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Households' basic needs satisfaction during the Coronavirus disease 19 (COVID-19) pandemic in Burkina Faso

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ABSTRACT

The Coronavirus disease 19 (COVID-19) pandemic has profoundly affected economic and health systems around the world. This paper aims to assess household access to basic foods and health care and food security attainment during the COVID-19 pandemic in Burkina Faso. We use the COVID-19 High-Frequency Phone Survey 2020 panel data supported by the World Bank and conducted by Institut National de la Statistique et de la Démographie (INSD). The pooled multinomial logistic, the panel logistic, and the panel ordered logistic regressions are used to analyse the access to basic foods, the access to health care and the food security of the households, respectively. The results show that during COVID-19, female-headed households, poor households and farm households remain the most vulnerable in terms of access to basic foods, health services and food insecurity. Furthermore, the results indicate that households living outside the capital, particularly in the other urbans, experience fewer difficulties obtaining basic foods than those residing in the capital and are also unlikely to experience food insecurity. For more effective policy responses to the COVID-19 or similar shocks, the interventions should focus on household socioeconomic conditions and distinguish between urban and rural areas.

1. Introduction

The purpose of this study is to explore the potential economic disruptions of the COVID-19 pandemic on household living standards (the access to basic foods and healthcare) in Burkina Faso. The declaration of the COVID-19 pandemic by the World Health Organization (WHO) led to an acceleration of socioeconomic disruptions worldwide, such as the closure of air and land borders, markets, restaurants and other public places. These policies have profoundly affected economic and health systems. Therefore, the pandemic has precipitated a contraction in economic activity that is unprecedented in both nature and speed [6]. Such economic shocks that impose extraordinary challenges on governments and societies [20] must be analysed at the micro level to understand their effects.

Lower-income economies, particularly those in Africa, have been severely affected despite the low incidence of the COVID-19 pandemic. Djiofack et al. [7] estimate that the economic impact of the pandemic in Sub-Saharan Africa, especially, could be between a 5% and 7% reduction in Gross Domestic Product (GDP). Indeed, at the macroeco-

omic level, governments in these countries have had to face substantial public expenditure reallocations with a crowding-out effect on investment sectors. Economic growth in Burkina Faso will slow drastically to 2.0%, compared to the 6.3% expected by the Ministry of the Economy and Finance [19].

The COVID-19 pandemic can be seen as a natural shock (of animal epidemiological source) with economic and social consequences or implications. It is a covariant shock affecting all countries. Concurrent with this shock, Burkina Faso has been experiencing security shocks related to recurrent terrorist attacks in some regions of the country since 2015, which could exacerbate the effects of the COVID-19 pandemic. This situation seriously compromises production and consumption systems in insecure areas and leads to population displacement from these areas to peaceful regions. This is an additional context that could exacerbate the effect of the pandemic on livelihoods in Burkina Faso. However, many private and public initiatives have been undertaken in Burkina Faso to mitigate the effects of insecurity on the affected populations. The initiatives include food aid and medical assistance to internally displaced persons (IDPs) provided by the state,

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local authorities and non-governmental organisations. Thus, the first strategic objective of the humanitarian response plan in Burkina Faso was to provide, by 2020, the integrated emergency assistance needed to address the critical issues related to the physical and mental well-being of 2,100,000 people affected by insecurity, taking into account the adaptations related to COVID-19 [21].

While the measures taken at the global level and the economic policies at the national level to curb the pandemic are likely to negatively affect economic growth rates in the short and medium term, their relevance or effectiveness in the short and medium term on the households remains uncertain.

The relevance or effectiveness of economic policies undertaken in the face of the pandemic can be assessed by looking at the disruption of household behaviour, choices and even consumption capabilities during the period of COVID-19. However, these behaviours, choices or consumption capabilities depend directly on household socioeconomic characteristics and anticipation abilities. Therefore, the analysis of household consumption behaviours during the COVID-19 epidemic can help assess the relevance or even the potential microeconomic effects of the economic policies adopted by states to overcome the consequences of the pandemic. However, the analysis of household consumption behaviour in terms of meeting basic needs (access to basic foods and health care) during the pandemic remains largely unknown in the lower-income countries, particularly in Burkina Faso.

