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The Global Gig Economy: Pakistan's Opportunity to Become a Leader in Service Exports?

Theresa Thompson Chaudhry* and Hamna Ahmad**

Abstract

Freelancers in Pakistan earned around \$400 million in both FY21 and FY22, accounting for about 15% of the \$2.6 billion ICT exports. Pakistan's IT exports have been rising in absolute terms and as a share of service exports over the past few years, but it still stands far behind countries like the Philippines and India. Further, it has a long way to go before it rivals the importance of remittances to Pakistan from abroad, which stood at \$31.2 billion in FY22. To learn more about the landscape of freelancing in Pakistan, we scraped the data on Pakistan-based freelancers from two popular sites. Most of the 9,495 Pakistani freelancers advertising their services on Freelancer.com are based in Punjab and Sindh. The most advertised skills are programming, web and app development, followed by design, research/writing, photography, and marketing. Nearly three-quarters of the workers listed have earned money through the site. Firms charge the highest hourly rate on average and have completed the greatest number of jobs. Men charge around \$2.40 more per hour than women and have higher total earnings despite completing fewer transactions. Women have the highest repeat hire rate compared to both men and firms. Earnings and hourly rates are increasing (at a decreasing rate) in terms of freelancers' experience and percentage of jobs completed on time. Average ratings, however, have no statistically significant impact on either total earnings hourly rates of freelancing work. In contrast, only 1,100 out of 85,314 freelancers (1.3 percent) advertising their services on the site Guru.com, had ever completed a transaction. Men earn more per transaction, but earnings in the last year were roughly equal for men and women.

* Professor, Faculty of Economics and Co-Director, Innovation and Technology Center, Lahore School of Economics.

** Assistant Professor, Faculty of Economics and Research Fellow, Centre for Research in Economics and Business, Lahore School of Economics.

Introduction

Sustainable growth and balance-of-payment stabilization require targeted policies to improve Pakistan's export performance. For decades, Pakistan has grappled with a narrow base of low-value-added exports. Freelance employment presents a promising solution to address low export revenue. In FY 2022, IT exports reached US\$2.6 billion, with freelancing export remittances contributing US\$400 million (Hanif, 2022). According to a 2019 Forbes article, Pakistan's freelancing sector grew by 47 percent, ranking as the fourth highest growth rate globally and exceeding regional export leaders India and Bangladesh¹. Popular platforms facilitating this growth include Guru, Upwork, and Freelancer.com (see Figure 1a). Notably, Pakistan boasts one of the largest online labor supplies globally within the broader category of digital work (see Figure 1b)².

In 2023, Pakistan's Prime Minister set a target to increase IT exports to US\$15 billion by 2026 (Radio Pakistan, 2023). The government and other entities are actively promoting this growth by offering training programs and co-working spaces. For example, the government-funded DigiSkills.pk Training Program offered free online training in freelancing and other relevant skills (SBP, 2022). Additionally, the Pakistan Skills Development Fund (PSDF) partnered with Zong to train 10,000 young people in "How to E-lance" (Zong, 2021). Furthermore, the Pakistan Information Technology Board (PITB) has established e-Earn workspaces, offering internet and other facilities in various cities across the country, including Gujranwala, Faisalabad, Sargodha, Multan, Sialkot, Rawalpindi, Gujrat, DG Khan, Sahiwal, and Okara (ProPakistani, 2023).

To foster sustainable growth, enhancing economic participation and productivity among Pakistan's human capital is crucial. Notably, 68 percent of Pakistan's working-age population falls within the youth demographic, aged 10 to 24 years. To fully capitalize on this demographic dividend, the country must effectively utilize its most abundant resource: labor. This necessitates increasing labor force participation rates (LFP), particularly among women. According to the most recent Labor Force Survey (2021), female labor force participation (FLFP) stands at a mere 21.5 percent, which is significantly lower compared to other South Asian countries. Freelance employment can alleviate several constraints, such as mobility, safety, cultural barriers, and social norms, thereby facilitating greater female participation in the labor market. The recent economic downturn is likely

¹ <https://www.forbes.com/sites/elainepofeldt/2019/08/18/the-top-10-fastest-growing-freelance-markets-in-the-world/?sh=53f424b0733b>. Payoneer's Global Gig Economy Index had provided the data on which these rankings were based.

