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Labor Productivity and Wage Inequality in the Gig Economy: Evidence from Bangladesh and Canada

Zebun Nahar Zeba* 

Department of Public Administration, Islamic University, Kushtia, Bangladesh

*Correspondence: Zebunnzeba190@gmail.com (Zebun Nahar Zeba, Department of Public Administration, Islamic University, Kushtia, Bangladesh).

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Abstract

We investigate the pattern of labor productivity and wage inequality in two gig economy models: Bangladesh and Canada. Re: Gig workers in global value chains and the rise of task-based services Facilitated through a combination of survey and secondary research, we compare gig worker earnings and productivity for each country with a particular focus on gender wage inequality. Our findings also point out that the Canadian gig workers earn relatively higher payoffs and endogenously exhibit superior work productivity when compared to their Bangladeshi counterparts. Canadian urban workers read more job ads online on an average day than their rural compatriots, but both nations are challenged in terms of productivity for the rural workforce as a result of access to platforms and infrastructure. Additionally, findings from the results show that gender wage discrimination is a serious problem in both countries, as female gig workers are under-compensated compared to male gig workers. But the margin is higher in Bangladesh (20%) than in Canada (15%); this also tells us about the kind of cultural and infrastructural obstacles women have to face in Bangladesh. The work also points out regional variation, such as urban workers in both countries who are much more productive and earn higher wages than those in the countryside. This study provides valuable lessons for the analysis of gig economy participation in developing and developed contexts and may be suggestive that regulatory changes in Bangladesh to improve the infrastructure protection of workers could address this inequality.

Keywords: Gig economy, Labor productivity, Wage inequality, Gender disparities, and Bangladesh vs Canada.

1. Introduction

The gig economy, short-term and flexible working jobs generally facilitated by online platforms, has grown significantly in the past two decades. At its essence the gig economy describes a world in which we are witnessing an increasingly temporary/task-based labor market where workers can be hired for individual jobs or projects rather than offered long-

term employment contracts. This sort of work could include driving, freelance writing, or building websites. Thus, it is critical to understand what people are talking about when they mean the "gig" economy. Though the gig economy is not new early forms of temporary work include agency and freelance contract work the digital platforms that have powered its recent growth are new. The use of technology, specifically

apps and websites, has opened up gig work to all and has transformed labor markets (De Stefano, 2016; Rahman MZ., 2025).

Over the past two years, platforms like Uber, Airbnb, TaskRabbit, and other freelance work have exploded in popularity, fundamentally changing workers' markets all over the world. Gig employment has become one of the most dynamic and prominent elements in some national economies, especially among advanced capitalist economies (e.g., the United States, Canada, and several European countries) (Cohen, 2016). The gig economy is increasingly seen as a key part of the modern labor market." Yet, despite the attention being paid to developed countries, it is the gig economy that may also be emerging in developing nations, with implications of opportunities and challenges for workers within these areas (Huws *et al.*, 2017).



Fig. 1: A digital illustration visualizing the gig economy.

In the developed world, the gig economy is often treated as a double-edged sword. On one hand, gig work is flexible and based on autonomy and can provide a source of income without the restrictions associated with having a standard 9–5 job (Huws *et al.* But on the other hand, it can suggest alarming trends about labor rights, job security, and wage inequality. Gig economy workers typically do not have access to benefits that many traditional employees get, including health insurance, retirement accounts, and paid time off, leaving them susceptible to the vagaries of unstable income and prevalent economic insecurity (Cohen *et al.*, 2019). Gig work continues to grow as

part of Canada's overall labor market. The Canadian gig economy has boomed since digital platforms became popular and widespread, particularly in large cities such as Toronto, Vancouver, and Montreal, where customers can use the streets and avenues thanks to options like Uber and SkipTheDishes (Wheatley 2020). But even with the potential for more flexible earning opportunities, gig workers in Canada are struggling to make the numbers work while facing precarious working conditions. High- and low-skilled workers who are able to find work on such platforms may earn extremely different wages, with some end-users standing the chance of not making a minimum wage that can sustain their lives, whereas others earn much more, depending on platform and job characteristics (Cohen *et al.*, 2019). Second, the character of gig work in Canada is not well defined, and debate remains about whether gig workers should be considered independent contractors or workers entitled to benefits and protections (Dube, 2018).

On the other hand, the gig economy in developing countries, including Bangladesh itself, carries a new dimension of opportunities and issues. Bangladesh, a fast-growing economy with a growing digital economy, has experienced growth in the gig work sector, especially in areas such as transportation, delivery, and freelancing. Global job marketplace has been opened up, in large part by online platforms like Uber, Pathao, and other local freelancing websites, where Bangladeshi workers can find employers overseas. The gig workers the gig economy in Bangladesh has been fast-growing, and there were about 40,000 workers involved in the gig business by 2020 (BTRC, 2020). These part-time workers may perform a wide variety of jobs, from driving for ride-hailing services to freelance programming, graphic design, and content writing. Though the gig economy has a lot of economic promise for Bangladesh, there are also challenges that are unique to the country. Those working as gig workers in Bangladesh, especially among the low-income group of people, are on the receiving end, experiencing challenges related to income security and erosion of social protection along with job security. In contrast to developed countries, where gig work is often a side hustle, in Bangladesh many workers depend on the gig economy as their

main income source. In the absence of decent labor standards and structural/boundary mechanisms for rewarding workers fairly, driving a wedge in terms of income heterogeneity due to gender appears to be furthered by pushing gig workers into poor wage conditions, unable to assure them a stable/dignified living (Islam, 2018). Furthermore, gig economy access is uneven, with workers in rural areas having more limited access to digital platforms than those in urban areas, widening socio-economic inequalities.