Forecasts based on expected changes in income, prices, and food supply estimate that the coronavirus pandemic will significantly increase the number of food-insecure and undernourished people in low- and middle-income countries [1,17]. This will compromise the achievement of the second Sustainable Development Goal (SDG), aiming to achieve food security, end hunger and improve nutrition [17,18].

In general, researchers and analysts have expressed serious concerns about the disruption of food systems without quantifying the extent or effects of the pandemic disturbance [22] and food security [2,8,15,16]. Wolfson et al. [25] use cross-sectional data from 1,478 low-income people in the United States and show that 44% of the sample was not food secure, 36% was food secure and 20% was marginally food secure at the start of the pandemic. As a social driver of health and sustainable development, food security remains a global concern, with about 10% of the world's population and 19% of Africans experiencing severe food insecurity [14]. Thus, with the various measures adopted by countries to cope with the pandemic, the food insecurity situation of households could be more or less accentuated around a doubling of the population exposed to acute food insecurity in low- and middle-income countries [8]. Wolfson et al. [25] and Arndt et al. [2] suggest that measures deployed to minimise the spread of COVID-19 will disproportionately affect low-income households and jeopardise their food security. Through a study on household income and food security in two East African countries (Kenya and Uganda), Kansime et al. [12] show that low-income households and those dependent on labour income were more vulnerable to income shocks and had lower food consumption during the COVID-19 pandemic compared to other categories of respondents. Ibukun and Adebayo [10] studied the status of household food security during the pandemic and its determinants and showed that more than two-thirds of households were at risk of food insecurity in Nigeria. In South Africa, Arndt et al. [2] found that households whose members rely heavily on labour income and have lower levels of education are more likely to experience food insecurity.

In sum, most empirical studies on the effects of COVID-19 focus on its consequences on food security, thereby overlooking the pre-existing lack of access to foods and non-food aspects such as access to health services. Jeannotte [11] indicated that the pandemic has profoundly affected most health systems around the world. Specifically, the pandemic revealed underlying health system inequities and a reactive rather than a prepared response to the pandemic [3].

In Burkina Faso specifically, there is very limited empirical evidence on the effects of COVID-19 on households. However, since the detection of the first case of COVID-19 in the country on 9 March 2020, actions have been taken by the government to contain the pandemic. These measures include movement and visa restrictions, school closures, social distancing measures, and market closures. These barrier measures were then accompanied by economic policies, including food distribution and subsidies for basic social services (electricity and water consumption) for households and firms. The relevance of such measures and the effective targeting of the most vulnerable populations remain an important question to be analysed. Moreover, these governmental measures to curb the effects of the crisis seem to be most effective with people living in urban areas, which are the areas where markets and basic social services such as water, electricity and health are concentrated.

The rest of the paper is organised as follows: Section Two presents the data and methods, Section Three presents and discusses the results, and Section Four concludes the paper.

2. Variables, methods and descriptive statistics

2.1. Data and variables

We use the Burkina Faso COVID-19 High-Frequency Phone Survey 2020 data. The data are fetched from the World Bank Microdata catalogue [4]. The survey, supported by the World Bank, is implemented in Burkina Faso by the Institut National de la Statistique et la Démographie (INSD). The survey is conducted using cell phone numbers of household members collected during the 2018/19 Enquête Harmonisée sur les Conditions de Vie des Ménages (EHCVM) survey. The extensive information collected in the EHCVM provides a rich set of background information for the COVID-19 High-Frequency Phone Survey of households and can be used to assess the differential impacts of the pandemic in the country.

Data are collected monthly, with the round 1 started on the 9 of June 2020. The sampled households are asked a set of core questions on the key channels (employment, access to basic services, non-labour sources of income) through which they are expected to be affected by the COVID-19-related restrictions. The core questionnaire is complemented by questions on selected topics that rotate each month. This provides data to the government and development partners in near real-time, supporting an evidence-based response to the crisis.

