. Since neither player was dominant, the question of predatory prices was not relevant.**

E-Commerce in China and USA, Lessons for India: Uber in China, Alibaba in China, Amazon in USA, Flipkart in India, Infibeam in India

China and USA are the two countries where a lot of the currently big stakeholders in e-commerce originated. The starting phase of e-commerce firm in both countries has seen a period of low prices to attract consumers. It is interesting to note that with even with very different regulatory framework, both countries have had success in the e-commerce sector. The countries have each given rise to e-commerce firms which have become dominant players in their home countries and abroad. Interestingly, firms from China (USA) have rarely managed to be dominant players in USA (China). Here regulations do come into play. For instance, China's regulation is such that the internet content provider needs to be local and data needs to be localized in China. This implied that firms entering China needed a local partner. The general trend towards data regulation in the two countries has been very different. In China the regulation has moved towards ensuring that the state has access to data while USA legislation has moved towards individual rights to data but not going as far as the GDPR. The regulation surrounding data and other regulation has been an impediment to foreign firms such as Amazon who have not managed to introduce their full range of services in China due to lack of proper government approval. It might also be argued that the firms have not managed to innovate successfully for the new environment. Note that existing USA regulation has also had a role in keeping Chinese firms away from the US market. One important case where USA has been strict has been with regard to legislation regarding counterfeit products which has had a strong impact on Alibaba's business and that of its affiliates. With regard to regulation regarding anti-competition, USA has seen cases being brought forward but no case has had a significant impact on industry growth or practices. Note that a common trend in both countries has been the expansion of e-commerce firms to a brick and mortar presence and the regulatory framework in both countries has not been an impediment.

The growth of the sector in the two countries has taken very different paths. E-commerce giants from USA like Amazon and Uber flourished in the free market economy by their disruptive innovation. In China, the story is a bit more complex. The banning of services like Facebook, Twitter and Google allowed local firms like WeChat and Baidu to emerge and claim

the space. At the same time these local firms made sure that their product was uniquely tailored for the local consumer. Alibaba started operations in China some 4 years after Amazon started in USA. It now occupies an equal or bigger space in the e-commerce market worldwide while both are small players in each other's home country. We try to understand how China and USA have fared and the lessons therein for India by focusing on the cases of Uber in China, Alibaba in China, Amazon in USA, Flipkart in India and Infibeam in India. What we find in the case histories presented below lead us to think that the some of the key factors in the development in China are:

- Local innovation and understanding the local markets: The firms that have succeeded in China have tailored their products for their audience and have really understood their consumers well. Innovating to suit the local consumer has been key to their growth. At the same time to understand local markets and to entrench themselves in the local power networks, local partnerships have been crucial for foreign firms. For instance, Uber partnered and received funds from Baidu.
- Data flow regulations: Banning US based social media led to the growth of local substitutes like WeChat and Baidu. These firms then propelled future growth in the Chinese e-commerce sector. One of the ways was by directly investing in other firms in the sector. Another impact of data flow regulations has been that foreign firms had to start operations in China with China based ventures and with partnerships with local service providers.
- Investment: Investment has had a big role to play given the need for patient capital. Here, the role of CIC, the Chinese government's investment arm is worth mentioning. It is also notable that many of the Chinese firms have received money from foreign investors. Additionally, existing e-commerce firms have invested in new ventures.
- Merging online and offline experience: The trend in both China and USA is towards e-commerce firms building a brick and mortar presence to give the consumer a seamless experience.

Alibaba's Taobao emphasis on entrepreneurs and the local markets

In 2003 Alibaba entered in the consumer e-commerce marketplace with Taobao.com. Contrary to popular belief Taobao did not beat eBay in China because of government favouritism. It adapted to the particular needs of local markets rather than ape eBay and Amazon.

Amazon's approach in US was to move the Walmart economy online, creating a large retailer based on high volume, low cost model that relied on massive scale and technology to create cost saving. eBay's approach was to move the yard sale economy online, creating a market for used goods and collectibles. Taobao's approach by contrast was to move the mom-and-pop economy online where small retailers could open stores to sell new products. Alibaba learned that small retail entrepreneurs had a need for a storefront from which they could find and attract buyers. They did not want to add a middleman who might skim commissions from their razor thin margins.

Taobao also announced that its services would be free to buyers and sellers for the first three years. – eBay derided this policy but in the context of China where businesses did not believe in the power of e-commerce it helped reassure sellers they did not have to take risks to get started with an online shop. eBay also made the mistake of migrating EachNet's platform to eBay's global technical platform. It had the effect of de-localizing the website which lost its localized look, feel, and functions that Chinese users had got accustomed to. It is not surprising that in 2006 eBay shut down its China site.

Amazon and eBay are product focused websites with a focus on the customer. Taobao had a merchant focus and took the approach that the primary customer is not the shopper, it is the third party merchant who was selling on their site. Retail in China began with trust between buyer and seller and the seller needed tools to build a business in the Taobao marketplace.

Tabao then built customizable e-storefronts. Merchants did not have tools or expertise to build effective websites on their own. The storefronts offered were so customizable that the merchants saw no need to build their own websites. – In fact, many used the Taobao URL on their business cards.

The website too had a look and feel that fit China. Rather than a clean, crisp, and minimalist design that directs users to buy something online, in China local websites have bright colours, flashy animations, and a more cluttered design. Chinese internet users expect more visual stimulation and shoppers respond to flashy promotions that leap out at them. Chinese shoppers quickly migrated to Taobao describing it as having more *renxinghua*, or human feel.

In a low trust society like China's buyers need more ratings variables. China did not have credit reports, effective small claims courts etc. So Taobao created detailed rating systems to bridge the trust gap by allowing buyers to evaluate merchants. Shoppers rate merchants on their service attitude, accuracy of product descriptions, and shipping performance.

Silicon Valley companies such as eBay's approach is that if buyers and sellers can communicate in real time they might take their transaction offline and avoid paying eBay commissions. But allowing shop owners in China to communicate with buyers was about more than customer service – it was about sales and relationship building in a society where people like to stay in touch with friends and family and business. So Taobao introduced an online chat function called AliWangWang. This allowed shoppers and merchants to communicate in real time.

Jack Ma emphasized early that Alibaba would not be just a website or a marketplace but a community. Taobao built bright colourful online channels dedicated to bringing together members with common interests. Sellers were given tools for organizing their own meet-ups and clubs. People could post lengthy blogs dedicated to their businesses. They allowed community members to elect forum moderators who would engage with them. A series of awards were created where members could nominate sellers and the community would vote on the nominees. Soon marriages were coming out of the Taobao community and they were so numerous that a channel was established to celebrate them.

In China credit cards had been made legal only in 1999 and their adoption was slow. So Alibaba launched its payment system, Alipay, in 2004. This required persuading consumers to visit their banks and fund their Alipay accounts. Good deals on Taobao gave Chinese shoppers the incentive to take the time to fund Alipay. Critical difference between Alipay and PayPal was that Alipay was an escrow based payment system. A buyer's funds would

be released to the seller only after the buyer gave a notice he'd received the goods and they met his expectations.

China's logistics was good enough to get e-commerce off the ground. It had always maintained a centralized administration that kept track of who was where in the country. It had a national postal system that delivered packages reliably.

Major brands did not want to sell on Taobao as they did not want their products to appear next to those of small and medium size merchants whose products might be of questionable authenticity. To serve these sellers Taobao Mall was opened to allow branded storefronts in a premium channel within the Taobao marketplace.

Source: Porter Erisman (2015) – "Alibaba's World: How a Remarkable Chinese Company is Changing the Face of Global Business", Palgrave Macmillan, UK.

Case Study 1: Uber's China Experience

Early Days

Uber started its China adventure with a scouting trip in April 2013. It made a soft launch in Shanghai in August 2013 followed by a formal launch in April 2014 in three cities Shanghai, Guangzhou and Shenzhen. It started with luxury car services in the three cities. Uber came in planning to solve the problems of gridlock and pollution. Uber China was set up as a separate entity with undisclosed holding by the parent company and run by Chinese managers. Uber focused on drivers by giving them huge subsidies which was eventually matched by the local competition.

The Chinese competition at this time, Didi Dache and Kauidi Dache were both connecting passengers to registered taxi drivers. Didi and Kuaidi had been operating for 2 years before Uber entered and had together raised 2 billion compared to the 1 billion Uber has earmarked for the Chinese market. They could tap into Tencent, Alibaba and Softbank for additional funding. Uber's had a $50 Bn valuation at that time given that investors expect it to expand overseas using its superior technology. In early 2013, Didi and Kauidi were relatively small and

warring with each other via subsidies. They had to fight rampant fraud including software which was developed to scam them.

The local apps at that time was in Chinese only where a voice message had to be sent to driver with destination. Uber was easier to use for those who did not know Chinese with its English app. Uber credit was generously given to riders when they referred to new people. Incentives got smaller as Uber grew. Uber's initial growth was due its popularity with foreigners and tourists.

