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A research on regulatory framework and tax for digital platform business

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Abstract: The control of data by a select few digital platforms and their ability to analyse and action the insights therein fuels more profound rivalries in the ecosystem. While developed countries are better equipped to deal with the challenges of digital platforms, compared with the developing ones, this paper analyses critical factors of growing economies riding on the success of its platform businesses – USA, EU, China, and India. How do they cope with the surge in sophisticated and interconnected digital innovation across businesses? Is India future-ready to pose a serious competition to the business superpowers of the world? The paper studies the cause and effect of the above questions through some of the prominent influences in the nation, such as the status of its platform economy, tax policies, political power, data protectionism, and regulatory framework, that are contributing to creating a comprehensive framework for digital platforms to compete at par with the global players.

Keywords: regulatory framework; digital platform economy; tax policy; digital platform economy; data localisation; data protectionism; general data protection regulation; GDPR; digital payment platform.

JEL codes: L10, O38, P51.

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1 Introduction

“Data is the new oil” (Hyrnsalmi et al., 2018). Just like oil, the potential of data is realised only when it is harnessed. The rise of digital platforms, backed by processed data and actionable insights, has made the harnessing of the treasure called data possible.

Digital platforms are increasingly important in the world economy. Few of the global digital platforms have edged away from the rest to capture a leading position in the market, bordering on monopoly. All digital platforms valued at over \$100 million of market capitalisation alone grew to \$7 trillion in 2017, up 67% from 2015. Google, for example, has captured nearly 90% of the search engine prompts. Social networking platform Facebook has about two-thirds of the global social networking market and features as the top-performing in the space in over 90% of the world economies. Amazon inhabits almost 40% of the global online retail market, with its web services accounting for a similar share in cloud infrastructure services (UNCTAD, 2019).

In China, WeChat (owned by Tencent) has more than one billion active users, and, together with Alipay (Alibaba), its payment solution has captured virtually the entire Chinese market for mobile payments. Meanwhile, Alibaba has been estimated to have close to 60% of the Chinese e-commerce market (UNCTAD, 2019).

At present, the world is characterised by a yawning gap between the under-connected and hyper-digitalised countries. It is consistently being led by one developed and one developing country: the USA and China. The two countries account for 75% of all patents related to blockchain technologies, 50% of global spending on IoT, and more than 75% of the world market for public cloud computing. Moreover, perhaps most strikingly, they account for 90% of the market capitalisation value of the world’s 70 most influential digital platforms. Europe’s share is 4% and Africa and Latin America’s together is only 1%. Seven ‘super platforms’ – Microsoft, followed by Apple, Amazon, Google, Facebook, Tencent and Alibaba – account for two-thirds of the total market value. Thus, in many digital technological developments, the rest of the world, especially Africa and Latin America, are trailing considerably far behind the USA and China. (UNCTAD, 2019)

Data is the new driver of economies across the world. It has become imperative in today’s world to collect, store, and analyse data strategically to gain a competitive advantage in a high ecosystem. Data powers the emerging technologies, and it is data that renders digital tools such as AI, blockchain, IoT, cloud computing, and all other internet-based services intelligent.

The dominance of global digital platforms, their control of data, and their capacity to create and capture the ensuing value tend further to accentuate concentration and consolidation of the data power rather than reduce inequalities between and within countries. Hence is creating a problem of ownership and control over data – in short, who owns the data.

Thus, this research aims to analyse the propensity of India as an economy to emerge as an essential economy that can threaten the developed economy in the digital platform domain. The following research questions (RQs) are addressed in the paper:

- RQ1 Is the Indian economy ready for emerging as a digital platform developed from a mere emerging economy?
- RQ2 Is the regulatory framework on the digital platform economy capable of growth prospects, or is it damaging the growth?

RQ3 Are the parameters – technology Infrastructure, adoption, and government initiatives in line to foster the platform economy in India?

Based on an initial literature review, an empirical study was designed and described in the Methodology section. The aim is to highlight similarities or differences the economies – USA, China, EU and India – have adopted to handle this most feared topic of the digital economy.

2 Literature review

While digital adoption gained pace several years ago, the outbreak of the COVID-19 pandemic across the globe has advanced the pace by two to three years. According to a 2020 McKinsey survey, companies are now three times likelier to consider digital platforms to conduct business than before the crisis. The survey also found an increased rate of adoption of digital tools to interact with customers in a virtual environment, especially in the developed parts of Asia, than in other regions (McKinsey, 2020).

The recent pandemic has pushed all countries to accelerate their efforts to deal with digital transformations. In 2019, global retail e-commerce sales reached \$3.53 trillion, almost double the 2016 figure of \$1.548 trillion and a rise of 18.5% from the \$2.982 trillion figure in 2018. As e-commerce sales grow, they account for an increasing proportion of overall retail sales. The global e-commerce shares of retail in 2015 stood at 7.4% and doubled to 14.1% in 2019. More and more countries are introducing faster or instant digital payment schemes [IITF, (2020), p.5].