We fetch an unbalanced panel from the COVID-19 High-Frequency Phone Survey 2020 data to analyse the household participation to the market of basic baskets of goods, his food security attainment and his utilisation of health service during the COVID-19 pandemic in Burkina Faso. The panel spans over the first seven rounds with a total of 14,600 observations on 2,210 households. As defined in the questionnaire, the basic basket of goods 1 (BG1 in the remainder of the paper) contains maize and imported rice, the basic basket of goods 2 (BG2 in the remainder of the paper) represents maize, imported rice and sorghum and the basic basket of goods 3 (BG3 in the remainder of the paper) contains maize flour, millet and local rice. The main question concerning the participation to the market of these three baskets of goods (BG) is whether a given household has been able to purchase any of the baskets of goods without indicating what goods in the basket are purchased by the household. In the remainder of the paper, the use of the terms 'access' (access to a market of basket of goods or access to a basket of goods) means the purchase of the basket of goods by the household. This means that the household has purchasing power and actually purchases the goods. Other important questions are related to the food security experienced by the household per day and the utilization of health services during the pandemic. Following the goods insecurity experience scale (FIES) developed by the Food and Agricul-

ture Organization of the United Nations, we use the food security items of the questionnaire to calculate the food insecurity index experienced by the household during the COVID-19 pandemic. Socioeconomic characteristics of households are variables also included in the database.

2.2. Methods

We use three logistic regressions to analyse household basic needs satisfaction during the COVID-19 pandemic in Burkina Faso. First, pooled multinomial logistic regression is used to analyse participation to the market of each of the three baskets of goods (BG1, BG2 and BG3). Multinomial logistic regression is used when more than two categories are unordered, like categories of participation to the market in this study (access, no-access and don't try). Second, the food security level of households, that is an ordered outcome ranked from 0 to 3, is analysed using the panel ordered logistic regression. Third, as access to healthcare (utilization of health service) is a dichotomous outcome, the panel logistic regression is used to examine household access to healthcare during the COVID-19 period.

The covariates in the models are: (i) the household area of residence (life_zone), which modalities are Ouagadougou, other urban and rural, (ii) the household size (h_size), (iii) the sex of head of household, (iv) the age of head of household and (v) the economic condition of households, which is measured by two covariates (whether the household is poor or non-poor and the main sector of activity of the household which can be primary, secondary or tertiary).

2.3. Descriptive statistics

In this section, we present a brief description of the main variables of the models. Dependent variables are described in Figs. 1, 2 and 3, while Table 1 presents more detailed statistics of the both dependent and independent variables. Fig. 1 presents the household participation in the market of the three baskets of goods. In general, market access is more oriented towards BG1 (maize and imported rice), with about 71% access, followed by BG2 (maize, imported rice, and sorghum), which is accessed by 56% of the respondents. The respondents access BG3 (maize flour, millet, and local rice) less often (only 34% of households accessed this basket). It can thus be assumed that BG1 is the most consumed by households in Burkina Faso, followed by BG2 and BG3. Moreover, the ranking of the three baskets of goods in terms of the proportions of households that have not tried to buy them is reversed, as shown in Fig. 1 (61%, 38% and 25%, respectively, for BG3, BG2 and BG1).

Cassidy and Barnes [5] use different concepts of household resilience, such as livelihood diversity and wealth. The authors then define resilience as the capacity of a social-ecological system to cope with shocks such as droughts or economic crises without changing its fundamental identity. So, regarding the livelihood diversity dimension

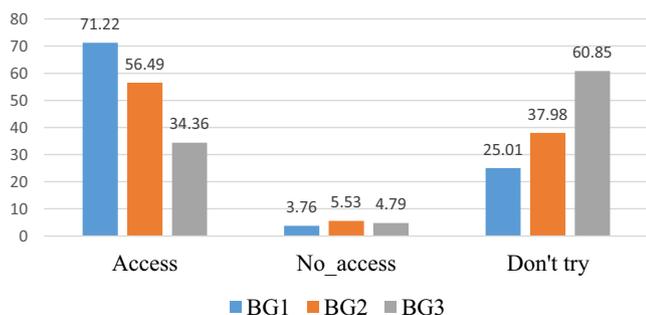


Fig. 1. The households participation to the market of baskets of goods (BG) during the COVID-19 pandemic in Burkina Faso.