Uber started out using Google maps as in other countries but since Google is blocked in China, they had to redesign its software. Another initial mistake was that Uber offered credit card payments and the Chinese do not use credit cards. Around the time of its formal launch, it offered the option to pay with Alipay. Uber tried to utilitize WeChat for payments also but WeChat sometimes blocked Uber from its service. (Tencent owns WeChat.)

2014

In August 2014, Uber launched People's Uber as a not for-profit service. It allowed private car owners to offer rides to people. It was marketed as a service where the passenger would only pay for the expenses of the driver and nothing more. It was meant to a means for people to meet new people and at the same time not add new cars to the existing traffic. This was in contrast to the services offered by all ride-hailing apps till then where riders were being connected to only registered drivers. The possible reason behind launching this service which was not-for profit could have been to get people to use the app.

December 2014, Baidu invested $200 mn in Uber at then reported $41 bn valuation. Uber China used Baidu maps instead of Google. By end of 2014, Uber had 1% market share. Baidu was a crucial local partner for Uber.

Uber used local managers for each city and lets them run it as they see fit.

2015

Travis Kalanick personally invested a lot of time in the China operations where he spent 1 in 5 days in 2015 – indicating how important they were to the company. He stayed the chief executive for Uber China. There were also media reports of him learning Chinese.

The licensed taxi drivers went on strike in January 2015. While the strike appeared to many as being against the new ride-hailing apps, that was just one of the reasons for the striking drivers. Their discontent stemmed from soaring expenses, shrinking incomes and the fact that the owners of the cars took away a big part of their earnings. One reason for the shrinking incomes was indeed the fact that non-licensed drivers could register on People's Uber. As a result of the strike, the Ministry of Transport said that only licensed taxis could use ride-hailing apps. This was seemingly in favour of the Chinese ride-hailing apps which only had licensed taxis on their platform and users had to pay an additional fee to use the service.

The private cars on Uber's platform were in a grey area at this stage where they were often fined but the service was not banned. Uber drivers of private cars were harassed and fined by the authorities who claim it is not legal.
Didi Dache and Kauidi Dache merged in Feb 2015 to form Didi Kauidi. The two together controlled most of the ride sharing market had been locked in a price war in the licensed taxi market. The fighting was affecting the bottom line for both firms and a merger made more sense for the overall profitability. After the merger, in 2015 Didi raised more than $2bn from investors including Tencent, Alibaba and China's sovereign wealth fund, CIC.

Didi stopped with the subsidies in the taxi market and instead focussed on the private car market. Didi launched the private cab service counterpart to People's Uber in May 2015. It also announced an incentive plan for these rides. Didi gave subsidies costing them $270 mn in the first 5 months of the year.

The Chinese market posed some unique challenges for Uber including tough competition from Didi, regulation which was still grey regarding private cars and the fact that the Chinese consumers favour Chinese companies. The latter was tackled with the very low fares. By June 2015, Uber was giving out bonuses upto 3 times the base fare to drivers. Uber was paying the highest bonuses of all apps and drivers were earning unprecedented amounts. Didi controlled

90% market at that time. The market for Uber comprised of affluent and cosmopolitan consumers who preferred Uber which offered 35% lower fares than competition, has better quality cars and service that included bottled water. Uber claimed to provide more than 100,000 rides per day at that time in China which was 10% of the rides worldwide for Uber.

Uber and Didi blaim each other for the subsidy "war". This has led to drivers driving only because of bonuses and riders who would ride less without the subsidies.

The private car service (People's Uber) had attracted govt intervention and let to raids on two Uber offices in Chengdu and Guangzhou in May 2015. Uber claimed it was routine visit. The platform services were never interrupted.

The subsidies have led to rampant fraud by drivers hoping to make a big bonus. There are vendors running black market for driver accounts on Taobao (Alibaba's e-commerce site) which allow buyers to circumvent Uber's background checks. Uber says fake rides are less than 3% but local media reports put at 30-40%. Didi is stricter about banning drivers who claim fake rides and claims it has none. Uber started cracking down only in August 2015. Fraud continues to be a big issue with fake riders allowing drivers to get bonuses. "A fake ride is known as "getting an injection", a reference to the red location pins in the Uber app. "Hey, give me a shot," a driver will post – and then a scammer, who typically advertises themselves as a "professional nurse", will respond." 3% or 30,000 rides on Uber were fake in summer 2015. Initially, the drivers penalized were those who did 100s of fake rides in a week. Then Uber started working on better fraud detection. The senior management went into the chat rooms themselves, they set up a team in SF, local manual review and additional voice recognition for riders and face recognition for drivers. Fraud fell with reducing subsidies "cut subsidies in China by 80 per cent on a per-trip basis over the past year, while the volume of rides has risen by 16 times during that same period." Removing/reducing subsidies is risky for Uber which is not a market leader.

In August 2015, Uber added People's Uber Plus. This feature allowed riders to pick up others who take the same routes and then split the bill. Users are matched to drivers depending on their destinations and whether the driver picks up multiple commuters or not, all commuters

get a 30% discount on the fare. This carpool service by Uber is the cheapest and accounts for most of the business.

In Sept 2015, Baidu invested USD 1.2 bn in Uber and at the same time Didi raised USD 3 Bn from China Investment Corp (Govt investing also an investor for Alibaba), Capital International Private Equity Funds and Ping An Ventures. After 18 months in China, Uber has 5 Chinese cities which are in the top 10 cities worldwide by number of rides. Its legal status is complicated with raids in offices in Guangzhou and Chengdu. In the same time, Didi claims to have 6 million rides per day which is 6 times that of Uber. In the first quarter of 2015, Didi had 78.3% of all the ride orders while Uber had 10.9% and Yidao had 8.4%.

A draft policy circulated in October 2015 wanted to make private car hailing illegal. The State Council (China's cabinet) pushed for a revision. Chinese government has conservative and innovative factions and this disagreement is a result of the factions. China's premier Keqiang supports innovation and personally met Kalanick. After this there was uncertainty as to what the new rules might lead to.

2016

As of June 2016, Didi operates in 400 cities and is profitable in half of those. Uber which had initially entered in the largest cities was by then in 50 with hopes of having 120 by Sept 2016.

The new regulations for the private cab hailing were to be brought out in 2016. In March 2016, the transport minister criticized the bonuses for private cars as unfair to taxis but he hinted they might soon be formalized. Few expect Uber to suffer due to its foreign roots under the new regulations. Both Uber and Didi are Chinese companies with foreign investors. Uber does not national security issues (unlike banned services facebook and twitter). For any data concerns, Uber saves it on local servers. Uber China has plans for a separate IPO. "Last year Uber China raised $1.2bn after a prolonged fundraising effort, at a valuation of $7bn … (including) high-profile Chinese backers, including HNA Group and Guangzhou Auto."

Didi, Ola, Lyft and Grab are forming an alliance where the apps are synced. Didi is encouraging Alibaba and Tencent to invest in the alliance firms. Uber's problem in China is competition and not government.

In May 2016, Didi raised $1 Bn from Apple and in June 2016, Uber raised $3.5 bn from Saudi Arabia's sovereign wealth fund with talks of a debt of $2 bn. When Apple invested in Didi, it had 80% market share and it was going to be hard for Uber to be the dominant player.

By June 2016, given that both firms were losing heavily due to subsidies, their investors purportedly started pushing for truce. Uber had reportedly lost $2 billion by then.

In August 2016, Uber China was acquired by Didi. Uber received a 20% stake in Didi as well as a $1 billion equity investment from Didi. The investment by Didi takes Uber valuation to $ 68 Billion. Didi at that time was valued at $ 35 billion with the merger. Uber exited just before regulations for private cabs came in. The final regulations were to take effect on November 1st. The regulations required that the drivers have 3 years of experience, be licensed by a local taxi regulator, and have no criminal record. The regulations also stipulated that the cars used must have no more than 370,000 miles (600,000 km) driven to be eligible. In short, Uber left just before costly regulations came in which would impact the bottom line for all players. It also left a 20% stake in a very competitive market and instead got 20% in a virtual monopoly. Hence, one way to see the Uber exit is to see it as the competition driving it out. But at the same time, the Chinese govt regulation just made it easier for Didi to make the acquisition. A crucial detail to keep in mind that the govt had a direct stake in Didi via its investment

Case Study 2: - Alibaba Success Story

Alibaba founded and initial strategy

Alibaba started in 1999 by Jack MA with funding of $ 80,000 from investors to start a marketplace for Chinese companies. His belief was shaped by his stint in US where he saw internet businesses boom in 90s. It initial offering was a B2B (Business to Business) products. Alibaba initial aim was to connect small retailers to buyers in US and Europe who have to otherwise go through layers of middlemen to buy Chinese products. The focus was on a free for all model where sellers would not be screened and there would be a wide variety of products. Alibaba wanted to create a bazaar and didn't take responsibility for goods. By 2001 there were 450000 members on Alibaba.com. By 2003 it had taken a dominant position in the

market. The initial focus of Alibaba was on B2B segment where sellers transact among themselves and Alibaba supplemented the services with secure payment services and earned money through premium membership services.

