EMEs and COVID-19: Shutting Down in a World of Informal and Tiny Firms

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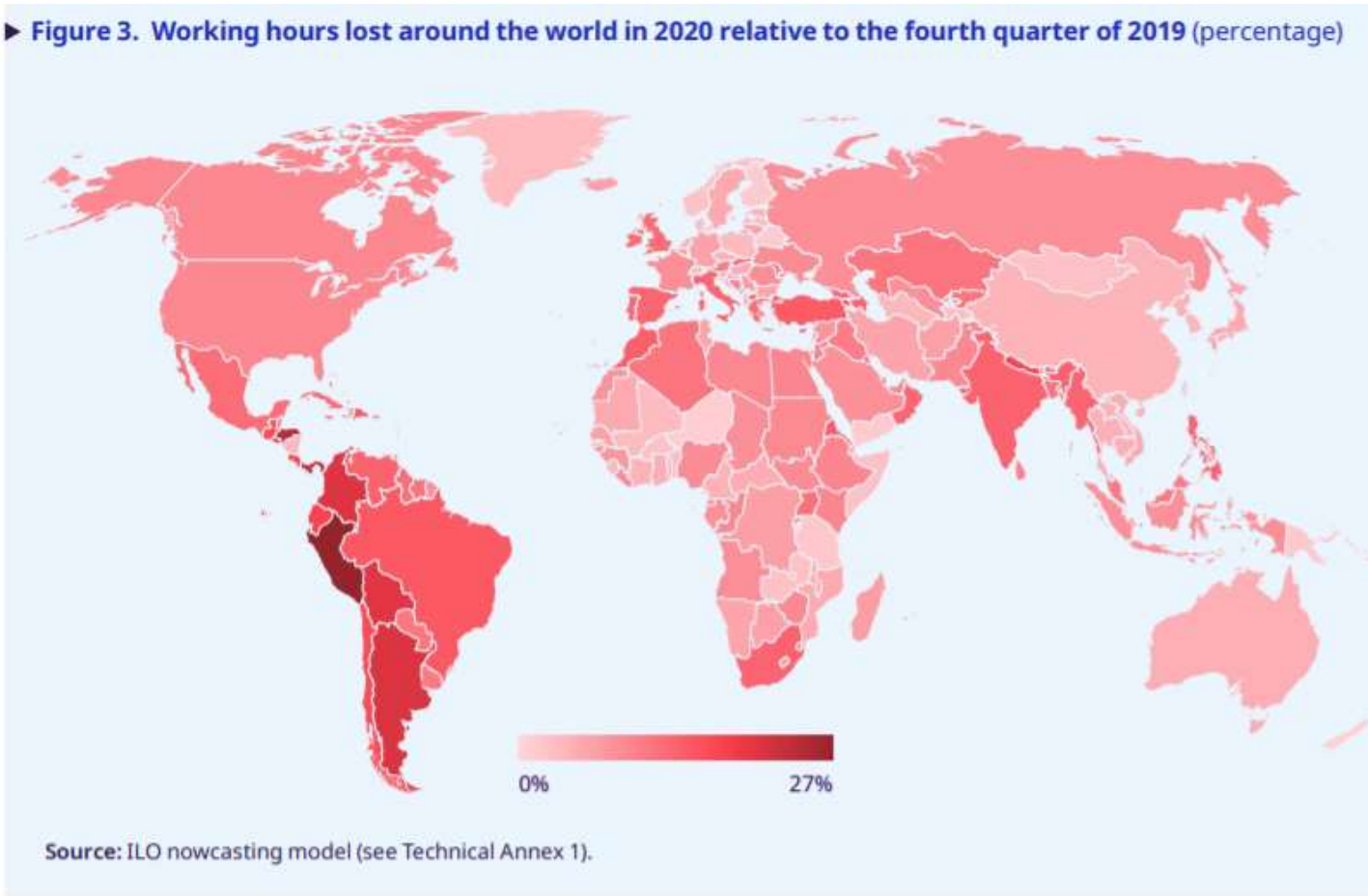
2020 Employment losses larger in LATAM (and other EMEs) than any other region



