

Working from Home in a Smart Lockdown Changing Dynamics of the Labour Market under COVID-19

- Going beyond the unemployment effects of COVID-19, this Bulletin looks how the event has transformed the labour market in Pakistan.
- Looking at the share of workforce that can work from home, we explore the variation across occupations and provinces.
- Our assessment suggests that ~19% of the workforce can work remotely in Pakistan.

Responding to the COVID-19 outbreak, the social distancing and lockdown measures have changed the labour market dynamics, resulting in laying off of millions of workers across the world.

Countries, faced with the “lockdown paradox”, are trying to balance between lives and livelihoods in ways that can help flatten the curve. This is important because economic recession could dry up government resources which in turn can affect the war against Coronavirus.

PIDE COVID-19 Bulletin suggested several measures to implement a “smart lockdown” in Pakistan. One of the measures was to keep working remotely/from home where possible. The current Bulletin explores the feasibility and extent of the work from home option across occupations and provinces. Quantifying the extent of such jobs across these dimensions could provide a useful insight to policy makers for: (i) targeted compensations; and (ii) keeping the economy functional. Moreover, understanding of the who and how many can perform from home is an important indicator to predict the working of the economy during the course of the COVID-19 pandemic. Box below explains the methodology we use

to estimate this.

Ability to Work Remotely by Occupational Groups

The ability to work from home/remotely is measured for major occupational groups in Pakistan. Table 1 provides the details of occupations with various probabilities of working remotely. For instance, managerial and professional job can be done from home while plant, machine operator and assemblers, and elementary jobs can barely perform their job from home. Interestingly, the probability of working from home for services and sales workers, and those of craft and related trade workers is on the lower side. This is a point of concern not only during the pandemic but also afterwards.

Overall, our classification implies that roughly 19% of jobs in Pakistan can plausibly be performed at home. For provinces this proportion varies from 18% to 20% (see Figure 1). Our estimate show that compared to other

Methodology

- To drive these estimates, we follow Dingle and Neiman (2020) approach.
- Using the Pakistan Standard Classification of Occupations (PSCO), we identify the feasibility of working at home for all occupations.
- The feasibility is measured by assigning weights to each profession. The weight varies between 0 and 1. For instance, a weight of 0.50 means that 50% of the workforce in that profession can work from home.
- We then merge this identified classification with occupational employment counts given in the Labour Force Survey of Pakistan 2017-18

Table 1: Work from Home by Major Occupation Groups (%)

Group	Occupation: PSCO-2015 Major Groups	Share of Jobs from Home
MG-1	Managers	0.80
MG-2	Professionals	0.71
MG-3	Technicians and Associate Professionals	0.39
MG-4	Clerical Support Workers	0.60
MG-5	Services and Sales Workers	0.26
MG-6	Skilled Agricultural, Forestry and Fishery	0.19
MG-7	Craft and Related Trades Workers	0.03
MG-8	Plant and Machine Operators and Assemblers	0.00
MG-9	Elementary Occupations	0.00

*Note: Authors' calculations based on O*NET data provided by Dingel and Neiman (2020), PSCO's occupation classification, and Labour Force Survey 2018.*

¹PIDE COVID-19 Bulletin No. 4 suggests that between 15 and 18 million employees might lose their job due to the social distancing measures in Pakistan. The USA observed 6.6 million layoffs weekly: up to this date more 20 million workers have already lost their jobs.

provinces, Sindh and Balochistan have higher possibilities of working from home. It is surprising to see that Punjab has relatively smaller possibilities of work from home compared to Sindh and Balochistan. The primary reason of low possibilities of working for home is the differences in concentration of various occupations across the provinces.

Figure 1: Work from Home in Pakistan (% employees)



*Note: Authors' calculations based on O*NET data provided by Dingel and Neiman (2020), PSCO's occupation classification, and Labour Force Survey 2018.*

Next, we look at provincial variations in the proportion of jobs that could be performed from home. Table 2 shows that there is a substantial variation among the provincial concentration of professions. For example, professionals are more concentrated in KP, skilled agriculture workers in Punjab and Balochistan, while Sindh has relatively more technicians and associate professionals.