Move to C2C (customer to customer) segment and defeating eBay

EBay lost the battle in Japan to Yahoo and soon after decided to launch in China. It decided to launch a C2C business. To counter eBay, Alibaba launched its own C2C business in form of Taobao in 2004. One way they distinguished themselves from western firms was through focus on local culture e.g. focus on sites with lot of links rather than western focus of sparse sites. Also, to supplement lack of trust in marketplace they created Alipay which was an online payment system which ensured that buyer money is safe till product delivery (by providing an escrow account). They didn't charge customers fees as opposed to eBay. This local focus with local understanding helped Alibaba succeed. For monetisation in 2009 they focussed on keyword auction as monetisation strategy.

Initially Taobao was C2C but latter it also incorporated B2C and created Taobao mall and created a different website for the same which started charging fees to sellers. C2C of Taobao were considered buyers who can buy customised small batch product whereas Taobao mall was more for branded and mass-produced goods. Alibaba's eventual success over eBay can be attributed to its knowledge of local small business taste. For instance, it knew that marketing on television would be more successful compared to marketing on internet which is what eBay focused on. In another example, Taobao offered updates over mobile whereas eBay concentrated on computers in line with its global model.

Raising funding from Yahoo and through Hong Kong stock exchange

When Ma saw a need for an internet search engine partner, he connected with Yahoo! Inc. cofounder Jerry Yang. Yahoo paid $1 billion for a 40 percent stake in Alibaba in 2005. In 2007 alibaba.com (the B2B) listed on Hong Kong index for valuation of $25.9 billion. In this process they also raised on $1.9 billion. Note that Taobao and other group firms remain privately held.

Alibaba strategy can be summed up as capturing market share through low cost model and then going for profits. They got funding from variety of sources and benefitted from early

investment from Goldman Sachs, Softbank and Japan Asia Investment. Massive funding in 2011 allowed Alibaba to buyback part of Yahoo share in Alibaba when Yahoo was wanting to sell.

Alibaba funding history

Date of Investment	Funding in US$	Investor
Sep 20, 2012	2 Billion	China Investment Corporation, Boyu Capital, CITIC Capital, China Developement Bank, CICC
Jun 1, 2011	2 Billion	DST Global, Temasek, Yunfeng Capital, Silver Lake
Jun 1, 2009	75 Million	General Atlantic
Aug 11, 2005	1 Billion	Yahoo
Feb 17, 2004	82 Million	GGV Capital, Fidelity Capital, Venture TDF, SoftBank Group
Jun 1, 2002	Undisclosed	Japan Asia Investment
Jan 1, 2000	20 Million	Investor, SoftBank Group, Venture TDF, Goldman Sachs, Eight Roads Ventures
Oct 1, 1999	5 Million	Goldman Sachs, Investor, Venture TDF, Eight Roads Ventures

Data Source:- Tracxn Database

Changing focus now diversifying in all sectors and raising money for the same

Jack Ma has gone on an acquisition spree. Before 2012 the focus was on organic growth but from 2013 Alibaba started acquisitions and M&A. Before 2013 they invested in Vendio for software services and also in logistic companies such as Zhejiang Best Logistics and Star Express. All of them were related diversification to provide customers better services. In 2013 and in 2014 they invested $1.3 billion and $17 billion, respectively, mostly in internet-based companies. The focus is now clearly shifting towards building a portfolio of investments.

Alibaba also faced a choice in 2014 to list in Hong Kong or in New York. One of the big issue for Alibaba was dual class shareholding which is against Hong Kong index principle of one share one vote principal. Dual class shares allow the founder more control even with less shareholding and thus allow them control over the firm's vision. Finally, Alibaba listed in New York stock exchange with valuation of $ 168 billion. Note that Alibaba's complicated ownership structure is also due to Chinese government regulation which mandated control of internet content provider and hence owners had control rights but not cash flow rights. Alibaba was domiciled in Cayman Islands but Jack Ma and co-founder Simon Xie hold control over assets.

Alibaba's relationship with government

One of the biggest factor for success of Alibaba was Alipay which was launched in 2004 in partnership with Chinese banks. It reduced transaction costs and facilitated moving customers to digital payments. Customers trusted the system because of the institutional support to Alipay. After 6 years of unofficial operations in 2010 it took licence from the public Bank of China for 3rd party transactions.

On the other hand, PayPal which is recognised in west did not get enough local partnership. EBay introduced PayPal in 2005 to facilitate transaction but licence for 3rd party transaction is still stuck with regulations.

Another factor which effects foreign firms in China is the requirement to have local owner of internet content provider. EBay in 2006 closed down its website and partnered with TOM Online due to them having political reach and knowledge of local market. Even though the move didn't pay off, it highlights the importance of local partners in China. Amazon to enter China had to establish a local domain name. Till 2011 foreign firms were only allowed to hold 50% stake in e-commerce businesses which was amended in 2015 to allow foreign entities' 100% ownership.

Alibaba's Taobao had been blacklisted by US regulators because of its role in aiding counterfeit products. This ban was imposed in 2011 removed in 2012 but again brought in

2016. Piracy while a big concern in US while not being so in China. In 2015 Chinese regulators asked Alibaba to crackdown counterfeit goods but this has come after a long time.

New trends in the sector

Now the focus of Alibaba is towards establishing an offline footprint. Both Alibaba and JD are buying offline stores, supermarkets to expand their footprint. Given the maturation of the online market, the focus is on picking up offline customers and providing an integrated experience. This is similar to Amazon 2017 $13.7 dollars acquisition of Whole Foods in USA. They are bringing the digital push by aiming for unmanned retail stores which will use facial recognition to identify customers.

There is now also a push for global expansion but with US regulators banning Taobao the push had been difficult. Alibaba is also building Alicloud which will give competition to Amazon Cloud Services. Also, in China where regulators are very sensitive regarding data ownership, local firms get an advantage in form of operation of data services.

Case Study 3: - Amazon USA Story

Amazon History

Amazon started its business in 1995 and had its IPO in 1997. Amazon started as an online marketplace for books. In 1995 US e-commerce industry was developing and the focus was on online payments and inventory management. Jeff Bezos (CEO of Amazon) saw an opportunity in the form of online sales of books. The focus was on building critical mass and Amazon benefited from dotcom boom in late 90s. In 1998 they decided to launch online gift store, selling video tapes and in 1999 the also started selling music.

Amazon expertise has lied in its web services where it uses technology such as cookies to track customer behaviour and then pushes advertisement over other websites to convert into sales. With time Amazon had also launched various other successful services such as Amazon Web Services and Amazon Prime which we discuss more below.

Amazon Web service

Amazon cloud was launched in 2002 and allowed sellers to integrate seller sites with Amazon. 2006 saw the launch of Amazon cloud paid services which offers storage services. By 2017 this was one of the most profitable segments of Amazon's business with a revenue of $ 100 billion and an income of $ 1.47 billion. This helped Amazon in its cash burn strategy in the consumer segment by providing an alternate source of funding.

Amazon Prime

Amazon prime was launched in 2005 at an annual membership fee of $ 79. Prime members were given 2 day shipping compared to 4-5 days shipping prevalent earlier. Jeff Bezos in 2006 attributed growth in revenue to Amazon Prime. On the back of success of Prime in US they also launched prime service in Japan. In 2011, Amazon launched videos on prime. This was a diversification program of moving from only physical delivery to bundling video stream service. In 2011, it allowed prime members to also borrow books by offering prime subscriber with Kindle to borrow e-titles. In 2014, the fees were raised to $99 and now it is planning to increase the fees to $ 119 per year. Amazon prime had been one of the key factor of success to Amazon. An Amazon prime customer spends around $1300 per year compared to $ 1000 by other customers.

Amazon relationship with US government

One of the earliest challenge to Amazon was in form of privacy issues in 1999 complaint was filed against collection of personal data and again in 2000 complaint regarding data privacy was filed. The FTC (Federal Trade Commission) let go of Amazon after Amazon settled the law suit with a $2 million fine. Amazon amended its policy by notifying customers that it is collecting private data.

Amazon had also received favourable judgements such as one against Apple where they held that Apple fixed the prices of e-books. In 2014 Amazon again had a run-in with the FTC regarding charging accounts of parents for their children's in app purchase and finally in 2017 FTC fined amazon $70 million regarding express consent needed for charging someone for purchase.

Amazon spends a lot of money on lobbying. In 2017 they spend $13 million on lobbying while in 2003 that amount was less than $ 1 million ($ 920,000) hinting towards focus of Amazon to keep government in line with its agenda.

Amazon through its partnership with US postal service also saves a lot of money and as per reports Amazon saves $1.46 per package due to indirect subsidy by US postal services. Another relationship of Amazon with the government is in form of ties related to cloud services. This is the most profitable venture of Amazon. CIA and US government while moving their data storage online had also opted for Amazon Cloud Services. One example of how US government leverages on Amazon dominance in cloud services can be seen in 2010 when Amazon suspended WikiLeaks account over its cloud service due to US government investigations against WikiLeaks.

Latest trends in Amazon strategy

Amazon latest strategy can be summed up as focus on internationalisation and also buying offline stores such as Whole Foods. Amazon is now focussing on offline retailers to increase sales. Amazon paid $ 13.4 billion for buying Whole Foods a grocery store hinting to Amazon new strategy of moving in offline space.