² *World Employment and Social Outlook 2021: The role of digital labour platforms in transforming the world of work* International Labour Office – Geneva: ILO, 2021. Labour supply is captured from four platforms (Fiverr, Freelancer, Guru and PeoplePerHour).
Source: Online Labour Observatory (iLabour Project, Oxford Internet Institute and ILO).

to accelerate demand for non-traditional work opportunities, which serve as a crucial safety net for workers facing lay-offs and hiring freezes in the traditional labor market.

While the target for FY22 was US\$3.5 billion, Pakistan's ICT exports and the number of ICT services firms have experienced substantial growth in the past five years, falling short of this target by only US\$0.9 billion (Figure 3a). Encouragingly, the share of higher value-added computer-related services within these exports (as opposed to telecom and call centers) is rising (Figure 3b). Freelancers in Pakistan earned approximately US\$400 million in FY21 and FY22, representing around 15 percent of the US\$2.6 billion in total ICT exports. Between FY21 and FY22, IT services³ declined, but a significant rise in non-IT services offset this shortfall. A survey of approximately 5,000 software developers revealed that Pakistani freelancers earned an average of US\$43 per hour (Nawaz et al., 2020, citing Codementor, 2017).

Regional Trends

Regionally, Pakistan's ICT service exports demonstrate a promising trend, surpassing both Bangladesh and Sri Lanka in volume and growth rate. Additionally, IT exports are steadily increasing as a share of overall service exports, indicating their growing significance (Figure 4).

In contrast, the Philippines boasts ICT exports of more than double those of Pakistan despite having a population only half the size. India's ICT exports, at US\$119.5 billion, far exceed those of other countries under consideration, both in absolute terms and per capita. India's services exports are nearly 50 times larger than Pakistan's, and its per capita ICT exports are eight times those of Pakistan (Figure 5).

For countries like Pakistan and Bangladesh, trade in services remains a relatively small component of GDP, accounting for approximately 5 percent (Figure 6). This contrasts sharply with India and the Philippines, where trade in services constitutes nearly three times that figure, reaching around 15 percent of GDP.

Despite a \$2 billion surplus in telecommunications and IT, the contribution of services to Pakistan's current account remains negative. This is primarily due to a substantial deficit in the transport category, with sea freight alone accounting for \$5.283 billion of the debt (Table 1). While the US\$2 billion net in ICT service exports

³ IT services: web development, logo design, graphic designing, developers of mobile apps and java; Non-IT services: Content writing, translation, virtual assistantship, sales, marketing, accounting, finance and customer service.

is a significant contribution, it falls far short of the US\$31 billion received in remittances (Table 2).

Table 1: Services Accounts, Pakistan's Balance of Payments (millions of USD\$)

I T E M S	FY20			FY21 R			FY22 P		
	Credit	Debit	Net	Credit	Debit	Net	Credit	Debit	Net
b. Services	5,437	8,753	(3,316)	5,945	8,461	(2,516)	6,950	11,969	(5,019)
1. Manuf. services	-	-	-	-	-	-	-	-	-
2 Maintenance/repair	7	65	(58)	3	48	(45)	3	38	(35)
3 Transport	741	3,036	(2,295)	544	3,279	(2,735)	821	6,787	(5,966)
4 Travel	490	1,229	(739)	501	752	(251)	541	1,356	(815)
5 Construction	166	77	89	116	2	114	94	40	54
6 Insurance and pension	42	276	(234)	47	247	(200)	40	290	(250)
7 Financial services	135	468	(333)	138	472	(334)	92	194	(102)
8 Intellectual property	4	181	(177)	13	254	(241)	13	209	(196)
9 Telecoms, computer, and information services	1,440	385	1,055	2,108	530	1,578	2,618	612	2,006
10 Other business services	1,328	2,560	(1,232)	1,448	2,408	(960)	1,644	1,912	(268)
11 Personal, cultural, and recreational	8	1	7	11	-	11	13	1	12
12 Government goods and services n.i.e.	1,076	475	601	1,016	469	547	1,071	530	541

Note: Figures in parentheses represent a net debit.

Source: Table 9.4 Pakistan's Balance of Payments (BPM-6), SBP Annual Report-Statistical Supplement FY 22

Table 2: Workers' Remittances to Pakistan

	Amount (in millions of USD)				
	FY18	FY19	FY20*	FY21	FY22
Cash Remittances	19,913.60	21,739.40	23,132.30	29,449.90	31,278.80

Source: Table 9.7 Workers' Remittances, SBP Annual Report-Statistical Supplement FY 22

Literature:

Existing research on the gig economy primarily focuses on developed countries (Oyer, 2020). While most of these studies are descriptive, a few randomized controlled trial (RCT-type experimental analyses have explored issues related to motivation (extrinsic/intrinsic) versus risk aversion, disintermediation incentives (to avoid platform fees), and the value of reputation to freelancers (Butsheh et al., 2022; Gu & Zhu, 2021; Holtz et al., 2022).