The platform business has shifted the balance of power in many markets. A steadily growing share of value creation is shifting from the producer of a product to the interaction platform between supply and demand. Since platforms have many competitive advantages over traditional companies, they are valued much higher on the stock exchanges. Seven of the ten most prominent companies in the world by market capitalisation are platform businesses now.

Data drives the digital economy, and its adoption is increasingly being driven through users' digital footprint on personal, social and business space. This foundation of data on which operations sit is transformed to actionable intelligence with the help of technology advancements such as AI and big data analysis, providing a competitive advantage to businesses.

As the flow of data increases, AI foundations will learn and evolve to become more accurate. In simpler words, the growth of digital platform businesses is directly associated with the volume of data collected and processed. No wonder why the likes of Google, Facebook, and Amazon sit on the top of the list of successful digital platforms. However, the permutation and combination of gathered data with advanced statistical analysis also give sophisticated data manipulation, using the same technology that empowered data. The advanced data analysis capabilities of the above companies have already positioned them to amass wealth in record times. This competitive advantage also concentrates the data leverage in the hands of a few countries, such as the USA and China. The very first moving platforms are likely to end up attracting the majority of users and dominating the market, according to the winner-takes-it-all market tipping effect (Rysman, 2006). Companies at the digital frontier – online firms and digital natives such as Google and Baidu – are betting vast amounts of money on AI. We estimate

between \$20 billion and \$30 billion in 2016, including significant M&A activity. Private investors are jumping in, too. We estimate that venture capitalist invested \$4 billion to \$5 billion in AI in 2016, and private equity firms invested \$1 billion to \$3 billion. That is more than three times as much as in 2013. An additional \$1 billion of investment came from grants and seed funding (MGI, 2017).

More and more countries are introducing faster or instant payment schemes to meet these expectations where regulators have also played a role in driving competition and innovation through fintech, which in turn has transformed financial service onboarding and verification of customers to meet know your customer (KYC), know your business (KYB), and anti money laundering (AML) rules. Digital platform business facilitates access to economies of scale in data storage, analysis, and cyber defence, which in turn offers a critical solution for the modernisation of banking, insurance, payments, and asset management [IITF, (2020), pp.6–7].

2.1 Concentration of power in platform economy

The monopolistic tendencies of big tech companies such as Google, Facebook, and Amazon stem directly from their analysing data. However, the existent guidelines and framework to tackle antitrust activities have been inadequate so far. Amazon, for example, is facing an antitrust investigation in India and Europe for its alleged manipulation of business data of third-party sellers to favour its in-house sellers. Similarly, Google is under investigation in India and Europe for abusing its dominant position in the ad-sales space.

The inadequacy of antitrust provisions stems from age-old parameters of pricing and user base. In the current context of the digitised and virtual world, where a company could be operating in geography without having its feet on the ground, the parameters must broaden to include quality of service and innovation.

“Amazon’s ‘Antitrust Paradox’ argued that with the rise of dominant internet platforms, there are shortcomings of the consumer welfare framework and that it should be abandoned. Strikingly, the current approach fails even if one believes that consumer interests should remain paramount. Focusing primarily on price and output undermines effective antitrust enforcement by delaying intervention until market power is being actively exercised and largely ignoring whether and how it is being acquired. In other words, pegging anti-competitive harm to high prices and/or lower output -while disregarding the market structure and competitive process that give rise to this market power -restricts intervention to the moment when a company has already acquired sufficient dominance to distort competition”. Khan (2017) argues that anti-competitive behaviour must be arrested at the developing stage, rather than dealing with it when the market is established and near saturation.

Traditional businesses and start-ups have immediate access to hundreds of millions of potential customers in China and the USA. Not so in the EU, where regulations of digital and non-digital industries still differ substantially across individual countries and often even within EU member states (Bauer, 2018).

European Union has attempted to control the companies’ behaviour by regulation and litigation. In Europe, layers upon layers of laws and regulations in non-digital sectors significantly hamper digital businesses in their efforts to gain scale and economic clout within and beyond the EU. The political decisions whose real-world implications effectively erode online platforms’ beneficial network effects send strong warning signals

to investors and innovators. Traditional businesses and start-ups have immediate access to hundreds of millions of potential customers in China and the USA. Not so in the EU, where regulations of digital and non-digital industries still differ substantially across individual countries and often even within EU member states. Given the significance of legal fragmentation in the EU, Europe does not have the same gravity of market size compared to the USA and China, which renders platform-friendly policies even more important to encourage innovators – from inside and outside the EU – to set up shop in the EU (Bauer, 2018). European countries intuit that spending hundreds of millions of euros and years in litigation with Google over whether search results prioritise Google services contributes less to European welfare than building a European business that would compete with Google globally [Choudhary and Moglen, (2017), pp.4, 8].

