



Family business during the COVID-19 pandemic: Role of coping strategies and government financial aid

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ADBI-Yale University Conference: Gender-Sensitive Economic Recovery and Resilience in Asia
9-10 March 2023 @ADBI

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Structure of the presentation

1. Introduction
2. Context
3. Data and stylized facts
4. Hypothesis
5. Results
6. Conclusion

Family business sector was severely hit by the COVID-19 pandemic

- Small family businesses play central roles in economics of Asian developing countries (cf., Bennedsen et al. 2022)
- Because of limited financial and physical resources, supply chain networks, and access to the formal financial market, the sector is vulnerable to an economic crisis
(Caballero-Morales 2021; Kim and Vonortas 2014)
- Family business sector was heavily hit by the COVID-19 pandemic, facing sudden drops in sales and supply chain disruptions (KPMG 2020; Facebook, OECD, and World Bank 2020)

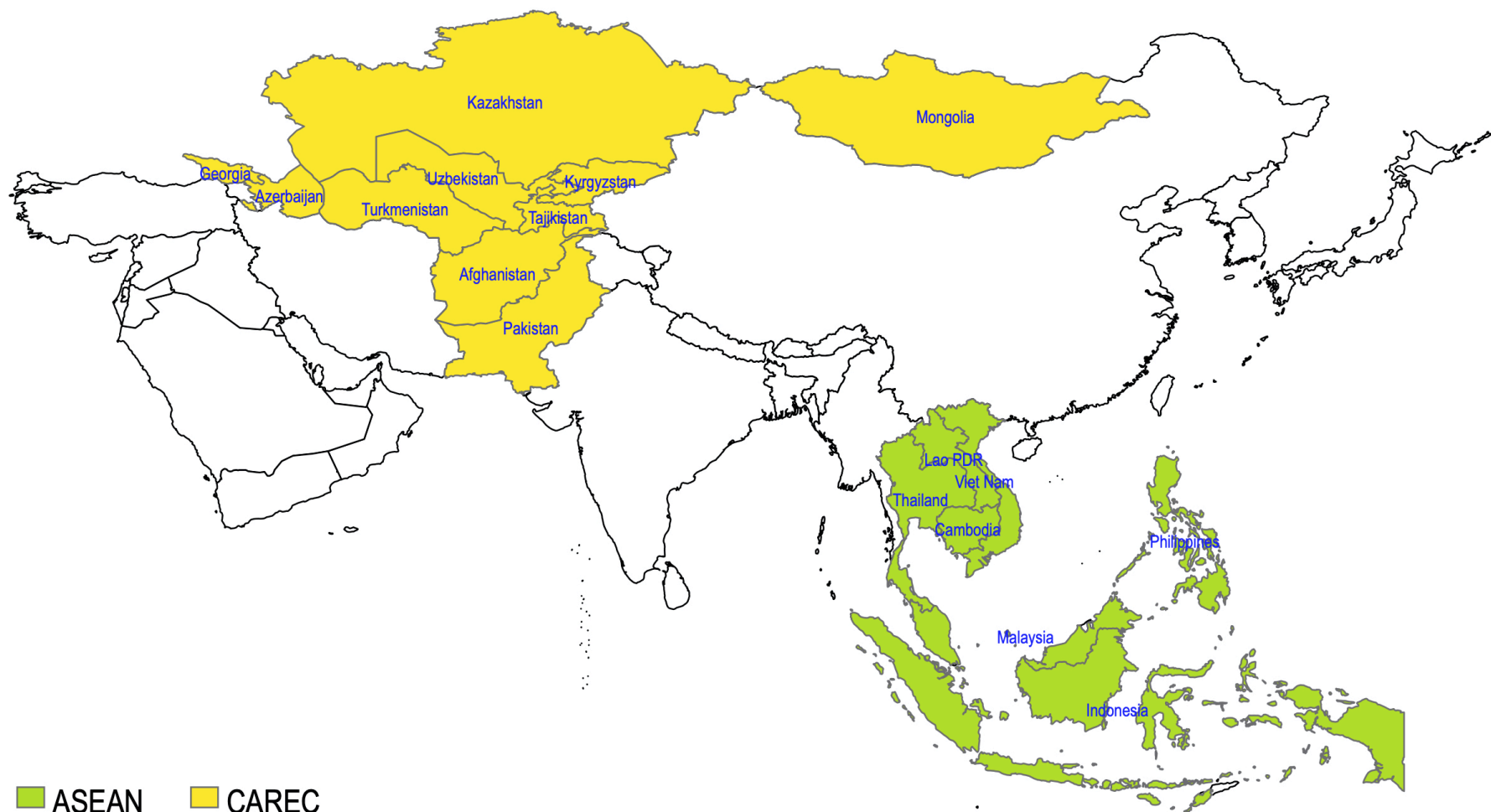
How family business households mitigated the negative effects of the pandemic?

- Little is known how family business households have mitigated the negative effects of the pandemic (Soluk et al. 2021), especially in the context of Asian developing countries
- Answering to this research question is important to encourage a recovery of the family business sector from the pandemic
- Use a subsample of representative household survey datasets from 7 ASEAN and 10 CAREC (Central Asia Regional Economic Cooperation) countries to investigate the roles of (i) Coping strategies and (ii) Government financial aid

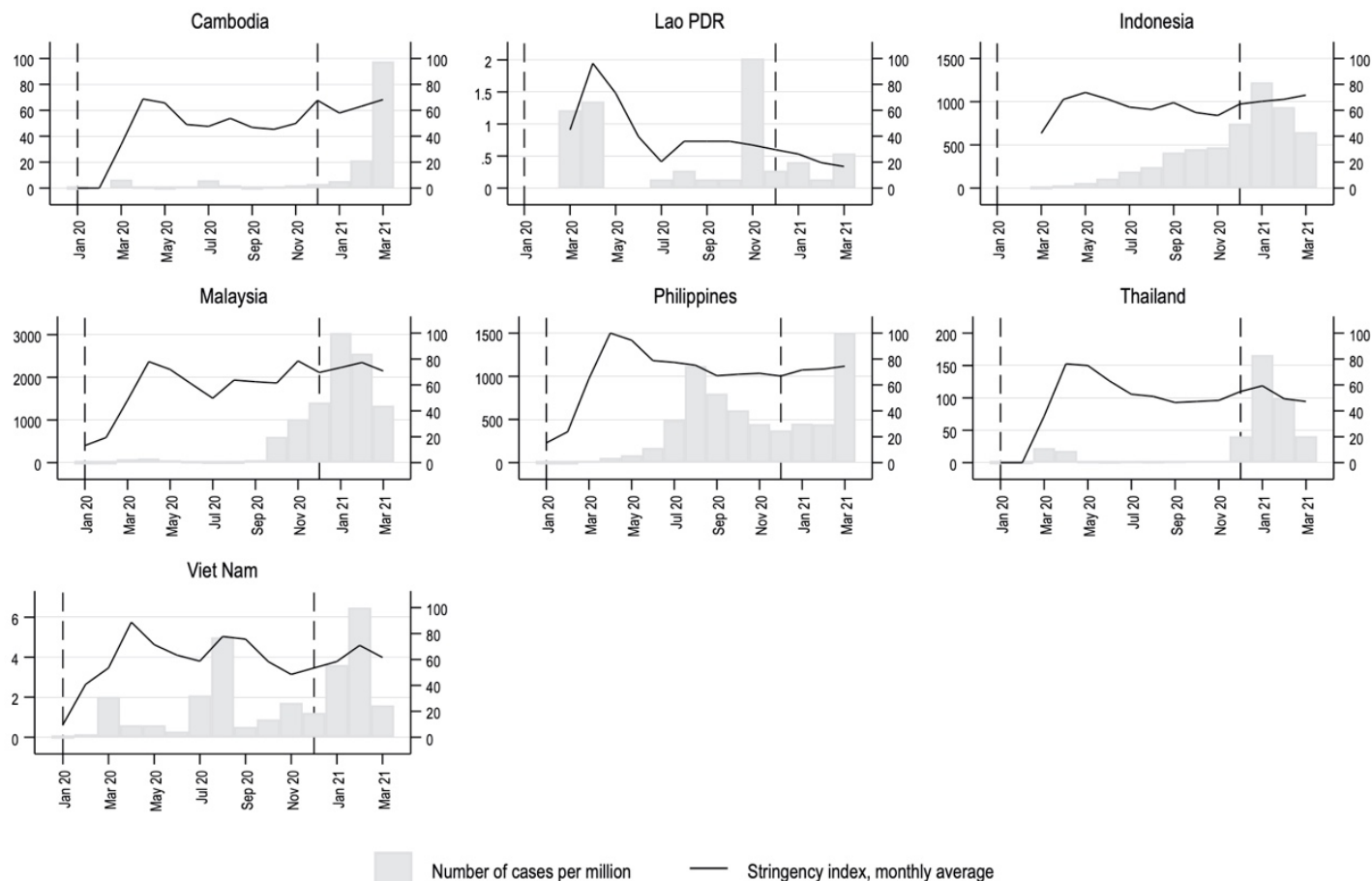
Contribute to the literature on small family businesses during the COVID-19 pandemic

