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Gender differences in experiencing coronavirus-triggered economic hardship: Evidence from four developing countries

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ABSTRACT

The effect of labor market inequalities during economic crises is a well-established topic. Yet, little is known about this in the context of developing countries. We use recently collected phone survey data by Young Lives (YL) from four countries—Ethiopia, India (Andhra Pradesh and Telangana State), Peru and Vietnam—to examine whether men and women suffer from coronavirus-triggered economic hardship differently. We find that men are more likely to lose jobs and income in Ethiopia and India—countries with a very high male-dominated formal sector. Conversely, gender effect is not significant in Peru and Vietnam with comparatively higher integration of women in formal employment. We further investigate whether gender effect varies by ‘wealth’ level. Findings suggest that only in India, in the wealthier group, men are more likely to face job and income loss than women, possibly indicating greater male concentration in higher-class occupations. However, the gender gap in facing hardship by wealth group is not significant for other countries.

1. Introduction

Following the COVID-19 pandemic, countries around the world have taken various measures such as national and local level lockdowns, social distancing, quarantines and even curfews. While initially adopted in developed countries, soon after, developing countries also started following these strategies to contain the spread of the virus. The applicability of these policies in developing countries was questionable given that about 70 percent people in these countries are informally employed, including the agriculture sector, with the overrepresentation of women (International Labour Organisation, 2018). This paper aims to investigate how far COVID-induced economic hardship, in terms of job and income loss, differs by gender in four developing countries.

Labor market participation of women in the developing world is significantly lower than men’s (International Labour Organisation, n.d.). Women are overly represented in informal work (International Labour Organisation, 2018) while largely unpaid and underpaid (International Labour Organisation, 2012). However, there is variability among developing countries as some are better at integrating women in the labor market than others (Verick, 2014).

Considering these special characteristics of labor market, this paper uses recent survey data from four developing countries representing regional and cultural diversity to examine gender inequality in facing economic hardship triggered by COVID-19. The paper further explores the plausible mechanism of gender inequality by individual wealth background. Gender inequality in labor market and its potential routes during recession times, and more specifically in the COVID-19 crisis, are not investigated much in the context of developing countries. The four countries in the study are Ethiopia, India (Andhra Pradesh [AP] and Telangana State [TS]), Peru, and Vietnam. We use phone survey data collected by Young Lives (YL) between early June and early July 2020 (Favara et al., 2020).

2. Economic hardship and gender inequality during recissions

Evidence remains inconclusive about the effects of economic crises on gender inequality. Some studies on advanced economies suggest that men suffer more from losing jobs and income than women during economic recessions (e.g., Hoynes, Miller, & Schaller, 2012).

However, recent findings on labor market inequalities in the COVID-19 crisis report somewhat contesting evidence. Witteveen (2020) finds that in higher wealth quantiles, men are more likely to face financial hardship triggered by COVID-19 than women in the UK. Similarly, Blundell, Costa Dias, Joyce, and Xu (2020) suggest that women and minorities face less risk to lose jobs as they tend to be more employed in essential services, often marked by unsafe and low-paying status.

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By contrast, Kristal and Yaish (2020) report that women’s employment has been hit more severely than men’s by coronavirus in Israel. Adams-Prassl, Boneva, Gollin, and Rauh (2020) also find that in the UK and US, women and low educated groups have been hurt stronger.

The effect of recessions on gender inequality in facing economic hardship in developing countries is not well documented. The main objective of this paper is to draw evidence on this using COVID-induced job and income loss events in resource-scarce contexts.

We further explore whether gender differences in economic hardship varies by household wealth level as existing research observes so. Witteveen (2020) argues that more economic hardship of men in the higher quintiles could be attributable to the fact that women (and minorities) are employed in essential and low earnings jobs. By contrast, Adam-s-Prassl et al. (2020) report that women with lower education face more economic hardship.