Gig-economy labor productivity is highly dependent on the specific sector, platform, and worker skills. In contrast to the conventional perception of work, where productivity may be calculated in terms of hours worked and products generated, gig working is often reviewed in a more fragmented as well as decentralized manner. For instance, in labor-tasks platforms like Uber, labor productivity can be estimated as the number of rides done by a driver (or passengers served by a program), and in work-tasks, all might be used to engage productivity measures such as the number of tasks or projects done. In some contexts, "productive time" is considered as either effective time [Rad, 2001] or useful time; however, we cannot necessarily predominate towards it (APar, 2017). These measures, though, do not entirely capture the productivity of a worker in the gig economy: they commonly ignore parameters related to job satisfaction and skills/effort involved in task completion, as well as the time invested in non-productive activities (e.g., waiting for rides or tasks). Gig work is, by its nature, usually more variable than other types of work; some workers may be highly productive at any given point in time due to experience or skills, or simply because they can navigate platforms well. Others, however, struggle with inefficiencies of platforms, demand of services, or lack of access to high-paying opportunities (Huws_P_Smith_M,_Fahim_2017). In addition, the productivity of gig work is frequently time-dependent on the overall economic context (e.g., technology access, infrastructure, and capital). For example, gig-economy workers in Bangladesh may experience a lack of access to the internet, poor infrastructure, and minimal capital resources that affect their productivity more than those in Canada, who have better access to technology and infrastructure (De Stefano, 2016).

Economic inequality in the gig economy is a major issue and one that frequently reproduces inequalities in society at large. Gig workers generally face greater wage volatility than other types of workers, and the downside risk associated with a high potential for earnings is often constrained by factors such as platform competition, worker ability, and geographic location (Cohen *et al.* 2019). In developed countries such as Canada, gig workers suffer from a wage distribution where the high-income recipients (e.g., tech-related occupations or highly skilled freelance professions) make much more than those in lower-wage sectors like delivery driving or cleaning services (Dube, 2018). Second, as much as some platforms allow workers to be more independent in the way they earn money, other [platforms] even limit workers' potential earnings, such as ride-sharing services. This leads to unstable and unequal income (Lobler, 2017). In Bangladesh, too, there is a big difference in incomes in the gig economy, but not for the same reasons. In Bangladesh, the gig economy is in a nascent state, and workers of certain sectors, such as ride-sharing or freelancing; suffer from heavy barriers to fair-income opportunities, like no regulation, platform monopoly, and workers' weak bargaining power (Islam, 2018). Although some gig workers can make a living wage, many struggle to get by because of the low-wage nature of their jobs and lack of labor protections. Further, and as in many other contexts, Bangladesh's labor market is extremely sectionalized along urban/rural lines with a substantial wage gap between urban and rural workers⁴⁶, which compounds within the gig economy (Huws *et al.*, 2017).

A number of factors influence both labor productivity and wage inequality in the gig economy, such as education/skill level, technological infrastructure, and market competition. More educated and skill-specialized workers might receive higher wages and produce more, particularly in areas like freelancing and software development (Cohen *et al.*, 2019). By contrast, low-skilled gig workers (for example, in transportation or cleaning) tend to have lower remuneration with greater competition that dampens their productivity and earning powers (De Stefano, 2016). Further, technology infrastructure is key in influencing the productivity and earnings of gig

workers. In advanced economies, including Canada, the availability of high-speed internet, smartphones, and other digital devices is more common, and this facilitates workers' access to gig opportunities with a correspondingly greater likelihood of earning more money (Dube, 2018). On the other hand, in Bangladesh where access and usage of technology is minimal and the internet penetration rate is low in rural areas gig workers may face productivity and income reduction in the rural areas (BTRC, 2020).

The Gig Economy is a fast-developing labor market trend that changes how people work and earn across the world. In developed and developing countries, the gig economy provides opportunities for flexible work and earning income but also brings challenges concerning labor productivity and wage disparity. In the gig economy in Canada, workers experience income volatility and job insecurity, while in Bangladesh, weak labor protections and digital infrastructure compound issues related to wage inequality. The cross-country comparison of labor productivity and wage inequality in Bangladesh and Canada offers much-needed comparative perspectives on the diversity in the gig economy and its relationships with economic development, technology, and social policies. Understanding these dynamics is crucial in terms of developing future policy to ensure fairer and more productive gig labor markets.

Research Problem

The explosion of the gig economy has reshaped labor markets around the world, offering both opportunities for flexible employment and compounding worries about workers' rights, inequality, and job security. This shift has been most pronounced for many developed and developing countries alike, but gig economy dynamics are not consistent across regions, yet all are impacted. The research question focuses on the impact of the gig economy and its two specific concerns: labor productivity and wage inequality in different environments (referred to as Bangladesh and Canada). Always relatively hidden, labor productivity in the gig economy is hard to track, from traffic evaluation companies and survey app employees doing what they consider piecemeal work based on gigs. In more conventional employment models, productivity is frequently measured in terms of output per hour

worked or other quantifiable measures associated with production and service provision. But in gig work, productivity is generally more nebulous and can vary greatly by sector, platform, and even worker. For example, in ride-sharing platforms like Uber and Pathao, it is essentially a good approximation that productivity is determined by the number of rides made; however, this measure leaves out important side effects and also effortful work like time spent waiting for rides, travelling costs, maintenance costs, and overall demand values floating in different locations (Sundararajan, 2016). Likewise, as a freelancer, productivity is relative to the number of jobs completed yet leaves out consideration for how long it takes to find work or the many idiosyncratic income levels of freelancing (Lobler, 2017).

