

THE VULNERABILITY OF JOBS TO COVID-19: THE CASE OF MALAYSIA

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Social Protection & Jobs

Summary

Approach

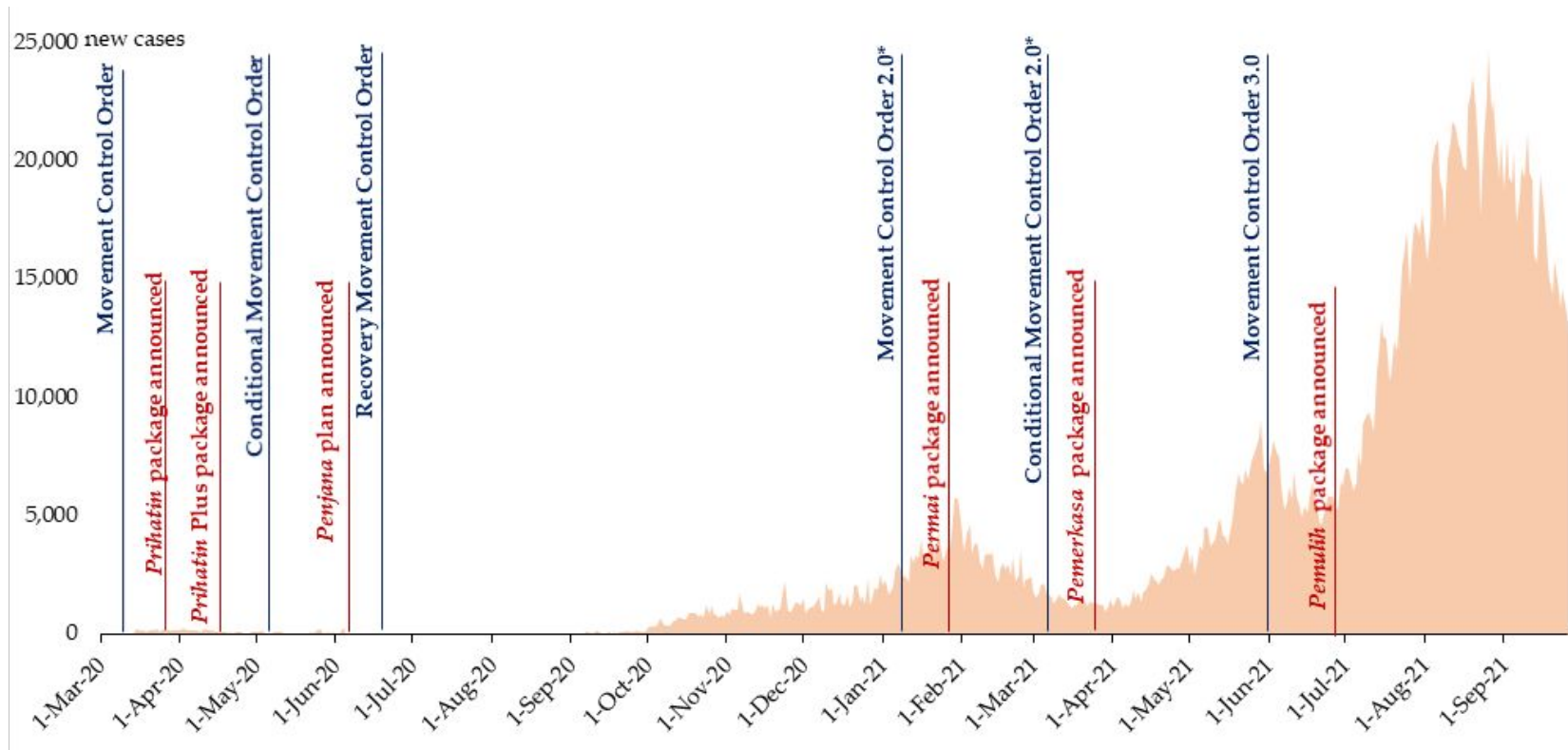
- ❑ The study follows the methodology employed in Dingel and Neiman (2020), Garrote Sanchez et al. (2020) and Mongey et al. (2020)
- ❑ The ability to work from home (adjusted for internet access) and extent of physical proximity at work based on O*NET scores for each occupation is applied to Malaysian data to estimate the extent and distribution of jobs most vulnerable to COVID-19
- ❑ This distribution is analyzed across a number of socioeconomic variables (i.e. income, education, gender, urban-rural location, employment status)

Findings

- ❑ 64.5 percent of jobs in Malaysia are not conducive to home-based work (adjusted for internet access) and 50.9 percent require high levels of physical proximity
- ❑ Workers most vulnerable to COVID-19 are also most vulnerable overall
- ❑ Further rounds of cash transfers targeted at the B40 might be necessary as long the crisis persists

Introduction

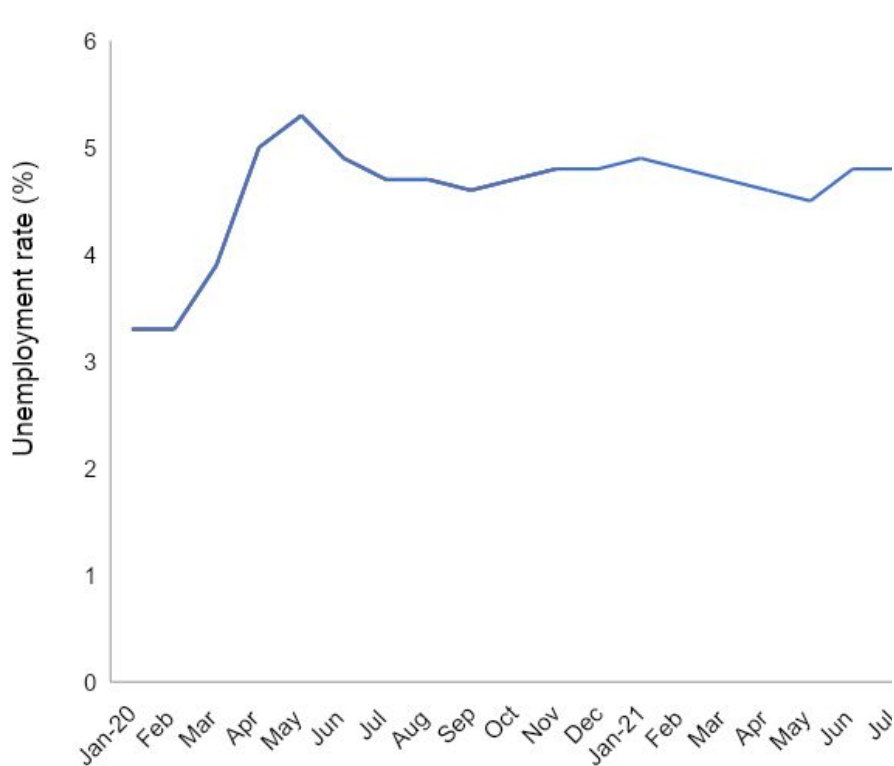
The recent spike in COVID-19 cases has led to a (re)tightening of mobility restrictions...