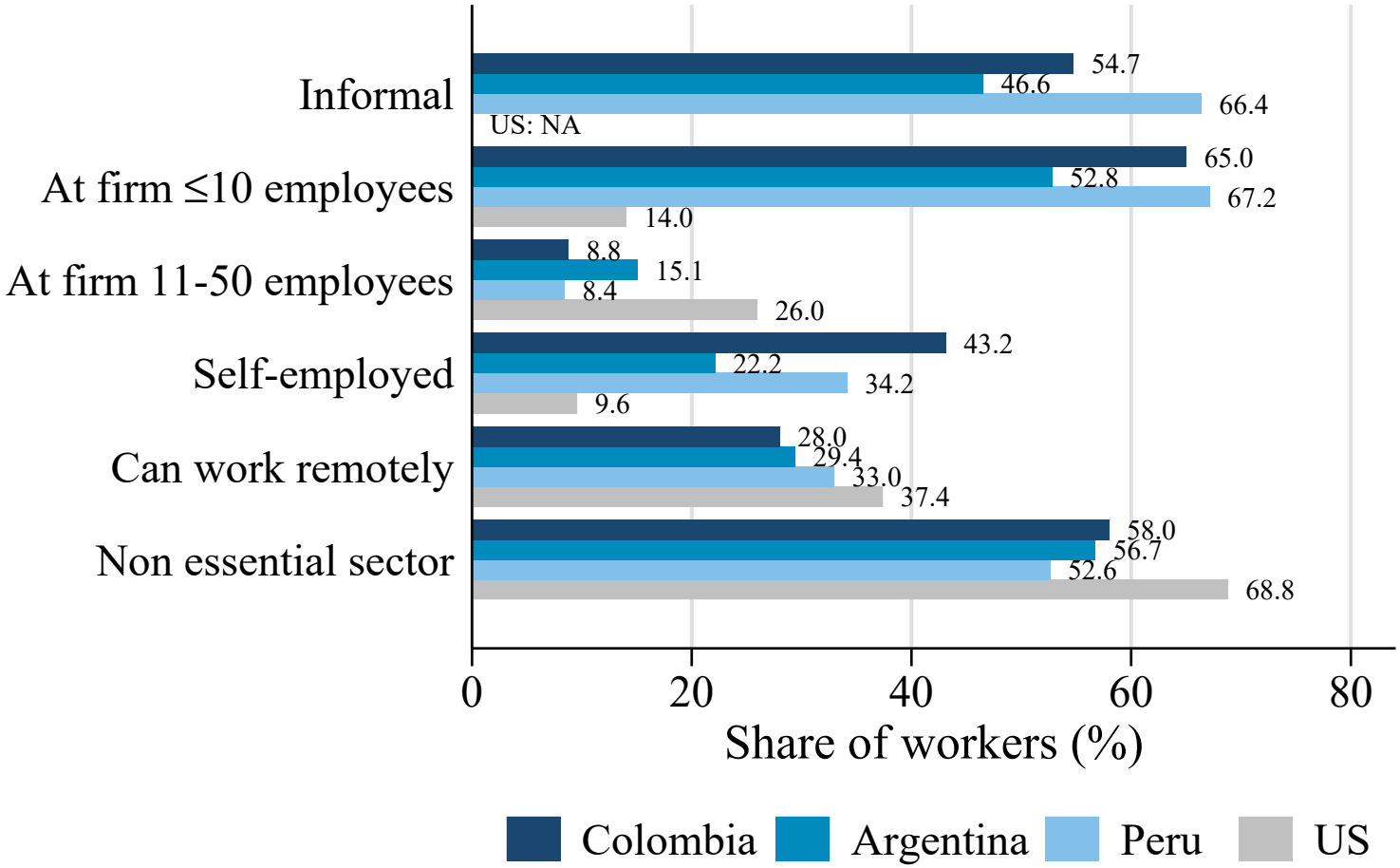
Alfaro, Becerra, and Eslava (2022)

Firms and jobs in EMEs are Different

- We show that the prevalence of informality, micro-entrepreneurship and jobs-not-fit for remote work in non-essential-sectors accounts for this performance in simulations and ex-post outcomes.
  - Low employment protection, lower organizational capital and weaker cash flows than formal firms and jobs: more vulnerable but also faster to recover
- On top of these vulnerabilities, many implemented some of the longest-lasting and most strict blanket lockdown measures.
  - Latam as urban as Europe and US, high enforcement of lockdowns

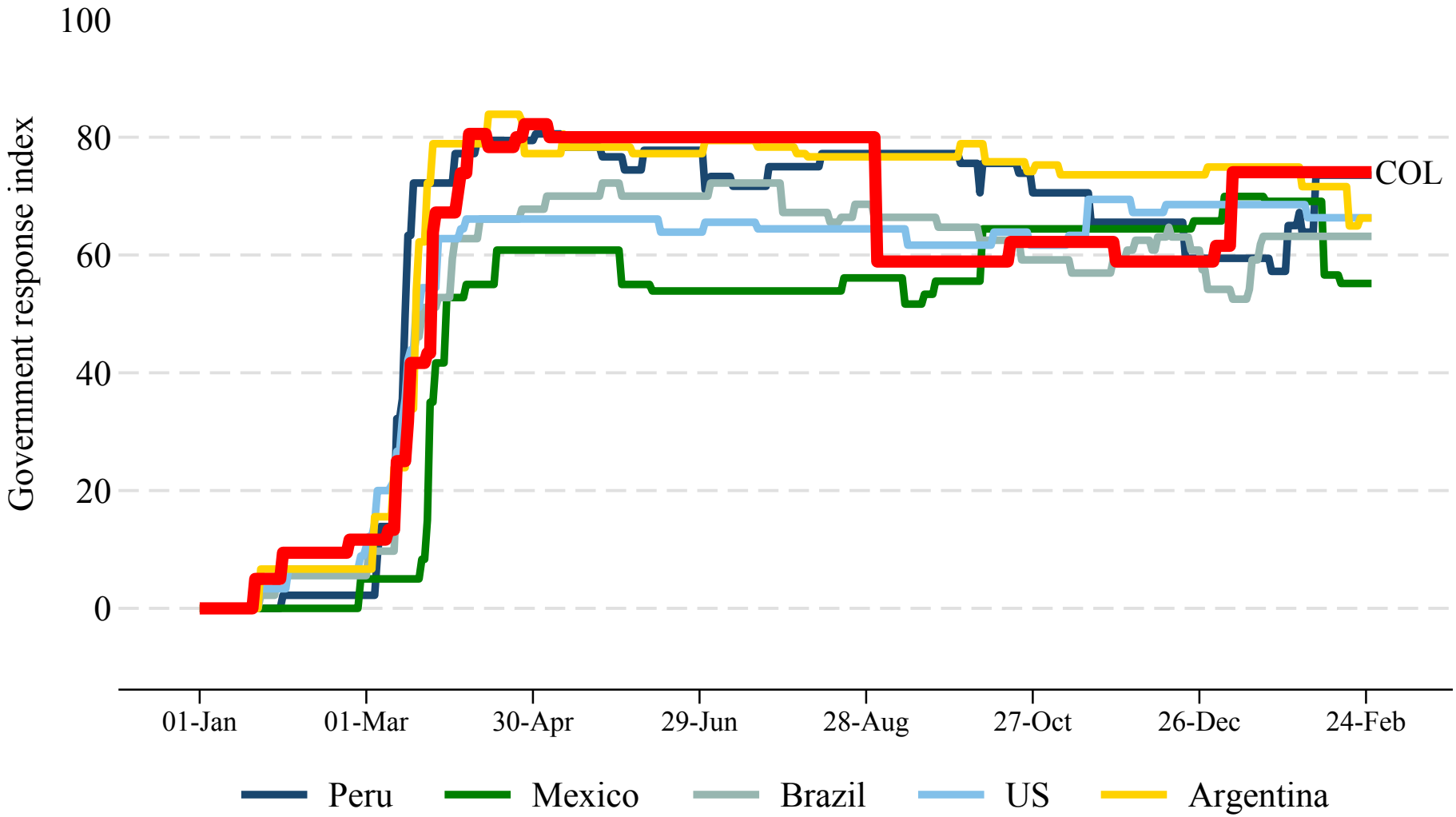
Alfaro, Becerra, and Eslava (2022)

