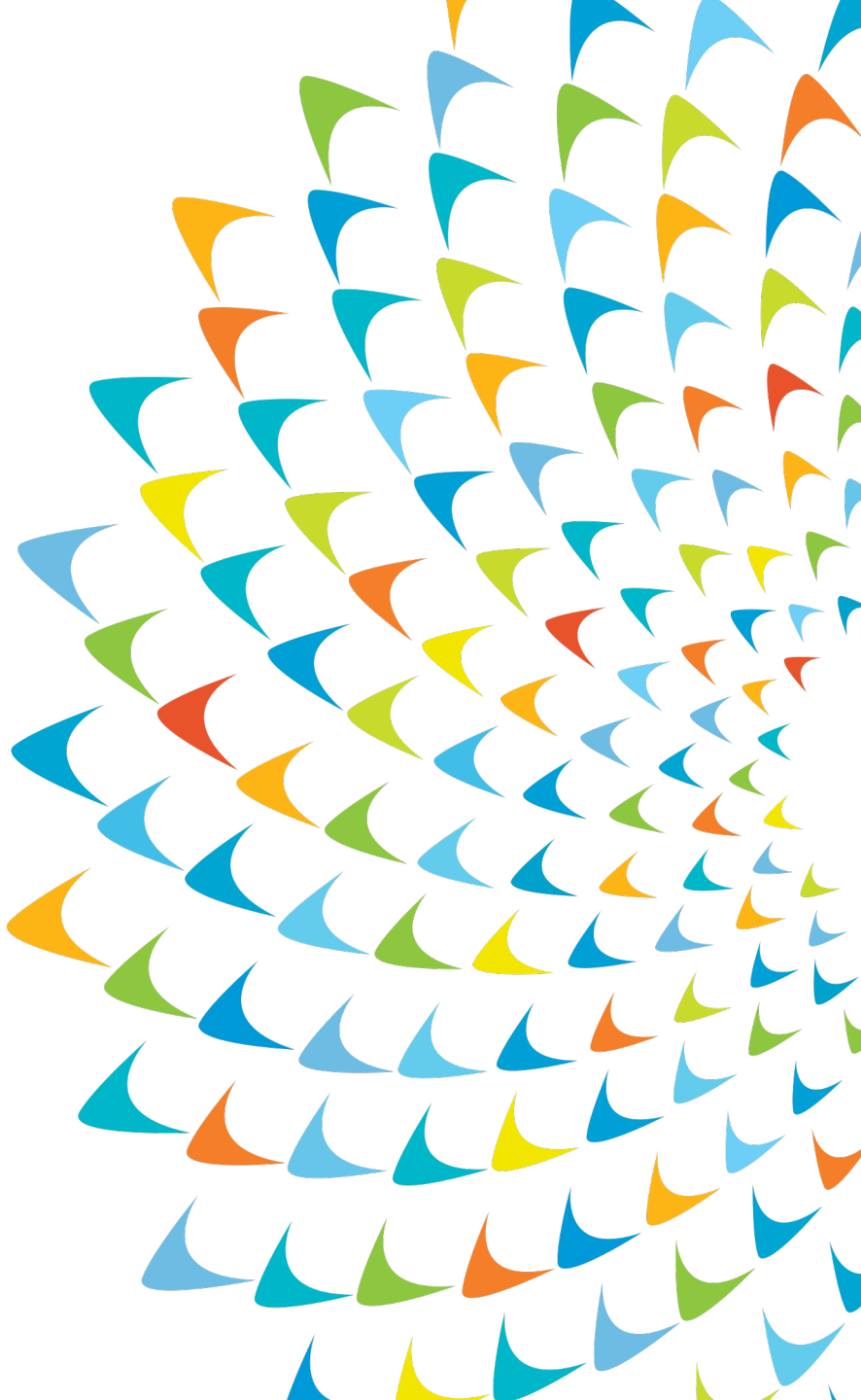
COVID-19 and labor market adjustments in Southeast Asia: Who has been hurt and what policies have mitigated the impact?



ASSA 2022 Virtual Annual Meeting

Sameer Khatiwada | 09 Jan 2022

(with Souleima El Achkar, Rosa Mia Arao, and Ian Nicole Generalao)

Outline

1. Context, research questions and objectives

2. Data and Methods

3. Main findings

    3.1. Impact channels and aggregate effects

    3.2. Transitions across labor force statuses by age and sex cohorts

    3.3. Transition within employment: labor reallocation and sectoral effects

    3.4. Intensive margins of adjustment: working hour reductions

    3.5. Differential effects of the pandemic across workers and firms

4. What policies have mitigated the impact? Social protection and labor markets in Southeast Asia

5. Next steps

1. Context, research questions and objectives

- *How did labor markets in Southeast Asia adjust to the COVID-19 shock? Who has been hurt (the most)?*
  - Provide **a detailed account** of COVID-19 impacts on the labor markets of five Southeast Asian countries (Indonesia, Malaysia, Philippines, Thailand and Viet Nam), by:
    - Examining the ***scale and shape of impacts and adjustment patterns***, driven by various ***contextual and institutional factors at the country level***, using LFS microdata
    - Identifying ***vulnerable groups***
- *What policies have mitigated the impact on jobs and incomes?*
  - Make a **tentative assessment of social response policies** implemented across the region, by:
    - Juxtaposing policies with the labor market impacts and adjustment patterns
    - Through a comparative analysis of policy measures (coverage, adequacy and extent to which they have sought to fill pre-existing social protection gaps)

2. Data and methods
2.1 Data

- **Data on labor market impacts/ adjustments:**
  - **Labor force survey (LFS) microdata** obtained from national statistics offices (NSOs) for Indonesia, the Philippines, Thailand, and Viet Nam. Quarterly datasets for 2019 and 2020, except for Indonesia (bi-annually: February and August)
  - **Alternative and supplementary sources**, including NSO websites and publications, the Asian Development Bank Institute (ADBI)'s household surveys in ASEAN countries

- **Data on social protection and policy responses:**
  - **International Labor Organization (ILO)'s Social Protection report 2017-2019**
    - Legal and effective social protection coverage
  - **World Bank's Atlas of Social Protection - Indicators of Resilience and Equity (ASPIRE) database**
    - Coverage, adequacy and incidence to the poorest population segments
  - **International Policy Centre for Inclusive Growth (IPC-IG) 'Social Protection Responses to COVID-19 in the Global South' database**
    - Detail on type of intervention, timing, coverage, adequacy, target group, financing, etc.