Table 2: Work from Home by Provinces and Major Occupational Groups (%)

Occupation, ISCO 1 digit	Pakistan	KP	Punjab	Sindh	Balochistan
Managers	1.83	1.48	1.74	2.19	2.19
Professionals	3.62	4.54	3.29	3.98	3.84
Technicians and Associate Professionals	1.50	1.40	1.40	1.82	1.54
Clerical Support Workers	0.85	0.76	0.76	1.07	1.03
Service and Sales Workers	4.23	4.06	3.92	4.92	5.46
Skilled Agricultural, Forestry and Fishery Workers	6.01	5.55	6.27	5.50	6.40
Craft and Related Trade Workers	0.44	0.49	0.47	0.37	0.23
Plant and Machine Operators, and Assemblers	0.00	0.00	0.00	0.00	0.00
Elementary Occupations	0.00	0.00	0.00	0.00	0.00
Total	18.5	18.3	17.8	19.9	20.7

*Note: Authors' calculations based on O*NET data provided by Dingel and Neiman (2020), PSCO's occupation classification, and Labour Force Survey 2018.*

In Figure 2, we map the share of employment that can operate from home in both developed and developing countries. The figure shows that the rich countries have higher possibilities of working from home. The workforce that can work remotely in these countries varies between 35% and 45%. In developing countries, we see that such variation is between 10% to 20%. Pakistan, however, stand at a respectable position on this ladder among the developing world. The striking pattern in Figure 2 suggests that developing economies and emerging markets may face an even greater challenge in continuing to work during periods of stringent social distancing.

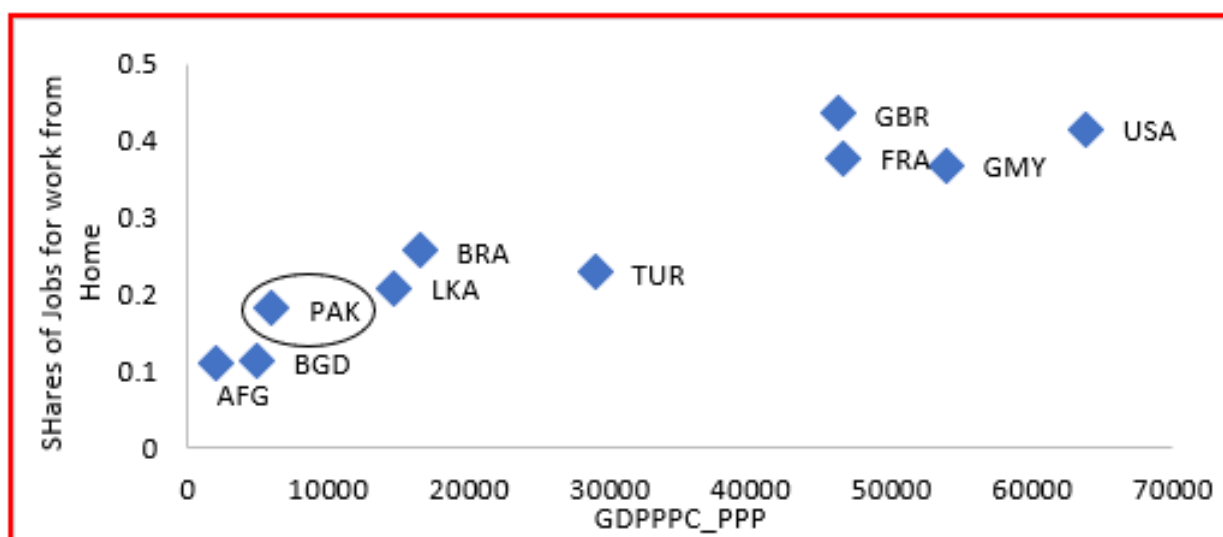
²We use Pakistan Standard Classification of Occupations (PSCO) 2015 which is in conformity with the International Standard Classification of Occupations (ISCO).

The occupation categories arranged from Major group (MG) digit 1, sub-major group digit 2, minor group digit 3, unit group digit 4, and the digit 5 sub-unit group.

We consolidate our results for digit 1 and digit 2 (given in appendix)

³The analysis in millions provided in Table A2 in Appendix.

