



THE SOCIOECONOMIC IMPACT OF COVID-19 ON THE URBAN INFORMAL ECONOMY IN MOZAMBIQUE

Results from a panel survey of informal sector operators in Maputo

Maputo 12th November 2021



Acknowledgments

The present report reflects over a year of work going into the implementation of the COVID-19 Informal Sector Survey (CISS), a collaboration between the United Nations Development Programme's (UNDP) country office in Mozambique and the Ministry of Economy and Finance, involving many partners and people. In particular, the following people were instrumental in its making:

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1. Introduction

The urban informal economy has been identified as one of the most exposed sectors to the effects of the socioeconomic impacts of the COVID-19 pandemic in both developed and developing countries. Several reasons explain this.

First, in many countries, informal sector activities are heavily concentrated in the services sector, a sector which has been directly affected by lock-down and social distancing restrictions imposed by many governments around the world to reduce the propagation of COVID-19.

Second, informal sector workers and informal enterprises tend to have limited access to government support programmes. In the case of informal sector workers, because they often do not qualify for social protection programmes, which typically target the most vulnerable and the poorest segments of the population: the elderly, people with disabilities, single mother-headed households, or the ultra-poor, among others. In the case of enterprises, because they lack registration or do not meet key business parameters (size or volume of business) required to qualify for business support programmes.

Finally, in developing countries, the urban informal sector is closely linked to the more formal and modern parts of the economy (services, manufacturing, the public sector), which tends to be concentrated in urban areas. Informal operators are therefore more exposed to the dynamics of the global economy than are people whose livelihoods largely rely on subsistence-based primary activities taking place in rural areas.

The present report presents the results of a panel survey – the COVID-19 Informal Sector Survey, or CISS – undertaken among informal sector operators in Maputo, Mozambique. Implemented by the United Nations Development Programme’s (UNDP) Country Office in Mozambique in partnership with the Mozambican Ministry of Economy and Finance (MEF), the CISS survey has sought to monitor the socioeconomic effects that the pandemic has had in the urban informal economy in Maputo. Consisting of four rounds of surveys – a baseline sur-

vey and three follow-up waves – implemented between August 2020 and March of 2021, the CISS survey has generated a rich set of data capturing how business and household conditions in the informal economy in Maputo have been affected by the socioeconomic impacts of the COVID-19 crisis, as well as the type of coping strategies adopted by informal workers in response to it.

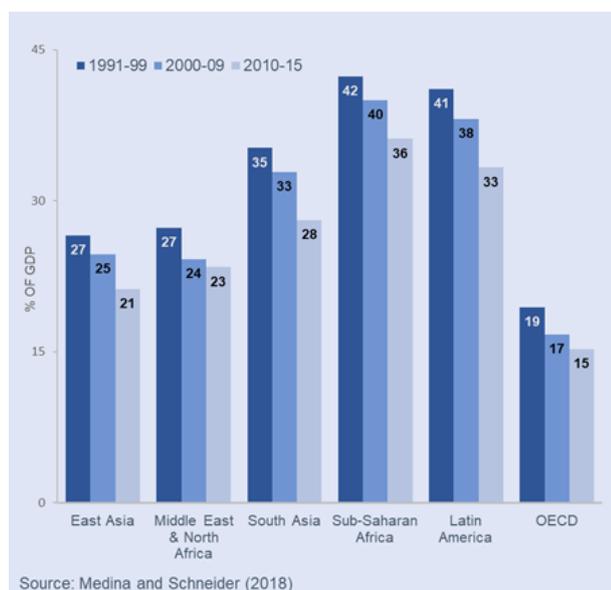
The present report is organized as follows. Section 2 provides an international perspective of how the COVID-19 pandemic is affecting the informal economy in countries around the world. This is followed in Section 3 by a brief review of the socioeconomic impacts that COVID-19 has had so far in Mozambique, as well as an overview of the informal sector in the country. Section 4 presents the COVID-19 Informal Sector Survey (CISS), discussing key methodological considerations regarding survey design and implementation. Section 5 then goes on to describe the main characteristics of the sample, outlining key household and business traits that define informal sector operators in the sample. This is followed in Section 6 by the presentation of the main findings of the survey, in terms of how the COVID-19 pandemic has been affecting the business and lives of informal sector operators in Maputo. It looks at these issues, examining a variety of indicators capturing household welfare and business dynamics. It does this under the understanding that socioeconomic crises such as the one caused by the COVID-19 pandemic affect people through a variety of channels. The last part of Section 6 also explores in greater depth specific impacts and coping strategies, seeking to identify factors or sample characteristics associated with the effects of the COVID-19 crisis on unemployment, savings, borrowing, the sale of durable assets, and household food consumption. Finally, Section 7 summarizes the main findings coming out of this study and briefly discusses policy implications.