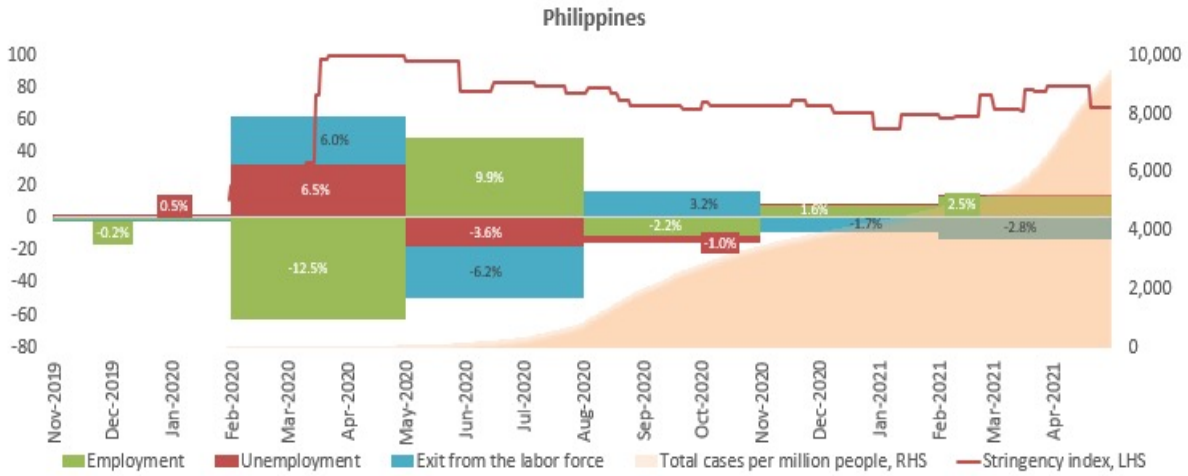
2.2 Methods

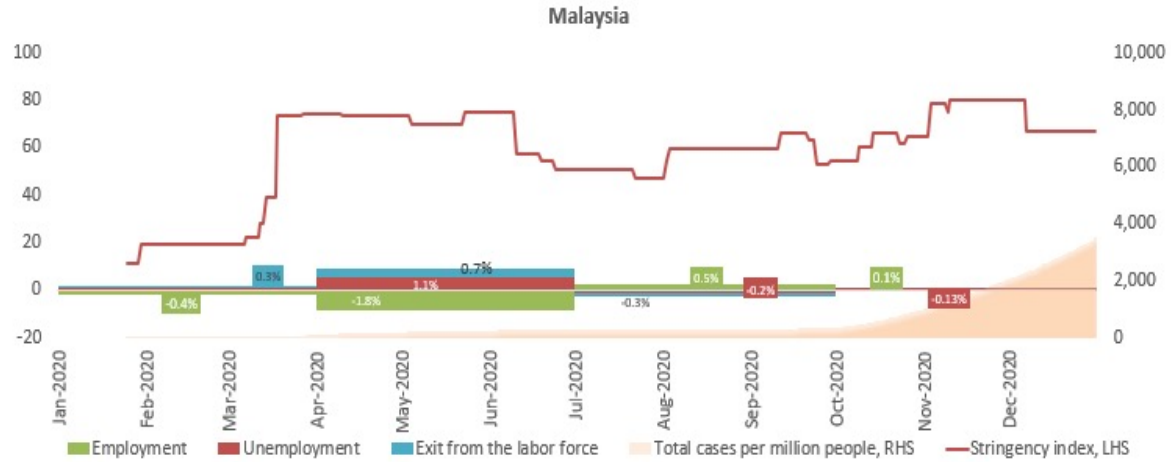
- Use **pseudo-panels** constructed by sex and age cohorts to follow the progression of demographic groups ***across*** labor force statuses and transitions ***within*** employment, across quarters in 2020
- Disaggregate impacts along various dimensions to identify **vulnerable/affected groups** : (i) formal/informal employment; (ii) type of work arrangement (e.g., temporary, short-term, daily workers); (iii) occupational group or skill-level; and (iv) enterprise size
- **Decomposition of total working hour losses** to assess to which extent intensive and extensive margins of adjustment were used at different stages of the crisis
- Explore which **factors correlate with use of intensive/ extensive margins** at the sectoral level, including '**teleworkability**' indices (Generalao, 2021)
- Take stock of response measures (labor market and employment protection policies, social assistance and social insurance measures), **juxtaposing policies with labor market impacts and outcomes**, and provide a **comparative analysis** of their adequacy and potential effectiveness

3. Key findings
3.1. Impact channels and aggregate effects

COVID-19 impacts have differed across countries in terms of scale and shape —*driven by contextual and institutional factors*

COVID-19 cases, stringency of containment measures, and net labor market transitions





Source: Labor force surveys, various countries; Stringency index and COVID-19 cases from Our World in Data. COVID-19 Data Explorer. Retrieved July 09, 2021 from https://ourworldindata.org/coronavirus

COVID-19 cases, stringency of containment measures, and net labor market transitions

Source: Labor force surveys, various countries; Stringency index and COVID-19 cases from Our World in Data. COVID-19 Data Explorer. Retrieved July 09, 2021 from https://ourworldindata.org/coronavirus

Key labor market indicators

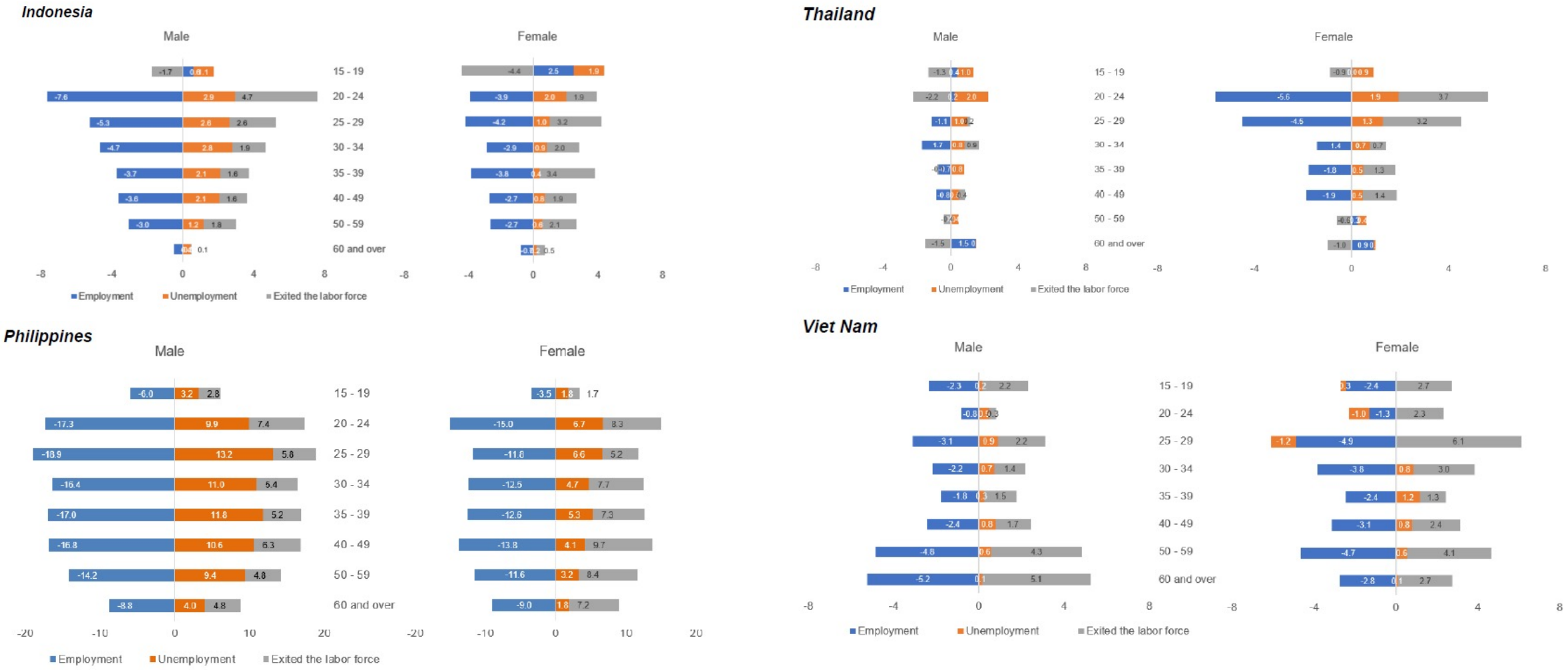
	Indonesia			Malaysia			Philippines			Thailand			Vietnam		
	EPR	UR	LFPR	EPR	UR	LFPR	EPR	UR	LFPR	EPR	UR	LFPR	EPR	UR	LFPR
Q1 2019	65.8	5.0	69.3				57.0	5.2	60.2	67.1	0.9	67.8	69.1	2.1	70.6
Q2 2019							58.2	5.1	61.4	67.1	1.0	67.8	68.8	2.0	70.2
Q3 2019	64.0	5.2	67.5				58.7	5.4	62.1	66.3	1.0	67.0	68.5	2.0	69.9
Q4 2019				66.8	3.2	69.1	58.7	4.5	61.5	66.3	1.0	66.9	69.2	2.0	70.6
Q1 2020	65.8	4.9	69.2	66.4	3.5	68.8	58.4	5.3	61.7	66.4	1.0	67.1	67.6	2.1	69.1
Q2 2020				64.6	5.1	68.1	45.9	17.6	55.7	65.7	2.0	67.0	64.9	2.6	66.6
Q3 2020	63.0	7.1	67.8	65.2	4.7	68.4	55.8	10.0	61.9	67.3	1.9	68.6	67.2	2.5	68.9
Q4 2020				65.2	4.8	68.5	53.6	8.7	58.7	66.7	1.9	68.0	68.0	2.4	69.7
Q1 2021	63.6	3.9	66.1	65.3	4.8	68.6	55.2	8.7	60.5	65.9	1.4	66.9	66.8	2.1	68.2
Q2 2021													66.5	2.4	68.1

Notes: EPR = employment-to-population ratio, LFPR = labor force participation rate, Q = quarter, UR = unemployment rate. The working population in Malaysia is 15–64 years old; in other countries, it is 15+ years old. For Indonesia, Q4 2019 is August 2019; Q1 2020 is February 2020; Q3 2020 is August 2020; Q1 2021 is February 2021. Data for Viet Nam in this table are based on the new standard definition of employment, consistently with the International Conference of Labour Statisticians 2019 (ICLS 2019) recommendation.
Source: Labor force survey of various countries.

