Working Paper

Presented at 7th National Conference on Economics of Competition Law
Competition Commission of India
March 4, 2022

Balancing Different Forms of Competition Regulation in the Digital Economy

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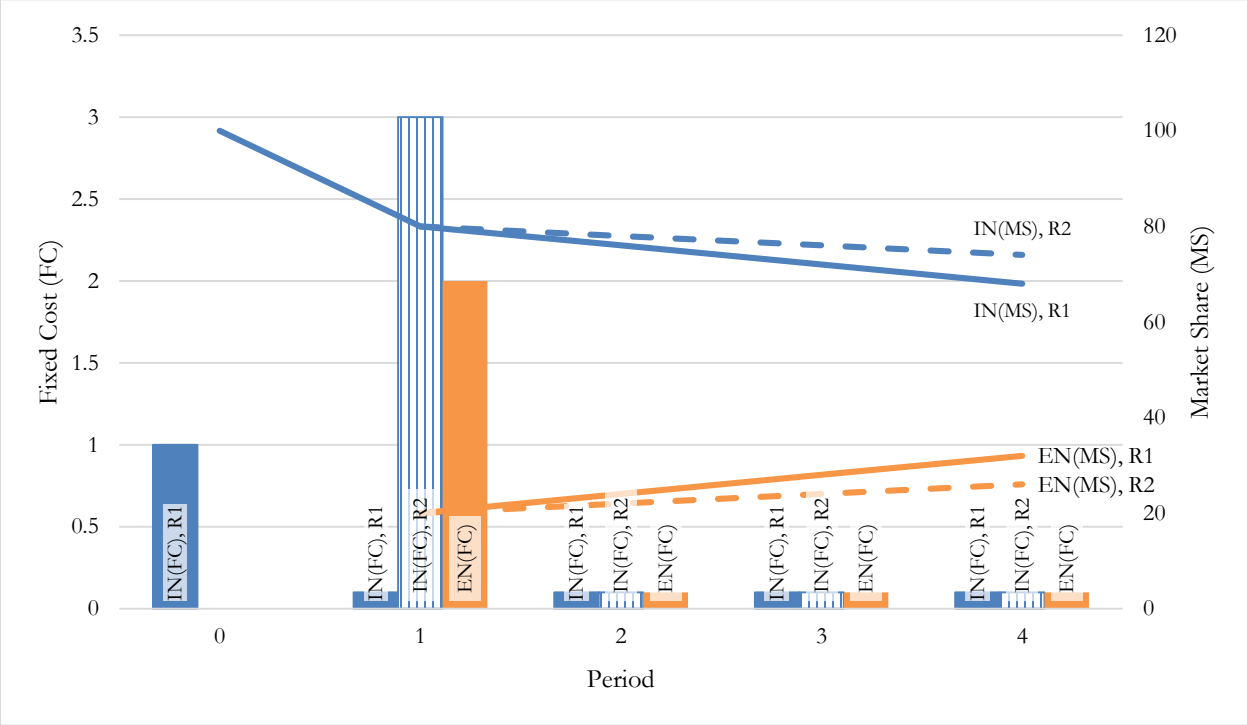
1. Introduction

Digitisation offers a means to minimize costs associated with upgrading service quality, establishing marketing channels, accumulating and communicating information, etc. As an offshoot, many traditional businesses have digitised. However, several other businesses lack the requisite technical or financial resources to digitise. This is especially true for the medium, small and micro enterprises (MSMEs) (Subrahmanya, 2021). Additionally, even for those businesses that are digitised, the extent of digitisation is heterogenous for a given service-delivery. This wide spectrum of businesses– traditional and differently digitised – has binding implications for competition in providing services to consumers.

Figure 1: Incumbent and Entrant in Digitised Economy: Fixed Costs (FC) and Market Share (MS)



An incumbent (IN), at a given level of digital technology, incurs a fixed cost of 1 unit in period 0. With a change in digital technology in period 1, an entrant (EN) enters the market at a higher fixed cost of 2 units. This change in digital technology enables a reduction in marginal cost, leading to the opportunity of larger market share (MS) capture. The incumbent has two options in period 1 onwards – either to not adopt the new technology (R1 or regime 1) or to adopt the new technology (R2 or regime 2). In regime 1, the incumbent faces negligible fixed cost but a larger marginal cost, while in regime 2 it faces large fixed cost (sunk/forgone fixed cost in period 0 *plus* fixed cost in period 1) and lower marginal cost (as the entrant). Market share of the incumbent and the entrant evolve accordingly.

Figure 1 presents an illustration, based on the premise that fixed costs are a key consideration for digital adoption and intensity, and considerably influence market behavior (such as pricing and adoption) of players.[1] It suggests that with improvement in digital technology, an incumbent firm has to choose between adopting new technology or continuing with older technology (i.e., traditional or lower version digital). Both decisions entail forgone costs and have binding consequences for market share allocation between the incumbent and an entrant. To minimize costs, the incumbent may bring in play its strategic assets such as established fulfillment infrastructure, geographic locations and brand names. The incumbent's conduct could be justified by

[1]Behavioral theories and experiments suggest that fixed costs are endowments and a withdrawal from the endowment or efforts made to augment the endowment change the behaviour of market players, which has a direct effect on competition. See Thaler (1980), Arkes and Blumer (1985) and Kahneman, Knetsch and Thaler (1990) for a detailed discussion.

contending that it is fair for it to reap returns from its strategic assets. However, the use of such assets may distort the 'level-playing field' for a market entrant by creating entry and/or operational barriers.[2]

The possibility of distortions leads to three interesting scenarios, illustrated in Table 1:

- Scenario 1 discusses market failure brought about by market forces gravitating towards 'survival of the richest', especially when the outcome bestows monopolistic power.
- Scenario 2 depicts market failure (in a Nash-setup) which may occur if either of the players find it profitable to deviate from the social optimal.
- Scenario 3 depicts market failure due to a prolonged conflict between the incumbent and the entrant.