Case study 4:- Flipkart in India

Flipkart founded and initial strategy

Flipkart was founded by Sachin Bansal and Binny Bansal in 2007 with an initial fund of around $8000. Both of them were employees of Amazon and they started their business by selling books after they discovered that while total book market was $1 billion, the online market was only $5 million. In 2008 they opened their office and started all India delivery. The real break come with $1 million funding they got from Accel partners which allowed them to expand and hire more employees. One of the big gaps which Flipkart filled was unavailability of quality books in tier 2 and tier 3 cities. "We want to be the Amazon.com of India," is the statement of Sachin Bansal in one of his interviews summing up the vision of Flipkart.

By 2011 they had a catalogue of more than 10 million books, videos, mobiles, movies etc. By 2014 they had expanded into nearly the whole fashion segment. Flipkart has also followed the cash burn strategy followed by other e-commerce firms. For example, in financial year 2015-2016 on a revenue of around Rs.1,2818 crores they reported a loss of around Rs.544 crores. By 2013 they focused on an online marketplace strategy where instead of Flipkart selling its goods, sales will be made by sellers and Flipkart will act to connect customers with sellers. This move from direct retailing allowed them to reduce cost while increasing revenue.

With the entry of amazon in e-commerce space in 2013 the market become highly competitive and this led to rolling out of offers such as Big Billion sale in 2014 which are cash burn strategies to lure customers. In 2017 there were attempts to merge SnapDeal with Flipkart backed by Softbank but the deal fell through. Instead Softbank invested $ 1.5 billion in Flipkart. This massive funding allowed Flipkart to continue with its growth strategy.

Flipkart and payment ecosystem in India

One of the major issues in India e-commerce industry is people's reluctance to make online payments. For this reason Flipkart begin advertising cash on delivery. While cash on delivery leads to additional handling cost it also allows to increase customer base. In 2016 Flipkart acquired PhonePe, which is an upi based payment system which had clocked Rs 8100 crores of sales in April 2018.

Flipkart funding history

Date of Investment	Funding in US$	Investor
Sep 18, 2017	156 Million	Axis Bank
Aug 11, 2017	1.5 Billion	Softbank
Aug 7, 2017	58.7 Million	Axis Bank
Apr 11, 2017	1.4 billion	Tencent, Microsoft, EBay, Naspers
Dec 1, 2016	3.84 Million	The Times Group
Mar 7, 2016	67 Million	HDFC Bank
Jul 28, 2015	701M	Steadview Capital, Tiger Global Management

Jun 4, 2015	50 Million	Morgan Stanley
Dec 20, 2014	700 Million	Tiger Global Management, DST Global, Baillie Gifford, Steadview Capital, Greenoaks, Qatar Investment Authority, T. Rowe Price, GIC, Iconiq Capital, The Vanguard Group
Jul 29, 2014	1 Billion	Tiger Global Management, DST Global, Accel Partners, GIC, Naspers, Iconiq Capital, Morgan Stanley, Sofina, The Vanguard Group
May 26, 2014	210 Million	DST Global, Tiger Global Management, Naspers, Iconiq Capital
Oct 9, 2013	160 Million	Morgan Stanley, Sofina, Tiger Global Management, Vulcan Capital
Jul 10, 2013	200 Million	Accel Partners, Iconiq Capital, Tiger Global Management, Naspers
Aug 24, 2012	150 Million	Naspers, Accel Partners, Iconiq Capital, Tiger Global Management
Jun 16, 2011	20 Million	Tiger Global Management
Jun 15, 2010	10.5 Million	Tiger Global Management
Oct 19, 2009	1 Million	Accel Partners

Data source: -Tracxn Database

Flipkart and its acquisition

Over the years Flipkart had made number of acquisitions. Its first acquisition was in 2010 when it accquired WeRead which is a social book recommendation portal. The biggest acquisition was Myntra in 2014 which is in fashion retail. The acquisition of Myntra allowed Flipkart to strengthen their foothold in fashion industry.

Acquisitions made by Flipkart

Acquired Organisation	Announced Date	Price
F1 Info Solutions & Services	Sep 26, 2017	—
eBay India	Apr 10, 2017	—
PhonePe	Apr 1, 2016	—

MapMyIndia	Dec 3, 2015	—
FX Mart	Sep 1, 2015	$6.8M
Appiterate	Apr 29, 2015	—
ngpay	Sep 1, 2014	—
Myntra	May 22, 2014	$300M
LetsBuy.com	Feb 9, 2012	—
weRead	Dec 22, 2010	—

Data source: - Crunchbase.com

Government regulations and their impact on Flipkart

Flipkart started as an online retailer while foreign firms such as Amazon can only function as marketplace due to regulations. Foreign firms are not allowed to hold inventory in India which act as an impediment to firms such as Amazon whose original model was based on logistics. A marketplace firm cannot influence the prices, cannot have inventory and cannot have more than 25% sales from a single vendor to group companies.

SEBI regulations regarding listing require that the firm should be profitable for 3 years before listing and promoters should have 20% lock-ins shares for 3 years effectively closed the equity market for many e-commerce firms and made them dependent on VC's and institutional funding. These regulations act as a dampener on the firm's prospect to raise money from capital market.

Flipkart New Trends

On 9th May Walmart announced its acquisition of Flipkart 77% shares for $16 billion. This new development will now shape the future of Flipkart and this may help Flipkart to leverage on Walmart logistic expertise to deliver products better.

Case study 5: - Infibeam: Capital Market as source of funding

Infibeam was started in 2007 by Vishal Mehta as a portal based out of Ahmedabad. It initially started as an automobile portal but later moved to B2B and B2C e-commerce. It was

incorporated as a public firm in 2010. It has 2 portals one is Buildbazaar.com which is an enterprise portal and allows other firms to offer e-commerce service. The range of services includes website design and cataloguing to help with payment gateway. The other part of their business is infibeam.com which is the online retailing arm. They also have a logistic business with 6 warehouses and 12 logistic centres.

What makes Infibeam different from other e-commerce players in India is the fund raising and being profitable. While Flipkart, Snapdeal and others have relied on venture capital funding, Infibeam in 2016 raised money through IPO route. They raised Rs.450 crores through IPO, due to SEBI profitability clause they used QIB route i.e. 75% shares allotment to institutional investors. While initially there IPO got a lukewarm response finally it was 1.11 times subscribed. In the past 2 years the share has performed particularly well. The share price was Rs 432 when in 2017 there was a share split and effectively the share price was Rs 43.2. On 14th May 2018 the share price is Rs. 166. It is also one of the few e-commerce firms which is profitable with a revenue of Rs 441 crores and profit of Rs 43.5 crores in 2016-2017 financial year. Infibeam, while smaller than Flipkart and other e-commerce majors, is still one of the success story due to its profitability and its ability to raise money through capital market.

Concluding Observations

Given our discussion of the theories of predation and of two-sided markets, we now synthesize our findings regarding predation in the Indian e-commerce sector.

Predation or Building Critical Mass

Not just in India, but across the world, the e-commerce sector is a disruptive sector trying to change the very nature of commerce and how producers and consumers of goods and services interact. The business model for most such firms has an initial phase of `cash burn' to get consumers to start using their firm. Note that consumers for the firm can be from a single side or multiple-sides as is most often the case. The reason given for the cash burn is that the firm needs to entice the consumers with discounts to be able to build critical mass. The gross price charged for each transaction is the sum of prices charged by the platform from all sides for a given transaction. During the cash burn phase, this gross price is less than the total cost of the transaction. The hope is that the cash burn acts as an incentive to get consumers to use the firm's products/services and in the long run they are willing to pay enough to cover the cost of these services. Firms gradually increase the price and lower the discount as they build up a stable consumer base.

There is evidence of firms doing exactly this even in India. For instance, Uber needs both drivers and riders to use its platform. It started its operations in India with substantial incentives to the drivers and riders. The incentives paid to drivers initially were such that they doubled the driver's income from rides whereas now they get on average ten percent more than what they collect as fare over the day. Similarly, riders were paying as little as Rs 1 per minute but are now paying Rs 1.5 per minute. This reflects that as the platform matures and enough people use the platform, the cash burn gradually reduces. Similarly, Khan (2017) finds the same pattern of discounting in Amazon's business model. Investors in this new economy are in fact willing to wait out the period of cash burn before the business starts to become profitable.

Pertinent to our study on predatory prices, the Press Note 3 states that "E-commerce entities providing marketplace will not directly or indirectly influence the sale price of goods and services and shall maintain level playing field." We would like to comment that a more lenient view of prices can be taken when prices are used to build market participation or when a new firm is using prices to build critical mass. In all other cases, we agree with the DIPP that the e-commerce entity should not influence prices and this rule should be applied with equal vigour to all entities operating in a given market.