3.2. Transitions across labor force statuses by age and sex cohorts

Job losses peaked in Q2-2020, with significant declines for all age and sex cohorts… *more exits from labor force following job loss among women, raising risks of lasting disruptions to their working lives*

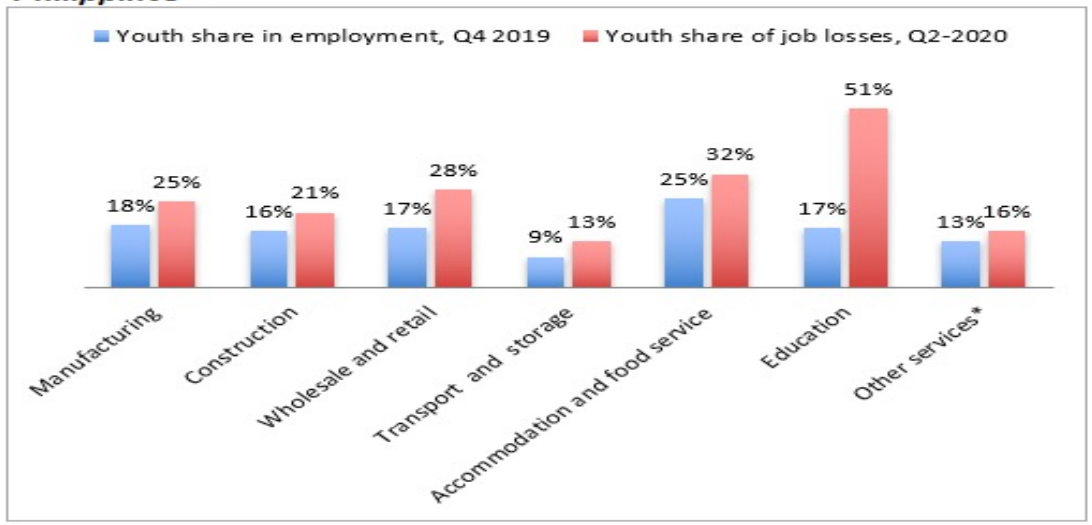
Transitions across labor force statuses by age and sex cohort, Q2-2020



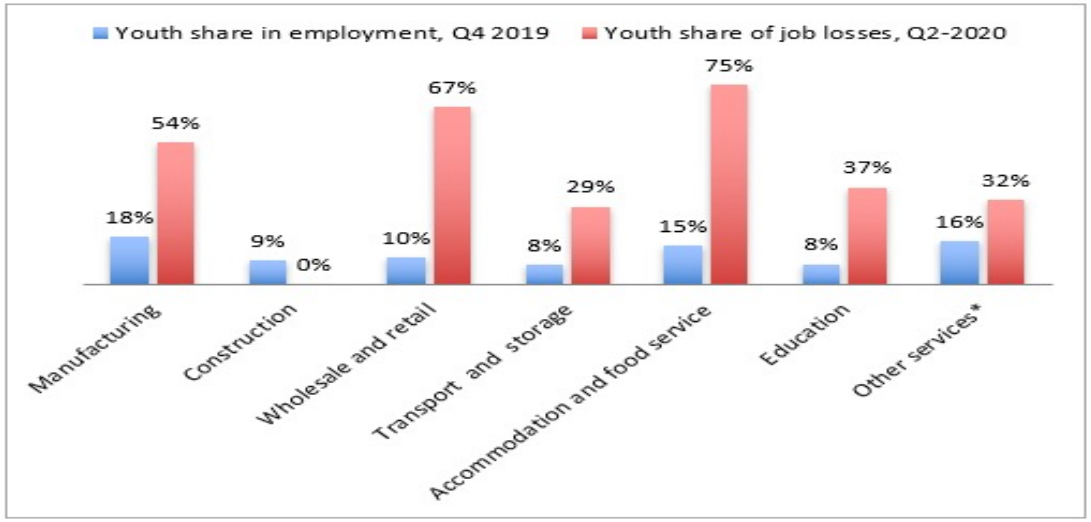
Youth share in job losses higher than their share in employment across most heavily affected sectors