Therefore, these scenarios make regulatory intervention a necessity in such cases for welfare improvement.

Table 1: Conflict between an incumbent and an entrant: Outcome scenarios

Scenario 1	Market forces will take care of the distortions. It implies that the one with deeper resources (e.g., financial, strategic, analytical) will prevail.
Scenario 2	Both, the incumbent and the entrant will work for social optimal. It implies that they would minimize distortions (i.e., dead-weight) and maximise joint profit.
Scenario 3	The distortions (i.e., dead-weight) will continue for several periods, as a result of conflict between the incumbent and the entrant

Regulatory intervention for welfare improvement depends on several considerations. Table 2 presents an illustration in a 4-dimensional space.[3]

Table 2: Considerations in Regulatory intervention for welfare improvement

Dimension 4: Reallocation considerations Pareto improvement (i.e., improving surplus of at least one, without making anyone worse off) Efficiency-Equity trade-off Pro-innovation consideration Social-outcome consideration	Dimension 1: Cost-benefit trade-off Regulatory capture vs. welfare gains (i.e., the (opportunity) cost/rent of provisioning intervention should not exceed welfare gains)
Dimension 3: Strategies Forbearance De-regulation Ex-post regulation	Dimension 2: Economic principles Maximalist (i.e., welfare of the largest number) Minimalist (i.e., welfare of the worst off) Marginalist (i.e., marginal monetary worth of each welfare is equal for each individual and for each service)

[2] For example, in Germany, Amazon came under scrutiny from the Bundeskartellamt (Federal Cartel Office, Germany) in 2018 after several sellers on the online platform alleged that the liability provisions were to their disadvantage, along with rules on product reviews, non-transparent termination and blocking of sellers' accounts, and withholding or delaying payments (OECD, 2020). In India, the CCI has pursued multiple cases against the Google for 'abusing its dominant position' (Kathuria, 2021). In 2019, it was accused of forcing smartphone manufacturers to exclusively preinstall Google Mobile Suit and bundle several Google services.

[3] The dimensions and the corresponding attributes illustrative, not exhaustive.

Notes: For a detailed discussion see (Dimension 1) Levine and Forrence (1990) Laffont and Tirole (1991); (Dimension 2) Varian (1992, 2014); (Dimension 3) Kolstad, Ulen and Johnson (1990) Shughart (2001); (Dimension 4) Varian (1992), Correia (1999) Andersen and Maibom (2020), Matcalfe and Ramlogan (2005), Vandenbergh, Carrico and Bressman (2010).

Regulatory intervention is often a complex and non-convergent process., which makes optimal regulation an elusive construct. For any intervention strategy the regulator deploys (please refer to Dimension 3 in Table 2 below), several viable alternatives exist in other dimensions. Theoretical analysis may not be sufficient to identify the appropriate regulatory intervention in any situation, because this is often an empirical question. Addressing this question poses major challenges, since it is not possible to observe all possible welfare scenarios. . For example, if a regulator chooses ex-ante regulation for a given choice in the other three dimensions (actual welfare scenario), it is not possible to observe the welfare scenario that might have ensued if it had instead opted for forbearance (counterfactual welfare scenario). An account of the actual welfare scenario relative to the counterfactual welfare scenario will give all-important direction on the dominant choice set for regulatory intervention.

In this paper, we attempt to shed light on balancing competition regulations (i.e., finding the dominant strategy for a given cost-benefit trade-off, economic principle and reallocation consideration) using four case studies in the Indian market. These cases include:

- Telecom Regulatory Authority of India (TRAI) vs Competition Commission of India (CCI) in Telecommunication (telecom) significant market power (SMP)
- E-retail consumer protection regulation and CCI action
- Proposed regulation of communication Over-the-top services (OTT) and calls for Video on demand (VoD) regulation
- CCI investigation of WhatsApp

In order to evaluate these cases, we conducted an expert survey. The survey adopts a subjective welfare gain approach. Each respondent was asked to assign a weight to alternate regulatory stances on a scale of 1-10, with the base case as a score of five for the regulator's stance. We took due care in discussing the cases and welfare construct with the respondents, and used a battery of aggregation methods and statistical tests to ensure an unbiased inference of the survey.

On aggregate, the survey findings converge with the regulator's stance for each case, even though there are several individual instances of departure from the regulator's stances. We have identified four key takeaways from these findings. First, balancing the different forms of competition regulation will face considerable headwind in getting all the relevant stakeholders on the line, even when there is sufficient support for the adopted stance on average. Second, balancing between ex-ante and ex-post regulation has elements that intersect both sectoral and general market environment regulators. In such cases, promoting synergy between the regulators may be an optimal approach from a welfare standpoint. Third, forbearance is an optimal approach for emerging markets, while de-regulation is an optimal regulatory stance for mature markets that are competitive. Fourth, ex-post regulation can optimally take care of the markets that do not have sectoral regulators

These findings provide a framework for analyzing future demands for competition regulation in digital markets, and aid regulators and policymakers in identifying the best approach for the market.