- One of the first quantitative studies assessing the importance of coping strategies in family business conditions during the pandemic
- Shed light on a role of government financial aid in mitigating the negative pandemic impacts on small family businesses
- Additional descriptive evidence on the family business conditions during the pandemic

Map of study sites

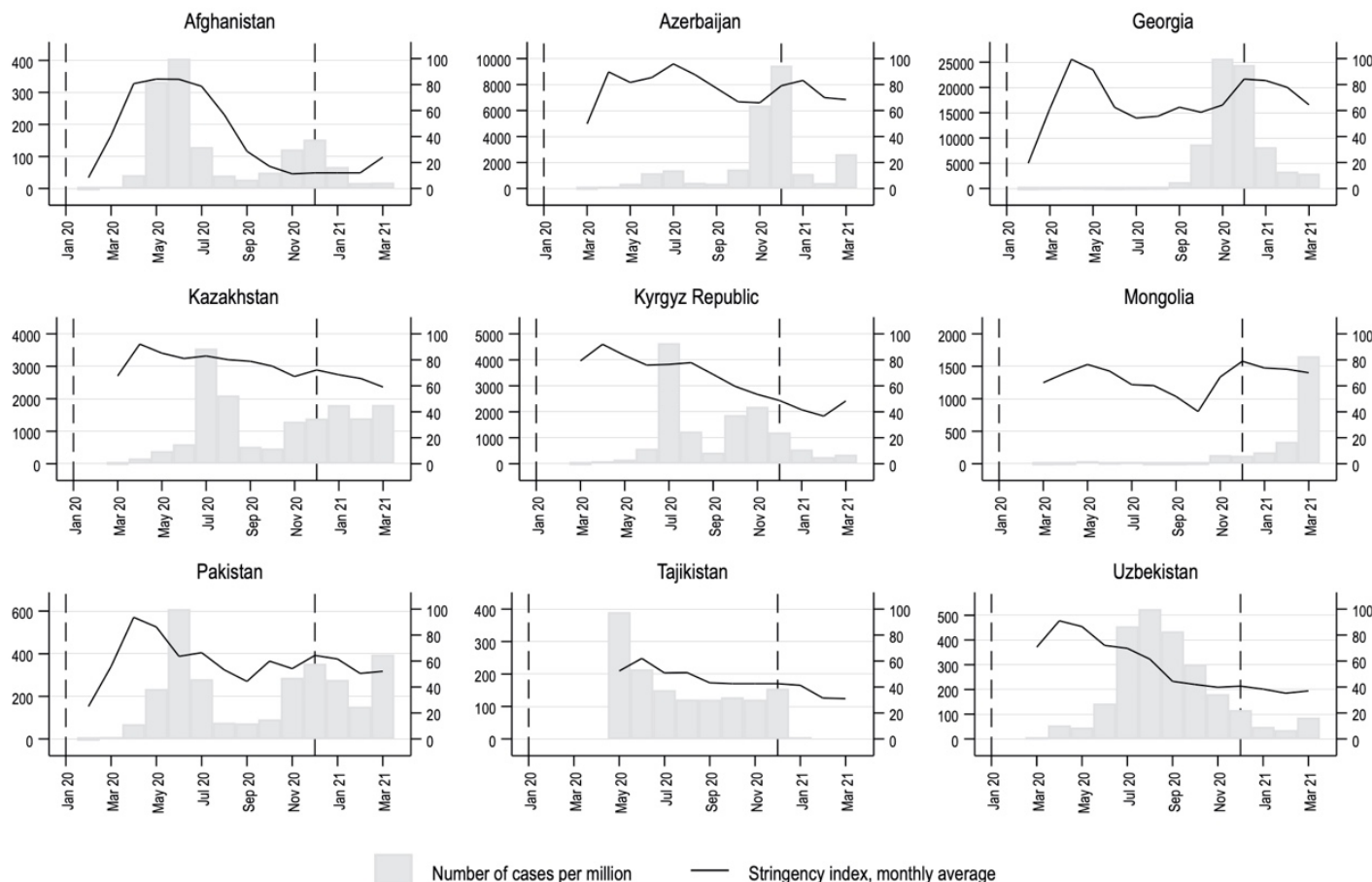


“First wave” and policy interventions during 2020



Data source: Mathieu et al. (2020) and Hale et al. (2021). Available at <https://ourworldindata.org/coronavirus>

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ADBI's COVID-19 household survey data

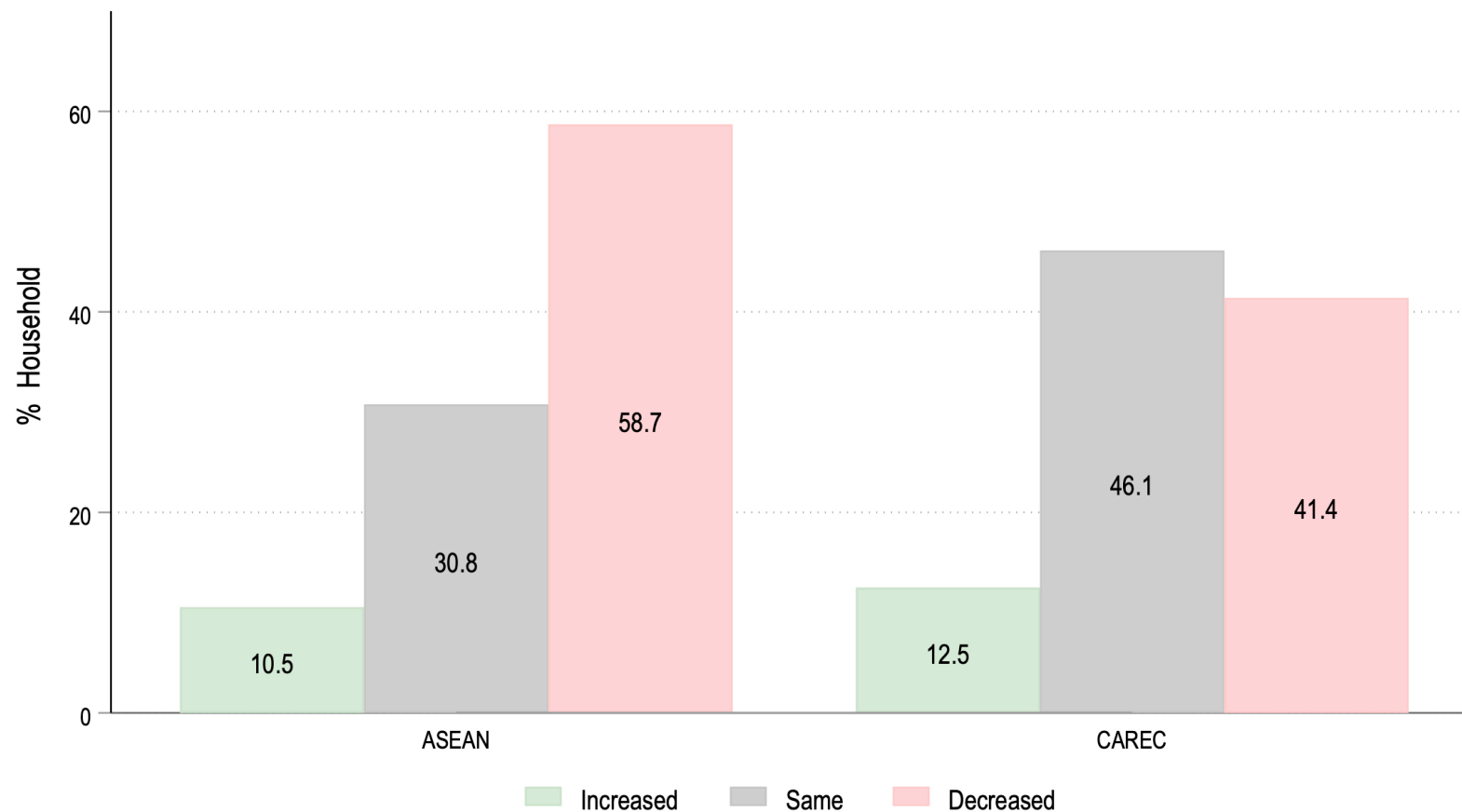
- Focus: understand the COVID-19 pandemic impacts on household e.g., socioeconomic status, employment, family business (if any), financial conditions, household expenditure, child education
- Method: Computer-assisted telephone interviews (CATIs)
- Sample: Representative samples of 1,000+ households from each country
- Survey waves
 - 2020 survey: 8 ASEAN countries (wave 1)
 - 2021 survey: 7 ASEAN (wave 2) and 10 CAREC countries (wave 1)
 - 2022 survey: 7 ASEAN (wave 3) and 10 CAREC countries (wave 2)
- Details: Azhgaliyeva et al. (2022) and Morgan and Trinh (2021)