Youth share in sectoral employment and in job losses Q2-2020

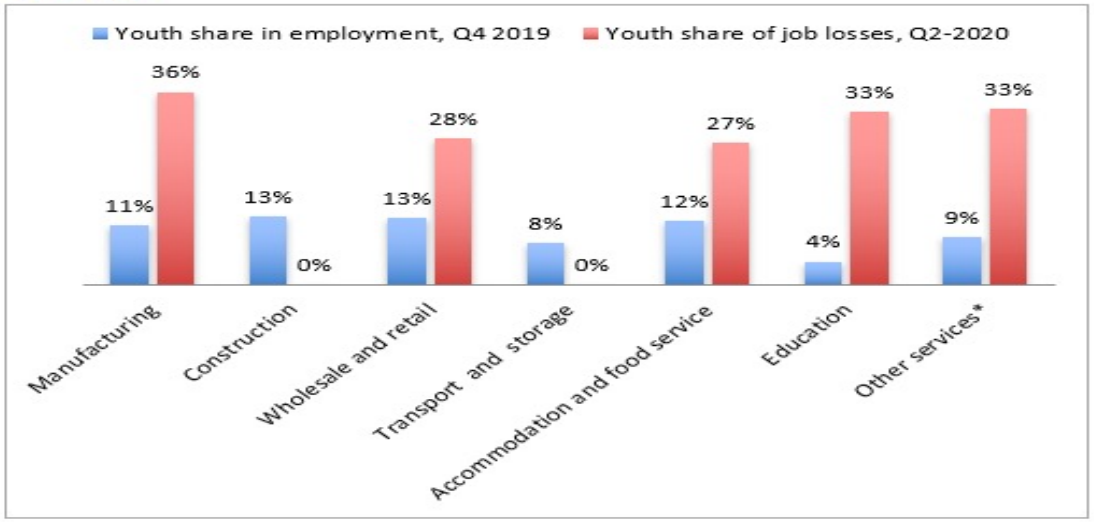
Philippines



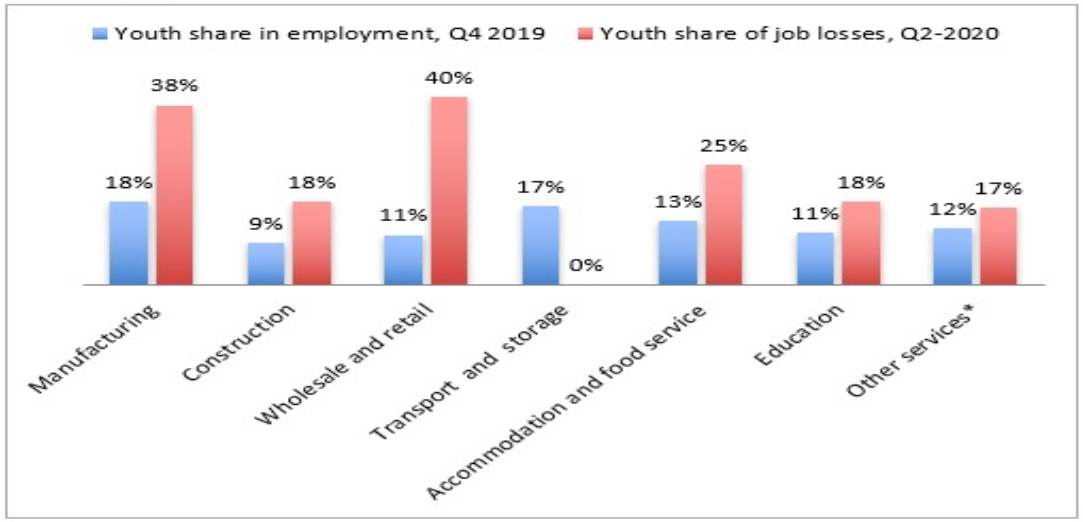
Viet Nam



Thailand

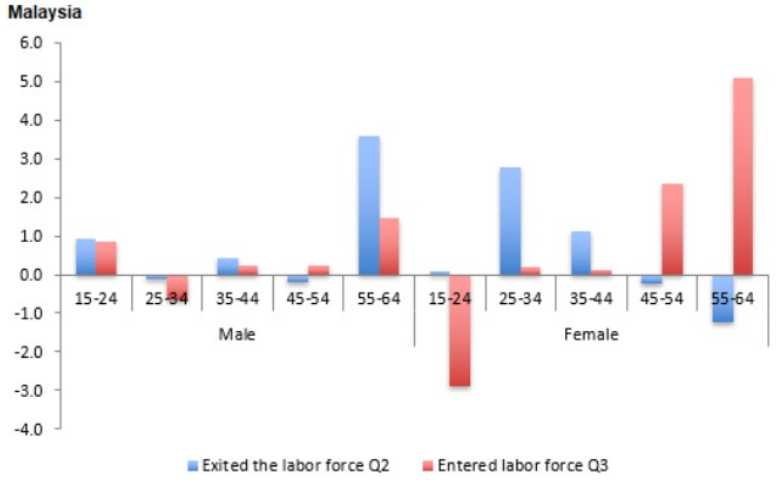


Indonesia



Is there evidence of more detachment among women?

Labor force exits in Q2-2020 and re-entries in Q3 2020, by sex



… women were indeed more likely to exit the labor force in Q2; but were quicker to re-enter the labor market than men in Q3-2020

3.3. Transition within employment: labor reallocation and sectoral effects

In some countries, mobility restrictions and other containment measures limited sectoral labor reallocation in Q2

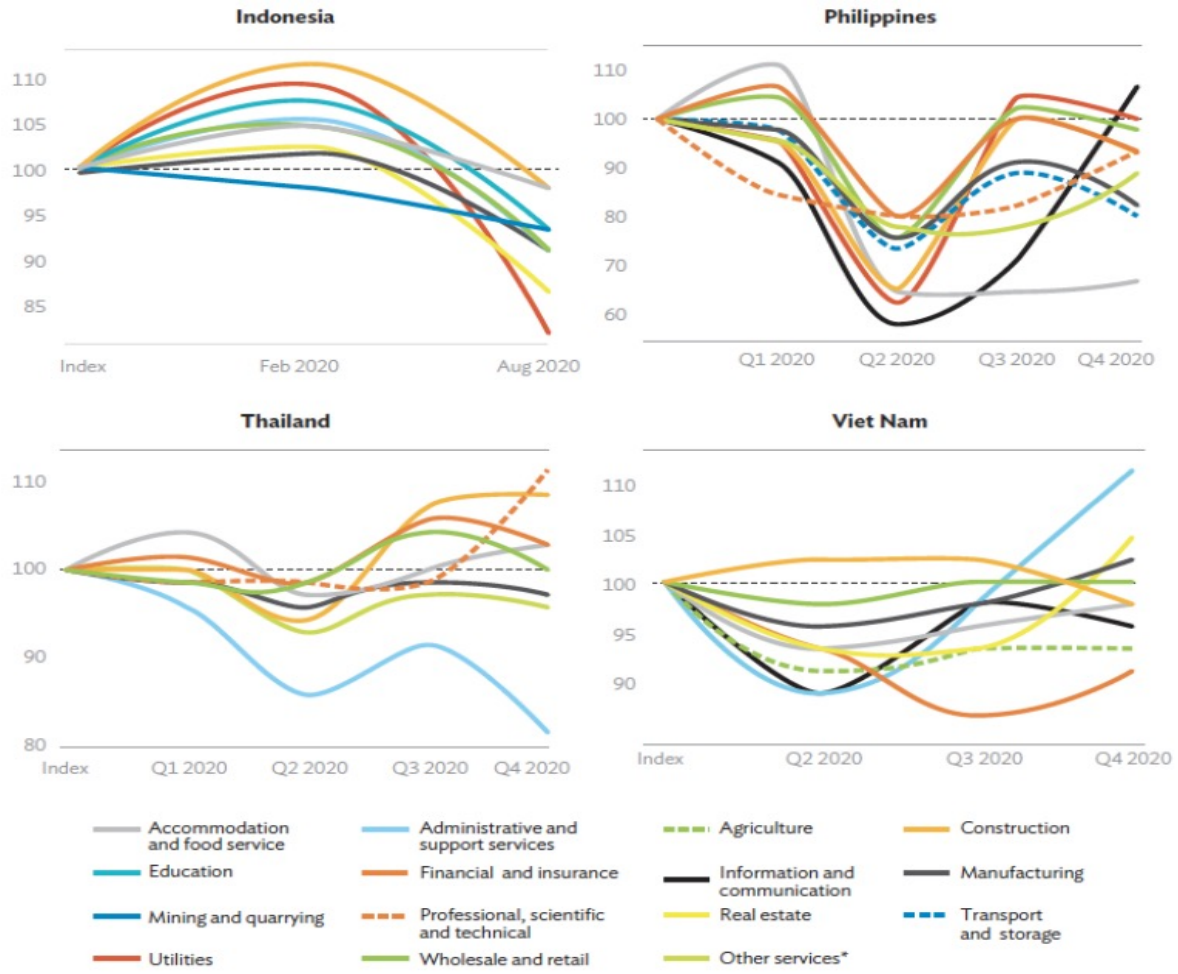
Job losses by sector, Q2-2020 vs. Q1-2020

	Philippines		Thailand		Indonesia		Viet Nam	
	Net change in the number of employed ('000s)	Sector share in gross job losses (%)	Net change in the number of employed ('000s)	Sector share in gross job losses (%)	Net change in the number of employed ('000s)	Sector share in gross job losses (%)	Net change in the number of employed ('000s)	Sector share in gross job losses (%)
Agriculture	-864	10%	710		178		-1,126	46%
Mining and quarrying	-30	0%	7		10		-2	0%
Manufacturing	-936	11%	-237	17%	-976	27%	-525	22%
Utilities	-60	1%	-8	1%	-37	1%	-1	0%
Construction	-1,210	14%	-115	8%	36		30	
Wholesale and retail	-2,131	24%	-154	11%	98		-153	6%
Transport and storage	-805	9%	-32	2%	289		-97	4%
Accommodation and food service	-778	9%	-123	9%	176		-154	6%
Information and communication	-105	1%	8		-409	11%	-38	2%
Financial and insurance	-189	2%	-36	3%	-13	0%	-46	2%
Real estate	-48	1%	-23	2%	-233	6%	-44	2%
Professional, scientific and t	-37	0%	-22	2%	-28	1%	-24	1%
Administrative and support ser	-162	2%	-68	5%	-11	0%	-67	3%
Public administration	-304	3%	11		-762	21%	2	
Education	-207	2%	-84	6%	-967	27%	-99	4%
Human health and social work	-106	1%	-48	3%	-173	5%	-5	0%
Other services*	-741	9%	-128	9%	252		-54	2%
Net change	*-8,713*		*-343*		*-2,570*		*-2,402*	
Gross job losses	*-8,713*		*-1,423*		*-3,608*		*-2,434*	

Hard-hit sectors included those that would normally absorb displaced labor (e.g. *wholesale and retail trade, accommodation and food services, construction, transport and storage, 'other services', and even agriculture)*

In some countries, mobility restrictions and other containment measures limited sectoral labor reallocation in Q2

Employment throughout 2020, Selected Industries



Hard-hit sectors included those that would normally absorb displaced labor (e.g. w*holesale and retail trade, accommodation and food services, construction, transport and storage, 'other services', and even agriculture)*

Notes: Employment index, corresponding quarter of 2019 = 100, to control for seasonality.
**Other services includes the following ISIC Rev 4. categories: R. Arts, entertainment and recreation, S. Other service Activities, T. Activities of households as employers; undifferentiated goods- and services- producing activities of households for own use; U. Activities of extraterritorial organizations and bodies.*
Source: Labor force surveys of various countries.