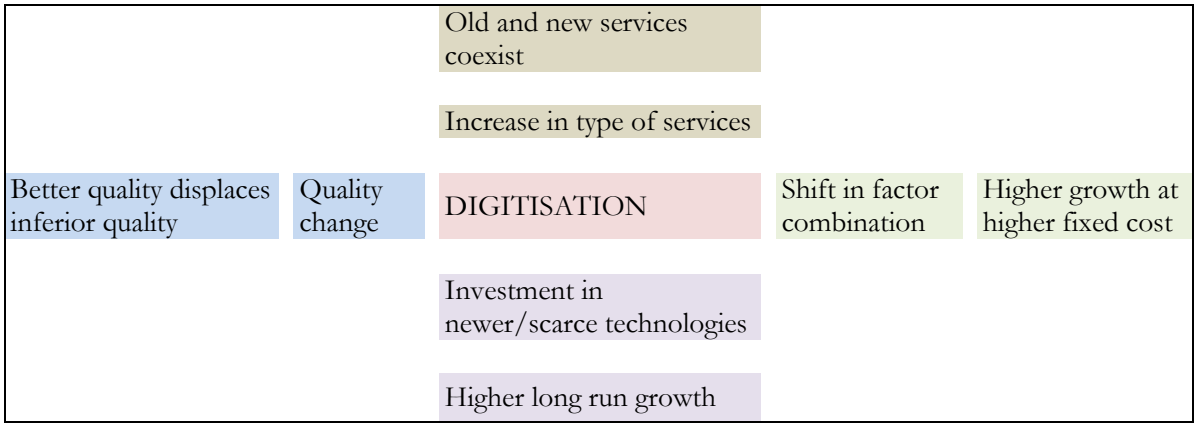
2. Stylized observations in Economic Literature

Modern economic literature offers several stylized observations that are pertinent to digitisation, and the consequent growth prospects and market structure (Barro and Sala-i-Martin, 2004; Jorgenson and Timmer, 2011).

- Digitisation changes the optimal factor mix for service delivery by shifting the relative factor prices. The income effect of this relative prices shift provides an escape from the diminishing returns to factors (by reducing the marginal cost of service delivery), and thus enables growth in the long run. The substitution effect dictates the replacement of a factor by another factor. This entails a considerable fixed (and adjustment) cost.
- There are several distinct episodes of factor substitution in recent times. However, there is a typical attribution problem in linking the underlying substitution to a given level of digitisation. For example, there may be several technological interfaces (e.g., assembly line production, 4G-network and blockchain) at play for an industry of a country at any given time, which may be at different stages of diffusion and thus, each having different patterns of inter- or intra-substitution.
- If digitisation leads to increase in the types of services, both old and new services coexist. In contrast, with digitisation leading to improvements in the quality-of-service delivery, the quality-improved new service tends to displace the old one leading to creative destruction or business-stealing effect.
- Investment in scarce resources (i.e., higher end digitisation) lead to higher long run growth.

Figure 2 depicts these stylized observations. These stylized observations offer an important yardstick to assess the cases we discuss in the following section.

Figure 2: Stylized Observations pertinent to digitisation of activities



3. Regulatory Intervention Choices and Examples

Responses from policymakers to address competition challenges are broadly classified into four categories:

- De-regulation: Deregulation is removal or reduction of regulatory burdens on market players. The abolishment of industrial licensing norms in 1991 is an example of de-regulation.
- Forbearance: Forbearance refers to a situation when regulators opt to not intervene or impose regulations on market players. Typically, regulatory forbearance is adopted for a nascent industry, so that market players

are not overburdened with regulations that stifle their growth. Illustratively, while dismissing a complaint against Flipkart for abusing its dominant position in 2018, the CCI observed that the marketplace-based e-commerce model is still a relatively nascent model for retail distribution in India. [4] It recognized the growth potential, efficiencies and consumer benefits that such markets can provide and opined that any intervention in such markets must be carefully crafted lest it stifles innovation.[5]

- Ex-ante regulation: Ex-ante regulation aims to identify areas that require regulatory interventions beforehand, and mandates market players to act in a certain way. Such regulations may contain specific actions that market participants should adopt in order to achieve desired outcomes. For instance, India's Foreign Direct Investment (FDI) Policy for E-Commerce, that seeks to disallow foreign investment in inventory-based model of e-commerce, lays down a set of conditions to be followed by entities having foreign investments. These conditions include restriction to (a) not influence prices of goods sold on their platform, and (b) not exercise control or ownership over the inventory i.e. goods purported to be sold.
- Ex-post regulation: In contrast to ex-ante regulations, ex-post regulations detail the situations that the regulators want to avoid. Instead of setting out predetermined set of rules, ex-post regulatory action takes place once a market failure or distortion occurs. India's competition law framework adopts an ex-post regulatory approach to determine any appreciable effect on competition of an action adopted by a market participant.

4. Case Studies

4.1. TRAI vs CCI in Telecommunications Sector

Reliance Jio Infocomm Limited (Reliance Jio), an entrant into the telecom market in 2016, filed a complaint with the CCI alleging cartelisation and abuse of dominance by Airtel, Vodafone and Idea (the incumbent dominant operators – IDOs) and the Cellular Operators Association of India (COAI) in violation of Sections 3 and 4 of the Competition Act, 2002 (Competition Act). The CCI found a prima facie case of cartelisation by the IDOs and the COAI (Prima Facie Order). [6]Thereafter, investigation commenced, and the CCI issued notices to the parties.