Figure 2: Share of Jobs for Work from Home



Note: Dingle and Neiman (2020) study estimates for other countries have been used to plot the share of jobs which can be done from home

Concluding Remarks

Smart lockdown is the way ahead for Pakistan. The country should intelligently utilise this 19% labour force that can work remotely. The government can coordinate with private sector to adopt this option. This will help reduce the burden of government to compensate the laid off workers as well as to keep the economy functioning. The provincial analysis can help the respective governments to better target sectors for their compensation packages.

This estimated figure of 19% of workforce that can work from home has the capacity to increase. There are occupations such as service and sales, craft and related trade, and clerical support that have huge potential where the work from home capability can be increased. For instance, retail and trade has been the highly hit sector by the COVID-19. This would have not been the case if this sector had provided the option of online shopping and delivery.

We should increase the scope for working remotely in all professions where possible. This is especially true for all professional and academic meetings and conference. For instance, PIDE conducted two webinars last week which were attended by more than 100 participants with zero cost. Webinar effectively reduces the cost (including costs incurred due to travel and lodging) of organizing such an event to nothing. Hence, even post-COVID, we should promote an idea of working remotely wherever possible.

APPENDIX

Table A1: Work from Home by Provinces and Major Occupational Groups (in millions)

Occupation, ISCO 1 digit	Pakistan	KP	Punjab	Sindh	Balochistan
Managers	1.16	0.11	0.67	0.32	0.05
Professionals	2.29	0.34	1.27	0.59	0.10
Technicians and Associate Professionals	0.95	0.10	0.54	0.27	0.04
Clerical Support Workers	0.54	0.06	0.29	0.16	0.03
Service and Sales Workers	2.68	0.30	1.51	0.72	0.14
Skilled Agricultural, Forestry and Fishery Workers	4.01	0.44	2.55	0.85	0.17
Craft and Related Trade Workers	0.28	0.04	0.18	0.05	0.01
Plant and Machine Operators, and Assemblers	0.00	0.00	0.00	0.00	0.00
Elementary Occupations	0.00	0.00	0.00	0.00	0.00
Total	11.90	1.39	7.01	2.96	0.53

Note: Authors' calculations based on O*NET data provided by Dingel and Neiman (2020), PSCO's occupation classification, and Labour Force Survey 2018.

Table A2: Work from Home by Sub-Major Groups (%)

ISCO Codes	Occupations	Weights	ISCO Codes	Occupations	Weights
Share >=20%			Share=0		
9	Software and applications developers and analysts	1.00	6	Health professionals	0.05
10	Database and network professionals	1.00	13	Health associate professionals	0.02
16	General and keyboard clerks	1.00	20	Personal Services	0.01
18	Numerical and material recording clerks	1.00	12	Science and engineering associate professionals	0.00
1	Chief executives, senior officials and legislators	0.98	23	Protective services workers	0.00
2	Administrative and commercial managers	0.98	26	Subsistence farmers, fishers, hunters and gatherers	0.00
7	Teaching professionals	0.80	27	Building and related trades workers, excluding electricians	0.00
8	Business and administration professional	0.80	28	Metal, machinery and related trades workers	0.00
11	Legal, social and cultural professionals	0.76	30	Electrical and electronic trades workers	0.00
3	Production and specialised services managers	0.50	31	Food processing, wood working, garment and other craft and related trades workers	0.00
14	Legal, social, cultural and related associate professionals	0.50	32	Stationary plant and machine operators	0.00
15	Information and communications technicians	0.50	33	Assemblers	0.00
4	Hospitality, retail and other services managers	0.30	34	Drivers and mobile plant operators	0.00
17	Customer services clerks	0.30	35	Cleaners and helpers	0.00
21	Sales workers	0.28	36	Agricultural, forestry and fishery labourers	0.00
22	Personal care workers	0.26	37	Labourers in mining, construction, manufacturing and transport	0.00
24	Market-oriented skilled agricultural workers	0.25	37	Food preparation assistants	0.00
25	Market-oriented skilled forestry, fishery and hunting workers	0.25	38	Street related sales and service workers	0.00
29	Handicraft and printing workers	0.25	39	Refuse workers and other elementary workers	0.00
5	Science and engineering professionals	0.20			
19	Other clerical support workers	0.20			

*Note: Authors' calculations based on O*NET data provided by Dingel and Neiman (2020), PSCO's occupation classification, and Labour Force Survey 2018.*