Employment recovery in Q3 consisting mainly of lower-quality jobs: *movements into self-employment and unpaid family work as formal sector employment lags the recovery of informal jobs….*

Job gains by sector ('000s)

	Q3-2020 vs. Q2-2020			
	Wage and salary workers	Self-employed	Employer	Unpaid family worker
Indonesia				
Net change in the number of employed ('000s)	390	1,012	347	861
Sector share in gross job gains (%)	*15%*	*39%*	*13%*	*33%*
Philippines				
Net change in the number of employed ('000s)	3,599	2,369	452	1,051
Sector share in gross job gains (%)	*48%*	*32%*	*6%*	*14%*
Thailand				
Net change in the number of employed ('000s)	-341	354	9	831
Sector share in gross job gains (%)		*30%*	*1%*	*70%*
Viet Nam				
Net change in the number of employed ('000s)	1,071	1,194	-51	-697
Sector share in gross job gains (%)	*47%*	*53%*		

Source: Authors' estimates based on labor force survey.

3.4. Intensive margins of adjustment: working hour reductions

Job losses understate the impact of the pandemic because of major reductions in working hours for those employed

Decomposition of Working-Hour Losses – Intensive Margins of Adjustment, Q2 2020 (%)

	Indonesia*	Philippines	Viet Nam	Thailand
Agriculture	37.1	65.3	0	0
Mining and quarrying	100.0	63.9	100	0
Manufacturing	51.6	65.4	0	0
Utilities	24.9	47.0	100	0
Construction	31.6	64.2	91	57.2
Wholesale and retail	84.4	55.2	66	69.0
Transport and storage	93.7	72.3	71	78.8
Accommodation and food service	100.0	55.8	69	81.2
Information and communication	50.5	59.9	0	0
Financial and insurance	0.0	58.4	0	0
Real estate	27.5	68.7	0	0
Professional, scientific and technical	60.6	79.9	0	16.8
Administrative and support service	80.6	80.4	24	47.2
Public administration	22.1	36.9	98	85.2
Education	54.4	80.3	0	77.2
Human health and social work	24.0	54.2	100	30.3
Other services	100.0	58.6	78	67.7

** For Indonesia, working-hour decline refers to the period from February to August 2020.*
Notes: Intensive margins are calculated as per Appendix A1. Negative values are set to zero, values greater than 100% are set to 100.
Source: Authors' calculations based on labor force surveys of various countries.

The extent to which intensive margins of adjustment dominated, differed across countries, and sectors within countries, depending on various factors

Correlation Matrix, Intensive Margins of Adjustment, and Related Variables at the Sectoral Level (2-Digit ISIC)

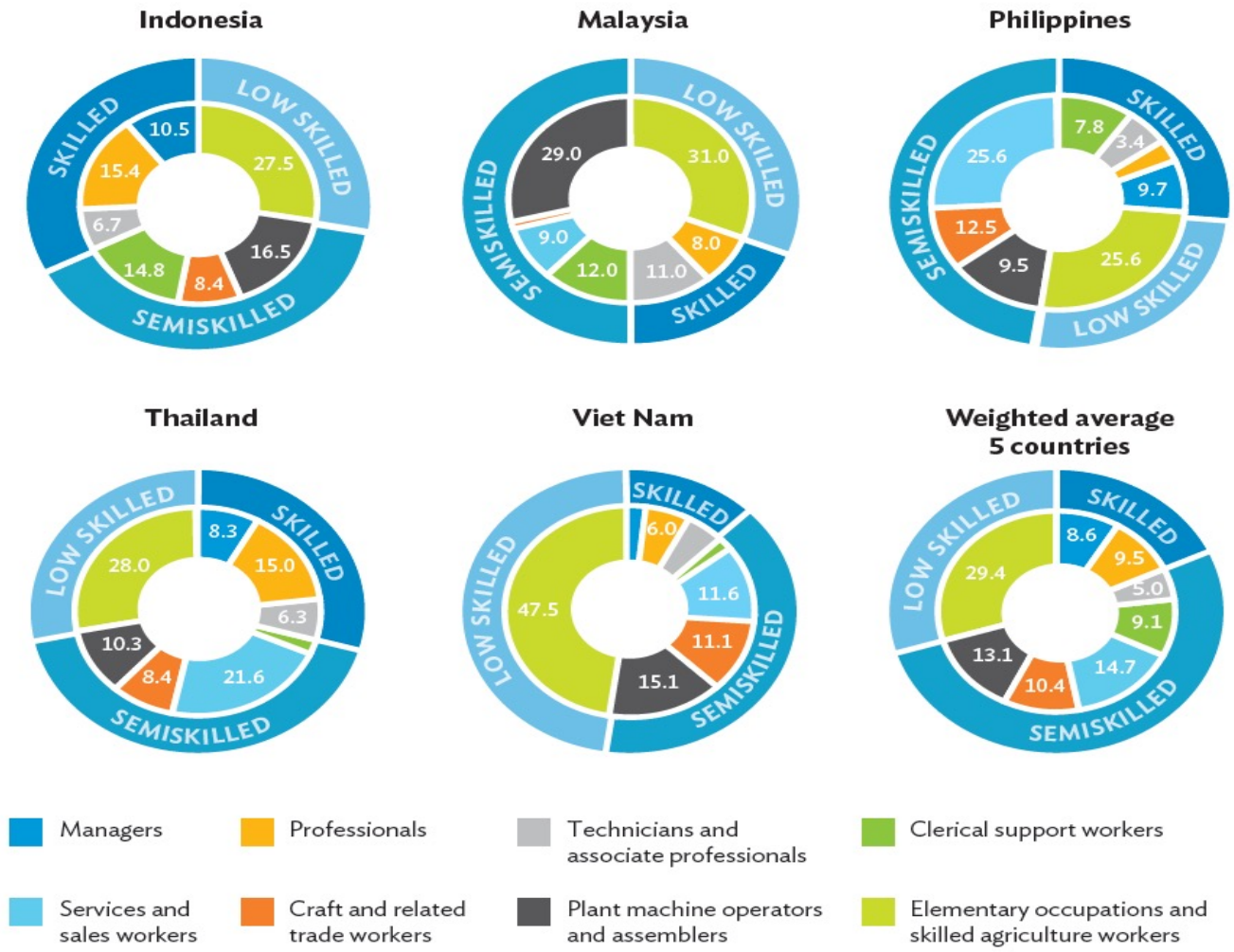
	Intensive Margins of Adjustment (%)	Teleworkability (%)	MSME Share (%)	Temporary Worker Share (%)	Wage Employment Share (%)	Low-Skilled Share (%)
Viet Nam						
Intensive margins of adjustment	1.000					
Teleworkability	-0.035	1.000				
MSME share	0.1755	-0.0024	1.000			
Temporary worker share	0.0524	-0.5833*	0.4195*	1.000		
Wage employment share	-0.1597	0.3038*	-0.6941*	-0.5749*	1.000	
Low-skilled share	–0.003	-0.3347*	0.3167*	0.4244*	-0.3827*	1.000
Philippines						
Intensive margins of adjustment	1.000					
Teleworkability	-0.1224	1.000				
Temporary worker share	-0.2659*	-0.3101*		1.000		
Wage employment share	–0.0226	0.3544*		0.1939	1.000	
Low-skilled share	0.0769	-0.4927*		0.3409*	-0.2555*	1.000
Thailand						
Intensive margins of adjustment	1.000					
Teleworkability	-0.1081	1.000				
MSME share	-0.0083	0.1012	1.000			
Wage employment share	–0.1838	0.2861*	-0.0526		1.000	
Low-skilled share	0.0251	-0.4078*	0.0234		-0.3473*	1.000

Source: Authors' estimates based on labor force surveys and the 'teleworkability' indices of Generalao (2021).