The IDOs and the COAI filed writ petitions before the Bombay High Court, for quashing of the Prima Facie order on the grounds that the CCI did not have jurisdiction considering that the TRAI being a sector regulator has already seized of the matter. The Bombay High Court set aside the Prima Facie Order vide its judgment dated 21 September 2017 (Impugned Order), observing that the TRAI, being the sectoral regulator, has the technical expertise to deal with and decide the issues in the telecom sector. It was also held that the Prima Facie Order is not an administrative order, and the CCI ought to have waited for the final decision of the TRAI, before arriving at prima facie finding of anti-competitive conduct. [7]

The Impugned Order was challenged before the Supreme Court, by the CCI and Reliance Jio. The Supreme Court dismissed these appeals while largely affirming the findings of the Impugned Order. The central issue before the Supreme Court was whether CCI had the jurisdiction to probe into the allegations of cartelisation by IDOs and COAI. The Supreme Court noted that the CCI has exclusive jurisdiction to adjudicate upon issues governed by the Competition Act, whereas the current issue is a technical issue that TRAI is best-suited

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[4] In Re: *All India Online Vendors' Association v Flipkart India Pvt. Ltd and Flipkart Internet Private Ltd.*, Case No. 20 of 2018 [34], accessible at: https://www.cci.gov.in/sites/default/files/20-of-2018.pdf

[5] Ibid.

[6] Case No. 81 of 2016 and Case No. 83 of 2016.

[7] *Vodafone India Limited v the Competition Commission of India*, WP(C) 8594/2017, accessible at: https://indiankanoon.org/doc/25856636/

to consider. However, it clarified that once TRAI *prima facie* finds that the IDOs engaged in anti-competitive conduct, the CCI can investigate the matter under the Competition Act. [8] Thus, CCI's jurisdiction is not barred in such cases, but simply pushed to a later stage.

4.2. E-retail Consumer Protection Regulation and CCI Action

In June 2021, the Department of Consumer Affairs under the Ministry of Consumer Affairs, Food and Public Distribution released amendments to the Consumer Protection (e-Commerce) Rules, 2020 (Rules) for public comments (the Draft amendments). [9]The Draft amendments seek to impose stricter conditions on e-commerce entities by revising the Rules which were notified in July, 2020.

Among other things, the Draft amendments prohibit e-commerce marketplaces to use any information collected through their platform for the unfair advantage of their related parties. However, the term "unfair advantage" is undefined under the Consumer Protection Act, 2019 or associated rules. Further, the Draft amendments do not provide any clarity on the parameters that may be used to determine any unfair conduct.

The Draft amendments also provide that e-commerce entities must not abuse their dominant position. While such restrictions exist under India's Competition Act, the need to reiterate the antitrust principle under the Draft amendments remains unclear. That said, insertion of such a provision indicates that the Central Consumer Protection Authority may be vested with the power to investigate the dominance of an e-commerce entity, a power that is not envisaged under the Consumer Protection Act, 2019. It is worth noting that investigating anti-competitive conduct is a complex procedure based on considering various legal and factual aspects, and undertaken by specialised bodies with expertise like CCI. The CCI is already conducting an investigation against e-commerce players such as Flipkart and Amazon for allegedly abusing their dominant position in India. It is also looking into complaints against these companies alleging preferential treatment to certain sellers.

While both the Consumer Protection Act and the Competition Act seek to promote consumer welfare, but they do so from distinct perspective. The Consumer Protection Act falls in the category of ex-ante regulation which provides specific rules on areas such as misleading advertisement, defect in goods, and deficiency of services. In contrast, the Competition Act adopts an ex-post approach wherein a conduct is analysed basis the potential efficiencies and consumer benefit. Therefore, the Draft amendments raise questions regarding use of ex ante regulation to govern certain market conduct, as it prejudges the impact of such conduct on consumer welfare.

4.3. Proposed Regulation of Communication OTT and Calls for VoD Regulation

In 2018, the TRAI released a consultation paper on the regulation of internet-enabled communication services in India. [10] The consultation was restricted to services that are directly comparable to those provided by telecom service providers, such as calling and messaging. The consultation invited stakeholder comments on three key themes:

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[8] *Competition Commission of India v Bharti Airtel Limited and Ors.*, CA No.(s) 11843/2018, accessible at: https://main.sci.gov.in/supremecourt/2017/40072/40072_2017_Judgement_05-Dec-2018.pdf

[9] Proposed amendments to the Consumer Protection (E-Commerce) Rules, 2020, accessible at: https://consumeraffairs.nic.in/sites/default/files/file-uploads/latestnews/Comments_eCommerce_Rules2020.pdf

[10] TRAI Consultation Paper on Regulatory Framework for Over-the-Top (OTT) Communication Services (2018), accessible at: https://www.trai.gov.in/sites/default/files/CPOTT12112018_0.pdf

- Should the regulation of communication services be based on the functions they serve or should they be based on other considerations?
- Whether there is a licensing and regulatory imbalance between OTT communications and telecom service providers and if these impact investments in communications infrastructure?
- Whether there is a need to mandate interoperability, lawful interception of OTT communications and access to emergency services?

Telecom Service Providers (TSPs) had been calling for regulation of OTT communication services on the grounds of 'same service same rules'. They argued that since OTT communication service providers offer the same services as they do, they should be subject to the same licensing and regulatory obligations. These claims were supported by evidence showing that users have substituted their use of TSP services for voice calling and messaging with OTT services, and TSP revenues from these services have declined greatly. In the Recommendations released in 2020, TRAI observed that while TSP's revenues from voice and SMS services have fallen, their revenues from data services have increased. In the consultation, many stakeholders pointed out that there is intense price competition among TSPs and they are required to pay onerous licensing fees and taxes. They recommended that relaxing these licensing and tax requirements may be more beneficial to TSPs than imposing equivalent regulation on OTT service providers. A few such relaxations have been granted by the DoT in 2021. TRAI also decided to postpone any action on the questions of regulating OTT services to address security and privacy issues and to develop a regulatory framework for OTT services.

