

RELATIVE DEPRIVATION AND THE DIFFERENTIAL EFFECTS OF THE COVID-19 PANDEMIC ON THE POOR IN MEXICO

PRIVAÇÃO RELATIVA E OS EFEITOS DIFERENCIAIS DA PANDEMIA COVID-19 SOBRE OS POBRES NO MÉXICO

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ABSTRACT: One of the main challenges to studying the effects of the pandemic on poverty has been the lack of adequate data. Very few countries have short-term poverty data and most official surveys are rather rigid and were incapable of adding any special modules to jointly study COVID-19 and poverty. Furthermore, many poverty measures rely on indicators of unsatisfied basic needs (UBN) that, albeit useful to characterise exclusion from essential services, are not sensitive to short-term effects on the resources of the population. This study uses data from the Encovid-19 to jointly study poverty and some of the consequences of the pandemic on the Mexican population. This survey included a short module to measure poverty using the consensual deprivation approach. Once the poor were reliably identified in the survey, the study analysed differences in coping mechanisms, occupation, and perceived COVID-19 consequences between the poor and the not poor. From the methodological point of view, the study shows how the consensual approach has the advantage of producing valid and reliable poverty figures at a low cost. The findings clearly show that the poor were clearly most affected by the COVID-19 pandemic.

KEYWORDS: Poverty, consensual approach, Mexico, COVID-19

RESUMO: Um dos principais desafios para estudar os efeitos da pandemia na pobreza tem sido a falta de dados adequados. Poucos países têm dados de pobreza de curto prazo e a maioria das pesquisas oficiais são bastante rígidas e incapazes de adicionar módulos especiais para estudar conjuntamente a COVID-19 e a pobreza. Além disso, muitas medidas de pobreza dependem de indicadores de necessidades básicas insatisfeitas (UBN) que, embora úteis para caracterizar a exclusão de serviços essenciais, não são sensíveis a efeitos de curto prazo sobre os recursos da população. Este estudo usa dados do Encovid-19 para estudar conjuntamente a pobreza e algumas das consequências da pandemia na população mexicana. Esta pesquisa incluiu um pequeno módulo para medir a pobreza usando a abordagem de privação consensual. Depois que os pobres foram identificados de forma confiável na pesquisa, o estudo analisou as diferenças nos mecanismos de enfrentamento, ocupação e consequências percebidas do COVID-19 entre os pobres e os não pobres. Do ponto de vista metodológico, o estudo mostra como a abordagem consensual tem a vantagem de produzir números de pobreza válidos e confiáveis a baixo custo. Os resultados mostram claramente que os pobres foram os mais afetados pela pandemia de COVID-19.

PALAVRAS-CHAVE: Pobreza, abordagem consensual, México, COVID-19

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INTRODUCTION

The direct and indirect effects of the different stages of the COVID-19 pandemic on people's living standards have been one of the main research questions since the early months of 2020. Several studies have aimed to track, measure or estimate the changes in the prevalence of poverty during the pandemic (Bhalla, Bhasin e Virmani, 2022; Buheji *et al.*, 2020; Han, Meyer e Sullivan, 2020; Nájera, Huffman e Desarrollo, 2021; Parolin *et al.*, 2020; Sumner, Ortiz-Juarez e Hoy, 2022; Tavares e Betti, 2021). The focus of the evidence on the relationship between poverty and the pandemic has shifted from one study to other. Whereas some have still targeted quantifying the net change in poverty rates, other studies have looked at the vulnerability of the poor to the pandemic (Brewer *et al.*, 2021; Cortés, Vargas e Valdés, 2020; Suárez Lastra *et al.*, 2021).

The approaches have varied quite substantially in terms of the research design used by the available studies. Some studies relied on estimations or forecasts, others on macro-level approximations that considered previous information about changes in gross domestic product and poverty, and very few relied on data explicitly collected during the peaks of the pandemic waves. One of the key challenges faced by most studies was the lack of adequate data to make inferences about the different effects of the pandemic on the population. Even during the later stages of the pandemic in 2021 and 2022, it has been difficult to produce evidence about poverty, living standards and variables of interest in the context of the pandemic.