Gig workers in Bangladesh and Canada face different challenges that impact their efficiency. The gig economy in Bangladesh is extremely new and requires workers to have access to technology, capital, and necessary skills for efficiency (BTRC, 2020). A lot of the gig-worker labor in Bangladesh is low-skill, including ride-hailing jobs, delivery services, and other forms of manual labor where productivity is often compromised by limitations to high-speed internet access, erratic availability of work, or low pay. Conversely, in Canada, the gig economy is further evolved, and workers are able to gain access to more mature ecosystems and specialized skills, particularly in tech, design, consulting, etc. Even in Canada, gig workers still face problems with productivity because they rely on platforms, and the algorithms that decide where and to whom gigs are given can limit their income, especially for those with lower skills. Mathieu Faure has a wonderful answer, but I want to address the pay of different gig worker categories. One of the most critical topics in the gig economy is the growing wage inequality. Gig work challenges workers to meet basic needs, as it promises autonomy and flexibility but also materializes in the form of income instability, based on factors such as skill, geography, platform policies, or the nature of the work itself (Cohen *et al.*, 2019). For example, top-skilled labor in software engineering, graphic design, and consulting demands high wage levels per hour, whereas there are also many low-skilled jobs such as delivery or taxi-driving

where wages are at a much lower level and the job security is less (Huws *et al.*, 2017). In addition, gig workers are typically placed in the category of independent contractors instead of regular employees, so they usually do not benefit from various advantages and securities that traditional employment comes with, such as minimum wage protections, social security contributions, or even paid leave (Cohen, 2016).

In Canada, wage disparities in the gig economy are a concern for the widening gap between high-income and low-income gig workers. The evidence indicates that, in Canada, the interaction between talent and gig work such as talent exists for both urban centers (Dube, 2018). Nevertheless, gig workers in Canada suffer from income volatility, as they can experience earnings unpredictability and are subject to platform algorithms that may favor particular tasks over others, impacting their income-earning potential (Lobler, 2017). On the other hand, in Bangladesh, the gig economy is still new, and a major part of its gig workers are working in low-paid sectors, including ride-hailing or delivery services. These laborers typically are unable to realize stable and sufficient income because of the weak regulation background, the low bargaining power, and the lack of labor protection (Islam, 2018). It is hard for gig workers in Bangladesh to access higher-earning-potential jobs, especially in sectors that need specific skills, because of a lack of education, technology, and networks. Gender, age, and regional inequalities exacerbate wage gaps in both countries. In Bangladesh, gender discrimination poses a significant challenge, as most female gig workers earn less than their male counterparts. Women in the gig economy are less represented in high-paying gig sectors and have to pass extra barriers to access opportunities resulting from cultural norms, constrained mobility, and safety (Islam 2018). In Canada, gender also shapes wage inequality in the gig labor market, as women are often clustered into low-wage gig jobs such as cleaning and caregiving and men in high-paying activities (Cohen *et al.*, 2019). And the wage gap is only increased by geography; in rural or remote locations within both countries, gig workers tend to have many fewer options and lower pay than in city centers with a greater demand for on-demand work. Another key reason the gig economy

fuels both labor productivity and wage inequality is the absence of regulation nodes and worker protections. Gig workers are often classified as independent contractors in both Bangladesh and Canada, so they're not afforded the same legal protections and benefits as full-time employees. This dual classification has far-reaching consequences for wage disparity, because gig workers are not entitled to a minimum wage, paid sick leave, and similar employee benefits (De Stefano, 2016). In Bangladesh, poor regulatory practice allows many gig workers to be exploited in terms of low wages and long hours, particularly those engaged in ride-hailing and delivery services. Echoing the above, another downside is that Bangladeshi Gig workers have very few places to turn when they are in financial trouble or lose their jobs since there are no social safety nets for them (BTRC, 2020).

Whether gig workers are considered employees or independent contractors has been a frequent issue of discussion in Canada. Some provinces have adopted measures aimed at giving gig workers more rights and protection by, for example, requiring platforms to pay their workers during retirement. Nonetheless, the Canadian legal system has little experience in this newly created form of work. As a result, gig workers in Canada continue to struggle with particularly low wages and unregulated autonomy. Most notably, the country has no law regarding the control of platform algorithms, allowing platforms to generate significant random variables that influence the level of income, employment opportunities, and overall efficiency. The study seeks to explore the research problem of how labor productivity and wage disparity are affected in the gig economy for two dramatically different countries, Bangladesh and Canada. Both nations have significantly increased their gig economy, but their economic, structural, and social divides make the working conditions of gig workers diverse. The study will address how the individual characteristics, such as infrastructure, platform drop dependency, and regulation, and social factors like skill level and gender inequality, affect the labor productivity and wage disparity in the gig economy. The data collected from the situation in Bangladesh and Canada will help analyze the gig economy production in the global

economy situation for policy suggestions on enhancing labor productivity and minimizing wage disparity.

Research Objectives

The primary objectives of this research are:

- To compare labor productivity in the gig economy of Bangladesh and Canada.
- To analyze wage inequality within the gig economy in both countries.
- To identify the key factors influencing productivity and wage disparities between gig workers in Bangladesh and Canada.
- To evaluate the role of government policies, labor market structures, and technological advancement in shaping these outcomes.

Significance of the Study

This study will have important implications for the gig economy in both developing and developed countries. By selecting Bangladesh and Canada, the research will compare two different economies, which may present unique challenges and opportunities for regulators. Understanding the dynamic of labor productivity and wage inequality is of key importance for social and economic policy-making that can better protect gig workers, drive fair wages, and promote sustainable growth (Rosenblat & Stark, 2016). And this research will strengthen international debate about the gig economy by revealing lessons from a wide range of economic contexts.