Source: Ministry of Health

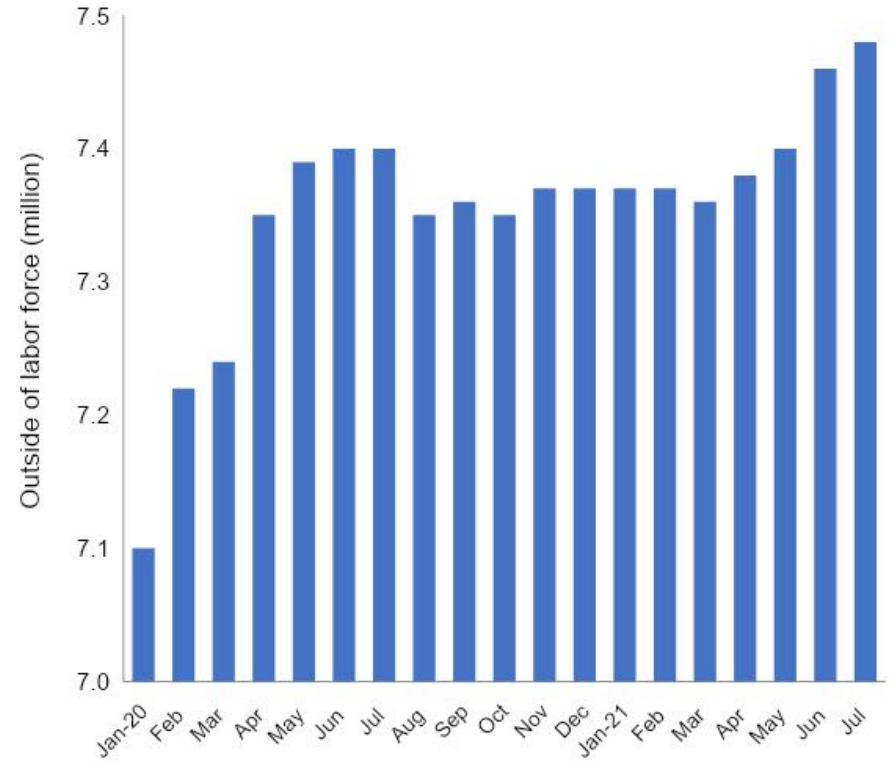
...causing further concerns of exacerbated unemployment and people leaving the labor force

Unemployment rate, January 2020 to July 2021



Source: DOSM.

Working age population outside of the labor force, January 2020 to July 2021



Source: DOSM.

Research objective

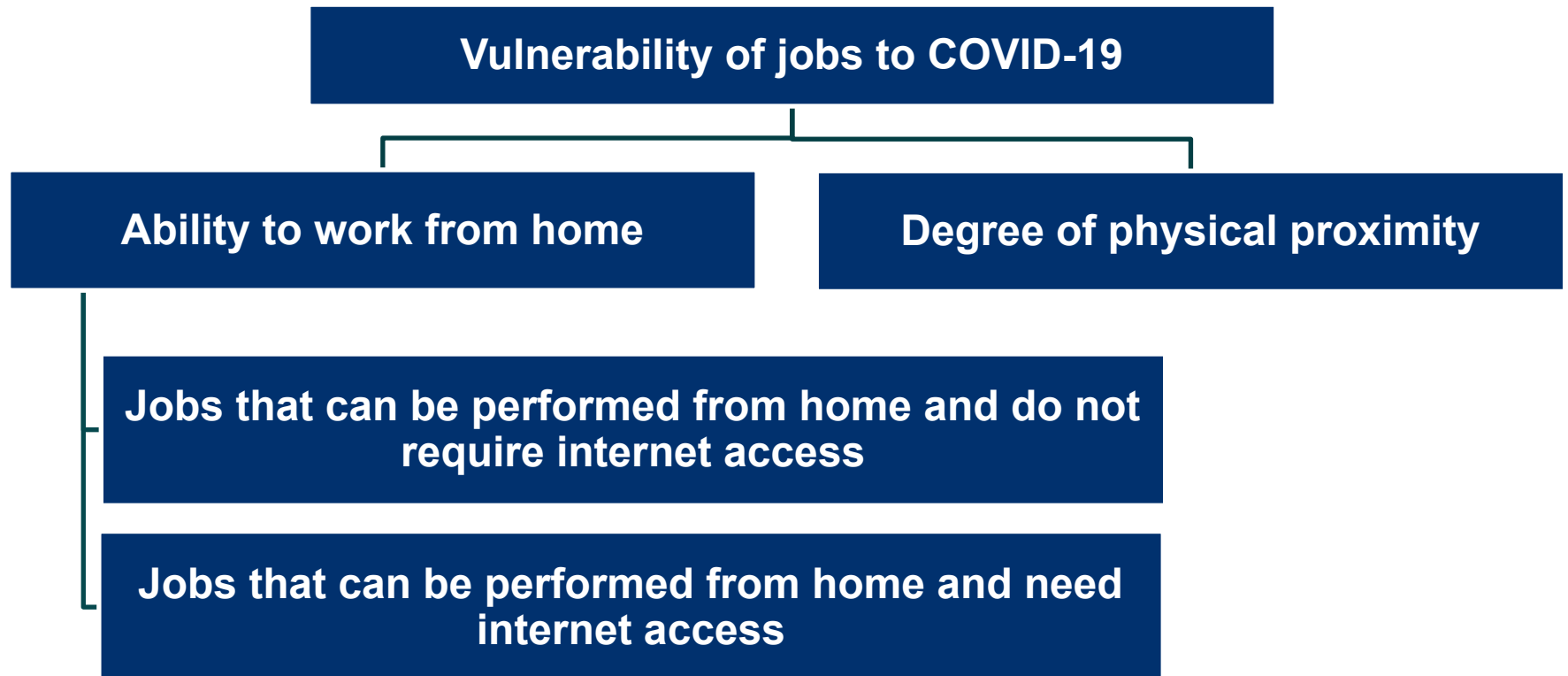


What is the extent and distribution of jobs most vulnerable to COVID-19 in Malaysia?

