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THESIS IN MANAGERIAL ECONOMICS

A TRANSACTION COST APPROACH TO THE GIG ECONOMY: THE CASE OF INDIA

Prof. Andrea Filippetti
SUPERVISOR

Prof. Giovanni Benedetto Ponti
COSUPERVISOR

Luiza Mihaela Tatarauca
CANDIDATE

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1. Introduction

1.1. Context

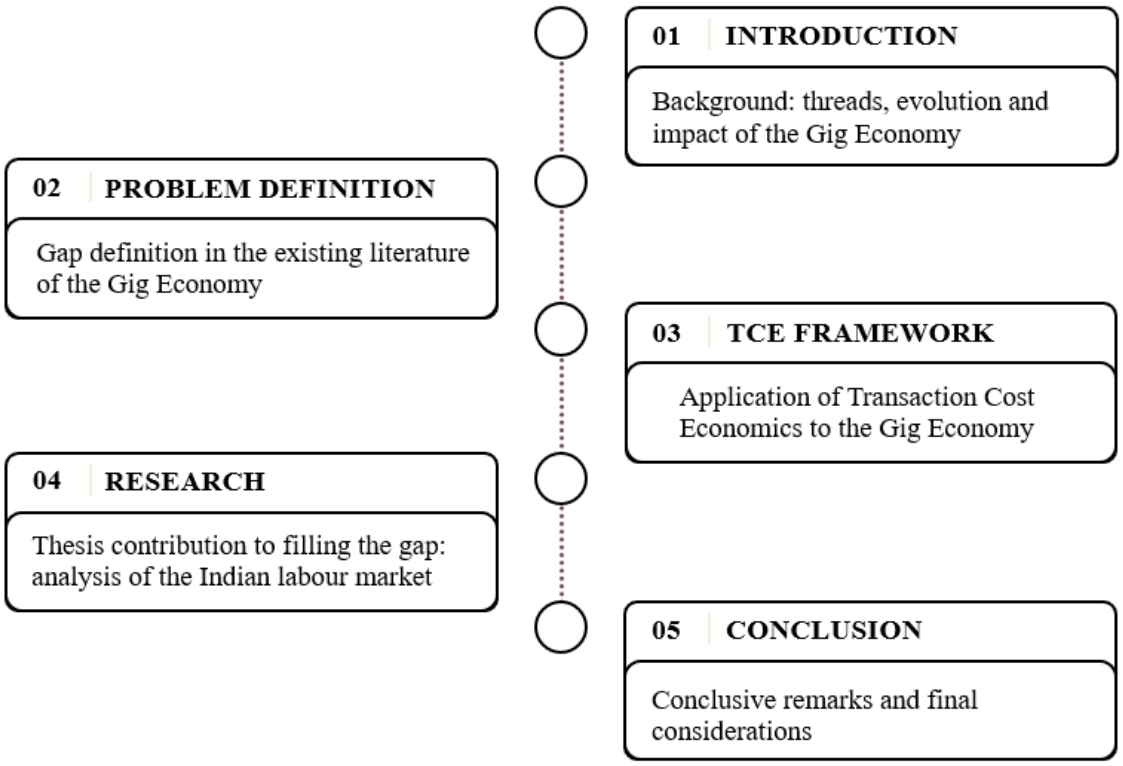
During the last decades, the world of work has experienced a disrupting transformation, due to the combination of two major trends: the exponential advancement of digital technologies and the emergence of non-standard forms of work. In this context, the Gig Economy is jumpstarting a transaction cost revolution, whereby digital technology makes it cheaper and easier to coordinate investment and consumption decisions on the market. Hence, firms began to face the so-called "rent-or-buy" dilemma in terms of labour, thus altering traditional employment relationships and leading to a rise in the concern of workers' rights. Still, the Gig Economy reoriented the way traditional business hierarchies are perceived, and human labour has been almost completely commoditised in ways previously unseen. However, this is not without costs and implications.

Particularly, Transaction Cost Economics (TCE) has been used as a theoretical lens to study the organisation of economic activity. Firms exist because mobilising resources in a company is easier, as recurring to the market imposes heavy transaction costs. Yet, many transaction costs identified by authors have been eliminated by technology, thus questioning the existence of the firm itself. By using technology to create virtual marketplaces to connect service-providers with service-customers with minimal transaction costs, gig economy platforms have unlocked a latent market that could not have functioned in a world of higher transaction costs.

Nevertheless, the existing literature is primarily focused on understanding the changing industrial structure that online platforms are entailing and the experiences of workers in industrialised and developed countries. Thus, little attention has been paid to low- and middle-income countries like India. Further, considering India's population growth rate, the Gig Economy could be a driving force in shaping the future of the country's economy, by removing the employer-employee barrier and creating millions of new jobs across all sectors of India's economy. Within this framework, literature is scanty when it comes to measuring the impact of the gig economy on the gendered experiences of gig workers as well. In this context, the precarious employment relationship has led to the impact on vulnerable categories of workers being questioned. Therefore, the impact of the Gig Economy on the Indian labour market will be addressed through a combination of two major factors: gender inequality and decreasing female labour force participation rate.

1.2. Thesis structure guide

Figure 1: Thesis structure guide



Source: own source

This thesis consists of six chapters that will encompass various aspects, represented sequentially in Figure 1. The first chapter will focus on the introduction followed by a meticulous literature review on the drivers, evolution, and impact of the Gig Economy. Several aspects will be addressed such as the role of platforms in the gig economy, the advantages and disadvantages of going gig for both companies and workers, the variants of gig work, and labour market trends. Afterwards, the third chapter will focus on a theoretical analysis of the Gig Economy, through the application of the Transaction Cost Economics framework. This step is paramount for a better understanding of the underlying features and functioning of this new economic model. Following the analysis pursued in the second chapter, the gap in the existing Gig Economy literature will be defined and further addressed in the fourth chapter, by offering insights from the Indian labour market perspective. Conclusive remarks will be provided in the fifth chapter, forecasting a future scenario where Gig Economy companies and workers will operate, and the extent to which future technological advancements may impact their functioning.

2. Understanding the Gig Economy

2.1. Literature review

Over the last decades, technological advancements and rapid digitalisation completely changed the employment landscape and led to drastic disruptions in the labour market.[1] Boundaries between traditional employment and contracted labour have become blurred and the term 'gig economy' has inevitably risen to prominence in the public discourse.[2] Today's online outsourcing platforms potentially augur a radical shift in working habits and organisation. For instance, the online outsourcing sector – or platform work – is characterised by a relative lack of physical and fixed organisational infrastructure – unlike traditional forms of employment – and nowadays, a growing number of people are members of the 'gig economy', undertaking all sorts of work sources via online marketplaces as free agents.

Narrowly conceived, the gig economy refers to a free market system wherein short-term tasks are advertised by companies through online platforms.[3] Particularly, some referred to it as the 'sharing economy', the 'collaborative economy' and 'crowdsourcing',[4] highlighting the fact that there is no overall consensus on the definition of the gig economy. What is included in the gig economy is rather ambiguous, but generally it entails working via a digital platform.[5] In the present setting, a gig economy includes a transitory legally binding employment and transient agreement that an individual may take, allowing organisations the chance to effortlessly scale-up their activities by getting an on-request workforce.[6] Hence, it entails the existence of temporary or part-time work instead of a conventional workforce; understood as regular, full-time, and subject to labour law.

Further, in the lexicon of the gig economy, notions like 'technological advancement' and 'rapid digitalisation' occupy a predominant role as the adoption of newer technologies reshaped modern-day economies and past thought processes. Today, workers can pursue multiple pieces of work or 'gigs' on a project-to-project basis, for which the payment is made once the task is completed. The phenomenon of the gig economy is strictly connected to the emergence of the platform economy

[1] D Thirumala Rao, '"Gig Economy": A Study on Its Growing Relevance in India' (2021).
[2] Friedemann Bieber and Jakob Moggia, 'Risk Shifts in the Gig Economy: The Normative Case for an Insurance Scheme against the Effects of Precarious Work*' [2021] Journal of Political Philosophy.
[3] Robert MacDonald and Andreas Giazitzoglu, 'Youth, Enterprise and Precarity: Or, What Is, and What Is Wrong with, the "Gig Economy"?' [2019] Journal of Sociology.
[4] Andrew Stewart and Jim Stanford, 'Regulating Work in the Gig Economy: What Are the Options?', *Economic and Labour Relations Review* (2017).
[5] Valerio De Stefano, 'The Rise of the "Just-in-Time Workforce": On-Demand Work, Crowd Work and Labour Protection in the "Gig-Economy"' [2015] SSRN Electronic Journal.
[6] Rohit Bansal and Ram Singh, 'The Emergence of Gig Economy in India : A Paradigm Shift ISSN NO : 2347-6648 The Emergence of Gig Economy in India : A Paradigm Shift' [2020] Parishodh.

indeed. It represents one of the corollaries of this nascent and still unexplored field, characterised by the possibility of connecting interested parties – workers and customers – via online digital platforms to accomplish specific tasks.[7] Specifically, they constitute the mediation tool between these two parties. In this regard, Mc Govern (2017) stated that the rapid adoption of technologies and the emergence of online platforms led to the rise of new forms of work in recent years.[8] Particularly, the fragmentation of work entailed by the gig economy reflects a general trend known as 'fissuring' of work; that is, work characterised by income instability, extreme flexibility and shifting of risks to workers.[9] Accordingly, some authors opined that employers may perceive the gig economy as some kind of trump card useful to reduce costs, increase production flexibility and emerge in the competitive global market arena.[10]

The platform economy as such represents a departure from the classic definition of the gig economy; that is, short-term contracts and freelance work, shedding light on new economic synergies and opportunities that digital platforms can deliver. The onset of platform economy requires a specific set of skills, i.e., digital literacy, and the ability to work in geographically distributed virtual teams.[11] Accordingly, the gig economy may be considered a part of the broader notion of the platform economy. Moreover, some scholars [12] opined that although gig work provides a certain degree of worktime flexibility, workers inevitably face a challenging trade-off. They forgo social and labour protection that formal employees enjoy, posing a question mark on the value of worktime flexibility itself. Furthermore, with the advent of online digital platforms, millions of workers have joined the gig economy, a number estimated to be over 70 million.[13] Yet, they are legally classified as independent contractors and as such, they are not entitled to social security or typical employment benefits such as unemployment insurance or workers' compensation.[14]

Notwithstanding, new forms of employment – enabled by digital technologies – have been rapidly flourishing since the early 2000s in advanced economies, but they are also spreading to emerging economies. In this regard, studies have shown that gig work or more generally speaking

[7] Radosław Malik, Anna Visvizi and Małgorzata Skrzek-lubasińska, 'The Gig Economy: Current Issues, the Debate, and the New Avenues of Research' [2021] Sustainability (Switzerland).
[8] McGovern, Marion. *Thriving in the Gig Economy*. 1st ed. Red Wheel Weiser, 2017. Web. 24 Oct. 2021.
[9] Sean O'Brady, 'The Fissured Workplace: Why Work Became So Bad for So Many and What Can Be Done to Improve It by David Weil, Cambridge, MA: Harvard University Press, 2014, 424 Pages. ISBN: 978-0674725447.' [2014] Relations industrielles.
[10] Foresi Dylan, 'Gig Economy, il lavoro al tempo delle piattaforme digitali', *Istituto Cattaneo*, 2019
[11] Joshua Healy, Daniel Nicholson and Andreas Pekarek, 'Should We Take the Gig Economy Seriously?' [2017] Labour & Industry: a journal of the social and economic relations of work.
[12] Laura Katsnelson and Felix Oberholzer-Gee, 'Being the Boss: Gig Workers' Value of Flexible Work' (2021).
[13] Richard Heeks, 'Decent Work and the Digital Gig Economy: A Developing Country Perspective on Employment Impacts and Standards in Online Outsourcing, Crowdwork, Etc' [2019] SSRN Electronic Journal.
[14] De Stefano (n 5).

platform work, have the potential to drive employment opportunities and work formalisation in emerging economies.[15]

Historically, Transaction Cost Economics (TCE) has been used as a relevant theoretical lens to study the organisation of economic activity.[16] Yet, in the current state-of-art of the gig economy, it remains an open question whether this theoretical framework can still provide a solid basis for understanding the relationship between firms and market-based activities.[17] Economists have long understood that companies exist because it is more efficient to have employees perform certain tasks in order to avoid transaction costs, that the employer would otherwise incur if it were forced to continuously enter the market and negotiate arms-length agreements with independent parties offering those same services.[18] Particularly, many of the transaction costs identified by Ronald Coase (1937),[19] such as those associated with searching for and hiring workers, have been eliminated by technology. Therefore, one question arises here: If technology eliminates more of the transaction costs that make firms competitive, will markets replace companies? While technological change is surely providing new arenas for entrepreneurship, undoubtedly it has also the potential to close current opportunities for entrepreneurship that exist. Accordingly, building on Coase's framework, the growth of gig economy may be evaluated in the context of technological advances, which lowers transaction costs. Particularly, some countries (e.g., India) are witnessing a rise in the gig economy, both in the blue-collar and white-collar segments, with the pandemic accelerating this trend. In the wake of the pandemic-induced uncertainty, firms wish to convert human resources into assets rather than costs. Yet, the attraction of hiring labour as self-employed lies not only in the reduction of down-time cost but also in the avoidance of some expenses, videlicet payment of a living wage and holiday pay.[20] By using technology to create virtual marketplaces to connect service-providers with service-customers with minimal transaction costs, gig economy platforms have unlocked a latent market that could not have functioned in a world of higher transaction costs, demonstrating how prescient Coase was. Still, if markets are such an effective way of delivering goods and services, why does so much work take place within stable, hierarchical, and bureaucratic structures called companies? Again, according to Coase, firms exist because mobilising resources is easier in a company, as recurring to

[15] Daniel Soto, 'Technology and the Future of Work in Emerging Economies: What Is Different?' (2020).
[16] DP O'Brien and OE Williamson, 'Markets and Hierarchies: Analysis and Antitrust Implications.' [1976] The Economic Journal; Robert G Eccles and Oliver E Williamson, 'The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting.' [1987] Administrative Science Quarterly; Oliver E Williamson, 'Strategy Research: Governance and Competence Perspectives' [1999] Strategic Management Journal.
[17] Frank Nagle, Robert Seamans and Steven Tadelis, 'Transaction Cost Economics in the Digital Economy: A Research Agenda' [2020] SSRN Electronic Journal.
[18] RH Coase, 'The Nature of the Firm' [1937] Economica.
[19] ibid.
[20] Tirapani, Alessandro Niccolò, and Hugh Willmott. "EXPRESS: Revisiting conflict: Neoliberalism at work in the gig economy." *Human Relations* (2021): 00187267211064596.

the market imposes heavy transaction costs, such as hiring workers, negotiating prices, and enforcing contracts. Basically, companies provide a vehicle for creating long-term contracts because short-term ones create too many transaction costs. However, does it still apply today? Notwithstanding, the gig economy is fuelled also by companies undergoing business transformation, and as more and more companies undertake this path, the number of gig workers is surely bound to go up. Particularly, the existing literature is primarily focused on understanding the changing industrial structure that Internet-based platforms are addressing, and accordingly, the changing nature of work entailed by the gig economy.[21] Notably, most of the aforementioned studies on the argument have been based on the experiences of workers in industrialised and developed countries, with only a few studies on developing countries like India, which will be the focus of the following research. In this regard, also considering India's population growth rate, the gig economy is offering employment opportunities for millions of Indians.

Suffice it to say that the gig economy was and is still prone to compromise the Fordist model of centralised production, as work can be executed anytime and anywhere through the digital platforms behind a mobile phone. In this context, gig work tends to be framed positively, being characterised by a sort of *flexibility* that is presumed to be desirable for both workers and employers. However, the use of apps to arrange the logistics of the gig economy services also enables companies to track the performance of their workers, thus losing the sense of freedom and flexibility. As a result, the relationship between the gig worker and the end-user becomes unclear and depends – to some extent – on the rules set by the intermediary.[22] Particularly, characteristics such as temporary, part-time, and flexible are often associated with neoliberal working conditions,[23] with the gig economy being a manifestation of a broader movement in global economy and politics, that over the past few decades went towards a specific form of capitalism, known as neoliberalism.

Moreover, under the concept of rules-based capitalism, it is paramount that regulation applies equally to all participants in a market; this encourages competition but also allows regulators to set up safety standards, which are cardinal for improving working conditions. However, looking from another perspective, if regulations are put in place to ensure, for instance, a minimum wage, this may

[21] Martin Kenney and others, 'Platforms and Industrial Change' [2019] Industry and Innovation.
[22] Shampa Roy-Mukherjee and Michael Harrison, 'The Shifting Boundaries of Capitalism and the Conflict of Surplus Value Appropriation within the Gig Economy', *Conflict and Shifting Boundaries in the Gig Economy: An Interdisciplinary Analysis* (2020).
[23] Daniel G Cockayne, 'Sharing and Neoliberal Discourse: The Economic Function of Sharing in the Digital on-Demand Economy' [2016] Geoforum.

consequently lead to less flexibility in terms of frequency of work and working hours, and thus vanishing a fundamental pillar of the gig economy, that is: workers do want flexible schedules.

In the gig economy, we see this vision of an employment market in which there is always what Friedrich Engels referred to as a *reserve army of labour* ready to take up work turned down by others. [24] The reserve army of labour includes many categories of workers such as unemployed people, or part-time labourers seeking a full-time job, or self-employed people doing occasional jobs, for instance. Under these lenses, it might be argued that the emergence of this form of capitalism does not represent a "new development" of working conditions and perspectives, but a faint return to the unregulated and exploitative capitalism of the 18th – 19th and very early 20th centuries. Moreover, the gig economy is constituted in a manner in which workers are in constant competition with one another, whether in terms of their efficiency or their willingness to work for less pay or in less desirable conditions. Thus, for all the arguments asserting that the gig economy's flexibility might be a positive for those working within it, one may argue that it is benefitting companies far more than workers. Further, many scholars argued that gig work has re-emerged as a result of the 2008 financial crisis,[25] as many workers found themselves in temporary or unstable forms of employment.[26] Workers began looking for avenues to supplement their low income, whereas companies introduced gig work and part-time work in order to meet the demand, witnessing a gradual shift from the standard full-time workforce model to a new model focused on temporary and flexible on-demand work.[27] And one of the primary justifications for using temporary and flexible positions is that these labour resources improve the firm's capacity to go up and down and match supply to the realized demand.[28]

The nature of work has always undergone profound changes. The Fourth Industrial Revolution has drastically unlocked a paradigm shift of standard employment, which is modelled on the industrial worker, and accelerated the pace of change transforming what people do for a living, the skills they need, how and where they perform their work. Consequently, it also impacted the way work is organised, distributed, and rewarded. Nonetheless, prior to industrialisation in the nineteenth century, it was not uncommon for people to be engaged in multiple jobs. Although, over the twentieth century, due to the labour movement, a new model of standard employment emerged. That is better working

[24] Frederick Engels, 'The Condition of the Working Class in England', *The Sociology and Politics of Health: A Reader* (2005).
[25] Niels van Doorn, 'Platform Labor: On the Gendered and Racialized Exploitation of Low-Income Service Work in the "on-Demand" Economy' [2017] Information Communication and Society.
[26] Bieber and Moggia (n 2).
[27] Balwant Singh Mehta, 'Changing Nature of Work and the Gig Economy: Theory and Debate' [2020] FIIB Business Review.
[28] Saravanan Kesavan, Bradley R Staats and Wendell Gilland, 'Volume Flexibility in Services: The Costs and Benefits of Flexible Labor Resources' [2014] Management Science.

conditions, reasonable hours, better wages, and other forms of workers' social protection.[29] In the 20th century, governments sought to offset market externalities through the adoption of Keynesian macroeconomic policies. In this regard, British economist John Maynard Keynes overturned the then-prevailing economic thinking that free markets would automatically provide full employment, by asserting that free markets have no self-balancing mechanisms to achieve full employment, and therefore government intervention through public policies is needed.[30]Nevertheless, after decades of neoliberal economic policies, integration of global markets, and the advent of technological advancements, this economic order transformed, giving rise to a new industry. The gig economy reoriented the way we perceive traditional business hierarchies, and human labour has been almost completely commoditized in ways previously unseen. However, this is not without costs and implications.

2.2. Main threads that explain the gig economy rise

To truly understand the gig economy, it is worth exploring the preconditions that shaped its emergence, otherwise, there is a risk of seeing the gig economy as only a particular form of market system shaped by technological factors. In this regard, Woodcock and Graham (2019) identified nine preconditions that are connected to the underlying factors of society, technology, political economy, and a combination thereof.[31]

The first precondition is technological: "platform infrastructure". The rapid growth of platforms was facilitated by the availability of underlying technology such as GPS networks, 4G connectivity, cloud computing and so on. To take the largest and well-known gig economy platform as an example, Uber's platform connects people through an app, i.e., a digital context in which buyers (people who want a taxi ride) can connect with sellers (people who are willing to provide taxi rides). The process is relatively seamless for both parties as it takes a few minutes for a client seeking a ride to connect to a driver. Thus, the platform serves as an intermediary between clients and workers, and this is what led many gig economy companies to attempt to claim that they are not employers, but simply provide a bridge between supply and demand. Therefore, they do not classify themselves as taxi or delivery companies, but as "technology companies". Basically, platforms connect parties who lack either proximity or synchronicity, through one of two mechanisms: negotiation-based matching and static-price matching. In the former mechanism parties post information about their skills on a

[29] Mehta (n 27).
[30] Sarwat Jahan, Ahmed Saber Mahmud and Chris Papageorgiou, 'What Is Keynesian Economics?'
[31] Woodcock, J., & Graham, M., 'The gig economy: A critical introduction' [2019] Cambridge: Polity

profile, allowing workers and clients to bid for jobs/services; whilst in the latter prices are fixed and thus, there is no negotiation.

The second precondition refers to the "digital legibility of work". The question mark about whether or not work can be mediated via a digital platform rest on an old problem of management: how to measure work. Frederick W. Taylor, for instance, tried to record and measure the factory labour process to make work legible and visible, so it could be better understood by managers.[32] Workers' performance was monitored, and jobs were assigned based on their capacity and motivation in order to reach maximum efficiency: as a result, managers were able to measure the work process in great detail, and production could be sped up on this basis. This managerial desire for legibility has been followed by many nowadays work platforms. Some of them allow real-time location tracking and timing of every worker, while others record every digital activity performed by the worker on the platform itself. However, some kinds of work are more susceptible to this kind of reorganisation and can be challenging to be mediated via a platform, whereas others, such as delivery and transportation, are easier to "platformize".[33]

The third precondition combines social and technological aspects: "mass connectivity and cheap technology". The availability of smartphones with regular internet access is paramount for both workers and consumers of platforms. Without internet connectivity services are unreliable. It is a core pillar of the modern information society. As of January 2021, the global penetration rate was 59%, with Northern Europe ranking first with a 95% internet penetration rate among the population.[34] Hence, over half of the world's population is now connected to the Internet, with 4.66 billion active internet users worldwide. However, digital divides remain real: only about 35% of the population in developing countries has access to the Internet, versus about 80% in advanced economies.[35] Further, countries like China and India, for instance, have the highest number of internet users with approximately 854 million internet users the former and 560 million the latter. However, both countries still have large parts of the population that are offline.[36] Yet, the basic point here is that in either low-, middle- and high-income countries, connectivity is no longer confined to dial-up models; mobile phone is the device that most people use to connect. Today, gig economy firms are facilitated by technology that is cheap enough for mass uptake; thus, they are able to reach a wide number of

[32] Samuel Haber and Daniel Nelson, 'Frederick W. Taylor and the Rise of Scientific Management' [1982] Technology and Culture.
[33] Woodcock, J., & Graham, M. (n 31)
[34] Statista, 2021. Worldwide digital population as of January 2021, available at: https://www.statista.com/statistics/617136/digital-population-worldwide/
[35] The World Bank, "Connecting for Inclusion: Broadband Access for All", available at: https://www.worldbank.org/en/topic/digitaldevelopment/brief/connecting-for-inclusion-broadband-access-for-all
[36] See *supra* note 34

clients and workers. Some gig economy firms, focused on "global services" such as graphic design or transcription, have been able to set up global-scale platforms that enable mass migration of labour. In the words of Mark Graham et al. (2019), they have been able to set up a "planetary labour of markets",[37] where workers are placed into competition with one another, and clients have a wide variety of workers to choose from.

The fourth precondition is related to the social aspect and involves "consumer attitudes and preferences". In some industries, platforms must deal with new demands and thus, encourage new behaviours; while in others, they simply build on an existing market. Delivery and transportation platforms, for instance, build upon a pre-existing consumer attitude of seeking for a service remotely and having it delivered. Therefore, in this context, it is not required a significant change in consumer behaviours. However, to witness a shift in consumers attitudes toward using digital platforms, activities have to be meaningful, in that they must make sense to consumers and accordingly, they must be able to engage with these platforms. Thus, a certain degree of digital literacy and practical skills in using technology to access and manage information is needed.

The fifth one is still a social precondition, which is related to "gendered and racialised relationships of work". Particularly, the gendered relationships of work are apparent in the inclusion and exclusion of women from different kinds of jobs, even in the gig economy. For instance, domestic work has long been gendered as female work and the roots of this misconception can be generally traced to the gendering of work under capitalism wherein this kind of work has always been seen as unproductive – compared to the productive labour in a workplace – thus devaluating the skills involved. Consequently, the pressures for devaluated domestic work increased the likelihood for women to end up in segregated jobs or non-standard jobs, characterised by gender pay gap and fewer social protections. Further, gendered work is strictly connected to racialised work, as it often involves minorities and migrant workers. Racialisation has its roots in slavery and emerged as a consequence of the exploitation of slave labour, which played a key role in financing the industrial revolution.

Moreover, the majority of precarious workers are not represented by a labour union, and therefore are not covered by any regulatory regime (e.g., national insurance system, employment protection rights, collective bargaining).[38] Particularly, the gendered and racialised relationships combine in the case of migrant workers, giving rise to deeply exploitative workplaces not covered by effective employment regulation. Finally, many of these dynamics can be carried over into the platform work, where these relationships shape workers' likelihood of getting a specific job.

[37] Graham, M., and Anwar, M. A., "The Global Gig Economy: Towards a Planetary Labour Market?" [2019] *First Monday*
[38] Sandra Fredman, 'Women at Work: The Broken Promise of Flexicurity' [2004] Industrial Law Journal.

The sixth precondition is related to the "desire for flexibility for/from workers" and is a combination of social aspects and political economy. The desire for flexibility comes from both employers and workers, driving a restructuring of work based on the removal of any sense of agency of workers. As Woodcock and Graham (2019) found in their research, gig economy workers appreciate the flexible aspects of their work and despite well-known grievances, they prefer to engage in "gigs" rather than in a high-pressure workplace. The underlying reason behind it is that, sometimes, workers feel constrained by the boundaries of their local labour markets, and this is particularly true for low- and middle-income countries characterised by a general lack of opportunities and high unemployment rates. Thus, it is not surprising that many workers – especially in those countries – started to look at the gig economy as a chance to find jobs.

Yet, flexibility has its own drawbacks as many gig economy employers (i.e., digital platforms) are even refusing to acknowledge their position in the employment relationship. They frame themselves as "technology companies" (e.g., Deliveroo, Uber) and their workers are referred to as "partners", not employees. Hence, building the relationship in this way has led to a harsh departure from the standard employment relationship, with platforms freeing themselves from many of the responsibilities that standard employment would imply. Gig workers are not employees but independent contractors or self-employed, and this is a key issue of the debate on precarious work.