The problem rests in, at least, three main data limitations. First, virtually no country in the world was able to implement a research design to study people's living standards just before and after the first major confinement so that the immediate effects of the pandemic could be quantified. Arguably, the only known case in official statistics happen in Uganda where the main national household survey collected poverty data just before and just after the pandemic started. The other available poverty data during the most acute faces of the pandemic came from panel surveys from international organisations (Josephson, Kilic e Michler, 2021). Second, some countries periodically collect poverty data (e.g. every one or two years), however, most of the household surveys lack any special modules to collect data on COVID-19 to connect more clearly the implications of the pandemic upon poverty. So in these cases, the evidence tells a more nuanced and indirect story about the pandemic and poverty. Third, in many developing countries, poverty measures are based on Unsatisfied Basic Needs (UBN)

indicators, which mainly look at exclusion from access to essential services (e.g. water, sanitation, health, education, and dwelling materials). These UBN-based measures were useful to identify poverty in the late 20th Century and are still adequate in low-income countries. However, due to the nature of its indicators, UBN-based measures are rather rigid in the short term and unable to track changes in living standards. For instance, UBN-based measures were posed as indications of vulnerability to the pandemic but not so much as measures of poverty change due to the pandemic (Alkire *et al.*, 2020; Brewer *et al.*, 2021).

Mexico is a case study that reflects to some extent these three challenges. First, the official multidimensional measure is released every two years by the National Council for the Evaluation of Social Development Policy (CONEVAL). In 2019, CONEVAL published the poverty rates from 2018. Hence, when the pandemic started in 2020 in Mexico, poverty data would become available until the summer of 2021 and the data corresponding to 2022 is going to be released in the summer of 2023. Second, CONEVAL draws on data from the National Income and Expenditure Household Survey (ENIGH) to produce the poverty figures. This survey is quite standard and albeit it helps to run some analysis of the relationship between poverty, education attainment, labour participation and some basic socio-demographic characteristics, it lacks any flexibility to ask respondents about the different aspects that families faced during the pandemic like coping strategies, short-term changes in employment, health markers and so forth. Third, the official multidimensional poverty measure combines two domains to identify the poor. The first one has at its core some of the standard UBN-based indicators, which hardly show any sensitivity to short-term shocks. If anything in the period 2018-2020, deprivation mainly declined according to these data. The other one is the income indicator which is more likely to reflect these short-term changes. Furthermore, the official index uses living standards that are not representative of the living conditions of the XXI Century (Najera, 2020).

To gain understating of the relationship between poverty and the pandemic is necessary to have a more sensible and valid poverty measure that is based on data that is not only more timely collected but permits linking poverty with other variables of interest. This study explores the profile of the poor using the relative deprivation approach and studies some of the differentiated impacts of the pandemic upon the poor and the not poor.

1. POVERTY, RELATIVE DEPRIVATION, AND THE CONSENSUAL APPROACH

Poverty has a range of meanings that can be grouped into three main categories: *material conditions, economic circumstances and social position* (Spicker, Leguizamón e Gordon, 2007). These variations in the definition of poverty reflect differences in how this phenomenon has been conceptualised and theorised. In Latin America the most influential theory to frame and measure poverty in the XX Century was the unsatisfied basic needs (UBN) approach, which refers to those material conditions that mainly evidence a lack of access to essential services (water, sanitation, education, electricity, health) (Golbert e Kessler, 1996). The UBN perspective had the advantage of matching the available population census data. For the connection of the UBN poverty definition with data was not problematic, several indices were developed in Latin America since the 1980s (Beccaria e Minujin, 1985; Boltvinik e Hernández Laos, 1999).