In its recommendations following the consultation, TRAI stated that it preferred to leave the market unregulated as the best practices for the business models were still evolving and other countries and the International Telecommunications Union (ITU) was still deliberating upon an optimal business model for the sector. TRAI said that it will continue to monitor the developments in the market and take necessary action as and when required. However, the regulator did not express any support for the contentions of stakeholders pointing out the differences between OTT communications services and TSPs - such as the use of different technologies, different business models and different competitive pressures. This does not preclude regulatory interventions in the future.

There have been similar calls for regulation for OTT service providers by the cable industry. In fact, similar calls for regulation may arise for fintech platforms by banks and in other industries.

It is important for regulatory interventions to take cognisance of the differences in the way that industries operate to ensure that regulatory interventions do not impede market development.

4.4. CCI Investigation of WhatsApp

CCI has started a suo motu investigation into a change in WhatsApp's privacy policy. [11]The change to the privacy policy allows WhatsApp to share the data that it collects on its users with parent company Facebook (now Meta). CCI has noted that WhatsApp is a dominant entity in the market for messaging apps in India, and does not offer users an option to "opt out" of accepting the terms of the policy. The current investigation seeks to determine if this constitutes an abuse of dominance in the market for messaging services.

WhatsApp challenged the investigation in the Delhi High Court, claiming that CCI is not empowered to investigate the change in WhatsApp's privacy policy because data protection is a subject to the provisions of the IT Act. It cited the Supreme Court's decision in the Bharti Airtel case, where the court said that the CCI should halt its investigation because the TRAI was investigating the same case. However, the CCI claims that

[11] *In Re: Updated Terms of Service and Privacy Policy for WhatsApp Users*, S.M. Case No. 01 of 2021, accessible at: https://www.cci.gov.in/sites/default/files/SM01of2021_0.pdf

this investigation is distinguished from the Bharti Airtel case because there is no sectoral regulator currently investigating this issue. WhatsApp's petition was dismissed by the Single Bench of the Delhi High Court, and is currently pending before the Division Bench. [12]

This claim is relevant because the case is being discussed against the backdrop of the drafting of India's data protection legislation. The Data Protection Bill, 2021, envisages the formation of a Data Protection Authority (DPA), a sectoral regulator tasked with enforcing data storage and data protection norms in India. The Committee of Experts under the chairmanship of Justice (Retd.) B.N. Srikrishna, which was tasked with the creation of a comprehensive framework for data protection, recommended a consent-based framework as the primary basis for the collection of personal data.[13] Therefore, the Data Protection Bill mandates informed consent in order to collect and process personal data. Clause 7 of the Bill requires data fiduciary (i.e., the entity collecting personal data) to give notice, at the time of collection of personal data to data principal (individual to whom the data relates). The notice among things should provide purpose for collecting/processing data, and name of individuals or entities with whom such personal data may be shared. Notably, the Bill do not restrict data fiduciaries from sharing personal data with other entities, albeit with informed consent of data principal.

Several commentators have argued that privacy and competition laws have distinct aims and objectives. [14]Competition law seeks to ensure free and fair competition in the market by sanctioning anticompetitive conduct of an entity in the relevant market. Privacy laws, on the other hand, aim to safeguard a person's right to protection of personal data without restricting its free and legitimate movement in the economy. That said, increasingly the competition regulations are overlapping with sectoral regulations like data privacy necessitating the need for judicial intervention. For instance, in Asnef-Equifaxv. Asociación de Usuarios de Servicios Bancarios, the European Court of Justice (CJEU) held that issues relating to sensitivity of personal data are not within the ambit of competition laws. [15]

However, in India there is still uncertainty as to what will happen if the data protection legislation is passed and the DPA is instituted.

There are a few considerations here: 1. In case there is a market failure that ex ante sectoral regulation does not address, then is it fair for the competition authority to address it? 2. If ex ante regulation outlaws a certain behaviour but does not enforce it - then is it ok for the competition regulator to address this? Competition law is always ex-post (in cases of abuse of dominance) and company specific.

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[12] PTI, "Del HC Grants More Time to Facebook, WhatsApp to Respond to CCI in Privacy Matter", The Print, 03 January 2022, accessible at: https://theprint.in/judiciary/delhi-hc-grants-more-time-to-facebook-whatsapp-to-respond-to-cci-in-privacy-policy-matter/793997/

[13] A Free and Fair Digital Economy Protecting Privacy, Empowering Indians, Committee of Experts under the Chairmanship of Justice B.N. Srikrishna, available at https://www.meity.gov.in/writereaddata/files/Data_Protection_Committee_Report.pdf

[14] Marco Botta and Klaus Wiedemann, "The Interaction of EU Competition, Consumer and Data Protection Law in the Digital Economy: The Regulatory Dilemma in the Facebook Odyssey", 64(3)ANTITRUST BULLETIN (2019), accessible at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3462983

[15]Case C-238/05 (2006), accessible at:

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62005CJ0238&from=EN

Table 3: Summary of Cases

Case Study	Market Transition	Themes discussed	Remarks
TRAI vs CCI in Telecommunica-tions Sector	Telecom industry moving from 3G to 4G	Ex ante vs ex post determination of competition construct	CCI action only possible against specific firms at certain times, ex ante better Systemic market failure - hence ex ante but there are caveats
E-retail consumer protection regulation and CCI action	Traditional retail business models disrupted by e-commerce	Ex ante regulator and the CCI are both concomitantly pursuing the same objective without conflict, but also without consultation	Many practices outlawed simply to reduce efficiency such as discounting - so that traditional can compete with digital Market failure of information asymmetry and market power addressed by consumer protection regulation but there are some restrictions which are not about any of these and only exist to protect physical retailers
Proposed regulation of Communication OTTs and calls for VoD regulation	Regular calls to VoIP, SMS to online messaging	Incumbents proposing to create regulatory barrier for digital entrant	Risk of regulatory capture and using regulation to bar entry as a tool. Can use the specific example of COAI softening its stance in the OTT consultation if we find evidence. No market failure - no regulation
CCI investigation of WhatsApp	Change in privacy policy of a messaging platform	Suo motu investigation, because there is no data protection law yet	Coordinated action in public interest - but how sustainable after DPA is formed? Is this a systemic market failure or case specific? CCI firm specific - cannot persecute smaller firm for similar action. Even after ex ante regulation is instated, it can intervene.