China and Russia have chosen to opt for digital sovereignty; hence, they have to build national search engines and social media structures, favouring domestic private market entrants and exercising control over national telecommunications networks to block the US companies [Choudhary and Moglen, (2017), p.3]. China's trade war with the USA and its apparent blocking of Google, Facebook, Bing, Twitter, and Netflix, along with the issues brewing due to pandemics, has led to the isolation of the growing global economic superpower. This has given India a comparative advantage over China [Koetsier, (2020), pp.4, 6]. However, India, despite its vast population, lacks infrastructure and demands much progress. In the words of John Koetsier, a journalist, analyst, author, and speaker, "The country wants investment, but not technological colonization. It is a smart strategy to accept outside investment but attempt to ensure that the investment builds the country up, rather than making it an economic client state of big tech" [Koetsier, (2020), pp.8, 10].

As written in the book *The Great Decoupling* authored by Nigel Inkster shows how the technological contest plays out, how will it shape the geopolitics of the twenty-first century? And, this leads to questioning if growing tension between the USA and China could result in the two superpowers decoupling their technology – with significant consequences for humanity's future (Inkster, 2020). "Technology is at the heart of the contest between the United States and China for global supremacy". This book is notable for combining a sharp understanding of the technological question with the knowledge of its historical and political context. If the contest ends up creating a world divided into two separate spheres, our most cherished beliefs about progress and globalisation will be shattered. Is this inevitable? Nigel Inkster will guide you through this essential question.' Also, Bruno Maçães, formerly Portugal's Europe minister (2013–2015) and author of *Belt and Road: A Chinese World Order and History Has Begun* (2020), provides important inputs. The answer to the question posed by Maçães can very well be 'yes'. But the economies of the world must work in tandem to deal with international technological spats with a structured global framework of policies and laws, to save consumer interests in a highly volatile and fast-paced internet platform economy. Because, in a globalised world, where a digital platform can assume a market leader position without even having its foot on the ground, a nationalistic approach just does not cut.

2.2 *Regulatory framework for digital platform*

The flow of data and digitalisation is empowering global economic growth. However, the existing regulatory toolkit is poorly adapted for scrutinising algorithmic models and methods, and the techniques for machine learning and artificial intelligence on which platforms increasingly rely are even less amenable to explanation and oversight (Bamberger, 2010).

The problem is regulatory frameworks that have not caught up with digital markets. Addressing it requires a measured approach, not blunt force solutions. It creates both opportunities and challenges. In close dialogue with other stakeholders, it is up to governments to shape the digital economy by defining the rules of the game. Platforms have developed equally powerful strategies for avoiding regulatory accountability. The administrative state, which still comprises principally of models and constructs developed in the industrial economy, is poorly equipped to address the challenges now confronting it (Cohen, 2016).

Regulators globally are starting to grapple with these issues. There have been some innovative measures. Take Germany's Bundeskartellamt. It has ruled that Facebook cannot make access conditional on users to link non-Facebook data to their accounts. When it demands consent to this loss of personal data control, it is abusing its dominant position given the lack of social network alternatives. Other cases merely need closer scrutiny. There are apparent issues with Amazon or any e-commerce site serving as a platform for sellers and using the data thus gathered to compete with them via its products (UNCTAD, 2019).

The existing rules for consumer protection and investor relations are primarily premised on the scarcity of availability of information and costly to obtain or convey. Hence, several regulatory mandates can translate into meaningful changes in the nature and quality of information available to or about market participants. However, on the contrary, the platform-based business ecosystem is characterised by both information abundance and endemic information asymmetry. The complex algorithms are used to detect patterns in masses of data, and the data itself reflects pre-existing patterns of inequality (Cohen, 2016).

The digital divide and power imbalances wrought by the platform economy in the 21st century can only be tackled through comprehensive and modern policies. Essentially, the digital economy is uncharted territory for countries and would require an experimental and adaptive approach to frame conducive policies that are also global.

Even developed economies have struggled with drawing up a comprehensive policy towards the digital platform economy and data privacy challenges. "There are currently three powers — the EU, the USA and China — in the process of creating separate data realms", Susan Aaronson, a trade academic at George Washington University, opines. All these economies have been heavily restricting the export of any kind of data to protect consumer data and privacy (Beattie, 2018).

One may recall the Facebook-Cambridge Analytica scandal, wherein the latter UK-based company got access to data of millions of users of the social networking platform without their consent, primarily for political campaigning, that rattled the existing frameworks of countries that seek to protect consumer data. Such external threats and anonymous snooping incidents have led global economies to turn inward and protect their countries' data within stipulated geographies.

2.3 Tax for digital platform business

The digital economy can significantly impact different types of taxation, including corporate income tax and indirect tax related to e-commerce. The pandemic has accelerated the pace of digitalisation with businesses working remotely and increased the sphere of digital users, with many first-timers entering the purview of virtual space. At the same time, with globalisation, taxpayers can easily access foreign markets and take advantage of tax avoidance or tax optimisation in specific markets. For example, Microsoft holds its software licensing rights in Ireland, Puerto Rico, and Singapore.

As digital platform businesses generate revenue globally, concerns over the existing tax system have been raised, which does not capture the digital platform uniformly.