Methodology

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- The methodology was adopted from Dingel and Neiman (2020), Garrote Sanchez et al. (2020) and Mongey et al. (2020)



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A job is less vulnerable to COVID-19 if it can be performed from home (adjusted for internet access) and requires low levels of physical proximity

Data sources

- **America's Occupational Information Network (O*NET)**
 - **Ability to work from home**
 - **Importance and frequency of e-mail use**
 - **Degree of physical proximity**
- **Department of Statistics Malaysia**
 - **Internet access by administrative district**
 - **Socioeconomic variables (income, education, gender, urban-rural location, and employment status)**

O*NET indicators



Ability to work from home

- Measured as a binary indicator for each job, following Dingel and Neiman (2020)
 - **Work context:**
 - For example, they spent majority of time wearing common or specialized, protective or safety equipment; working outdoors;
 - **Generalized work activities:**
 - For example, operating vehicles, mechanized devices, or equipment, performing for or working directly with the public
 - **Adjusted for internet importance and access:**
 - For example, how often they use electronic mail in this job

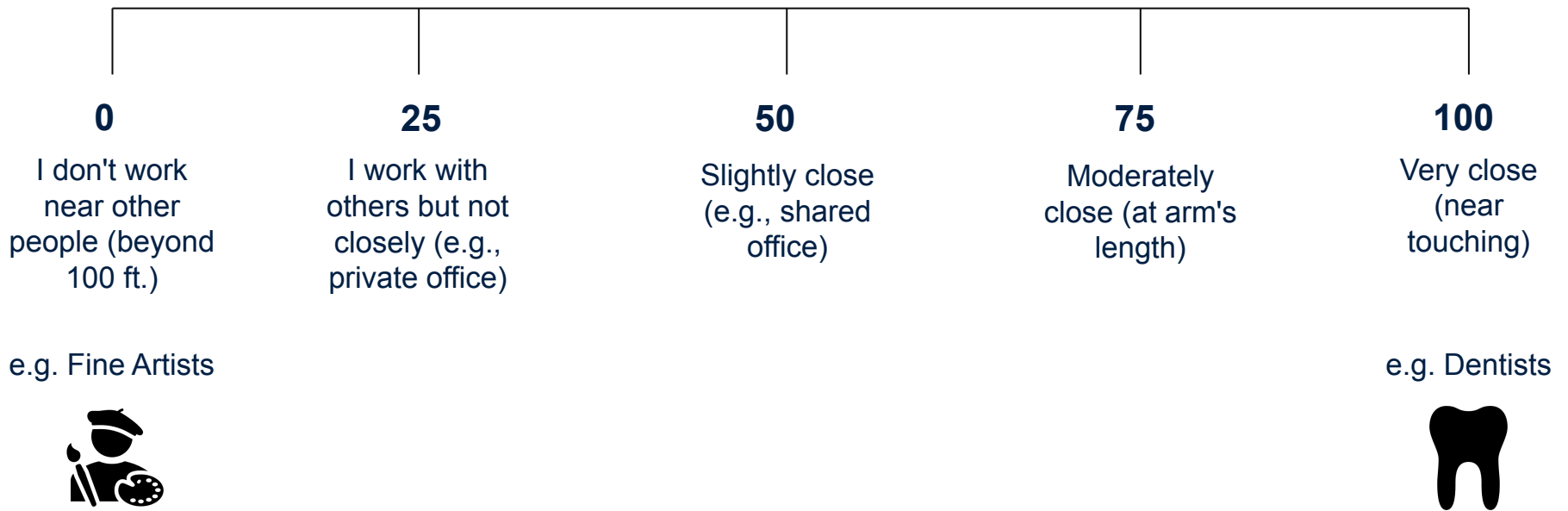


Physical proximity

- A job is considered as requiring high physical proximity if the physical proximity required for the job is higher than the average for all jobs
 - **Work context:**
 - To what extent does this job require the worker to perform job tasks in close physical proximity to other people?

O*NET indicators: Physical proximity

To what extent does this job require the worker to perform job tasks in close physical proximity to other people?