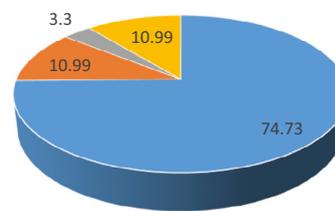


Fig. 2. Reasons for not accessing health services during COVID-19 pandemic in Burkina Faso.

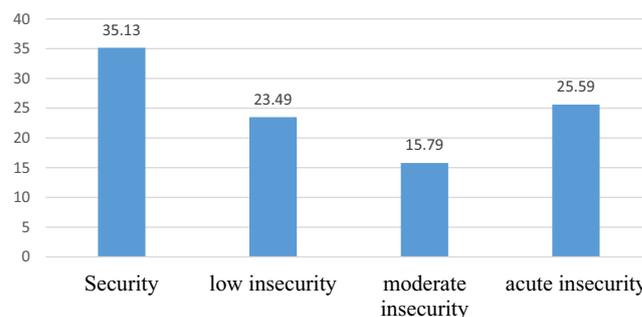


Fig. 3. Food security levels during COVID-19 pandemic in Burkina Faso.

Table 1 Variable definitions, modalities and descriptive statistics (N = 14,600).

Variable	Definition and modalities	Mean or percentage of modalities
<i>Dependent</i>		
Market_participation	Household capabilities to purchase any of the three baskets of goods: (1) access = the household was able to purchase; (2) no access = the household was not able to purchase; (3) did not try = the household was not in the need to purchase	(1): 71.22 ^a ; 56.49 ^b ; 34.36 ^c (2): 3.76 ^a ; 4.79 ^c (3): 25.01 ^a ; 37.98 ^b ; 60.85 ^c
food_security	Level of food security experienced by the household: (1) food security, (2) low insecurity, (3) moderate insecurity, (4) acute insecurity	(1): 35.13 (2): 23.49 (3): 15.79 (4): 25.59
healthcare_access	Household access to health: (1) no access, (2) access	(1): 3.80 (2): 96.20
<i>Independent</i>		
life_zone	Household area of residence: (1) Ouagadougou, (2) other urban, (3) rural	(1): 19.96 (2): 46.46 (3): 33.58
h_size	Size of the households	[6.72]
h_sex	Sex of the head of the household: (1) male (2) female	(1): 84.73 (2): 15.27
agehh	Age of the head of the household	[48.03]
wealth_situation	Economic status (related to income) of the household: (1) poor, (2) non-poor	(1): 31.51 (2): 68.49
main_activity	The main sector activity of the head of the household: (1) primary sector, (2) secondary sector (3) tertiary sector	(1): 47.29 (2): 8.25 (3): 44.47

Notes: Modalities of variables numbered in parentheses; mean of variables are in brackets. The other numbers are percentages; superscripts a, b and c represent BG1, BG2 and BG3, respectively.

of resilience, one can assume that the households that did not attempt to purchase a basket of goods were resilient during the COVID-19 pandemic. In addition, when the households access to a basket of goods

(purchase a basket of goods) they are resilient according to the wealth dimension of resilience. Thus, regarding to the household participation to the market of the three baskets of goods during the COVID-19 pandemic, one can conclude that there is an inversed proportion of resilient households when comparing the wealth dimension of resilience (access) to the livelihood diversity dimension of resilience (don't try).