Cautionary Note About the Impact of Cash Burn

While we do not think cash burn per se is predatory, it may in some cases be inadvertently harmful to consumers. Here we very specifically wish to highlight the case of sellers on e-commerce platforms who undertake capital expenditure to benefit from the attractive prices and incentives on the platform without realising the transitory nature of such incentives. In India, given our low level of education, it is more likely that there is a misunderstanding with regard to the nature of the incentives. For instance, a driver sees the current high incomes for drivers of cab-aggregators and may use that level of income as the base for a decision to buy a car. This driver will then be stuck with a capital investment and decreasing cash flow as incentives eventually go down. The same can happen for a supplier at an e-retail firm. The assumption of a lack of forward planning may be motivated by bounded rationality. Duflo (2006), however, suggests that poverty may additionally distort the normal decision-making process. Low human capital, inadequate nutrition and the stress of having to make decisions that may affect the subsistence of one's family might explain an extreme focus on the present.

The e-commerce sector has opened up a world of opportunity for many Indians. At the same time, some citizens might not fully comprehend the transitory nature of incentives/discounts and may make long term decisions based on continued incentives. Such cases can be avoided by proper information dispersal by the companies.

Role of Data in Aiding and Creating Monopoly Power

The e-commerce industry is built on data. The firm is in a position to collect and retain data on all activity on its platform. While there are many implications of this data collected by firms, we will focus here on the implications on competition.

Data can be used to enhance the consumer surplus and at the same time data can be used to extract consumer surplus. Data on consumers can allow the firm to tailor the consumer experience to the individual needs and demands. Each consumer then has a very personalized and more satisfying experience on the platform. The platform is able to make the most appropriate suggestions regarding future interactions on the platform. As systems become more intelligent, each consumer will have a more satisfying experience on a platform the more data the platform has on them.

At the same time the data can be the knowledge base to understand and predict the consumer's demand and thus extract the maximum consumer surplus from each consumer in each transaction. In other words, the theoretical concept of first degree price discrimination can be made a reality with the wealth of data collected by platforms. For instance, a ride-sharing platform will know exactly when the rider is most in need of a ride and extract the highest rent at that time while giving a deep discount when the consumer is indifferent to the ride. Note that demand prediction can be made not only with the consumers own data but also from data from their "neighbours". These neighbours may be defined in various ways but in general could include the social group the consumer most identifies with. Appropriately averaging the data from these neighbours, the platform may be able to predict the demand from the consumer. In other words, even if the consumer does not allow the platform to collect any data from them, the platform is still able to extract consumer surplus from the consumer due to the data collected from neighbours of the consumer.

Not only can the firm use data to estimate individual demand, it can also use data to estimate market demand. For instance, an e-retail platform is in the best position to monitor market demand and trends. If the platform is also a supplier on its own platform, then as a supplier it can pick the best products to focus on. This makes the other vendors' situation very precarious because if they have product that sells very well, the in house production is likely to replicate that same product and become a competitor.

Data may act as a barrier to entry. The data collected by the firm gives it a knowledge advantage a newcomer cannot hope to surmount easily. At the same time, data makes it more likely that users of the platform prefer to stay with the platform rather than switch to another platform. At any different platform the experience will not be as good as in the current one due to the other platform's lack of individual level data.

A concern in the digital world is the lack of transparency shown by technology companies. Companies should tell users about the prerequisites for the disclosure of their data. They should also work to ensure stronger privacy protections for users. Users could obtain more control over and transparency regarding what is done with their data by the introduction of several measures: (1) Cutting down on data retention periods. For instance, Amazon retains recordings until users delete them. Apple, however, retains data from its voice assistant Siri for up to two years, and most of that time the data is anonymized and encrypted. (2) Data Collection (stating the purpose, scope and storage time of the data, its storage anonymously so that individual customers cannot be backtracked, and the provision of the data to the consumer on her request free of charge); (3) Data Combination (entailing informing the consumer if her data is combined from various internal and external sources to gain additional information about the consumer); (4) Internal Secondary Usage (regulate usage of consumer data for an unauthorized secondary purpose within the company); (5) External Secondary Usage (regulate disclosure of customer data for an unauthorized secondary purpose outside the company); (6) Reduced Judgment (for automated decision making based on customer data to have mechanisms where corrections can be made); (7) Errors (data are checked for accuracy and employees dealing with customer data are checked for malpractices); and (8) Improper Access (consumers are immediately informed if there are unauthorized views and edits of customer data).

Platform as a Vendor

E-commerce platforms connect vendors to buyers of services or products. Here a conflict of interest may possibly emerge if the platform also doubles up as a vendor. As noted in the section about data, the platform as a vendor can use data from third-party vendors to

optimize its product line and prices. A cab-aggregator platform can also have its own fleet of cars which are used to ferry consumers while also allowing third party drivers to connect with riders on the platform. Similarly, an e-retail firm can also be a vendor while also allowing third party vendors. In any such case, the platform as a vendor has a distinct advantage over third party vendors in picking up the more lucrative transactions. It can additionally use data gleaned from third party vendors to compete better with them. We think such practices should be deliberated upon whether platforms should be allowed to have a big presence as a vendor on their own platform while also allowing third-party vendors. Note that this kind of advantage can be neutralized by properly regulating the use of data. Additionally, if users are knowingly providing their data to the e-commerce website to get a better experience then the matter of undue advantage is not pertinent. For instance, users may wish to trade in their data to get a lower price from the platform and at the same time get better services. In such cases, platform as a vendor does not pose any competitive risks.

Note that multi-brand retail also follows a somewhat similar policy where the store brand competes with other brands displayed in the store. Here again the retailer has the option of introducing goods via the store brand after analysing data from what is selling in the store. Yet, there are some key differences between the actions of multi-brand retail and e-retail. First, the scale of data collected by e-retail cannot be compared to that collected by physical retail stores. E-retail stores have access to click level data on consumers including what they searched for and kept in their basket whereas physical retail stores at best know what the consumer actually bought. Second, physical retail stores can be tempted to produce and sell products under their own brand which are similar to those from other brands selling well in their store but they do have to worry about moving all inventory not just their own brand. Third, store brands usually compete with established brands on price. Hence, the consumer chooses between a better known brand at a higher price vs a store brand at a lower price. In the case of e-retail, the store brand can mimic unbranded goods also.

We commend the Press Note 3 of the DIPP for drawing a clear distinction between inventory based and marketplace based models of e-commerce.

An important part of the debate is whether e-commerce intermediaries should function as marketplaces or be allowed to stock inventory and resell. In a marketplace mode the intermediary is not a party to the contractual relationship between buyers and sellers – it is merely an enabler of those contractual relationships. Marketplace modes are preferred whenever the original supplier has information on a product that is not easily appropriable by a reseller intermediary. On the other hand if marketing and other activities such as customer service or responsibility for order fulfilment generates spillovers across products, the reseller mode is the better suited way to structure the e-commerce intermediary. It is well known that short-tail (popular) products are usually provided in the resell mode and long-tail products in the marketplace mode. In e-commerce as product categories become more successful (sales exceed a threshold), the platform starts to sell it in resell mode.

Dual share classes

In 2004 Google listed with an initial public offering that featured dual class shares. Sometime later Facebook listed with unequal voting rights. Since then Dropbox has listed with its B shares carrying 10 votes for every class-A vote and Snap did an IPO last year where it sold $ 3.4 billion of stock with no voting rights.

The argument usually made for dual listing is that capital markets are more engaged in short term financial engineering and buying back shares than the long term performance of the underlying business. Dual voting share structures allow founding entrepreneurs to retain control while bringing in outside investors and to make decisions that are in the long term interest of the company. Some promoter entrepreneurs in the ecommerce sector in India have also articulated a version of such claims.

However, for corporate governance to be effective it is essential to have a vote associated with every share that is owned. Dual voting when an organization is fast growing can encourage a culture of complacency. A system of checks and balances is advantageous to hold managers to account. The case of Facebook is of relevance here. Mark Zuckerberg blends the roles of Chairman and Chief Executive and has control over the organization despite his declining and minority shareholding. This reduced the safeguard that is provided by

independent non executive members on the board who may have anticipated the risks implicit in providing users' data to Cambridge Analytica and seen it as their fiduciary duty to not allow that to happen. The foundation of corporate governance is one share, one vote and protection of investors requires that their rights are not diluted.

Many countries, however, allow companies to have two share classes – US, Sweden, Germany Brazil, and South Korea are examples. Jack Ma's ecommerce company Alibaba listed in New York as Hong Kong did not allow companies to list with dual class shares. After that Hong Kong changed its regulations to allow enterprises to list with dual class shares. Singapore is also contemplating changing its rules in this regard. There thus seems to be a race to the bottom on dual voting between listing authorities in different parts of the globe.

Even if India joins this race to the bottom it should at the very least contemplate disallowing companies with multiple share classes to be a part of share indices. S&P Dow Jones indices for instance no longer allow corporations with such share classes to be part of its indices including the S&P 500. MSCI, the index provider, is considering whether to account for shares with unequal voting rights in its indices and to adjust the weights of such shares to reflect both their free floats and their company level listed voting power. Exclusions from benchmark indices can disincentivize companies from listing with unequal voting rights and provide signals to investors about corporate governance issues.