The digital platform economy may result in a new kind of international dependency pattern, with value and data being centralised in patches in an existing global platform. Especially developing countries are compelled to rely mainly on global digital platforms based in the USA or China for the advertising platforms and cloud infrastructure providers.

Under current international tax rules, multinationals generally pay corporate income tax where production occurs rather than where consumers or, specifically for the digital sector, users are located. To which, various economies have argued that digital businesses, unlike brick-and-mortar businesses, generate income abroad without even having any physical presence in foreign locations [Asen, (2021), p.1].

While digital platform companies are exposed to the indirect taxes in the country, they operate in the form of GST and VAT. The debate is if this is sufficient! As most of the transactions are on a non-physical form. Fiscal reforms in digital sectors and e-commerce taxation are therefore current issues in the EU. New VAT rules for online shopping entered into force on 1 July 2021 as part of efforts to ensure a more level playing field for all businesses, to simplify cross-border e-commerce, and introduce greater transparency for EU shoppers when it comes to pricing and consumer choice. The EU's VAT system was last updated before in 1993 and has not kept pace with the rise in cross-border e-commerce that has transformed the retail sector in recent years. The coronavirus pandemic has also further accelerated the boom in online retail, and again underlined the need for reform to ensure that the VAT due on online sales gets paid to the country of the consumer. The new rules also respond to the need to simplify life for shoppers and traders alike. The new affects online sellers and marketplaces/platforms both inside and outside the EU, postal operators, and couriers, customs and tax administrations, as well as consumers (European Commission, 2021).

Moreover, the international taxation laws were framed assuming that businesses will have a physical presence in a particular region of operation. This leaves many companies out of the taxation purview in the new age when companies scale up without a foot on the ground. Given the company's large consumer base that generates significant revenues for digital companies, it is becoming critical to have a uniform taxation regime that encompasses such virtually incepted companies.

To address these concerns, the Organisation for Economic Co-operation and Development (OECD) has been hosting negotiations with more than 130 countries to adopt the international tax system, which requires digital platform businesses to pay their income taxes where their consumers or users are located [Asen, (2021), p.2]. However, despite these efforts, a global consensus remains elusive. Countries like France, Spain, and the UK have introduced unilateral measures primarily aimed at taxing global tech

giants. Austria, France, Indonesia, the Czech Republic, Brazil, Hungary, Italy, Poland, Spain, Turkey, and the UK have implemented a digital services tax (as of 14 October 2020). These taxes will directly impact digital companies such as Apple, Alphabet, and Amazon, which are all American.

However, since most platform business firms are headquartered in the USA, the US Trade Representative argued that the direct service tax (DST) unduly harmed US businesses [Tenreiro, (2021), p.5]. The US Government has subsequently launched a probe to determine whether levies on electronic commerce discriminate against American tech giants.

Given the recent policy proposals and legislation that have not been promising. The ‘right to be forgotten’ and other privacy and data collection rules already threaten to add high costs for internet companies.

The point of highlight is that the DST is levied on the gross revenue of the given organisation rather than net income, which will lead to high marginal tax rates on businesses that are less profitable. Hence, with additional direct service tax (DST) coming into the picture, the companies may decide to withdraw from participating in small and not-so-significant economies or countries, as the return on investment (ROI) may be insufficient to survive in the given market where the business fails to accrue marginal profits.

Even if widely adopted, DST may negatively impact a globalised investment climate and deter global companies from investing in small economies, where scaling up could be unprofitable due to the high cost of tax compliance. More so because the DST is levied on a company’s gross income and not the net profit, implying a significant loss of income. In a way, the DST contradicts prevailing international tax principles and disconnects its objective from economic value creation.

3 Methodology and research design

This study is designed to analyse by deriving multiple correlations among the components, critically affecting the economy in shaping digital platform business. While there are many studies available on the digital platform, there is, however, a preliminary study on the broader level of economies and the influence of various parameters in the economy affecting the platform business. Given that scalability is an essential factor to play an almost mandatory role in the success and even the existence of platform business in the economy, we have constructed the study to the four population superpowers – USA, EU, China and India. The study has been conducted by collating secondary datasets basis parameters in Table 1 in these markets.

We used archival records and various documents to empirically test the model to gather secondary data from several sources. We procured the Digital Readiness Index (DRI) from CISCO DRI, 2019 data. Cisco Digital Readiness index is an index formulated by Cisco for benchmarking each country’s digital readiness basis the seven parameters, rated in quantitative analysis – business and government investment, ease of doing business, human capital, start-up environment, technology adoption, technology infrastructure (CISCO, n.d.).

As we intended to study the impact of regulations on the performance of platform businesses in the given economy, we procured from ITU, which tracked the ICT regulatory in various economies.