2. COVID-19 and the informal economy – an international perspective

Informality is a prevalent feature in much of the developing world, with the informal economy remaining a significant, often the highest, source of employment. The ILO estimates that up to two billion people, equivalent to 61.2 percent of the world’s employed population, earn their livelihoods in the informal economy, with 93 percent of these living in emerging and developing economies.^{1,2} In these countries, informal employment accounts for most jobs, on average 69.6 percent, as opposed to only 18.3 percent of employment in developed economies, with this share rising to 85.8 percent in the Africa region.

The informal economy is also an important contributor to GDP and thus to countries’ wealth. In their study of the shadow economy, Medina and Schneider (2018)³ estimate that informal economy activities accounted on average for 27.8 percent of GDP in 2015 for the 158 countries considered in their analysis.

Figure 1: Contribution of the Shadow Economy to GDP (in %)



¹These countries also account for most world employment, although this share is somewhat smaller 82 percent.

²ILO (2018). “Women and men in the informal economy: a statistical picture” (3rd edition). Geneva.

³Medina, L., Schneider, M. F. (2018). “Shadow economies around the world: what did we learn over the last 20 years?”. International Monetary Fund.

This share, however, varied significantly, both across income levels and regions, ranging from 15 percent in advance economies in the 2010-2015 period, to 38.8 percent in low-income countries, and from 20.2 percent in Europe to 36.2 in Sub-Saharan Africa, during this same period (see **Figure 1** for more detail). However, this share has been steadily falling since the early 1990s, this being true for all income levels and regions, with the average contribution of the informal economy to global GDP dropping from an estimated 35.1 percent in 1991 to 27.8 percent, in 2015.

Even though informal sector workers contribute significantly to the economy, they usually have limited access to social protection programmes, as well as to healthcare and medical treatment. This makes them particularly vulnerable to health and economic shocks, as they have no cushion to fall back on in times of crisis.^{4,5}

The informal economy and COVID-19

COVID-19 has exacerbated this situation for millions of informal sector workers and done so disproportionately.⁶ Without social protection, they have only limited ability to cope with the economic, social and health impacts of the pandemic. In a context where informality is often associated with limited access to medical resources, as well as sanitation and hygiene facilities, this makes informal workers particularly vulnerable to the health consequences of the pandemic. Additionally, because many informal workers are not registered, they often don’t have access to government benefits.⁷

Overall, ILO estimates that almost 1.6 billion informal workers have been significantly impacted by the pandemic, either because of lockdown measures, or because these workers operated in

⁴ILO (2020). “Extending social security to workers in the informal economy: Lessons from international experience”. Geneva.

⁵Horn, Z. (2009). “No Cushion to Fall Back On: The Global Economic Crisis and Informal Workers”. WIEGO Inclusive Cities.

⁶ILO (2021). “ILO Monitor: COVID-19 and the world of work”. Seventh edition. Geneva.

⁷Yu, S. (2020). “How does informality aggravate the impact of COVID-19?” Published on Data Blog, World Bank.

Table 1: Informal economy workers significantly impacted by lockdown measures (2020)

	Informal employment	Significantly impacted informal workers	
	(millions)	(millions)	(%)
World	2'060	1'564	76%
Africa	391	325	83%
Americas	192	169	88%
LAC	158	140	89%
Arab States	31	27	89%
Asia and Pacific	1'346	988	73%
Europe & Central Asia	100	65	64%

Source: ILO (2020)

heavily affected sectors.⁸ Estimates for Africa indicate that the share of informal workers that have been impacted by COVID-19 could be as high as 83 percent, corresponding to 325 million people (see **Table 1**). For many informal workers, remote working or not working is not an option, since staying at home translates into lost income. Without alternative sources of income and no social protection, ILO estimates that these lost earnings could result in an increase in relative poverty for informal workers by almost 34 percent, globally, and by up to 56 percent in lower income countries.