Multi-brand retail

India has a ban on FDI in supermarkets, department stores or retailers selling items from multiple brands. Foreign retailers are allowed to have their own stores where they can vend their own branded merchandise. FDI is permitted in B2B e-commerce platforms and 100 per cent FDI is permitted in the marketplace model of e-commerce. An e-commerce platform cannot own an inventory of goods and services for the purpose of direct sales to consumers. India is courting investors to Make in India. However, the regulations do not allow them to completely own the stores to sell in India which is an inconsistency in policy.

The concern that is raised about FDI in retail is that retail trade is the second largest employer in India and employs 7.2 per cent of the total workforce (DIPP Report, 2010). A large part of

retail is also unorganized and family owned and their sales may be affected by the advent of shopping malls and organized retail. The flip side is that FDI can bring in technical know-how such as warehousing and distribution systems that improve the efficiency of the supply chain and reduce the price of goods in the hands of the final consumer.

In urban areas real estate rents are high and it is expensive for retailers to set up big stores. If these stores are at a distance from the customer it provides an opportunity for unorganized retail to retain the customer by employing delivery boys and providing them with credit that can be paid off at regular intervals such as at the end of each month. E-commerce by contrast allows retailers to spend less on real estate and to reach more customers in tier-2 and tier-3 cities. It is not inconceivable that e-commerce firms will also begin to provide credit to customers as they build a relationship with them from repeat purchases. The competition between organized retail and local mom and pop stores is intense.

There is also scope for cooperation given the enormous size of the retail market. Walmart runs a cash-and-carry business that sells directly to mom and pop stores and supports them with their inventory. Amazon has partnered with mom and pop stores to deliver Amazon orders to homes or to store the packages until customers pick them up. Big retail chains have tried for long to make a dent in the market. The Tata, Reliance, and Birla groups have all launched retail chains but still have a small share of the market. Serious competition for Amazon and Flipkart could come from an expansion into online shopping by large offline groups. Both Reliance Industries — which is making a huge bet on digital services through its Jio subsidiary — and the Tata Group are possible sources of future e-commerce ventures. International retail chains such as France's Carrefour launched in India and then left. Germany's Metro has just 25 stores.

It is time to consider allowing FDI in to B2C e-commerce as well as in brick and mortar retail. Such FDI in organizations can result in more efficient supply chains that has the ability to provide goods and services at lower prices to consumers. They also have the ability to provide inputs more cheaply in their B2B offerings. This reduces the costs of business, reducing their prices and leading to higher demand for their products. In turn this higher demand increases the productivity of existing staff, and, if demand is sufficiently strong it could lead to further

job creation which offsets the direct job loss caused by the initial entry of such retail entities in the market. India has always had a bias in policy to protect producers and employees which has led to inefficient production. There is value to tilting towards favouring consumers and allowing the demand side of the market to dictate efficiencies that will enable Make in India to be world class.

Non-price Predation and Seemingly Restrictive Anticompetitive Practices

We next consider the possibility of non-price predation. There is evidence of platforms getting into exclusive contracts and using tying/bundling. While these may be considered as possible instruments of non-price predation, we think that they may also be relevant for firms to build and retain critical mass.

The attention in digital markets has been focused on the economic aspects of competition and has not given enough thought to the technology intensive character of these markets. A common practice in digital markets is to hand over combinations of services and products to consumers. Business organizations standardly provide favourable treatment to their own products to the exclusion of competitors, assimilate functionalities, or even tie products together. Android for instance usually comes bundled with Google's applications. Some may make the case that Google is using its market power in the mobile operating systems market to encourage the uptake of its other products and services and this is practically a case of exclusion of rival products and services. However, if Google is unable to employ its market power through the usual mode of the price mechanism since its products and services are mostly free due to technology and critical mass conditions then there is a case to allow it to realize some economic gain via other measures.

It cannot be the objective of antitrust to regulate prices if their level is the upshot of a natural tendency stemming from the circumstances of the relevant market. Industrial policy in fact suitably rewards business operations by a variety of means such as granting transient monopolies in the form of patents and copyrights, or accepting high prices when they are due to the prevailing strategy of an organization in the marketplace. We should not deride

monopoly power per se but distinguish between the deliberate attainment and maintenance of such power and the monopoly power that originates from growth or development as a result of a superior product or business acumen. The mere possession of monopoly power and the charging of monopoly prices is an important element of the free market system. It is the prospect at least for a short period of being able to charge the prices that a monopolist can which attracts insightful business persons, and induces the risk taking that produces innovation and economic growth.

When the price mechanism is absent as is the case when products and services are offered at a price below cost a substitute in the form of non-price compensation must be realized as otherwise there is the danger that we will disrupt the incentivizing process of the market. The incentive may be in the form of taking advantage of the complementarities between the products and services of a firm or the lock-in outcomes from encompassing numerous consumer needs in different markets through expediting their usage of the products or services of just one firm.

It is usual to slight platform markets that at the outset of their journey make available a non-restrictive environment for applications to mature and thereafter, once the critical mass has been established, to engage in transactions that promote their own services. This is often taken to be anticompetitive. However, it is difficult for platforms to know at which stage along the value chain they will begin to make an income and in this situation the flexibility of modifying the policy to exclude other providers of services and products, when they are able to use their clout at a given point in the value chain, may be a crucial incentive for them to have decided to participate in the value chain. If an organization generates value by offering its services and products then it must at some stage appropriate that value and this may entail the organization to regulate parts of the value chain such that the value obtained by one part of the ecosystem can financially support another part that is not generating sufficient income for the firm. Such appropriation of value and the restriction of competition is usually temporary. Google's entering with open source Android into the mobile OS challenged Apple's dominance. Microsoft's strategy of keeping out Java in the 1990s would serve no purpose a few years hence when Apple introduced Safari, Google launched Chrome, and with

the spread of other browsers including Firefox. Competition is fairly intense and rewards are transitory.

Consumer goods and financial services firms are known to raise consumer switching costs and reduce consumer trial at rival firms. For example some banks allow customers who open a preferred customer account to receive a reduced price on a bundle of services. A minimum balance in the customer account gives the customer investment advice privileges at no charge. For the bank it gains in terms of operating efficiency as it costs twice otherwise to open an account for a customer and then to sell investment advice separately. For the customer the transaction cost is also low. Hence, at no increase in operating cost the financial service firm obtains a sale advantage.

In platform markets dominant firms are not able to use pricing to appropriate value and it is routine for competition in these markets for firms to introduce measures that appear exclusionary but which actually reflect the nature of competition in digital markets where initially services are traded at below cost and externalities between products and services allow organizations to serve customers with a range of products and services. Competition in digital markets is unlike conventional competition.

It is worth recalling that markets that the big digital firms began their career in are not those where they derive their main profits from today. Apple began as a PC manufacturer and currently obtains profits from the iPhone. Microsoft began as an OS company but has transformed into an organization that earns mostly from productivity tools and cloud and infrastructure services. Amazon began as an e-commerce company but gets most of its incomes now from virtual infrastructure services and cloud services. Securing steady incomes has always been a difficult proposition for such firms as it is typical in digital markets for there to be forces at play that result in prices below costs. In such conditions it is prudent for organizations to cross subsidize across products and services.

The immediately visible negative effects on competitors and rivals does not make the behavior of an organization automatically anticompetitive. Competition in digital markets can lead to exit from the market and the sidelining of rivals that are less efficient and as a result

also less appealing to consumers from the perspective of quality and innovation as well as price. It would be inadvisable to deter aggressive conduct as that deters competition which benefits consumers and encourages innovation. In this sector it is important for regulators to focus on whether competitors will be foreclosed and the course of competition weakened and to defend a competitive market space and in the process not to protect individual competitors.

Policy Recommendations

We summarize our policy recommendations for India's e-commerce sector:

● **Price below cost does not indicate predation**: In a two sided market it is important to realize that it is not possible to define a separate market for each side and asymmetric price structures are common as they help getting the two groups of users on board. Price below marginal cost on one side is profitable in a two sided market unlike in standard predation. Negative margins are set to convince one group of agents to join the platform when they hold pessimistic expectations about the participation of the group on the other side. The losses on that side of the market are then recouped through larger margins on the other side. Thus the ability to set a price on one side of the market above marginal cost is also not indicative of market power. Demands on both sides of the platform are interdependent and it is the intensity of indirect network effects that determines prices rather than the relative costs of serving each group of users.

In the initial phases, prices below marginal cost for both sides of the market may be justified for building critical mass. In this case the sum of prices charged by the platform from all sides for a given transaction is less than the marginal cost of that transaction. The prices are kept low to attract consumers on both sides of the market and to build momentum for the platform. The low prices act as an incentive to get both sides onto the platform and in the long run once there is enough network mass on both sides of the platform, the users will be willing to pay more. Hence, long run optimal price structure may involve price below cost for one side of the market and the short run need to build critical mass may justify prices below cost for both sides of the market.