5. Expert Survey

5.1. Survey Design

For any given regulatory stance (i.e., ex-ante regulation, forbearance, de-regulation or ex-post regulation), the other scenarios are unobservable. This makes a complete assessment of welfare gain elusive. For example, it remains unclear whether forbearance may have resulted in larger welfare gain, when the regulator actually chose ex-ante regulation. We were prompted to conduct an expert survey to associate a welfare value to each of the cases against these stances, drawing on their knowledge and perception of the corresponding legal and institutional developments.

The expert-survey consisted of 23 respondents, with expertise in legal and technology research. To resolve ambiguity that may arise due to differences in the exposure to the cases and the welfare construct, we clearly

explained the questionnaire to the respondents with the key constructs as outlined in Table 4. Specifically, we take special care in pursuing respondents to assign a (subjective) quantitative value to welfare gains, as it makes our framework tractable.

Table 4: Key Constructs of the Survey Questionnaire

Brief on each case prior to asking questions on that case. Additionally, we discussed cases with respondents where they sought more clarity.
Ideal welfare scenario (definition): the scenario when nobody can be made better-off, without making somebody else worse off.
Benchmark for assigning welfare value (for each case): Assume that the regulatory stance is tilted toward "X", resulting in 5 units of welfare improvement, how much welfare improvement would have ensued if the regulator had chosen other stances [Scale: 0 (Min) - 10 (Max)]

We are cautious of the fact that the results so derived may benefit for having a greater number of respondents. Additionally, we are cautious of the fact that in an expert survey, a hypothetical bias may systematically influence the responses. Hypothetical bias is the difference between what a respondent indicates of doing in the survey with reference to a hypothetical state and what she actually does (Loomis, 2014). In such a situation, alternate ways of aggregating survey responses are noted to take care of these biases considerably (Loomis, 2014). However, this research offers a substantive directional lead in understanding the balance between different regulatory stances while offering a framework for more substantive investigations.

We report the results from the survey using five different aggregation methods in the following section.

5.2. Survey Results

The respondents record their welfare assessment on a scale of 1 – 10 for each case and regulatory stance mix, with the base case as five units of welfare improvement under existing regulatory stance. We use five aggregation methods to analyse these responses for each case.

Method 1 (M1): Central Tendency (Mean) – This method uses mean value of responses for each regulatory stance. Then, it ranks mean regulatory stances, from the highest to the lowest.

Method 2 (M2): Central Tendency (Median) – This method uses median value of responses for each regulatory stance. Then, it ranks median regulatory stances, from the highest to the lowest.

Method 3 (M3): Mean Rank Aggregation – This method first ranks the responses on regulatory stances for each respondent. Then, it takes the mean and re-ranks them, from the lowest to the highest.

Method 4 (M4): Median Rank Aggregation – This method first ranks the response on regulatory stances for each respondent. Then, it takes the median and re-ranks them, from the lowest to the highest.

Method 5 (M5): Lexicographic ranking – This method first ranks the response on regulatory stances for each respondent. Then, it computes frequency of these ranks over all respondents for that case. Finally, it uses a two-pronged approach to re-rank regulatory stances. (A) Assign a regulatory stance rank 1 if it has the highest frequency of rank 1. (B) If two (or more) regulatory stances have same frequency of rank 1, give them equal rank.[16]

[16] This aggregation method (with some changes) is used to rank to countries in the Olympics.

Table 5: Rankings using Alternate Methods of Aggregation

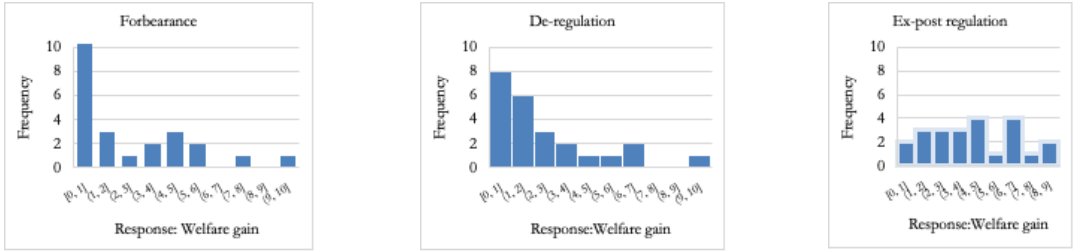
	Forbearance	Deregulation	Ex-ante Regulation	Ex-post Regulation
M1: Central Tendency (Mean)				
Case 1	4	3	1	2
Case 2	3	4	2	1
Case 3	1	3	4	2
Case 4	3	4	2	1
M2: Central Tendency (Median)				
Case 1	3	3	1	2
Case 2	3	3	2	1
Case 3	1	2	4	2
Case 4	3	4	2	1
M3: Mean Rank Aggregation				
Case 1	3	4	1	2
Case 2	3	4	2	1
Case 3	1	3	4	2
Case 4	3	4	2	1
M4: Median Rank Aggregation				
Case 1	3	3	1	2
Case 2	3	3	1	1
Case 3	1	2	4	2
Case 4	3	3	1	1
M5: Lexicographic ranking				
Case 1	3	3	1	2
Case 2	3	4	2	1
Case 3	1	2	4	3
Case 4	3	4	2	1

Notes: Values highlighted in red cells indicate regulator's stance for each case.