In the XXI Century, social rights-based approaches and Sen (1999) capability perspective became influential in the region to develop new multidimensional measures (Boltvinik, 2013). However, in both cases, the available data has remained the same since the expansion of the UBN approach. The most recent measures have at their core many of the UBN measures (Boltvinik, 2013; Santos e Villatoro, 2018). This has become a limitation as the current data hardly reflects the standards of the XXI Century. There is an increasing recognition that the connection between social rights and capability standards is much more problematic than under the UBN approach. This mismatch has been quantified using statistical techniques and its rather clear that most indices based on these perspectives have a great deal of measurement error, which affects the capacity to make conclusions about the extent of poverty, its distribution across population groups and the evolution of poverty across time. Therefore, not only there have been calls for better data but for a more sensible approach that is consistent with the fact that the standards in Latin America to identify the poor have changed (Beccaria e Fernández, 2020; Beccaria, Fernández e Nájera, 2022; Villatoro e Santos, 2019).

One potential candidate to improve both the conceptualisation of poverty and the conditions under which poverty data is produced is Townsend (1987) relative deprivation theory (Townsend, 1979). According to Townsend's theory, poverty can be defined as the lack of command of resources over time and material and social deprivation are its immediate

consequences (Gordon, 2006). The poor are those whose resources are so low that they are unable to meet or access the range of goods and services that are widely regarded as necessary by the society they belong (Townsend, 1979). There have been two main critiques of Townsend's original work. First, he argued that the space definition of poverty is society but in his study, the list of necessities of life was defined by him. Second, people may lack something due to personal preference and not necessarily by lack of resources. Therefore, this could overestimate the extent of a certain deprivation.

Mack, Lansley, *et al.* (1985) put forward a data collection method that, drawing upon relative deprivation, deals with both critiques. The Consensual Approach of Mack, Lansley, *et al.* (1985) uses mixed methods to develop a survey instrument that collects representative data on the socially perceived needs of society, i.e. the set of items that everyone should enjoy for they are essentials for life. The CA also identifies enforced lack from people's wishes and personal preferences. The CA has not been the only major development around the relative deprivation theory. In recent years, the implementation of relative deprivation theory to measure poverty has benefited by the inclusion of standard statistical theory and methods to put under scrutiny many of the hypothesis of this framework or, in fact, any poverty measure (Bailey e Guio, 2022; Gordon, 2006; Guio *et al.*, 2017).

The consensual approach has been implemented in several developed and developing countries (Gordon *et al.*, 2019; Guio *et al.*, 2017; Halleröd, 1995; Nájera Catalán, Fifita e Faingaanuku, 2020; Nandy e Pomati, 2015; Notten, 2015; Saunders, Bradbury, *et al.*, 1991). However, the relative deprivation theory and the consensual approach have not been widely implemented in Latin America. CONEVAL (2007), EVALUADF (2009), Tuñón, Lamarmora e Sánchez (2022), and Beccaria, Fernández e Nájera (2022) are the only implementations of the CA to date. In the case of Mexico neither of the two implementations produced poverty measures, instead they have been used to explore the socially perceived needs of the population in Mexico City and inform the thresholds for nominal variables for the social rights indicators of the Mexican official index.