The statistics indicate a relatively small proportion of non-resilient households, that is, households that remained unable to afford the three essential baskets of goods during the COVID-19 period. This situation can be linked to some extent to the government's, NGOs', and private organisations' food distribution policies during the pandemic. Moreover, in the Burkina Faso context, the lockdown during the pandemic of COVID-19 did not prevent consumers from accessing markets to satisfy their essential needs. Only the central markets in the capital and other urban areas were closed to avoid large gatherings of people [19].

The reasons for not accessing health care during the COVID-19 period in Burkina Faso are, in order of importance, the lack of financial means (75%), the lack of health professionals (11%) and the lack of space (beds) in a facility (3%). Other reasons explain the remaining 11% of cases of non-access to health services.

The level of food security achieved by households during the COVID-19 period is represented in Fig. 3. Approximately 35% of households are food secure, 23% are in low food insecurity, 16% experienced moderate food insecurity, while 26% are in acute food insecurity.

3. Results and discussion

The pooled multinomial logistic estimation results of the participation to the market of the three baskets of goods are presented in Table 2. For BG1, the base alternative of the estimation is the modality 'access'. Thus, for the modality 'no access' (the inability of the household to purchase), only the age of the head of household appears to be a significant determinant of the non-access of the household to BG1

during the COVID-19 period. The age of the head of the household has a positive effect at the 10% level on the probability of non-access to BG1. For the modality 'did not try', in other words, the households' capacity of resilience according to the livelihood diversity of resilience, we note that the area of residence positively and significantly affects the probability of household resilience to COVID-19 for the use of BG1. More specifically, households living in urban centres other than the capital Ouagadougou and in rural areas are, at the 1% level, more likely to be resilient than households living in Ouagadougou. The results show that the female-headed households have a significantly lower probability of resilience than the male-headed households at the 5% threshold. In addition, it appears that household size negatively affects the probability of household resilience for the use of BG1 during the COVID-19 pandemic.

For the participation to the market of BG2 and BG3, the base alternative here is the livelihood diversity dimension of resilience of the household, that is, the 'did not try' modality. We can see that more variables contribute to explaining the probabilities of access and non-access to BG2 compared to BG3. Indeed, as the descriptive statistics show, BG3 is the least desired by households. The area of residence negatively and significantly affects the household's non-access to BG2 at the 1% level. Thus, living in other urban centres and in rural areas decreases the probability that the household will not have access to BG2 compared to households living in Ouagadougou. This result justifies the nature of the accompanying measures, which are more favourable for urban centres, particularly the city of Ouagadougou, where most of the measures have been implemented. When the household is headed by a woman, this significantly increases the probability of not having access to BG2 at the 1% threshold. This result is also valid for BG3 (female-headed households are more likely to not have access to BG3). In other words, these results mean that female-headed households are more vulnerable to consuming BG2 and BG3 during COVID-19. These results support those of Fetzer et al. [9], who found that individuals in low/middle-income countries express higher levels of worries and depression, with females being more worried and depressed than men.

Table 2
Pooled multinomial logistic regression results of household participation to the market of baskets of goods during the COVID-19 pandemic in Burkina Faso.