Table 5 presents the survey results. It suggests that the experts' preferences match the regulators' stance in all the four cases and across all the five methods of aggregation. To ensure that this result is statistically robust, we performed a battery of tests on the means, median and ranks (i.e., t-test, Wilcoxon rank-sum test and Kruskal-Wallis rank test).[17] Results from each of these tests suggest that experts' preferred regulatory stances (which are also regulator's stances) are statistically dominant.

It is important to note that the survey results converge with the regulatory stances on aggregate, while several instances of divergence remain at the individual respondent level. Figure 3, as an illustration, presents histogram for responses for case 1.[18] It suggests that out of the 23 experts, four each believe that forbearance and de-regulation, and eight believe that ex-post regulation will lead to *greater* welfare gains than in case of ex-ante regulation. Put differently, out of the 23 experts, seven believe that forbearance, five believe that de-regulation and 12 believe that ex-post regulation will lead to *at least as much* (i.e., equal or greater) welfare gains as in case of ex-ante regulation.

Figure 3: Histogram: Responses for Case 1



Overall, the results suggest that while regulatory stances in each of the four cases reflect experts' preferred perception to welfare, a unanimous take on these stances is indiscernible. This implies that balancing the

[17] The test results are omitted to save space. They can be furnished on request.

[18] Illustrations for other cases are omitted to save space. They can be furnished on request.

different forms of competition regulation will face considerable headwinds in getting all the relevant stakeholders to agree, even when there is sufficient support for the adopted stance on average.

6. Discussion and Conclusion

This paper attempts to offer a framework to balance different forms of competition regulation. It dwells at the intersection of (A) different aspects of technology adoption/evolution and its effect on businesses, (B) core economic principles that govern attribution of costs and benefits and lead to strategic behavior between firms, which at times, lead to 'unfair playing field', and (C) regulatory stances in dealing with the inherent conflicts as a consequence of (A) and (B). Additionally, this paper deep dives into the complex construct of regulatory architecture, which in principle, is beset with multiplicity of stances to choose from. This implies that the welfare effect of the chosen regulatory stance is unclear, as the counterfactual to the chosen regulatory stance is unobservable. Consequently, we conduct an expert survey for a holistic account of chosen regulatory stances as well as the counterfactual regulatory stances, with four recent cases in the Indian context.

The expert survey results, on aggregate, converge with the regulator's stance for each case, even though there are several individual instances of departure from the regulator's stances. This is an important result (bringing together regulatory and experts' support for an optimal regulatory stance) in the context of the four cases we discuss. Four key observations emerge (see Table 6).

1. Technological evolution is bound to have asymmetric effects on businesses. Often, this involves a non-trivial forgone cost to the incumbent, who in turn, has acquired considerable strategic assets. Exercise of strategies for minimising these costs and maximising returns from strategic assets leads to conflicts between business. So, a need for competition regulation is likely to have positive correlation with technological evolution.

2. Need for balancing between ex-ante and ex-post regulation has elements that intersect both the sectoral (e.g., TRAI, and data privacy) and the general market environment regulator (e.g., CCI). The outcome in such cases, tends to promote a synergy between the regulators, which seems to be an optimal approach from welfare standpoint. In Case 1 (TRAI vs CCI in Telecommunications Sector), for example, experts' scores for these two regulatory stances are in close proximity (on average, 5 and 4.7 respectively), indicating considerable intersection and a need for synergy.

3. Ex-post regulation can optimally take care of the markets that do not have sectoral regulators or in cases that pertain to general economic environment. In Case 2 and Case 4 (E-retail consumer protection regulation and CCI action; CCI investigation of WhatsApp), for example, ex-post regulation is the modal response of experts (i.e., most sought after), indicating suitability of this regulatory stance in cases that pertain to general economic environment and in markets with no sectoral regulators. India's Competition Act contains provisions that allow the CCI to intervene if it believes that anti-competitive conduct is about to be committed. During the course of an inquiry, CCI has the power to issue interim orders restraining parties from carrying on any act, if it believes that this will lead to an agreement or combination with appreciable adverse effects on competition, or abuse of dominance. [19] There is precedent regarding the use of this power in digital markets. In 2021, CCI issued an interim order directing MakeMyTrip India Pvt. Ltd and Ibibo Group Pvt. Ltd. to relist the properties of FabHotels and Treebo on their respective portals.[20] In the order, CCI noted that its power to issue interim orders must be interpreted in the context of the markets concerned, particularly digital markets.

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[19] Section 33, Competition Act 2002.

[20] *In Re: Federation of Hotel and Restaurant Associations of India and Casa2 Stays Pvt. Ltd. v MakeMyTrip India Pvt. Ltd. and Ors.*, Case No. 14 of 2019 and Case No. 01 of 2020, accessible at: http://cci.gov.in/sites/default/files/Interim_Order_14-of-2019and01-of-2020.pdf

Since the function of competition authorities cuts across sectors, it is important to create an architecture that facilitates constant consultations and co-ordination between CCI and the sectoral regulators, for greater harmony in enforcing their respective mandates. In this regard, measures taken by jurisdiction such as the United Kingdom (UK), and Australia provides a necessary guidance. UK's Enterprise and Reform Act, 2013 explicitly spells out mechanism in case of concurrent jurisdiction between regulators.[21] It enhances leadership role of the Competition and Market Authority (CMA – UK's competition regulator), and calls for consultation with relevant sectoral regulators, to decide which regulator will exercise jurisdiction. In pursuance of the Act, CMA and Office of Communications (Ofcom – UK's Communication regulator) inked a Memorandum of Understanding (MOU) setting out the working arrangement between the two regulators.[22] Similarly, Australian Competition and Consumer Commission, and Reserve Bank of Australia have also created a formal working arrangement for policy coordination and information sharing in respect of payments system.[23]

4. For emerging markets that are yet to reveal their steady state, any form of regulation may hinder the growth of the market players and may lead to overall welfare loss. Therefore, forbearance is an optimal approach in such markets. In Case 3 (Proposed Regulation of Communication OTT and Calls for VoD Regulation), for example, regulatory forbearance is the modal response of experts (i.e., most sought after), indicating suitability of this regulatory stance in the market growth phase.