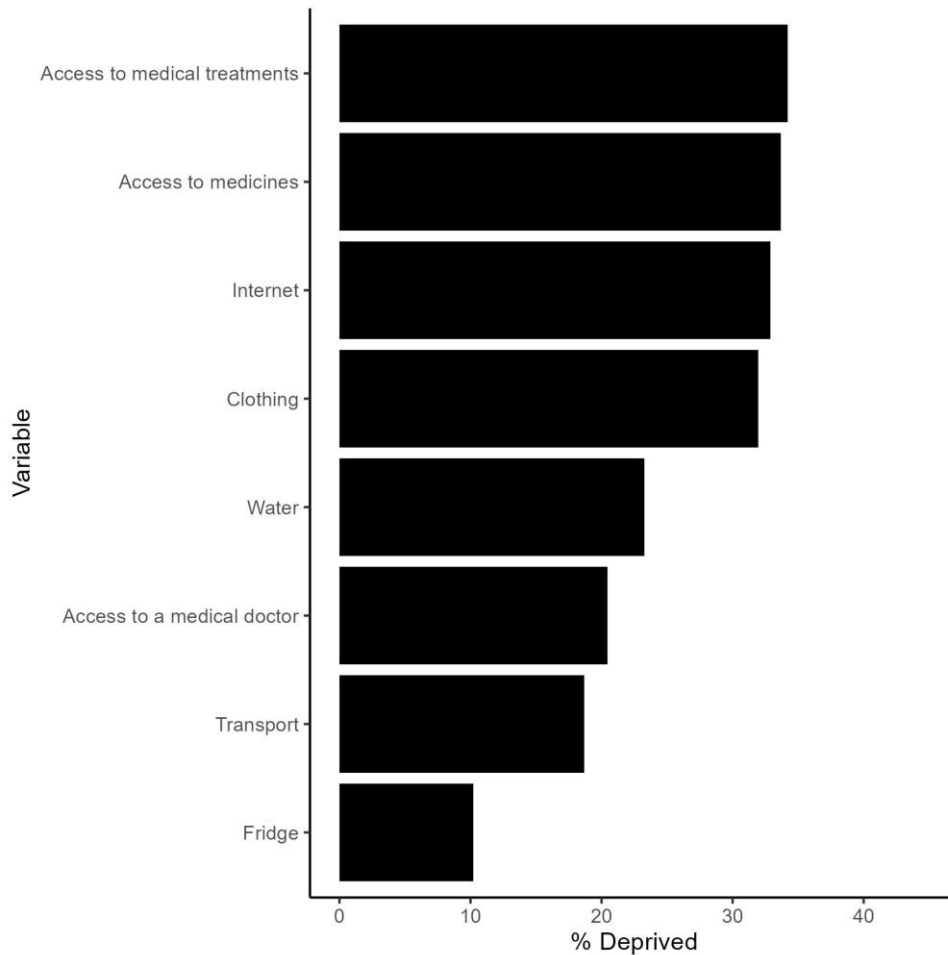
2. DATA

This study uses pooled data from two rounds of the Encovid-19 Survey (November 2021 (n=1465) and April 2022 (n=1503)). The ENCOVID is a telephonic cross-sectional survey that uses a random-sampling design to produce national representative estimates of different socio-economic indicators. It emerged during the COVID-19 pandemic in order to produce short-term figures of relevant indicators that helped to follow the effects of the pandemic on the population's living standards (Teruel Belismelis e Pérez Hernández, 2021).

In November 2021 the Encovid-19 aim at producing, for the first time, nationally representative poverty figures based on the relative deprivation theory and the consensual approach. Drawing upon previous national and international implementations of the CA, a short household-level module was devised for its inclusion in the Encovid-19. In November 2021 the ENCOVID included a CA module comprising the following eight questions on social perceived necessities: *Water, Internet, Fridge, Clothing, Transport, Access to a medical doctor, access to medical treatments, and access to medicines*. These questions were also included in a follow-up survey in April 2022. It is important to underline that for the Encovid-19 the objective was to have a robust poverty index that permitted to identify with low error the poor from the not poor. That is, the objective was not to explore the full array of necessities of live with the consensual approach.

Figure 1 shows the prevalence of deprivation for each of the eight items of the pooled data: November-2021 and April-2022.

FIGURE 1: PREVALENCE OF DEPRIVATION BY EACH ITEM INCLUDED IN THE DEPRIVATION SCORE.



Source: Own estimates based on the Encovid

Drawing upon the standard approach of assessment of deprivation indicators (Guio *et al.*, 2017), reliability, validity and measurement invariance analyses were conducted to assess the measurement properties of the CA scale. Reliability was very high ($\omega = .84$); criterion validity was acceptable (i.e. all deprivation indicators correlated with other measures of living standards like education and income); and invariance held between the two rounds and therefore it was reasonable to pool the data to increase the total sample numbers (i.e. the indicators had equal behaviour in the two rounds). All this evidence supported constructing a deprivation score from the total sum of the items for each unit in the sample.

The identification of the poor and the not poor within the relative deprivation theory is based on Townsend (1979) hypothesis about the non-linear relationship between resources and the deprivation score (e.g. the sum of deprivations). There is a point in the distribution of

resources from which people is very much likely to suffer from multiple deprivation. Qualitatively, this group, in fact, is excluded from enjoying the amenities, services, diet, and goods that are widely approved by society. Gordon (2006) uses the intersection approach to identify the poor using statistical methods. The ENCOVID, however, has a rather noisy measure of income and 30% of missing responses. Therefore, Gordon (2006) approach could not be used to identify the poor in the full sample. However, Latent Class Analysis (LCA) and a series of regression models with other measures of living standards were used to evaluate the cut-off point to identify the poor and consistently found that those suffering from two or more deprivation were very likely, and with low error, to constitute the poor group. Hence, this criterion was used for the analysis in this study.