The seventh precondition is related to political economy and involves "state regulation". However, before addressing this issue, another aspect must be examined, that is neoliberalism. Here, there are two turning points to begin from. The first one is the "structural crisis" caused by the financial crash of the 1970s that saw the end of the post-war economic growth.[39] In this context, the "standard employment relationship" discussed earlier was also under threat, as inflation and unemployment grew. Yet the crisis provided the opportunity to come up with a programme of reforms that has come to characterise neoliberalism: increasing privatisation and use of market forces, the rolling back of the welfare state, revision of workers' terms and conditions.[40] Hence, this long period of change has shaped the current state of the employment relationship. The labour market was "deregulated", and labour was made more flexible; [41] the result being a decline of stable employment and an increasing polarisation of available jobs.[42] However, with the 2008 financial crisis, the ideology of neoliberalism lost its force. The following years have been characterised by an increase

[39] Gerard Dumenil and Dominique Levy, 'The Neoliberal (Counter-)Revolution', *Neoliberalism: A Critical Reader* (2005).
[40] David Harvey, *A Brief History of Neoliberalism* (2005).
[41] Ronaldo Munck, 'Neoliberalism and Politics, and the Politics of Neoliberalism', *Neoliberalism* (2017).
[42] Kaplanis Ioannis, 'The Geography of Employment Polarisation in Britain' [2006] The Geography of Employment Polarisation in Britain.

in low-paid and insecure work, and the welfare state was subject to aggressive changes as well. Consequently, all those factors started a process of reflection on what the neoliberal era had delivered, and some countries are now looking at the gig economy as a potential source of economic progress and prosperity.

To sum up, state regulation has set up the regulatory environment that facilitated the growth of this kind of work. However, existing regulation was not designed to consider the specificity of this kind of work, meaning that platforms can avoid or evade regulation, with the gig economy successfully taking advantage of it. For instance, companies in the technology industry with large amounts of capital are increasingly holding their money outside of the home country of their firm to avoid taxation or to seek for new avenues to invest. Thus, the gig economy became the perfect outlet for this through the growth of venture capital.

The eighth precondition involves "worker power" and is related, like the previous one, to political economy. Much of the aforementioned issues are related to this precondition as well. Neoliberalism has weakened employment protections and the working class has witnessed an increase into fragmentation of work, precarisation, and subcontracting of the labour force. In most of the gig economy there are no active trade unions and workers miss conditions and protections that were integrated, at least in part, into capitalism in high-income countries. In this regard, Ravenelle (2019) [43] referred to the gig economy as a "movement forward to the past". However, in this context, "working power" refers to the strength of the existing labour movement and how its relative power can design the environment in which platforms operate.

The ninth and final precondition involves "globalisation and outsourcing" and is a combination of political economy and technology. Globalisation has led the world to become more and more interconnected and is often linked to the use of "cognitive capitalism";[44] meaning that, the production of wealth takes place increasingly through the dissemination of knowledge, accumulation of immaterial capital, and the driving force of the knowledge economy. In recent years there has been a spread of technological infrastructures; notably, Mastercard/Visa/Amex payment platforms, Google Maps, Apple and Google Android operating systems and so on, that allowed the internationalisation of working practices and offered the opportunity for platform companies to scale relatively quickly. Further, outsourcing facilitates the integration of firms in different economies and allows work to be completed remotely via a computer. This is the case of Amazon Mechanical Turk and Upwork, for

[43] Katie J Wells, ' Hustle and Gig: Struggling and Surviving in the Sharing Economy . By Alexandrea J. Ravenelle. Oakland: University of California Press, 2019. Pp. Xiii+273. $85.00 (Cloth); $29.95 (Paper). ' [2020] American Journal of Sociology.
[44] Mouliner-Boutang, Y., "Cognitive Capitalism" [2012] *Cambridge: Polity*

instance, where work can be either microwork – thus divided into short tasks – or online freelancing and can be completed by remote gig workers all over the world.

2.3. Advantages and disadvantages of going gig for both companies and workers

Gig jobs differ from traditional employment in notable ways, thus the pros and cons of going gig for both companies and workers are manifold. First, from companies' perspective, one of the top reasons for using the gig economy are surely the costs. Costs associated with salaries, employment taxes, benefits, and flexibility of the workforce. Undoubtedly, when companies think about adding a new employee to their payroll, they need to determine the financial cost it entails to the business. By design, full-time employment imposes some mandatory costs, which are hard to pin down. These costs include the cost of hiring, the cost of onboarding and training, and the cost of learning and development.[45] Yet, other costs such as recruiting expenses, basic salary, and employment takes must be considered as well.

The recruiting process involves a range of expenses that goes from developing a proper recruitment infrastructure to planning a fitting recruitment budget. The latter allows the company to draft both short-term and long-term hiring plans, while keeping under control cash flows issues that might occur, such as staff shortages or mismanagement of the budget.

Surely, finding technically qualified employees who can effectively function in a rapidly growing environment, in the long run, is not an easy task. Accordingly, nowadays, most companies prefer to hire short-term employees for short-term and specific projects, outclassing the need for standard employment. And this is the case of the gig worker. When the project ends, there is no need to re-allocate the employee since the gig worker will independently go on to another project. Therefore, a short-term employee is perceived as the best option to fill temporary holes in companies' staffing, while reducing costs associated with full-time positions.

Further, whether a gig worker is considered an employee rather than an independent contractor is paramount for purposes of federal labour and employment laws as well.[46] For instance, the definition of 'employee' entails that he/she is a "person who works for another person in return for a financial compensation".[47] Again, the Oxford Dictionary succinctly defines the employee as a "person who is paid to work for somebody". Thus, under these assumptions, one could argue that

[45] Jack Altman, 'How Much Does Employee Turnover Really Cost?' [2017] Huffington Post.
[46] Sarah A Donovan, David H Bradley and Jon O Shimabukuro, 'What Does the Gig Economy Mean for Workers?' [2016] Congressional Research Service: Report.
[47] *American Heritage Dictionary of the English Language*, 1978.

independent contractors would appear to be employees. Yet, as some authors pointed out, "the legal definition of *employee* is concerned with more than the pay received by a worker for services provided".[48] Who works under an employment contract is subject to the work organization (i.e., the way the job must be done) defined by the employer, whereas a self-employed usually organizes his work independently and offers his competencies and skills to the contractor. Platforms typically claim that their workers are independent contractors, engaged with short-term incentives, and therefore not entitled to benefits such as the minimum wage. This leads to high turnover and wide unpredictability in workers remuneration.

Undoubtedly, from companies' perspective, the gig economy improves their ability to hire workers on a project basis and experts not needed on a regular basis; it improves their agility to scale the workforce up and down to meet business demand, and generally, it reduces infrastructure expenses. This is particularly true for smaller businesses. In fact, the ability for a small business to hire a skeleton staff to fill demand is a massive benefit when competing against huge companies. Nowadays, participating in the gig economy has become easier than ever. Usually, gig workers find work through the apps and internet and some of the most common job opportunities include delivery driving (e.g., UberEats, GrubHub), rideshare driving (e.g., Uber, Lyft), software development and creative work, such as writing or graphic design. Yet, what drives companies to adopt contingent work? In this regard, EY Global conducted an interesting survey in 2018 on over +200 US companies, centred on their attitudes towards contingent workers.[49] The results showed that both large size and mid-market size companies rely heavily on work sourced from platforms. Still, the motivation behind their adoption of contingent workers is sharply different. For large size companies, the main driver is to avoid and control labour costs. Whereas mid-size companies are strongly driven by the benefits of accessing skilled labour on short notice, which is paramount to complete projects that require specific expertise. And this is particularly valuable for small companies thriving in fast-changing environments, as already stated above.

By some accounts, gig jobs yield some benefits compared to traditional employment; they provide opportunities to generate income when circumstances do not accommodate full-time employment. Moreover, it is easier to find employment and workers have greater flexibility in terms of jobs and working hours.[50] In this regard, extensive literature points to the benefits of gig work related in terms of flexible scheduling and boundaryless career.[51] The term 'flexibility' is value-laden;

[48] Charles J Muhl, 'What Is an Employee? The Answer Depends on the Federal Law' [2002] Monthly Labor Review.
[49] EY Global, 'The gig economy: a chance to control your costs or accelerate your growth?' [2018]
[50] Donovan (n 46)
[51] M Keith Chen and others, 'The Value of Flexible Work: Evidence from Uber Drivers' [2019] Journal of Political Economy.

usually portrayed as a 'good thing'. Yet, it could also be portrayed as a synonym of 'uncertainty' and therefore, as a 'bad thing'. In this regard, Richard Hyman offered us a more pragmatic perspective of the subject: flexibility is strictly connected to whose interests are prompted and whose are neglected. The underlying question is: who gains and who really loses? [52] Uber, for instance, requests their drivers to accept at least 80% of their offered rides; if the driver does not accept a number of rides in a row, he might be logged off the app for a period of time. The same issue can be applied to crowd-work such as Upwork and Amazon Mechanical Turk. Thus, in order to make extra earnings workers are forced to give up their flexibility and work long hours.[53] Nevertheless, flexibility has been lifted as a positive aspect in Debbie Wosscows report as well, especially for women who have been inactive in working life; in fact, on-demand work platforms enable participants to adapt work to their specific routine and provide with the opportunity to combine different jobs.[54]

Notwithstanding the advantages of going gig for workers, there are some concerns in terms of job precariousness due to factors such as uncertainty around pensions and social security, unstable income and working hours, lack of access to career development, and lack of employment rights.[55] In this regard, the platform structure itself reflects an underlying instability. Particularly, due to its dynamic architecture, struggles over legal and regulatory regimes are difficult to predict, and therefore to regulate. Gig economy platforms often tightly control their workers' performance, pay, and choice of jobs. Regarding the latter, the underlying reason behind it is that as markets consolidate, pressures for platforms to turn a profit increase. Therefore, in a market led by few competing platforms, the most successful ones may try to "lock-in" their workers daunting the use of other competing platforms, through loyalty inducements or disadvantages for those who reject jobs while being available (which may happen if a worker is engaged on a job for another platform).[56] Uber, for instance, provides drivers with a loyalty program named "Uber Pro" based on the formula "the higher your status, the more rewards you unlock" (e.g., free roadside assistance and savings on everyday expenses like gas). Drivers' status is determined by the quality of their service and by their trip points over a 3-month period.

Conversely, in India, Uber launched "Uber Plus", which is a driver rewards program that offers benefits such as free doctor consultations, access to microloans, and savings on vehicle

[52] Richard Hyman, *The Political Economy of Industrial Relations* (1989).
[53] De Stefano (n 5).
[54] Debbie Wosscow, 'Unlocking the sharing economy: An independent review', (Department for Business, Innovation and Skills, UK Government 2014) 14
[55] European Observatory of Working Life 2018, Eurofound, available at: https://www.eurofound.europa.eu/observatories/eurwork/industrial-relations-dictionary/gig-economy accessed 1 Dec. 2021
[56] Uber, 2020. Introducing Uber Pro available at: https://www.uber.com/gb/en/drive/uber-pro/

maintenance costs, among others. Undoubtedly, adopting this strategy may not ensure sustained profitability, but somehow, it is the platforms' only choice to avoid hiked prices and eventually lose customers. These factors bring to the forefront a key issue at the core of the gig economy's identity: do these gig economy's digital platforms create more efficient markets by matchmaking supply and demand of independent commercial parties, or do they instead engage in regulatory arbitrage (misclassification of workers) in order to obtain a competitive advantage while actually functioning like traditional employers? Surely, worker misclassification is by no means limited to the gig economy. The current legal regime is indecisive in many contexts and companies, both old and new, sometimes struggle to apply outdated texts that do not fit the modern workforce, forcing workers to be classified as either independent contractors or employees.[57] In this regard, one could argue that it would be of mutual benefit for both companies and workers to have new legislation to regulate and govern this working relationship. Seemingly radical would be enacting legislation that safeguards the rights of workers and not employees. And this is paramount considering that the gig economy is growing quickly, and the right of millions of workers are at stake.

Together, all these threads form the political and socioeconomic landscape onto which technological change took place. Nevertheless, these preconditions do not determine the pattern or the form that the gig economy may take; instead, they offer the opportunity to outline the potential outcomes that the gig economy may deliver in different countries; and thus, how there are actually various forms of gig economies developed all over the world and experienced in significantly different ways.

2.4. The platform as an intermediary

A paramount feature of gig works, when compared to other traditional labour, is the presence of a digital intermediary in the form of platform organisations. Over the past years, advancements in digital technology have fuelled the emergence of online platforms to connect gig workers with customers and match the supply and demand of goods and services. Undoubtedly, the nature and organisation of work are tirelessly changing; some jobs are being revamped, while others are slowly eliminated. Particularly, according to a study conducted by Martin Kenney and John Zysman (2016), digital platforms are an essential part of what has been called the 'third globalisation'; they are multisided digital frameworks that shape the terms on which interested parties interact with one another,[58] and are gaining growth through the digitalisation of business processes, products, and

[57] Michael L Nadler, 'Independent Employees: A New Category of Workers for the Gig Economy' (2018).
[58] Martin Kenney and John Zysman, 'The Rise of the Platform Economy' [2016] Issues in Science and Technology.

services. Companies such as Etsy, Facebook, Amazon, Google, Salesforce, and Uber have leveraged the power of platform business models dramatically over the past decade, by creating online structures that opened the way for profound changes in how individuals create value in the economy. In this regard, they have driven up productivity in multiple ways. By way of explanation, e-commerce marketplaces like Etsy, ePrice, and eBay, have achieved productivity through highly efficient matching, whereas professional networks like LinkedIn have surpassed traditional recruiting firms by creating value for both users and enterprise customers.

Platforms are now active worldwide, some of them are household names (e.g., Apple, Google, Amazon, and Alibaba), while others have emerged recently from parts of the world that get less attention, such as Flipkart (India), Javago (Nigeria), Rakuten (Japan), and Naspers (South Africa).[59] Narrowly speaking, platform companies have been disruptive in multiple ways. In this regard, a study conducted by David S. Evans and Richard Schmalensee (2016) showed that online platforms did not actually disrupt traditional businesses, but existing platform industries indeed. Thus, in most cases, the victim was another matchmaker to consumers and services, or products already operating on the market. For instance, Uber disrupted the taxi and limousine companies – particularly, Yellow Cab Company – through the use of its ride-sharing app; Didi Chuxing disrupted the Beijing Taxi company; Apple disrupted traditional PC operating systems (e.g., Microsoft Windows) by introducing the iOS mobile platform, whereas Airbnb disrupted hotel chains, and particularly their online booking sites.[60]

The early literature on platform work tended towards predictions and claims such as the end of standard employment or a shift towards a regime of platform capitalism.[61] Notwithstanding, a growing literature now provides a more complex and empirically grounded study of platform work,[62] focusing on the shift from closed to open employment and retreat from direct control that platforms represent. Still, the regulatory and legal aspects unfolding over the platform economy have not yet received plentiful attention in the current literature.

Generally, there are mainly three types of actors involved in platform work, notably: *client*, *worker*, and *platform*. Firstly, the client is the one who requests tasks and may be whether an individual, a group, a company, or an institution. Secondly, the worker is the one who performs the task requested by the client and may be whether an individual or a micro/small company. Finally, the platform operates as an intermediary and provides the infrastructure for the exchange between supply

[59] Peter C Evans and Annabelle Gawer, 'The Rise of the Platform Enterprise A Global Survey' [2016] The Center for Global Enterprise.
[60] David S Evans and Richard Schmalensee, 'The Business That Platforms Are Actually Disrupting' [2016] Harvard Business Review.
[61] Srnicek N., "Platform Capitalism" [2016] Cambridge, UK/Malden, MA: Polity
[62] Steven Vallas and Juliet B Schor, 'What Do Platforms Do? Understanding the Gig Economy', *Annual Review of Sociology* (2020).

and demand, by partly coordinating interactions between the other two parties.[63] Thus, considering this "three-sided architecture", platform work is often described also as a "three-sided market", where actors have different levels of control over the interactions.[64] For instance, the platform has a stronger controlling role, compared to the client and the worker, over the interactions that take place through the platform. In this regard, one control mechanism that usually platforms exert over workers is rating, which proved to be an effective tool to establish trust between parties.[65]

In this regard, developing trust is paramount in today's economy because transactions that take place on the platforms are between strangers. The underlying intuition behind it is that, by implementing such a rating system, platforms' transaction volume will increase if customers' valuation about the service is high enough. Particularly, Cockayne (2016) argued that ratings can also function as a method to impose control and discipline over workers' behaviour and can ensure that it aligns with what the rating requires.[66]

Those digital platforms that are now offering online outsourcing, led to the creation of mass employment, where the labour force is huge but dispersed throughout the world. For instance, alongside real factories (e.g., Renault, Borsch etc.), there are now virtual factories that rely on virtual "crowds", marking a trend towards a new form of digital Taylorism. In this context, the "crowd" is the new player in the labour market, brought by this platform economy.[67] This new version of Taylor's theory applies not only to "Taylor's industrial workers" but to a wider range of employees, i.e., knowledge workers, service workers, and managers themselves. Particularly, in Taylor's setting, managers were considered as the lords of creation, yet in the platform world (or, digital world) they are considered as mere workers, who are constantly monitored and measured and those who fail to hit the standards are someway dismissed.

[63] Ivo Blohm, Leimeister Jan Marco and Shkodran Zogaj, 'Crowdsourcing Und Crowd Work – Ein Zukunftsmodell Der IT-Gestützten Arbeitsorganisation?' (2014).
[64] Eurofound, "Platform work: Types and implications for work and employment – Literature Review" [2017] Working Paper
[65] Chen Jin, Kartik Hosanagar and Senthil K Veeraraghavan, 'Do Ratings Cut Both Ways? Impact of Bilateral Ratings on Platforms' (2017).
[66] Cockayne (n 23).
[67] Tom Montgomery and Simone Baglioni, 'Defining the Gig Economy: Platform Capitalism and the Reinvention of Precarious Work' [2021] International Journal of Sociology and Social Policy.

2.5. Towards distinguishing the variants of gig work

To better understand the working principle behind these labour platforms and the way they are reconfiguring the nature of work, some factors such as the types of employment, and consequently the labour market situations they support, must be identified. For instance, some scholars constructed typologies of platform workers based on a bunch of factors, such as skill levels, the nature of work being performed, the kind of product being produced, whether the work is rooted in a given locality or globally dispersed, or it is performed online/offline.[68] Hence, building on their findings, four types of work can be identified.[69]

The first category includes platforms' founders, i.e., highly skilled employees and independent contractors who maintain and design platforms' digital infrastructures. Following, the second category includes consultants or freelancers who offer and provide professional services via platforms such as Freelancer or Upwork. They are categorised as highly skilled workers, operating in fields such as graphic design or computer programming and therefore, they are typically engaged on a project-specific basis.[70] Further, the third category of platform work is defined by gig workers whose services are generally performed offline, and therefore afforded a certain degree of flexibility in terms of autonomy and work schedules. Usually, this arrangement is advertised as a benefit by firms, but gig workers must conform to the temporal rhythms of customers demand, thus their autonomy is substantially reduced.[71]

The fourth type of platform work is related to multitasking; that is, undertaking specific tasks performed entirely online. These tasks may include classifying or describing the content of images or validating user accounts on social media, for instance. Thus, crowdsourcing sites are paramount to source the labour force via a specific platform. Moreover, these jobs usually require less training and experience compared to the previous ones. They are priced under extremely competitive conditions, and therefore, earning a living wage through multitasking in wealthy countries is undoubtedly limited.[72]

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[68] Koen Frenken and Juliet Schor, 'Putting the Sharing Economy into Perspective' [2017] Environmental Innovation and Societal Transitions; Lilly Irani, 'Difference and Dependence among Digital Workers: The Case of Amazon Mechanical Turk'; Steven P Vallas, 'Platform Capitalism: What's at Stake for Workers?'; Kristine M Kuhn and Amir Maleki, 'Micro-Entrepreneurs, Dependent Contractors, and Instaserfs: Understanding Online Labor Platform Workforces' [2017] Academy of Management Perspectives; Martin Kenney and John Zysman, 'Work and Value Creation in the Platform Economy', *Research in the Sociology of Work* (2019).
[69] Vallas and Schor (n 62).
[70] Rory Donnelly, 'Debra Osnowitz: Freelancing Expertise: Contract Professionals in the New Economy' [2011] Administrative Science Quarterly.
[71] Vallas and Schor (n 62).
[72] ibid.

Likewise, Duggan et al. (2020) proposed a further classification of gig work into three specific variants: app work, crowd-work, and capital platform work.[73] Conceivably, app-work is perhaps the most known form of labour in the gig economy. Here, digital platform organisations operate as intermediaries among workers and customers, with the former performing tasks locally (e.g., food delivery, transportation) and the latter paying for these services, whereas the platform organisation retains a percentage of the exchange.[74] Suffice it to say that there are a lot of different gig economy apps currently available, which can be divided into three different categories depending on their use and scope: platform-based apps, on-demand apps, and freelancer apps. The first ones involve selling or renting something out. In this regard, the rapid expansion of the Airbnb platform was astounding. Its disrupted and contentious explosion was due to the fact that the platform provided an opportunity for 'hosts' to generate income by sharing or renting their own homes or spare rooms. Similarly, eBay and Facebook Marketplace allow users to sell items that can be easily shipped, such as clothes, books, or furniture for instance.

Regarding on-demand apps, a common feature is that prices are set up in advance. These apps cover numerous areas such as rideshare, food delivery, scooter charging, and on-demand staffing to name a few. Among those, rideshare and food delivery are undoubtedly the major on-demand gig economy apps. For instance, Uber and Lyft are the two quintessential ridesharing companies. Both offer innovative alternatives to taxis and give passengers a convenient way to pay for their rides through their smartphones. They work pretty much the same, thus Uber's reach also expands into other cities around the world compared to Lyft, which operates mainly in Canada and the United States. On the other hand, the expansion and popularity food delivery apps are probably due to the fact that those apps fit perfectly into people's day-to-day life. Some apps tell gig workers how much they will earn upfront (e.g., Doordash, Grubhub), before accepting the order; whereas others offer this information only after the order is completed or keep the delivery location hidden until the order is picked (e.g., Uber Eats at its beginnings). Nevertheless, one of the most important features about being an independent contractor is that one can work for many different delivery platforms concurrently.

Lastly, freelancer apps allow the user to create its own profile and set its own price. TaskRabbit, for instance, is a network of pre-approved and background checked individuals, who possess some kinds of technical skills needed to complete a listed task. This app provides

[73] James Duggan and others, 'Algorithmic Management and App-Work in the Gig Economy: A Research Agenda for Employment Relations and HRM'.
[74] Duggan, J., McDonnell, A., Sherman, U., & Carbery, R., "Work in the Gig Economy: A Research Overview" [2021] (1st ed.). Routledge.

underemployed or unemployed individuals with the opportunity of earning some extra money by accomplishing specific tasks posted by *TaskPosters*. The job can be either accepted or rejected, based on *Taskdoers* convenience and availability. Summing up, app workers typically operate under the surveillance of an algorithm, which allows platform organisations to identify and offer labour to gig workers. Thus, it follows that the nature of the working relationship found in app work is extremely complex and unique, with uncertainty and hyper-temporality being its fundamental pillars. Minimum quality standards are set out by platforms and app workers are hired almost instantly once they have agreed on their terms and conditions. Yet, if workers fail to meet any of these minimum quality standards, they are highly likely to be deactivated from the platform, thus losing their job. And this is what hyper-temporality is about.[75]

Following, the second gig work variant identified by Duggan et al. (2021) is crowd-work. Similar to app workers, crowd-workers connect with customers via digital platform organisations to sell their services. However, one differentiating feature of this variant is that tasks are performed remotely and entirely online and related mainly to human intelligence tasks that computers cannot perform.[76] Thus, audio transcription, translation, or software coding are some of the tasks that crowd-workers may undertake. Hence, work is outsourced to a geographically dispersed crowd through location-based applications (apps), which allocate work to individuals in specific geographic areas. Further, today the term outsourcing is often used when referring to a crowd (i.e., a large group of people) working on a specific project and contributing to a common goal.

Accordingly, one speaks of crowd-working when the members of the crowd receive financial compensation for fulfilling their tasks.[77] Yet, there are two distinct systems of how financial compensation is determined. According to G. Jager et al. (2019) [78] either the employers set the price for each task, or the crowd-workers choose the wage they want to receive for completing the task. But, over and above that, nearly all crowd-working platforms work basically the same; they are financed by either a membership fee paid by workers or employers, a small percentage of all payments – which the platform keeps – or both.[79] Notwithstanding, a paramount difference between these platforms is the selection process. In this regard, G. Jager et al. (2019) defined four categories of crowd-working platforms termed "Cheapest Offer", "Quality Requirement", "First Offer", and "Best Quality".[80]

[75] Duggan et al., (n 74)
[76] Duggan (n 73)
[77] Georg Jäger and others, 'Crowdworking: Working with or against the Crowd?' [2019] Journal of Economic Interaction and Coordination.
[78] ibid.
[79] ibid.
[80] ibid.

The "Cheapest Offer" is a method used by a widely known platform named *freelancer.com*. The workers can decide how much payment they want to receive as compensation and the platform selects the cheapest offer. There is no minimum requirement of qualification, therefore this method favours – apparently – workers with low reservation wages. Contrariwise, the variant termed "Quality Requirement", require some minimal qualification for each task, as the name suggests. The qualification can be proved in several ways, which vary according to the platform of interest. For instance, some platforms ask for a certain success rate, whereas others simply require more experience within the platform itself. As for the rest, it is pretty similar to the previous method; workers can choose the amount of money they want for fulfilling the task and the platform selects the cheapest offer.

Further, the third variant called "First Offer" entails that all workers can apply to all contracts, but tasks and payment are defined by the employer. Thereafter, the worker who applies first gets the contract. This method is extremely fast and simple to understand and is widely used by *Amazon Mechanical Turk*, which is one of the biggest crowdfunding platforms. Lastly, "Best Quality" focuses on workers' qualifications. All workers are allowed to apply for all offered tasks, and the best qualified gets the contract. Payment is set by the employers, and the qualification can be determined in various ways, such as past projects or ratings of finished contracts.

Undoubtedly, crowd-work can be advantageous for workers in several ways. It allows individuals to access work from anywhere in the world, to perform quick tasks that do not require significant skills or instruction, and to earn additional income using existing skills. However, there are also some drawbacks such as the insecurity of work and the lack of a discernible employer; features that accompany all gig workers. Moreover, work is segmented into several micro-tasks, thus lacking any traditional labour protection as well.

As per the final gig work variant – capital platform work – it is focused on connecting customers with a form of capital owned by the individual, rather than the fulfilment of tasks or labour.[81] Capital platform work refers to individuals using digital platform organisations to sell goods or lease assets. It is closely associated with the so-called "sharing economy", because it relies on *sharing* underutilised assets such as accommodation, for instance. Yet, platforms do not directly own any physical assets, but simply facilitate individuals' access to specific services.

[81] Duggan et al., (n 74)

2.6. Labour market trends and growth of gig workers

Nowadays, the gig economy has become a much-desired career path and the Covid-19 pandemic pushed this trend as many companies were forced to scale down production and countless individuals tried to endure the massive disruption it entailed. Some companies had to be creative with hiring through the pandemic, by hiring temporary staff where decreased budget could not accommodate full-time staff along with the cost of benefits. Particularly, a recent study conducted by DaVinci Payments, Inc., estimated that approximately 93 million workers participated in the gig economy in 2020: an increase of a third over 2019. Moreover, the survey also estimated growth of 33% during the pandemic, fuelled by the financial pain it brought to many workers, forcing them to seek supplements to their full-time job.[82] Yet, the gig economy was already witnessing dramatic growth before the pandemic hit.

Further, according to projections in the "Freelancing in America" Survey (2017),[83] the gig economy will probably surpass the full-time workforce by 2027. There is a gradual change in both companies' and workers' attitudes; the former perceives contingent work as much easier and faster when compared to standard work, whereas the latter starts to adapt nicely to the needs of organisations, by working remotely. Notably, according to a recent study conducted by MBO Partners, Millennials (age range 25 – 40) and Baby Boomers (age range 57 – 66) dominate the gig work market, comprising 34% and 26% of full-time independent workers respectively. Only 17% of independent workers belong to Generation Z (up to 24). Yet, this percentage is expected to increase in the upcoming years, as this generation acquires marketable skills and masters tech skills to find work and build careers.[84]

Generation Z is the youngest generation entering today's workforce. They are digital natives and thus, they have a more positive attitude towards the gig economy. Moreover, by growing up in a digitalised world, they are quite likely to go for a freelancing gig instead of a more traditional job. Members of Gen Z are first and foremost seeking the best cultural fit for them; for a job that affords them freedom and flexibility, and companies must adapt and adjust accordingly. They are surely more enthusiastic about the gig economy than any other generation, with 73% of Gen Z freelancers stating that they have joined the gig economy by choice, compared to 64% of Millennials and 66% of Baby Boomers.[85] Thus, employers are trying to be responsive to those changing needs and appetites.