Table 1 Component mapping

<i>Components</i>	<i>Subcomponents</i>
Technology	Technology adoption Technology infrastructure
Business	Ease of doing business Human capital
Start-up	Success if start-ups
Government	Government initiatives Government investments
Digital regulatory	Regulatory framework Regulatory authority

With the blurring of boundaries by the digital platform market, it is becoming challenging for Policymakers to arrive at Regulatory framework policies and regulations that have not kept up with the rapid digital transformations taking place in economies and societies. Moreover, hence has evolved with a concern of consumer trust and protecting data privacy and cross border data flow.

The information and communication technology (ICT) regulatory tracker has been considered for the deeper analysis of the economies. The ICT regulatory tracker formulated by International Telecommunication Union (ITU) is a numerical tracker to benchmark trends in each country’s ICT legal and regulatory framework. The tracker is composed of four indicators – regulatory authority of the country, regulatory mandates, regulatory regime, competition framework for the ICT sector.

Table 2 DRI index

USA	19.03
China	13.22
EU	14.7
India	9.46
Belgium	16.22
Bulgaria	13.72
Czechia	15.78
Denmark	18.98
Germany	17.85
Estonia	17.14
Ireland	17.01
Greece	13.77
Spain	15.74
France	16.25
Croatia	14.01

Source: CISCO (n.d.)

Table 2 DRI index (continued)

Italy	14.84
Cyprus	15.37
Latvia	15
Lithuania	14.78
Luxembourg	19.54
Hungary	14.13
Malta	15.54
Netherlands	18.66
Austria	17.25
Poland	14.94
Portugal	14.96
Romania	13.34
Slovenia	15.57
Slovakia	14.44
Finland	17.95
Sweden	18.42

Source: CISCO (n.d.)

Table 3 ICT regulatory tracker

USA	34.7
China	96
EU	85
India	47
Belgium	89.2
Bulgaria	106.38
Czechia	94.4
Denmark	136.81
Germany	90.69
Estonia	165.06
Ireland	103.82
Greece	88.57
Spain	105.29
France	99.26
Croatia	105.67
Italy	94.09
Cyprus	118.22
Latvia	141.28
Lithuania	117.19

Source: ITU (n.d.)

Table 3 ICT regulatory tracker (continued)

Luxembourg	117.8
Hungary	73.77
Malta	95.96
Netherlands	125.28
Austria	107.01
Poland	197.43
Portugal	78.95
Romania	92.01
Slovenia	87.81
Slovakia	88.35
Finland	155.76
Sweden	129.41

Source: ITU (n.d.)

Table 4 GDP per capita

<i>GDP/capita</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>
USA	60,109.66	63,064.42	65,279.53	63,543.58
China	8,879.439	9,976.677	10,216.63	10,500.4
EU	33,008.5	35,703.69	34,960.02	33,927.72
India	1,980.667	1,996.915	2,100.751	1,900.707
Belgium	44,089.31	47,554.75	46,414.44	44,594.38
Bulgaria	8,334.082	9,427.73	9,828.149	9,975.78
Czechia	20,636.2	23,419.74	23,490.4	22,762.2
Denmark	57,610.1	61,598.54	60,213.09	60,908.84
Germany	44,442.77	47,787.16	46,467.52	45,723.64
Estonia	20,407.93	23,159.39	23,717.8	23,312.28
Ireland	70,413.12	79,297.73	80,778.83	83,812.8
Greece	18,562.23	19,766	19,150.79	17,676.19
Spain	28,100.59	30,374.52	29,564.74	27,057.16
France	38,685.26	41,526.41	40,380.1	38,625.07
Croatia	13,451.62	15,014.09	14,944.36	13,828.47
Italy	32,326.67	34,608.68	33,566.79	31,676.2
Cyprus	26,444.07	29,089.47	28,288.46	26,623.8
Latvia	15,643.49	17,849.56	17,794.48	17,619.95
Lithuania	16,843.7	19,166.81	19,555.21	19,997.59
Luxembourg	107,361.3	116,597.3	114,685.2	115,873.6
Hungary	14,605.85	16,411.44	16,733.32	15,899.15
Malta	28,250.7	30,672.29	30,186.2	27,884.64
Netherlands	48,554.99	53,018.63	52,295.04	52,304.06

Source: World Bank (n.d.)

Table 4 GDP per capita (continued)

<i>GDP/capita</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>
Austria	47,309.37	51,453.15	50,121.55	48,105.36
Poland	13,864.68	15,468.41	15,694.84	15,656.18
Portugal	21,437.35	23,551.05	23,284.53	22,439.88
Romania	10,807.01	12,398.98	12,889.81	12,896.09
Slovenia	23,454.74	26,103.16	25,940.73	25,179.67
Slovakia	17,504.21	19,364.62	19,273.25	19,156.89
Finland	46,297.5	50,013.29	48,711.56	49,041.34
Sweden	53,791.51	54,589.06	51,686.85	51,925.71

Source: World Bank (n.d.)

These parameters have been discussed in detail with the arguments in the sections below.

