Occupations and Wealth in Developing Countries

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Abstract: This paper examines 1,313 regions from 46 developing countries to document that individuals working outside the context of a firm (own-account workers and family workers) are consistently overrepresented among the poorest workers in their labor markets.

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To what extent the workers' occupational category (whether someone is an employer, an employee, an own-account worker, or an unpaid family worker) is associated with their material living conditions? Motivated by this question, this short paper looks at the distribution of employment categories over different wealth levels in 1,313 regions from 46 low- and middle-income countries. We find that, despite a wide diversity in the composition of those markets, own-account and family workers are consistently overrepresented among the poorest members of the employed population.

These results contribute to the literature on the composition of the labor supply by examining the labor markets at a subnational level, complementing the patterns established with national aggregates. Moreover, it estimates workers' wealth from observable household living conditions, an approach that improves the coverage of the working population relative to comparisons based on monetary labor income.

1. Data source and sample description

This study explores microdata from the national censuses collected and harmonized in the IPUMS International database (Minnesota Population Center, 2020). The universe of interest comprises all countries classified by the World Bank as low, lower-middle, or upper-middle income in the reference year of their censuses. The final sample is restricted to censuses that include sufficient information on the employment status of the working population, and a comprehensible set of indicators on the material living conditions in the household, as detailed in the following sections. If more than one census edition is available, we keep only the latest one, and waves collected before 2000 are disregarded.

The final sample is broad in terms of geography (20 countries from Africa, 18 from the Americas, and 8 from Asia) and in terms of income level (14 low-income countries, 21 lower-middle, and 11 upper-middle), representing a total of 1.32 billion people.[1]

2. The employment categories

The analysis focuses on employed individuals of a given region (i.e., excluding the inactive and the unemployed) between the ages of 15 and 64. In all that follows, the term "workers" will refer to this specific population.

We classify the workers into four categories, according to their primary occupation: [a] *employers*, who own the firm where they work and regularly engage other employees to contribute to the production under their authority; [b] *employees*, who work in exchange for pay under an agreement with a firm; [c] *own-account workers*, who perform an autonomous economic activity without regularly engaging other employees; and [d] *contributing family workers*, who support the activity of another family member without expectation of regular pay.

While the related literature may adopt "self-employed" in reference to both employers and own-account workers, this paper distinguishes those two groups. We also clarify that, for the purposes of this analysis, the categories are independent of the legal status of the activity: both formal and informal employers are considered employers, and similarly for all other workers.

In practical terms, those groups can be readily identified in the IPUMS database, as they represent a subset from the classification proposed in the International Classification of Status in Employment (ICSE) (International

[1] In alphabetical order, it includes Armenia (2011), Benin (2013), Bolivia (2012), Botswana (2011), Brazil (2010), Burkina Faso (2006), Cambodia (2008), Cameroon (2005), Colombia (2005), Costa Rica (2011), Dominican Republic (2010), Ecuador (2010), Egypt (2006), El Salvador (2007), Fiji (2014), Ghana (2010), Guatemala (2002), Haiti (2003), Honduras (2001), Indonesia (2010), Jamaica (2001), Jordan (2004), Laos (2005), Lesotho(2006), Liberia(2008), Malawi (2008), Malaysia (2000), Mali (2009), Mexico(2015), Morocco (2014), Nepal (2011), Nicaragua (2005), Panama (2010), Paraguay (2002), Peru (2007), Rwanda (2002), Senegal (2013), Sierra Leone (2015), South Sudan (2008), Sudan (2008), Suriname (2012), Tanzania(2012), Togo (2010), Uganda (2014), Venezuela (2001), and Zambia (2010). In most cases, the microdata represents a 10% random sample from the original census, with the exceptions of Malaysia (2%), Mexico (9.5%), Nepal (12%), South Sudan (7%), and Sudan (16.6%). China and India are not in the sample because the available data lack crucial variables, and their absence may represent the main limitation to the generalizability of our findings.

Labour Office, 2020). The single analytical adjustment we make consists of moving domestic workers from employees into own-account workers, when the information is available, since they are closer to autonomous service providers than employees who contribute to a firm's production. However, this group is relatively small, and the results are quantitatively similar without adjustment. The remaining work activities (apprentices, unknown, others, or missing) are removed from the sample.