EMEs are different



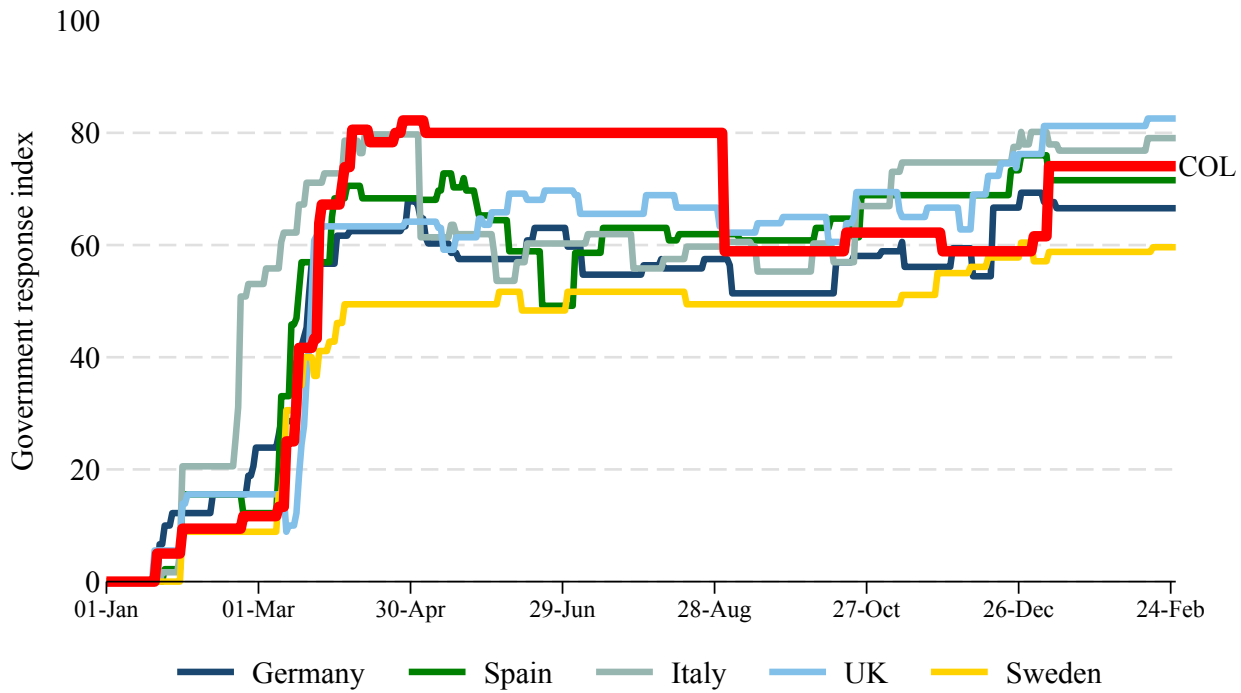
Note: Formality status is defined by the payment of mandatory pension contributions (Colombia, Argentina) an official indicator for informal employment (Peru). For the United States, self-employment encompasses those employed in their own business (incorporated and not incorporat ed), professional practice, and farming.
Source: Authors' calculations, based on Household Surveys from Argentina, Colombia and Peru (EPH, 2019; GEIH, 2019; ENAHO, 2019), the US Census's Business Dynamics Statistics (BDS, 2014), and the American Community Survey (ACS, 2017).

Government response index



Source: Oxford Coronavirus Government Response Tracker.

Government response index against Europe



Source: Oxford Coronavirus Government Response Tracker.