4 Analysis

The descriptive analysis goes as follows:

Table 5 Descriptive analysis

<i>N = 31</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. deviation</i>
GDP/capita	2,100.75	114,685.16	34,458.54	23,673.83
ICT Regulatory Index; score is out of 100	60.00	99.00	90.2635	7.20198
Active mobile users/100 inhabitants	34.70	197.43	105.4248	32.04408
DRI - score is out of 25	9.46	19.54	15.7294	2.15057

Source: Own calculation

By deriving multiple correlations among all the above parameters to the country's GDP per capita, we shall analyse the economy's potential to grow in the digital platform domain. To have a holistic view, a study has been conducted amidst four population superpower economies, as scalability is a critical parameter for platform economy.

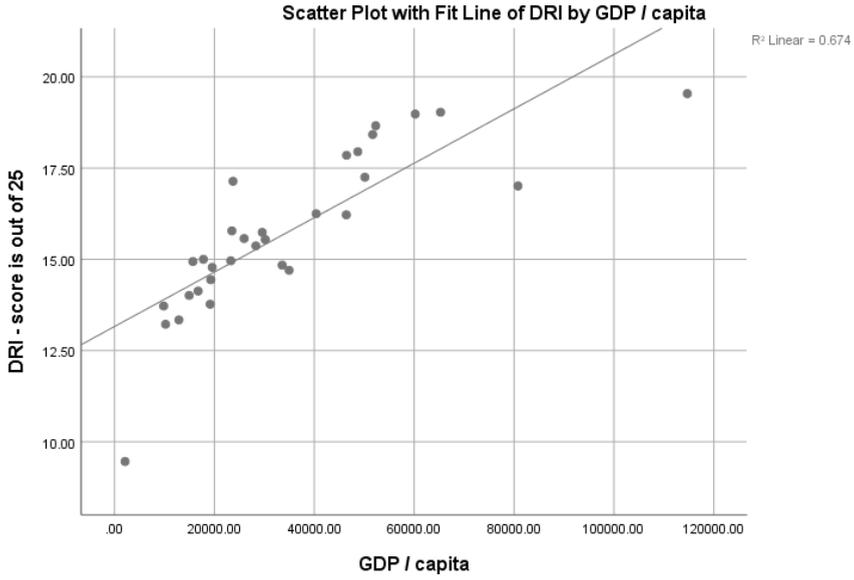
With growing platform business rising in GDP component, the researchers derived a correlation between GDP per capita and the digital readiness of the economy in 2019.

In Figure 1, the coefficient of GDP per capita to DRI is positively significant, suggesting that higher GDP per capita value, imply higher DRI. There is a positive relationship between GDP per capita and DRI.

All the correlation coefficients have a positive direction. This implies GDP per capita, active mobile user, DRI, and ICT all increase together. This is evident through Figures 2 and 3 also.

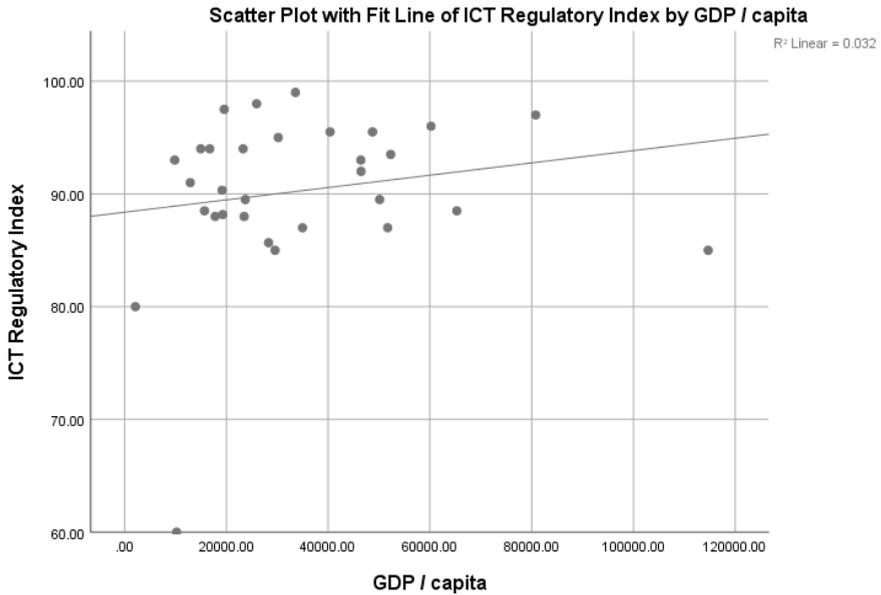
We can observe, more affluent countries, i.e., higher value of GDP per capita implies more ICT regulatory index.