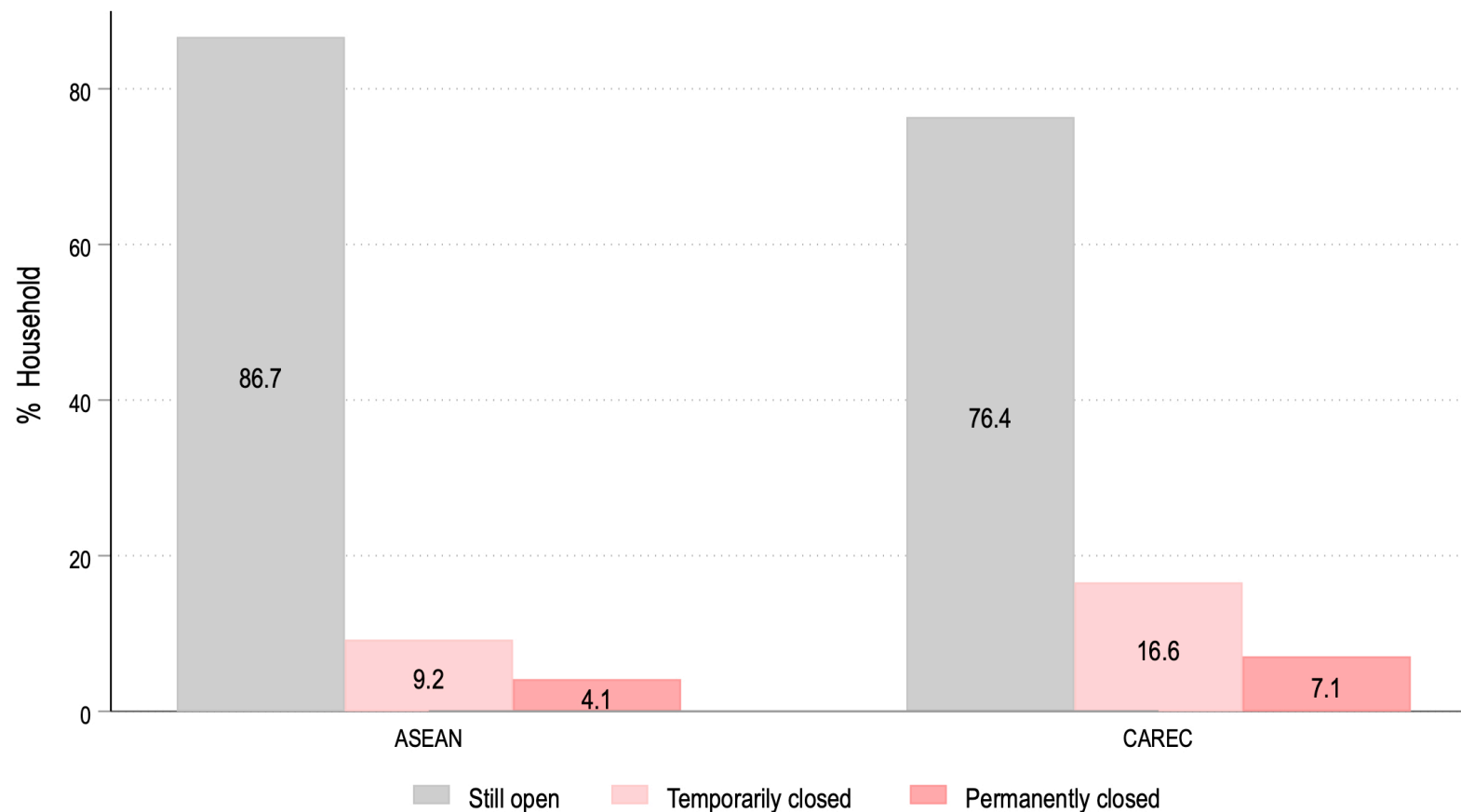
This study uses a subsample of the 2021 survey dataset from 17 countries

- Restrict the samples to households whose head is engaging in family business
- Subsample of 4,915 households, around 28% of the original dataset
- 5 percentage points (p.p.) deviations of the regional and household income quantile distributions compared to the original dataset

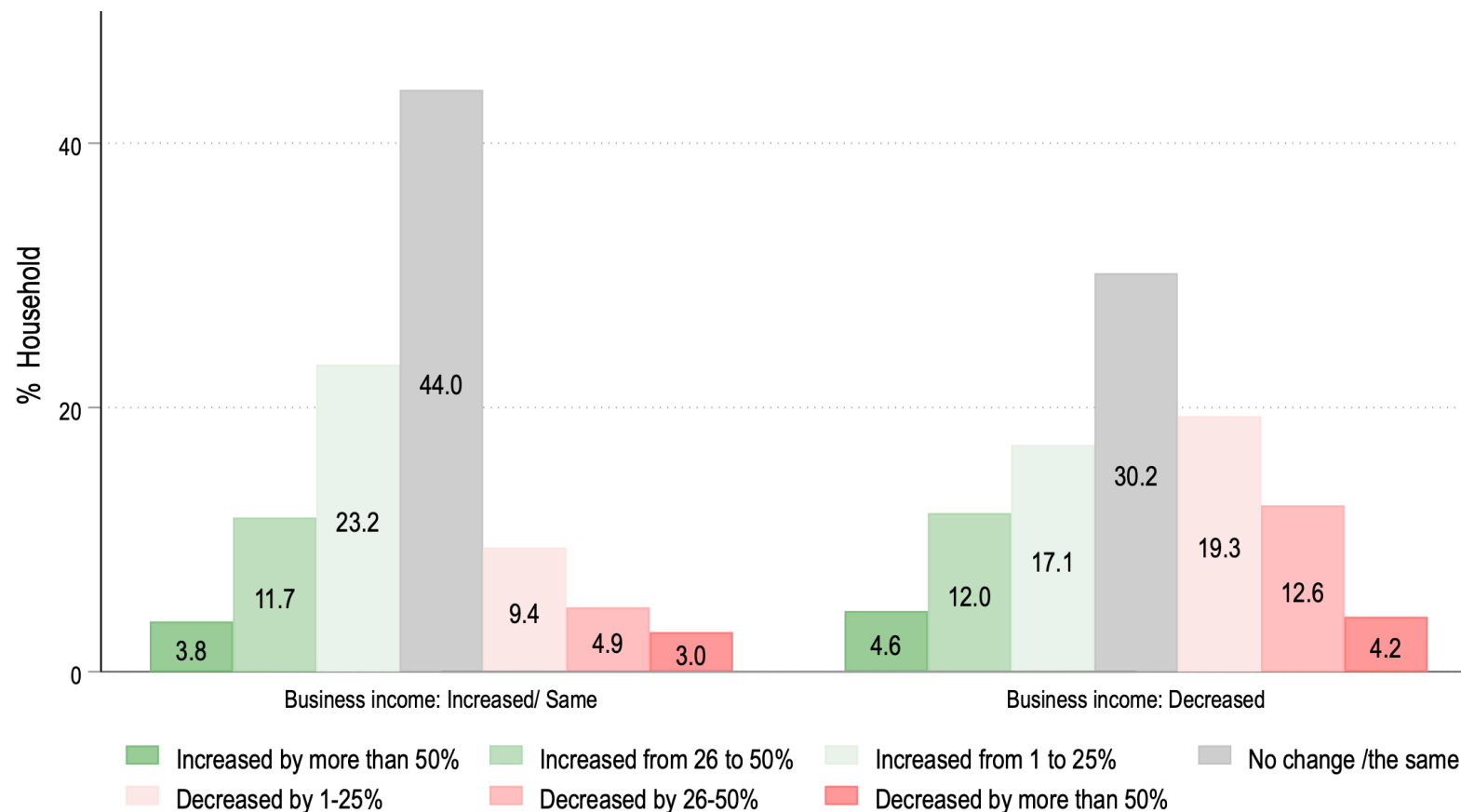
(a) Income from family business as of December 2020 compared to January 2020