3. An index of household wealth

Monetary measures of socioeconomic status based on asset holdings, income, or consumption require data that is not systematically available for representative samples in developing countries. To overcome this constraint, we use the information provided by the infrastructure of someone's residence, following a strategy popularized after Filmer and Pritchett (2001) with the same implementation as Bandiera et al. (2022a).

The objective is to summarize the set of domestic assets observed for a given household into an index that captures, as much as possible, the variability in the distribution of those assets over all households. In technical terms, the index weights standardized asset indicators by the scores of the first component from a Principal Component Analysis (PCA), estimated separately for each country. The resulting index is assigned to all household members, assuming that they benefit equally from the domestic conditions captured by it.

The set of variables that may enter into the estimation, according to availability, includes: [a] *durable assets* (ownership of the housing unit, radio, telephone, cellphone, refrigerator, washing machine, computer, cars per capita, TVs per capita), [b] *measures of the infrastructures and services* (type of fuel used for cooking, access to electricity, piped water, internet, sewage system, and trash disposal mechanism), and [c] *measures of housing space, quality, and comfort* (household members per room and per bedroom, presence of a toilet, air conditioning, kitchen, bathing facilities, materials used in the floor, walls, and roof of the dwelling).

To minimize the incidence of large clusters with identical indexes, we keep in the sample only the censuses containing at least 20 indicators with non-missing values for more than 85% of the households.[2] The final number of available indicators can range from 20 (the case for Armenia) to 64 (for Zambia).[3]

4. Regional labor markets

The main exercise consists of studying the distribution of workers over different categories of employment and different levels of wealth. One novelty in this paper is that the analysis takes place at the level of a *regional labor market*, defined as the areas sharing the same urbanization status (either urban or rural) within the first subnational division in a country (be it state, department, region, province, district, or parish, according to the jurisdiction). In other words, a given state's rural and urban areas make up two distinct regional labor markets, and a country can be divided into up to twice as many regional labor markets as there are states.

The use of subnational reference areas leads to a range of analytical units (1,313 regional labor markets from 683 states in 46 countries on three continents). It also defines relatively homogeneous labor markets, helping to control for systematic differences between markets when we compare workers in the same region. The smallest labor market in the sample refers to the Dowa District urban areas (Malawi), with 1,120 workers, and the largest comprises the São Paulo State urban areas (Brazil), with 18.5 million workers.

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[2] The adoption of a broader range of indicators favors a smoother composite index. On the other hand, restricting the analysis to countries (or households) with a very large number of variables would introduce sample selection. The criteria adopted here are meant to balance those considerations.

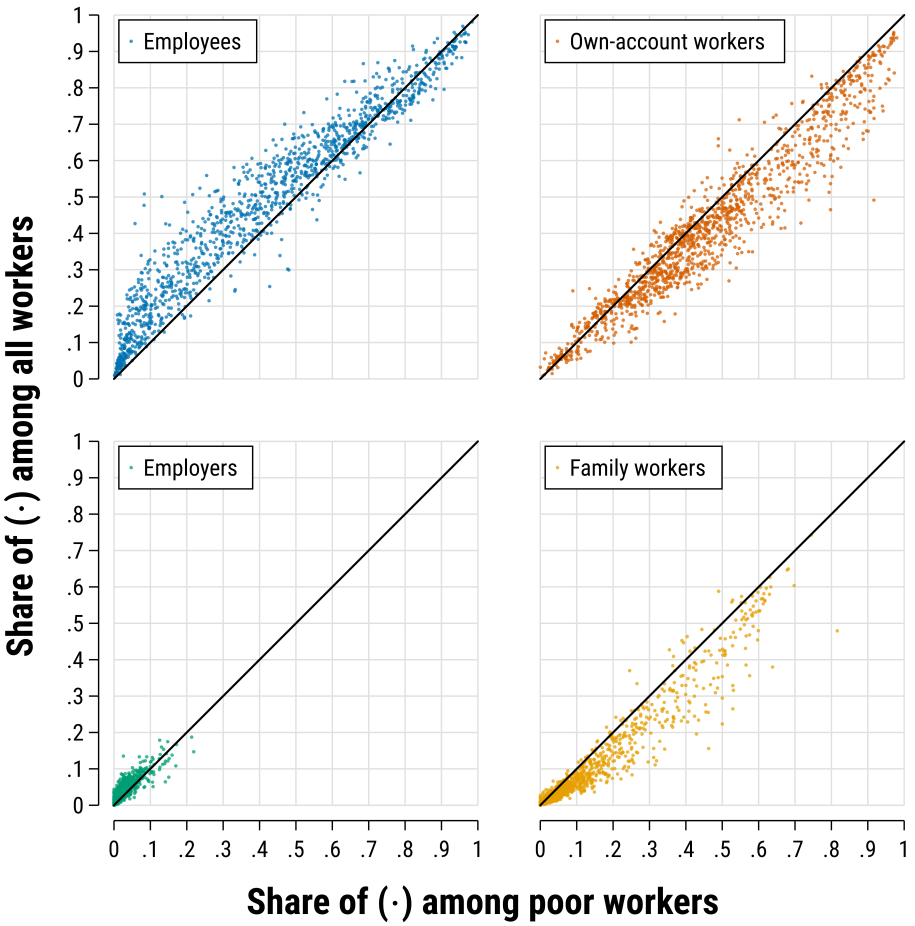
[3] Take Bolivia as a practical example. Its harmonized census has 18 of the variables mentioned above. Since the categorical ones are broken down into sets of dummies, we have 56 indicators, out of which 50 are available for more than 85% of the households and are retained for the PCA estimation. The scores associated with having a radio, a phone, or access to the internet all have positive signs, implying positive contributions to the index, while having a larger number of people per bedroom lowers the index. The principal component accounts for the fact that there is a correlation between these items, and can accommodate the observation that radios are much more common than internet connections.