In fact, forbearance as a strategy has been adopted in several jurisdictions where an economic turbulence derails the market players from their steady state path. Chari, Jain and Kulkarni (2021) discuss forbearance as a key regulatory stance in the context of the Global Financial Crisis, while Edwards (2021) discuss how regulatory forbearance played a key role in the response to COVID.

5. Mature markets that are competitive, have strong market forces to course-correct anti-competitive practices. De-regulation is an optimal regulatory stance for such markets. For example, several Asian countries deregulated their telecom and power sectors in the 1990s, resulting in rapid growth of the sector to the extent that some of these countries were able to catch up with the West in a short span of time.[24]

Table 6: Balancing Different forms of Competition Regulation

Market condition	Optimal regulatory stance
Emerging market	Forbearance
Mature market with sectoral regulators (with few players – Oligopolistic setup)	Ex-ante regulation (as a standard of precautionary effort) + Ex-post regulation (commensurate with the harm level)
Markets with no sectoral regulators or cases that pertain to general economic environment	Ex-post regulation
Mature market with/without sectoral regulators (with many players – Competitive setup)	De-regulation

[21] United Kingdom, Enterprise and Regulatory Reform Act, 2013; available at http://www.legislation.gov.uk/ukpga/2013/24/pdfs/ukpga_20130024_en.pdf

[22] Memorandum of Understanding between Competition and Markets Authority and Office of Communications – concurrent competition powers; available at https://www.ofcom.org.uk/__data/assets/pdf_file/0021/83523/cma_and_ofcom_mou_on_use_of_concurrent_consumer_powers_webversion.pdf

[23] Memorandum of Understanding, Australian Competition and Consumer Commission and Reserve Bank of Australia, dated September 8, 2018; available at https://www.rba.gov.au/media-releases/1998/pdf/jmr-98-accc-rba-mou.pdf

[24] See Umali (2002) and Ni et al. (2005) for a detailed discussion.

References

Andersen, TM and Maibom, J (2020). The big trade-off between efficiency and equity- is it there? *Oxford Economic Papers*, 72(2), 391-411.

Arkes, HR and Blumer, C (1985). The psychology of sunk cost. *Organizational Behavior and Human Decision Processes*, 35(1), 124-140.

Barro, R., & Sala-i-Martin, X. (2004). Economic Growth (2nd edition). Cambridge: MIT Press.

Chari, A, Jain, L and Kulkarni, N (2021). The Unholy Trinity: Regulatory Forbearance, Stressed Banks and Zombie Firms (No. w28435). National Bureau of Economic Research.

Correia, IH (1999). On the efficiency and equity trade-off. *Journal of Monetary Economics*, 44(3), 581-603.

Edwards, S (2021). Macroprudential Policies and The Covid-19 Pandemic: Risks and Challenges for Emerging Markets (No. w29441). National Bureau of Economic Research.

Jorgenson, DW and Timmer, MP (2011). Structural change in advanced nations: A new set of stylised facts. *Scandinavian Journal of Economics*, 113(1), 1-29.

Kahneman, D, Knetsch, JL and Thaler, RH (1990). Experimental tests of the endowment effect and the Coase theorem. *Journal of Political Economy*, 98(6), 1325-1348.

Kolstad, CD, Ulen, TS and Johnson, GV (1990). Ex post liability for harm vs. ex ante safety regulation: substitutes or complements? *American Economic Review*, 888-901.

Laffont, JJ and Tirole, J (1991). The politics of government decision-making: A theory of regulatory capture. *Quarterly Journal of Economics*, 106(4), 1089-1127.

Levine, ME and Forrence, JL (1990). Regulatory capture, public interest, and the public agenda: Toward a synthesis. *Journal of Law, Economics and Organization*, 6, 167-198.

Loomis, J (2014). 2013 WAEA keynote address: Strategies for overcoming hypothetical bias in stated preference surveys. *Journal of Agricultural and Resource Economics*, 34-46.

Metcalfe, JS and Ramlogan, R (2005). Competition and the regulation of economic development. *Quarterly Review of Economics and Finance*, 45(2-3), 215-235.

Ni, Y, Zhong, J and Liu, H (2005). Deregulation of power systems in Asia: Special consideration in developing countries. IEEE Power Engineering Society General Meeting, 3, 2876-2881.

Shughart, WF (2001). The Reformer's Dilemma. In *Efficient Rent-Seeking* (pp. 357-360). Boston: Springer.

Thaler, R (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization*, 1(1), 39-60.

Umali, CL (2002). Asian telecommunications: market deregulation and competition. *International Journal of Management and Decision Making*, 3(3-4), 256-279.

Vandenbergh, MP, Carrico, AR and Bressman, LS (2010). Regulation in the behavioral era. *Minnesota Law Review*, 95, 715.

Varian, HR (1992). *Microeconomic Analysis* (3rd edition). New York: Norton & Company.

Varian, HR (2014). *Intermediate Microeconomics: A Modern Approach* (9th edition). New York: Norton & Company.