Key takeaways from the descriptive body of work include the following:

- 1) First, the growth of the gig economy and the share of independent workers is primarily concentrated among lower-skilled individuals.
- 2) Secondly, workers often cite flexibility as the primary reason for choosing the gig economy over traditional jobs (van der Zwan et al., 2020).
- 3) Third, freelancers may not necessarily replace traditional jobs but can complement traditional employment under certain conditions (Burke & Cowling, 2020).

Lastly, during economic downturns, the gig economy has played a crucial role in safeguarding workers against fluctuating economic conditions (Pulignano et al., 2021). Some critical policy issues that have been identified in this area include but are not limited to (i) accurately quantifying the size of the gig economy, (ii) ensuring a relatively equal tax burden between traditional and independent workers through effective taxation policies to prevent tax evasion among independent workers and revenue loss for the government; (iii) developing effective worker protection policies for independent workers to safeguard them against the heightened risks, uncertainty and income volatility they face compared to traditional workers; and (iv) understanding why women, despite enjoying greater flexibility, constitute a smaller proportion of the gig economy compared to male workers.

A handful of studies have focused explicitly on freelancing in Pakistan. Rehman et al. (2021) found that programming freelancers were more satisfied with their jobs and earned comparable wages to traditionally employed programmers, although uncertainty and income insecurity were concerns. Ahsan et al. (2022) similarly reported high levels of freelancer satisfaction. Other studies have explored factors that contribute to higher client satisfaction in web development freelancing gigs (Haq et al., 2018), as well as the opportunities that freelancing offers to women (Rawoof et al., 2021). Additionally, some research has highlighted the occupational hazards faced by freelancers who spend extended periods sitting in front of a computer (Tasmeer et al., 2022).

Despite its immense potential, research on growth of the gig economy for independent freelance workers in developing countries, including Pakistan, remains limited. This study aims to bridge this gap in the existing literature. Our primary objectives are as follows:

- 1) Assess the size of the gig economy in Punjab.
- 2) Develop a demographic profile of gig-economy workers in Pakistan based on their age, gender, education, experience, location, and the services they provide.

- 3) Explore the skill categories offered by freelancers and their corresponding pay rates;
- 4) Quantify any gender pay gap between male and female gig economy workers.

Analysis:

We collected data from the freelancing websites Guru.com, Fiverr, and Freelancer.com. Beyond investigating whether the proportion of active freelancers is similar across platforms, these websites provide access to a variety of information, including price per hour, price per specific task, freelancer education, freelance work history, part-time/full-time status, job ratings, on-time completion rates, and repeat hire rates. This data enables us to explore other questions related to returns to skills, returns to experience, and gender differences in wage demands. Data scraping from Upwork was unsuccessful due to the website's security measures. Our analysis focuses on Guru and Freelancer, which provided the most informative variables for our investigation.

Freelancer.com

Our analysis begins with the data from Freelancer.com. Figure 7 visually depicts the distribution of offered skills across geographic regions. Most of the 9,495 freelancers advertising their services on the platform are based in Punjab and Sindh, the most populous provinces in Pakistan. Workers from Islamabad and Khyber Pakhtunkhwa (KPK) can also be found, while representation from the northern areas of Gilgit-Baltistan and Kashmir is minimal. The top five skills offered on Freelancer.com fall within the programming/web/app development categories, followed by design, research/writing, photography, and marketing (see Figure 7).

The majority of workers on Freelancer.com are active, as evidenced by non-zero income on the site (Figure 8). Unfortunately, we lack data on the total number of jobs each freelancer completes. The closest available measure is the total number of reviews each freelancer on the site has received.

The photography, programming/web/app development, design, marketing, and accounting/legal services workers boast the highest median earnings on Freelancer.com (Figure 9a). Unfortunately, data on the duration of each freelancer's activity on the platform is unavailable, limiting our analysis to total earnings on the site rather than annual earnings. Interestingly, Figure 9b reveals that firms have the highest median earnings, while the median total earnings for men and women appear comparable.

Although income per transaction or per annum is unavailable, we have data on the freelancers' hourly rates (Figure 10). Freelancers specializing in high-skill

areas like architecture and programming/app development command the highest median hourly rates. Surprisingly, hourly customer services/Amazon assistance charges were also relatively high. Accounting/legal and data analysis fell into the mid-range.