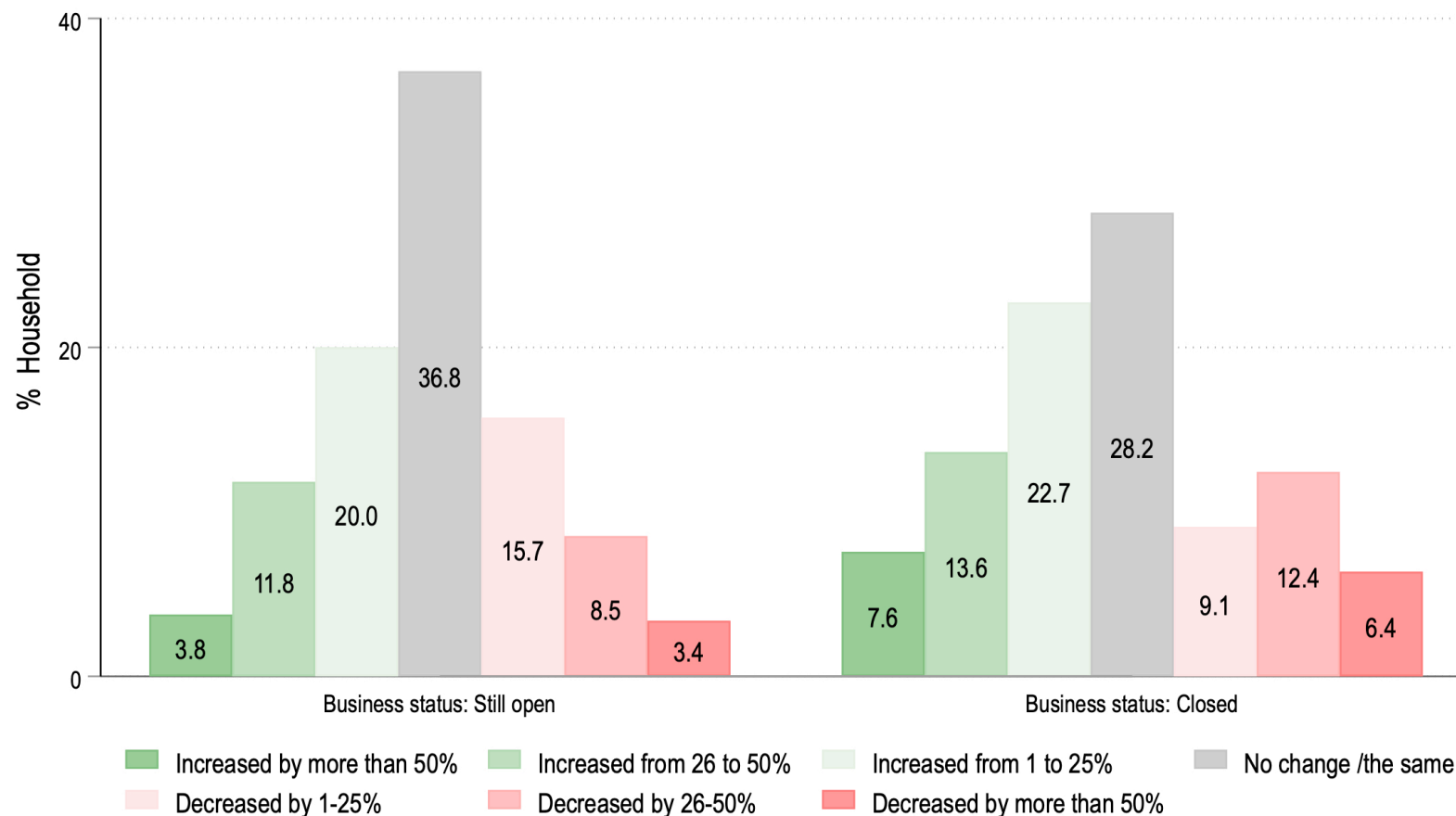
(b) Family business status as of December 2020



(c) Change in household expenditure during June to December 2020, by change in family business income



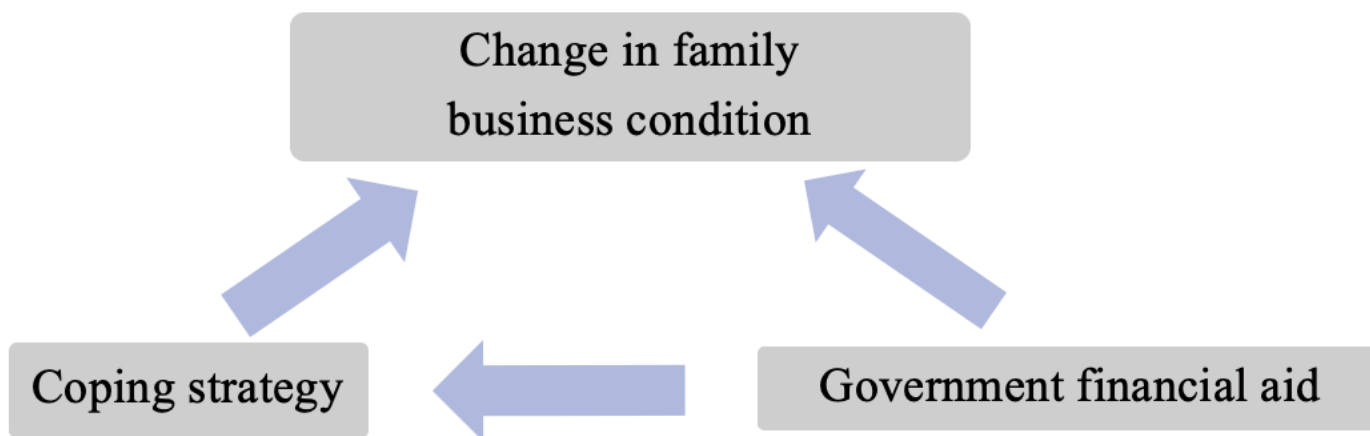
(d) Change in household expenditure during June to December 2020, by family business status



Female-headed vs. male-headed household: Descriptive statistics of the variables of interest

	Female	Male	Female	Male
	ASEAN		CAREC	
Decline in income from family business	0.61 (0.49)	0.58 (0.49)	0.41 (0.49)	0.41 (0.49)
Closed family business	0.12 (0.32)	0.14 (0.35)	0.32 (0.47)	0.22 (0.42)
Adopted coping strategy	0.31 (0.46)	0.31 (0.46)	0.31 (0.46)	0.42 (0.49)
Received financial aid	0.34 (0.48)	0.32 (0.47)	0.32 (0.47)	0.23 (0.42)
Observations	915	1942	345	2360

Linkage among coping strategies, government financial aid, and family business conditions during the pandemic



- H1: Adopting coping strategies mitigates the negative effect of the pandemic on family business conditions
- H2: Receiving government financial aid mitigates the negative effect of the pandemic on family business conditions
- H3: Receiving government financial aid induces the adoption of coping strategies

H1/H2: Coping strategies & Government financial aid → family business conditions

- Econometric model to test H1 & H2:

$$\Pr(\Delta FBC_{hc} = 1) = \alpha + \tau_1 CopStr_{hc} + \tau_2 Aid_{hc} + X'_{hc}\beta + \gamma_c + \varepsilon_{hc} \quad (1)$$

ΔFBC_{hc} : negative change in family business conditions of household h in country c

$CopStr_{hc}$: whether household adopted coping strategy

Aid_{hc} : whether household received the aid

X_{hc} : a set of household and business characteristics

- Outcome variables ΔFBC_{hc}

(1) whether business income has declined as of Dec 2020 (dummy)

(2) whether family business was closed as of Dec 2020 (dummy)

H1/H2: Coping strategies & Government financial aid → family business conditions

$$\Pr(\Delta FBC_{hc} = 1) = \alpha + \tau_1 CopStr_{hc} + \tau_2 Aid_{hc} + X'_{hc}\beta + \gamma_c + \varepsilon_{hc} \quad (1)$$

- Concerns on reverse causality: households whose family business conditions are getting worse are more likely to receive aid
→ Apply control function approach in probit model
- IV: a fraction of households within the same district/region who received government financial aid
- Expect $\tau_1 < 0$ and $\tau_2 < 0$.

H2: Government financial aid → family business conditions

- Econometric model to test H2:

$$\Pr(\Delta FBC_{hc} = 1) = \alpha + \tilde{\tau}_2 Aid_{hc} + X'_{hc}\beta + \gamma_c + \varepsilon_{hc} \quad (2)$$

- $\tilde{\tau}_2$ in equation (2): **total effect** vs. τ_2 in equation (1): **direct effect**
→ Expect $\tilde{\tau}_2 \leq \tau_2 < 0$.
- Apply control function approach in probit model

H3: Government financial and → coping strategy

- Econometric model to test H3:

$$\Pr(CopStr_{hc} = 1) = \alpha + \tau_3 Aid_{hc} + X'_{hc}\beta + \gamma_c + \varepsilon_{hc} \quad (2)$$

- Expect $\tau_3 > 0$.
- Apply control function approach in probit model
- Standard mediation analysis (cf., Baron and Kenny 1986) to quantify the relative importance of this indirect effect over the total effect of government financial aid.