VARIABLES	BG1		BG2		BG3	
	No access	Did not try	Access	No access	Access	No access
Life_zone						
<i>other_urban</i>	-0.289 (0.327)	0.795*** (0.131)	-0.336*** (0.122)	-1.284*** (0.275)	-1.157*** (0.153)	0.447 (0.648)
<i>rural</i>	0.216 (0.378)	0.952*** (0.155)	-0.0861 (0.154)	-1.131*** (0.331)	-1.125*** (0.193)	0.840 (0.677)
h_size	-0.0252 (0.0316)	-0.0254** (0.0126)	0.0303** (0.0124)	-0.0168 (0.0279)	0.00397 (0.0165)	0.0193 (0.0310)
h_sex						
<i>female</i>	0.234 (0.300)	-0.285** (0.133)	0.242* (0.125)	0.734*** (0.238)	0.102 (0.169)	0.648* (0.349)
agehh	0.0154* (0.00809)	0.00160 (0.00337)	0.00423 (0.00341)	0.00298 (0.00719)	8.13e - 05 (0.00451)	-0.00260 (0.00942)
wealth_situation						
<i>poor</i>	0.165 (0.273)	-0.106 (0.106)	-0.0226 (0.106)	0.659*** (0.223)	0.126 (0.145)	0.349 (0.288)
main_activity						
<i>secondary_sector</i>	-0.0900 (0.480)	-0.0222 (0.177)	-0.0288 (0.168)	-1.335*** (0.502)	-0.277 (0.239)	-1.107 (0.749)
<i>tertiary_sector</i>	-0.0954 (0.306)	0.150 (0.110)	0.241** (0.109)	-0.712*** (0.256)	-0.0326 (0.154)	-0.874** (0.377)
Constant	-3.658*** (0.561)	-1.387*** (0.223)	-0.399* (0.225)	-1.251*** (0.480)	-0.322 (0.285)	-3.546*** (0.815)
Log likelihood	-1941.335		2034.112		-1197.047	
LR Chi2(16)	67.88***		78.50***		106.09***	
Pseudo R2	0.0172		0.0189		0.0424	
Observations	2,668		2,388		1,806	

Standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.

When the household is poor, this significantly increases its probability of not having access to BG2 compared to a non-poor household at the 1% level. This result supports the finding the pandemic may erode much of the poverty reduction, as highlighted by Valensisi [24]. Finally, when the main activity of the head of the household is in the secondary and tertiary sectors, the probability for the household to not having access to BG2 is significantly reduced at the 1% level, compared to households whose main activity is in the primary sector. This result remains valid for BG3, where activity in the tertiary sector significantly reduces the probability of not having access to BG3 at the 5% level. These findings are in line with Valensisi [24], who argues that the pandemic is likely to increase income inequality by altering the situation of the less-skilled people. Indeed, this result shows that households engaged in primary sector activities are more vulnerable to consuming BG2 or even BG3 during the COVID-19 pandemic. Indeed, the dynamics of agricultural commodity markets and the synchronisation of harvests and expenditures by agricultural households expose farmers in Burkina Faso to difficulties in meeting their needs for goods and this situation is exacerbated during a shock like COVID-19 pandemic.

The estimation results of both the panel logistic regression of the access to healthcare and the panel ordered logistic regression of food security attainment are presented in Table 3. Regarding access to health services, the results show that household size increases the probability of accessing health care. This result may reflect the increase in demand for health care during the COVID-19 for large households who may be most health-vulnerable during the pandemic. In addition, this result could be explained by the income effect linked to the large size of the household, which in turn allows a large household to have continuous access to health care during the COVID-19 restrictions that disrupted households' activities. Indeed, Tossou [23] demonstrates that 30.49% of patients continued to seek health care (self-medication and public hospitals) despite the COVID-19 impacts on employment and activities. Households headed by a woman have a significantly reduced probability of accessing health care services at the 1% level, compared to the probability of accessing care in a

household headed by a man. Poor households have a significantly lower probability of accessing health services at the 1% level than non-poor households. When the main activity of the head of the household is in the tertiary sector, this significantly increases the probability of access to health services at the 10% threshold compared to activities in the primary sector. This result reflects the difficulties in accessing health services inherent to the economic status of the populations.

With respect to food security, the results indicate that households living in urban centres other than the capital have a lower probability of falling into worse levels of food insecurity than households living in the capital at the 1% threshold. This result highlights that households living in the capital are more vulnerable to food insecurity than those living in the other urban centres of Burkina Faso. Indeed, to some extent, the other urban centres are better provided with goods, and market speculations are prominent in the capital. This result partially confirms those of Adjognon et al. [1], who found that moderate food insecurity increased in urban areas compared to rural Mali. Female-headed households have a higher probability at the 1% threshold of falling into worse levels of food insecurity than male-headed households. Furthermore, the results indicate that, at the 1% threshold, poor households are more exposed to food insecurity than non-poor households. Finally, the results indicate that when the main activity of the head of household is in the secondary and tertiary sectors, this significantly reduces the probability for the household to fall into worse food insecurity at the 5% and 1% thresholds, respectively, compared to households whose activity is in the primary sector. This result extends the previous result on the vulnerability of agricultural households with respect to access to basic foodstuffs. It shows that primary sector households, in addition to being exposed to difficulties in accessing food, also face food insecurity. This observation is the same when we look at the wealth of the household. Poor households are more likely to face both non-access and food insecurity.