[82] DaVinci Payments Inc., "Gig Economy Study 2021" [2021]
[83] Freelancing in America Report, "A study commissioned by Freelancers Union & Upwork" [2017] Conducted by Edelman Intelligence.
[84] MBO Partners, "Future of Work Report: 10 Future of Work Trends and Predictions" [2020]
[85] Katya Lopez-Nichols, "Gig Economy Statistics" [2019] Fountain

According to data provided by Mastercard, the global gig economy generated 204 billion dollars in Gross Volume in 2018 and is expected to be worth almost 455 billion dollars by 2023, as societal attitudes towards P2P sharing evolves and digitalisation rates in developing countries increase.

Particularly, gig platforms are projected to continue expanding their operations, thus considering that a majority of the Gross Volume comes from platforms that are relatively new to the market, the industry is projected to expand and mature in upcoming years.[86] Moreover, according to the Mastercard study, around 58% of the gig economy worldwide is in the area of transportation, yet other industries – accounting & finance, legal, IT – are starting to witness a rise in gig workers as well. Furthermore, developing markets (e.g., India, Indonesia, Bangladesh) represent a fertile grown for the gig economy considering their expansive populations and existing economies of lower-skilled labour. In this regard, gig-based employment has the potential to create both opportunities for low-income workers and significant incremental economic value, as labour participation expands easily also for women and students who may only be available for part-time work to earn some extra income. In some sectors, like delivery and transport, some visible trends are emerging. As opined by Huws et al. (2016), gig "work is not only growing fast but spreading into diverse occupational areas",[87] such as teaching, and health, and legal services, for instance. Particularly, the findings of their study argue that for an increasing number of workers platform work is not only a supplemental income but is becoming the main part of their earnings.

Notwithstanding, it is difficult to measure the real size of the gig economy, and what makes measuring so challenging are – among other factors – researchers' competing definitions of what it includes. However, as Woodcock and Graham (2019) [88] stated in their study, "ever more work is being mediated by platforms", and regardless of the quantitative measures, the gig economy is undoubtedly creating significant qualitative changes in nowadays societies.

[86] Mastercard and Kaiser Associates, "Mastercard Gig Economy Industry Outlook and Needs Assessment" [2019]
[87] Ursula Huws and Simon Joyce, 'Crowd Working Survey: Size of the UK's "Gig Economy" Revealed for the First Time' [2016] University of Herforshire.
[88] Woodcock and Graham (n 31)

2.7. Problem definition

The gig economy has undoubtedly the potential to drive wage and employment growth in low- and middle- income countries like India, by changing the geographies of work. Most employers in online labour platforms are based in high-income countries, whereas the majority of the workforce are based in developing countries; thus, a transformation is under way as more and more companies are outsourcing work to India. However, India is experiencing a long-standing gender gap in labour force participation. Despite being a fast-growing economy, it has amongst the lowest female labour force participation rate (FLFPR) globally.

Yet, literature is scanty when it comes to measuring the impact of the gig economy on the gendered experiences of gig workers and this lack of knowledge limits the ability to have a comprehensive understanding of the impact of the gig economy on the labour force. In the Indian context, for instance, domestic work has long been gendered as female work, perceived as unproductive. Consequently, the pressures for devaluated domestic work increased the likelihood for women to end up in segregated jobs or non-standard form of jobs, characterised by gender gap and fewer social protections. The majority of precarious workers, in fact, are not represented by labour union, and therefore are not covered by any regulatory regime. Income inequality has been evident in traditional work, and even if the gig economy exhibits some innovative features, it is not clear yet if it may represent the continuation of long-standing gendered inequalities as well. Considering the gig economy's growth path, companies have now the opportunity to grow their talent pool and thus, the gender gap may be partially solvable by contingent work.

Therefore, as there is little research on this topic, the main goal of this thesis is to combine and apply existing theories and data gathered in different forms to create a comprehensive framework that contributes to fill this gap in the gig economy literature. Particularly, Transaction Cost Economics will be addressed and applied to provide a broader understanding of the topic, followed by an in-dept analysis of India's labour market with regard to gender inequalities in the gig economy framework. Transaction Cost Economics has been used as an important lens in understanding when it is more efficient for a transaction between parties to occur within an organisation or within the market. Still, as more and more transactions occur in a digitally mediated way, open questions remain as to how this framework applies in the digital economy. Therefore, this work attempts to probe the boundary conditions of Transaction Cost Economics by bringing together a variety of studies in order to provide a unique framework of analysis applied to the gig economy.

3. Introducing Transaction Cost Economics Theory

3.1. The conceptual foundations of transactions in TCE

To have a cohesive knowledge of the topic, it is paramount to determine how gig economy platforms are disrupting traditional businesses by revolutionizing work and changing the ratio of value creation. In this regard, Transaction Cost Economics (TCE) may be useful to explain and decompose this new paradigm. TCE has its beginnings in Ronald Coase's (1937) [89] explanation of the nature of the firm, and the following massive literature grown out of it.[90] This literature attempts to define the meaning of transaction costs, and the determinants under which transactions will be externalised to the market or internalised within the firm. The transaction costs framework highlights that an organisation's decision about whether to recur to contract labour or internal labour to fill a given position depends on the costs of making that transaction.

Transaction Cost Economics has been successfully applied in various fields. For instance, it has been used to explain open innovation in start-ups,[91] to test the purchasing portfolio management,[92] to study the Sharing Economy,[93] and to understand consumers' online buying behaviour.[94] Particularly, it has been used to explore the question of what constitutes the most effective organizational structure.[95] With the U-form structure, the firm's activities are subdivided into functional areas (e.g., marketing, production, personnel, finance) each of which is run by a specialist manager. However, effective coordination becomes more difficult as the U-form firm increases in size, eventually running into control loss and strategy formulation problems.[96]

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[89] RH Coase, 'The Nature of the Firm' [1937] Economica.
[90] Oliver E Williamson, 'The Economics of Organization: The Transaction Cost Approach' [1981] American Journal of Sociology; OE Williamson and WG Ouchi, 'The Markets and Hierarchies Program of Research: Origins, Implications, & Prospects', *Perspectives on Organization Design and Behavior* (1981); ALCHIAN H.DEMTSEZ, 'Production , Information Costs , and Economic Organization Armen A . Alchian ; Harold Demsetz' [1972] Organization; Sanford J Grossman and Oliver D Hart, 'The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration' [1986] Journal of Political Economy; Sherwin Rosen, 'Transactions Costs and Internal Labor Markets' [1988] Journal of Law, Economics, and Organization; Oliver D Hart, 'Incomplete Contracts and the Theory of the Firm' [1988] Journal of Law, Economics, and Organization.
[91] Ching Tang Hsieh, Hao Chen Huang and Wei Long Lee, 'Using Transaction Cost Economics to Explain Open Innovation in Start-Ups' [2016] Management Decision.
[92] Davide Luzzini and others, 'A Transaction Costs Approach to Purchasing Portfolio Management' [2012] International Journal of Operations and Production Management.
[93] Anders Hansen Henten and Iwona Maria Windekilde, 'Transaction Costs and the Sharing Economy' [2016] Info.
[94] Thompson SH Teo and Yuanyou Yu, 'Online Buying Behavior: A Transaction Cost Economics Perspective' [2005] Omega.
[95] O'Brien and Williamson (n 16).
[96] Judit Kapás, 'New Variant of the Firm: A Market-like Form' [2004] Journal of Business Economics and Management.

In the twentieth century, those issues were addressed by the development of the M-form structure, characterised by a number of quasi-independent operating divisions.[97] A distinctive characteristic of the M-form with regard to the U-form is that each division's contributions to profits can be directly measurable and observable, in that each division is divided along functional lines and deals with a conceptually different business.[98] Particularly, considering that centralisation of decisions may create high coordination costs, and as the firm expands in size, operating crises may cause profit distortion, the M-form achieves better efficiency by reducing both opportunism and information distortion. Thus, decreasing the transaction costs of using the market to discipline firms not maximising profits.[99]

Further, according to TCE, non-specific transactions among two entities are better transacted through the market mechanism. However, as the complexity of transactions increases in a way that assets become more specialised and less easy to redeploy to alternative uses, hierarchy through vertical integration may constitute the best option for firms seeking to save on costs. When authority and fiat are more likely to resolve conflict and supplement renegotiation, vertical integration will undoubtedly outperform markets. The reason behind it is that specialised and complex transactions may increase the likelihood of opportunistic behaviour, which is costly to monitor.[100] Therefore, moving high specific transactions from the market into the firm may help to mitigate these hazards.

Additionally, when asset specificity is characterised also by a high degree of uncertainty, transactions are even more likely to occur inside the organisation.[101] In this regard, according to Williamson's world of TCE, firms exist because of their superior abilities to control human opportunism through the adoption of hierarchical controls that are not accessible to markets.[102] Narrowly conceived, when transaction costs are high, internalising the transaction within a hierarchy is the appropriate decision. Conversely, when transaction costs are low, buying the good or service on the market is the preferred option.[103]

Moreover, under the hypothesis of symmetric information – typical of classic economic theory – transactions can be executed without incurring any costs. However, the real world is characterised by a lot of uncertainty and unpredictability, where symmetric information is utopian and individuals possess limited rationality; meaning that they obtain and process limited information, and therefore,

[97] John Lipczynski, John Wilson and John Goddard, *Industrial Organization Competition, Strategy and Policy* (2017).
[98] Kapás (n 96).
[99] ibid.
[100] O'Brien and Williamson (n 16); Eccles and Williamson (n 16).
[101] Nagle, Seamans and Tadelis (n 17).
[102] Sumantra Ghoshal and Peter Moran, 'Bad for Practice: A Critique of the Transaction Cost Theory' [1996] Academy of Management Review.
[103] Henrich R Greve and Linda Argote, 'Behavioral Theories of Organization', *International Encyclopedia of the Social & Behavioral Sciences: Second Edition* (2015).

have very few options to choose from. Economic transactions are not based on perfect rationality but on bounded rationality; a term introduced by Herbert Simon (1957) as a shorthand for his brief against neoclassical economics and his attempt to replace the assumptions of *homo economicus's* perfect rationality with a rationality tailored to cognitively limited agents. The perfect rationality entails a hypothetical agent who has complete information and perfect foresight about the options available for choice, as well as the wherewithal to solve a complex problem that identifies an option which maximises his personal utility. Hence, bounded rationality entails individuals' difficulty in obtaining and processing all the information needed, because there are limits to their available information, time, and thinking capacity.[104] All those factors make it difficult to enter into contractual agreements at low costs, which lead to the creation of transaction costs.

Further, Transaction Cost Economics concurs with Chester Barnard (1938) [105] and Friedrich Hayek (1945) [106] that adaptation is the key issue of economic organisation. According to Barnard, the survival of an organisation depends upon the maintenance of an equilibrium, which eventually calls for readjustment of processes internal to the organisation. Hayek likewise featured adaptation, albeit of a different kind. According to Hayek, economic problems arise as a consequence of change.

Hence, the difference between these two definitions is that the adaptations of concern to Hayek are *autonomous* adaptations; meaning that, individuals respond to market opportunities as signalled by changes in relative prices. Whereas the adaptation to which Barnard refers are *cooperative* adaptations; organisations are cooperative systems, and hence, adaptations are accomplished through administration within the firm.[107] Accordingly, either in times of growth or uncertainty, gig economy companies are the ones with greater adaptability. This new economic model gives space to workers to trade their job skills on a free market beyond conventional employee contracts; thus, being most adaptable to uncertain circumstances.

The increasing dominance of the digital economy urged for a better understanding about how economic activity is organised into firms and markets, and the interplay between them. In this regard, Coase's ideas took a long time to catch on, albeit recognised as highly original. In fact, according to Alchian and Demsetz (1972), there is a conceptual weakness in the theory's dichotomy between the role of consensual trade on the market and the role of authority within the firm. Considering, for instance, Coase's notion that the employer has authority over the employee, Alchian and Demsetz questioned this aspect by asking what happens if the employee does not obey the employer's

[104] Herbert A Simon, *Models of Bounded Rationality* (2019).
[105] Barnard Chester, 'The Functions of the Executive' [1938] Cambridge, MA, Harvard University Press.
[106] F Hayek, 'The Use of Knowledge in Society FA Hayek' [1945] American Economic Review.
[107] Oliver E Williamson, 'Transaction Cost Economics: How It Works; Where It Is Headed' [1998] Economist.

instructions.[108] Will the employee be fired? Probably. But according to the authors, the employer-employee relationship is not clear enough in terms of authority. The employer can not tell the employee what to do, any more than a consumer can tell a seller what products to sell at what prices. Thus, according to their argument, Coase's view that organisations are characterised by authority relations does not have solid ground.

Accordingly, the authors developed their theory based on monitoring and joint production, as a way to better understand corporations. Team production requires careful monitoring so that everyone's contribution can be measured and assessed. Hence, by grouping individuals into teams, the cost of managing – *ceteris paribus* – decreases. Consequently, the lower the cost of managing, the greater the competitive advantage of organising resources within the firm.[109] However, their theory suffers the same criticism levelled at Coase, because it is not clear why monitoring and joint production costs must be solved through the firm and cannot be lowered through the market.[110]

According to Hart (1989), one reaction to these weaknesses may be to argue that they are not really weaknesses at all.[111] In other words, the firm can be viewed simply as a nexus of contracts. As regards the nexus of contracts theory, it is generally attributed to Jensen and Meckling's *Theory of the Firm*.[112] Basically, it holds that firms are merely a hub for a series of contractual relationships, that occur between the various parties involved with the firm: suppliers, customers, employees, as well as executives, directors, and creditors. Thus, in these terms, if the organisation is merely the nexus amongst these contractual relationships, the firm itself does not really exist.

Notwithstanding, the concept that organisation is just a nexus of contacts is unrealistic. It does not represent the reality of modern firms, because individuals can not contract to form a corporation. In order to create such an entity, they must apply to a state for permission, and even if permission is usually promptly granted – as long as taxes and fees are paid – the fact that permission is required does not change.[113] Nevertheless, this line of inquiring on the existence of the firm is important for the broader research, but for the purposes of this study, the focus will be narrowly put on the firm's decision to contract out work or not, and broadly on how technology altered the economic factors of transaction costs, that consequently led to further disruption of standard working relationships.

[108] H.DEMTSEZ (n 90).
[109] ibid.
[110] Oliver Hart, 'An Economist's Perspective on the Theory of the Firm' [1989] Columbia Law Review.
[111] ibid.
[112] Michael C Jensen and William H Meckling, 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure' [1976] Journal of Financial Economics.
[113] Hart (n 110).

3.1.1. Theory of the Firm

"The Nature of the Firm" is a brief essay in which Ronald Coase tried to explain why the economy is populated by several business firms, instead of consisting exclusively of a myriad of independent, self-employed people who contract with one another. Specifically, given that "production could be carried on without any organization at all",[114] Coase asks why and under what conditions one should expect firms to emerge. Thus, since modern firms can only emerge when an entrepreneur begins to hire people, Coase's analysis proceeds by considering the conditions under which it makes sense for an entrepreneur to seek hired help instead of contracting out for some specific tasks. The traditional economic theory of the time suggested that for the market to be efficient, it should always be cheaper to contract out than to hire. Yet, contrary to the literature of his time, Coase identified two variables:

The first one is related to transaction costs. Coase noted that there are a lot of transaction costs when using the market. For instance, the cost of obtaining a good/service via the market is more than just the price of the good/service, whereas other costs – including search and information costs, and bargaining costs – all add to the cost of procuring something on the market. Therefore, this suggests that firms will arise when they can arrange to produce what they need internally, in order to avoid these costs. Following, the second variable is related to overhead and bureaucracy costs. In this regard, there is a natural limit to what can be produced internally.

According to D'Aveni and Ravenscraft (1994),[115] even if the internalisation of expenses reduces certain transaction-related costs, the saving from reducing these costs may be partially or totally invalidated by increased overhead costs associated with the bureaucracy (i.e., organisation's hierarchy responsible for internal coordination). The cost of vertical integration can be substantial, either in terms of the size of the organisation or communication distortion (e.g., the distance between subordinates and their ultimate supervisors increases).[116] Hence, this may increase the propensity for an overwhelmed manager to make mistakes in resource allocation. Thus, why does the firm exist?

Firms exist to economise on the cost of coordinating economic activity. Price movements direct production outside the firm (coordinated through exchange transactions on the market), whereas within a firm, market transactions are lowered, and the complicated market structure is substituted by the entrepreneur, who directs the production.

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[114] Coase (n 18).
[115] Richard A D'Aveni and David J Ravenscraft, 'Economies of Integration Versus Bureaucracy Costs: Does Vertical Integration Improve Performance?' [1994] Academy of Management Journal.
[116] Joseph T Mahoney, 'The Choice of Organizational Form: Vertical Financial Ownership versus Other Methods of Vertical Integration' [1992] Strategic Management Journal.

Furthermore, market transaction costs consist mainly of search and information costs, bargaining/negotiation over transactions, contracting (formal or informal), monitoring and enforcement of agreements. Thus, in order to carry out a market transaction, it is paramount to discover the participants in the transaction, conduct negotiations leading up to a contract, draw up the contract, undertake enforcement activities and so on.[117] Starting from the assumption that individuals conduct transactions in the most economical way, Coase (1937) [118] showed what leads economic agents to join up and create large organisations. The reason is dictated by all the aforementioned costs and broadly, because of the cost of using the price mechanism. Basically, if each individual contributes to a different part of the production process, coordination between them occurs through price signals in the free market (i.e., market transactions). Through price signals, they collectively reach an equilibrium of what they produce, how much they produce, and their rewards for producing, and this is also called the Walrasian equilibrium.

Thus, the arising question is the following: why don't these individuals continue to act independently and coordinate through price signals in the free market? Again, the answer is because of transaction costs. Unlike the market, the firm is centrally planned, and therefore, it eliminates the need for price signals between individuals. Internalisation cuts down the costs of outsourcing certain processes; however, the costs of organisation, coordination, monitoring and information arise as the size of the company becomes larger and larger. Hence, the optimum boundaries of the firm reside where the cost of further internal organisation (i.e., the cost of organising extra transactions within the firm) is equal to the cost of transacting on the market. Therefore, it is reasonable to assess that firms' choice of hiring gig workers is dictated by necessity (or convenience) to minimise transaction costs. The relevance of Coase's work for the gig economy resides in the following assumption: if technological advancements decrease the costs of transacting on the market (outside the firm) rather than inside the firm, then this can help to explain the transformation of the employer-employee relationship, and thus the rise of contract labour. Particularly, search engines like Google reduced search costs associated with hiring; payments have become easier and more secure with credit cards and payment systems like Paypal; information costs have fallen with online reviews systems, and digital platform systems reduced the costs of finding and contracting with parties all over the world. Therefore, building on these considerations, Transaction Cost Economics may constitute a viable option to answer the following question, whose related considerations will be presented below:
RQ – To what extent TCE can be useful to explain the growth in the use of gig economy platforms and accordingly firms' decisions to rent rather hire workers?

[117] Oliver E Williamson and RH Coase, 'The Firm, the Market, and the Law' [1989] California Law Review.
[118] Coase (n 89).

3.2. Application to the Gig Economy

The growth of the gig economy can be evaluated in the context of technological advances, as many transaction costs such as those associated with searching for and hiring workers have been eliminated by technology. Thus, in TCE terms online platforms lower the costs of using the price mechanism. By way of explanation, platforms can be narrowly defined as a place where users (workers and consumers) find an immediate matching, with the platform monitoring and facilitating direct interaction between them. Therefore, costs such as search, information, bargaining, and enforcement are reduced, enabling a more efficient economic exchange.

Though, the real explanatory power of the theory comes from the three critical dimensions identified by Williamson (1979)[119] that characterise any transaction and determine the firms' boundaries and organisational form. Notably: (a) the uncertainty under which transactions take place, (b) the frequency with which transactions occur, (c) the asset specificity. Coase's original emphasis was on transaction costs incurred before contracts are concluded, such as the costs of negotiation. The posterior transaction costs literature, to which Williamson is probably the most influential contributor, focuses on costs incurred after contracts are concluded.[120] According to Williamson's theory, these variables are useful to determine whether transaction costs are lower in the market or in a hierarchy. Hence, these three aspects will now be addressed in turn in relation to the gig economy.

3.2.1. Uncertainty, frequency of work, and asset specificity

Uncertainty. In "Market and Hierarchies" Williamson addressed the question "Why do firms exist?" by asserting that firms are a tool to reduce opportunism and uncertainty in the market.[121] Opportunism is unavoidable, and individuals do not have perfect knowledge of all potential options, thus resulting in inefficiencies. In the gig economy framework, uncertainty lies in the lack of an agreed conceptualisation and regulation of both platforms and gig workers. The existing regulatory framework is designed mainly for traditional firms, whereas the supply of labour in the gig economy concerns "independent workers", "self-employed", "freelancers", or "taskers" rather than employees.

[119] Oliver E Williamson, 'Transaction-Cost Economics : The Governance of Contractual Relations Transactions-Cost Economics' [1979] Journal of Law and Economics.
[120] Lipczynski, Wilson and Goddard (n 97).
[121] O'Brien and Williamson (n 16).

This aspect opens the door to a paramount question of contemporary legal debates about whether gig workers are to be considered "employees" or "independent contractors".[122] But, as already stated previously, being an "independent contractor" implies a certain degree of autonomy and flexibility, which is entailed in its legal status. However, the majority of gig workers are tightly controlled and constantly evaluated – through reviews, rating, and timing – with the platform exerting significant control over them and thus, casting doubts on the very concept of autonomy of workers. Gig workers generally experience a trade-off between the flexibility and independence needed for the modern workplaces on the one hand, and the financial security and benefits offered in the traditional employment model on the other. In this context, the Covid-19 pandemic has highlighted the need for stronger safety nets for workers involved in non-standard forms of employment, including gig work.

Particularly, this urgent call for regulation urged jurisdictions (e.g., the European Union) to apply traditional employment models to the gig economy and reclassify many gig workers as employees. The potential consequences of such changes are not clear yet, but some potential outcomes may include reduced flexibility for both workers and businesses; thus, reducing the desirability of gig work and accordingly, affecting the growth of non-standard forms of work. This is a critical point in the current Covid-19 economic recovery as job creation must be encouraged and the gig economy may surely help in this regard. The current legal employment framework is outdated making it difficult to develop social security frameworks suited for each category.

Therefore, in light of these considerations, it might be assumed that uncertainty extends and affects not only gig workers but online platforms as well. It opens the path for unforeseen scenarios that may increase the likelihood of potential problems, thus lowering the benefits for both businesses and workers of relying on gig work. The final assumption is that this "grey area" in the legal employment status of gig workers may affect negatively online platforms, thus increasing transaction costs and potentially disincentivising the use of online platforms.

Hence, TCE can be useful in explaining the growth in the use of gig economy platforms only to the extent to which the lack of employment regulation (and its consequences) is not considered, albeit it does not apply to reality. There seems to be a negative correlation between lower transaction costs and effective gig workers' regulation as – narrowly speaking – a potential reclassification of workers may undermine the very pillars on which these platforms (and workers as well) are relying.

Nevertheless, from a different perspective, thanks to technology such as GPS and real-time feedback, uncertainty about the performance can be reduced and problems such as information asymmetry can be solved as well. For instance, in the case of Uber, tracking devices provide riders

[122] Nikos Koutsimpogiorgos and others, 'Conceptualizing the Gig Economy and Its Regulatory Problems' [2020] Policy and Internet.

with much better information about the quality of the service, whereas drivers no longer have to worry about the rider's insufficient funds to pay for the service because the platform automatically holds the payment in escrow until the destination is reached.

Frequency of transactions. The second dimension identified by Williamson (1979)[123] for describing transactions is the frequency with which transactions occur. Frequency is related to the number of times a transaction is expected to take place. In the gig economy scenario, the decision about whether to hire an employee or an independent contraction lies in the activity's recurrence. Specifically – all other things being equal – if the transaction is a one-off transaction, devoting significant resources to its coordination and control would result in inefficiencies. Whilst, the greater the activity's recurrence, the less the organisation should recur to online platforms and freelancers. If the transaction is expected to take place frequently, the cost of making special arrangements for its management would be justified, otherwise, it would be inefficient for the organisation to internalise a good or a service that is very rarely used. Therefore, it might be assumed that the higher the frequency of transactions, the less the desirability for organisations to recur to online platforms and gig workers for tasks that have a low likelihood of repetition.

Asset specificity. Transaction costs must be taken into account in the decision over what level of asset specificity to invest in. Asset specificity is the most important dimension (alongside uncertainty and frequency of transactions) in determining the choice of governance, notably hierarchy or market. Williamson (1985)[124] refers to asset specificity as "the degree to which an asset can be redeployed to alternative uses by alternative users without sacrificing productive value". In this regard, TCE also posits that asset specificity increases the hazards of opportunism, and thus the transaction costs necessary to safeguard this risk.[125] This dimension relates to the specificity of the investment, and consequently to the costs required to reallocate the asset for another use. For instance, the less specific the asset is, the higher the possibility to redeploy it to alternative use in uncertain circumstances. There are four forms of asset specificity defined by Williamson: namely, *physical asset specificity, site-specificity, dedicated assets,* and *human asset specificity*. A brief introduction of each will be provided, albeit only the latter will be considered for the purpose of this study.

[123] Williamson, 'Transaction-Cost Economics : The Governance of Contractual Relations Transactions-Cost Economics' (n 119).
[124] Williamson, O.E., 'The Economic Institutions of Capitalism' [1985] New York: Free Press.
[125] Glauco De Vita, Arafet Tekaya and Catherine L Wang, 'The Many Faces of Asset Specificity: A Critical Review of Key Theoretical Perspectives' [2011] International Journal of Management Reviews.

The first one relates to machinery and equipment put in place to produce inputs specific to a particular customer or assets specialised to use an input of a particular supplier. Those assets are tailored for specific transactions and therefore, have few alternative uses. Following, the second one occurs when investments in productive assets are made in close physical proximity to each other. The geographical proximity of assets reduces transportation, inventory, and sometimes processing costs, and once put in place those assets are highly immobile. Therefore, they cannot be relocated without incurring substantial costs. Further, *dedicated asset specificity* refers to assets that are of general purpose as compared to specialised one (*physical asset specificity*). Particularly, they are tailored for a specific transaction agreement that is likely to entail a long-term relationship. However, if the relationship ends prematurely, excess capacity will be created.[126]

Finally, *human asset specificity* refers to the accumulation of knowledge and expertise required in carrying out the activity being transacted.[127] Particularly, the more specific the human asset required to perform a certain task, the higher the transaction costs advantages of insourcing, rather than outsourcing, that specific task.[128] For external providers, the provision of firm-specific activities may require a substantial amount of extra learning effort. Moreover, using in-house internal authority can help to prevent the risk of opportunistic behaviour more efficiently; thus, resulting in lower transaction costs.[129] Therefore, it can be assumed that production costs (all costs that arise for performing activities that are necessary to complete specific tasks) via insourcing will decrease with increasing human asset specificity.

Thereby, in the gig economy scenario, the decision about whether a task should be outsourced to independent workers or processed internally (by integrating workers into the firm) should be taken by considering *ex-ante* the extent to which the activity entails firm-specific knowledge. Accordingly, the higher the specificity of the knowledge contained in the task that must be performed, the less the likelihood that the firm will eventually recur to online platforms and gig workers. In other words, firms are more likely to hire, rather than rent, when there is high firm-specific investment; whereas they will tend to rent, rather than hire, when there is low transaction-specific investment.

Essentially, Williamson argues that large-scale organisations are required because transaction costs are too high in technologically advanced economies and therefore, market coordination of economic activity is inefficient. He would refer to today's economy as an asset-specific economy

[126] ibid.
[127] ibid.
[128] Jens Dibbern, Wynne W Chin and Armin Heinzl, 'The Impact of Human Asset Specificity on the Sourcing of Application Services', *Proceedings of the 13th European Conference on Information Systems, Information Systems in a Rapidly Changing Economy, ECIS 2005* (2005).
[129] ibid.

rather than a technologically advanced one. However, taken together, this literature highlights the fact that if technology can lead to such changes, then one can presumably expect a rise in the use of contract labour for gig workers.