Role of coping strategy and government financial aid during the COVID-19 pandemic, marginal effects (probit model).

	(1a)	(2a)	(1b)	(2b)	(3)
Outcome variable	Decline in income from family business		Closed family business		Coping strategy
Related hypothesis	H1/H2	H2	H1/H2	H2	H3
Adopted coping strategy	-0.034** (0.016)		-0.061*** (0.012)		
Received financial aid	-0.214** (0.087)	-0.222** (0.091)	0.079 (0.072)	0.061 (0.072)	0.248*** (0.066)
Residual	0.231** (0.089)	0.238** (0.093)	-0.073 (0.074)	-0.057 (0.074)	-0.211** (0.070)
Country fixed effect	Yes	Yes	Yes	Yes	Yes
Household and business characteristics	Yes	Yes	Yes	Yes	Yes
Observations	4915	4915	4915	4915	4915

Notes: Asterisks (*, **, and ***) denote significance at 10, 5, and 1 per cent levels, respectively.

Bootstrapped standard errors of estimated coefficients are in parentheses.

Overall, results support our hypotheses

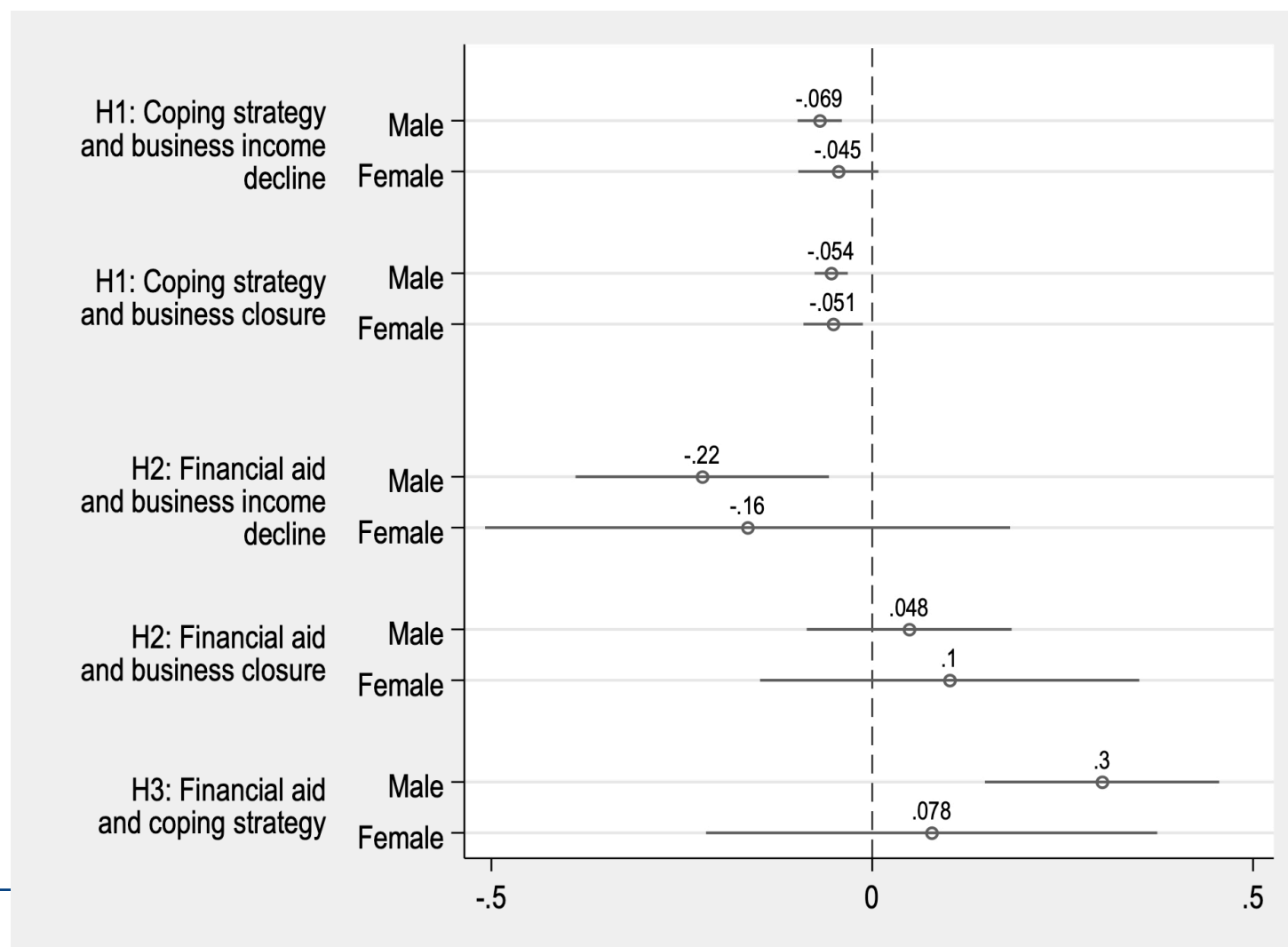
- H1: Coping strategy is associated with:
 1. 3.4p.p. (6.2%) lower probability of business income decline
 2. 6.1p.p. (33.3%) lower probability of family business closure
- H2: Government financial aid is associated with:
 1. 22.2p.p. (44.2%) lower probability of business income decline
 2. No association with the probability of family business closure
- H3: Government financial aid is also associated with probability of adopting coping strategies – this indirect affects accounts **only 3.8% of the total effect** of the financial aid

Heterogeneous effects

- Different coping strategies
 - (a) Different coping strategies → Household business conditions
 - (b) Government financial aid → Different coping strategies
- Different household groups
 1. Male-headed household vs. Female-headed household
 2. ASEAN household vs. CAREC household
 3. Different business sectors

Heterogeneous effects

Male-headed vs. Female-headed household



Notes: This figure reports point estimates and the 90% confidence interval of the marginal effects.

Limitations

- H1: Endogeneity concerns, particularly for the business closure regression
- H2/H3: Our dataset does not provide detailed information about the usage of government financial aid by the family business household
- IV: may capture district/ region heterogeneity, which could be correlated with business conditions
- **Results should be interpreted only as associations rather than causalities.**

Conclusion

- We investigated how households in Asian developing countries mitigated the negative impacts of the COVID-19 pandemic on their family businesses.
- We revealed the important roles of coping strategies and government financial in mitigating the negative effects of the COVID-19 pandemic on family businesses in Asian countries.
- Further investigations on the mitigation mechanisms and heterogeneous effects are great avenue for future studies.