Findings

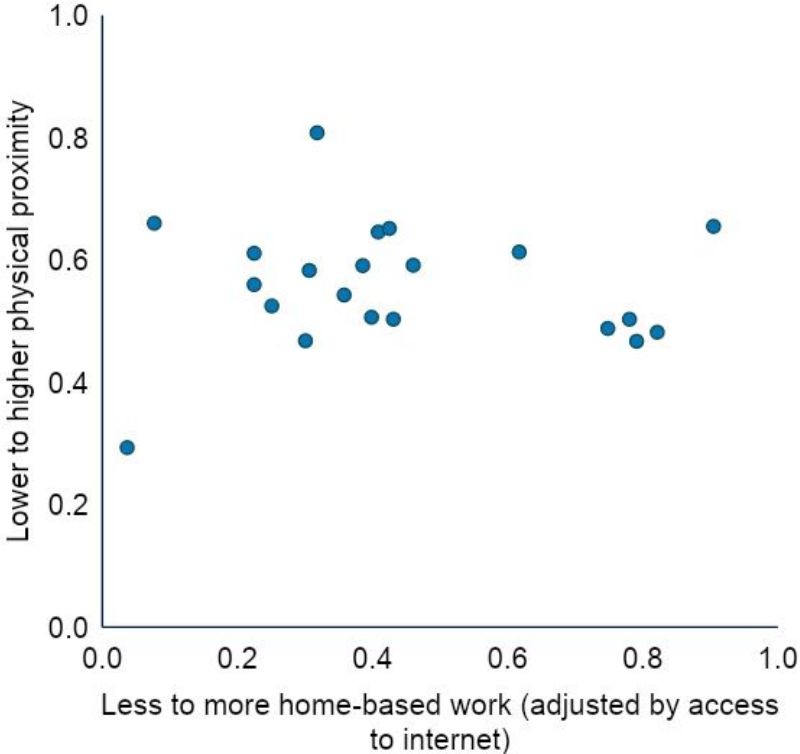
Findings



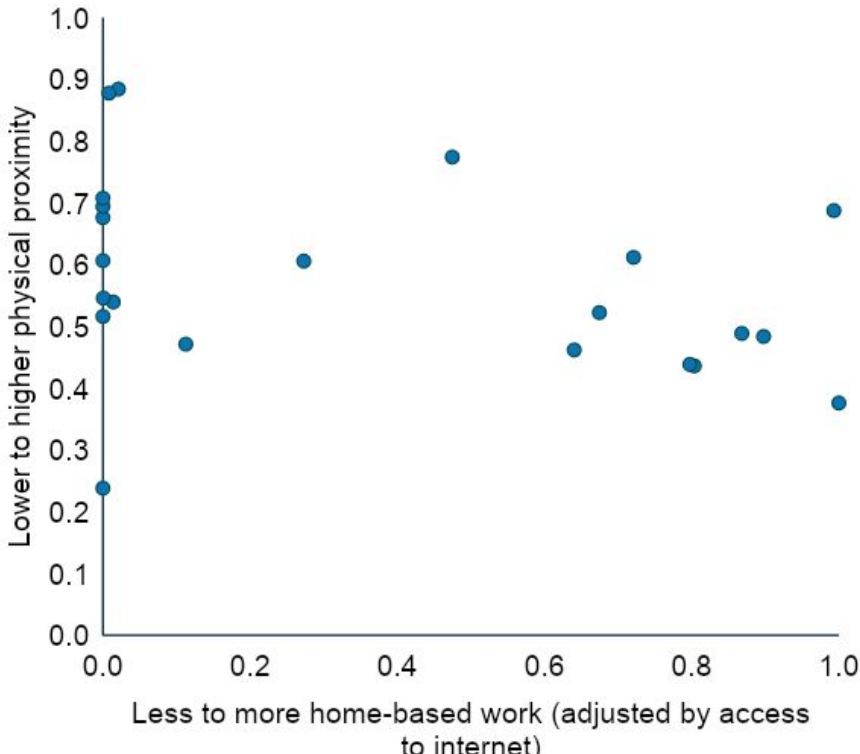
64.5 percent of jobs in Malaysia are not conducive to home-based work (adjusted for access to the internet) and **50.9** percent require high levels of physical proximity, making them most vulnerable during the COVID-19 crisis

Certain sectors and occupations are more vulnerable than others...