Figure 2: TCE dimensions applied to the Gig Economy

HIRE or RENT? **TCE dimensions**	**INSOURCING** **(hire)**	**OUTSOURCING** **(rent)**
UNCERTAINTY	Reclassification of gig workers as employees - Lower desirability of gig work	Lack of employment regulation - Higher desirability of gig work
FREQUENCY	Frequent transactions - Lower recurrence to online platforms & gig workers	One-off transactions - Higher recurrence to online platforms & gig workers
ASSET SPECIFICITY	High asset specificity - Hire rather than rent	Low asset specificity - Rent rather than hire

Source: own source

Furthermore, the rise of platform companies was analysed also by economist Michael Munger, as an example of how technological advancements reduces transaction costs. Munger was one of the first to apply the transaction costs framework to the sharing economy, as a way to explain the rise of contractor work.[130] In the following sections, Munger's discussions will be extended to analyse the labour market, by addressing the impact of triangulation, transfer, and trust costs on one-off exchanges that are now facilitated by gig economy platforms. Lastly, the impact of measurement costs on a firm's decision to hire or contract labour will be addressed as well.

[130] Michael C Munger, 'Tomorrow 3.0 the Sharing Economy'.

3.2.2. Triangulation costs

Munger (2018) coined the term "triangulation costs" to define a new category of transaction costs that encompasses both information and search costs, and bargaining costs.[131] The latter refers to costs related to coming to an agreement between parties involved in drawing up a contract; whereas, the former refers to costs associated with determining what is available on the market, including looking for relevant information about the ability and location of agents with whom the transaction will take place. Considering an exchange of any kind (buying a home, for instance) if triangulation costs are too high, then the opportunities for an exchange to take place are very low.

Incorporating technological change in this context, if technology helps to decrease costs associated with searching for information and setting an agreement, then exchanges are very likely to occur, and therefore more contracting of labour; in that, labour matching is more efficient, and the client directly pays the worker for the service provided. In this regard, the advent of the Internet increased the opportunity for suppliers to directly contract with consumers and hence, to decrease triangulation costs, whose reduction – in some cases – diminished the necessity of firms. Moreover, the diffusion of information technology (IT) increased the amount of information available; defined not only by the greater need for information but also by the growth in the number of sources from which information emanates. Consequently, to deal with the emerging complexity, companies need faster information processing systems.[132]

Particularly, platforms have driven down triangulation costs by using advanced features, such as GPS or dynamic rating systems, that allow users to indicate their preferences about whether to buy or sell a particular good or service at certain price points. And this enables the algorithm to set the perfect matching between two parties.[133] In this way, technology reduced the cost of searching and finding a particular buyer or seller and thus, increased the ability of parties to match with one another.

Moreover, contracting costs are reduced as platforms rely on the feedback of millions of users; hence, the terms of the contract are basically crowdsourced, and users converge to an agreement based on reasonable expectations. Yet, in some cases, the platform sets the price so that bargaining costs are further reduced, which would otherwise be substantially high if users incurred them every time an exchange occurs.[134]

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[131] ibid.
[132] Antonio Cordella, 'Does Information Technology Always Lead to Lower Transaction Costs?', *The 9th European Conference on Information Systems, Bled, Slovenia, June 27-29* (2001).
[133] Seth Oranburg and Liya Palagashvili, 'Transaction Cost Economics, Labor Law, and the Gig Economy' [2021] Journal of Legal Studies.
[134] ibid.

3.2.3. Transfer costs

As defined by Munger (2018) transfer costs refer to the costs of "transferring payments and goods that are immediate and as invisible as possible".[135] These costs include, for instance, the cost of money transfer, the costs of handling payments, storage costs and verification processes, direct transport costs. For example, if the client asks the worker to complete a particular task, but the worker needs to employ costly effort to perform it, they may not be able to transact because transfer costs are too high. The same applies to payment systems. If the client has only a credit card to pay for the service, but the worker does not have the ability to receive credit card payments, again transfer costs will increase, and they will not be able to transact.[136]

Today, with the introduction of online payment systems (e.g., Paypal) and verification processes, the transfer costs linked to payments have fallen. As technology opens up new payment options, customers are driving the demand for safe and secure transactions. This allows companies like Uber to hold funds in escrow through authorisation holds. The latter constitutes a way for the company to confirm that the rider's funds can go through successfully. By doing so, drivers no longer have to worry about the payment once the destination is reached because funds are automatically released once the ride is completed. Further, location tracking technologies made it easier to transfer goods or services by reducing the costs of moving them. For instance, with regard to Uber, riders do not have to give instructions to drivers to pick them up or about the destination they have to reach. The software automatically provides all the information needed, either about the traffic or any kind of problems that may get in the way of delivering the service.

Other platform companies such as Deliveroo work basically the same. Customers use Deliveroo's services to order food from nearby restaurants through their mobile apps or via their website and have it delivered directly to their homes. Payments are faster thanks to secure payment channels and the order can be monitored via Google Maps API, which is linked to the app. Moreover, the company uses strong predictive technology to ensure the most effective way to distribute orders based on consumers, riders, and restaurant locations. This makes the transfer of both goods or services, and payments more efficient and secure.

These technologies decrease transfer costs, thus increasing the opportunities for more exchanges between suppliers of services and customers, hence pushing the emergence of gig economy work. Maintaining smooth payments is far easier than recurring to cash, checks, or reading out the credit card number over the phone. Moreover, it makes sure that everyone gets paid.

[135] Munger (n 130).
[136] Oranburg and Palagashvili (n 133).

3.2.4. Trust costs

Trust costs rely on the concept that all parties involved in the transaction should have confidence that everything will go as expected. Even if parties are able to find each other easily and come to an agreement, and there are few problems with providing the service and the payment, there may still be some concerns regarding the quality of the service and hence, about whether or not to effectively trust the counterpart. Particularly, as addressed by Munger (2018), trust also entails the ability to ensure honesty and performance.[137]

These costs encompass not only clients' concerns about the quality of the performance, but also workers' confidence that the other part will make the payment once services are rendered. Moreover, trust concerns are costly and thus, when the costs are too high, the transaction may not occur. Contrariwise, when trust costs are low – thanks to access to relevant information, for instance – trust becomes easier to assess and hence, parties will be more likely to exchange.

Gig economy platforms overcame this concern by introducing review and rating systems, which made it easier to access information about both buyers and sellers. Users can learn about the honesty and performance of a potential counterpart effortlessly.[138] This means that riders can choose to avoid drivers with low ratings and, likewise, drivers can avoid problematic riders if they are rated poorly. Information is constantly updated, and parties can decide in seconds just by glancing at their ratings. Yet, looking from another perspective, these rating systems also entail that a wide range of responsibilities is shifted from companies to customers and contractors. They help companies to have fewer responsibility for workers' behaviour and performance, because – through ratings – they actually use people to manage people. Rating systems are meant to encourage more civil behaviour and weed out those who are problematic. Accordingly, as the platform model infiltrates into more and more professions and sectors of the economy, it is paramount to set core standards that evaluate fair working conditions for gig workers and nudge platforms toward better practices.

Nevertheless, it must also be considered that this rating system employed by many gig economy platforms allowed and still allows counterparts to have access to valuable information that would otherwise be unavailable or extremely costly in a traditional economy. Hence, it can be asserted that technology reduces trust costs allowing for greater exchanges and thus, more gig work.

[137] Munger (n 130).
[138] Oranburg and Palagashvili (n 133).

Figure 2: Munger's dimensions applied to the Gig Economy

MUNGER'S DIMENSIONS	Description	Impact of Technological Change
TRIANGULATION COSTS	Costs related to coming to an agreement between parties involved in drawing up a contract	Information and search costs, and bargaining costs are reduced by technological advancements (e.g., GPS, IT, rating systems)
TRANSFER COSTS	Costs of transferring payments and goods that are immediate and as invisible as possible	Online payment systems and verification processes allow for a more efficient and secure transfer of goods and payments
TRUST COSTS	Confidence about the quality of the performance and counterpart's reliability	Introduction of review and rating systems to access valuable information more easily

Source: own source

3.2.5. Measurement costs

Measurement costs are paramount to the firm's decision to have or to contract labour, to measure the workers' performance, and the output they produce.[139] In this regard, Cheung (1983) explained that if the components of certain goods or services are assembled in a way that the separation of workers' contributions is costly, then the firm should have employees.[140]

In other words, if the activities performed vary greatly, the measurement would be too costly. Though, if the individual workers' contributions can be perfectly definable, then firms should directly buy labour in the marketplace. Yet, sometimes separating contributions can be challenging if the final output requires team production, and hence individual contributions are hard to ascertain.[141]

In the gig economy context, measurement costs are reduced by technology in that, individual contributions can be easily separated and measured. Particularly, aggregation of big data and reviews also provide low-cost methods of measuring that makes it easier for employers to attribute and

[139] Munger (n 130).
[140] Cheung, Steven N. S., 'The Contractual Nature of the Firm' [1983] Journal of Law and Economics 26:1–21.
[141] Oranburg and Palagashvili (n 133).

measure individual efforts. Further, innovations in software development such as modular programming allow for better separation of individual contributions in that, the program is broken down into projects and each project can be carried out either by a team or one person.[142] This is the largest process that firms outsource in the form of contract labour and individual or team contributions can be easily evaluated by determining whether the program functioning is discrete or not.

Yet, rather than breaking down workers' roles into specific tasks and monitoring their conduct, the gig economy is now witnessing a gradual shift towards performance measurement; that is, a more supportive approach based on the identification of values and behaviours that will improve workers' development and accordingly, companies' overall performance.

3.3. Transaction costs revolution: value added and regulation

In Munger's terms, the gig economy is jumpstarting a "transaction costs revolution",[143] whereby digital technology makes it cheaper and easier to coordinate the investment and consumption decisions on the market. Technology is enabling entrepreneurs to have greater flexibility of production by selling the service of "reductions in transaction costs".[144] Those entrepreneurs, here referred to as "platforms", facilitate transactions between drivers and riders (Uber) or renters and homeowners (Airbnb) by reducing search and monitoring costs through information delivery, payment services, and assurance of quality.[145] It is important to highlight that these entrepreneurs are not directly producing or selling any good or service, as opposed to the traditional economy where value is created through resource extraction.[146] They are basically making use of the skills of service providers and goods already existing on the market.

By way of explanation, the manufacturing of a product in the traditional economy encompasses various stages of value creation. For instance, considering the manufacture of a mobile phone, the first step is the extraction of raw materials (e.g., rare earth elements), which are crucial to make the basic components of a phone. Subsequently, manufacture is required to transform the raw material into a component (or usable material), which consequently has more value than the raw materials in the ground did. A basic mobile phone is comprised of various components (e.g., speaker, microphone, battery, camera, so forth and so on) and component suppliers often specialise in the

[142] ibid.
[143] Munger (n 130).
[144] Munger, M., 'Coase and the 'Sharing economy' [2015] In, C. Veljanovski, Forever Contemporary: The economics of Ronald Coase. London, UK: Institute for Economic Affairs.
[145] Seth Oranburg and Liya Palagashvili, 'The Gig Economy, Smart Contracts, and Disruption of Traditional Work Arrangements' [2018] SSRN Electronic Journal.
[146] ibid.

production of particular parts, which may later be adopted by different brands. Further, once the components have been sourced from manufacturers, they are transported to a factory for the final step; that is, assembly. Hence, the final product is a mobile phone that has more value than the sum of its static components. But what is important to emphasise here is that each part of the process can be measured, and each stage of the manufacturing value chain adds value to the final product.

Conversely, the platform economy relies on the re-allocation of resources that were already extracted, produced, and sold in the traditional economy. Basically, it relies on under-utilised assets and therefore, by making use of technology, it provides optimal solutions to make better use of them. Uber, for instance, doesn't sell taxi rides, and Deliveroo doesn't sell food delivery. They actually sell access to a platform that significantly lowers transaction costs for certain services. The platform is the product, and consumers use it to buy or sell food delivery and taxi rides, hence they sell transaction cost savings. Moreover, with the reduction of transaction costs, firms began to face the so-called "rent or buy" dilemma in terms of labour. Hence, creating what is being referred to as the "gig economy". Workers are "rented" rather than being integrated into the firm through long-term contracts, and as technology advances the "very notion of a firm may start to be eroded".[147] Particularly, lower transaction costs will imply that only fewer transactions within the firm will become profitable.[148] Undoubtedly, platforms make it easier for contracts to be enforced and workers can be much easier substituted with others, thanks to standardised approaches.

From a Coasean perspective, transaction costs are high when information asymmetries exist, but big data and dynamic aggregation of reviews provide the platform with valuable information about workers' output, thus enabling better monitoring and reducing uncertainty about performance. Beyond these features, platforms produce value by differentiating from offline traditional exchanges as well. Exchanges are shaped by multiple actors and controlled by users as well, such as the working hours or pricing on the lodging apps; all factors that determine the supply infrastructure of the business. Moreover, platforms are in direct competition with older traditional markets (see for instance Airbnb versus the hotel industry) and act as participants in a pre-existing competitive market; thus, creating tension between old and new modes of service delivery and this is also the key to the challenge of regulation.[149] Addressing the issue in Coase's terms, regulations are designed to make the market more efficient and reduce transaction costs. But they also have other purposes such as public safety, consumer protection, and promotion of equal distribution, to name some.[150]

[147] Munger (n 130)
[148] Oranburg and Palagashvili (n 145).
[149] Orly Lobel, 'Coase and the Platform Economy' [2017] SSRN Electronic Journal.
[150] Paul Stephen Dempsey, 'Market Failure and Regulatory Failure as Catalysts for Political Change: The Choice between Imperfect Regulation and Imperfect Competition' [1989] Washington and Lee Law Review.

With every wave of technological innovation, regulators must decide whether and which legal rules apply. In this regard, considering the field of labour and employment law, which is directly linked to the gig economy, platforms helped to expose the limitations of century-long lines that separated employees and independent contractors. When it comes to social policies, the need to de-link these new economic models from the standard employer model that pervaded the 20th century becomes evident. However, imposing too much uniformity in business practices and employment classification – albeit the benefits – may suppress innovation and hurt the ability of platforms to reduce transaction costs.[151]

Yet, questions about platforms' regulation are complex and hard to predict. It depends largely on social policy goals that may differ based on the circumstances. Safety regulations, for instance, might be well-suited for gig workers as systems of reviews and ratings have become more and more accurate and deep. But other regulations, such as better welfare conditions for workers, may disrupt the settled expectations of the workforce and thus, affect the functioning of platforms themselves. Therefore, policymakers must provide a system whose benefits will eventually end up relatively equal for each party.

3.4. Beyond the TCE framework

Compared to other organisational forms, the platform model is a distinctive managerial challenge characterised by algorithmic management. Algorithms enable the matching of labour through platforms, and the process is effective in finding available workers with adequate skills for requested tasks.[152] However, platforms do not simply intermediate transactions and extract fees for this intermediation; they collect data generated by the actions of users, which is then algorithmically processed and monetised. And this is what distinguishes platforms from traditional market intermediaries.[153]

This aspect was addressed also by Lobel (2016) in its article "The Law of the Platform"[154] as the "pricing precision" principle. Basically, platforms rely on pricing algorithms, which improve through AI (i.e., artificial intelligence) and data mining based on unprecedented amounts of information, and this dynamic processing of market information enables platforms to produce an

[151] Lobel (n 149).
[152] Jan Drahokoupil and Agnieszka Piasna, 'Work in the Platform Economy: Beyond Lower Transaction Costs' [2017] Intereconomics.
[153] David Stark and Ivana Pais, 'Algorithmic Management in the Platform Economy' [2021] Ekonomicheskaya Sotsiologiya.
[154] Orly Lobel, 'The Law of the Platform' [2016] Minnesota Law Review.

accurate valuation. Further, another key characteristic of platforms is the fact that jobs are broken down into tasks, shedding light on some critical drawbacks of platform economy; notably, deskilling of jobs and decrease of the allocative efficiency in the labour market. This means that, if workers are given incentives to take up tasks that do not match their qualification level, there are no opportunities for learning and thus, their position weakens in the long run.

Moreover, the fact that technology lowers transaction costs for employers to the extent that platforms can facilitate intermediation and facilitate microtransactions does not apply unanimously. Even if platforms serve as intermediaries between clients and service providers, it does not necessarily entail reduced transaction costs for workers as well. In this regard, Berg (2016) showed that platform workers often experience a general lack of responsiveness of the platform to the workers' concern and particularly, workers often spend a long time searching for adequate work; thus, facing higher transaction costs with respect to their employer.[155] However, in the absence of effective regulations, there are few incentives for platforms to invest in algorithms that may allow a way better labour matching, especially for workers.

Further, while platforms provide monitoring systems and reputation mechanisms to track workers' performance, they generally lack control mechanisms that should address the risks of cheating by clients, as well as effective dispute resolution mechanisms between participants. Consequently, risks are shifted to workers, who might find themselves in a situation where the client refuses to pay for the service if he finds that the quality of work is inadequate.[156]

Therefore, considering the notion of reduced transaction costs alone to understand the impact of labour platforms on gig workers and more broadly, the reasons behind their recent proliferation, is surely not sufficient. Looking from another perspective, this process entails a shifting of the risks and costs from the employer to the worker. Undoubtedly, businesses in the gig economy benefit consumers, but these benefits come at a cost to workers. Policymakers must find a way to ensure greater stability for those kinds of work. Innovation and worker protections should run parallel; there is no reason to posit any conflict between these two frameworks.

[155] Janine Berg, 'Income Securiti in the On-Demand Economy: Findings and Policy Lessons from a Survey of Crowdworkers.' [2016] Comparative labor law and policy journal.
[156] Drahokoupil and Piasna (n 152).

4. The impact of the Gig Economy in India

4.1. Country's background

As for now, India is the second-most populous country in the world (after China), with an estimated population of 1.4 billion people (Jan. 2022) based on Worldometer elaboration of the latest United Nations (UN) data.[157] The country's population is equivalent to 17.7% of the total world population, ranking number 2 in the list of countries by population. Moreover, considering a total land area of 2.973.190 km^2, the population density is about 464 per km^2 (1.202 people per mi^2).[158]

Table 1: India Population Forecast

Year	Population	Yearly % Change	Yearly Change	Migrants (net)	Median Age	Fertility Rate	Density (P/Km²)	Urban Pop %	Urban Population	Country's Share of World Pop	World Population	India Global Rank
2020	**1,380,004,385**	1.04 %	13,970,396	-532,687	28.4	2.24	464	35.0 %	483,098,640	17.70 %	7,794,798,739	2
2025	**1,445,011,620**	0.92 %	13,001,447	-464,081	30.0	2.24	486	37.6 %	542,742,539	17.66 %	8,184,437,460	2
2030	**1,503,642,322**	0.80 %	11,726,140	-440,124	31.7	2.24	506	40.4 %	607,341,981	17.59 %	8,548,487,400	1
2035	**1,553,723,810**	0.66 %	10,016,298	-415,732	33.3	2.24	523	43.5 %	675,456,367	17.48 %	8,887,524,213	1
2040	**1,592,691,513**	0.50 %	7,793,541	-415,736	35.0	2.24	536	46.7 %	744,380,367	17.31 %	9,198,847,240	1
2045	**1,620,619,200**	0.35 %	5,585,537	-414,772	36.6	2.24	545	50.1 %	811,749,463	17.09 %	9,481,803,274	1
2050	**1,639,176,033**	0.23 %	3,711,367		38.1	2.24	551	53.5 %	876,613,025	16.84 %	9,735,033,990	1

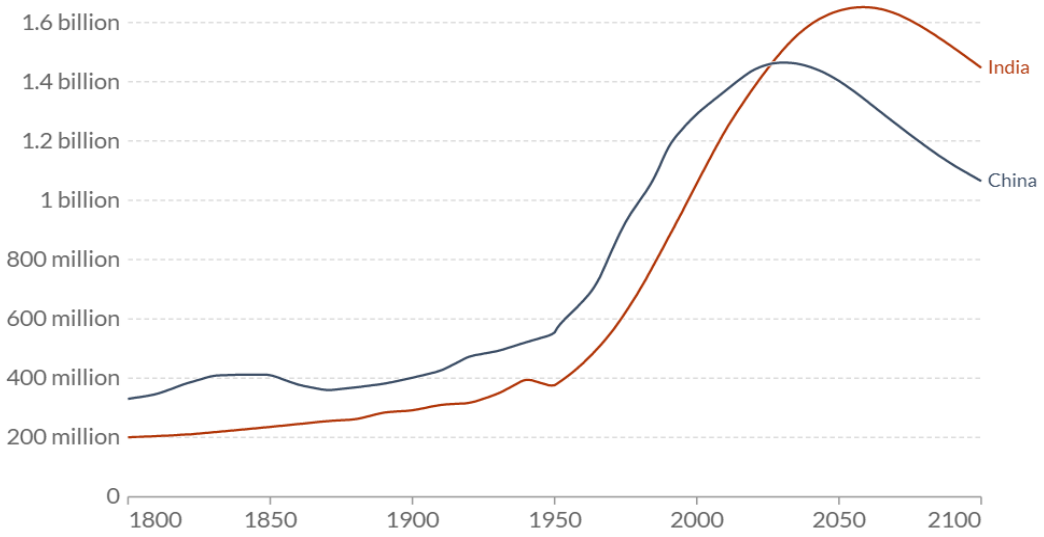
Source: Worldometer (www.worldometer.info)

Particularly, India's population is projected to trend around 1.44 billion in 2025 and 1.50 billion in 2030 according to data elaborated by the UN's Department of Economic and Social Affairs.[159] Thus, according to these projections, India will overtake China as the world's most populous country around 2030. Projections are always associated with a certain degree of uncertainty, meaning that the crossing point could be a few years later or even earlier. Yet, even within this degree of uncertainty, India is expected to surpass the current most populous country in the world within the

[157] Worldometer. India Population [2022] available at: https://www.worldometers.info/world-population/india-population/ accessed 31 Jan. 2022
[158] ibid.
[159] Elaboration of data by United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2019 Revision.

next decade. In the chart below, projections made by the UN's Population Division (dated 2019) show historic and projected populations with regard to China and India, spanning from 1800 through to 2100. Still, the country is expected to reach a peak in the late 2050s around 1.63 billion before slowly falling in the second half of the century due to declining fertility rates (Chart 1). Notwithstanding, India has already been witnessing a decline in total fertility rate (TFR) over the past 70 years, spanning from 5.6 births per woman in 1950 to 2.14 in 2017.[160] Yet, even if fertility rates fall below replacement levels, the large pool of young people will continue to boost the country's population in the upcoming decades.

Chart 1: China – India Population from 1800 to 2100



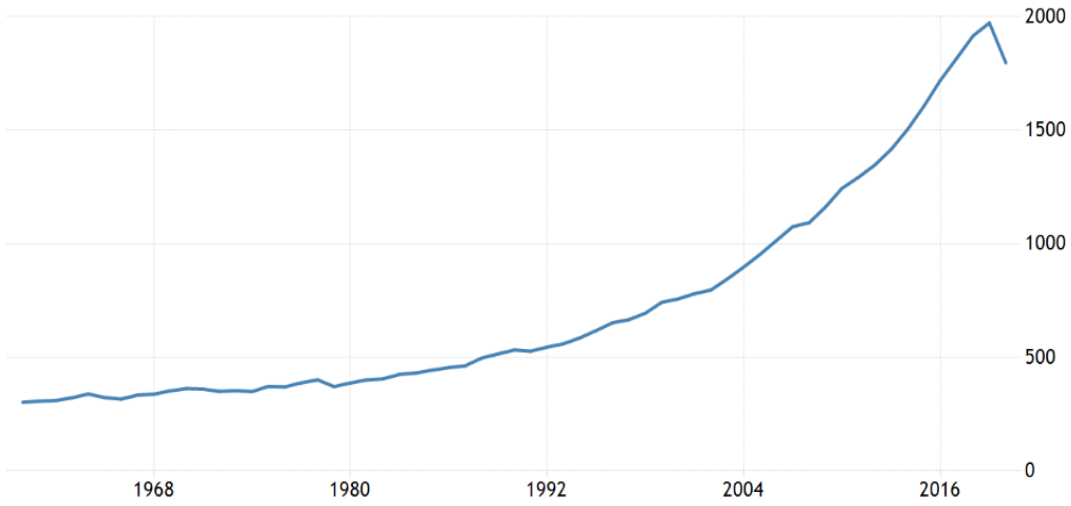
Source: Ourworldindata (www.ourworldindata.org) based on data constructed from: Gapminder (v6), HYDE (v3.2) United Nations Population Division (2019)

This scenario runs parallel with global trends. In the past two decades, fertility rates have been falling worldwide, resulting in slowing population growth. Regarding future population growth, the UN has lowered estimates, projecting (in 2019) that – under a medium growth scenario – the global population will hit 10.9 billion in 2100;[161] which is lower considering the 11.2 billion estimated a few years ago. Notwithstanding, other demographers are more optimistic, projecting that the global population will hit 9.5 billion by 2100 instead, due to improved education and better access to health

[160] Vollset, Stein & Goren, Emily & Yuan, Chun-Wei & Cao, Jackie & Smith, Amanda & Hsiao, Thomas & Bisignano, Catherine & Azhar, Gulrez & Castro, Emma & Chalek, Julian & Dolgert, Andrew & Frank, Tahvi & Fukutaki, Kai & Hay, Simon & Lozano, Rafael & Mokdad, Ali & Nandakumar, Vishnu & Pierce, Maxwell & Pletcher, Martin & Murray, Christopher, 'Fertility, mortality, migration, and population scenarios for 195 countries and territories from 2017 to 2100: a forecasting analysis for the Global Burden of Disease Study' [2020]. The Lancet. 396.
[161] United Nations. 'World Population Prospects 2019: Highlights', Department of Economic and Social Affairs.

services.[162] Furthermore, since Independence in 1947, India has gone through a phase of modest average growth. The annual GDP growth was around 3.5% from the early 1960s to the end of the 1970s and barely kept pace with the population growth. The country's long-term growth has steadily accelerated over a forty-year period. Particularly, the 1990s saw the Indian economy growing at a rapid pace, keeping that level for quite some time now, albeit a marginal decline due to the Covid-19 crisis (Chart 2). Hence, GDP has become fourfold between 1960 and 2010, accelerating its path of growth since 1990.

Chart 2: India GDP per capita

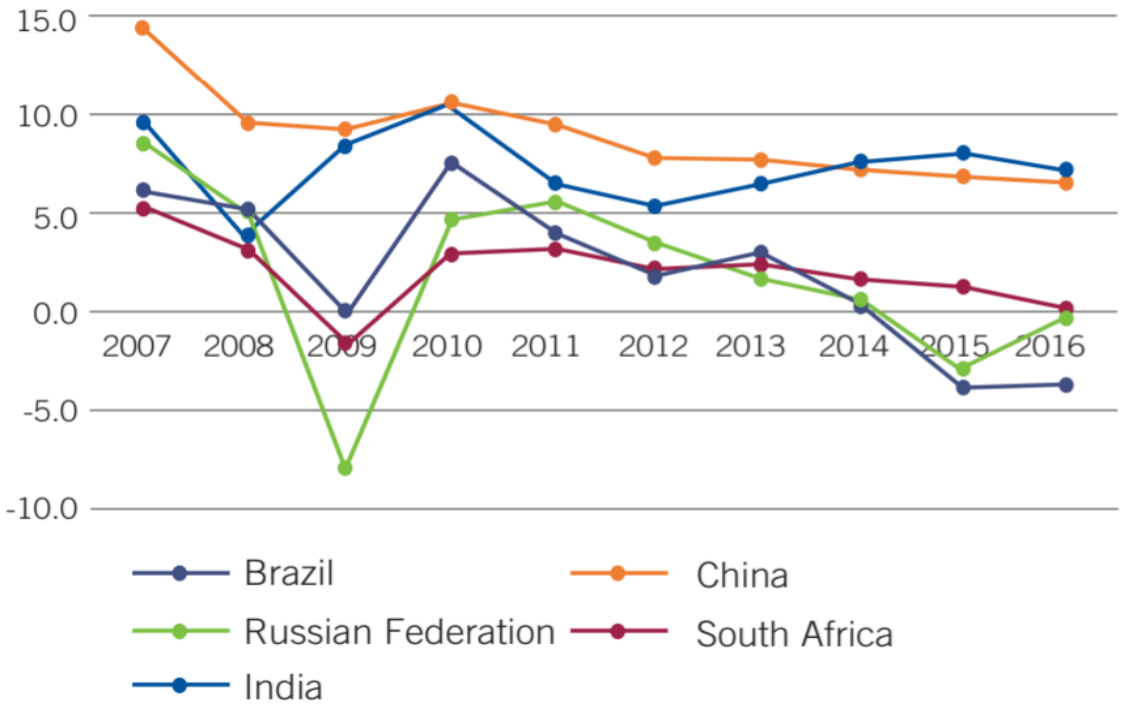


Source: Trading economics. World Bank.