● **Exclusive contracting**: Sellers signing exclusive contracts with intermediaries is usually seen as anticompetitive but it is not necessarily so. Exclusive contracts have been known to help entrants rather than incumbents. Video consoles for instance are platforms where game developers videogames are made available to end users. Sony had the first mover advantage with Playstation2 (PS2). Nintendo (Gamecube) and Microsoft (Xbox) that came later prevented third party developers from providing games that are compatible with the PS2 console. By doing this they were able to spark the positive reinforcing dynamics of indirect

network effects in their favour and boosted platform competition. In practice the welfare consequences of exclusive contracts are ambiguous. It could be that one side of the platform benefits from exclusivity but if that helps the platform to gain market power on the other side it could reduce welfare of consumers on that side. In the long run both sides may suffer from exclusive contracts as they could be used by the platform to exclude competitors. Empirically, however, it is not possible to establish the competitive effects of exclusive contracting and it may be advisable at an early stage of e-commerce to allow platforms to have such contracts.

● **Inventory versus Marketplace**[2] **model**: E-commerce intermediaries make choices between these two setups. Amazon began as a pure reseller and held inventory but now operates as a marketplace as well. Netflix operated as a reseller but now produces its own films and TV serials. Zappos, the leading online shoe retailer in the US, began in 1999 as a marketplace but then turned into a pure reseller by the mid 2000s. If marketing activities generate spillovers across products it becomes more desirable to be a reseller. Coordinating the marketing and delivery across different products by a single seller when the customer is the same creates value for customers. If a product is popular and has significant demand there will be lower variable costs of handling and marketing it by the e-commerce intermediary than by third party merchants. – If it is the early stages of e-commerce where the demand is not yet stable and more suppliers draw in more buyers (network effects) then the intermediary acting as a reseller benefits the growth of the two sided market which otherwise could suffer from deficient critical mass due to the chicken and egg problem that is inherent to it. In any case intermediaries in India do much of the legwork for retailers such as helping them take photos and upload product descriptions, fill out tax forms, handle phone orders on their behalf and pick up, pack, and deliver using durable packaging. – Rather than policy dictating that a e-commerce marketplace should not run in the inventory mode it should be left to the intermediary to decide on the mode as a business decision keeping in mind the internalization of spillovers and inducing critical mass. There is a fear often expressed that Indian markets will be swamped by Chinese goods and a way to mitigate that is to think of a transition period during which duties on imports from China can be reduced in a staggered fashion. The long-

[2] The inventory model involves intermediaries as resellers of products they purchase from suppliers (which may be their own subsidiary) to buyers. The marketplace model involves suppliers selling directly to buyers via a platform.

term gains in opening up the markets of the two countries to each other are immense given that together they have 40 per cent of the world population and one-third of world GDP.

● **Price discovery**: Digitalization has greatly reduced search costs. Today if a customer wants to purchase a product she has to visit a price comparison site online and is able to obtain the suggested sales points, stocks status, and the performance characteristics of various models. Since consumers can more easily find information on e-commerce platforms it reduces the mark-ups of companies. At the same time digitalization affects companies output capacity via automation and reduces their cost pressures. It is not just consumers that benefit from finding the lowest prices on a platform – companies can use the same sites to observe their competitor's pricing. In a study by the European Commission it was found that as many as two-thirds of companies use software to adjust their prices when their competitors adjust theirs. The flipside of this is that companies can coordinate their prices with one another and this can be anticompetitive.

● **Data privacy**: Firms in platform economies are of two types – either they subsidize consumers and forego sales revenues or they charge premium prices and do not subsidize consumers. When consumers exhibit a low willingness to pay for the platform service firms subsidize them and attract low valuation consumers in order to remain profitable. An e-commerce platform such as Amazon indexes a large number of products and allows third party sellers to supply them via its website. Consumers provide personal information to use these services and Amazon utilizes this to profile users based on their search interests and past purchases and then derives revenues by disclosing this information to advertisers and sellers. These revenues from disclosure of personal information subsidize consumers with a low willingness to pay for the services of the platform. Factors such as bounded rationality or cognitive biases can distort consumer decisions about providing their private information but apart from these elements the individual consumer benefits from subsidies. In the current state of the world, it is up to consumers to account for privacy considerations when choosing which firms to shop at and how much personal information to part with. For instance, consumers choose to use the services of Google such as Gmail, Google+, etc. and understand that they are being provided the free services in exchange for advertisements that are targeted at them. Consumers who do not want to disclose their information for advertising

purposes can use Microsoft Office 365 that allows them to manage emails and edit documents and does not sell information of users to advertisers. In return Microsoft unlike Google charges consumers for this service. In many domains, privacy friendly services are also available. The search engine DuckDuckGo for instance differs from conventional search engines such as Google by neither collecting personal information or behavioural data relating to its users.

Nevertheless there have been data privacy scandals. Apple has been accused on collecting location data on iPhones without notifying customers and Facebook was collecting data from user profiles and conveying this to advertising companies. Companies should be required to adhere to data privacy norms that include the following[3]: Data Collection (stating the purpose, scope and storage time of the data, its storage anonymously so that individual customers cannot be backtracked, and the provision of the data to the consumer on her request free of charge); Data Combination (entailing informing the consumer if her data is combined from various internal and external sources to gain additional information about the consumer); Internal Secondary Usage (regulate usage of consumer data for an unauthorized secondary purpose within the company); External Secondary Usage (regulate disclosure of customer data for an unauthorized secondary purpose outside the company); Reduced Judgment (for automated decision making based on customer data have mechanisms where corrections can be made); Errors (data are checked for accuracy and employees dealing with customer data are checked for malpractices); and Improper Access (consumers are immediately informed if there are unauthorized views and edits of customer data).

● **Multibrand Retail**: The retail trade is the second largest employer in India and a large part of it is unorganized and concerns are often raised about the advent of shopping malls and organized retail on their ability to survive. In this debate account is not taken of the ability of FDI to bring in technical know-how such as warehousing and distribution systems that improve the efficiency of supply chains and reduce the price of goods to final consumers. Such efficiencies that reduce costs to customers generate higher demand and sufficiently high

[3] These data privacy concerns of customers are elaborated on by Smith, H.J., Milberg, S. J., & Burke, S.J. (1996) – "Information Privacy: Measuring Individuals' concerns about organizational practices", MIS Quarterly, 20(2), 167 – 196.

demand leads to higher productivity and job creation from the FDI and other domestic investments in multibrand that more than offsets direct job losses caused in traditional retail due to the initial entry of such entities. Multibrand has the capacity to enable higher demand by consumers that provides the scale whereby Make in India can be at more efficient levels that are world class.

However, recognizing that opening up the sector to allow 100 percent FDI in B2C e-commerce and in multibrand retail directly may not be politically tenable, the sector could be opened up in phases. Some of the options to consider are:

S. No.	Option	Pros/cons
1.	Allowing 26 percent FDI in MBRT under the automatic route	• Opens up avenues for further capitalization of the sector • Issues related to control could be a bottleneck. Such issues have cropped up in sectors where 26 or 49 per cent FDI is allowed, e.g., insurance, where partnerships have turned sour • Does not solve completely for the grey area in the operating environment*
2.	Allowing 49 or 51 percent FDI in MBRT under the automatic route	• Opens up avenues for further capitalization of the sector • Issues related control could be a bottleneck • Does not solve completely for grey area in the operating environment*
3.	Opening up the sector completely and allowing 100 percent MBRT	• Can push growth tremendously • Politically difficult to implement
*The grey in the FDI policy will not be addressed unless we have similar policies for the marketplace and inventory based e-commerce/MBRT. A 26 or 49 per cent FDI cap creates one more layer on the prevalent FDI regime, where 100 per cent FDI is allowed in marketplaces, single-brand retail, and processed foods, but not in MBRT or inventory based e-commerce.		

Summary and roadmap of suggested reforms: Opening up the sector to FDI has the potential to increase the growth multi-fold. However, in the absence of a favorable political climate, the government can adopt a phased approach highlighted above.

● **Most favoured treatment of promoters**: Some Indian promoters of platforms have been making out a case for ownership structures that allow them to retain control and to make decisions that are in the long term interest of the enterprise while bringing in outside investors. In this inadequately articulated demand is the notion that owners are engaged shareholders who accept the responsibilities to ensure the company delivers on its purpose and are involved in its oversight. The other shareholders are investors who provide capital and are more interested in the financial performance of the firm but are otherwise disengaged. This argument that companies need to be nurtured and protected from shareholders who place a high value on short term benefits and their neglect of the benefits of intangible assets such as reputation is valid when there are uninformed investors who threaten the adoption of imaginative and far-sighted innovations in a firm. In the case of platforms, however, investors are required to make the bet that the two sided network effects are large enough to make it worthwhile investing large sums of money to reduce price and encourage adoption of the platform on both sides. They are deep pocketed and patient investors who are willing to cover the costs of the platform while it scales and are committed to the long term. They see the advantage that if and when the platform activates network effects and achieves scale then it can eventually profitably charge the very low prices that maximize revenues on both sides of the platform together. – Nevertheless many platform firms have dual voting type share structures that confer substantially more voting rights on the founders than on investors who subscribed to public issues. A growing number of countries are allowing two class shares which goes against the corporate governance principle of a vote associated with every share that is owned. We believe that this principle should be upheld but if the trend that is growing across the world to allow dual class shares is to be followed then we recommend that it would be appropriate to no longer allow such corporations to be a part of share indices. S&P Dow Jones for instance does not allow such share classes to be a part of its indices.