Ability to work from home and level of physical proximity by sector



Ability to work from home and level of physical proximity by occupation

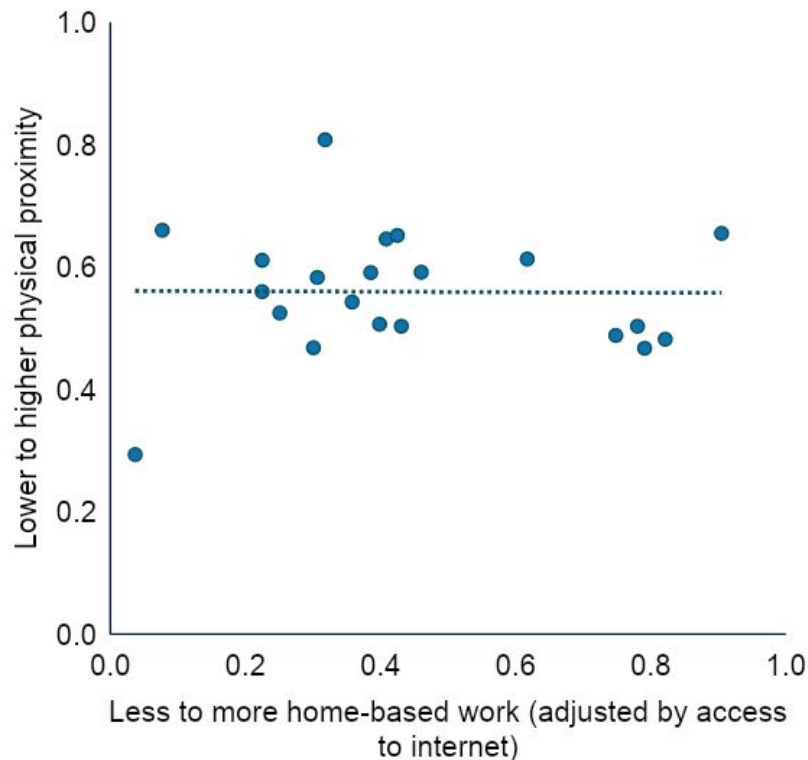


Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

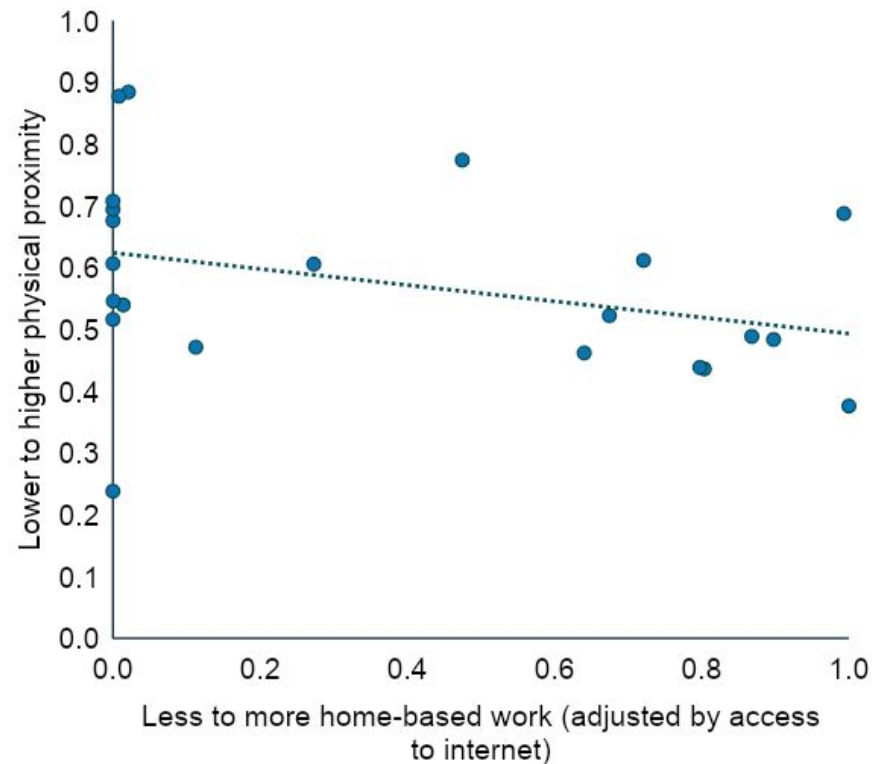
Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

...with a modest correlation between ability to work from home and degree of physical proximity

Ability to work from home and level of physical proximity by sector



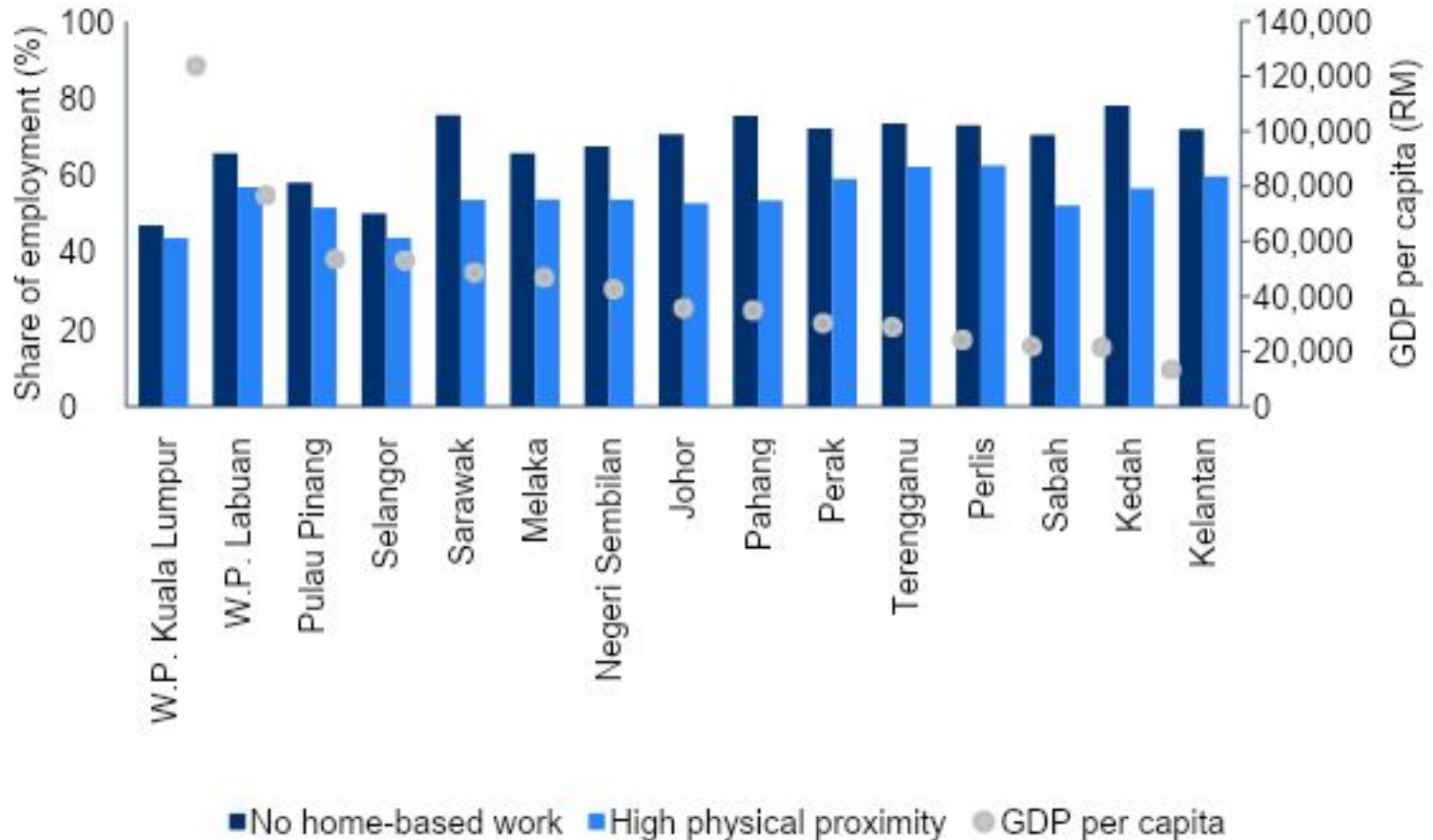
Ability to work from home and level of physical proximity by occupation



Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

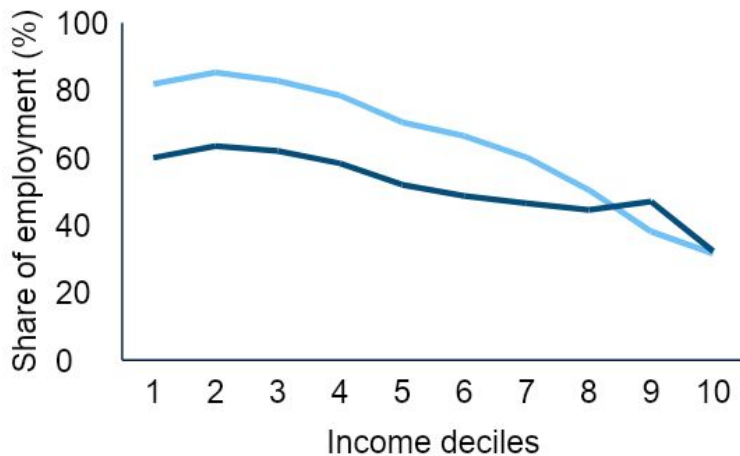
Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