3. RESULTS

According to the CA, poverty affects approximately 48% of households in Mexico. Table 1 displays the prevalence of poverty according to different demographic and socio-economic characteristics. Poverty is substantially higher among women, indigenous people, populations in rural areas and households with children. There is a clear relationship between poverty and educational attainment.

TABLE 1. DISTRIBUTION OF THE PREVALENCE OF POVERTY ACROSS DIFFERENT SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS

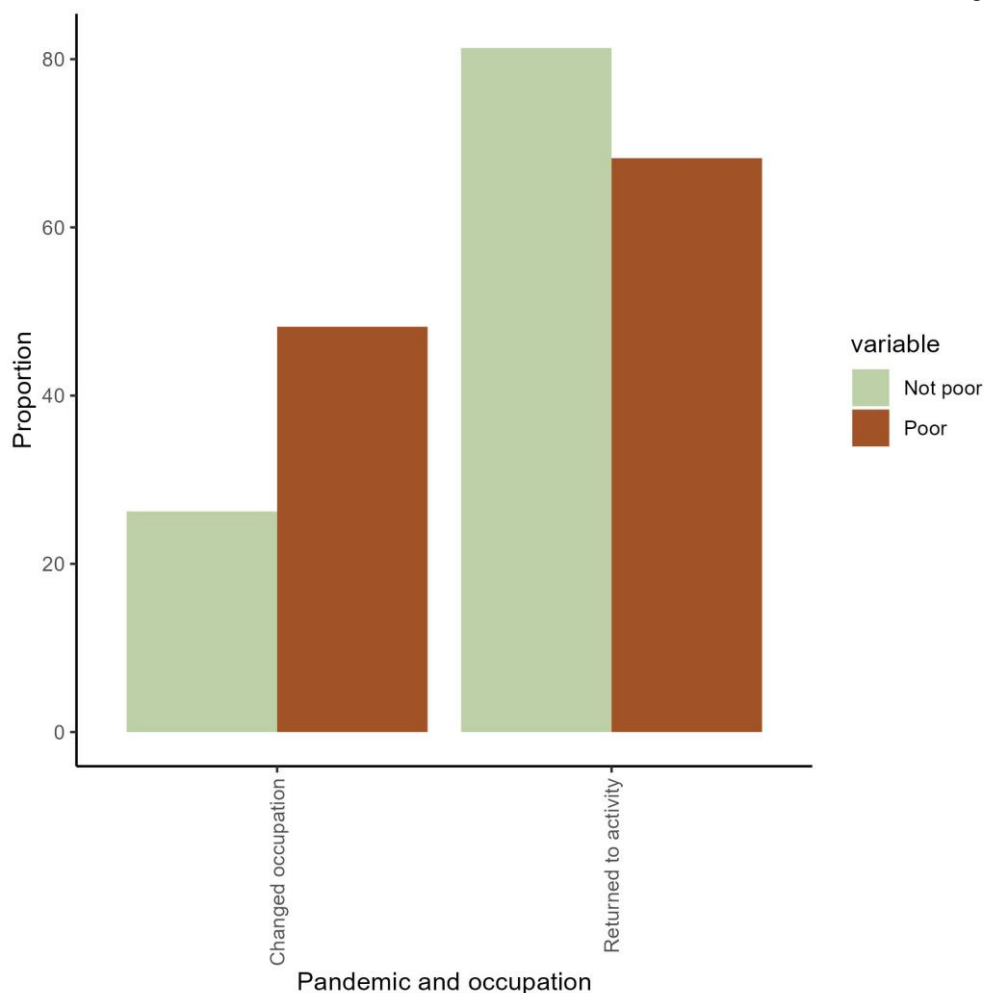
Attribute	% Poverty
Male	43%
Female	53%
Not Indigenous	48%
Indigenous	60%
Urban	41%
Rural	63%
No Education	68%
Incomplete primary education	61%
Primary Education	52%
Secondary Education	37%