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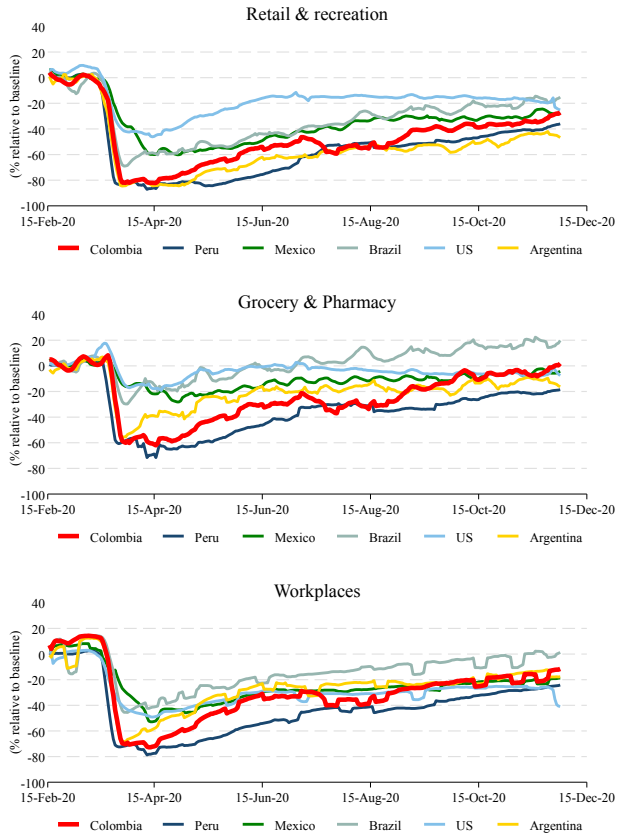
Mobility: Americas



Note: The figure shows patterns in mobility as reported by Google Mobility. The baseline is the median value for the same day of the week between 3 January–6 February, 2020. Source: Google's COVID-19 Community Mobility Report.

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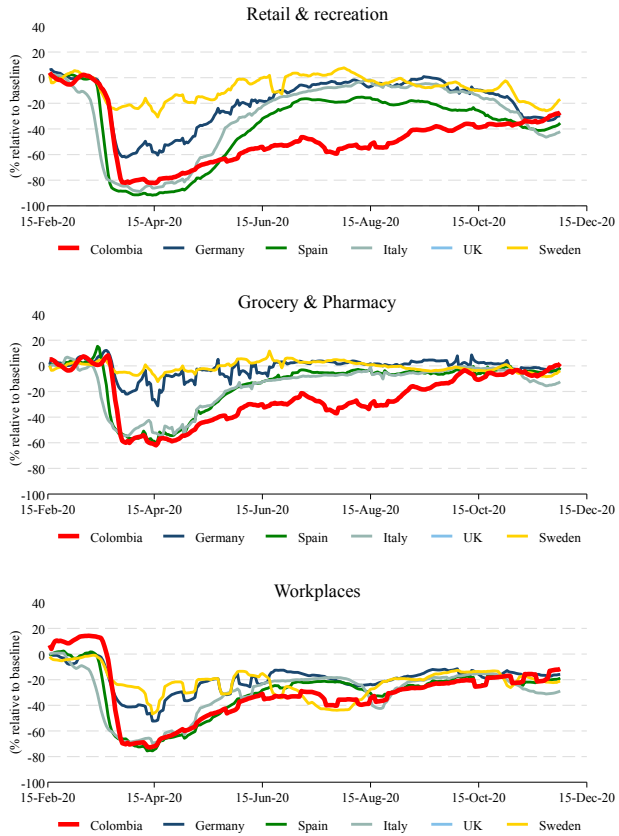
Mobility: Europe



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In this paper

- We assess excess vulnerability of employment and income to the COVID-19 crisis in EMEs, LATAM in particular.
  - A diagnostic tool.
  - Role of differential worker-job characteristics, lockdown vs. demand.
- Probabilistic framework. Applied to Argentina, Colombia, and Peru. Similar employment distribution to other EMEs/Latam.
- Supply/demand shocks + propagation through linkages network
- Informality, firm size, ability to work from home.
- Ex post analysis of actual outcomes as function of ex ante exposure measures.

Within COVID Literature

- Macroeconomic models with demand and supply shocks+SIR: infection feeds into demand, lockdown may dampen negative economic effect. *Acemoglu et al, Alvarez et al, Farboodi et al, Eichenbaum et al, Cakmakli et al*
  - We add developing economy perspective and perspective based on accounting with actual data
- Empirical measurement of exposure given job or worker characteristics and evolution of employment *Cajner et al, Coibion et al, Dingel and Neiman, Koren and Petot, Leibovici et al, Bartik.*
  - No comprehensive framework with demand, supply, IO
- Lockdown vs. demand *Cakmakli et al, Goolsbee and Syverson*
  - Identification of demand vs supply, developed contexts, and lockdowns that are not blanket and displayed short duration
- COVID and developing economies *Alon et al.*
  - Focus on demographics and informality in extremely poor countries with very imperfectly enforced lockdowns.

Preview of results

- Risk of job losses under blanket lockdown and demand contraction five times as large in our Latam economies than in a counterfactual US: 50% vs. 9.8% jobs at risk
  - 74%-80% of effect due to lockdown alone, around 20% to IO linkages, at most 10% to demand effects.
- over 70% of cross-sector variance of lost work hours in second quarter explained by ex ante exposure, with lockdowns and informality explaining most.
- Many of those risks indeed realized in second quarter of 2020: losses of 36% of (active) jobs, 39% of personal income.