### 3. Study contexts

COVID-19 led to lockdowns in the four countries of this study with varying length: banning public gatherings, imposing quarantine and regional level lockdown in Ethiopia since mid-March and April (Reuters Staff, 2020); nationwide lockdown in India declared at the end of March (BMJ, 2020) and in Peru in mid-March (Associated Press, 2020). While Vietnam has few COVID-19 cases, the country has gone through a very strict lockdown as well (Sheikh, Sheikh, Sheikh, Dhami, & Sridhar, 2020). These measures may have significantly reduced economic activities.

As shown in Table 1, a huge proportion of the workforce in these countries is employed in the informal sector. However, gender disparity in informal employment is mixed—while the ratio of women is higher in Ethiopia and Peru it is lower in India and Vietnam.

### 4. Conceptual framework

Previous literature suggests that recessions can disproportionately affect various groups in three ways: (a) direct discrimination during the crisis by prioritizing one social group over another in employment along the lines of gender, race, class and ethnicity; (b) suboptimal behavior of people necessary due to resource scarcity during recessions, for instance, by taking jobs below one’s minimum expected wage; and (c) a high concentration of certain groups in the sectors recessions have the strongest impact on (Redbird & Grusky, 2016).

Women’s work in traditional societies is largely unpaid, especially in household business and management. Women also face considerable discrimination in the formal sector in developing countries (Baden, 1993). Hence, as Table 1 demonstrates, the large concentration of women in informal employment in all these countries possibly means that the work is not duly recognized. Besides, men tend to have a higher employment ratio. Men are also highly concentrated in labor intensive-sectors such as heavy industries which were likely shut down because of the pandemic or the job could not be performed remotely (International Labour Organisation, n.d.).

Overrepresentation of men in certain sectors may lead to a higher male unemployment ratio during the pandemic as also Blundell et al. (2020) suggest. In other words, the third route (Redbird & Grusky, 2016) appears to be more applicable.

However, the scenario may differ by country cases. Men’s economic hardship may be higher in India and Ethiopia. In India, women are far behind in integrating into the labor market. Those who are in the labor market are highly concentrated in informal employment. Somewhat similarly, women’s participation in the informal labor market in Ethiopia is almost twice as much as men’s (Table 1).

The same may apply to the cases of Peru and Vietnam as women tend to participate in the labor market less than men. They also participate in the informal sector noticeably, particularly in Peru. However, the informal labor market has been shrinking over time in Peru and Vietnam (International Labour Organisation, 2018). Similarly, women’s formal employment participation may be higher in these countries compared to India and Ethiopia, indicated by smaller gaps in both employment-to-population and informal employment ratios. Therefore, the gender gap could be lower in Peru and Vietnam.

We also assume that since women tend to have much lower participation in the formal labor market, gender gap by wealth may appear at upper quintiles, that would presumably have more people from higher occupational classes, as also suggested by Witteveen (2020). However, this assumption may not hold in all contexts. This is because, due to population pressure and high unemployment, a notable proportion of skilled people with university degrees in developing and emerging economies, who are also likely from a well-off background, are forced to take jobs far below their qualifications (McKenzie, 2017).

### 5. Methods

#### 5.1. Data and sampling

We use YL COVID-19 phone survey data, collected between 8 June and 12 July from Ethiopia, two states of India (AP and TS), Peru and Vietnam (Favara et al., 2020). The study includes all adult population from the sample aged between 18 and 65 years old in the selected countries that are also active in the labor market.

YL is a longitudinal survey in the selected countries aimed at analyzing the causes and consequences of childhood poverty since 2002. It has followed 12,000 children from two cohorts born in 2000–2001 and 1994–1995 respectively. Sentinel-site sampling design was used consisting of 20 purposefully selected sites in each country to represent national diversity while having a pro-poor bias. Although poor families were oversampled, non-poor households were also selected to ensure diversity and draw valid comparisons (Wilson & Huttly, 2004).