Particularly, from the beginning of the first Decent Work Country Programme in 2007 to 2016 the country's economy had doubled, achieving impressive rates of economic growth, and surpassing other large middle-income countries (Chart 3). Between 1994 and 2012, close to 133 million people were lifted out of poverty and the proportion of population below the poverty line fell from 45% to 22%. Being a large and diverse country with 29 States and 7 Union Territories (UTs), more nuanced strategies are needed based on differences across the States and UTs, in order to have an impact on the labour market. Besides, developing States of India have greater decent work challenges and more vulnerable workers, with women's labour force participation rate persistently low and wage differences when compared to their male counterparts.[163]

[162] European Commission, Joint Research Centre, Demographic and Human Capital Scenarios for the 21st Century: 2018 assessment for 201 countries, Wolfgang Lutz, Anne Goujon, Samir KC, Marcin Stonawski, Nikolaos Stilianakis (Eds.), Publications Office of the European Union, Luxembourg, 2018
[163] ILO India, Decent Work Country Programme 2018 – 2022

Chart 3: GDP Growth rate (%) in the BRICS (Brazil, Russian Federation, India, China and South Africa)



Source: ILO India. Decent Work Country Programme 2018 – 2022 Report.

From the 2000s onwards, India witnessed a steady growth in the number of persons enrolled in educational institutions, and along with the growing demand for education, workers (especially from rural India) will have greater expectations from their jobs to counter the opportunity cost of leaving agriculture and taking up jobs in growing sectors in urban areas. The organised sector will absorb more workers, but formal employment will continue to represent a minor share of total employment, whist self-employed will continue to account for a large portion of all workers. Also, technological processes in new sectors should be acknowledged, as well as their impact on traditional sectors such as agriculture which accounts for 47% of the total workforce in India. Moreover, India is expected to witness job creation of more than 3 million jobs if it adopts sustainable practices for a green economy.[164] Yet, one of the biggest puzzles is the persistent informality in the Indian labour market, which was further pronounced with women's withdrawal from agriculture, followed by the increased share of informal workers in the organised sector (i.e., workers without access to social security in larger enterprises). Changes in employment status are linked to structural transformation as workers shift from low to high-productivity sectors. Yet, the shift from agriculture to

[164] ibid.

manufacturing in India did not take place to the same extent as other parts of East and Southeast Asia. The Indian economy is dominated by the service sector, which accounted for 58.7% in terms of employment in urban areas, compared to just 16.1% in rural regions (2011-12).[165]

Furthermore, over the last decade, offshoring has constantly been flourishing in India due to the availability of high-qualified professionals, culturally fit resources, and easily available workforce which made the country one of the best service providers in the world. Offshoring gives access to a wide pool of talent and India is also one of the biggest English-speaking nations in the world, with a massive pool of IT talents. Besides, the work culture is quite similar to western countries, which helps to overcome communication barriers. Further, the number of STEM (science, technology, engineering and mathematics) graduates in India reached almost 2.7 million (approximately 32% of students pick STEM) and the country has the global number of university graduates (78 million), slightly ahead of China (77.7 million).[166] With more than 4.4 million digital workers, the ICT business represents nearly 8% of the country's total GDP (around $194 billion) according to the Nation Association of Software and Service Companies (NASSCOM). Still, as already addressed by Baldwin (2021) whether an offshorable job can be actually performed offshore depends on a variety of considerations.[167] Firstly, potential foreign workers must be capable of doing the work. Usually, occupations that can be performed remotely are skill-intensive jobs. Hence, foreign suppliers must be addressed based on the number of workers that possess relevant skills. Secondly, teleworkable occupations place greater focus on command of the English language, as linguistic and cultural frictions may hinder the ability to immediately perform relevant language-intensive tasks. Moreover, the *distance* between workers must be considered as well, as tasks that can be performed remotely but must be performed synchronously are highly sensitive to time zones differences. Yet, the combined features of rapid technological progress in digital communication tools and the extended need for remote work imposed by the coronavirus pandemic may significantly decrease the importance of physical proximity for trade in services.[168] Besides, developing countries such as India have the edge in professional services exported via digital platforms. Currently, they are much smaller than traditional services but are expected to grow faster.

[165] ILO Country Office for India. 'India Labour Market Update' [2017]
[166] UNESCO Institute for Statistics [2020]
[167] Richard Baldwin and Jonathan I Dingel, 'Telemigration and Development: On the Offshorability of Teleworkable Jobs' [2021] SSRN Electronic Journal.
[168] ibid.

4.2. The landscape of the Gig Economy in India

In the Indian labour market, the gig economy is at a relatively nascent stage in India but growing at a rapid pace. Measuring the impact and the size of this paradigm shift in India poses several challenges considering that usually, workers are the only stakeholders interviewed. According to data gathered by Teamlease Services (a human resource company), approximately 56% of new employment in India is driven by the gig economy, which is inclusive of both white-collar and blue-collar manpower.[169] Particularly, Teamlease is an online platform operating on the Indian market, that tries to fill job vacancies by matching the right employee to the right job, by reducing both recruitment and operational costs for companies. The gig economy is driving opportunities for both men and women, many of whom are migrating from rural areas to work in metropolitan cities characterised by higher job mobility.

Additionally, India has a pool of approximately 15 million freelance workers staffed in various projects across IT, HR and designing, while the US leads the race with 53 million independent workers.[170] Further, the country's workforce is growing by approx. 4 million people annually, and most of them are young millennials, who are showing a growing preference for gig contracts.[171] This millennial workforce is driving a transformation of the work-space arena, that leverages technology to better accommodate their work and family life, including the preference of workplaces that suit them better. Undoubtedly, with a large working population and an overall workforce that grows by over four million annually, the advent of the gig economy represents a major issue for the country's labour market. Further, the evolution of the digital age can be considered one of the main reasons for the growth of the gig economy. Narrowly speaking, this phenomenon can be seen as the opposite of the industrial revolution where people began moving to cities, driving up homes prices and cramping up spaces. Today, a laptop and a decent internet connection allow people to work from home, overcoming the need to sit in an office.

Accordingly, the digital age (also referred to as 'information age') has affected the workforce in several ways, with economies competing over fast delivery, mass production, and quick services to outrun their competitors. Companies pay their partners, be it drivers or other such personnel, according to the number of customers they served in a day or in a month. These partners may undertake several jobs with different companies since they are not entitled to long-term employment

[169] TeamLease Services. 'Employment Outlook Report 2017' [2017]
[170] ASSOCHAM 2020. 'Gig economy Aligning consumer preferences: The way forward'. The Associated Chambers of Commerce and Industry of India.
[171] ibid.

contracts and thus, they are not in the permanent employment of any establishment.[172] As already stated in previous sections, people taking part in the gig economy have the opportunity to control their employment with respect to the time they wish to dedicate to a job and the type of job they prefer to undertake. They have several benefits, but also some key disadvantages that include job instability, uncertainty about job schedules, and a general lack of statutory protection akin to an employee in permanent employment. Due to this lack of permanent employment, there is a lot of uncertainty surrounding jobs' continuity, and this is particularly true for Indian gig workers.

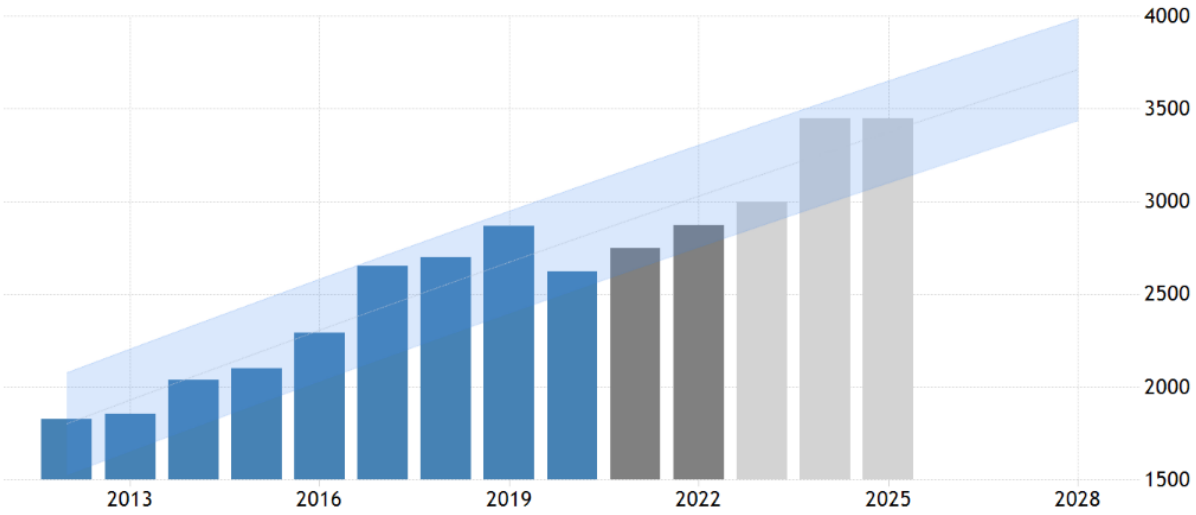
Hence, people who opt for such open work environments need to keep their knowledge constantly updated to remain in business at all times. Therefore, given the absence of any Indian laws in this context, people currently working in the gig economy are categorised as independent contractors or independent workers. Still, with the gig economy gaining more and more prominence, the Indian government is starting to consider the possibility of bringing these workers under the standard employment umbrella.

Moreover, according to the ASSOCHAM report, the country's gig sector is likely to grow to US$455 billion at a compound annual growth rate (CAGR) of 17% by 2024.[173] It has the potential to serve up to 90 million jobs and add up to 1.25% to India's GDP in the long run.[174] Particularly, the International Labour Organisation (ILO) stated that gig work demand is mainly sourced from Western countries like the USA, Canada, and the UK (period 2018-20).[175]

Supply is satisfied significantly by developing countries like India, which accounts for 20% of the total share. This can be attributed to the increasing outsourcing of IT and software services to India, which is consequently witnessing a rise in the supply of labour related to these tasks. Particularly, following a sharp contraction of GDP during the pandemic outbreak, the country's growth was expected to rebound to 9.5% last year and is expected to hit 8.5% in 2022-23.[176] According to Trading Economics global macro models, the India GDP is projected to tread around 3450.00 USD billion in 2023 (Chart 4).

[172] ibid.
[173] ibid.
[174] Augustinraj R., Jain V., Bansal S., 'Unlocking the Potential of the Gig Economy in India'. [2021]
[175] International Labour Organisation (ILO), 'World Employment and Social Outlook 2021'.
[176] International Monetary Fund (IMF). India Country Report No. 21/230 [2021]

Chart 4: India GDP forecast



Source: Tradingeconomics (www.tradingeconomics.com/india/gdp)

Undoubtedly, some developing markets represent a greater portion of the global gig economy considering their expansive populations and existing economies of lower-skilled labour. However, the gender inequality of the workforce through online platforms is painting a grim picture. In fact, the participation of women on online platforms is the lowest in India (21%) when compared to other countries such as the US (41%) for instance.[177] Moreover, a survey conducted by Flourish Venture in 2020 reported that, due to the recent Covid-19 pandemic, approximately 135 million Indians stand to lose their job, thus potentially pushing the full-time workforce towards the gig economy as a way to face up this lost income.[178] Particularly, the study found that women are facing a significant hurdle in the gig economy, being underrepresented in the workforce as a whole, and experiencing unequal access to digital technology.

According to a study conducted by Augustinraj R., et al. (2021) over 70 million jobs in India are potentially *gigable* in the four largest industry sectors, notably construction, manufacturing, retail, and transportation and logistics.[179] Over 37 million jobs are likely to come from the unskilled roles in these sectors, whereas around 5 million jobs are potentially *gigable* in the shared services categories such as accounting services and facility management, among others. Gig-based services have also significant potential in the household segment, as demand for at-home services in India is

[177] Bloomberg Quint: India Largest Supplier of Workers On Digital Platforms: ILO [2021]
[178] Flourish Venture, 'The Digital Hustle: Gig Worker Financial Lives Under Pressure. India Spotlight' [2020]
[179] Augustinraj R., Jain V., Bansal S., 'Unlocking the Potential of the Gig Economy in India' [2021] Boston Consulting Group

increasing in urban and suburban areas. Additionally, gig workers are relatively younger (18- 23 years) compared to non-gig workers, but also relatively less educated. Thus, they can be divided into four categories ranging from low skilled to high skilled workers. Students seeking to earn salaries for discretionary spending are considered low-skilled workers, for instance. Whereas cab or car drivers fall under moderate-skill workers, driven by the need to earn good pay. Overall, in the current scenario of India, the gig economy is driven by start-ups that have disrupted food and package delivery, ridesharing, and at-home construction.

4.3. Factors leading to the rise of the gig economy in India

Undoubtedly, the gig economy has proven to be mutually beneficial for both workers and companies. Its features reflect the cultural change brought by a new generation of workers, especially millennials, and with geography being no more a barrier, companies can hire workers worldwide. Still, the growth of the gig economy is dictated also by a country's culture and as regards the Indian context some major factors that boosted the gig economy in the country can be identified.

One of the most important trends is surely the fact that MNCs are increasingly employing contract-based workers to reduce costs and time and curb operational expenses, by giving on the other hand, great opportunities and exposure to young and talented people. As per the EY report (2018) 20% of companies globally reported that their workforce is made up of at least 30% contingent work.[180] The decision to use contingent work is dictated by the need to flex and boost their capabilities and respond to the peaks in demand that usually come with seasonal trends.[181] Particularly, with the growth of global platforms such as Flipkart, Uber, Amazon, Zomato, Ola and many others in technology, retail, home services, food and beverages etc., India has emerged as one of the largest employers of gig workers in the world.[182]

Another trend is the increasing growth of freelancing platforms in the country. The rise of those platforms provides businesses with a global marketplace to outsource tasks at affordable prices and freelancers to earn an income on their terms. Usually, freelancers struggle with trust issues about whether online jobs are trustable and authentic. Thus, some trustable and widely used platforms in the country are Upwork, Finxhour, Rockerstop, Fiverr, Freelancer, and Guru.[183] Among these, Upwork is considered one of the best freelancing websites of India, because of the variation of its

[180] EY Global. 'How the gig economy is changing the workforce'. [2018]
[181] ibid.
[182] Mohanty Prasanna. 'Gig economy: Good for companies, bad for workers'. [2021] Fortune India.
[183] Yadav Sandeep. 'Top 8 Freelancing Sites in India'. [2021] LinkedIn

jobs; Rockerstop is very popular in India as well, as it is free of cost and access does not require any payment; Fiverr instead, despite charging a minimum amount of money for basic users, is one of the largest platforms used in the country because of its ease-of-use and plenty of features to ensure customer satisfaction; finally, Freelancer is the second most used platform in India, where freelancers can get a decent number of Indian projects to learn from and then go for foreign clients.

Further, millennials are more and more starting to adopt a progressive approach towards gig work, since work pressure and chaotic schedules in standard sectors have changed their perception towards a better work-life balance and flexibility. In this regard, a study conducted by KellyOCG revealed that about 56% of Indian firms' workforce is constituted by temporary workers (approximately 20%),[184] and numbers are going to increase in the next years with more than 71% of companies hiring more contingent workers. Particularly, with a population of 1.4 billion and over 400 million millennials[185], they account for a third of India's population and therefore, will highly likely lead to a rise of gig workers in the gig economy globally. The gig economy attracts millennials because it provides them with what they value and offers them alternative work arrangements.

Moreover, considering that India is a young country – with 62% of its population falling under the age bracket of 15 to 59 years – the rise of the start-up culture took shape gradually, but significantly.[186] Indian start-ups are known for their flexible working culture and at the moment, the country has the second largest start-up ecosystem in the world, counting companies such as Zerodha, Swiggy, Zomato, Zoho, and Ola. Particularly, a survey conducted by Innoven Capital revealed some major factors that led to the emergence of this culture;[187] a culture that brought India to be one of the most startup-friendly nations in the world. First, the cost of doing business in India is surely lower with respect to other countries. Secondly, given its population, India has the second-largest internet user base in the world (after China) that make it easier for companies to get in touch with their local audiences. Further, with over 7 million graduates every year, the size of the domestic market is growing enormously, with a preference for start-ups rather than MNCs. On the other side, companies prefer to hire contingent workers as well, as it represents a way to leverage resources more efficiently. Notwithstanding, India's young population represents a valuable asset for its economic growth, as over the past decade, a steady rise in the country's middle class has led also to a higher literacy rate and thus higher aspirations for financial security and quality of life. Currently, India is contributing the largest number of qualified workers to the global workforce. Coupled with the prevalence of

[184] KellyOCG. 'Workforce Agility Barometer'. [2018]
[185] Morgan Stanley. 'India's Millennials to Drive Growth in Four Key Sectors'. [2017]
[186] Ministry of External Affairs. Government of India. 'One of the Youngest Populations in the World – India's Most Valuable Asset'. [2021]
[187] Innoven Capital India. 'Startup Outlook Report' [2021]

alternative forms of work and internet penetration, the result is a digitally savvy population. In addition, the government is also aiming at imparting skills to the country's youth by empowering them with adequate skill sets, functional to improve productivity and to enable them to work across various relevant sectors. An example is the initiative launched by the Indian government in 2015 titled "Skill India Mission", whose mission is to drive development in India through a result-oriented framework that aligns the needs of the industry and improves the underdeveloped sectors within the country through equal growth. It also aims to create opportunities for young people, by enabling them to access better-paying jobs and experience a high standard of leaving.

4.4. Analysis of the Indian labour market: structure and composition

Considering India's large labour pool, its labour market structure is diverse with the majority of the working population being engaged in the informal sectors; working for small or manufacturing businesses that don't need skilled labour and therefore, can source workers with some ease. However, the expansion of higher education is pushing a larger skilled talent pool, albeit currently it still represents a small percentage of the country's overall labour market. India's labour laws classify employees based on their skills and area of operation. For instance, in terms of skills, workers are classified as unskilled, semi-skilled, skilled, and highly skilled. Whereas, in terms of area of operation, they are categorised as managerial personnel and workmen. And this defines their wages, their rights and obligations, and job roles.

Labour regulations in India derive from multiple sources, thus companies that are newly established in the country or looking to expand might find it confusing in terms of the nature of labour and employment laws. Basically, there are two broad categories of labour law in India: individual labour laws that deal with the employees' rights at work, such as the Rights of Persons with Disabilities Act, and collective labour laws that govern the working relationship between employers, employees, and labour unions, such as the Industrial Employment (Standing Orders) Act (1946).

Moreover, India has over 52 federal labour laws and 200 state enacted laws, underling a complex structure of legislation in the country. Federal legislation acts as an umbrella of laws for state-level implementation and a key state law is the Shops and Establishments Acts, which applies to all commercial establishments – any premise where businesses, profession, or trade is carried out for profit – and shops, where any trade or business services are rendered to consumers. Accordingly, all terms and conditions related to employer-employee relationships are governed by this Act. Currently, the IT and manufacturing sectors employ the vast majority of the country's formal workforce. Particularly, IT companies fall under the aforementioned legislation (Shops and

Commercial Establishments Acts); whereas the manufacturing sector falls under the Industrial Disputes Act (1947). Thus, companies operating in India should be aware of the fact that labour laws differ not only based on the state of interest but have industry-specific variations as well.

For instance, the state of Karnataka has revised provisions in the Shops and Establishment Acts with regard to the employability of women (among others) while exempting them from the federal Industrial Employment Act. In this regard, only one in four women is part of the country's workforce. This highlights the distorted nature of India's labour market where women hold 45% of university degrees but they experience must slower career paths due to gender-based discrimination and thus, they are denied many employment opportunities. McKinsey Global Institute (MGI), as per their 2018 estimates, reported that India has the potential of increasing its Gross Domestic Product (GDP) by 18% by 2025 if the country enables women to equally participate in the economy with men.[188] According to the Economic Survey 2019-20, between 2018-19 and 2019-20 about 4.75 crore additional persons joined the Indian workforce. The rural sector contributed more to this expansion relative to the urban sector (1.30 crore in the urban sector and 3.45 crore in the rural sector) (Table 2). Further, among the additional workers, 63% were females and about 65% of the additional workers that joined in 2019-20 were self-employed, with only 17% classified as 'salaried employee'. Yet, the number of unemployed persons in 2019-20 decreased by 23%, constituted largely by males from the rural sectors.

Table 2: Estimates of Labour Force, Employment, and Unemployment (years 2017-19 to 2019-20)

Description	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2017-19									
Labour Force	25.48	8.67	34.15	13.25	3.57	16.82	38.73	12.24	50.97
Employment	23.91	7.70	31.61	12.39	3.15	15.53	36.29	10.85	47.14
Unemployment	1.57	0.97	2.54	0.86	0.42	1.29	2.44	1.39	3.83
2018-19									
Labour Force	25.77	8.77	34.54	13.60	3.68	17.28	39.37	12.45	51.82
Employment	24.37	8.46	32.83	12.64	3.31	15.96	37.01	11.77	48.78
Unemployment	1.40	0.31	1.71	0.96	0.37	1.33	2.36	0.68	3.04
2019-20									
Labour Force	26.64	11.12	37.76	14.23	4.35	18.58	40.87	15.47	56.34
Employment	25.45	10.81	36.26	13.32	3.95	17.27	38.77	14.76	53.53
Unemployment	1.18	0.32	1.50	0.91	0.40	1.31	2.09	0.72	2.81

Source: Economic Survey 2019-20. Social Infrastructure and Employment

[188] McKinsey&Company. 'The power of parity: Advancing women's equality in India' [2018]

As of Dec. 2020, India labour force participation dropped to 46.3% compared with 49.3% in the previous year, whereas the unemployment rate increased to 7.1%.[189] One reason cited for this low rate is that the employment rate is critically low among women, that according to some authors is more likely to be a consequence of low demand for female labour, rather than supply-side constraints keeping them indoors.[190] Sanghi et al. (2015) argued that the fall in female labour force participation (FLFPR) may be dictated also by the unavailability of well-paid jobs for educated women in rural India.[191] Whereas Lei et al. (2019) indicate transportation as a major constraint.[192] Similarly, Chatterjee et al. (2015) argued that the main explanation for the fall in FLFPR is the decline in agricultural jobs without a proportional increase in non-farm jobs.[193] Moreover, Deshpande and Kabeer (2021) found that women involved in farming or family business activities are not recognised as workers, unlike their male counterparts, but get counted as economically inactive.[194] Other studies found that total employment increased in the education sector in the last years, but women's (absolute) employment sharply decreased by 25%, despite they were assumed to have a comparative advantage in this sector. Moreover, industries such as trade, food, personal and care services, witnessed a higher level of female employment in recent years, albeit too small to absorb the large share of women who are unable to get employed in larger industries such as manufacturing, construction, or agriculture.[195]

4.4.1. Gender inequality

Gender inequalities and women's economic empowerment are also part of the United Nation's (UN) vision of Sustainable Development Goal (SDG) 2030. In line with this, the issue of gender inequality is regarded as very pertinent in India, as also reflected in the Indian Economic Survey of 2017-18, which included gender equality as a policy priority. Yet, when it comes to measuring the country's progress on this front over the years it still comes out that India lags in ensuring women's empowerment. As per the Global Gender Gap Index, for the year 2018, the country ranked 108th in

[189] CEIC 'India Labour Force Participation Rate' CEIC Data. World Bank
[190] Ashwini Deshpande and Jitendra Singh, 'Dropping Out, Being Pushed Out or Can't Get in? Decoding Declining Labour Force Participation of Indian Women' [2021] SSRN Electronic Journal.
[191] Sunita Sanghi, A Srija and Shirke Shrinivas Vijay, 'Decline in Rural Female Labour Force Participation in India: A Relook into the Causes' [2015] Vikalpa.
[192] Lei Lei, Sonalde Desai and Reeve Vanneman, 'The Impact of Transportation Infrastructure on Women's Employment in India' [2019] Feminist Economics.
[193] Chatterjee U., Murgai R., Rama M., 'Job Opportunities Along the Rural-Urban Gradation and Female Labour Force Participation in India' [2015] World Bank Policy Research Working Paper
[194] Ashwini Deshpande and Naila Kabeer, 'Norms That Matter: Exploring the Distribution of Women's Work between Income Generation, Expenditure-Saving, and Unpaid Domestic Responsibilities in India' (2021).
[195] Deshpande and Singh (n 190).

the World Economic Forum (WEF) out of 149 countries.[196] It ranked lower in all segments (educational attainment, political empowerment, economic participation and opportunity), but fared significantly worse on the health and survival ranking. Further, more than 90% of Indian women are informally employed, thus having fewer legal safeguards. Still, gaps in gender statistics make it difficult to measure and monitor women's progress in the economy. This is due to the fact that the country does not prioritise gender in data collection. Against this backdrop, IWWAGE attempted to examine the available national statistics in India in order to identify existing gaps in measuring women's economic empowerment.[197]

As addressed by various studies, the declining women's labour force participation in the country could be a consequence of social and economic structures that influence both demand and supply-side factors.[198] Among the working-age population, almost half of those employed, are engaged in self-employed activities in the farm and non-farm sectors. Still, a considerable proportion of self-employed people are women involved in informal manufacturing activities and services. As also mentioned in the report of the UN High-level Panel (UNHLP) on Women's Economic Empowerment (2016) and the National Policy for the Empowerment of Women (2001), cultural norms and social structures are a paramount cause of gender inequality. Particularly, migration for employment is also an important aspect of economic empowerment. However, official macro data is unable to delineate the scope, scale, and patterns of female labour migration, thus highlighting a sort of *invisibilisation* of women's work with regard to development-oriented approaches to internal migration. For instance, The Census and NSSO are two official data sources on migration, yet they fail to capture in the survey the reasons behind women's migration, as usually only one reason can be entitled to the respondent, i.e., marriage, even if a woman migrates for economic reasons.