Less developed states are more affected by mobility restrictions



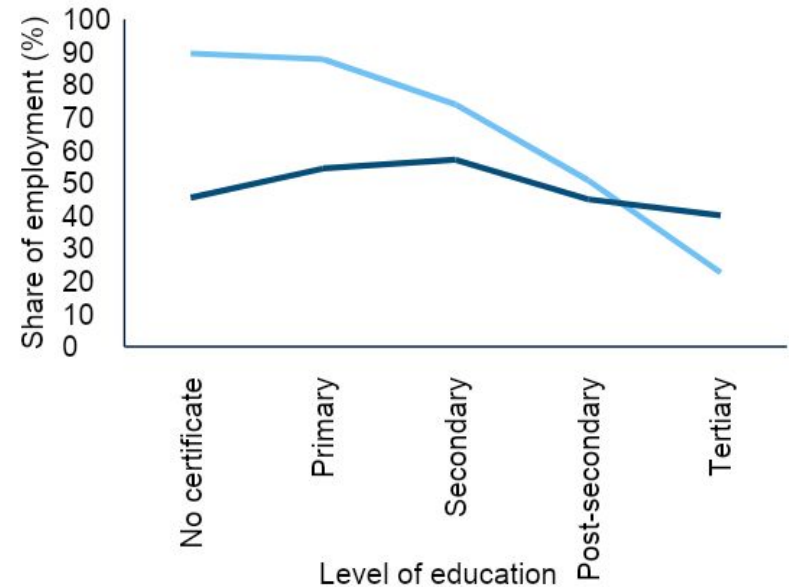
The jobs of workers with relatively low levels of income and education are most vulnerable to COVID-19

Share of employment by ability to work from home, physical proximity and **income**



— No home-based work (adjusted by access to internet)
 — High physical proximity

Ability to work from home and level of physical proximity by **education level**



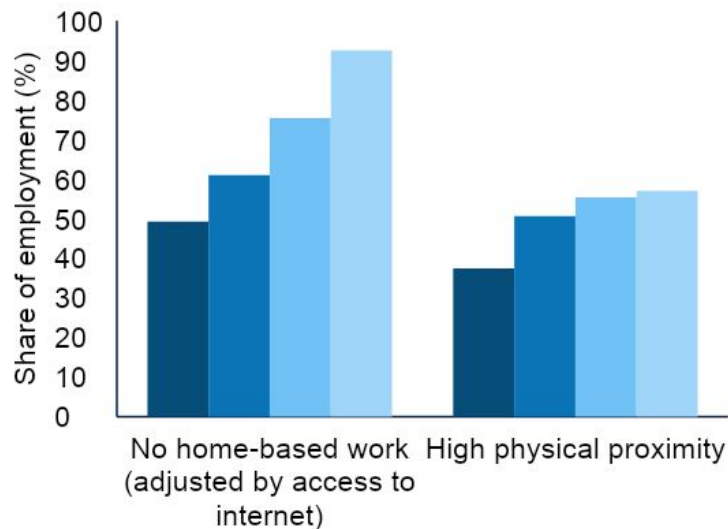
— No home-based work (adjusted by access to internet)
 — High physical proximity

Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

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Own account workers, unpaid family workers and those at advanced or very young ages are also particularly vulnerable

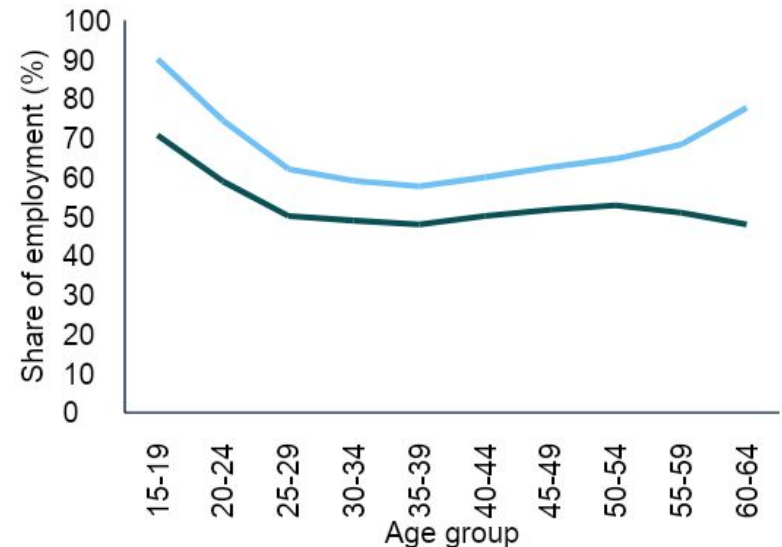
Share of employment by ability to work from home, physical proximity and **employment status**



■ Employer
■ Employee
■ Own account worker
■ Unpaid family worker

Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

Share of employment by ability to work from home, physical proximity and **age group**