Reference

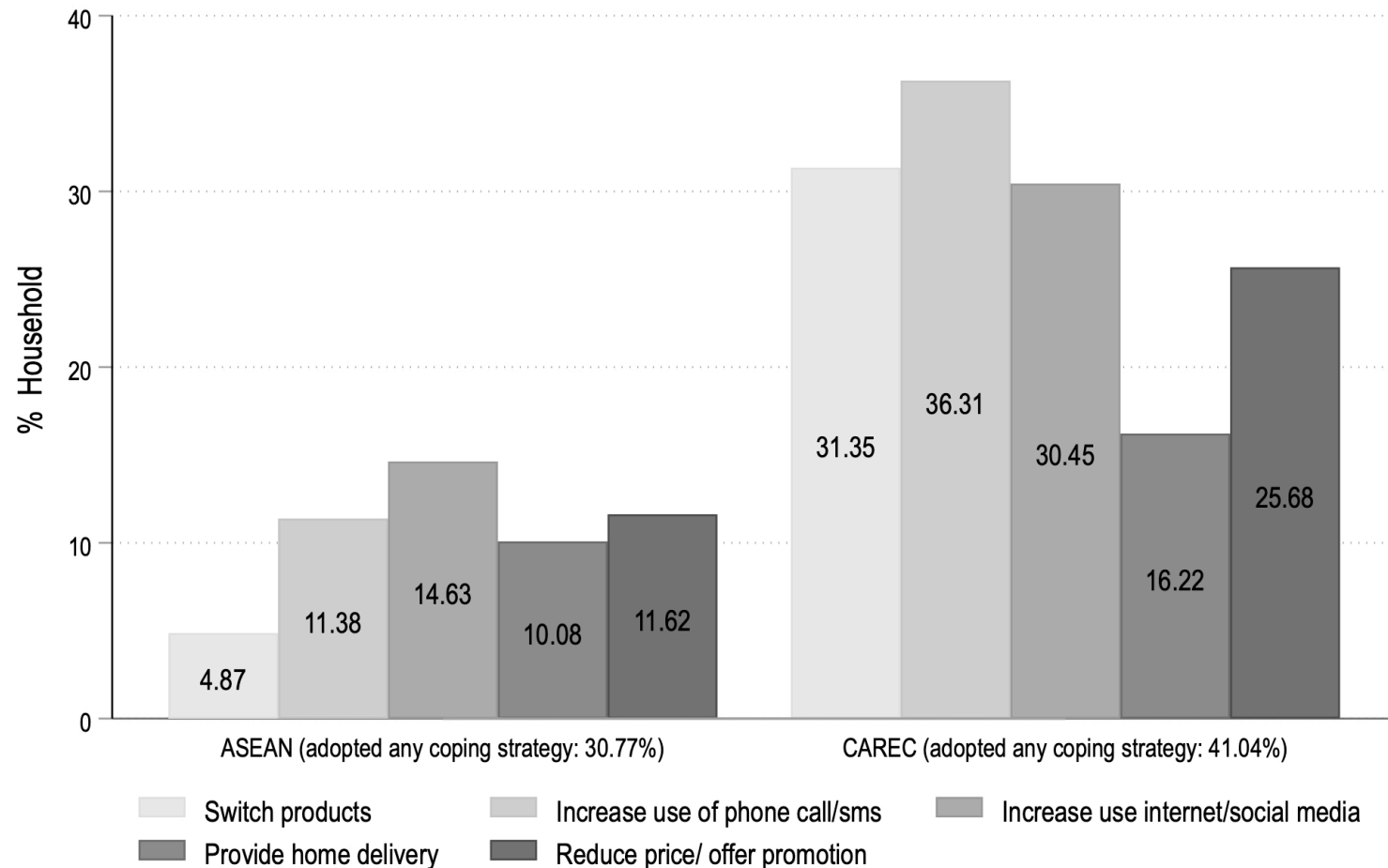
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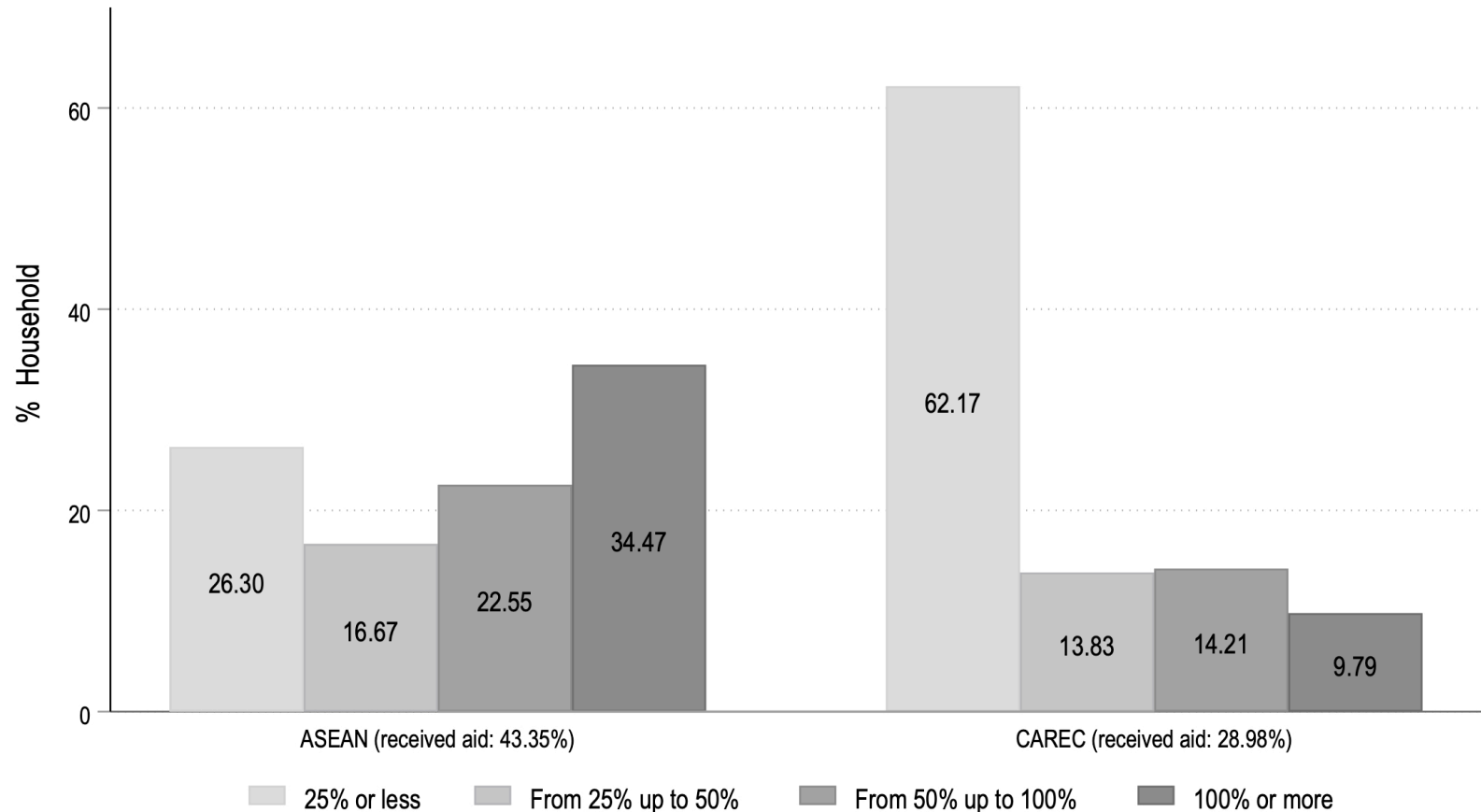
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(e) Coping strategies adopted as a response to the COVID-19 pandemic

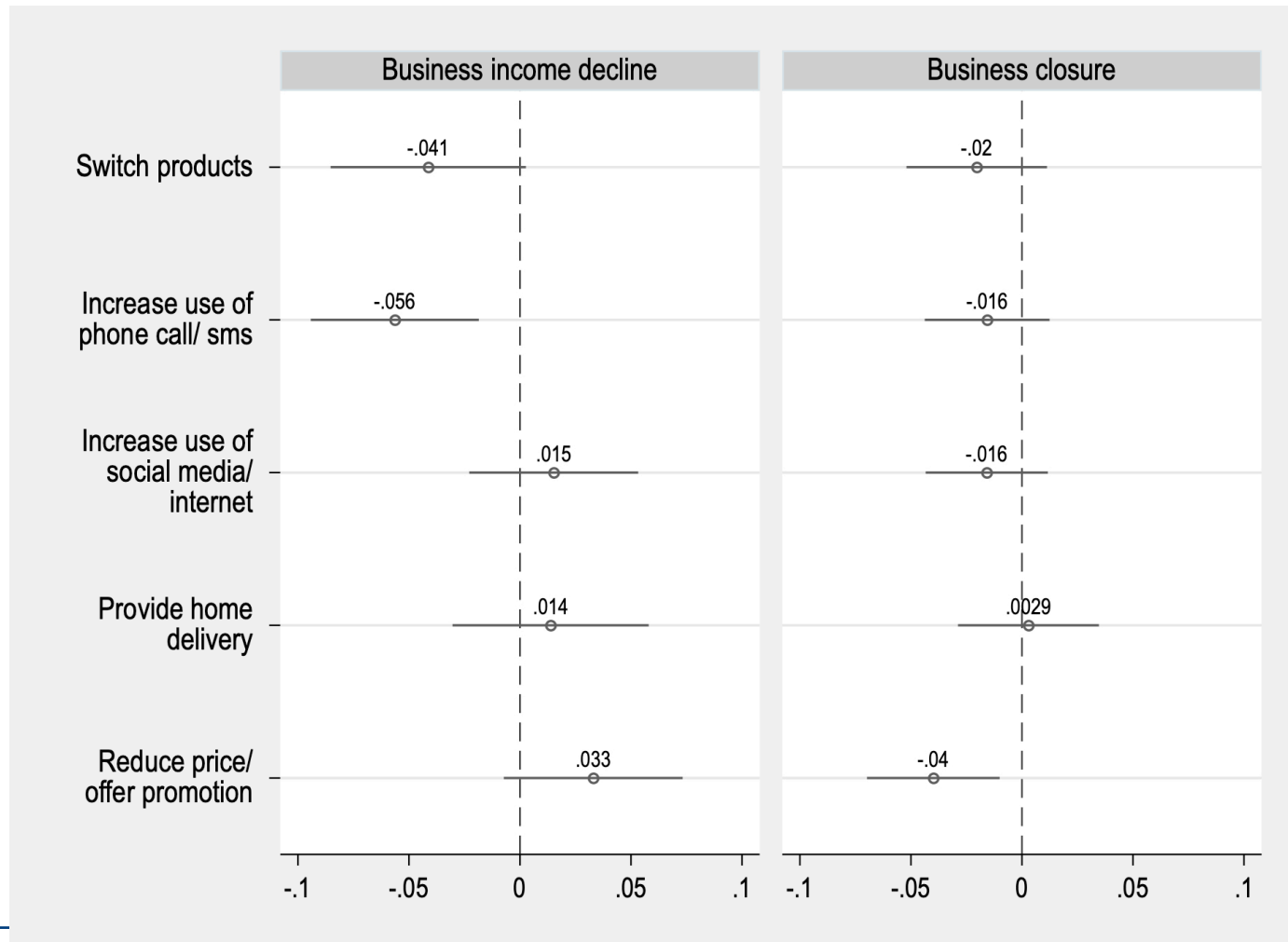


(f) Relative amount of government financial aid of precipitant compared to their household income