The pandemic is also having a major impact on unemployment and underemployment among informal workers. Many informal workers in food supply sectors are at risk of losing their livelihoods due to lockdowns and restrictions on the movement of people. Their vulnerability can increase further, as they may have to resort to negative coping strategies, such as sale of household assets, child labour or predatory loans from informal moneylenders⁹.

It is important to note that the impact of COVID-19 is not being gender neutral. Women have been particularly hit by the massive job

losses and loss of income and livelihoods brought about by the pandemic. A number of reasons explain this. Women are overrepresented in many of the industries hardest hit by COVID-19, such as food services, retail and entertainment. Moreover, as lockdown measures have kept people at home, the burden of unpaid care and domestic work has increased for women. Women have also suffered in non-economic terms. Reports show higher rates of violence against women during the pandemic. In addition, women are also more exposed to the health risks of COVID-19, as globally women make up for 70 percent of health and social care workers.¹⁰

Even though vaccination programmes have taken off in most countries around the world, for many developing countries these efforts are still in their very early stages. Thus, as of August 14th, 2021, vaccinations per 100 people in the Africa continent stood at 6.2 percent, as compared to 112.8 percent for countries in the European Union, 89.4 percent in North America, 71.31 in South America or 66.45 in Asia.¹¹ As a result, for many countries, physical distancing continues to be the only way to break the chain of infection, especially for low-income countries. These countries are likely to continue maintaining COVID-19 restrictions in place, until vaccinations have picked up and reached levels consistent with herd immunity, continuing to put additional strain on informal workers livelihoods.

In conclusion, the available evidence indicates that informal sector workers around the globe are an especially vulnerable group of the population to the socioeconomic impacts of COVID-19, workers who have already been severely affected by the pandemic and continue to suffer its economic, social and health consequences.

⁸ILO (2020). "ILO Briefing note: Impact of lockdown measures on the informal economy - A summary". Geneva.

⁹FAO (2020). Impact of COVID-19 on informal workers. Rome.

¹⁰Azcona, G., Bhatt, A., Encarnacion, J., Plazaola-Castaño, J., Seck, P., Staab, S., Turquet, L. (2020). "From Insights to Action: Gender equality in the wake of COVID-19". UN Women.

¹¹Data retrieved from the Our World in Data online database on 16 August 2021 (<https://ourworldindata.org/>).

3. The impact of COVID-19 and the informal economy in Mozambique

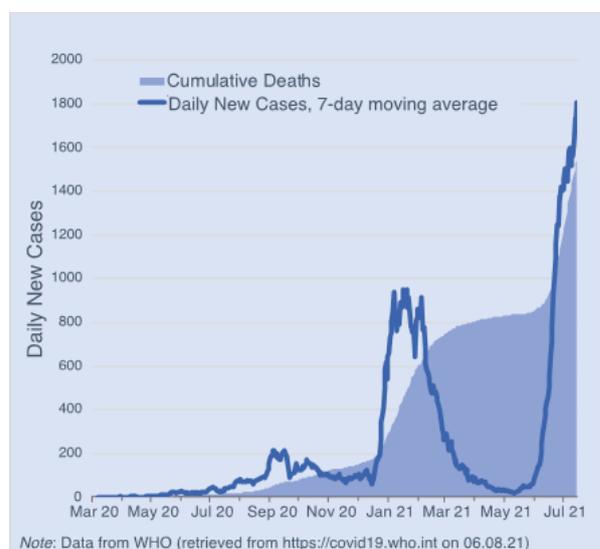
3.1. The Socioeconomic impact of COVID-19 in Mozambique

Mozambique reported its first COVID-19 case on 22nd March 2020. Since then, the country has registered a total of 137,413 cases of confirmed COVID-19 infections and 1,690 official COVID-19 deaths (see **Figure 2**).¹² Actual figures are likely to be significantly higher, given Mozambique's weak healthcare system, as well as its limited coverage beyond urban and peri-urban parts of the country.

As elsewhere around world, the COVID-19 pandemic has had a very significant social and economic impact in Mozambique. A number of concurrent demand and supply shocks hitting Mozambique since the beginning of the pandemic account for this. These range from the sharp slowdown experienced by the world economy and its impact in Mozambique, which has one of the most open economies in Sub-Saharan Africa¹³, to the adoption by government of stringent social distancing and lockdown measures. Altogether, these shocks have severely affected economic activity and disrupted the lives and livelihoods of Mozambicans across the country.