Tertiary Education	22%
No Children in HH	41%
Children in HH	55%
Total	48%

Source: Own estimates based on the Encovid

One of the most significant events in the labour market at the peak of the pandemic (2020-2021) was the mobility of workers. Some workers migrated to different activities, and some were told to wait for returning to their normal activities. The ENCOVID explored these two aspects by asking whether people had changed their occupations due to the pandemic and whether they had returned to their original activity. Figure 1 explores how the response to these questions is distributed among the poor and the not poor workers. The results show that the poor were more likely to change their occupation due to the pandemic and less likely to have returned to their original activities.

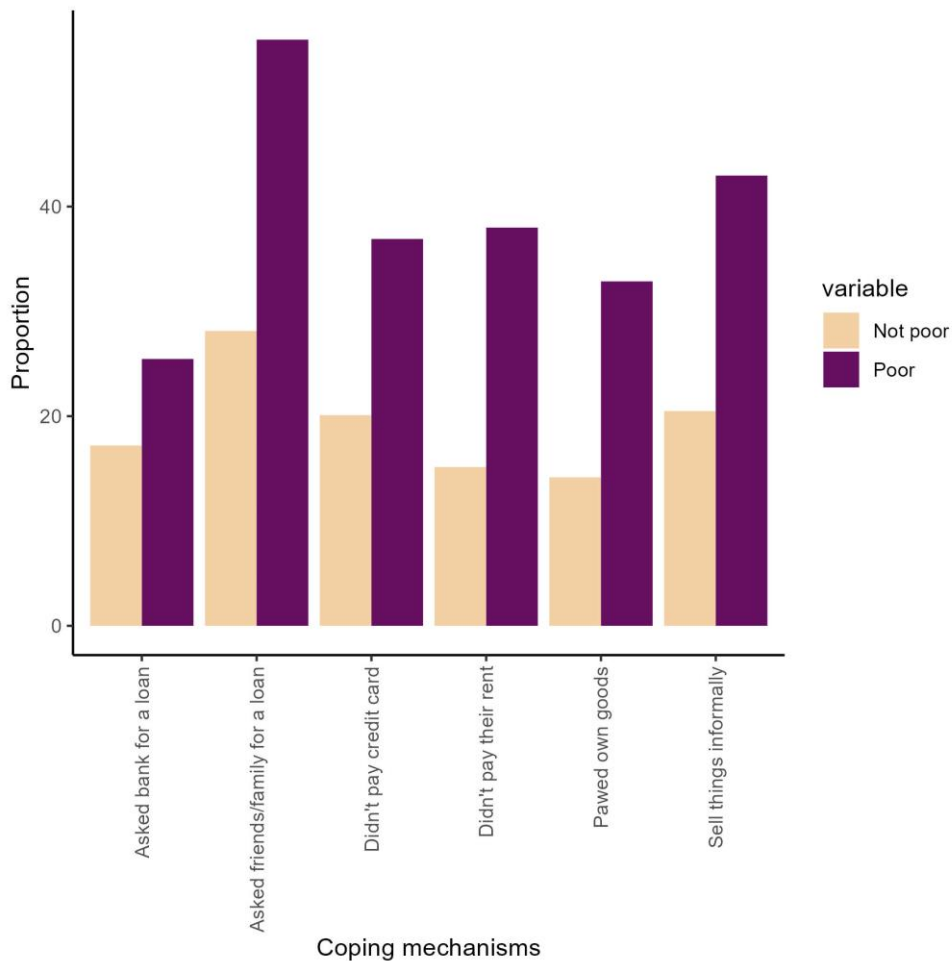
FIGURE 2: DISTRIBUTION OF CHANGES IN OCCUPATION BY POVERTY STATUS



Source: Own estimates based on the Encovid

People reacted differently to the challenges posed by the pandemic depending on the networks, savings, and labour market position. One hypothesis during the pandemic was that the poor were less protected and had to take more risks to maintain their living conditions. Figure 1 shows six coping strategies employed by the population to manage the effects of their economic situation. The results clearly show that the poor were more included to stop paying their credit cards, paying their rent, asking friends or families for money, pawing their own goods, asking for a loan and selling things. This illustrates that the poor indeed were much less protected against the adversities of the economic context in late 2021 and the spring of 2022.