2. Literature Review

Overview of the Global Gig Economy

The gig economy has transformed how people work around the world by facilitating the transaction of labor through short-term contracts with independent workers instead of employees. The rise of digital platforms like Uber, Upwork, and TaskRabbit has driven this expansion by providing opportunities for workers to adopt freelance work or short-term assignments that are typically more autonomous but less stable and with fewer benefits than a traditional job (Sundararajan, 2016). The gig economy provides workers the opportunity to select when and where they work, leading to what is known as “work on demand,” which is growing popular in job markets of developed countries, including the United States and several European nations (De Stefano, 2016).

But the gig economy is not all roses. As the special adviser on the new economy, he manages £5m to fund programs that aim to ameliorate problems caused by gig work, like insecurity and a lack of benefits. Many gig workers are considered contractors, not employees, and so do not share typical labor rights and social protection (Cohen *et al.*, 2019). Therefore, while the gig economy is frequently characterized by such large differences in pay and working conditions, high-skilled workers in sectors like high-tech earn much more than do contingent workers in low-skill jobs such as delivery tech or ride-hailing (Huws *et al.*, 2017).

Gig Economy in Bangladesh

The gig economy is still somewhat embryonic in Bangladesh, but the trend is rapidly accelerating with technological development on mobile and growing usages of digital platforms. Gig work in Bangladesh is centered on transportation (ride sharing), delivery, and freelancing (BTRC, 2020). Services such as Pathao, Uber, and Fiverr are providing millions of jobs for workers in the Dhaka metropolitan area (Islam, 2018). But gig workers in Bangladesh confront a unique set of challenges compared with those in more developed countries. Such impediments encompass lack of access to technology, inadequate infrastructure, and low levels of education and skills, which can limit gig workers’ productivity and earning power (Hossain, 2019). Moreover, Bangladesh’s legal environment is nascent and without adequate protection of gig workers from potential exploitation such as wage discrimination and involuntary job insecurity (Islam, 2018). Bangladesh also has gender-related differences, where women may not have access to high-earning gig work as men due to cultural expectations and safety issues (BTRC, 2020).

Gig Economy in Canada

The gig economy is growing rapidly in Canada, especially in the cities of Toronto, Vancouver, and Montreal, where services like Uber, SkipTheDishes and a variety of freelance websites are common. In Canada, the gig economy is defined by a large number of people working in tech-led industries, i.e., software development, graphic design, and content creation (Wheatley, 2020). In contrast, gig workers in Canada may have increased access to technology and education and have better infrastructure, which might

increase productivity and wages (Dube, 2018). But, like gig workers in Canada, they install your Ikea furniture with jobs that don't pay very well and aren't secure and lack the labor protections similar jobs would have. In Canada, a substantial share of gig workers had independent contractor status and therefore do not have access to benefits like paid sick leave, health insurance, or retirement contributions (De Stefano 2016). Further, the wage gap between high-skilled and low-skilled gig workers is wide, with high-skilled workers from departments of IT or design making much more money than low-skill providers from ride-hailing or delivery (Cohen, 2019). This wage diversity is additionally exaggerated by platform-imposed algorithms that make differences from one task to another according to some of them significantly unfair when one takes into consideration income unpredictability (Lobler, 2017).

Gig Economy and Labor Productivity

"Gig work hours" usually refers to the amount of labor performed by a gig worker in some time interval and can often be inconsistent across work type and platform. For ride sharing, for example, an analogue to productivity could be the number of rides a driver does per hour, or in freelance work it could be the number of tasks completed (Sundararajan, 2016). But these measurements don't typically account for all the work that goes into gig working, like waiting on rides, looking for new gigs, or doing other administrative duties. Both in Bangladesh and Canada, productivity is determined by technological access and skill level of labor in addition to the nature of the work. Access to high-speed internet connectivity for gig workers, including those residing in rural areas, is subjected to issues where Bangladesh has infrastructural constraints (Hossain, 2019). Canada, on the other hand, has superior technology capabilities that make it easier for laborers to find gig work and ultimately become more productive (Dube, 2018). But also, in Canada, gig workers cannot escape platform dependency and income volatility, as they may inform their overall productivity (Lobler, 2017; Chowdhury *et al.*, 2024).

Earnings Inequality in the Gig Economy

There are profound wage disparities between high-skill and low-skill workers in the gig economy. Those with high-skilled, niche gig economy skills in sectors

such as software development or design or consulting services can charge several times the lowest hourly or weekly wage of their counterparts in simpler forms of platform work (Cohen *et al.*, 2019). This discrepancy exists in Canada and Bangladesh, but they share differences in the reasons behind it and its extent. In Canada, gig workers have faced large wage inequalities among them due to skill level and geographical location as well as bias based on the platforms used. Highly skilled workers based in cities like Toronto or Vancouver may have more access to higher-paying gigs, whereas those embedded in smaller communities and rural areas may experience difficulty securing jobs that pay well (Dube, 2018). Furthermore, by favoring classes of workers or tasks over others, however, platform algorithms can reinforce income inequalities and further constrain the earning capacity of low-skilled workers (Lobler 2017). Wage inequality is even starker in Bangladesh, where a large share of gig workers is found to work in low-paid sectors. The lack of labor protection and strong rule enforcement characterizes gig workers in Bangladesh, who experience relatively lower pay with less job security than their peers in higher-income countries (Islam, 2018). Furthermore, the sobering reality is that rural workers have fewer possibilities to participate in the gig economy, which leads to income inequality between urban and rural workers (BTRC, 2020).