3.5. Differential effects of the pandemic across workers and firms

Differential impacts across groups of workers, further exposing and exacerbating inequalities *(1)*

Skills level and occupational group shares in net job losses, Q2 2020 (%)



…hurting low-skilled workers, but also middle-skilled workers whose jobs are already at risk from automation

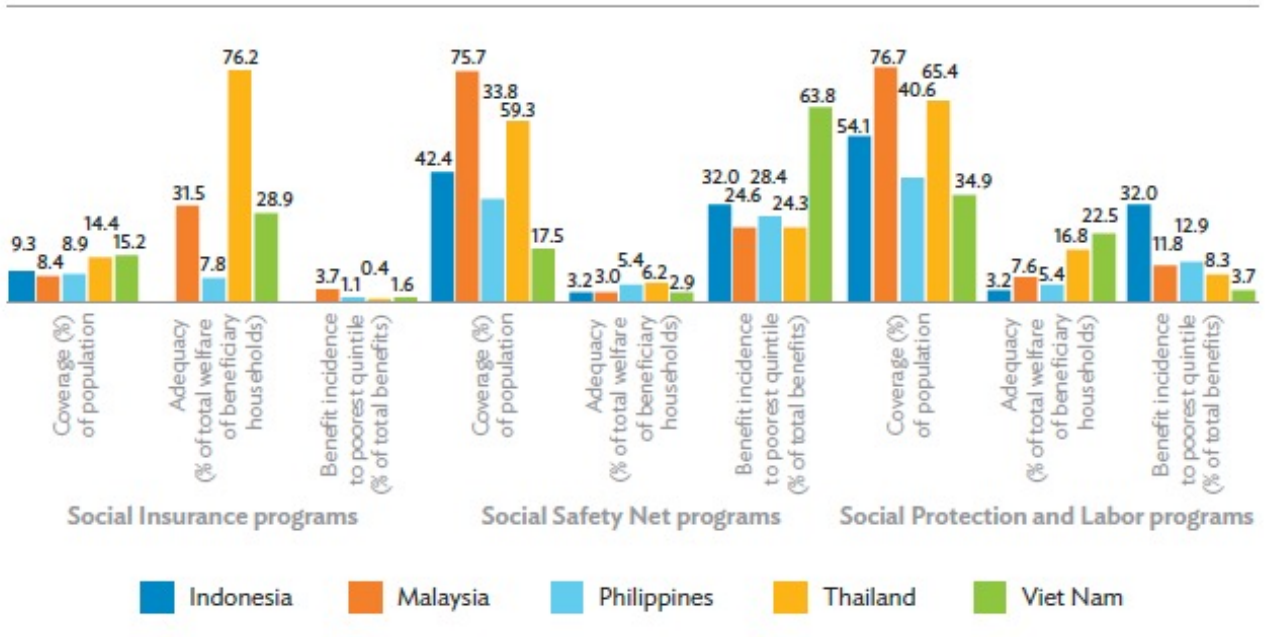
Differential impacts across groups of workers, further exposing and exacerbating inequalities *(2)*

- **Own-account workers** (ADBI's household surveys): 84% of HHs reported income losses from self-employment (vs. 60% of HHs overall)
- **Informal workers**: suffered major job losses (e.g., 62% of job losses in Q2-2020 in Viet Nam) and working time reductions due to their significant presence among heavily affected sectors
- **Temporary and casual workers**: accounted 61% of job losses in Viet Nam, and workers in non-standard forms of employment accounted for some 70% of job losses in the Philippines
- **Migrant workers**: stranded in either their home or host countries, often without access to social protection or adequate health care

4. *What policies have mitigated the impact?* Social protection and labor markets in Southeast Asia

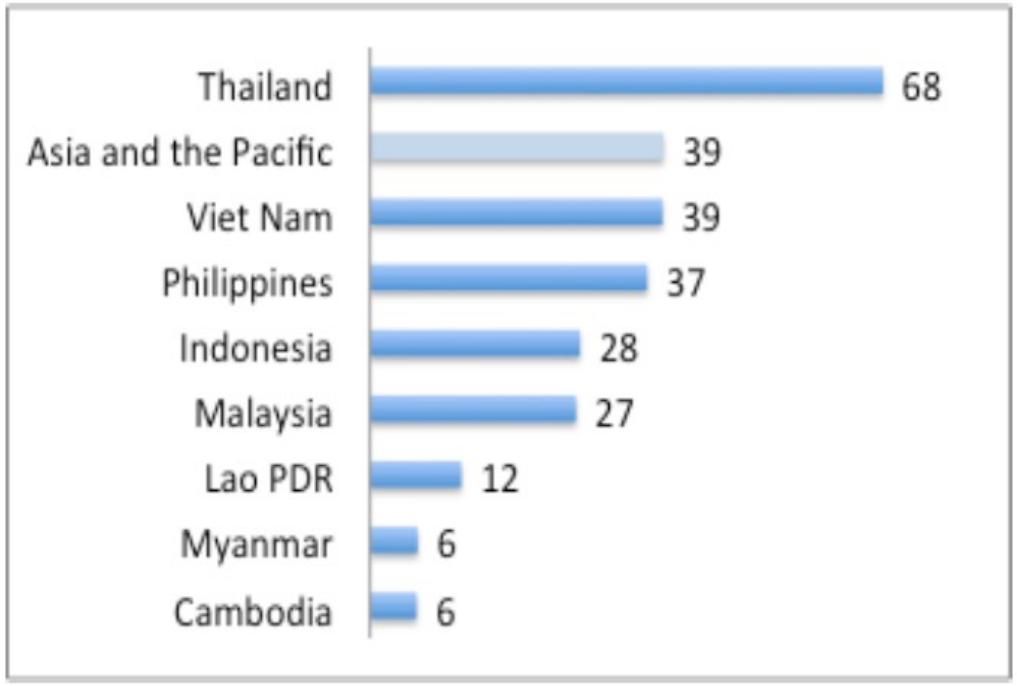
Pre-pandemic, social protection gaps across the region, linked to high informality rate. Effective social protection coverage remained low

Social protection and labor programs - coverage, adequacy and benefit incidence to the poorest



Source: World Bank. ASPIRE: The Atlas of Social Protection: Indicators of Resilience and Equity. Retrieved May 7, 2021 from https://databank.worldbank.org/source/1229

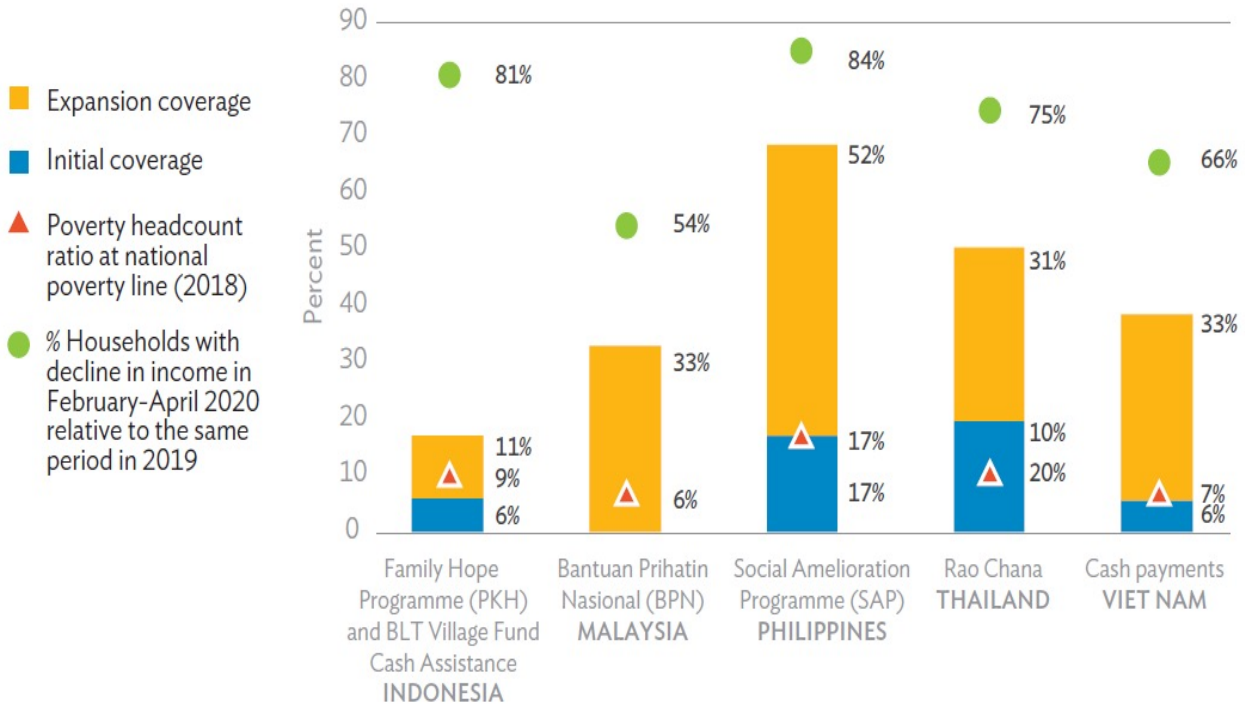
Proportion of the population protected in at least one area of social protection (%), latest available year