Firms command the highest average hourly rates and have completed the most jobs, as indicated by the number of reviews (Table 3). Men charge approximately US\$2.40 more per hour than women and have higher total earnings despite completing fewer transactions (proxied by the number of reviews). Interestingly, women have the highest repeat hire rate compared to men and firms. The average rating for all freelancer identities is nearly identical (around 4.88), and performance outcomes, such as the percentage of jobs completed, jobs completed on time, and jobs completed on budget, are virtually indistinguishable.

Table 3: Outcomes for Freelancers by Identity/Gender

Gender	Price per hour (US\$)	N	Total earnings (US\$)	N	Number of reviews	N	% Repeat hire	N
Male	16.86	6,352	6540.63	4,473	34.15	4,479	28.17	2,657
Female	14.48	843	5469.76	615	36.16	615	31.86	348
Firm	19.67	730	19576.49	616	90.19	616	23.96	454
Undetermined	19.25	1,570	14270.35	1,269	87.89	1,271	25.16	872
Male	4.89	2,317	94.70	4,412	95.13	4,406	97.24	4,512
Female	4.88	361	95.36	605	94.94	602	97.58	619
Firm	4.87	348	94.68	609	95.36	612	97.27	618
Undetermined	4.89	660	94.81	1,257	95.97	1,256	97.47	1,271

Source: Authors' calculations based on 2023 Freelancer.com data

Differences in earnings and hourly rates among freelancers may be influenced by their work fields. Table 4 presents regression analyses exploring this relationship with $\ln(\text{total earnings})$ or $\ln(\text{rate per hour})$ as dependent variables and identity/gender categories as independent variables. These analyses control non-linearly for experience (their total number of reviews) and performance indicators (jobs completed on time and average ratings). In the odd-numbered columns, when skill category controls are excluded, the gaps in income and hourly rates between identity/gender categories are substantial. Columns 1 and 5 reveal that men and women earn less and charge less per hour than firms. Columns 3 and 7 show that women charge less than men. When skill category fixed effects are included in the even-numbered columns, the estimated earnings and hourly rate gaps by freelancer identity/gender decrease, suggesting that some of the gap can be attributed to the different types of work done by men, women, and firms. After controlling for the performance and skill category, men charge 9.7 percent, and women charge 16.2 percent less than firms' hourly rates. Additionally, women charge 6.7 percent less per hour than men. Earnings and hourly rates exhibit an

increasing but diminishing relationship with the experience of freelancers (measured by total reviews) and the percentage of jobs completed on time. However, average ratings do not have a statistically significant impact.

Table 4: Earnings and Hourly Rates by Gender/Freelancer Identity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Earnings Men/ Women /Firms	Earnings Men/ Women /Firms	Earnings Men/ Women /Firms	Earnings Men/ Women /Firms	Hourly Rate Men/ Women /Firms	Hourly Rate Men/ Women /Firms	Hourly Rate Men/ Women /Firms	Hourly Rate Men/ Women /Firms
Male	-0.411** (0.111)	-0.358** (0.109)			-0.120** (0.040)	-0.097* (0.040)		
Female	-0.608*** (0.144)	-0.455** (0.143)	-0.193+ (0.107)	-0.116 (0.107)	-0.244*** (0.053)	-0.162** (0.052)	-0.123** (0.039)	-0.067+ (0.039)
Average Rating	-0.170 (0.525)	-0.208 (0.517)	0.060 (0.572)	-0.044 (0.563)	0.061 (0.192)	0.164 (0.187)	0.164 (0.211)	0.243 (0.207)
Average Rating Squared	0.021 (0.072)	0.024 (0.070)	-0.006 (0.077)	0.006 (0.076)	-0.004 (0.026)	-0.019 (0.026)	-0.017 (0.028)	-0.030 (0.028)
Total Reviews	0.019*** (0.000)	0.019*** (0.000)	0.020*** (0.001)	0.020*** (0.001)	0.002*** (0.000)	0.002*** (0.000)	0.003*** (0.000)	0.002*** (0.000)
Total Reviews Squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Jobs Completed on time	0.172*** (0.019)	0.172*** (0.019)	0.169*** (0.020)	0.170*** (0.019)	0.024** (0.007)	0.020** (0.007)	0.025** (0.007)	0.021** (0.007)
Jobs Completed on time Squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000** (0.000)
Skill Group	N	Y	N	Y	N	Y	N	Y
Fixed Effects								
R ²	0.467	0.489	0.445	0.468	0.099	0.148	0.091	0.137
Observations	2992	2992	2647	2647	2992	2992	2647	2647

Notes: In even numbered columns, we include fixed effects for the skill categories. In col 1-2 & 5-6 the excluded category is Firms; in the columns 3-4 & 7-8, the excluded category is Male; Standard errors in parentheses, + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.0001$

Guru.com

Next, we examine the data from Guru.com. The platform boasts over 85,000 individuals and firms listing their services. The majority of freelancers were from Punjab, Sindh, and Islamabad (Figure 11a). Interestingly, the distribution of skilled versus unskilled freelancers remains consistent across all territories, hovering around 85% skilled and 15% unskilled (Figure 11b).