Theoretical Framework

This article employs a variety of theoretical perspectives to understand the dynamics of labor productivity and wage inequality in the gig economy. One of those frameworks is the Human Capital Theory, which posits that wealth generators' skills, education, and experience have a direct influence on their productivity factor and income (Becker, 1964). In the gig economy, high-skilled workers are likely to earn higher wages and be more productive compared with their low-skilled counterparts (Cohen *et al.*, 2019). Another salient perspective is Wage Inequality Theory, which also suggests that earnings differences can be explained by variation in skill as well as education and opportunities (Katz & Autor, 1999). Within the gig economy, wage inequality is driven by work type, geographical location, and algorithmic platforms that manage job assignment (for a review, see De Stefano,

2016). Last, Platform Labor Theory helps to frame how digital platforms influence the experiences of gig workers. This theory points to the role of platform algorithms and digital technology in shaping working conditions, including income variability, work assignment, and power asymmetries that are concentrated within the ownership of platforms (Rosenblat & Stark, 2016). Digital labor platforms are central to how workers access work and their productivity at work, and this has direct implications for wage disparity in both Bangladesh and Canada.

3. Methodology

This section is dedicated to the methodology used to study labor productivity and wage inequality in gig economy between two nations (Bangladesh vs. Canada). Research methodology Describe how the collected information was used to manage the project; discussion includes data collection, sampling and data analysis approach, as well as study limitation.

Data Collection Methods

The data collection method of this research mixes quantitative and qualitative methods to understand in depth the labor productivity and wage inequality in gig economy in Bangladesh as well as Canada. Two types of data sources are used to address research problem, due to its nature:

Surveys: Surveys are used to measure labor productivity and wage inequality among gig workers in Bangladesh and Canada. The questionnaire is made up of closed and open-ended questions that are intended to cover the following:

- Demographic profiles of workers (age, gender, education, location).
- Professional experience (years in the gig economy, platforms).
- Hourly wage, overall monthly salary, and number of working hours.
- Perceptions of job satisfaction, working conditions and productivity needs.
- Earnings dynamics, alternative measures of income and factors associated with wage inequality.

In Bangladesh, surveys are shared mostly with gig workers through local platforms such as Pathao and

Uber. In Canada, gig workers are surveyed on various local and international platforms such as Uber, SkipThe Dishes, and Fiverr. This facilitates a comparison of the gig economy dynamics between the two countries.

Interviews: In order to better understand the context of labor productivity and wage inequality at gig economies a group of gig workers from both those countries are interviewed in semi-structured form. These interviews explore:

- Personal experiences with platforms.
- Productivity and income challenges.
- Effects of platform policies and perceptions on income stability.
- Topics concerning stability of employment, benefits and social justice.

Each country will conduct 20 interviews satisfying a gendered and work sector balanced sample (e.g., transportation, freelance work, delivery services) of on-demand workers. The qualitative data from the interviews complements the survey and serves as input to provide a more in-depth understanding of challenges and opportunities per context.

Secondary Sources: Information found in prior reports, articles and databases is collected as the second sources which give consideration to the scope of the study. Sources include:

- Cross national data on employment and wage inequality in Bangladesh and Canada.
- Disclosures from gig platforms about wages and trends in productivity.
- Academic papers, government reports and policy briefs on gig economy labor market conditions.
- Regulations and policy in the labour market in Bangladesh and Canada regarding gig work.

Sampling Techniques

The research adopts purposive sampling in respect of the survey respondents as well as informants for interviews. This methodology is used because it enables us to specifically sample gig workers who can potentially offer meaningful interpretations of the relationship between labor productivity and wage inequality in the gig economy.

Sampling Technique of the Survey: Stratified random sampling method is applied to gather data on the surveys and make it representative. Stratification is according to the nature of gig work, use of platforms and geographical region in each country. The sample is stratified as follows:

- Occupations (working for oneself): Drivers, delivery services and freelance work in fields such as software development or graphic design.
- Medium of Platform: Uber, Pathao, Fiverr, Upwork etc.
- Geographical location: urban and rural to be able to compare variation by labor market condition between locations.

In Bangladesh 200 gig workers will form the sample so that there is a proportionate number of urban and rural samples. In Canada another 200 will be selected from a range of urban centers such as Toronto, Vancouver and Montreal. This permits a reasonable contrast of labor productivity and wage inequality between different demographic-population and geographic groups.

Sampling for the interview study: Qualitative interviews with gig workers are also conducted with purposeful sampling to ensure diversity in the sample. This includes:

- People in other roles (transportation, freelancers, delivery service).
- Gig workers with different gig work experience (less than 1 year, 1-3 years and more than 3 years).
- Respondents from various demographic groups (age, sex and literature).

Twenty participants from each country will be recruited, covering high and low skill gig workers equally and with an equal gender distribution.

Analytical Techniques

Methods: The data are analyzed using a mixed method approach including both quantitative and qualitative analysis conducted in parallel.

Quantitative Data: Descriptive statistics and inferential statistical analyses will be used to analyse the survey data. This includes:

- Summary statistics to present demographic characteristics (age, sex, area of residence) and key variables associated with labor productivity and wage inequality (hourly earnings, total earned income, and hours of work).
- Hypothesis testing, such as using regression to identify what factors affect labor productivity and wage inequality in the gig economy. We will use multiple regression models to examine the association between worker characteristics (including age, education and experience), platform use, and income. This should be useful to the analyses of which factors are important in explaining productivity and wage inequality differences.

Analysis of data will be performed using software (such as SPSS, or R) for statistical analysis. The results of the regression analysis had an ability to explore the association between gig economy factors and labor productivity as well wage inequality in Bangladesh and Canada.

- Qualitative analysis: The thematic content of the qualitative textual data collected in interviews will be analyzed based upon:
- Data analysis Coding: The process of uncovering recurrent and meaningful themes and patterns in the interview transcripts.
- Categories of themes: Grouping similar responses into specific categories about labor productivity, wage inequality, problems and the policy.
- Interpretation: Relating the themes to gig work literature more generally in order to understand gig worker experience in Bangladesh and Canada.