5. Results

Regional labor markets in poorer countries tend to have a higher prevalence of own-account workers and family workers. Splitting the sample according to the country's income level, the average share of own-account workers in a regional labor market decreases monotonically from 60.6% (in low-income countries) to 35.4% (lower-middle income) to 27.3% (upper-middle income). Similarly, the average proportion of family workers falls from 14.1% to 9.4% and 2.4%. At the same time, these reductions are matched by an increase in the average share of employees (24.0%, 51.2%, 66.6%). These results are aligned with patterns reported by Gindling and Newhouse (2014) and Bandiera et al. (2022a, 2022b) using evidence aggregated at the national level.

Own-account workers and family workers are consistently overrepresented at the bottom of the wealth distribution in their regional labor market. Figure 1 plots the regions over four panels, each focusing on a given employment category. The vertical axis shows how much that category represents among all workers in the region, while the horizontal axis shows how much it represents among poor workers (the ones that fall at the bottom quintile of the wealth index). Hence, dots falling under (over) the 45-degree line represent a region where that category is more (less) common among poor workers than among workers from all wealth groups.

Figure 1: Share of a given employment category among all workers in a region plotted against the share of the same category among the subset of poor workers in that region



If the composition of the poorest workers in a region were simply a reflection of the general composition of that labor market, the dots would track the 45-degree line. Instead, these plots tell a different story: own-account workers and family workers are consistently overrepresented at the bottom (in 76.4% and 73.0% of the regions, respectively) while employees and employers are consistently underrepresented at the bottom (in 81.6% and 86.4% of the regions).

6. Final comments and open questions

The evidence presented here is fundamentally descriptive in nature, yet it suggests some refinements to how we understand the link between work and wealth in the developing world. One could hypothesize that the correlation between own-account work and poverty is driven by the higher presence of such occupation in rural areas. However, our analysis rejects a complete mediation by urbanization: looking only at cities, own-account workers are still predominant in the regional labor markets of the poorest countries (with an average share of 55.5%, 30.7%, and 23.0% in the urban regions from low, lower-middle, and upper-middle income countries), and they continue to be overrepresented among the poorest workers (with a disproportionally larger share at the bottom of the wealth distribution in 78.7% of the urban regional labor markets).

Our findings also point to a polarization between individuals who work within the productive structure of a firm (employers and employees) and those outside it (own-account workers and family workers). This seems to be a fundamental cleavage dimension, leading to other research questions. To what extent is this pattern driven by a structurally higher work efficiency inside the firm? Or is this a consequence of sorting and selection, with firms taking up the most productive workers in the pool and segregating the rest?

Finally, we note that the causality could run from household wealth to occupational choice. Workers in vulnerable living conditions may be unable to invest time and resources into finding a wage job; instead, they can be more likely to work on their own to secure some labor income sooner. The data presented here cannot reject these hypotheses, which will be investigated closer in future work.

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