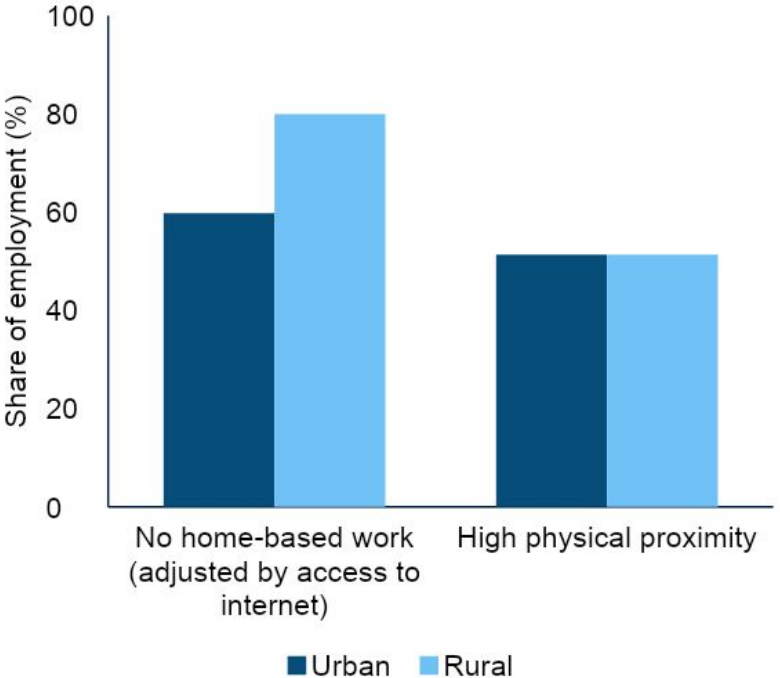


— No home-based work (adjusted by access to internet)
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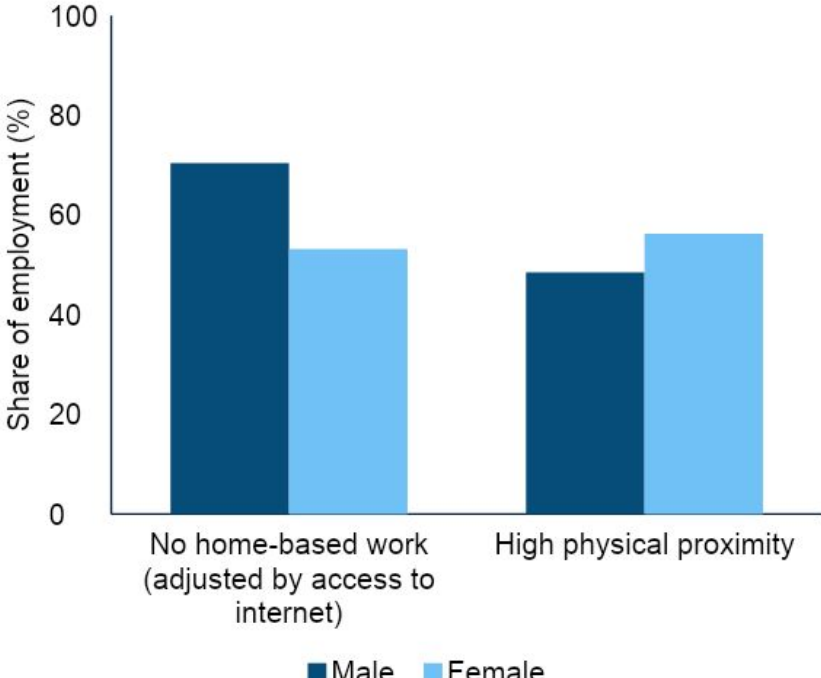
Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

Workers from rural areas and men are more likely to have jobs that cannot be performed from home

Share of employment by ability to work from home, physical proximity and **location**



Share of employment by ability to work from home, physical proximity and **gender**



Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

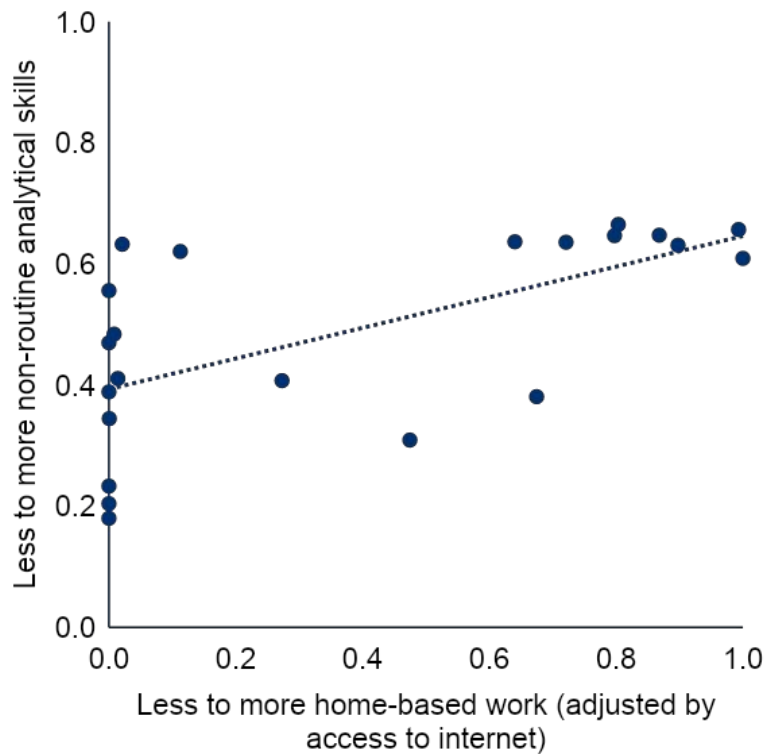
Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

Skills and the ability to work from home

- **Acemoglu and Autor (2011) use O*NET indicators to measure:**
 - **Non-routine cognitive analytical skills**
 - **Non-routine cognitive interpersonal skills**
 - **Non-routine manual physical skills**
 - **Routine cognitive skills**
 - **Routine manual skills**
- **Jobs that can be performed from home are relatively more likely to require non-routine cognitive analytical and interpersonal skills, and routine cognitive skills**
 - **Acemoglu and Autor's (2011) approach was applied to Malaysian data to identify the relationships between these skills and the ability to work from home**