Framework

$$\pi_{ist} = \pi_s \times (1 - \pi_{it}) \times (1 - T_i), \tag{1}$$

π_{ist}=prob. that worker with job i in sector s hit by shocks and vulnerable to them in scenario t
π_s=prob(s hit by shock)
T_i prob. of fit to work from home
π_{it} prob. employer cannot layoff or has resources to avoid laying-off.

$$Job\_loss_t = \left(AD \times \sum_i \frac{\pi_{ist}}{N} \right) \times \varepsilon_t \tag{2}$$

$$= Jobs\_at\_risk_t \times \varepsilon_t. \tag{3}$$

AD= Keynesian multiplier ε_t policy response and other unmeasured factors

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Framework: prob. s hit by shock

$$\pi_s = Prob\left(Lock_s = 1 \cup Dloss_s = 1 \cup IO_s = 1\right). \tag{4}$$

$$Prob\left(IO_s = 1\right) = \sum_{j \neq s} Prob\left(Lock_j = 1 \cup Dloss_j = 1\right) \times \frac{purch_{j:from:s}}{grossout_s} + \sum_{j \neq s} Prob\left(Lock_j = 1 \cup Dloss_j = 1\right) \times \frac{purch_{s:from:j}}{grossout_s}, \tag{5}$$

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Framework: value added

$$Value\_at\_risk_t = \left(AD \times \sum_s \frac{VA_s}{W_s} \left(\sum_i \left(\pi_{ist} \times w_{ist} \right) \right) \right) \tag{6}$$

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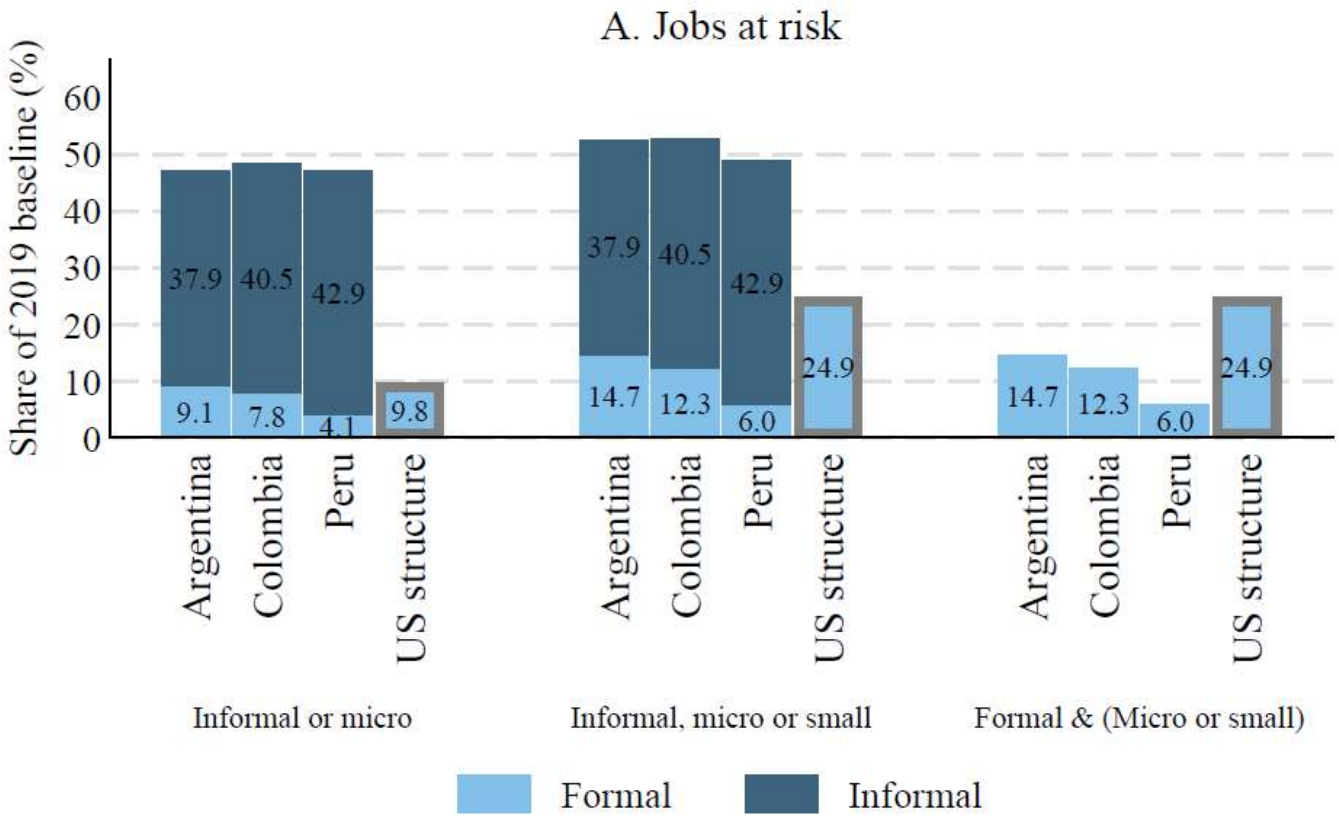
Data and context

- Argentina, Colombia, Peru:
  - Lockdown March-September 2020
  - Imposed when only hundreds of cases
  - First peak several months later (June, July)
- Household Surveys (GEIH)
  - Self-employed, informality status, size of employer firm, occupation
    - ★ Informal=does not contribute to pension (or unprotected job if pension contribution not mandatory)
  - Monthly 2019 to September 2020

Measurement

- $Lock_s = 1$ if non-essential s
- $Dloss_s =$ % implied by s' output loss in Sweeden (2020Q2)
- $IO_s = 1$: using IO matrix
- T_i Prob fit to work from home following DIngel and Neiman (2020)
- π_{it} dummy informal/small depends on scenario
  - t=1 informal and L<11
  - t=2 informal and L<51
  - t=1 formal and L<51
- AD Kmultiplier implied by income levels.