Despite not being fully nationally representative, previous analyses suggest that YL surveys closely represent the national diversity of families and children, and their wealth level when compared with other nationally representative data such as Demographic and Health Survey (DHS) (Eisenhal & Flores, 2008; Kumra, 2008; Nguyen, 2008; Outes-Leon & Sanchez, 2008).

The COVID-19 survey involved the members belonging to the households of the two YL cohorts. We do not link this dataset to the previous YL waves to use more background information as doing so significantly drops observations from the study because of mismatch in YL id.
5.2. Variables

Dependent variable – economic hardship – is defined by either (a) someone lost her/his job or (b) was suspended without payment and/or faced a wage cut due to the COVID-19 crisis. Both of these situations indicate a significant financial loss and the imposition of an extra financial burden on the family. The indicators do not specify whether the person was employed in the formal and informal sector. In the dataset, both indicators have three categories: (i) Yes, if someone lost income or job; (ii) No, if someone did not lose income or job; and (iii) Not Applicable, if the person was not working before the pandemic. We exclude the third option as the focus of the study is on those who were active in the labor market. We present the descriptive statistics including people who were not in the labor market in Appendix A. When compared with active labor market participants, the proportion of people facing economic hardship dramatically changes.

Gender dummy, the main independent variable, in the summary statistics (Appendix A) shows that when the population outside the labor market are excluded, the proportion of men increases by about 10 percent in India and Peru. Male representation is, nonetheless, also slightly higher in the labor market in Ethiopia and Vietnam.

The ‘wealth’ dummy, originally reported as Home Environment for Protection (HEP), was constructed by YL based on six indicators to report whether a household has protective capacity from COVID-19. The indicators include material possessions of households such as computer and television, people-to-room ratio, private toilets, dwelling having walls and a roof, private water source, and sanitization facilities. The YL team found a strong correlation between YL’s previous wealth index and HEP (Favara et al., 2020). HEP dummy 1 indicates higher wealth or ‘rich’ and 0 means lower wealth or ‘poor’. We also include urban-rural dummy in the analysis as they represent quite distinct features in low-income countries because of continued rural-to-urban mass migration for employment opportunities, COVID-19-related health risks because of high population density and high inequalities (Tacoli, 2012).

In addition, we control for age and age squared, and state only for India (whether AP or TS). The regional id for other countries is not available in the dataset.

5.3. Analytical approach

We use the following logit regression model in Eq. (1), where outcome variable \( E \) is a dummy indicating whether someone faced economic hardship or not. \( \delta \) is an intercept, \( \beta \) is the coefficient on gender \( G \) in household, \( \phi \) is a vector of coefficients on the control variables \( Z \), household ‘wealth’, location (urban/rural), age, age squared, and state dummy only for India. \( \epsilon \) is an error term. Models are adjusted for household-clustered standard errors.

\[
E = \logit(P_{ih}) = \delta + \beta G_{ih} + \phi Z_{ih} + \epsilon_{ih}
\]  

6. Findings: gender differences in facing economic hardship

The results are mixed among countries about the association between gender and economic hardship. As Table 2 suggests, holding all other factors constant, we find that men are more likely to face economic hardship than women in Ethiopia (\( p < 0.01 \)) and India (\( p < 0.01 \)). But we do not observe any significant gender difference in Peru and Vietnam. The results hold the same in models without adding controls (not displayed in the paper).

This aligns with our initial assumption that due to highly unequal male-dominated labor market in India and Ethiopia, potentially concentrated on heavy industries and higher pay, men are likely to have lost their jobs more than women. In Peru and Vietnam, as speculated, the non-significance could potentially be associated with their relatively higher integration of women in formal employment.

However, these assumptions cannot be explored further in the study as the data is not available on the type of job, that is, the formal and informal sectors.

We also find that apart from India, the association of ‘wealth’ with economic hardship is not found significant for other countries: on average, ‘poor’ people are more likely to lose jobs.