Heterogeneous effects

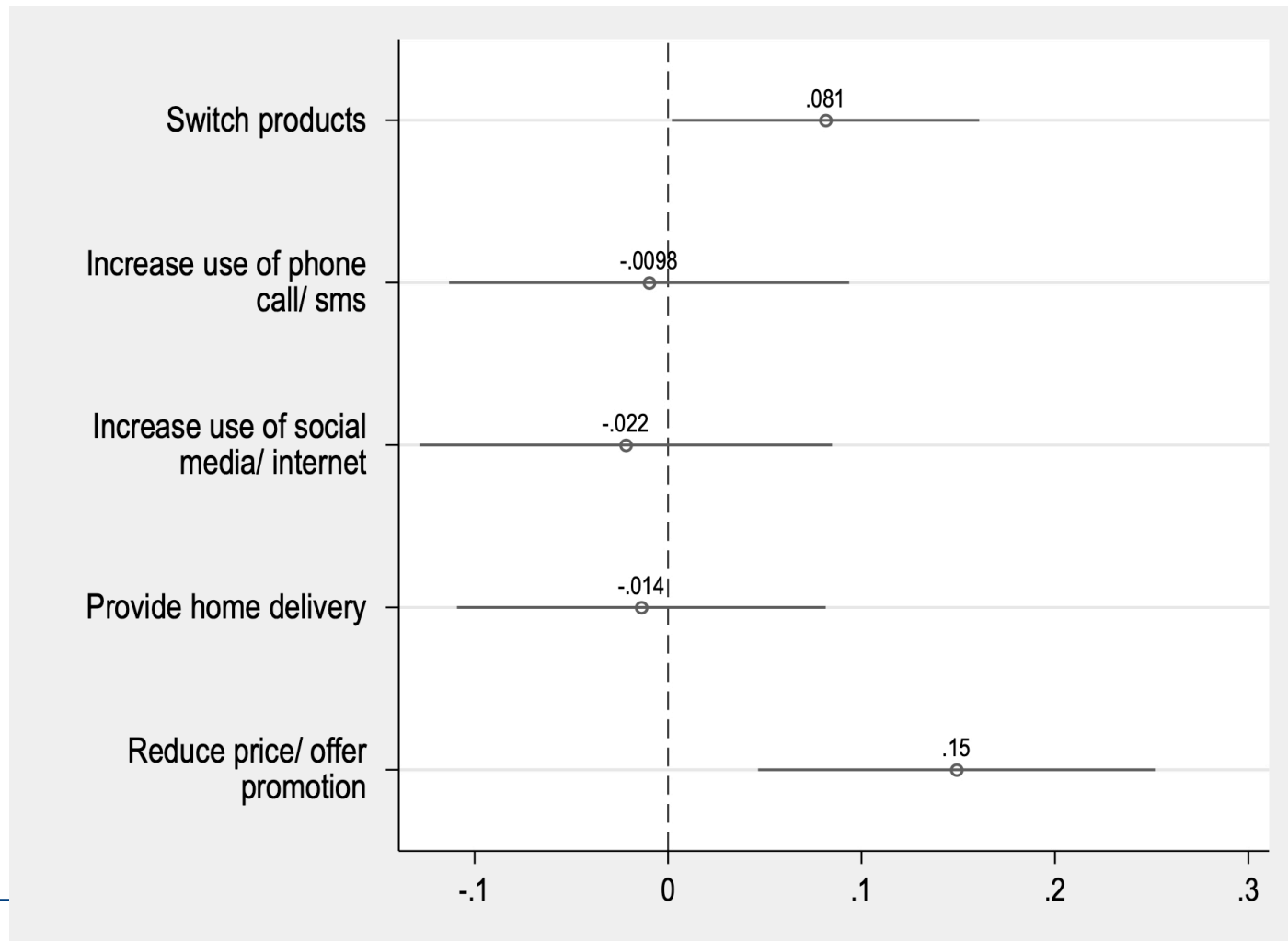
Different coping strategies → Business conditions



Notes: This figure reports point estimates and the 90% confidence interval of the marginal effects.

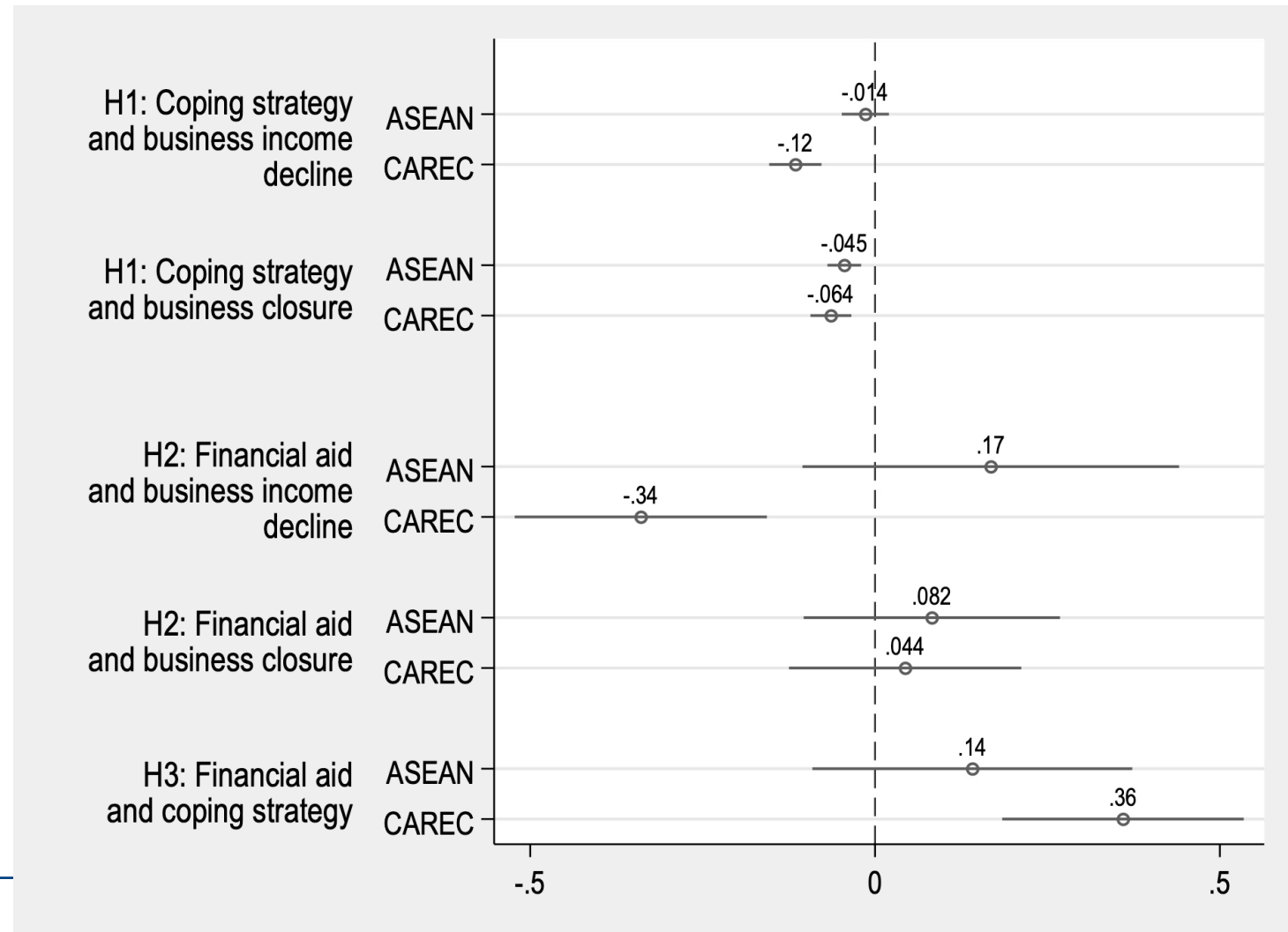
Heterogeneous effects

Financial aid → Different coping strategies



Notes: This figure reports point estimates and the 90% confidence interval of the marginal effects.