FIGURE 3: DISTRIBUTION OF THE PREVALENCE OF COPING STRATEGIES BY POVERTY STATUS

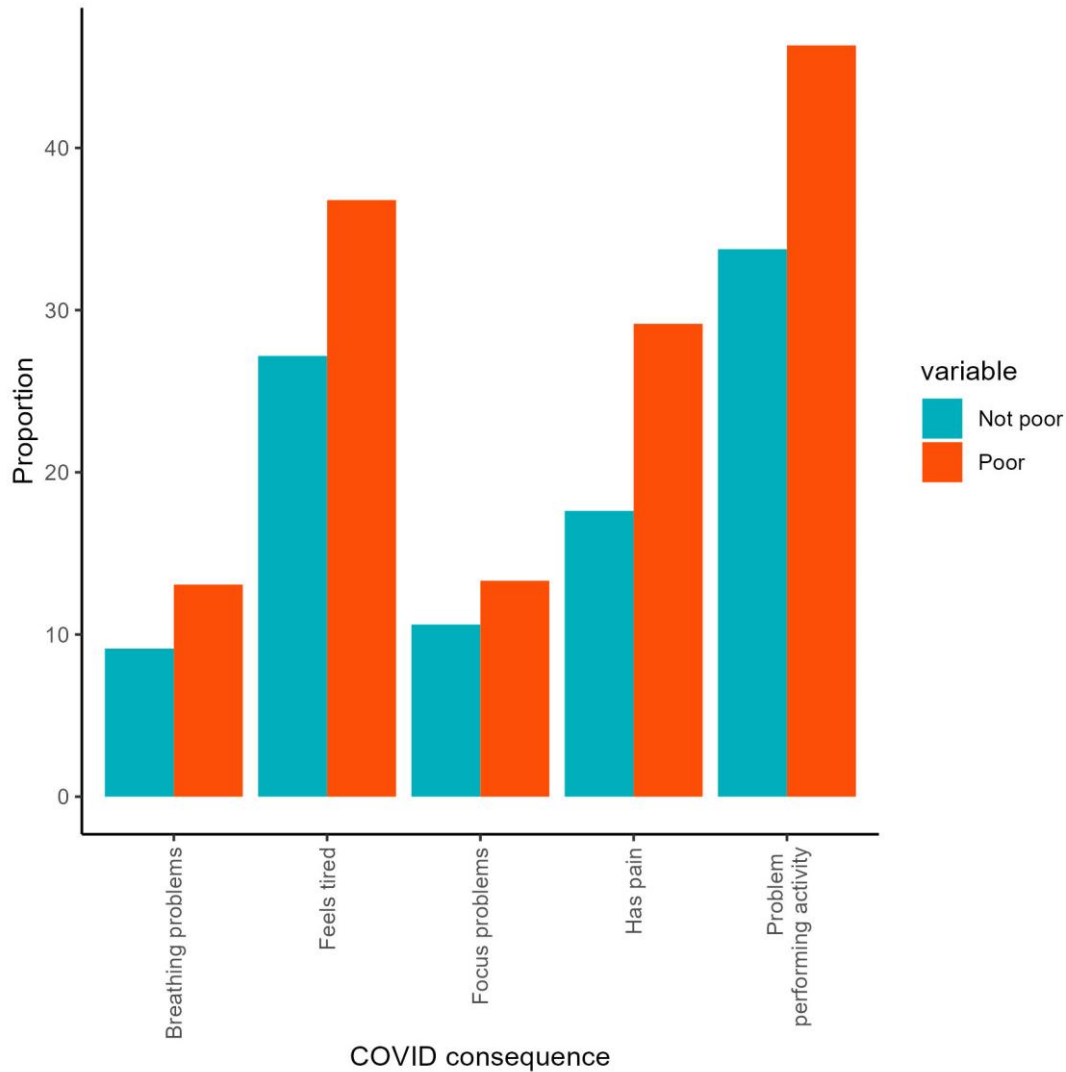


Source: Own estimates based on the Encovid

3.1. COVID CONSEQUENCES

The Encovid-19 asked respondents whether they had tested positive for COVID-19. More than a third declared that they had COVID-19 and a series of follow-up questions were asked to know more about the consequences of becoming ill. Figure 4 shows the distribution of post-covid symptoms for the poor and not poor populations. In all cases, it is very clear that the poor seem to be more severely affected by the virus being problems performing activities the highest reported manifestation. Almost two of every five poor people, a 10% higher prevalence compared with the not poor. Experiencing breathing problems was reported among the 10% overall, but among the poor, the proportion was slightly higher.

FIGURE 4: DISTRIBUTION OF THE PERCEIVED EFFECTS OF COVID-19 BY POVERTY STATUS



Source: Own estimates based on the Encovid

DISCUSSION

Drawing upon a poverty index based on the relative deprivation theory, this paper explores, in the latter stages of the pandemic in 2021 and 2022, the distribution of poverty across population groups, the differences in terms of occupation status, coping mechanisms, and perceived long-Covid effects across the poor and the not poor populations.

The profile of the poor has been well documented in Mexico over the last 20 years (Boltvinik, 1997; Cortés, 1997; Herreros, 2019; Salgado-de Snyder e Wong, 2007). Low education attainment, living in a rural area, and having an indigenous background are among the strongest predictors of poverty in Mexico. Although gender gaps have been largely documented in the labour market (Arceo-Gómez e Campos-Vázquez, 2014), the official Mexican poverty measure hardly shows any differences due to the fact that the deprivation indicators are rather unlikely to capture any between-group variations. The relative deprivation approach shows important differences in the prevalence of poverty in rural, ethnic, educational attainment, gender, and living in households with children. It seems that not only the relative deprivation approach leads to lower measurement errors, but also speaks favourably of the potential gains of implementing CA systematically in Mexico.