To explore the plausible route of gender inequality through ‘wealth’ background we examine the interaction between gender and wealth. However, with the exception of India, we do not find the interaction effect significant for other countries. As Fig. 1 illustrates, men from ‘wealthier’ households tend to experience higher economic hardship than women from the same background. There is a notable gender gap of about 7 percentage points in facing hardship in the ‘rich’ category. The predictive margins for men and women are 71.4 percent and 64.5 percent, respectively.

Our results about ‘wealth’ interaction could be driven by the way the variable is measured in the dataset. Income and occupational data may show different results for all countries, which future research can embark on.

Although it is not the main concern of the study, we also find that in all countries but India the association of urban/rural location with economic hardship is significant. As shown in Table 1, people in urban areas tend to face more economic hardship than rural people. This could be driven by the fact that urban areas were hit by coronavirus and lockdowns much harder than rural areas. However, gender differences in experiencing hardship are not significant by urban and rural location in any country (not displayed).

7. Discussion

This paper gives an overview of gender inequality in COVID-19-induced economic hardship in terms of job and income loss in four developing countries from four different regions of the world.

Our findings suggest some assimilation with past evidence from industrialized countries. We find that men tend to lose jobs and income in India and Ethiopia more than women which aligns with the evidence that economic recessions affect men disproportionately (Hoynes et al., 2012) as well as recent findings from the UK (Witteveen, 2020).

However, we do not find any significant association of gender for Peru and Vietnam. We speculate that this difference may have to do with the pattern of gender integration in the labor market. India’s overall labor market is male-dominated while, in Ethiopia, women tend to work outside formal employment nearly twice as much as men. These factors may be associated with a higher job loss of men.

On the other hand, in Peru and Vietnam, as said in Section 4, the overall gap in the formal labor market is likely to be lower than that of...
Ethiopia and India. This may have contributed to the lower gender gap in economic hardship.

The results, however, indicate labor market inequalities in the early stages of the COVID-19 crisis. The relative advantage of women in India and Ethiopia assimilates the pattern of early phases of the Great Recession (Hout, Levanon, & Cumberworth, 2011), which is likely because of women’s greater concentration in essential and low-paying jobs. The situation may reverse in the later stages of the COVID-19-triggered economic crisis potentially resulting in women facing more economic crisis.

While ‘wealth’ proxy is limited to capturing a comprehensive measure, the result indicates that in India, men from better-off households tend to face more economic hardship compared to their female counterparts. This implies that India’s formal and upper-end occupations may likely be male-dominated and may have been heavily affected by the crisis. However, better use of wealth measurement with income or occupation data could draw a robust picture of this dimension of inequality.

To conclude, as aforementioned, these are early results of the COVID-19-induced economic crisis. The long-term effects of coronavirus, lockdown and other measures are yet to be revealed in the coming months and years.

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Appendix A

See Table A1.

Table A1
Descriptive Statistics.

|                                      | Study Sample: Active Labor Market Participants | Sample After Including Inactive Population |
|--------------------------------------|----------------------------------------------|-------------------------------------------|
|                                      | Ethiopia, India (AP and TS)                  | Peru, Vietnam                             | Ethiopia, India (AP and TS)                  | Peru, Vietnam                             |
| Economic Hardship (%)                | 16.1                                         | 29.6                                      | 11.3                                         | 27.4                                      |
| Men (%) (Ref: women)                | 51.2                                         | 51.5                                      | 49.8                                         | 49.7                                      |
| Rich (%) (Ref: poor)                | 23.3                                         | 77.5                                      | 24.7                                         | 94.2                                      |
| Urban (%) (Ref: rural)              | 37.3                                         | 43.7                                      | 41.8                                         | 83.5                                      |
| Age (mean)                          | 33.6                                         | 33.9                                      | 32.6                                         | 33.7                                      |
| Age (SD)                            | 13.3                                         | 13.7                                      | 13.5                                         | 13.9                                      |
| N                                   | 5975                                         | 6384                                      | 8545                                         | 8244                                      |

Source. YL COVID-19 Phone Survey, June and July 2020.
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