At the macroeconomic level, Mozambique's economy experienced in 2020 its first contraction in almost thirty years, largely due to the pandemic, with GDP falling by 1.23 percent, according to the National Institute of Statistics (see **Figure 3**).¹⁴ The hardest hit sectors were tourism, services, transport, manufacturing and construction, all of which contracted in 2020. Extractive industries, which in 2019 accounted for 7 percent of GDP, also experienced a very sharp decline of 15.1 percent, although this was

Figure 2: COVID-19 figures for Mozambique, daily new cases and cumulative deaths



largely driven by industry-specific factors, not by the impact of COVID-19.

On the demand side, this sharp slowdown in economic activity has also reflected in Mozambique's weak external sector performance, with the value of exports dropping by 15 percent in 2020, that of imports falling by 0.4 percent, while foreign direct investment in projects other than mega-projects experiencing a very sharp decline, from US\$ 875.3 million in 2019 to only US\$ 212.5 million in 2020. Aggregate consumption, on the other hand, fell by 7.2 percent in 2020, with reductions in both private and public consumption, of 2.1 and 19.3 percent, respectively (INE, 2021). While the most recent macroeconomic figures released by INE point towards a recovery of economic activity, Mozambique's short to medium-term outlook remains lukewarm, with the IMF projecting GDP to grow by only 2.1 percent in 2021 and by 4.7 percent in 2022.

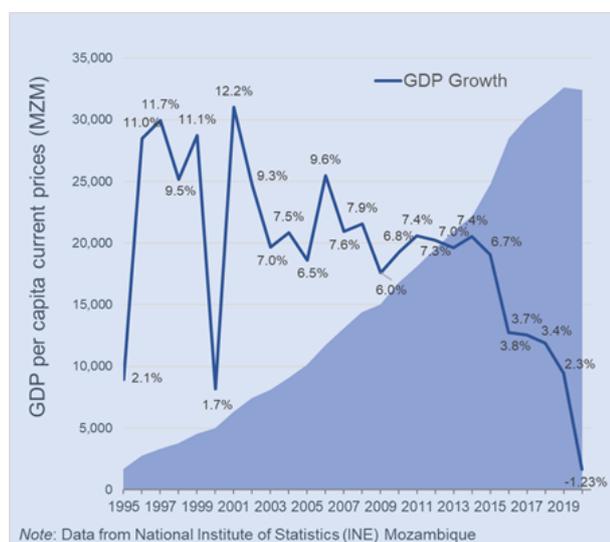
An important driver behind the sharp contraction in economic activity in Mozambique, experienced since the beginning of the pandemic, has been the adoption of a range of confinement and social distancing measures by government since the beginning of the pandemic aimed at reducing the spread of COVID-19 in the country. Since the introduction of State of Emergency legisla-

¹²Data retrieved from WHO's Coronavirus (COVID-19) Dashboard on 16 August 2021 (<https://covid19.who.int/>).

¹³Mozambique's average exports-to-GDP ratio for the 2015-2019 period stood at 37.8 percent, significantly higher than the average for Sub-Saharan Africa (24.3 percent) and higher than its regional peers: Tanzania (16.2 percent), Kenya (13.9 percent) or South Africa (30.0 percent).

¹⁴INE (2021). «Produto Interno Bruto, Óptica de Produção». Retrieved online on 18.08.2021.

Figure 3: Mozambique, GDP and GDP growth, 1995-2020



tion at the end of March 2020¹⁵, the country has seen measures being introduced to reduce business hours, limit and, in some cases, ban certain type of business activities (e.g. gyms, the sale of alcohol, barracas, etc.), reduce mobility and limitations on social gatherings, close down international air traffic, limit access to public spaces (e.g. beaches), tighten controls on international freight and travel, or rotation schemes for both public and private sector workers, among others. In addition, the disruption of international and, especially, regional supply chains, also played an important role. This is particularly the case for supply chains with neighbouring South Africa, a country which in 2019 accounted for 28.5 percent of Mozambique's imports and on which it relies for the supply of all type of goods, from spare parts, to equipment, construction material, fresh food, or consumer goods.

Unsurprisingly, the impact of the COVID-19 pandemic has been heavily felt in both businesses and families. At the household level, INE and the World Bank's High Frequency Survey¹⁶, which has been regularly monitoring the situation of urban households since early in the pandemic, helps illustrate the severe distress faced by families across the country. Results for the

¹⁵Presidential Decree No. 11/2020 of 30 March 2020.