Figure 1 Scatter plot with fit line of DRI by GDP per capita



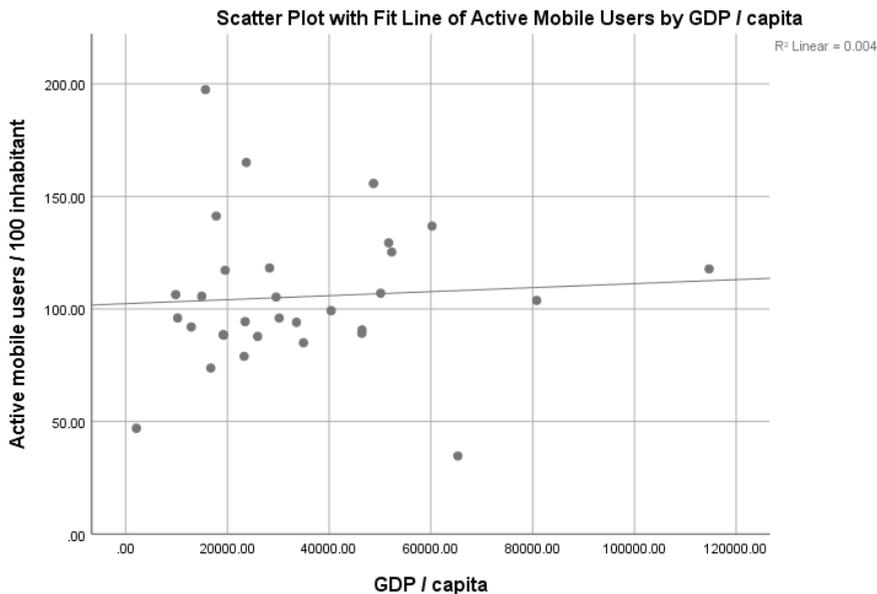
Source: Own calculation

Figure 2 Scatter plot with fit line of ICT regulatory index with GDP per capita



Source: Own calculation

Figure 3 Scatter plot with a fit line of active mobile users by GDP per capita



Source: Own calculation

We can observe that more affluent countries, i.e., higher value of GDP per capita, imply more active mobile users, but the slope is flat.

Table 6 Correlations

	<i>GDP/capita</i>	<i>Active mobile users/100 inhabitants</i>	<i>DRI – score is out of 25</i>	<i>ICT regulatory index; score is out of 100</i>
GDP/capita	1	.066	.821**	.180
Active mobile users/100 inhabitant	.066	1	.319	.090
DRI – score is out of 25	.821**	.319	1	.281
ICT regulatory index; score is out of 100	.180	.090	.281	1

Note: **Correlation is significant at the 0.01 level (2-tailed).

Source: Own calculation

We observe that in our sample, the average GDP per capita is Rs 34458.54, ICT Regulatory Index is 90.26 out of 100, active mobile users are 105.42 per 100 inhabitants, and the DRI score is 15.73 out of 25. Although India’s variables values are less than the average value for all the variables, even India has a minimum value of DRI in our sample, i.e., 9.46.

The correlation of GDP per capita with Active mobile users is 6.6%, with DRI is 82.1%, and with ICT Regulatory Index is 18%. The correlation between GDP per capita and DRI is positive and significant at the 1% level. The correlation of Active mobile users with DRI is 31.9%, and with ICT Regulatory Index is 9%. Finally, the correlation of DRI with the ICT Regulatory Index is 28%.

Table 7 Correlations

GDP/capita		Index
GDP/capita	Pearson correlation	1
	Sig. (2-tailed)	.653**
	N	31

Note: **Correlation is significant at the 0.01 level (2-tailed).

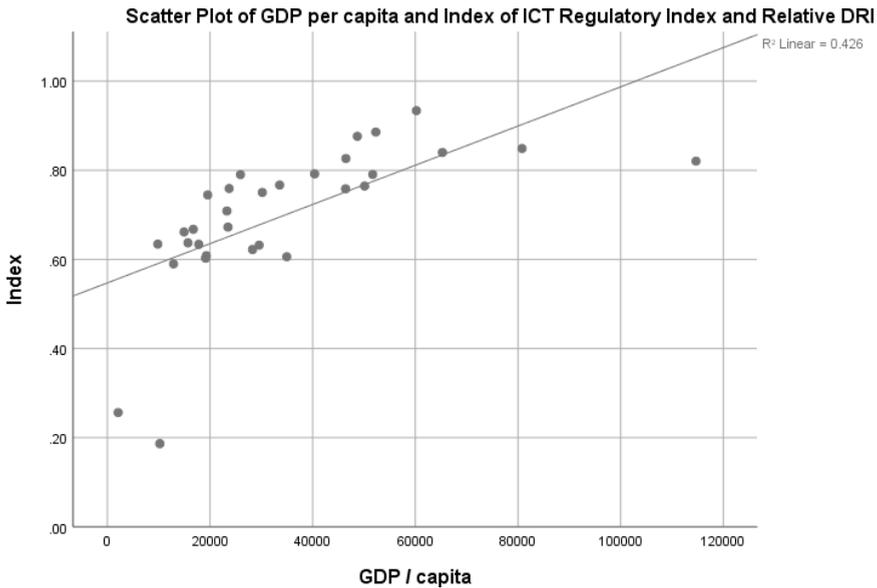
Source: Own calculation

The index is created from two variables: DRI-score is out of 25 and ICT Regulatory Index; the score is out of 100. As scales of both the variables are different, both are scaled from 0 to 1 using the formula:

$$Scaled = \frac{Value - Minimum}{Maximum - Minimum}$$

Then mean is taken of both the scaled variables to create an index for DRI – score is out of 25 and ICT regulatory index. The correlation between index and GDP is positive and significant. It is also evident in the scatterplot graph. The value of correlation is also high, i.e., 65.3%.