Jobs at risk



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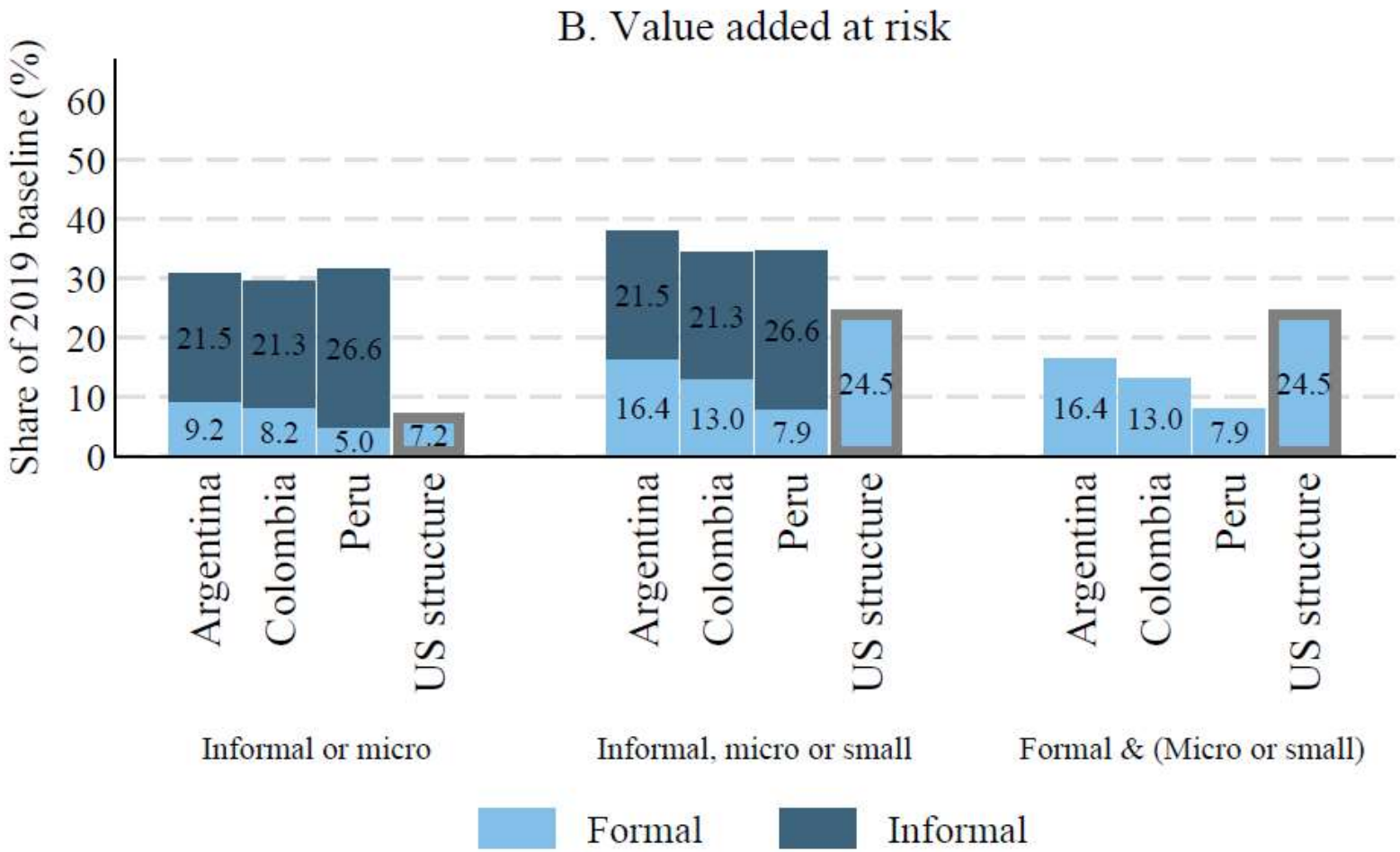
Value added at risk