● **Financial Inclusion**: The largest six technology companies in the world by market capitalization are technology companies whose primary activity is in the provision of digital services (Amazon, Google, Apple, Facebook, Alibaba, Tencent, and Baidu) and their marketcap surpasses the largest global systemically important financial institutions (JP Morgan, Industrial and Commercial Bank of China, Bank of America, Wells Fargo, China Construction Bank, HSBC, and Ant Financial). Such firms present a unique business model that

coalesces around two features – network effects and technology such as big data and AI. They can leverage this to provide financial services to previously unserved customers and to improve the efficiency of the financial sector. Having access to a wide range of data enables the enhanced assessment of creditworthiness and a lower cost of intermediation. Apart from access to data such firms can also use machine learning and AI to better process data relative to legacy system financial institutions and thereby lower the costs of advancing loans and reduce default rates. – A good example is the Chinese Yu'ebao, a mobile money market fund that went online in June 2013 to allow customers to invest small cash amounts – the minimum investment was 1 RMB - sitting in their Alipay payment account. In five years Yu'ebao reached $266 billion assets under management and is the largest money market fund in the world. In payments itself China is the largest market with payments for consumption reaching RMB 14.5 trillion in 2017, or, 16 per cent of GDP. Interestingly, such firms have built a separate payments infrastructure and have not relied on the payment infrastructure of banks and credit card companies. For instance Alipay, Tencent's WeChat Pay, Vodafone M-Pesa and Mercado Libre's Mercado Pego have separate payments infrastructures that is integrated with the core products of these firms[4]. Bain & Company and Research Now find that 91 per cent of Indian respondents are ready to consider financial products from tech firms they have contracted with[5] in the past. Tech firms can start with payments and later expand into providing credit, insurance, and savings products.

Some other process requirements that are worth considering are the following in order to enable the growth of the sector —

● **Import duty on return of goods**: Return of goods is an integral part of e-commerce but sellers face challenges in getting customs clearance for unsold and returned goods which discourages them from selling outside the country. Despite a guideline is in place reissuing it with specific exemptions for return of goods in e-commerce transactions is required whilst requiring the necessary documentation such as Shipping Bill, Airway Bill, Bill of Landing, CSB V for exports and Bill of Entry for reimports to enable documentation by customs officials.

[4] Alipay's core product offering is as a mobile e-commerce and services, platform. WeChat is a messaging and social media platform, Vodafone provides mobile phone credit, and Mercado is an e-commerce platform.
[5] Bain & Company and Research Now (2017): "Evolving the customer experience in banking", November.

● **Tax Collection at Source (TCS) clause in e-commerce**: Section 52 of GST mandates TCS requiring e-commerce players to deduct 1 per cent of tax collected from the transaction. This increases the compliance burden and moreover this requirement is not prevalent for offline suppliers of goods and services and results in an unlevel playing field. With many sellers operating on thin margins of 3 to 5 per cent such a compliance requirement limits the working capital they have and leads to operational challenges. If the objective of the government is to monitor transactions happening on the portal then TCS should be made zero rated whilst still making it mandatory to file the sale record so that the government may be kept informed about the transactions on the platform.

● **Warehousing policy**: Each state has its own warehousing policy making it complex for industry to operate across states. The Department of Commerce, DIPP, and Ministry of Consumer Affairs could create a standard for warehousing for states to consider following so that warehousing may be expanded and create many blue collar jobs.

● **B2C inventory based e-commerce of digital products**: Press Note 3 prohibits foreign investment in B2C inventory based e-commerce. Clause 3 permits 100 per cent FDI for the rendition of services via e-commerce platforms. The Central Board of Excise and Customs categorizes digital products as services. There is a need for clarification whether 100 per cent FDI is permitted in B2C inventory based e-commerce of digital products given their intangible nature. The sale of digital products such as gaming, entertainment, information, video streaming, etc. is finally the right to use a particular service and a fresh issuance of norms allowing sale of such products should be released. Restrictions should only be pertaining to those service sectors that have a restriction on foreign investment. An online version of a service business should not face limitations with regard to FDI in the business if the sector is permitted 100 per cent foreign investment as per the FDI policy and Foreign Exchange Management Act, 2000.

● **FDI in insurance**: FDI policy allows 49 per cent foreign investment in the insurance sector and 100 per cent foreign investment in e-commerce. This restricts companies in the insuretech space in insurance broking, third party administrators, surveyors and loss assessors. With a low penetration of insurance in India it would be beneficial to allow 100 per cent FDI in insuretech intermediary services and treat them at par with other financial services intermediaries.

● **Hyperlocal delivery services and Carriage by Road Act**: The success of e-commerce in Tier 1 and Tier 2 cities has led to the growth of hyperlocal services. The norms for these in each state are different and the reach of these services is being affected. The Carriage by Road Act requires motorcycle delivery personnel to be registered which adds to their cost of doing business whereas the Motor Vehicles Act in an amendment exempts motorcycles from obtaining goods carriage registration or a commercial driving license due to the limited risk posed by them. It is advisable to have a committee look at the issues being faced by hyperlocal delivery services as the sector has the potential to create lakhs of blue collar jobs for individual service providers.

● **Food Safety and Standards Authority of India registration and licensing requirements**: The FSSAI regulations requires even a person delivering food by a motorcycle in an hour within a 4 to 6 km distance to obtain a Food Business Operator (FBO) license. This is unnecessary given that the Central Goods and Services Act exempts the need for providing an E-way bill for the transport of goods below Rs. 50 thousand and getting registration for small value transport of goods. The FSSAI regulations should be reviewed to enable hyperlocal delivery of services.

● **Multi-state registration for GST**: Form GST REG-01 is state specific and e-commerce operators have to do multiple registrations across states. Single registration may be difficult but it is worth exploring how to reduce the compliance associated with multiple state registrations.

● **Limit for availing of Merchandise Export from India Scheme (MEIS)**: Incentives for e-commerce exports under the MEIS are in the form of freely transferable duty credit scrips that can be availed for the imports of inputs and goods. The Foreign Trade Policy, however, restricts the value of exports from an e-commerce platform to be limited to a free-on-board value of Rs 25 thousand only. The value limit for availing the MEIS benefit could be enhanced to a higher threshold of Rs 3 lakhs so as to enable SMEs to achieve scale in exports and reduce the burden of their compliance cost.

● **Incentives for e-commerce companies that digitalize traditional sectors**: E-commerce companies that promote job creation by enhancing the skill of traditional craftsmen and training village entrepreneurs to pack and dispatch online orders should be incentivized. This can be done by matching the spending on CSR by e-commerce companies in this realm to train local artisans and rural businesses. The e-choupal program leveraged rural internet

access to connect farmers with markets and similar programs for e-commerce would be valuable for job creation.

● **Safeguarding monetary collections by marketplaces on behalf of sellers**: Marketplaces are trustees who collect money on behalf of sellers. There are no norms for pay-out of collected funds and such norms should be developed in consultation with market players to prescribe settlement periods. For instance a certain fraction of the received funds could be put into an escrow based payment system and released to the seller after the buyer gives notice of receiving the goods as per the order placed.

● **Consumer protection rules:** A key factor in building trust is the speedy resolution of consumer complaints in case of discrepancies, violations, and complaints. The government can build safeguards for e-commerce consumers under the Consumer Protection Act, currently under discussion. Given the rapid changing nature of e-commerce, the Act should allow the government to create separate rules for consumer protection under e-commerce, which can be amended from time to time. Issues related to refund, return of goods etc. should also form a part of the rules. While the intent should not be to over-regulate the platforms, the government should have the freedom to create adequate redressal mechanisms in case of violations.

● **Strengthening India Post:** The key to unlocking the growth in the rural market could lie in strengthening India Post to make it conducive for e-commerce operations. India Post's wide network, high penetration particularly in the rural areas, large infrastructure, and the high trust placed on it by consumers make it an ideal to support e-commerce in the country. However, the government run entity would need structural changes to make it the favored partner of e-commerce companies. The government should look at creating a program to transform the state-run department to this effect.

● **Platform for engagement with sellers:** The growth of e-commerce has been accompanied by growing concerns amongst the sellers' community, with allegations of unfair treatment by e-commerce companies. The government should actively work towards addressing these concerns through dialogue and creating a suitable platform to engage with sellers. One such venture is the National Traders' Welfare Board.

● **Delimiting cross-border data flow:** Cross border flow of data is critical for building risk assessment and mitigation systems. Building robust risk management systems needs different data sets to be aggregated and analyzed to detect fraud patterns and bad actors.

This global benchmarking helps to ensure that customer interests are safeguarded across countries, including India. Restricting cross-border data flow will severely impact companies' ability to leverage global systems and best practices to protect customers against any malicious activities. Given that e-commerce data is not as critical as some of the other sectors such as banking and health, restrictions on its cross-border flow and sharing should be eased.

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