Moreover, digital technologies can empower women by strengthening their social networks and increasing their socio-economic opportunities. Information and Communication Technologies (ICTs) enable access to a bank of knowledge; thus, it is an important tool to enhance awareness and enable empowerment. The UNHLP panel also highlighted that access to digital and financial assets is critical under this aspect. Particularly, it was found that access to mobile phones increased women's

[196] IWWAGE. 'Identifying Gaps in Gender Statistics In India'. New Delhi: The Asia Foundation
[197] ibid.
[198] Stephan Klasen and Janneke Pieters, 'What Explains the Stagnation of Female Labor Force Participation in Urban India?' [2021] SSRN Electronic Journal; Ruchika Chaudhary and Sher Verick, 'Female Labour Force Participation in India and Beyond' [2014] ILO Asia-Pasific Working Paper Series; Rahul Lahoti and Hema Swaminathan, 'Economic Growth and Female Labour Force Participation in India' [2013] SSRN Electronic Journal; Indrani Mazumdar and N Neetha, 'Gender Dimensions: Employment Trends in India, 1993-94 to 2009-10'; Surjit S Bhalla and Ravinder Kaur, 'Labour Force Participation of Women in India: Some Facts, Some Queries' [2010] Asia Research Centre, Working Paper 40, London School of Economics.

autonomy in mobility, as well as their economic independence.[199] Further, employment and earnings are significant determinants of bargaining power and if there are structural barriers preventing women's labour force participation, they are unable to capitalise on these opportunities.[200] And challenges of integrating women into the labour force will become more apparent as the country continues to urbanise because women currently provide the lion's share of employment in agriculture. Moreover, a study conducted by Chatterjee and Sircar in 2021 offered a different perspective on women's participation in the labour force by suggesting that factors such as flexibility and proximity might influence women's preferences to enter the labour market.[201] They opined that as the process of urbanisation unfolds in the country, the role of flexibility and proximity sheds light on how this process may lead to a decline in female labour force participation. Agriculture activities are typically near the home, thus providing women with a flexible work schedule and allowing them to enter the labour force as well as tend to tasks at home. Therefore, as urbanisation unfolds, these factors become less available, and women may be less willing to enter the labour force.[202]

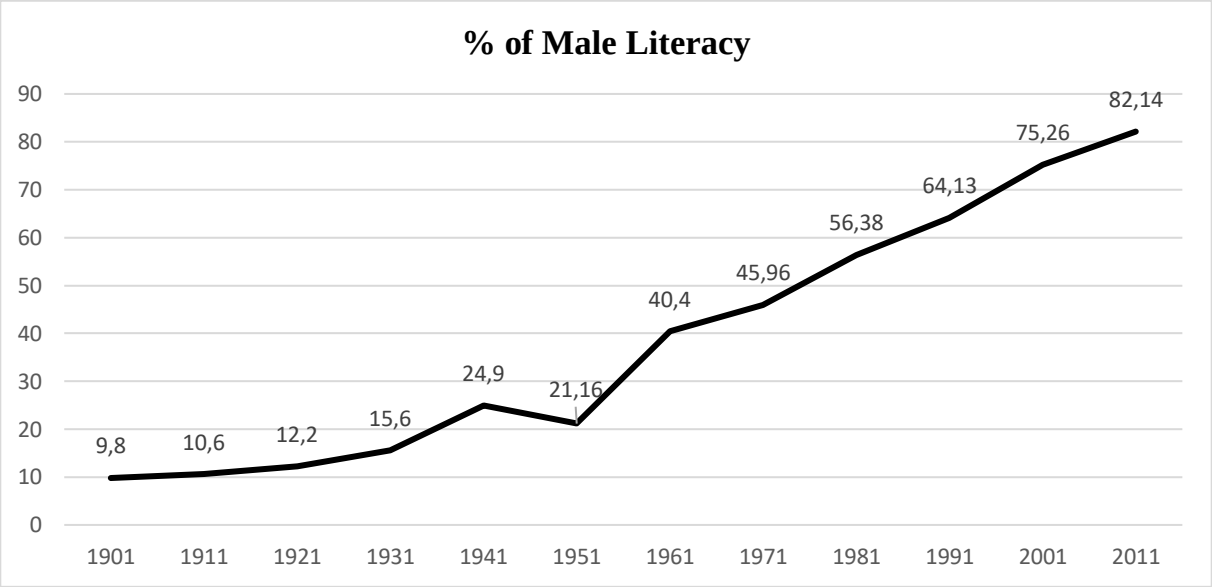
Yet, it must also be considered that, if the urban labour market provides an insufficient number of jobs for women the result is basically the same, whether women are willing or not to enter the labour market. And India's performance in integrating women is undoubtedly poor. Particularly, Afridi et al. (2018) opined that higher levels of education among rural women increased their productivity in household tasks (e.g., educating children), hence generating higher incentives in staying at home.[203] Further, declining female participation in the labour force may also result from structural changes in the marriage market, [204] which may lead to families becoming much more "nuclear" in nature, as a result of the fact that there are fewer family members to help in the household duties. Nevertheless, India must continue to address the patriarchal norms that prevent women inclusion in the labour market.

In this regard, cultural institutions in India play a central role in perpetuating ideas about gender inequality. Particularly, patrilineality (inheritance through male kin) and patrilocality (married couples living with or near the husband's parents) represent a pervasive and long-term phenomenon that characterises Indian society, creating parental preference for sons and incentivising them to invest less in daughters' health and education. Hence, it is evident that this gap is perpetuated by multiple

[199] IWWAGE (n 196)
[200] Klasen and Pieters (n 198).
[201] Deepaboli Chatterjee and Neelanjan Sircar, 'Why Is Female Labour Force Participation So Low in India?' [2021] Urbanisation.
[202] ibid.
[203] Farzana Afridi, Taryn Dinkelman and Kanika Mahajan, 'Why Are Fewer Married Women Joining the Work Force in Rural India? A Decomposition Analysis over Two Decades' [2018] Journal of Population Economics.
[204] Chatterjee and Sircar (n 201).

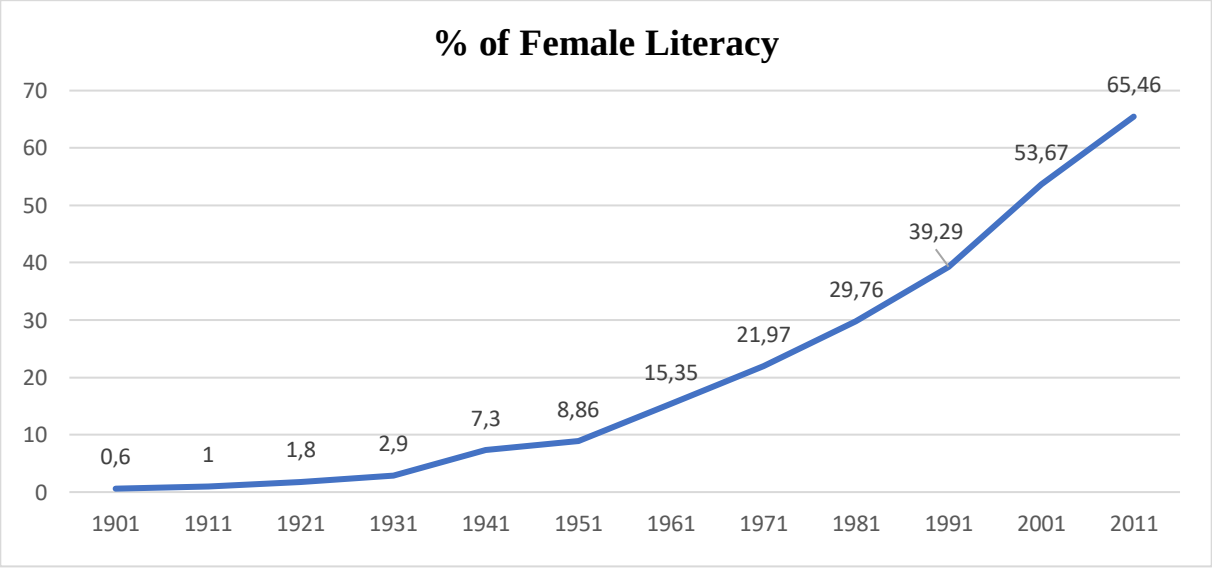
factors, which must be analysed from a variety of angles. The literacy rate for Indian women is 65.46% while the literacy rate for men is 82.14%. As per Census 2011, 76.34 crore persons in the country are literate (763,498,517); 43.46 crore are males (434,683,779), while 32.88 crore are females (328,814,738). The overall literacy rate is around 74% showing an improvement of almost 9.2% with respect to Census 2001, and a gap of 16.68% between the sexes at the national level.

Chart 5: Percentage of Male Literacy



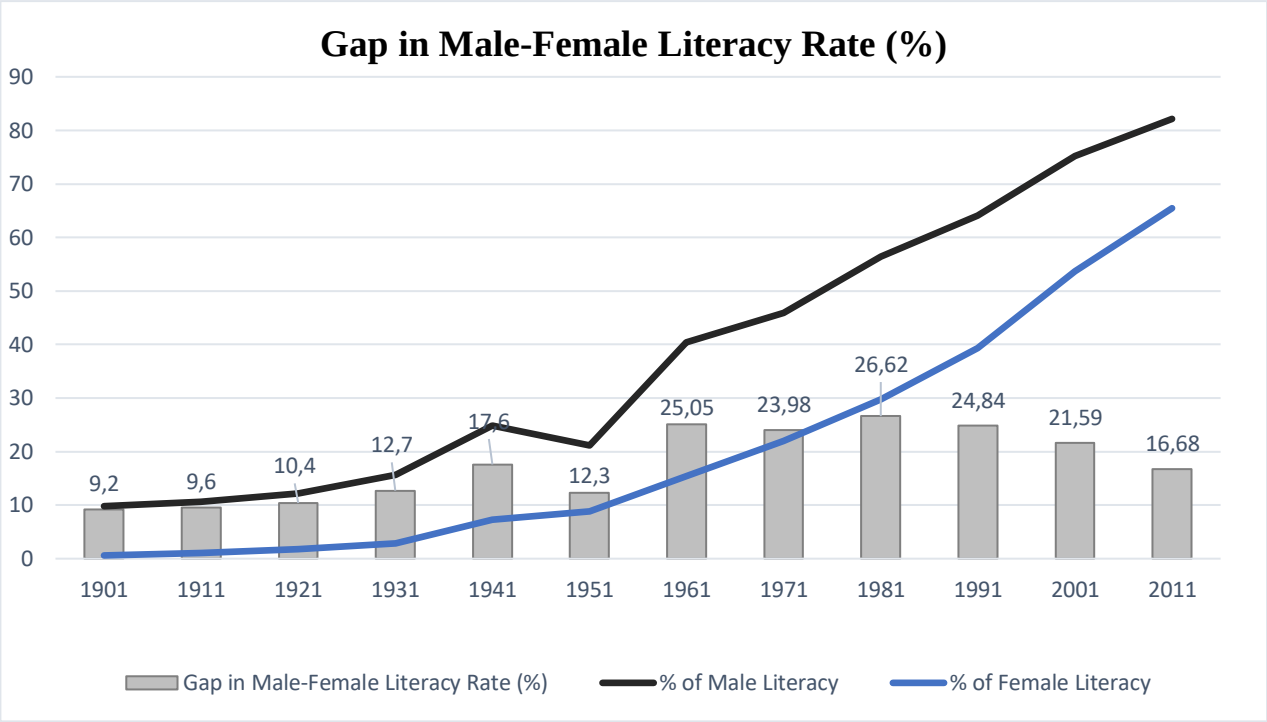
Source: own source based on data gathered from Census of India 2011

Chart 6: Percentage of Female Literacy



Source: own source based on data gathered from Census of India 2011

Chart 7: Gap in Male – Female Literacy Rate (%)



Source: own source based on data gathered from Census of India 2011

As shown in the above charts, the literacy rate improved in the last years, albeit there is still a long way to go. These numbers highlight that India is still a long way from meeting Goal 4 of the UN SDGs (Sustainable Development Goals) of ensuring equitable and inclusive quality education and lifelong opportunities for all by 2030. The data of interest are based on India's last census (15th Census of India) carried out in 2011. Due to the ongoing Covid-19 pandemic in the country, the Government of India postponed the 2021 census to 2022, thus data covering the last 10 years is still unavailable. Notwithstanding – considering the current trend in the literacy rate – it can be assumed that it is expected to further decrease in upcoming years. Steps taken by Government to improve the literacy rate in the country include the promotion of free education programs so that children in rural areas can have access to education irrespective of their financial background; scholarships are provided to enhance students interest in studying, as well as textbooks and other necessary stuff related to study. It is a matter of fact that as literacy rates improve, gender equalities will witness a parallel increase. Moreover, using literacy to enhance gender equality ties also to equitable participation in the labour force. By doing so, women can access higher-paying jobs by challenging the stigmatised role of women as homemakers. Furthermore, higher participation in the workforce can help to reduce the wage gap as well. Thus, the concept of literacy is paramount for a country's sustainable development in that, greater access to education helps to develop a more gender-equitable world. Particularly,

considering that the gig economy relies on an increased capacity of technologies, literacy underlines knowledge and skills that are paramount in modern workplaces.

Studies argued that women were the first causalities of the mechanisation of agriculture.[205] The underlying reason is that social norms perceived operating heavy machinery to be a man's job. Thus, in the IT sector, for instance, a similar trend may repeat. Women will tend to occupy back-end jobs, whereas managerial positions will likely be occupied by men. The latter are less susceptible to automation, being high-skilled positions; whilst the former, are likely to be automated first in terms of technical feasibility.[206] Studies evidenced that the platform economy may be beneficial for women in that, work requirements are flexible and thus, it has the potential to facilitate women's employment. However, platforms reproduce the gendered division of labour as well. Considering also that platforms do not provide social protection mechanisms, which are paramount for women who are socially and structurally most susceptible to external shocks, it can be assumed that they somehow will reproduce the precarity that women face in traditional forms of work as well. Thus, the existing legal and socio-cultural norms and beliefs combined with low levels of education could critically limit women's capacity to leverage new technologies for their economic empowerment.[207]

A global survey conducted by Grant Thornton (2017)[208] revealed that only 17% of senior positions are held by women in India. Within the service sector, for instance, women are confined to very limited sub-sectors as well. They are mainly concentrated in education and retail trade (rural areas), followed by domestic workers and other service activities linked to laundry and hairdressing (urban areas). Gender-based segregation is experienced also within sub-sectors. In the education sector, for instance, women are mainly concentrated in primary education, whereas men are increasingly employed in secondary and higher education. Domestic work increased in the last decade as the newly affluent middle class can now afford domestic work, either for necessity or status. However, there is no effective monitoring to ensure basic rights or minimum wages, albeit women have been recently included in the Unorganised Workers' Social Security Act, 2018.[209] Moreover, Mehrotra et al. (2014) showed that the most dynamic sub-sectors between 1999-2000 and 2011-2012 were telecommunications, banking, transport, real estate and business, in terms of employment growth. However, they were all dominated by men.

[205] Mehrotra S., Parida J., 'Why is female labour force participation in India falling?' [2017]World Development
[206] Urvashi Aneja and Vidisha Mishra, 'Digital India Is No Country for Women. Here's Why' [2017] The Wire.
[207] International Labour Organisation (ILO), 'Emerging Technologies and the Future of Work in India' [2018] Tandem Research
[208] Grant Thornton, 'Women in Business 2017: New perspective on risk and reward' [2017]
[209] Santosh Mehrotra and Sharmistha Sinha, 'Towards Higher Female Work Participation in India : What Can Be Done ?' [2019] Centre for Sustainable Employment cse.azimpremjiuniversity.edu.in.

4.4.2. Women's labour in India's Gig Economy

The gig economy has emerged in urban India in the last few years and employs around three million people.[210] India started to adopt the gig economy to deal with the expanding supply of low-skilled labour and freelancers. The abundance of cheap low-skilled labour brought employers to increasingly recur to gig workers to cut down on costs. Mainly, the appreciation of gig workers is strategic for some companies and tactical for others in that, some companies are taking a more long-term perspective to review the current organisation structure, while others are hiring gig workers to tide over the crisis entailed by the Covid-19 pandemic.[211] Further, despite the number of gig workers appears to be small with regard to India's population of 1.4 billion people, TeamLease Services claimed that 56% of new jobs in India are generated by the gig economy,[212] in both white- and blue-collar segments. In this economy, blue-collared jobs include drivers, cleaners, delivery boys, whereas white-collared work includes bloggers, designers, digital marketers, etc.

As already addressed above, the gender gap is evident in the Indian labour market and the gig economy represents a paramount step toward financial and professional freedom, especially for women. Estimates showed that with more female gig workers contributing to the workforce, the workforce participation rate would improve. Yet, this is not the case in India as very little attention is paid to women's difficulties in pursuing gig work.[213] They encounter various challenges regarding access to "upward mobility, social protection, and effective bargaining power".[214] The unskilled workers in the gig economy are usually not covered by any type of social protection and are paid below the minimum wages. Thus, vulnerable groups such as internal migrant groups and women often face double discrimination as regards their social and employment status.

The gig economy created a bunch of new opportunities for Indian workers, yet women seem to take up highly stigmatised work (pink-collar jobs such as beauty or massage services, as well as nannies or nursing), due to their limited representation in the gig economy. This is indicative of a much larger problem at hand, as gendered work extends not only to the gender pay gap but also to a decline in female participation in the workforce.[215] In this regard, access to digital technologies is a significant obstacle to their participation in gig work, as a mere 16% of Indian women are mobile

[210] Banik, N, 'India's gig economy needs affirmative policy push' [2020] ET Government.
[211] Mitra, A., 'Welcome to India's emerging white-collar gig economy' [2020] Indian Inc. Group
[212] Pant, B., & Krishna, G. "Covid-19 and Gig Workers: Need to democratise the gig economy in India". [2020] ET Government
[213] Ria Kasliwal, 'Gender and the Gig Economy: A Qualitative Study of Gig Platforms for Women Workers' [2020] Observer Research Foundation.
[214] ibid.
[215] IWWAGE, 'The Future of Work for Women Workers India's: Emerging Gig Economy' [2020] New Delhi: The Asia Foundation

internet users according to the Mobile Gender Gap Report 2019 (GSMA, 2019).[216] Hence, for the time being, India's gig economy cannot be considered a gender-inclusive economy. At the outset of the platform economy, women can take advantage of the flexibility feature of platform work to re-enter the job market and balance their responsibilities. Yet, as has been depicted in many studies, the gig economy in India still does not provide equal opportunities and equal pay for women.[217] The nature of the labour market often reflects socio-cultural limitations that see women limited to some types of work. A study conducted by TeamLease in 2019 showed evidence of an 8%-10% earnings gap between women and men working for digital platforms in India. This is a trend in low- and middle-income countries where women tend to be limited to low-paid services. Still, as many women can only work during the day and only in particular areas, the platforms' flexible structure is slightly contributing to an evident change. According to some authors, more women are being drawn into the gig economy lately, especially in the transport and food-delivery sectors.[218]

Furthermore, in India, as in many other countries, gig workers are entailed as "independent contractors" and therefore, are not eligible for employment benefits such as maternity leave, health insurance, or minimum wage guarantees. Hence, a large number of women face economic precariousness, which is further exacerbated by the gig economy. In fact, according to a study conducted in 2018 by Observer Research Foundation, 35% of the women interviewed expressed disinterest in joining the gig economy.[219] Moreover, Indian women – in both formal and informal sectors – have limited bargaining power with both their employers and state actors. In fact, only a small percentage of women participate in labour unions. In this regard, Chakravarty (2007) explained that this is because the interests of permanent male workers are usually prioritised by mainstream trade unions.[220] Thus, the nature of gig work itself characterised by isolation and home-based work, tend to limit women's ability to participate in collective action.[221]

Moreover, a study conducted by Kasliwal (2020) showed that platforms tend to shift responsibilities and risks onto workers themselves, providing minimum protection to women against workplace harassment.[222] In the case of a dispute between workers and customers, platforms expect parties to resolve it independently and this leaves low-income workers in a situation where they

[216] GSMA, 'The Mobile Gender Gap Report 2019' [2019]
[217] Julia Ticona and Alexandra Mateescu, 'Trusted Strangers: Carework Platforms' Cultural Entrepreneurship in the on-Demand Economy' [2018] New Media and Society.
[218] Atal S., 'Towards a Gender Equal Future of Work for Women: A Preliminary Case Study of Women in the Gig Economy in India During Covid-19' [2020] Tandem Research
[219] Observer Research Foundation, 'The Future of Work in India' [2018]
[220] Deepita Chakravarty, '"Docile Oriental Women" and Organised Labour: A Case Study of the Indian Garment Manufacturing Industry' [2007] Indian Journal of Gender Studies.
[221] Shruti Gupta, 'Gendered Gigs: Understanding the Gig Economy in New Delhi from a Gendered Perspective', *ACM International Conference Proceeding Series* (2020).
[222] Kasliwal (n 213).

cannot afford to raise disputes.[223] Besides, women's legislative protection is limited as well, as The Sexual Harassment of Women at Workplace Act 2013 in India applies only to women having formal status as employees; thus the legislation does not apply to those working on gig platforms.[224] In summary, factors such as economic insecurity, lack of voice and agency, weak labour protections and gendered-based discrimination evidenced by various studies and reports suggest that gig work is not truly empowering women and the crisis entailed by the Covid-19 pandemic might have intensified those existing gendered vulnerabilities in the country's gig economy.

According to the World Economic Forum, with respect to other labour groups, gig workers are more negatively impacted by economic breakdowns due to the general lack of statutory protections and their non-standard employment status.[225] In the Indian context, labour market research showed that, in the post-lockdown scenario, more women dropped out of the formal labour force with respect to men, as responsibility for domestic care increased.[226] Closure of schools, unavailability of childcare facilities and health needs of family members contributed to this trend.[227] Currently, there is limited availability of data on the effects of the Covid-19 pandemic on women gig workers. However, the evidence so far suggests that they will potentially face more hurdles than men due to their concentration in household work. Studies show that women will undertake the majority of care-related jobs, albeit in principle the gig economy entails the opportunity to balance paid and unpaid work.[228] Hence, this aspect may potentially constitute a further impediment to women's equal and full participation in the gig economy post-pandemic.

According to BetterPlace, the gig economy in India accounts for more than 1.4 million jobs, which include beauty and wellness workers, delivery workers, rideshare drivers, maintenance workers, and similar.[229] Additionally, according to another estimate, the number of women in platform-based jobs increased by over 70% in 2019.[230] Yet, the majority of them work in the beauty sector, while being underrepresented in the ride-hailing and delivery sectors of the gig economy.[231] Moreover, TeamLease estimated a gap pay of 8 to 10% between women and men working in the gig

[223] ORF (n 219)
[224] The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013. Government of India.
[225] World Economic Forum, '3 Challenges Facing Global Gig Economy Growth After Covid-19' [2020]
[226] Deshpande A., 'The Covid-19 Pandemic and Lockdown: First Effects on Gender Gaps in Employment and Domestic Work in India' [2020] Working Papers 30, Ashoka University, Department of Economics
[227] ibid.
[228] Samman E., Hunt A., 'A Good Gig? The Rise of On-Demand Domestic Work' [2016] ODI Working Paper 07
[229] Better Place, 'Report on Blue Collar Jobs 2019' [2019]
[230] Kar S., 'Women Bag Frontline Roles in Gig Economy, but Lag behind in Wages' [2020] The Economic Times
[231] Raman S., Saif R., 'Gig Jobs Give Women Higher Incomes but Little Security' [2021] Indiaspend

economy,[232] which is further worsened by women's limited access to digital services.[233] According to a study conducted by IWWAGE (2020), Indian women are benefitting from the gig economy, as its flexible work arrangement helps them to take care of other unpaid household responsibilities.[234] However, this benefit comes with the risk of having an unstable monthly income. Moreover, the Covid-19 pandemic further exposed gig workers, especially women workers' vulnerabilities, as many of them lost jobs and others suffered income shocks.[235] Among all the platforms operating in India, only three of them (Flipkart, Grofers, Amazon) compensated their workers for lost pay, and only Uber and Zola provided deferral of loan.[236]

Nevertheless, according to a new study jointly conducted by the United Nations Development Programme (UNDP) and the Federation of Indian Chambers of Commerce and Industry (FICCI) titled "The Impact of Covid-19 and Industry 4.0 on Future of Work for Women", the gig economy will expand and boost women's employment to an extent that the loss of jobs in the formal sector during the pandemic could be temporary on nature.[237] The study also outlines some key sectors that might witness growth in women's employment such as fast-moving consumer goods (+41%), health and pharmaceutical (+59%), electrical and electronics (+44%). However, opportunities for women to get education and support in this process are not well known yet. The survey only highlighted what kind of challenges and opportunities have arisen for women in the wake of the pandemic.

Thus, labour laws and regulations must be defined clearly, to provide workers the opportunity to take advantage of this changing world of work. Automation was addressed as well, as it may create unemployment for some time in the country, but interestingly it also revealed that the impact of technology on low-skill and high-skill jobs seems to be gender-neutral. Medium-skill jobs are the ones with higher gender differentials, as they require both manual routine work and cognitive work, where gender can play a significant role. This can be partly explained by the fact that the most important criteria for high-skill jobs is to find the right worker with the right skill, and whether the candidate is a woman or a man hardly matters. As regards low-skill jobs instead, they are characterised by a wage parity in India and thus companies may have an equal ratio of workers; hence reflecting no gender bias.[238]

[232] TeamLease Services, 'Employment Outlook Report 2019' [2019]
[233] GSM Association, 'The Mobile Gender Gap Report 2020' [2020]
[234] IWWAGE (n 215)
[235] The Fairwork Project, 'The Gig Economy and Covid-19: Looking Ahead' [202]
[236] IWWAGE (n 215)
[237] UNDP, 'Impact of Covid-19 and Industry 4.0 on Future of Work for Women: An Insight from Formal Sector in India' [2021]
[238] ibid.

4.4.3. The impact of Covid-19 on the Indian labour market

Considering the detrimental effects of the Covid-19 crisis, it is important to understand the impact of the pandemic on platform workers in India, whose informal employment comprises more than 85% of total employment. The fiscal cover for citizens by governments in developed countries was bigger – when compared with developing countries like India – due to higher per capita tax collection and the small size of their population.[239] Particularly, Lee et al. (2020) [240] and Abraham et al. (2020) [241] noted that daily-wage workers (compared to permanent work contracts) were affected more severely by the crisis. Further, according to Dingel and Neiman (2020) [242] jobs involving tasks that are less flexible to remote work have been more vulnerable during this economic slowdown.

The International Labour Organisation (ILO) defined workers' vulnerability as a combination of two criteria: (a) when employment earnings are not able to lift a worker out of poverty, and (b) when the economic activities carried out are not able to provide any benefit in terms of paid leaves, formal contracts, social safety nets, etc. Thus, under these circumstances, their employment cannot be considered decent work (SGDs goal 8). Moreover, the role of informality in the labour market must be addressed as well, as it affects the way in which economies respond to shocks.[243] Informal employment relationships (contingent or flexible work) provide a more elastic response to external shocks, as opposed to the more inflexible and regulated formal employment.

Accordingly, Alfaro et al. (2020) noted that informal employment was in fact at higher risk in the early stages of the pandemic – due to low cash reserves in small firms and generally, due to the lack of employment protection – but it may recover faster due to its lower dependence on physical and organisational capital and overall, to its greater hiring and firing flexibility.[244] Also, it is important to bear in mind that the Covid-19 crisis has further accentuated pre-existing rising unemployment in the country. Absolute employment declined by 6.6 million in the period between 2011-12 and 2017-18, [245] despite positive output growth. However, between 2016-17 and 2019-20 GDP growth went

[239] World Bank Group, 'Workers at Risk: Panel Data Evidence on the Covid-19 Labour Market Crisis in India' [2021] Policy Research Working Paper n 9584
[240] Kenneth Lee and others, 'Job Loss and Behavioral Change: The Unprecedented Effects of the India Lockdown in Delhi' [2020] SSRN Electronic Journal.
[241] Abraham R., et al. 'Social Identities and Employment Trajectories During the Covid-19 Pandemic: Evidence from Indian Panel Data' [2020] Working Paper
[242] Jonathan I Dingel and Brent Neiman, 'How Many Jobs Can Be Done at Home?' [2020] Journal of Public Economics.
[243] World Bank Group (n 239)
[244] Laura Alfaro, Oscar Becerra and Marcela Eslava, 'EMEs and COVID-19 Shutting Down in a World of Informal and Tiny Firms' [2020] SSRN Electronic Journal.
[245] KP Kannan and G Raveendran, 'From Jobless to Job-Loss Growth Gainers and Losers during 2012–18' [2019] Economic and Political Weekly.

from 8.3% to 4.2%, thus recovery needs to be employment intensive.[246] The manufacturing sector, for instance, has been hardly hit by the pandemic as factories were closed due to containment measures, [247] and disruptions in global supply chains hindered access to imported inputs, which is estimated to amount to 60% in the category of intermediate goods.[248]

Moreover, considering that regular formal jobs are mainly held by those at the top of the education ladder, the relatively less-educated workers are predominantly engaged in precarious forms of work, and therefore they bear a disproportionate burnt of the Covid-19 crisis. The agricultural sector, for instance, accounts for 42.2% of total employment, whereas sectors such as manufacturing, construction and trade, and hotels and restaurants cumulatively account for approx. 36% of total employment. These sectors are highly dominated by precarious work arrangements. In the manufacturing sector almost 85% of workers are engaged in informal work arrangements; in the construction sector over 80% of workers are in casual employment; whereas, in the trade, hotels and restaurant sector, less than 5% are in regular formal jobs.[249]

Conversely, sectors such as finance and business, real estate and public administration, education, and health, have a higher share of formal work arrangements and are more amenable to remote work. Casual workers in these sectors are less than 5%. Those sectors offer greater financial wherewithal and more secure terms of employment; however, their contribution to total employment is low because it generates opportunities mainly for those at the top end of the education ladder.