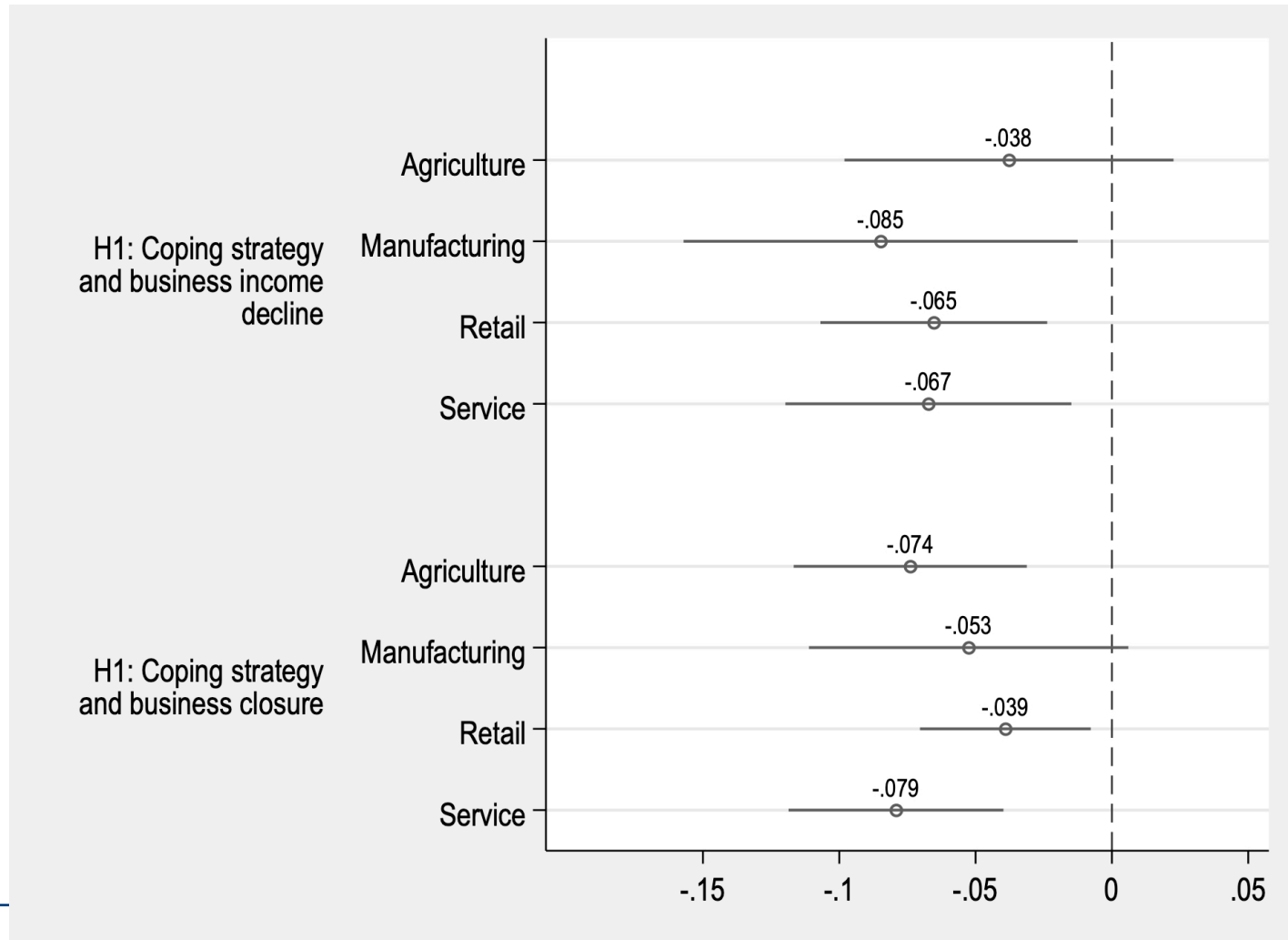
Heterogeneous effects ASEAN vs. CAREC household



Notes: This figure reports point estimates and the 90% confidence interval of the marginal effects.

Heterogeneous effects

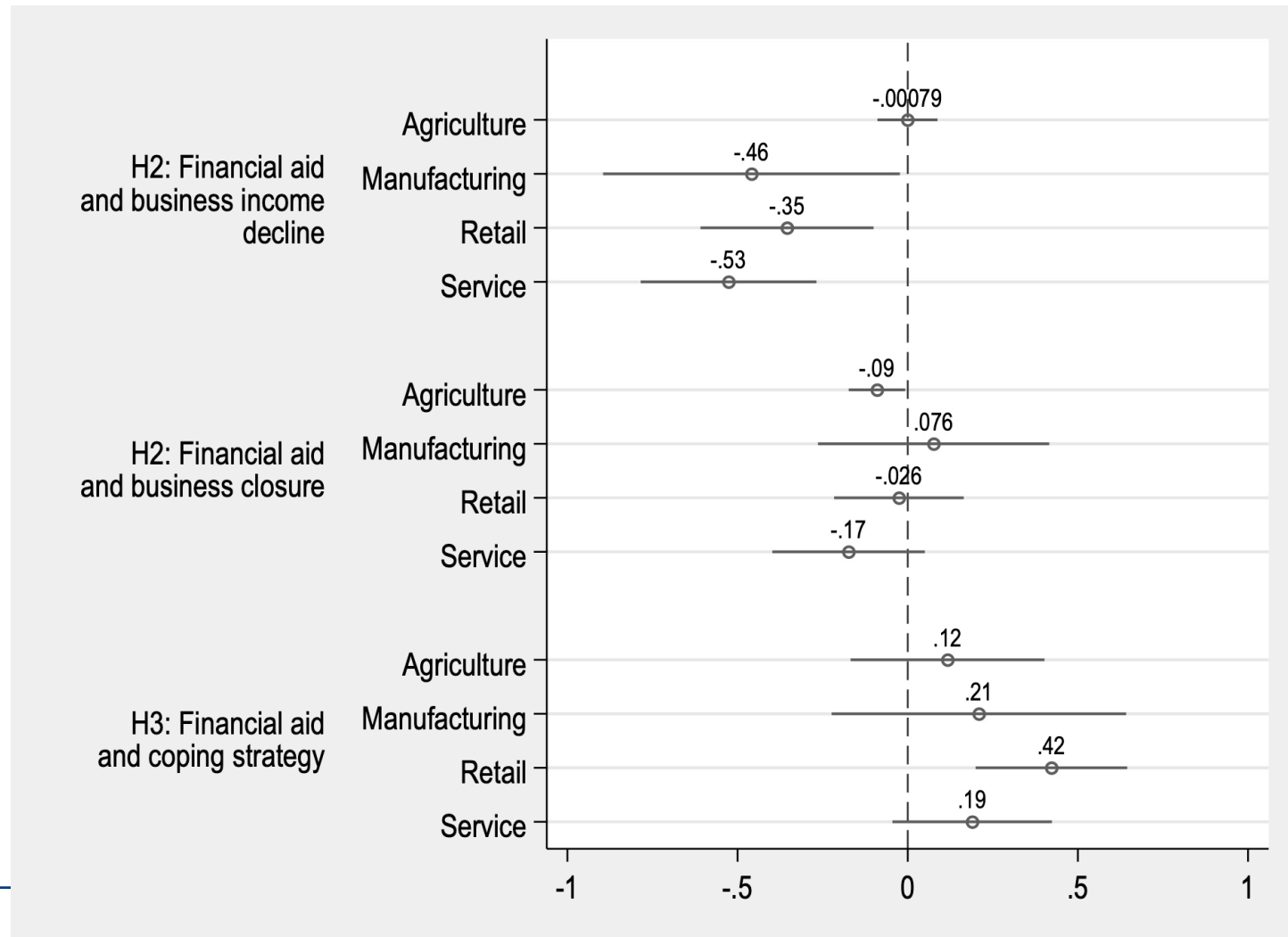
Different business sectors 1/2



Notes: This figure reports point estimates and the 90% confidence interval of the marginal effects.

Heterogeneous effects

Different business sectors 2/2



Notes: This figure reports point estimates and the 90% confidence interval of the marginal effects.