Figure 4 Scatter plot of GDP per capita and ICT Regulatory index and relative DRI



Source: Own calculation

The above analysis shows that the DRI and ICT regulatory index is correlated to the GDP per capita of the economies. There is a positive relationship between DRI and ICT regulatory index. However, the number of mobile phone users is not correlated. This suggests a more sorted ICT governance is detrimental to the digital readiness of the economy. This supports the hypothesis that for the success of digital platforms, it is

essential to have a more evolved digital framework in the economy, and digital readiness should be high, along with the rise in GDP per capita.

5 Conclusions

Despite many – and growing – frictions in the world economy, it is notable that platforms like Amazon, Alibaba, or Facebook continue to create manifest change in market behaviour and lead the world economy towards more integration. Even if most observers welcome that outcome, it has also provoked fears and reactions among those that have lost their previous market power and their ability to control how patterns of economic exchange should develop.

While most economies find data localisation and taxation as the ultimate solution to control the power of the data, it is merely just penalising the players and nothing else. Compared with the previous Industrial Revolution, the fourth industrial revolution, i.e., the digital, is more likely to create winner-take-all markets. It is essential to set the rule of the data and not boundaries to create data islands. However, the focus has always been on depleting the winner's profits (through taxes and penalties), curbing the price rise instead of being concerned with structure, i.e., to ensure that the power was distributed to keep the market competitive.

Therefore, data is universal and is to be distributed and used freely on the grounds of public interest in a robust competitive process and open markets. As data becomes commoditised, the world is in desperate need of setting the rules of the game for international digital flows and international e-commerce instead of just imposing data localisation and taxations. The need of the hour is not to think on the lines of traditional business rules; instead, bring a tectonic change in the mindset of the decision makers about the platform business economy.

China, the USA and India benefit from their large base population. The USA successfully created platforms, and China has successfully copied and forbidden the usage of those platforms. European Union markets lag on digital platform business landscape, given the fragmentation of EU's digital market. While size matters, other requirements such as high levels of digital entrepreneurship, multiple stakeholders to collaborate, and open innovation culture are critical for platform ecosystems to flourish.

India is a data-rich country before actually being rich, by GDP per capita, due to its sheer untapped population, which makes it an attractive market for platform businesses. With Reliance JIO rising from home turf to compete with big platform businesses such as Amazon, Google, and Alibaba, India is gearing up to threaten the existing big platform business.

The essential nature of platform business economy is when it can achieve economies of scale. Hence, economies could take advantage of the platform business economy by participating in it and utilising it to create more business opportunities than levying heavy taxes, which may discourage the economy from flourishing. In short, joining hands and consolidating instead of fragmenting the economies would create a more promising future. Scalability is a critical success factor of the platform business.

The European Parliamentary Research Service [European Parliament, (2017), p.12] highlights the “urgent need to bring EU single market rules up to date, in particular as regards online payments, e-invoicing, the protection of intellectual property rights, data protection, and privacy, as well as value-added tax (VAT) requirements, and points out

that measures in these areas would generate trust in e-commerce and provide adequate protection for EU consumers, who are still more inclined to shop online at domestic shops rather than with a seller in another country.” The authors of this study indicate that the potential gain in gross domestic product (GDP) from a complete digital single market could amount to up to 500bn EUR per year, which corresponds to up to 3.6% of EU GDP.

Despite penalising the platform players through taxation and data localisation, it is imperative to set the rules without a global framework. New digital identity and records standards are evolving, such as the EU’s General Data Protection Regulation (GDPR), which could track data origins and usage. The recent digital agreement between Australia and Singapore is one such example of setting rules for digital platforms contrary to the theory of data localisation. The DEA, which was signed in August 2020, outlines the new trade rules with the framework of bilateral cooperation to enhance and capitalise from the digital economy instead of losing.

It was encouraging the start-ups to compete on global platforms. The market capitalisation or the company valuation of start-ups is a success factor that should not be underestimated when developing platforms. One may shake the head over the sometimes irrationally high company valuations of US ‘digital champions’: The electric mobility provider Tesla had, for example, with \$55 billion in July 2017, a larger market capitalisation than the Ford Motor Company; US carpool mediator Uber was valued at \$68 billion in a 2016 round of financing, although the company accumulated a cumulative loss of approximately \$3.0 billion seven years after its creation in the four quarters of fiscal 2016/17.

As long as the market capitalisation of start-ups continues to grow, revenue and profit are not the critical KPIs – which is the reason why Tesla and Uber, despite low sales and high losses, pose an existential threat to the German auto industry.

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