Table 3: Distribution of workers across sectors by educational qualification

NIC 2008	Not literate	Literate without formal education	Literate Below Primary	Primary	Middle	Secondary	Higher Secondary	Graduates and above	Total
Agriculture	37.50	0.42	6.80	15.21	19.77	9.96	6.64	3.71	100
Mining & Quarrying	20.91	0.07	10.31	12.02	21.33	12.54	10.66	12.15	100
Manufacturing	14.00	0.33	5.70	15.79	25.71	14.62	13.89	9.96	100
Electricity, Gas & Water supply	13.33	0.35	3.00	8.15	18.29	15.08	20.29	21.53	100
Construction	27.72	0.62	6.60	18.35	25.86	11.25	6.51	3.10	100
Trade, Hotel & Restaurants	11.13	0.30	4.55	11.98	24.73	17.09	15.86	14.35	100
Transport, Storage & Communication	9.94	0.33	3.85	12.97	25.58	15.05	12.30	19.99	100
Finance, Business, Real Est.	3.00	0.12	1.35	4.61	11.71	10.41	16.08	52.73	100
Health, Education, Public Admin	10.30	0.21	2.68	7.31	13.67	11.45	15.11	39.28	100
Total	24.30	0.38	5.56	13.88	21.28	12.09	10.30	12.22	100

Source: Kapoor (2020) based on PLFS unit data (2018-19)

[246] Kapoor R., 'Covid-19 and the State of India's Labour Market' [2020] ICRIER Policy Series n 18
[247] Richard Baldwin and Rebecca Freeman, 'Supply Chain Contagion Waves: Thinking Ahead on Manufacturing "Contagion and Reinfection" from the COVID Concussion' (*VoxEU.org*, 2020).
[248] Ghose A., 'India Labour and Employment Report 2016' [2016] The Institute for Human Development
[249] Kapoor R. (n 231)

The Covid-19 crisis had a differential impact on Indian workers based on the nature of their employment agreement and sector of employment. Thus, India's labour markets will likely witness an increasing inequality between workers with some degree of social security engaged in sectors that are more flexible to shifting their tasks online, and those who are not. More than 50% of workers in regular formal jobs are graduates or postgraduates, whereas casual workers or self-employed have usually low levels of education (Table 3).

4.5. Challenges and prospects

Three key dimensions must be addressed to have a better picture of the quality of employment in India, notably informality, low female labour force participation, and sectoral nature of employment trends. Firstly, a large share of workers in India is informal due to employment conditions provided by employers and the nature of the workplace. Yet, two diverging trends emerged in the past decades as the share of workers in the unorganised sector fell from 86.3% (2004-05) to 82.2% (2011-12). Meanwhile, within the organised sector, the share of informal workers increased dramatically through greater utilisation of forms of casual labour. Thus, considering these two underlying trends, the share of workers in informal employment remained stagnant at around 92%.[250] Secondly, as already stressed above, India has one the lowest level of female labour force participation in the world, which was most pronounced in rural areas due to women's withdrawal from agriculture. This represents a long-term challenge for India, in that the country must increase opportunities for women to enter the labour force in decent and productive employment.[251] Finally, linked to the above issues is the sectoral nature of employment growth in India.

Specifically, there has been widespread discourse on the relative failure of India's manufacturing sector as the driver of job creation and economic growth. The manufacturing sector accounted for a slightly higher share of GDP and stood around 12% as regards total employment. This sector will be further challenged by the increasing skill intensity of manufacturing and technological change.[252] Particularly, the future of work in India will depend largely on how women work as well, and the extent to which each sector will contribute to generating jobs for the youth. Moreover, considering the impact of technological change associated with automation through AI and robotics, a larger challenge for the country will be the inequality driven by the slow pace of

[250] Sher Verick, 'The Puzzles and Contradictions of the Indian Labour Market: What Will the Future of Work Look Like?' [2021] SSRN Electronic Journal.
[251] ibid.
[252] ibid.

technology diffusion. The risk is that segments of the Indian labour market will miss out on accessing more advanced technologies. Overall, the flexibility offered by platforms could fit in well the demands for independent work of an evolving society characterised by a high percentage of new and young entrants in the labour market. Independent work could represent an opportunity for the economy to stimulate demand, raise productivity, and improve labour force participation. Yet, challenges could be both social and regulatory. Freelancing and microwork are a relatively new phenomena with paramount bearing on the functioning of labour markets, thus regulation is to be expected. As regards social challenges, permanent jobs are still perceived as "first-grade" jobs in the Individual society, hence they are treated as a superior option among the older generation. This perception is further reinforced by the irregularity in freelancers' income, among other well-known factors such as lack of sick pay, holiday entitlement, episodic working etc. In this regard, Government can play a significant role in enhancing the benefits of the gig economy, by removing barriers to regulate the market. Contractual workers and gig workers must be given protection just like regular workers, thus appropriate labour laws must be formulated. By doing so, challenges can be converted into opportunities and the gig economy surely has the potential to bring benefits for a developing country like India.

Moreover, the Fourth Industrial Revolution (4IR) defined by the convergence of a set of technologies cutting across the digital, physical, and biological worlds - AI, advanced robotics, cloud computing, autonomous transport, and machine learning among others - is expected to radically change the future of work and this time the speed and spread will be unprecedented and dramatic.[253] Many jobs will be created anew, hence business models and production processes along with social protection and employment relationships frameworks will likely be reconfigured.[254] The future of work has been widely discussed by policymakers and stakeholders in developed economies for the past decade. In "The Second Machine Age" for instance, MIT professors Andrew MacAfee and Eric Brynjolfsson argue that automation of cognitive tasks will make humans and software-driven machines substitutes, rather than complements, by making a comparison with the "First Machine Age" - or Industrial Revolution - which contributed to make machines and labour complementary.[255] The First Machine Age led to factories and railways. It led to modern life characterised by mass production and mass transportation. Now, with the Second Machine Age, computers are doing for mental power allowing societies to blow past previous limitations. Authors are optimistic about

[253] ILO (n 207)
[254] IWWAGE (n 215)
[255] Brynjolfsson E., McAfee A., 'The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies' [2016] New York, NY: WW Norton

digital technologies. They argue that further and advanced technological changes will be profoundly beneficial ones. Yet, even the most outstanding and beneficial developments sometimes have unpleasant consequences that must be addressed, which is the other end of the spectrum. Undoubtedly, workers with special skills or the right education will be able to use technology to create and capture value. However, there's never been a worse time for people offering only ordinary skills, because robots and computers can acquire these skills and abilities and run them at an extraordinary rate. Thus, the 4IR must be examined in relation to job displacement, labour market inequities, and employment conditions, with a specific focus on its impact on the future of work of specific countries.

India, for instance, is still experiencing the Third Industrial Revolution (3IR) characterised by telecommunications, electronics, and the invention of computing. In this context, 35% of the population has access to the Internet and approximately 300 million people leaves without electricity. The service sector contribution to GDP growth was overwhelming over the last decade, albeit the share in employment did not run parallel. Moreover, over 80% of India's workforce is engaged in the unorganised sector and women's participation in the labour force is still at a critical point, as already shown in previous sections. Thus, in India the 4IR is still at an emerging stage.[256] Yet, automation potential and automation adoption must be addressed separately in that, even if various tasks might be technically automatable, the adoption of some technologies depends highly on a variety of factors, such as the cost of labour, levels of education, infrastructure availability, as well as cultural and social norms that design attitudes toward technological innovation. In many developed economies, for instance, low to medium skill jobs are most vulnerable to the impact of automation.[257]

Further, countries such as India are almost entirely constituted by low-skilled or low-income jobs within the unorganised sector. As technology unfolds, businesses within the organised sector will likely realign to new opportunities shrinking labour and income mobility. 4IR could provide solutions to improve productivity in the agricultural sector, whereas micro-technologies (e.g., those for digital banking) could improve labour productivity. However, with most of the country's workforce engaged in the unorganised sector, the impact of 4IR on India's dual economy structure might be challenging. The cost of adoption could be lowered if India becomes a manufacturer of advanced robotics for instance.[258]

Further, the impact of emerging technologies on employment conditions must be considered as well. This aspect is paramount for the Indian context, as the majority of workers are not under a

[256] IWWAGE (n 215)
[257] Frey B., Osborne M., 'The Future of Employment: How Susceptible are Jobs to Computerisation?' [2013]
[258] Press Trust of India, 'Government Formulating National Policy for Advanced Manufacturing' [2016] The Economic Times

formal employment contract and hence, do not have access to formal social protection. The wide structure of the Indian labour market is not likely to change overnight, neither there will be a drastic transformation in the next decade. Undoubtedly, new technologies will disrupt the Indian labour market, however considering the current employment pathways, opportunities for decent work will continue to be limited at least for the coming decade. Entrepreneurship may be a feasible option only for those with financial support and emerging technologies such as cyber security or data analysis will be available only for those with specialised skills.

The country has a young and aspirational workforce, but they are unable to overcome the fissures that separate the manual from the mechanised, formal from the informal, and urban from the rural. In this regard, a government response may be to adopt redistributive strategies by providing, for instance, labour incentives rather than capital incentives, as a way to skill the workforce and increase their hiring. By now, the size of the industrial robotics market in the country is still very small, counting only 11.800 operational robots in 2014.[259] By way of example, China accounted for 68.600 industrial robots' sales in 2015, and a large share was produced internally.[260] Further, companies such as Sales Force and Microsoft are setting up data centres in India, thus increasing cloud computing capacities and operating with local companies such as Airtel and Tata.[261] However, there is a need for much more articulated legal frameworks for data protection, which is currently missing and without it, technological impact will likely be limited and fragmented.

5. Conclusive remarks: will the Gig Economy take over the future?

We are now living in a world characterised by automation technologies such as machine learning and robotics, which are playing an increasingly great role in everyday life. Nowadays, robots and computers can not only perform routine physical activities more cheaply than humans but can also accomplish activities that were used to be considered too difficult to automate successfully, such as driving, sensing emotions, or even making tacit judgements. Thus, they are increasingly capable of performing cognitive capabilities. The number of people working for gig economy platforms has increased drastically in recent years, and maybe this is the reason why many economists and researchers have gone overboard. In fact, many of them claim that the gig economy will highly likely replace existing employment contracts in the future, and therefore that it represents the way workforce

[259] Roehricht K., 'Study on Emerging Markets with Special Focus on Asia' [2017] RockEU
[260] Green T., 'Asia Outlook 2017: Robots, Automation and Industry' [2017] Asian Robotics Review
[261] Forbes India, 'Mapping the Landscape of the Cloud Computing in India' [2017]

will be employed.[262] Hence, it may be tempting to think that the gig economy will grow so fast and so big that it will probably consume the actual economy.

According to a study conducted by McKinsey Global Institute (MGI) in 2017, advances in robotics, AI, and machine learning will outperform human activities and performance, including the ones requiring cognitive capabilities.[263] It will boost economic growth and prosperity in a way previously unseen, and the most susceptible activities will involve physical activities in highly structured and predictable environments. Currently, they are most prevalent in sectors such as accommodation, manufacturing, and foodservice. Moreover, at a macroeconomic level, based on their scenario modelling, automation is estimated to raise productivity growth on a global basis by 0.8 – 1.4% annually. Yet, the pace and extent of automation will vary across different occupations, skill levels, and wages. Some forms of work are more susceptible to automation than others such as manufacturing and agriculture, whose predictable physical activities have a high potential to be automated. The scale of shifts in the labour force unleashed by automation technologies will probably follow an order of magnitude similar to the long-term technology that enabled shifts in the industrialised countries' workforce away from agriculture in the 20th century. In this regard, during the 20th century, almost everyone in the entire world was self-employed. The traditional employment relationship is a pretty recent invention, and some proponents of the gig economy are optimistic about the fact that "gigs" will represent an efficient way to take us back in the past.

Still, if the workforce all over the world used to be self-employed – for many historical periods – why the future should be any different? The reason behind the evolution of work from subcontracting to permanent employment was deeply addressed in previous sections. From a worker's perspective, working within a firm reduces the uncertainty that self-employment entails; whereas, from the firm's perspective, relying only on subcontractors may create friction within the firm itself in that, subcontractors may end up being competitors and thus, they may have no incentive to collaborate with one another. Consequently, friction may hinder decision making and productivity. Therefore, in this scenario, subcontracting may turn out to be much more expensive than direct employment. But again, if the gig economy is so uneconomical, then why so many people are working within it? According to the OECD paper and other studies previously mentioned, work flexibility and the opportunity to generate additional income are the most common motives for people to work for gig economy platforms.[264] Currently, the most popular sectors in the gig economy are housing and

[262] Frans Dagelet, Attila Havas and Marjolein Wevers, 'The Future of Work Is Here' [2021] Liberty Global policy series.
[263] McKinsey Global Institute, 'Artificial Intelligence: The Next Digital Frontier?' [2017]
[264] OECD. 'What is the gig economy and what's the deal for gig workers?' [2021]

transportation services; yet the gig economy extends to many other sectors in various forms. Hence, it constitutes an important part of the future of jobs.

Nevertheless, a paramount question arises here: will the gig economy last in the long-term (as regards gig-worker placement) or is it destined to vanish in the next years by the introduction of new and more innovative technologies? Considering technological advancements, it does not come as a surprise that automation technologies will most probably substitute human activities in the future, many of which are currently performed by gig workers. Here implications are twofold: on the one hand, technological jobs will surely require a lot of education and training; therefore, automation advancements will most probably require an increased number of people working in this sector, hence increasing employment. On the other, considering that some tasks performed by gig workers usually do not entail a high degree of responsibility, they are more susceptible to automation and thus, subject to job loss. The underlying reason behind these considerations is that the gig economy – conceived as a new economic model – will probably not last long. At most, it will serve as a small subsection of the total economy. But, considering that the gig economy is currently creating more jobs and opportunities for workers, will this new upcoming automated reality fuel or destroy the gig economy?

The extent to which the current gig labour will represent the imagined 'future of work' was not explored yet, especially with regard to automation processes, which most probably will hinder the future size and scope of the gig economy itself. And that future is frighteningly near. Platforms will presumably internalise core activities, thus opting for insourcing rather than outsourcing work. And the literature on gig labour and platform economy have yet to seriously deal with the existence and implications of automated work arrangements. Considering the TCE framework applied to the gig economy and the reduction of costs that it implies; robotic process automation have the potential to become more efficient and cost-saving than any other business model. With respect to the gig economy, the potential wage savings, and overall advantages for companies to outsource service tasks domestically or abroad are various. However, this paradigm will probably be shifted by the prominence of automation towards the decision to insource activities within the firm, with the gig labour representing only an intermediate stage in a larger and dynamic organisation-driven industrial transformation.

We are now living in an exponential age, characterised by exponential growth. The pace of change is accelerating and the divergence between the new and the old becomes faster and faster with each passing year. For instance, if an organisation needs to accomplish a task that is too expensive today, it won't probably be too expensive in a couple of years. Amazon, for instance, recognised this trend, and this awareness helped the company to transform it into one of the most successful companies in history. But Amazon is not alone. By early 2015, Uber started to focus on autonomous

vehicle development.[265] By removing the driver, autonomous vehicles significantly lower the cost of a ride to an extent that vehicle ownership will probably become obsolete while boosting the company's addressable market.

In those early years, exponential change may seem sharply boring, with people and organisations ignoring it. But at some point, the curve of exponential change will cross that of linear change.[266] The only difference here is that, by the time the gig economy will have proper regulation and integration in economic society, the world will be already witnessing a further paradigm shift in economic activities, entailed by robotic process automation. This is due to the fact that, even if exponential change were highly visible, it would still not be carefully perceived by current institutions, because – narrowly speaking – they follow a linear trajectory characterised by unspoken social norms and codified laws, thus impeding their capacity to change and adapt. For instance, considering gig economy workers, what is their employment status? Institutions are still not quite sure. Institutions' capacity to adapt to new technologies' accelerating speed is limited, and this hinders society's ability to run parallel with the changing technological environment.

The gig economy posed an exponential gap between outdated work approaches developed in the 20th century and new forms of work enabled by technology that need regulation. And accordingly, automation processes will pose a further exponential gap with regard to the current gig economy in that, many gig workers will most probably lose their job due to the introduction of autonomous driving technology or robotic delivery services, for instance. Basically, technology is developing at an increasing, exponential rate, whereas human society (both businesses and political institutions) is distinctly adapting at a slower, incremental pace. And this is what the exponential gap is about. There is an exponential gap between the linearity of our everyday lives and technologies. And even if the gig economy manages to grow alongside automation capabilities, questions about the sustainability of gig work remain.

Particularly, low labour cost countries such as India, are currently benefitting from their surplus low-skilled workers, while western companies are still outsourcing their production to these countries.[267] Western companies outsource labour to developing countries by virtue of costs savings. However, if those companies choose to produce in their countries of origin in the future by using production robots, the surplus of low-skilled labour might turn into a curse for these developing countries. At present, the implementation of autonomous systems requires too much investment,

[265] Lowensohn, J., 'Uber gutted Carnegie Mellon's top robotics lab to build self-driving cars' [2015]. The Verge
[266] Azhar A., 'The Exponential Age: How Accelerating Technology is Transforming Business, Politics and Society' [2021]
[267] IBA Global Employment Intitute, 'Artificial Intelligence and Robotics and Their Impact on the Workforce' [2017]

compared to the existing labour costs.[268] Yet, production robots are becoming less expensive year by year, and in the near future companies will highly likely decide to locate where they can most easily access highly qualified employees for generating and monitoring AI. Accordingly, if developing countries will be able to provide qualified staff, it might be assumed that they will be able to profit from technological change as well. Consequently, the decision of western companies to outsource activities in developing countries will no longer be driven by the presence of a large pool of low-skilled labour, but instead by the availability of suitably qualified workers.

6. Contributions and limitations

6.1. Findings and contributions

This study started with an in-depth review of the existing literature surrounding the gig economy. The early literature tended towards predictions such as the end of employment,[269] or a shift towards a platform capitalism,[270] whereas a growing literature now provides a more complex and empirically grounded account of platform labour.[271] However, the imperative for online platforms to grow rapidly has consequences for gig workers' rights, leading to high turnover and unpredictable remuneration for workers. Still, a gap in the gig economy literature was found with regard to developing countries – in that, literature is scanty when it comes to measuring the impact of this new paradigm shift in low- and middle-income countries – and more precisely with regard to gender equality. Thus, in order to have a better understanding of the gig economy's impact in this context, I put these two factors together and tried to find answers by analysing the Indian labour market. The gig economy is expected to boost opportunities for Indian workers, however approaches applied to industrialised economies might not provide the same outcomes when addressing other parts of the world. Generally, the Indian labour market is characterised by a significant informality of work. In this context, while some categories of workers might benefit from this paradigm shift, others face some critical hurdles, to the extent that factors such as literacy rates, cultural norms, and social barriers, could significantly hinder their ability to enter the labour market and take advantage of these new opportunities. Employment growth in India is driven by increase of the informal sector; informal workers are not covered by

[268] ibid.
[269] Chris MacDonald, 'The Sharing Economy: The End of Employment and the Rise of Crowd-Based Capitalism, by Arun Sundararajan. Cambridge, MA: MIT Press, 2016. 256 Pp. ISBN: 978-0262034579' [2018] Business Ethics Quarterly.
[270] ibid; Sascha Lobo, 'S.P.O.N. - Die Mensch-Maschine: Auf Dem Weg in Die Dumpinghölle' (*Spiegel Online*, 2014).
[271] Stewart and Stanford (n 4); Alessandro Gandini, 'Labour Process Theory and the Gig Economy' [2019] Human Relations.

labour regulation, and therefore have no benefits such as social security, to an extent that informality could be assumed to be negative correlated with development. And a critical aspect here is that, while the gig economy is assumed to be more gender inclusive – given its underlying features – in countries such as India (characterised by a large share of informality) the gig economy seemed to haven't reached its scope. Women are heavily underrepresented within the informal sector and overall, within India's gig economy's segment as well.

6.2. Limitations of the work and future research

This study was conducted by analysing data gathered from different sources and reviewing existing literature on the topic, hence drawing conclusions and attempting to provide a more comprehensive knowledge about the gig economy's impact and fundamentals. For the purpose of this study only a region of the world was considered (India), limiting the comparability between the various impacts of the gig economy in different countries and continents. Therefore, future research should pursue a more analytical and in-dept approach through the analysis of updated data, in order to provide a far-better empirical analysis of the market segment covered by the gig economy in India. Also, Transaction Cost Economics theory applied to the gig economy, albeit conducted in a structured way, is merely theoretical and doesn't consider its implications for further technological advancements, such as the widespread introduction of robotics and automation processes substituting human activities in the upcoming future. Accordingly, researchers should focus deeply on the extent to which automation will boost or burnt the current gig economy and its implications for future work.

Conclusions

This study extends existing literature by exploring gender inequality in the gig economy with specific focus on the Indian labour market. Various advantages and disadvantages from both companies' and workers' perspective have been examined; the need for regulation and what it may entail; the motivation for entering this employment relationship; the extent to which Transaction Cost Economics can explain the growth in the use of online platforms; and whether or not the gig economy is truly gender inclusive in a considered specific market, have been explored. The existing literature provides a general descriptive perspective, therefore this study considered explored arguments addressing whether the gig economy really represents the future of work and if it provides equal opportunities for all.

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SUMMARY OF THE THESIS

This study attempts to find answers for recent issues about the gig economy. The shift from traditional workplaces to gig environments bring benefits and losses as well. Although in the last decades more and more scholars have been dealing with this topic, there is contradictory literature about whether this new economic concept is working or rather establishing an even bigger concern. Accordingly, extensive literature on the topic has been reviewed, attempting to provide a contribution to the existing research by analysing the gig economy from a variety of angles and addressing aspects that have been of poor concern for the current literature. The first chapter of this thesis focuses on understanding the fundamental pillars of the gig economy, its functioning, and overall impact on both companies and workers' perceptions. In the lexicon of the gig economy, notions like *technological advancement* and *rapid digitalisation* occupy a predominant role as the adoption of newer technologies reshaped modern-day economies and past thought processes. Narrowly conceived, the gig economy refers to a free market system wherein short-term tasks are advertised by companies through online platforms. Hence, the phenomenon of the gig economy is strictly connected to the emergence of the platform economy, where platforms constitute the mediation tool between interested parties. However, the fragmentation of work entailed by the gig economy reflects a general trend known as *fissuring* of work; that is, work characterised by income instability, extreme flexibility, and shifting risks to workers. Accordingly, some authors opined that employers may perceive the gig economy as some kind of trump card useful to reduce costs, increase production flexibility, and emerge in the competitive global market arena. Particularly, studies have shown that gig work has the potential to drive employment opportunities and work formalisation in emerging economies. Apparently, the gig economy was and is still prone to compromise the Fordist model of centralised production, as work can be executed anytime and anywhere through digital platforms behind a mobile phone. In this context, gig work tends to be framed positively, as flexibility is presumed to be desirable for both workers and employers. However, the use of apps to arrange the logistics of the gig economy also enables platforms to track the performance of their workers, thus losing the sense of freedom and flexibility themselves. Particularly, characteristics such as temporary, part-time, and flexibility are often associated with neoliberal working conditions, with the gig economy being a manifestation of a broader movement in global economics and politics, that over the past few decades went toward a specific form of capitalism, known as neoliberalism. Moreover, in the gig economy, we see this vision of an employment market in which there is always what Friedrich Engels referred to as *reserved army of labour* ready to take up work turned down by others, and under these lenses, it might be argued that the emergence of this form of capitalism does not represent a 'new

development' of working conditions, but a faint return to the unregulated and exploitative capitalism of the 18th – 19th and very early 20th centuries. Thus, for all the arguments asserting that the gig economy's flexibility might be a positive for those working within it, it might be argued that it is benefitting companies far more than workers. Nevertheless, it is worth exploring the preconditions that shaped its emergence, otherwise, there is a risk seeing the gig economy as only a particular form of market system shaped by technological factors. Woodcock and Graham (2019) identified nine preconditions that are connected to the underlying factors of society, technology, political economy, and a combination thereof. The first precondition is technological: platform infrastructure. The rapid growth of platforms was facilitated by the availability of underlying technology such as GPS networks, 4G connectivity, cloud computing and so on. Platforms serve as an intermediary between clients and workers, and this is what led many gig economy companies to attempt to claim that they are not employers, but simply provide a bridge between supply and demand. They do not classify themselves as taxi (e.g., Uber) or delivery (e.g., Deliveroo) companies, but as technology companies, connecting parties who lack either proximity or synchronicity. The second precondition refers to the digital legibility of work, and the question mark about whether work can be measured via a digital platform or not rest on an old problem of management: how to measure work. Frederick W. Taylor, for instance, tried to record and measure the factory labour process to make work legible and visible, so it could be better understood by managers, and this managerial desire for legibility has been followed by many nowadays online platforms. Some of them allow real-time location tracking, while others record every digital activity performed by the worker on the platform itself. Yet, some kinds of work are more susceptible to this kind of reorganisation, whereas others such as delivery and transportation are easier to *platformise*. Further, the third precondition regards mass connectivity and cheap technology. The availability of smartphones and devices with regular internet access are paramount for workers and consumers of platforms. Without internet connectivity services are unreliable. It is a core pillar of the modern information society. However, digital divides remain real: only about 35% of the population in developing countries has access to the Internet, versus about 80% in advanced economies. The fourth precondition is related to the social aspect and involves consumer attitudes and preferences. In some industries, platforms must deal with new demands and thus, encourage new behaviours; while in others, they simply build on an existing market. Delivery and transportation platforms, for instance, build upon a pre-existing consumer attitude of seeking for a service remotely and having it delivered. The fifth precondition is related to gendered and racialised relationships of work. Particularly, the gendered relationships of work are apparent in the inclusion and exclusion of women from different kinds of work, even in the gig economy. For instance, domestic work has long been gendered as female work and the roots of this misconception can be

generally traced to the gendering of work under capitalism, wherein this kind of work has always been seen as unproductive, thus devaluating the skills involved. Consequently, the pressures for devaluated domestic work increased the likelihood for women to end up in segregated jobs or non-standard jobs, characterised by gender pay gap and fewer social protections, and this is particularly true for Indian women, as we will see later. The sixth precondition refers to the desire for flexibility for and from workers. The desire for flexibility comes from both employers and workers, driving a restructuring of work based on the removal of any sense of agency of workers. Yet flexibility has its own drawbacks as many gig economy employers frame themselves as technology companies and their workers as 'partners', not employees. Hence, building the relationship in this way has led to a harsh departure from the standard employment relationship, with platforms freeing themselves from many of the responsibilities that standard employment implies, and this is a key issue of the debate on precarious work. The seventh precondition involves state regulation. The structural crisis caused by the financial crash of the 1970s put the 'standard employment relationship' under threat, as inflation and unemployment grew. Yet the crisis provided the opportunity to come up with a programme of reforms that has come to characterise neoliberalism: increasing privatisation and use of market forces, the rolling back of the welfare state, revision of workers' terms and conditions. Hence, this long period of change has shaped the current state of the employment relationship. The labour market was "deregulated", and labour was made more flexible. However, with the 2008 financial crisis, the ideology of neoliberalism lost its force and the following years have been characterised by an increase in low-paid and insecure work. Consequently, all those factors started a process of reflection on what the neoliberal era had delivered, and some countries are now looking at the gig economy as a potential source of economic progress and prosperity. However, existing regulation was not designed to consider the specificity of this kind of work, meaning that platforms can avoid or evade regulation, with the gig economy successfully taking advantage of it. The eight precondition involves worker power and refers to the strength of the existing labour movement and how its relative power can design the environment in which platforms operate. However, in most of the gig economy there are no active trade unions and workers miss conditions and protections that were integrated, at least in part, into capitalism in high-income countries. In this regard, Ravenelle (2019) referred to the gig economy as a "movement forward to the past". The ninth and final precondition regards globalisation and outsourcing. Globalisation has led the world to become more and more interconnected and is often linked to the use of "cognitive capitalism"; meaning that, the production of wealth takes place increasingly through the dissemination of knowledge, accumulation of immaterial capital, and the driving force of the knowledge economy. Outsourcing facilitates the integration of firms in different economies and allows work to be completed remotely via a computer.