The main focus of this paper was to explore the differences in the prevalence of adverse events among the poor and not the poor groups. The results clearly show that the not poor were much more likely to return to normality and recover from their previous job. One of the more critical aspects of Mexican federal public policies during the peak of the pandemic was the lack of comprehensive programmes to protect the poor. These findings reinforce the need to rethink the social protection system in place as it seems that the poor are rather vulnerable and unprotected (Cortés e Yaschine, 2021).

The coping mechanisms during the period of analysis of this study show a rather clear pattern when comparing the poor and the not poor populations. At the moment of the interview, the poor were more likely to stop paying their credit cards, to ask for money from their family or friends, and to look for an easy non-taxing way to maintain their income like selling whatever they could and pawning their own goods. One of the implications of the pandemic is the worsening of the living conditions of the poor. Of course, all these claims are rather general in that this study did not distinguish the pre-pandemic status of the poor.

The lack of health care protection characterises the worse-off in Mexico. The pandemic revealed the very precarious situation of the poorer sectors in Mexico. The likelihood of COVID-related fatalities was greater among the poor in Mexico (Arceo-Gomez *et al.*, 2022; Najera e Ortega-Avila, 2021). The results of this study show that the poor were more likely to report post-COVID19 consequences. Not only were the least protected during the pandemic's peak, but now there are those who need the most high-quality health care.

This study has important limitations. First, the research design does not allow us to see and study the dynamic relationship between poverty, health, labour and coping mechanisms. The study only provides a snapshot of the distribution of the different events for the cross-sectionally identified population. Second, the study could not assess the pre-pandemic situation of the households included in the sample; thus, some of the inferences are rather limited. Third, it is impossible to estimate the pandemic's effect on the prevalence and severity of poverty in Mexico. Fourth, the aim of the poverty index was not to comprehensively explore deprivation across the possible range of needs of the Mexicans. Instead, it aims at producing a valid and reliable measure capable of distinguishing the poor from the not poor with a low amount of error using a low-cost module.

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