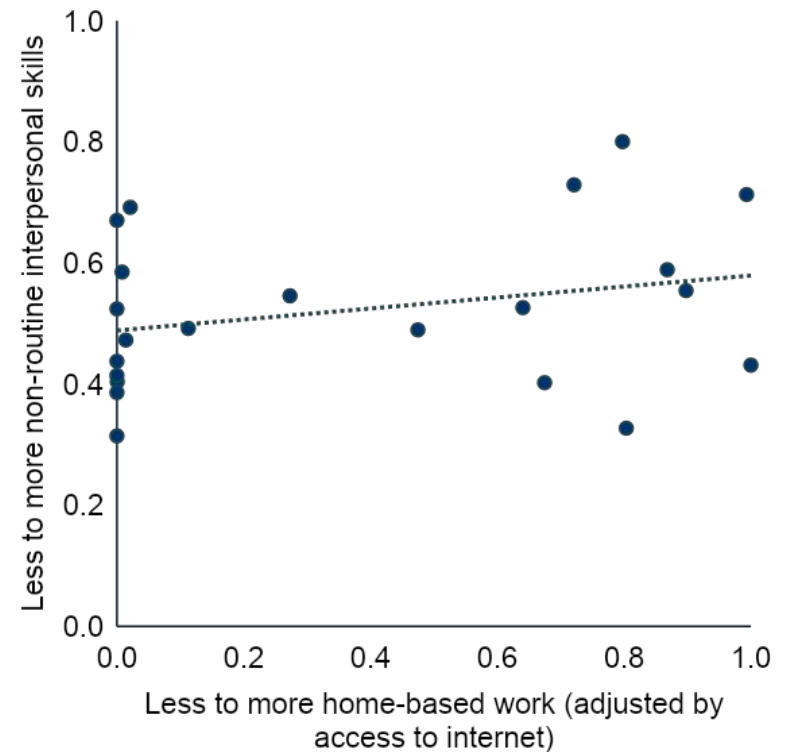
The ability to WFH and the requirement for non-routine cognitive and socio-behavioral skills are positively linked...

Ability to work from home and importance of **non-routine cognitive analytical skills** by occupational groups



Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

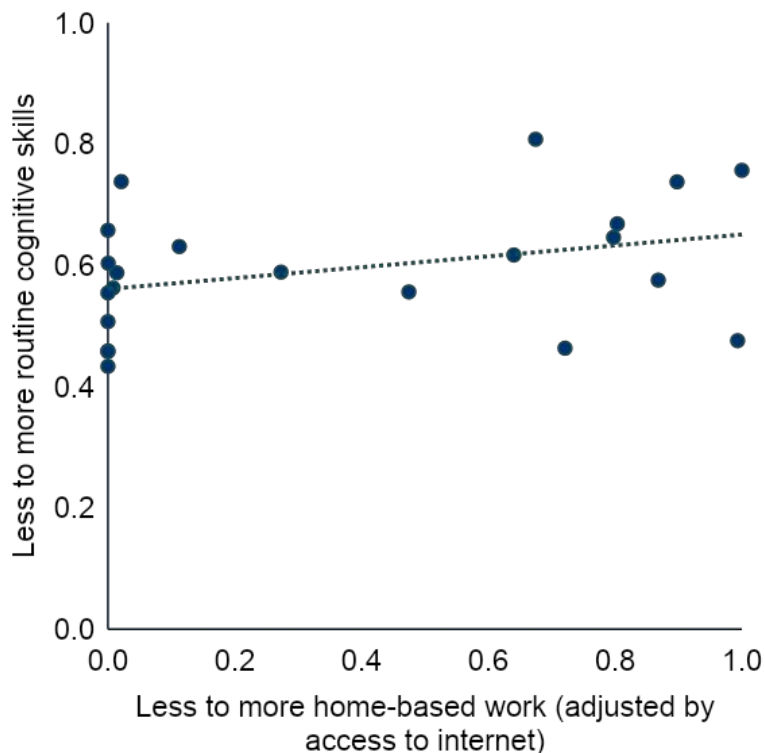
Ability to work from home and importance of **non-routine interpersonal skills** by occupational groups



Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

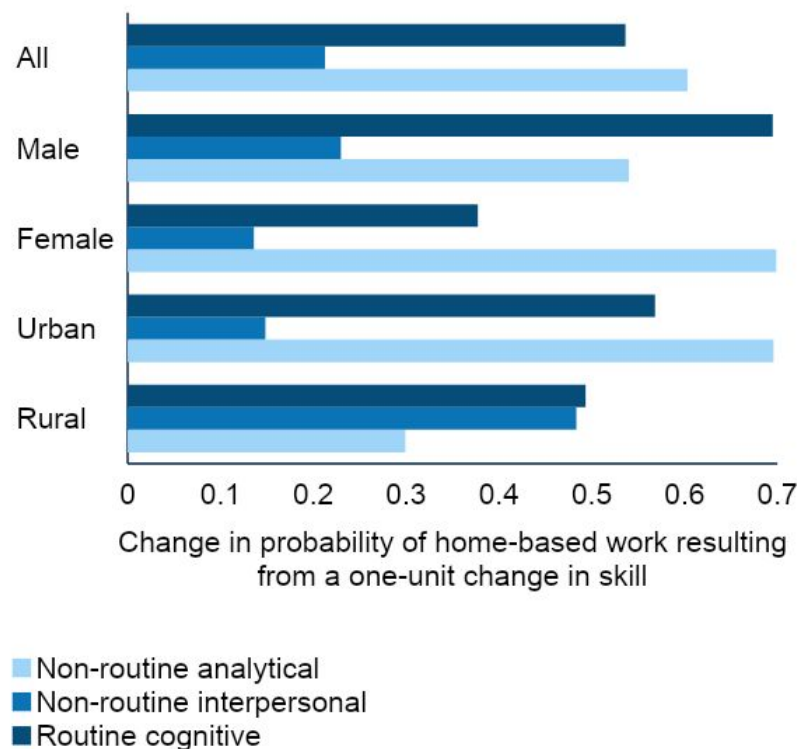
...with non-routine cognitive analytical skills being the most important correlate of being able to work from home

Ability to work from home and importance of **routine cognitive skills** by occupational groups



Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

Change in probability of home-based work



Source: Authors' calculations based on Dingel and Neiman (2020), Garrote Sanchez et al. (2020), O*NET and Department of Statistics Malaysia

Conclusion

- **Workers most vulnerable to COVID-19 are also most vulnerable overall, and they include:**
 - **low-income earners**
 - **workers with relatively low levels of educational attainment,**
 - **own account and unpaid family workers, and**
 - **workers from rural areas.**
- **These kinds of workers also tend to have informal jobs unprotected by formal social insurance**
- **Further rounds of cash transfers targeted at the B40 might be necessary as long the crisis persists**
- **There is an increased and urgent need for skills-building programs that can enhance workers' non-routine cognitive analytical skills and non-routine interpersonal skills**

THANK YOU!



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