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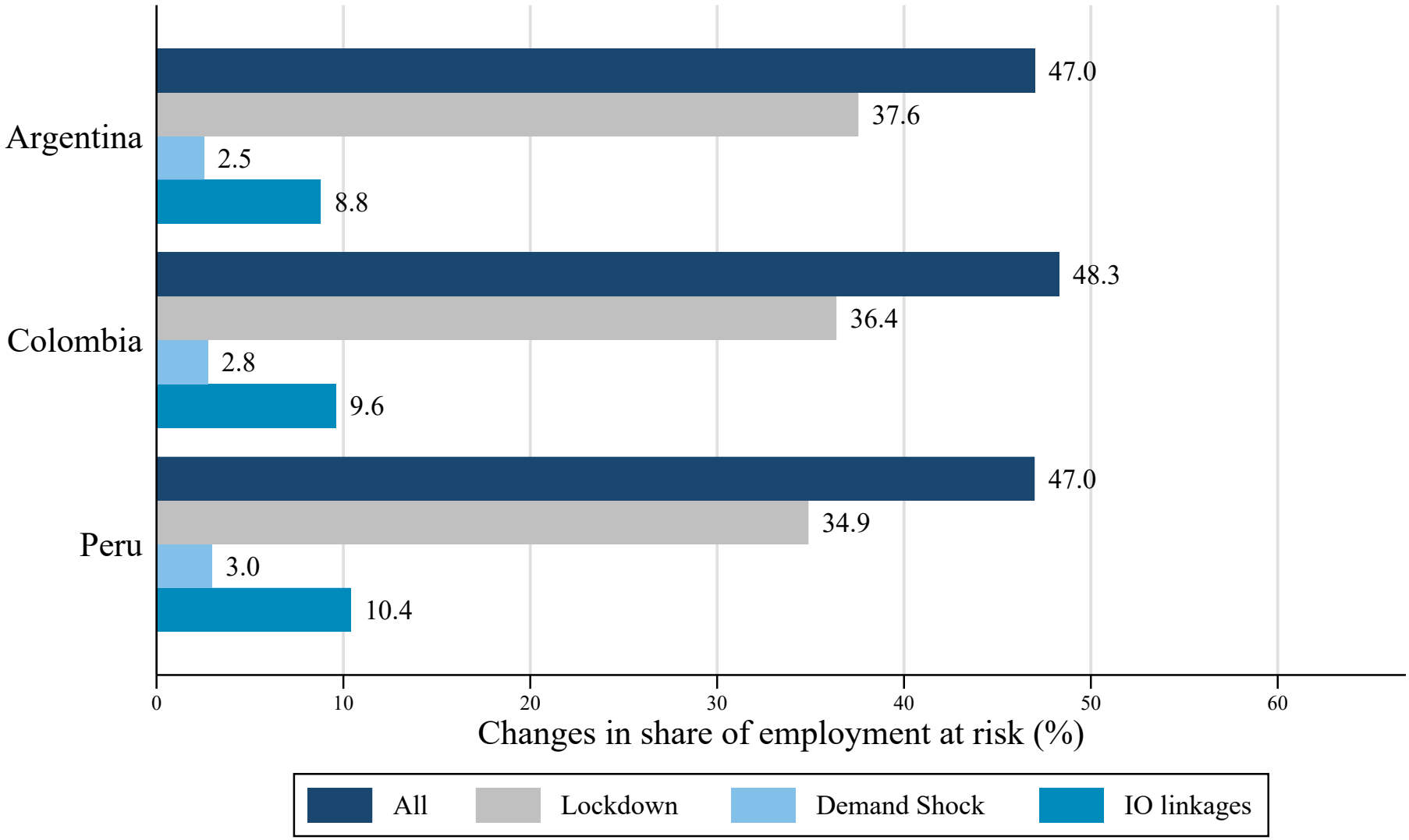
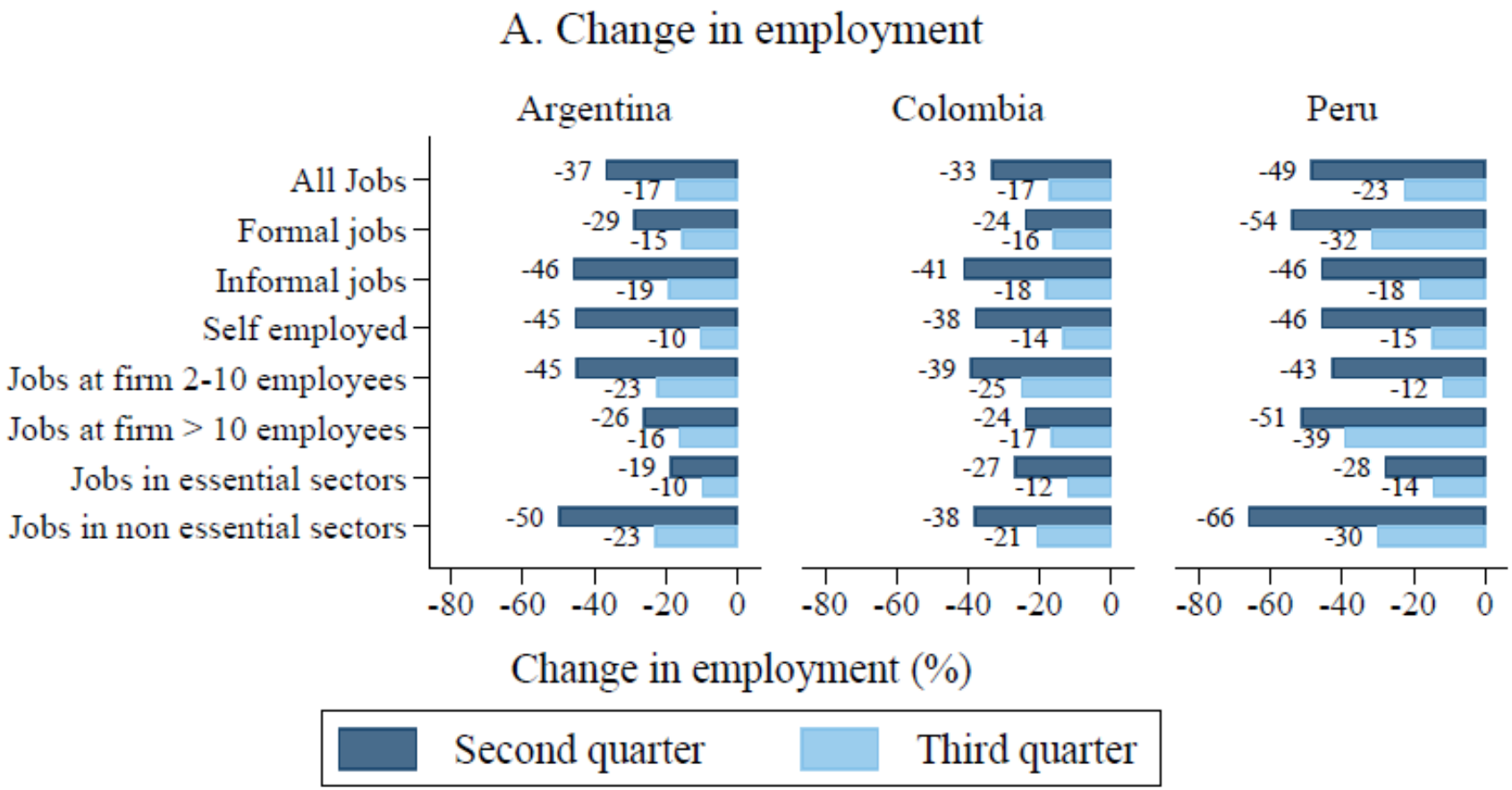
Jobs at risk by source of shock



Note: This figure estimates jobs at risk by source of the shock. It refers to the simulation in which informal jobs and those in micro firms are affected (the left-hand set of bars in Figure 2). The impact of each source (lockdown, demand, IO linkages) is calculated as the difference in the jobs-at-risk measure that results from shutting down each source.