Particularly, those digital platforms that are now offering online outsourcing, led to the creation of mass employment, where the labour force is huge but dispersed throughout the world, marking a trend towards a new form of digital Taylorism. In this context, the "crowd" is the new player in the labour market, brought by this platform economy. Gig jobs differ from traditional employment in notable ways, thus the pros and cons of going gig for both companies and workers are manifold. Nowadays, most companies prefer to hire short-term employees for short-term and specific projects, outclassing the need for standard employment. When the project ends, there is no need to re-allocate the employee since the gig worker will independently go on to another project. Therefore, a short-term employee is perceived as the best option to fill temporary holes in companies' staffing, while reducing costs associated with full-time positions. By some accounts, gig jobs yield some benefits compared to traditional employment; they provide opportunities to generate income when circumstances do not accommodate full-time employment. Moreover, workers have greater flexibility in terms of jobs and working hours. However, the term 'flexibility' is value-laden; usually portrayed as a 'good thing'. But it could also be portrayed as a synonym of 'uncertainty' and therefore, as a 'bad thing', because flexibility is strictly connected to whose interests are prompted and whose are neglected. The underlying question is: who gains and who really loses? To have a more cohesive knowledge of the topic, I used Transaction Cost Economics theory to explain and decompose this new paradigm. According to TCE, non-specific transactions among two entities are better transacted through the market mechanism. However, as the complexity of transactions increases in a way that assets become more specialised and less easy to redeploy to alternative uses, hierarchy through vertical integration may constitute the best option for firms seeking to save on costs. When authority and fiat are more likely to resolve conflict and supplement renegotiation, vertical integration will undoubtedly outperform markets. The reason behind it is that specialised and complex transactions may increase the likelihood of opportunistic behaviour, which is costly to monitor. Therefore, moving high specific transactions from the market into the firm may help to mitigate these hazards. Additionally, when asset specificity is characterised also by a high degree of uncertainty, transactions are even more likely to occur inside the organisation. In this regard, according to Williamson's world of TCE, firms exist because of their superior abilities to control human opportunism through the adoption of hierarchical controls that are not accessible to markets. Narrowly conceived, when transaction costs are high, internalising the transaction within a hierarchy is the appropriate decision. Conversely, when transaction costs are low, buying the good or service on the market is the preferred option. Moreover, under the hypothesis of symmetric information – typical of classic economic theory – transactions can be executed without incurring any costs. However, the real world is characterised by a lot of uncertainty and unpredictability, where symmetric information is utopian and individuals possess

limited rationality; meaning that they obtain and process limited information, and therefore, have very few options to choose from. Still, the cost of vertical integration can be substantial, either in terms of the size of the organisation or communication distortion (e.g., the distance between subordinates and their ultimate supervisors increases). Thus, why does the firm exist? Firms exist to economise on the cost of coordinating economic activity. Price movements direct production outside the firm (coordinated through exchange transactions on the market), whereas within a firm, market transactions are lowered, and the complicated market structure is substituted by the entrepreneur, who directs the production. Unlike the market, the firm is centrally planned, and therefore, it eliminates the need for price signals between individuals. Internalisation cuts down the costs of outsourcing certain processes; however, the costs of organisation, coordination, monitoring and information arise as the size of the company becomes larger and larger. Hence, the optimum boundaries of the firm reside where the cost of further internal organisation (i.e., the cost of organising extra transactions within the firm) is equal to the cost of transacting on the market. Therefore, it is reasonable to assess that firms' choice of hiring gig workers is dictated by necessity (or convenience) to minimise transaction costs. The relevance of Coase's work for the gig economy resides in the following assumption: if technological advancements decrease the costs of transacting on the market rather than inside the firm, then this can help to explain the transformation of the employer-employee relationship, and thus the rise of contract labour. Therefore, building on these considerations, Transaction Cost Economics may constitute a viable option to answer the following question: *RQ – To what extent TCE can be useful to explain the growth in the use of gig economy platforms and accordingly firms' decisions to rent rather hire workers?* In order to answer this question, I applied Williamson's dimensions of uncertainty, frequency of work, and asset specificity to the gig economy. In the gig economy framework, uncertainty lies in the lack of an agreed conceptualisation and regulation of both platforms and gig workers. The existing regulatory framework is designed mainly for traditional firms, whereas the supply of labour in the gig economy concerns "independent workers", "self-employed", "freelancers", or "taskers" rather than employees. Being an "independent contractor" implies a certain degree of autonomy and flexibility, which is entailed in its legal status. However, the majority of gig workers are tightly controlled and constantly evaluated – through reviews, rating, and timing – with the platform exerting significant control over them and thus, casting doubts on the very concept of autonomy of workers. The urgent call for regulation urged some jurisdictions to apply traditional employment models to the gig economy and reclassify many gig workers as employees. The potential consequences of such changes are not clear yet, but some potential outcomes may include reduced flexibility for both workers and businesses; thus, reducing the desirability of gig work and accordingly, affecting the growth of non-standard forms of work. The

final assumption is that this "grey area" in the legal employment status of gig workers may affect negatively online platforms, thus increasing transaction costs and potentially disincentivising the use of online platforms. Hence, TCE can be useful in explaining the growth in the use of gig economy platforms only to the extent to which the lack of employment regulation (and its consequences) is not considered, albeit it does not apply to reality. There seems to be a negative correlation between lower transaction costs and effective gig workers' regulation as – narrowly speaking – a potential reclassification of workers may undermine the very pillars on which these platforms (and workers as well) are relying. The second dimension identified by Williamson for describing transactions is the frequency with which transactions occur. Frequency is related to the number of times a transaction is expected to take place. In the gig economy scenario, the decision about whether to hire an employee or an independent contraction lies in the activity's recurrence. Specifically – all other things being equal – if the transaction is a one-off transaction, devoting significant resources to its coordination and control would result in inefficiencies. Whilst, the greater the activity's recurrence, the less the organisation should recur to online platforms and freelancers. Further, asset specificity refers to "the degree to which an asset can be redeployed to alternative uses by alternative users without sacrificing productive value". Particularly, the more specific the human asset required to perform a certain task, the higher the transaction costs advantages of insourcing, rather than outsourcing, that specific task. Thereby, in the gig economy scenario, the decision about whether a task should be outsourced to independent workers or processed internally (by integrating workers into the firm) should be taken by considering ex-ante the extent to which the activity entails firm-specific knowledge. Accordingly, the higher the specificity of the knowledge contained in the task that must be performed, the less the likelihood that the firm will eventually recur to online platforms and gig workers. In other words, firms are more likely to hire, rather than rent, when there is high firm-specific investment; whereas they will tend to rent, rather than hire, when there is low transaction-specific investment. Furthermore, the rise of platform companies was analysed also by economist Michael Munger, as an example of how technological advancements reduces transaction costs. Therefore, I considered Munger's dimensions with regard to the gig economy as well, by addressing the impact of triangulation, transfer, and trust costs on one-off exchanges that are now facilitated by gig economy platforms. Munger coined the term "triangulation costs" to define a new category of transaction costs that encompasses both information and search costs, and bargaining costs. The latter refers to costs related to coming to an agreement between parties involved in drawing up a contract; whereas the former refers to costs associated with determining what is available on the market, including looking for relevant information about the ability and location of agents with whom the transaction will take place. Incorporating technological change in this context, if technology helps to decrease costs

associated with searching for information and setting an agreement, then exchanges are very likely to occur, and therefore more contracting of labour; in that, labour matching is more efficient, and the client directly pays the worker for the service provided. In this regard, the advent of the Internet increased the opportunity for suppliers to directly contract with consumers and hence, to decrease triangulation costs, whose reduction – in some cases – diminished the necessity of firms. Particularly, platforms have driven down triangulation costs by using advanced features, such as GPS or dynamic rating systems, that allow users to indicate their preferences about whether to buy or sell a particular good or service at certain price points. And this enables the algorithm to set the perfect matching between two parties. Moreover, contracting costs are reduced as platforms rely on the feedback of millions of users; hence, the terms of the contract are basically crowdsourced, and users converge to an agreement based on reasonable expectations. Furthermore, as defined by Munger, transfer costs refer to the costs of "transferring payments and goods that are immediate and as invisible as possible". These costs include, for instance, the cost of money transfer, the costs of handling payments, storage costs and verification processes, direct transport costs. Today, with the introduction of online payment systems (e.g., Paypal) and verification processes, the transfer costs linked to payments have fallen. As technology opens up new payment options, customers are driving the demand for safe and secure transactions. This allows companies like Uber to hold funds in escrow through authorisation holds. By doing so, drivers no longer have to worry about the payment once the destination is reached because funds are automatically released once the ride is completed. Further, location tracking technologies made it easier to transfer goods or services by reducing the costs of moving them. For instance, with regard to Uber, riders do not have to give instructions to drivers to pick them up or about the destination they have to reach. The software automatically provides all the information needed, either about the traffic or any kind of problems that may get in the way of delivering the service. Technologies decrease transfer costs, thus increasing the opportunities for more exchanges between suppliers of services and customers, hence pushing the emergence of gig economy work. Following, trust costs rely on the concept that all parties involved in the transaction should have confidence that everything will go as expected. These costs encompass not only clients' concerns about the quality of the performance, but also workers' confidence that the other part will make the payment once services are rendered. Trust concerns are costly and thus, when the costs are too high, the transaction may not occur. Contrariwise, when trust costs are low – thanks to access to relevant information, for instance – trust becomes easier to assess and hence, parties will be more likely to exchange. Gig economy platforms overcame this concern by introducing review and rating systems, that made it easier to access information about both buyers and sellers. Users can learn about the honesty and performance of a potential counterpart effortlessly. Yet, looking from another

perspective, these rating systems also entail that a wide range of responsibilities is shifted from companies to customers and contractors. They help companies to have fewer responsibility for workers' behaviour and performance, because – through ratings – they actually use people to manage people. Nevertheless, it must also be considered that this rating system employed by many gig economy platforms allowed and still allows counterparts to have access to valuable information that would otherwise be unavailable or extremely costly in a traditional economy. Hence, it can be asserted that technology reduces trust costs allowing for greater exchanges and thus, more gig work. Moreover, measurement costs have been addressed as well. They are paramount to the firm's decision to have or to contract labour, to measure the workers' performance, and the output they produce. Particularly, if the components of certain goods or services are assembled in a way that the separation of workers' contributions is costly, then the firm should have employees. In other words, if the activities performed vary greatly, the measurement would be too costly. Though, if the individual workers' contributions can be perfectly definable, then firms should directly buy labour in the marketplace. Yet, sometimes separating contributions can be challenging if the final output requires team production, and hence individual contributions are hard to ascertain. In the gig economy context, measurement costs are reduced by technology in that, individual contributions can be easily separated and measured. Particularly, aggregation of big data and reviews also provide low-cost methods of measuring that make it easier for employers to attribute and measure individual efforts. It is important to highlight that these platforms are not directly producing or selling any good or service, as opposed to the traditional economy where value is created through resource extraction. They are basically making use of the skills of service providers and goods already existing on the market. The platform economy relies on the re-allocation of resources that were already extracted, produced, and sold in the traditional economy. Basically, it relies on under-utilised assets and therefore, by making use of technology, it provides optimal solutions to make better use of them. The platform is the product, and consumers use it to buy or sell food delivery and taxi rides, hence they sell transaction cost savings. Moreover, with the reduction of transaction costs, firms began to face the so-called "rent or buy" dilemma in terms of labour. Workers are "rented" rather than being integrated into the firm through long-term contracts, and as technology advances the very notion of a firm may start to be eroded. From a Coasean perspective, transaction costs are high when information asymmetries exist, but big data and dynamic aggregation of reviews provide the platform with valuable information about workers' output, thus enabling better monitoring and reducing uncertainty about performance. However, even if the platform serves as an intermediary between clients and service providers, it does not necessarily entail reduced transaction costs for workers as well. Platform workers often experience a general lack of responsiveness of the platform to the workers' concern and particularly,

workers often spend a long time searching for adequate work; thus, facing higher transaction costs with respect to their employer. Besides, they generally lack control mechanisms that should address the risks of cheating by clients and consequently, risks are shifted to workers, who might find themselves in a situation where the client refuses to pay for the service if he finds that the quality of work is inadequate. Therefore, considering the notion of reduced transaction costs alone to understand the impact of labour platforms on gig workers is surely not sufficient. This process entails a shifting of the risks and costs from the employer to the worker. Policymakers must find a way to ensure greater stability for those kinds of work. Innovation and worker protections should run parallel; there is no reason to posit any conflict between these two frameworks. Furthermore, most employers in online labour platforms are based in high-income countries, whereas the majority of the workforce is based in developing countries; thus, a transformation is under way as more and more companies are outsourcing work to India. However, India is experiencing a long-standing gender gap in labour force participation. Despite being a fast-growing economy, it has amongst the lowest female labour force participation rate (FLFPR) globally. Yet, literature is scanty when it comes to measuring the impact of the gig economy on the gendered experiences of gig workers and this lack of knowledge limits the ability to have a comprehensive understanding of the impact of the gig economy on the labour force. Income inequality has been evident in traditional work, and even if the gig economy exhibits some innovative features, it is not clear yet if it may represent the continuation of long-standing gendered inequalities as well. Therefore, as there is little research on this topic, I tried to find answers on this topic by gathering data from different sources to create a comprehensive framework that contributes to fill this gap in the gig economy literature. I started the analysis focusing on the structure of the Indian labour market, followed by examination of existing data relative to gender inequalities and the contribution of women to the labour market. As for now, India is the second-most populous country in the world (after China), with an estimated population of 1.4 billion people (Jan. 2022) based on Worldometer elaboration of the latest United Nations (UN) data. Since Independence in 1947, India has gone through a phase of modest average growth. The annual GDP growth was around 3.5% from the early 1960s to the end of the 1970s and barely kept pace with the population growth. Particularly, from the 2000s onwards, India witnessed a steady growth in the number of persons enrolled in educational institutions, and along with the growing demand for education, workers (especially from rural India) increased expectations from their jobs to counter the opportunity cost of leaving agriculture and taking up jobs in growing sectors in urban areas. According to statistics, the organised sector will absorb more workers, but formal employment is expected to continue to represent a minor share of total employment, whist self-employed will continue to account for a large portion of workers. Therefore, one of the biggest puzzles is the persistent informality in the Indian labour

market, which was further pronounced with women's withdrawal from agriculture, followed by the increased share of informal workers in the organised sector (i.e., workers without access to social security in larger enterprises). According to data gathered by Teamlease Services, approximately 56% of new employment in India is driven by the gig economy, which is inclusive of both white-collar and blue-collar manpower. The country's workforce is growing by approx. 4 million people annually, and most of them are young millennials, who are showing a growing preference for gig contracts. Undoubtedly, with a large working population and an overall workforce that grows by over four million annually, the advent of the gig economy represents a major issue for the country's labour market. As already stated, people taking part in the gig have several benefits, but also some key disadvantages that include job instability, uncertainty about job schedules, and a general lack of statutory protection akin to an employee in permanent employment. There is a lot of uncertainty surrounding jobs' continuity, and this is particularly true for Indian gig workers. In fact, given the absence of any Indian laws in this context, people currently working in the gig economy are categorised as independent contractors or independent workers. Moreover, according to the ASSOCHAM report, the country's gig sector is likely to grow to US$455 billion at a compound annual growth rate (CAGR) of 17% by 2024. It has the potential to serve up to 90 million jobs and add up to 1.25% to India's GDP in the long run. Particularly, the International Labour Organisation (ILO) stated that gig work demand is mainly sourced from Western countries like the USA, Canada, and the UK (period 2018-20). Supply is satisfied significantly by developing countries like India, which accounts for 20% of the total share. This can be attributed to the increasing outsourcing of IT and software services to India, which is consequently witnessing a rise in the supply of labour related to these tasks. Moreover, considering that India is a young country – with 62% of its population falling under the age bracket of 15 to 59 years – the rise of the start-up culture took shape gradually, but significantly, and India's young population represents a valuable asset for its economic growth, as over the past decade, a steady rise in the country's middle class has led also to a higher literacy rate and thus higher aspirations for financial security and quality of life. However, the gender inequality of the workforce through online platforms is painting a grim picture. In fact, the participation of women on online platforms is the lowest in India (21%) when compared to other countries such as the US (41%) for instance. Moreover, a survey conducted by Flourish Venture in 2020 reported that, due to the recent Covid-19 pandemic, approximately 135 million Indians stand to lose their job, thus potentially pushing the full-time workforce towards the gig economy as a way to face up this lost income. Particularly, the study found that women are facing a significant hurdle in the gig economy, being underrepresented in the workforce as a whole, and experiencing unequal access to digital technology. In this regard, only one in four women is part of the country's workforce.

This highlights the distorted nature of India's labour market where women hold 45% of university degrees but they experience much slower career paths due to gender-based discrimination and thus, they are denied many employment opportunities. As of Dec. 2020, India labour force participation dropped to 46.3% compared with 49.3% in the previous year, whereas the unemployment rate increased to 7.1%. One reason cited for this issue is that the employment rate is critically low among women, that according to some authors is more likely to be a consequence of low demand for female labour, rather than supply-side constraints keeping them indoors. Sanghi et al. (2015)[272] argued that the fall in female labour force participation (FLFPR) may be dictated also by the unavailability of well-paid jobs for educated women in rural India. Whereas Lei et al. (2019)[273] indicate transportation as a major constraint. Similarly, Chatterjee et al. (2021)[274] argued that the main explanation for the fall in FLFPR is the decline in agricultural jobs without a proportional increase in non-farm jobs. Moreover, Deshpande and Kabeer (2021)[275] found that women involved in farming or family business activities are not recognised as workers, unlike their male counterparts, but get counted as economically inactive. Other studies found that total employment increased in the education sector in the last years, but women's (absolute) employment sharply decreased by 25%, despite they were assumed to have a comparative advantage in this sector. Moreover, industries such as trade, food, personal and care services, witnessed a higher level of female employment in recent years, albeit too small to absorb the large share of women who are unable to get employed in larger industries such as manufacturing, construction, or agriculture. Particularly, gender inequalities and women's economic empowerment are also part of the United Nation's (UN) vision of Sustainable Development Goal (SDG) 2030. Yet, when it comes to measuring the country's progress on this front over the years it still comes out that India lags in ensuring women's empowerment. As per the Global Gender Gap Index, for the year 2018, the country ranked 108th in the World Economic Forum (WEF) out of 149 countries. Cultural norms and social structures are a paramount cause of gender inequality. Particularly, official macro data is unable to delineate the scope, scale, and patterns of female labour migration, thus highlighting a sort of *invisibilisation* of women's work. For instance, The Census and NSSO are two official data sources on migration, yet they fail to capture in the survey the reasons behind women's migration, as usually only one reason can be entitled to the respondent, i.e., marriage, even if a woman migrates for economic reasons. Moreover, a study conducted by Chatterjee and Sircar in 2021, offered a different perspective on women's participation in the labour force by

[272] Sanghi, Srija and Vijay (n 191).
[273] Lei, Desai and Vanneman (n 192).
[274] Chatterjee and Sircar (n 201).
[275] Deshpande and Kabeer (n 194).

suggesting that factors such as flexibility and proximity might influence women's preferences to enter the labour market. They opined that as the process of urbanisation unfolds in the country, the role of flexibility and proximity sheds light on how this process may lead to a decline in female labour force participation. Agriculture activities are typically near the home, thus providing women with a flexible work schedule and allowing them to enter the labour force as well as tend to tasks at home. Therefore, as urbanisation unfolds, these factors become less available, and women may be less willing to enter the labour force. Yet, it must also be considered that, if the urban labour market provides an insufficient number of jobs for women the result is basically the same, whether women are willing or not to enter the labour market. And India's performance in integrating women is undoubtedly poor. Nevertheless, the country must continue to address the patriarchal norms that prevent women inclusion in the labour market. In this regard, cultural institutions in India play a central role in perpetuating ideas about gender inequality. Particularly, patrilineality (inheritance through male kin) and patrilocality (married couples living with or near the husband's parents) represent a pervasive and long-term phenomenon that characterises Indian society, creating parental preference for sons and incentivising them to invest less in daughters' health and education. In this regard, the literacy rate for Indian women is 65.46% while the literacy rate for men is 82.14%. As per Census 2011, 76.34 crore persons in the country are literate (763,498,517); 43.46 crore are males (434,683,779), while 32.88 crore are females (328,814,738). The overall literacy rate is around 74% showing an improvement of almost 9.2% with respect to Census 2001, and a gap of 16.68% between the sexes at the national level. Using literacy to enhance gender equality ties also to equitable participation in the labour force. By doing so, women can access higher-paying jobs by challenging the stigmatised role of women as homemakers. Furthermore, higher participation in the workforce can help to reduce the wage gap as well. Thus, the concept of literacy is paramount for a country's sustainable development in that, greater access to education helps to develop a more gender-equitable world. Particularly, considering that the gig economy relies on an increased capacity of technologies, literacy underlines knowledge and skills that are paramount in modern workplaces. Studies evidenced that the platform economy may be beneficial for women in that, work requirements are flexible and thus, it has the potential to facilitate women's employment. However, platforms reproduce the gendered division of labour as well. Considering also that platforms do not provide social protection mechanisms, which are paramount for women who are socially and structurally most susceptible to external shocks, it can be assumed that they somehow reproduce the precarity that women face in traditional forms of work as well. Thus, the existing legal and socio-cultural norms and beliefs combined with low levels of education could critically limit women's capacity to leverage new technologies for their economic empowerment. A global survey conducted by Grant Thornton (2017) revealed that only 17% of senior

positions are held by women in India. Within the service sector, for instance, women are confined to very limited sub-sectors as well. They are mainly concentrated in education and retail trade (rural areas), followed by domestic workers and other service activities linked to laundry and hairdressing (urban areas). Gender-based segregation is experienced also within sub-sectors. In the education sector, for instance, women are mainly concentrated in primary education, whereas men are increasingly employed in secondary and higher education. The gig economy created a bunch of new opportunities for Indian workers, yet women seem to take up highly stigmatised work (pink-collar jobs such as beauty or massage services, as well as nannies or nursing), due to their limited representation in the gig economy. In this regard, access to digital technologies is a significant obstacle to their participation in gig work, as a mere 16% of Indian women are mobile internet users according to the Mobile Gender Gap Report 2019 (GSMA, 2019). Hence, for the time being, India's gig economy cannot be considered a gender-inclusive economy. At the outset of the platform economy, women can take advantage of the flexibility feature of platform work to re-enter the job market and balance their responsibilities. Yet, as has been depicted in many studies, the gig economy in India still does not provide equal opportunities and equal pay for women. Moreover, considering the detrimental effects of the Covid-19 crisis, it is important to understand the impact of the pandemic on platform workers in India, whose informal employment comprises more than 85% of total employment. Considering that regular formal jobs are mainly held by those at the top of the education ladder, the relatively less-educated workers are predominantly engaged in precarious forms of work, and therefore they bear a disproportionate burnt of the Covid-19 crisis. Overall, the flexibility offered by platforms could fit in well the demands for independent work of an evolving society characterised by a high percentage of new and young entrants in the labour market and gig work could represent an opportunity for the economy to stimulate demand, raise productivity, and improve labour force participation. Yet, challenges could be both social and regulatory. Contractual workers and gig workers must be given protection just like regular workers, thus appropriate labour laws must be formulated. By doing so, challenges can be converted into opportunities and the gig economy surely has the potential to bring benefits for a developing country like India. Moreover, the Fourth Industrial Revolution (4IR) defined by the convergence of a set of technologies cutting across the digital, physical, and biological worlds - AI, advanced robotics, cloud computing, autonomous transport, and machine learning among others - is expected to radically change the future of work and this time the speed and spread will be unprecedented and dramatic. India, for instance, is still experiencing the Third Industrial Revolution (3IR) characterised by telecommunications, electronics, and the invention of computing. In this context, 35% of the population has access to the Internet and approximately 300 million people leaves without electricity. The service sector contribution to GDP growth was

overwhelming over the last decade, albeit the share in employment did not run parallel. Moreover, over 80% of India's workforce is engaged in the unorganised sector and women's participation in the labour force is still at a critical point. Thus, in India the 4IR is still at an emerging stage. The country has a young and aspirational workforce, but they are unable to overcome the fissures that separate the manual from the mechanised, formal from the informal, and urban from the rural. In this regard, a government response may be to adopt redistributive strategies by providing, for instance, labour incentives rather than capital incentives, as a way to skill the workforce and increase their hiring. We are now living in a world characterised by automation technologies such as machine learning and robotics, which are playing an increasingly great role in everyday life. Nowadays, robots and computers can not only perform routine physical activities more cheaply than humans but can also accomplish activities that were used to be considered too difficult to automate successfully, such as driving, sensing emotions, or even making tacit judgements. Thus, they are increasingly capable of performing cognitive capabilities. According to a study conducted by McKinsey Global Institute (MGI) in 2017, advances in robotics, AI, and machine learning will outperform human activities and performance, including the ones requiring cognitive capabilities. Yet, the pace and extent of automation will vary across different occupations, skill levels, and wages. Nevertheless, a paramount question arises here: will the gig economy last in the long-term (as regards gig-workers placement) or is it destined to vanish in the next years by the introduction of new and more innovative technologies? Considering technological advancements, it does not come as a surprise that automation technologies will most probably substitute human activities in the future, many of which are currently performed by gig workers. Here implications are twofold: on the one hand, technological jobs will surely require a lot of education and training; therefore, automation advancements will most probably require an increased number of people working in this sector, hence increasing employment. On the other, considering that some tasks performed by gig workers usually do not entail a high degree of responsibility, they are more susceptible to automation and thus, subject to job loss. The underlying reason behind these considerations is that the gig economy – conceived as a new economic model – will probably not last long. At most, it will serve as a small subsection of the total economy. But, considering that it is currently creating more jobs and opportunities for workers, will this new upcoming automated reality fuel or destroy the gig economy? The extent to which the current gig labour will represent the imagined ‘future of work’ was not explored yet, especially with regard to automation processes, which most probably will hinder the future size and scope of the gig economy itself. And that future is frighteningly near. Platforms will presumably internalise core activities, thus opting for insourcing rather than outsourcing work. And the literature on gig labour and platform economy have yet to seriously deal with the existence and implications of automated work

arrangements. Considering the TCE framework applied to the gig economy and the reduction of costs that it implies; robotic process automation has the potential to become more efficient and cost-saving than any other business model. With respect to the gig economy, the potential wage savings, and overall advantages for companies to outsource service tasks domestically or abroad are various, with the gig labour representing only an intermediate stage in a larger and dynamic organisation-driven industrial transformation. Particularly, low labour cost countries such as India, are currently benefitting from their surplus low-skilled workers, while western companies are still outsourcing their production to these countries. Western companies outsource labour to developing countries by virtue of costs savings. However, if those companies choose to produce in their countries of origin in the future by using production robots, the surplus of low-skilled labour might turn into a curse for these developing countries. At present, the implementation of autonomous systems requires too much investment, compared to the existing labour costs. Yet, production robots are becoming less expensive year by year, and in the near future companies will highly likely decide to locate where they can most easily access highly qualified employees for generating and monitoring AI. Accordingly, if developing countries will be able to provide qualified staff, it might be assumed that they will be able to profit from technological change as well. Consequently, the decision of western companies to outsource activities in developing countries will no longer be driven by the presence of a large pool of low-skilled labour, but instead by the availability of suitably qualified workers.

We are now living in an exponential age, characterised by exponential growth. The pace of change is accelerating and the divergence between the new and the old becomes faster and faster with each passing year. In those early years, exponential change may seem sharply boring, with people and organisations ignoring it. But at some point, the curve of exponential change will cross that of linear change. This is due to the fact that, even if exponential change were highly visible, it would still not be carefully perceived by current institutions, because – narrowly speaking – they follow a linear trajectory characterised by unspoken social norms and codified laws, thus impeding their capacity to change and adapt. For instance, considering gig economy workers, what is their employment status? Institutions are still not quite sure. Institutions' capacity to adapt to new technologies' accelerating speed is limited, and this hinders society's ability to run parallel with the changing technological environment. Basically, technology is developing at an increasing, exponential rate, whereas human society (both businesses and political institutions) is distinctly adapting at a slower, incremental pace. And this is what the exponential gap is about. There is an exponential gap between the linearity of our everyday lives and technologies. And even if the gig economy manages to grow alongside automation capabilities, questions about the sustainability of gig work remain.