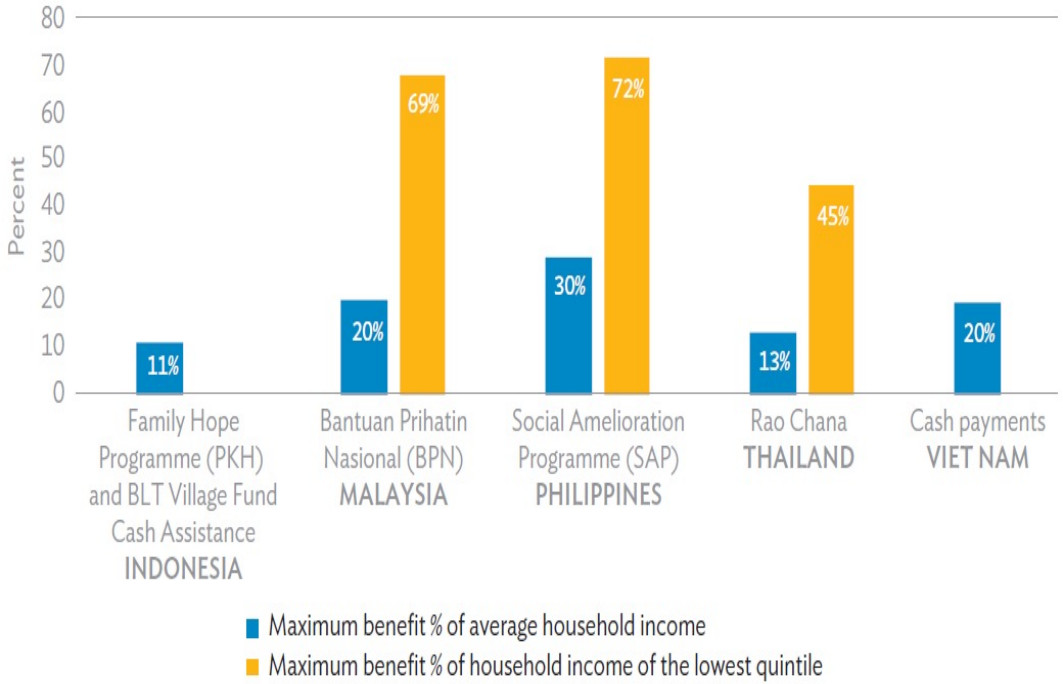
Source: ILO (2017)

Social assistance programs, and particularly large-scale cash transfer programs, played an integral role in the social response of these countries

Poverty Headcount Ratio, Declines in Household Incomes and Coverage Expansion of Social Assistance Programs in Response to COVID-19



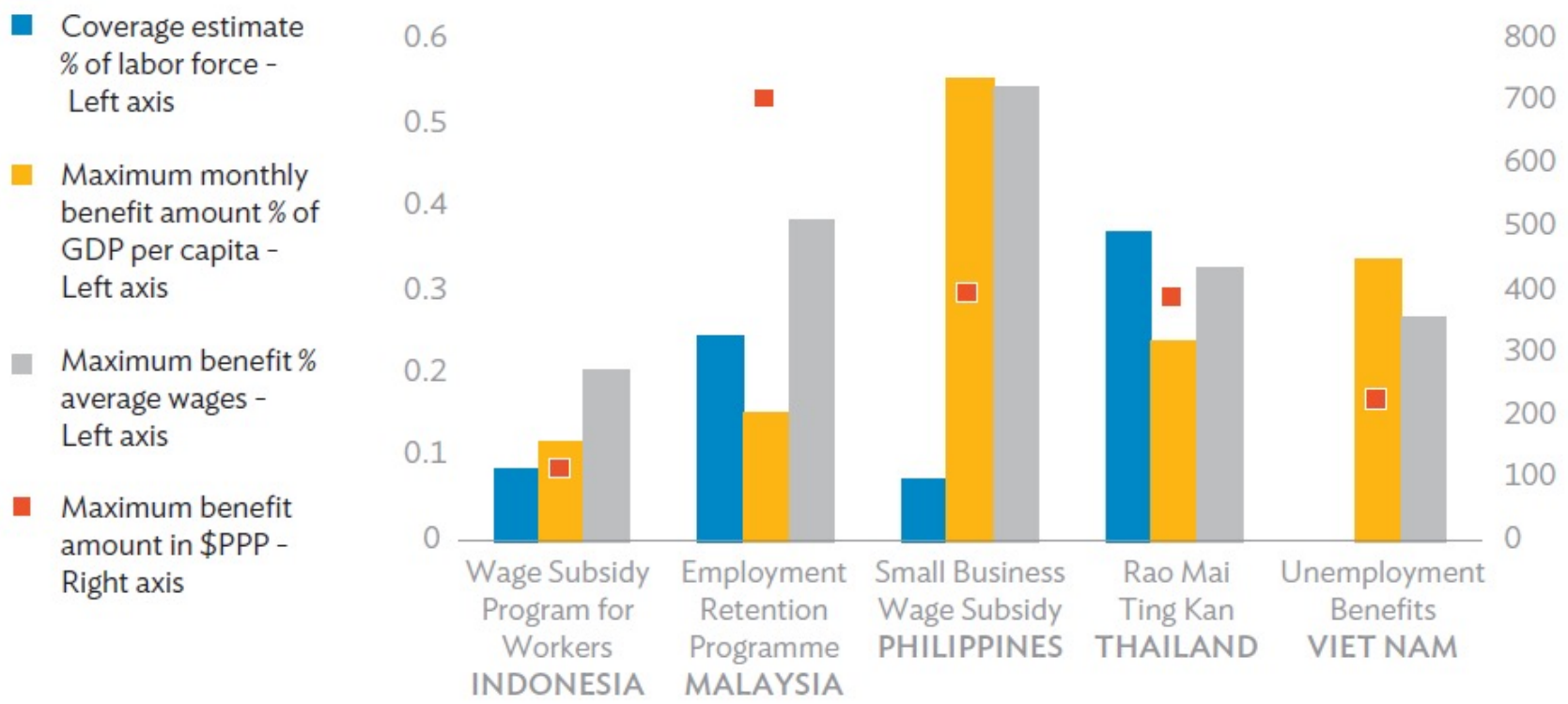
Adequacy of benefits for large-scale emergency cash transfers



Sources: Authors' illustration based on International Policy Centre for Inclusive Growth. Social Protection Responses to COVID-19 in the Global South: Online Dashboard. https://socialprotection.org/social-protection-responses-covid-19-global-south (accessed 28 May 2021); World Bank. World Development Indicators. https://databank.worldbank.org/source/world-development-indicators (accessed 2 December 2021); and calculations using ADBI household Surveys in ASEAN countries.