Actual employment losses 2020



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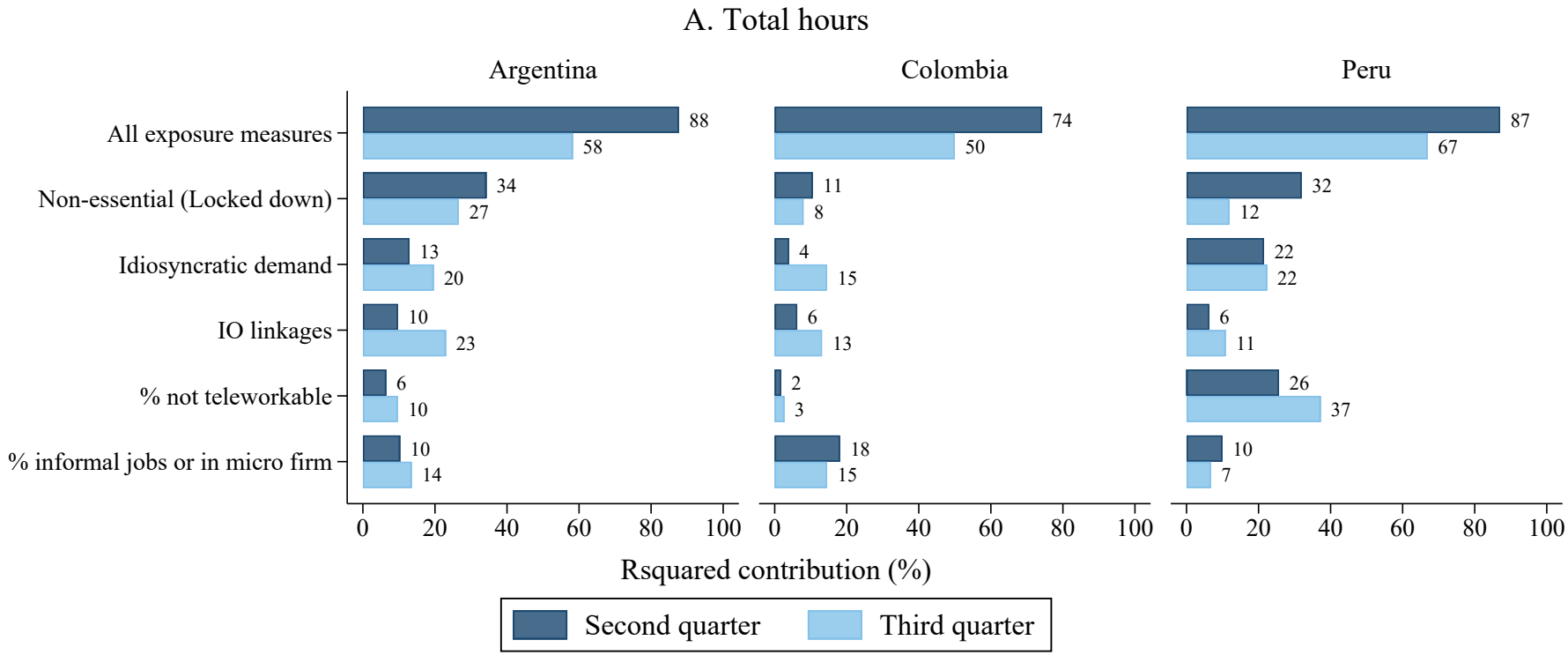
Variance decomposition of actual losses

Reduced form regression:

$$\begin{aligned}\Delta E_s =& \beta_0 + \beta_1 L_s + \beta_2 D_s + \beta_3 IO_s^L + \beta_4 IO_s^D + \beta_5 (1-\bar{T})_s + \beta_6 S_s + \\ & \beta_7 L_s \cdot (1-\bar{T})_s + \beta_8 D_s \cdot (1-\bar{T})_s + \beta_9 IO_s^L \cdot (1-\bar{T})_s + \beta_{10} IO_s^D \cdot \\ & \beta_{11} L_s \cdot S_s + \beta_{12} D_s \cdot S_s + \beta_{13} IO_s^L \cdot S_s + \beta_{14} IO_s^L \cdot S_s + u_s\end{aligned}$$

where ΔE_s is the number of work hours lost. We report Rsquared and evaluate each single dimension by fall in Rsquared when that dimension excluded

Variance decomposition actual losses



Note: This figure reports the R-squared from regression (9) (the first set of bars), and the contribution of each regressor to that R-squared (the remaining bars). The contribution of a given regressor is given by the difference between the R-squared of regression (9) the R-squared excludin that regressor. Source: Authors' calculations, based on employment losses reported in each country's household survey for the second and third quarters of 2019 and 2020.

Final remarks

- High informality and prevalence of microenterprises render emerging market economies more vulnerable to the COVID-19 crisis and likely other crises
- Blanket long duration lockdowns costly, in a context with low capacity to mitigate via subsidies to jobs and jobless people
- With widespread labor market rigidities and barriers to formal firm entry, formal-sector jobs are already taking long to recover.
  - Policies should also aim to reduce the barriers to formality as a way to speed up a "better" recovery