The qualitative studies will enhance understanding at a more personal level with gig workers and give us a better sense of the broader context about which they are concerned for productivity and wage inequality.

Limitations of the Methodology

Although the method selected is a broad approach to examining Labour productivity and wage inequality in gig economy it does have limitations:

- 1) Sampling: Despite the purposive method, we may note sampling bias particularly if there are

subgroups of gig workers that are under-represented. For instance, employees at lower levels of education or less active using online platforms may be insufficiently represented in the sample.

- 2) **Self-Reporting Bias:** The survey and interview data are derived from self-reported material from gig workers, which is vulnerable recall bias or social desirability bias. Workers may exaggerate how much they are earning or underreport the challenges they face such as low wages and exploitation, likely because of a fear of stigmatization or measures that would be taken against them.
- 3) **Generalizability:** Although the sample sizes were sufficiently large to enable us to draw meaningful conclusions, our findings may not generalize well for all workers in the gig economy, particularly outside our region or country. The study is centered on Bangladesh and Canada, so may not be applicable to gig workers in other developing or developed economies.
- 4) **Variability of Platforms:** The gig work is not homogeneous across platforms which could influence the outcomes. Earnings from ride-hailing services like Uber, for instance, can vary widely from earnings from freelance platforms like Upwork. These variances may produce inconsistencies when comparing across platforms.
- 5) **Regulations Variabilities:** The study recognizes the difficulty to compare gig economy's business in different country regulations. Canada does have stronger Labour laws and regulations related to gig work but it remains largely unregulated in Bangladesh and the implications of this may manifest on both productivity and income disparity differently.

Notwithstanding these limitations, the mixed-methods methodological approach followed in this paper helps to reveal a nuanced understanding of labor productivity and wage inequality within the gig economy, most notably across two different environments – Bangladesh and Canada.

4. Results and Discussion

We discuss survey data results on labor productivity and wage inequality in the gig economy for Bangladesh and Canada. Based on the gig workers' data in both countries, we examine factors contributing to productivity differences, earnings levels, and wage inequality. We also elaborate on the wider policy lessons provided by our observations from both primary and secondary data.

On labor productivity in the gig economy
Gig economy productivity of labor in the gig economy is an important aspect of how efficiently gig workers can earn money from their work. It is based on work type, tools and platforms used, and other contextual factors such as infrastructure and location.

Survey Findings: Bangladesh

The sample survey results indicate that the localization of productivity shows large differences in output levels per worker for employment units classified as either urban or rural. Daily task completion of the Dhaka city urban workers was 5-10 tasks per day, where each task demanded a period of 15-30 min of accomplishment. These workers mostly were from ride-sharing and food delivery, with significantly high task volume and rate because of platform availability and city demand at the same time. The completion rate of rural workers was significantly lower, and the average number of tasks completed per day was less than 5. These workers took longer (30-60 minutes per hit) because the platform was less available, and they waited longer between hits. The primary obstacles to rural productivity were bad internet service, low demand for services, and inadequate transportation infrastructure.

Survey Findings: Canada

Urban vs. Rural: In Canada, gig workers worked at a higher productivity rate in urban areas such as Toronto and Vancouver than in rural regions. Those workers were able to finish 10-20 tasks/day with 15-30 minutes average time for each task. The abundance of high-paying gigs, the higher frequency of tasks, and the better infrastructure meant that workers could do more in their work. Specialized freelancers (software developers, graphic designers) reported longer-term projects, but the value of the task they're completing is high.

Rural Context:

Rural workers in Canada deployed significantly fewer tasks than their urban counterparts (5-10 per day), although they were still a lot more

productive compared to rural workers in Bangladesh, mainly because of higher access to technology and a better range of gig opportunities in smaller cities.

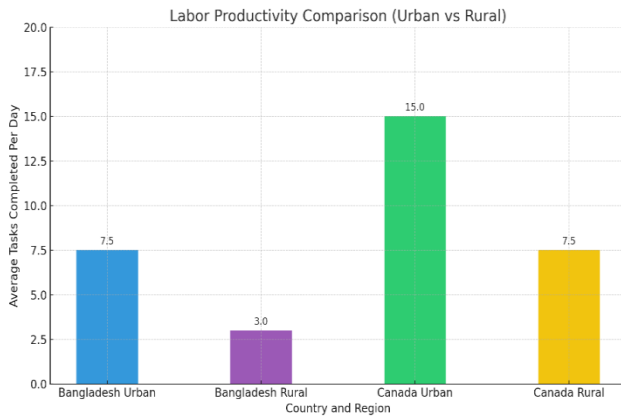


Fig. 2: Labor Productivity Comparison (Urban vs Rural).

Table 1: Labor Productivity Summary.

Region	Avg. Tasks/Day	Avg. Time/Task	Factors Influencing Productivity
Bangladesh (Urban)	5-10	15-30 minutes	High demand, better access to platforms
Bangladesh (Rural)	<5	30-60 minutes	Poor infrastructure, low demand, limited platforms
Canada (Urban)	10-20	15-30 minutes	High demand, better infrastructure, diverse gigs
Canada (Rural)	5-10	30-60 minutes	Good infrastructure, limited task availability

The productivity difference between Bangladesh and Canada is basically infrastructure and task availability. Though Canada has superior tech and is more platform-rich compared to Bangladesh, few businesses operate in the former's rural community, due to infrastructure faltering with opportunities to work as a gig worker coming in scarcely.