Wage and training subsidies also played an important role in country responses… but *coverage of the workforce was limited*

COVID-19 labor market response policies: wage subsidies' coverage and adequacy

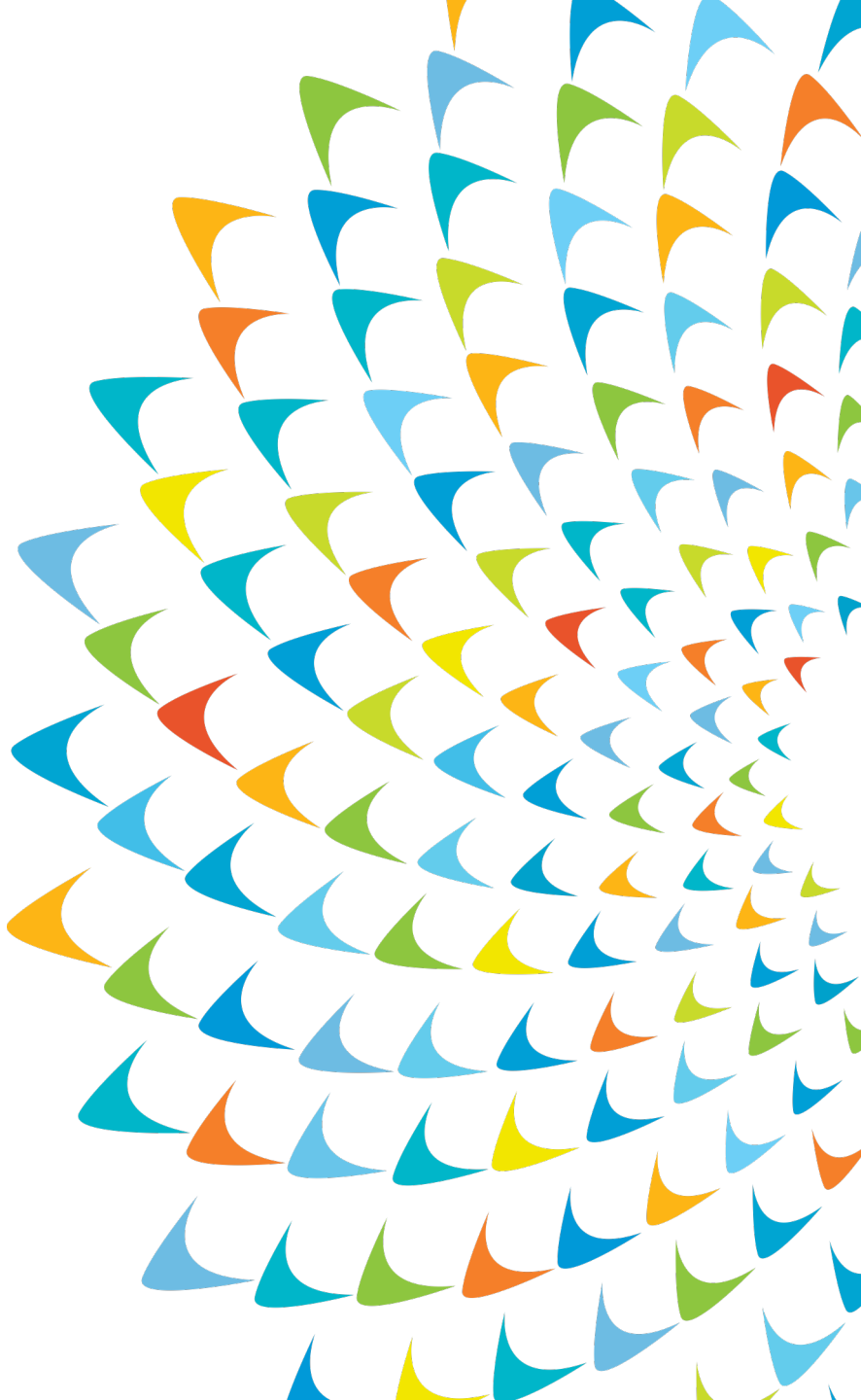


Source: Authors' illustration based on International Policy Centre for Inclusive Growth (IPC-IG). Social Protection Responses to COVID-19 in the Global South database. Retrieved May 28, 2021 from https://socialprotection.org/social-protection-responses-covid-19-global-south.

5. Next steps

- Expand the analysis to a larger sample of the region's countries (Cambodia, Lao PDR, others), through the exploration of alternative data sources
- Provide country-specific recommendations and entry points for developing and strengthening social protection systems in the region
- Explore how the crisis has interacted with drivers of structural change in the region, and specifically trade and technology (e.g., through the link with telework, offshoring and near-shoring trends, etc.)
  - *Role for social protection and skills policy*

Thank you!



Annex 1 – Decomposition of working hour losses

Appendix A1: Calculation of Change in Working Hours

Variable	Definition
H_t	Total hours worked at time t
E_t	Employed population at time t
$AH_t = H_t/E_t$	Average hours worked at time t

(A) Hours lost due to job loss:

$$Hours\ lost\ due\ to\ job\ loss_t = \Delta E_t * AH_{t-1}$$

(B) Hours lost in employment:

$$Hours\ lost\ in\ employment_t = E_t * \Delta AH_t$$

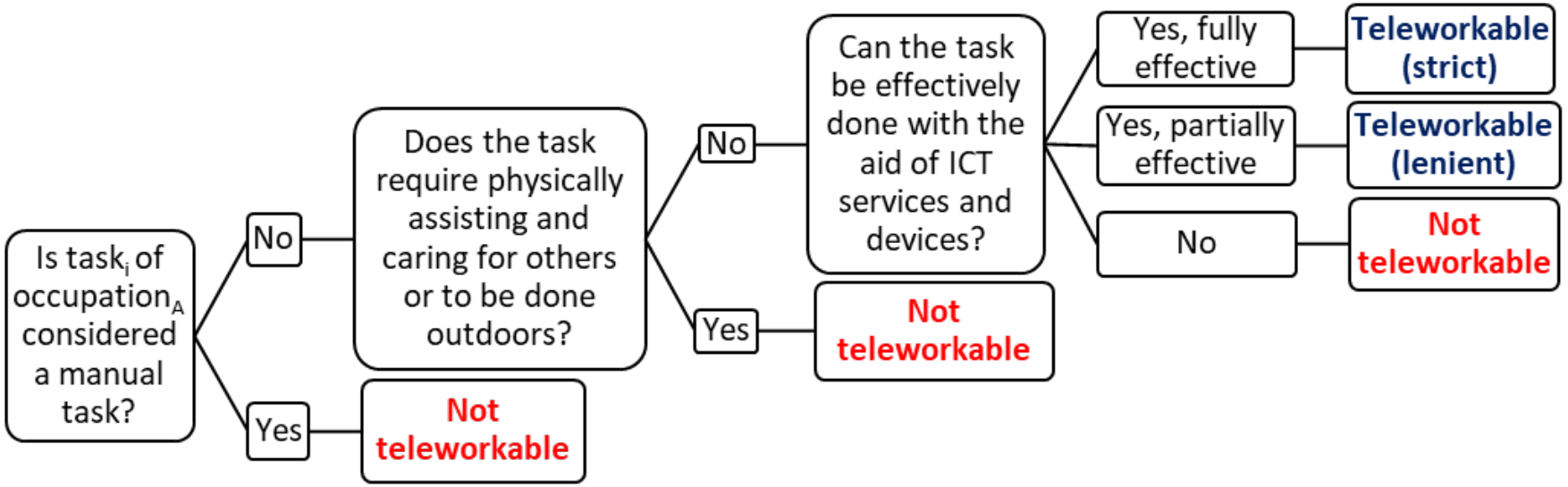
(C) Total working hours lost = (A) + (B)

Total working hours lost (%) = (C) / H_{t-1}
Intensive margin of adjustment (%) = (B) / (C)
Extensive margin of adjustment (%) = (A) / (C)

Notes:
(1) The difference operator Δ applied to variable X at time t refers to the change in the variable compared with the previous quarter value. Thus, $\Delta X_t = X_t - X_{t-1}$.
(2) Hours worked refer to total hours worked in the main job.

Annex 2: ‘teleworkability’ indices

The telework classification process of tasks



Source: Generalao, I. N. A. 2021. Measuring the telework potential of jobs: evidence from the International Standard Classification of Occupations. Philippine Review of Economics. 58(1&2): 92-127. DOI:10.37907/5ERP1202JD.

Annex 3: Estimated models using regression analysis

- Estimate Equation 1 using <u>multiple linear regression</u>

$$\text{int\_margin}_i = \beta_0 + \boldsymbol{\beta X} + \varepsilon_i \quad (1)$$

  - Where *int* ε [0, 100] and refers to either the continuous intensive margins of adjustment or the share of total working hours lost in the total working hours in the reference period; *i* pertains to the corresponding 2-digit ISIC, ***X*** is a vector for other factors, such as average teleworkability, wage employment share, MSME share, temporary work share, and low-skill work share; and ε pertains to the error term.

- Estimate Equation 2 using <u>probit regression</u>

$$\text{intensive}_i = \beta_0 + \boldsymbol{\beta X} + \varepsilon_i \quad (2)$$

  - Where the dependent variable as a binary variable, wherein a value of 1 is assigned when the intensive margin value of greater than 50, and a value of 0 to 2-digit ISIC industries with intensive margins of adjustment of less than or equal to 50. The same set of independent variables, ***X,*** were used as in Equation 1.