In sum, our results highlight patterns of economic vulnerability in times of crisis or in the face of economic shocks in Burkina Faso. Female-headed households, farming households, households living in urban areas, in this case in the capital, and poor households are more exposed to the consequences of COVID-19 in Burkina Faso. This diversity of vulnerability profiles in times of economic shock implies accompanying measures or specific policies targeting farmers, urban dwellers and female-headed households. The aim is to implement and strengthen policies aimed at developing the agricultural sector through improvements in agricultural productivity. This can be achieved through access to agricultural credit, agricultural inputs and better training of agricultural actors. Women's empowerment policies must be strengthened by promoting female entrepreneurship and better socio-professional integration of women. The large cities, particularly the capital, are a major magnet for the population and a major concentration of informal activities and are, therefore, more exposed to the consequences of an economic shock. Innovative resilience or social protection mechanisms must be developed considering this reality.

In addition, the analysis reveals that food consumption in Burkina Faso is oriented to maize, imported rice and sorghum. The government may pay attention to the security stockpiling of these cereals to cope with the consequence of economic shocks. In addition, the government may continue to strengthen the local production of better rice varieties to avoid dependence on imported rice that could exacerbate the impact of symmetrical or asymmetrical shocks on the local economy.

Our research has some limits that future studies could address. The data collected do not allow us to examine in more detail the access of specific types of goods (maize versus rice, millet, sorghum...) to possibly establish relationships among these goods' consumption during an economic shock. This could help the state to better plan for security stockpiling. Other issues for future research concern the distinction between formal and informal activities to examine which sectors cope better with the consequence of the pandemic shock.

Table 3

Results of the panel logistic regression of healthcare access and the panel ordered logistic regression of food security during the COVID-19 pandemic in Burkina Faso.

VARIABLES	Panel logit healthcare_access	Panel ordered logit food_security
life_zone		
other_urban	-0.685 (0.561)	-0.444*** (0.153)
rural	-0.257 (0.617)	-0.118 (0.180)
h_size	0.144*** (0.0503)	0.0142 (0.0151)
h_sex		
female	-0.787** (0.357)	0.779*** (0.153)
agehh	-0.00504 (0.0106)	-0.000973 (0.00405)
wealth_situation		
poor	-0.921*** (0.346)	0.652*** (0.133)
main_activity		
secondary_sector	0.678 (0.687)	-0.426** (0.176)
tertiary_sector	0.620* (0.366)	-0.806*** (0.115)
Constant	4.221*** (0.973)	
Observations	2,179	4,173

Standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1.

4. Conclusion

COVID-19 pandemic demonstrates that we face an uncertain future, where the anticipation of and resilience to major shocks must become the core problem of development studies and practice [13]. This paper goes beyond descriptive statistics of the disruptions attributable to the COVID-19 pandemic and attempts to understand the extent to which these disruptions are explained during the pandemic period. Three major insights can be drawn from the econometric results. First, households residing in other urban centres and in rural areas experienced fewer difficulties in obtaining basic foods compared to those residing in the capital. These households are also the least likely to experience food insecurity during the COVID-19 pandemic. Second, female-headed households are the most likely to experience difficulties meeting basic needs (access to food and food security). Finally, poor and agricultural households, compared to non-poor and non-agricultural households, experienced both access deficits and food insecurity during COVID-19. These results can help better guide support policies and thus significantly strengthen the resilience of households to the COVID-19 shock and any other similar shocks.

Declarations

Not applicable.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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