Gig Economy Wages Inequality

Gender, sector, location and level of education contribute to wage inequality in the gig economy. Data from the survey shows this inequality in Bangladesh and Canada, illustrating how gig workers' earnings are distributed.

Survey Findings: Bangladesh

Hourly and Monthly Income Hourly earnings: In Bangladesh, majority of gig workers get between \$5-\$10 an hour. They usually make between \$200 and \$500 a month, which isn't very much, especially when one takes into account how many workers are using task jobs as their sole source of income.

Comparison

- Urban workers in Dhaka faced productivity challenges related to infrastructure, such as traffic congestion and lower task availability in rural areas. However, Canadian gig workers benefitted from technological advancements (e.g., high-speed internet and reliable transportation systems) that enabled them to work more efficiently and complete more tasks per day.

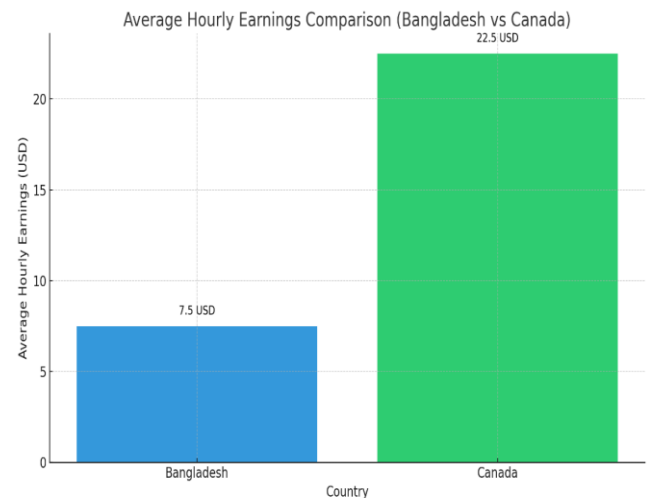


Fig. 3: Average Hourly Earnings Comparison (Bangladesh vs Canada).

Gender Pay Gap: Women in the gig economy make 20% less than men doing the same job in Bangladesh. This wage discrepancy is compounded in the ride-sharing and delivery space where access to higher paying jobs for women are curtailed due to cultural barriers and safety issues. Countless women shared that they had been held back in the world of

freelancing by being assigned less lucrative gigs such as sewing, not programming or lower-demand tasks at Uber.

Survey Findings: Canada

Hourly and Monthly Income: Gig workers—to be exact, Canadians ones made way more money per hour (\$15/hour to \$30)/hour. They were making between \$1,000 and \$2,000 a month reflecting the more mature gig economy in Canada.

Table 2: Wage Inequality Summary.

Country	Avg. Hourly Earnings	Monthly Earnings	Gender Wage Gap
Bangladesh	\$5-\$10	\$200-\$500	20% lower for women
Canada	\$15-\$30	\$1,000-\$2,000	15% lower for women

The income gap in Bangladesh is worse than it is in Canada, and the average paycheck across the board is less. Although Canada provides higher income and better prospects in gig economy jobs like freelancing and IT-based gigs, Bangladesh still largely depends on low-wage sectors such as ride-sharing platforms or delivery, where gig workers are paid far less. The gender pay gap remains wider in Bangladesh, mainly because of cultural norms and more limited opportunities for women in higher-paying gigs.

International Cross-Country Comparisons along the life cycle: Bangladesh vs. Canada

- Bangladesh and Canada: A comparison of labor productivity and skill-based wage inequality
- Hourly Earnings: In Canada, workers make much more per hour of work compared with the already meager earnings in a country like Bangladesh.
- Monthly Earnings: Monthly income in Canada is significantly higher, reflecting both the higher hourly wages and the greater task availability in Canada compared to Bangladesh.
- Labor Productivity: Canadian workers complete more tasks on average and spend less time per task than their counterparts in Bangladesh, especially in urban areas.
- Gender Inequality: Gender wage inequality is an issue in both countries, with women earning less than men, but the gap is more pronounced in Bangladesh.

Gender Wage Gap: The wage gap is smaller in Canada (15% versus Bangladesh’s 20%) but nonetheless present. There is an overrepresentation of female workers in Canada working in the low wage sector such as cleaners, food delivery people, and caregivers which is why there’s a gap between the sexes.

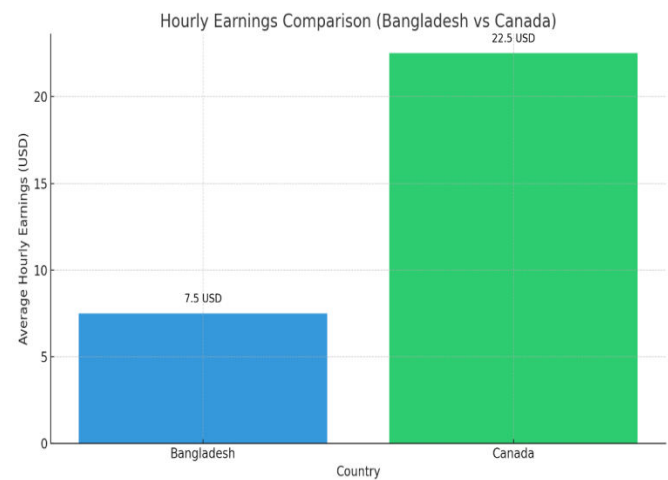


Fig. 4: Hourly Earnings Comparison (Bangladesh vs Canada).