By far, the most commonly offered skills on Guru.com by Pakistan-based freelancers are graphic design and photography, followed by data entry, writing/research, web development, and data processing. Business services like

sales/marketing, finance/accounting, virtual assistance, and customer assistance are also prominent (Figure 12a). After removing outliers, the highest earning skills for Pakistan-based freelancers on Guru.com are search engine optimization, e-commerce, and customer service (Figure 12b).

Surprisingly, only a small fraction—1.3% or approximately 1,100 out of the 85,000 freelancers listed on Guru.com—had ever earned income through the platform. Unfortunately, the site did not provide information on the gender of the freelancer, so we employed software programs to interpolate gender based on names for almost three-fourths of the observations. Our analysis based on interpolated data suggests a roughly equal distribution of active freelancers: 10 percent men, 10 percent women, and 50 percent firms (Table 5). The lack of recorded transactions appeared consistent across the various skills offered (Figure 13).

Table 5: Active vs Listed Freelancers on Guru.com (2023)

Gender	Number of Freelancers on Guru.com	Percent	Number of Freelancers with Earnings >0	Percent
Female	12,978	15.2%	104	9.5%
Male	59,550	69.8	110	10
Firm	1,728	20	571	51.9
Unknown	11,052	12.95	315	28.6

Source: Authors' calculations based on data from Guru.com

The geographic distribution of skills for freelancers with recorded transactions appears similar across the three provinces, with the majority concentrated in Punjab, Sindh, and Islamabad (Figure 14). Interestingly, Figure 15 suggests a positive relationship between the number of years on Guru.com and the growth in transactions for freelancers based in Islamabad and Sindh.

Although most freelancers with significant transaction volumes are concentrated in Punjab, Sindh, and Islamabad, there is a notable presence of highly active freelancers in the Northern Areas and Kashmir (Figures 16a and 16b).

The number of transactions for the initial categories, such as transcription, legal services, and architecture, is relatively small, albeit these skills are lucrative compared to other skills (Figure 17b).

Women appear present in most offered skills, although their representation varies. They are more likely to be found in writing and less likely in digital assistance and web development (Figures 18a and 18b).

Similar to Freelancer.com, firms on Guru.com appear to have the highest median annual earnings and earnings per transaction in 2022 (Figures 19a and

19b). While the median annual earnings for men and women appear comparable, men's earnings per transaction show a slightly higher average and greater variability.

Conclusion

Pakistan's freelance economy contributed approximately US\$400 million in both FY21 and FY22, accounting for about 15% of the country's US\$2.6 billion in ICT exports. We scraped data on Pakistan-based freelancers from Guru.com and Freelancer.com to delve deeper into this landscape.

Programming and web and app development emerged as the most advertised skills on freelancing platforms. Design, research/writing, photography, and marketing followed closely behind. Notably, nearly three-quarters of the listed workers have successfully generated income through these platforms. Men charged approximately US\$2.40 more per hour than women and earned higher total incomes despite completing fewer transactions. However, women demonstrated a higher repeat hire rate than men and firms. Performance outcomes were remarkably similar across all freelancer identities, with minimal differences in average rating, percentage of jobs completed, jobs completed on time, and jobs completed on budget.

Our analysis reveals that only a tiny fraction—1.3 percent or only 1,100 freelancers out of the listed 85,314 freelancers—had ever completed a transaction on the platform. Most freelancers remain concentrated in Punjab, Sindh, and Islamabad, although there was also a notable presence in the Northern Areas and AJK. Our analysis, which involved estimating gender for a significant portion of the data, suggests that more than 68 percent of profiles on the site belong to men, and women make up another 15 percent. The remaining category likely includes firms or individuals with unidentified genders. While photography and graphic design dominate the offered services, the highest annual earnings appear in search engine optimization, e-commerce, and customer services. Although men earn more per transaction, median annual earnings for men and women appear roughly equal in the past year.

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