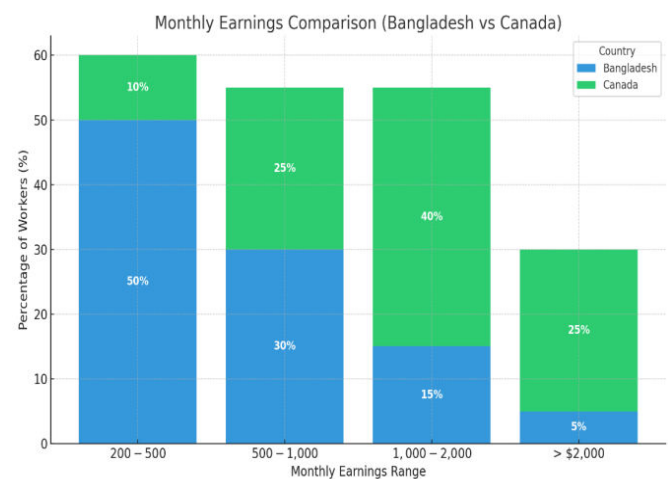


Fig. 5: Monthly Earnings Comparison (Bangladesh vs Canada).

Cultural and infrastructural limitations in Bangladesh contribute to greater wage disparity between male and female gig workers.

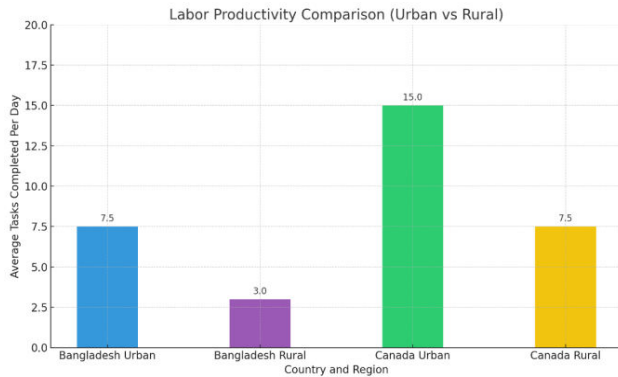


Fig. 6: Labor Productivity Comparison (Urban vs Rural).



Fig. 7: Gender Wage Inequality Comparison (Bangladesh vs Canada).

Factors Influencing Labor Productivity and Wage Inequality

There are a variety of important determinants of labor productivity and wage inequality in the gig economy:

- **Infrastructure:** Better infrastructure in Canada is an important driver of productivity, which allows gig workers to do more jobs. On the other hand, infrastructure deficiencies in Bangladesh (especially rural areas) constrain workers' productivity.
- **Education and Skill Level:** Higher-skilled workers in both countries earn more and are more productive. In Canada, experienced tech and consulting workers earn far more than low-skill workers in fields like ride-sharing and cleaning. Low-skilled workers who can only find gig employment might earn less and become even

less skilled, regardless of the size of their country's economy.

- **Platform Algorithms:** The algorithms of task platforms such as Uber and Upwork influence task allocations and wages. Better allocation of high-paying labor market gigs in Canada as experienced by Canadian workers is clearly advisable and very different from the poor task distribution Bangladeshi workers experience.

Policy and Economic Implications

The policy implications from these research findings are to enhance labor productivity and diminish wage inequity as follow:

For Bangladesh:

- Pass minimum wage laws and social safety nets for gig workers to prevent exploitation at the margins and provide a basic standard of living.
- Investment in rural infrastructure, including high-speed internet and transportation networks that both raise productivity and create greater access to gig platforms.
- Encourage gender diversity by breaking cultural barriers and ensuring safer working environments for female gig workers in sectors such as ride-sharing and delivery.

For Canada:

- Extend traditional labor protections to gig workers, including paid sick leave, health care and minimum wage protection.
- More sophisticated matching algorithms to ensure a more equitable and stable allocation of high-paying tasks.
- Tackle the gender pay gap in the gig economy by advancing equality for women in high-paying industries and ensuring workplace safety for women.

For Both Countries:

- Regulate gig platforms to guarantee fair wages and transparent pay structures, and protect the working conditions for gig workers.
- Offer upskilling programs to low-skilled workers so they can enter into higher-paying gig roles, like in tech, creative and consulting.

The results indicate that there are meaningfully differences in labor productivity and wage dispersion between Bangladesh and Canada. Canada has far better infrastructure, higher pays and more Labour rights against Bangladesh comparatively bogged down with productivity improvements to make prediction, no pay for millions unskilled job holders let alone miserable gender discrimination. Policy changes, better infrastructure and gender equality initiatives could serve to rectify these imbalances, which may in turn reduce gig workers' vulnerability in both.

5. Conclusion

This study investigated the dynamics of labor productivity and wage inequality favoring gig workers in Bangladesh and Canada. The findings yield interesting differences in the two contexts and insights into what gig workers face, as well as their potential for comparison. In production efficiency, Canadian gig workers are relatively more efficient in production comparison. Production, as they have the infrastructure, platform, production, platform, and access to tasks. Canadian urban gig workers seem to be really productive, with these gagsters completing more tasks per day and in a markedly more effective fashion throughout various specialized sectors - such as freelancing and consulting. By contrast, there are more barriers for Bangladeshi gig workers (especially rural-based) poor infrastructure, low demand for services, and little access to platforms. The result is reduced labor productivity, ranging from more to a greater extent for rural workers, and fewer tasks completed at a slower pace. There should be policy reforms to tackle the problems encountered by gig workers in Bangladesh, such as minimum wage legislation, increasing rural infrastructure areas, infrastructure, and promoting gender equality. These changes would encourage higher productivity and wages while also ensuring fairer, more secure conditions for gig workers. Even in Canada, where wages are higher and productivity stronger, policy reform to protect workers from abuse and close the gender wage gap is still essential. Wages are essential, while action at the policy level could potentially address income volatility experienced by gig workers through expanded labor protections such as guaranteed paid sick leave or a minimum wage.

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7. Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this paper.

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