¹⁶INE and WB (2021) Relatório do Inquérito sobre o Impacto da COVID-19 nos Agregados Familiares Urbanos em Moçambique: Junho-Novembro de 2020. Maputo.

first six rounds of the survey, covering the June to November 2020 period, point towards a significant impact on food security, with around 60 percent of households surveyed consistently reporting having missed a meal as a result of the crisis, and with up to 37 percent of families having gone without eating for a whole day during the early stages of the pandemic. The survey also suggests a considerable impact on (un)employment as a result of the crisis.

A nationally representative survey of 1,333 adults conducted in February 2021 as part of the Partnership for Evidence-based Response to COVID-19 paints a similarly bleak picture.¹⁷ Hence, 30 percent of respondents reported having difficulty getting medicines in the three months prior to the survey, while 23 percent indicated they had skipped or delayed health care visits during the six months prior to the survey as a result of the COVID-19 crisis. On the other hand, 61 percent of respondents claimed to have experienced income loss because of the pandemic and 54 percent reported missing meals. Key barriers to foods access reported in this survey included reduced income, higher food prices, food markets being closed, mobility restrictions and food supply shortages.

Against this backdrop, Barletta et al (2021)¹⁸ estimate that the COVID-19 crisis could result in a drop in household consumption of between 7.1 and 14.4 percent in 2020, and an increase in consumption-based poverty of between 4.3 and 9.9 percentage points, with up to 2 million additional people entering poverty. Accordingly, the impact of poverty is likely to have been more intense in rural areas, as consumption levels there were already low prior to the pandemic.

Businesses have also been heavily hit by the pandemic. A survey by the National Institute of Statistics of over 89,000 firms across the country undertaken between April and July 2020¹⁹,

¹⁷PERC (2021). "Finding the Balance: Public Health and Social Measures in Mozambique". Partnership for Evidence-based Response to COVID-19.

¹⁸Barletta et al. (2021). The impact of COVID-19 on consumption poverty in Mozambique. WIDER WP 2021/94.

¹⁹INE (2020). "Resultados do inquérito do Impacto da COVID-19 nas empresas." Instituto Nacional de Estatística. Maputo.

Table 2: Impact of COVID-19 on business and work

	Mar 2020	Jan 2021
Average Change in Revenue compared to 2019	-25,9	-53,5
Av. Number of Employees (1000)	3 523	3 316
Av. Monthly Days Worked per worker	22,6	18,6
Av. Monthly Hours Worked per worker	7,9	7,5
Nb. of Businesses Impacted	80,765 (90.4%)	
Nb. of Closed Businesses	2,316 (2.9%)	
Nb. employees affected by business closure	43,578 (1.3%)	
Source: INE (2020)		

found that 2.3 percent of these companies had closed as a result of COVID-19, resulting in a total of 43 thousand job losses (see **Table 2** for more details). Small enterprises were particularly affected by these closures, with 3.1 percent of them closing, accounting for 95 percent of COVID-19 related job losses. Estimates from this same survey put the loss of business revenue for companies during the first half of 2020 at 41 percent, with this drop being particularly intense for small firms: 48.7 percent.

The impact of the pandemic on business has been especially intense in sectors such as tourism, heavily dependent on international visits. Thus, a study of June 2020 by the CTA, Mozambique's main business association, found that close to 75 percent of tourist establishments surveyed for this study in the province of Inhambane, Mozambique's main tourist destination, had closed.²⁰

It is important to note that these events take place against an already weakened economy, a frail business sector and social fabric. Hence, the pandemic follows several years of lukewarm economic performance, with the Mozambican economy growing only at 3.3 percent between 2015 to 2019, down from an average of 7.9 percent between 1993 and 2015, the result of adverse cli-

matic shocks hitting the country in recent years, low commodity prices for some of Mozambique's main commodity exports and the hidden debt crisis, among other factors. It also follows several years of falling income per capita, a result of Mozambique's weak economic performance and high population growth, currently at close to 3 percent per year, one of the highest in the world.

In response to these impacts, the government of Mozambique has articulated a series of measures aimed at relieving the situation of both families and businesses. Social policy responses included the introduction of VAT and import duty exemptions for medicines, medical equipment, food (sugar, oil) and other basic consumption goods (e.g., soap). A general 10 percent reduction of electricity tariffs, increasing to 50 percent for families paying the so-called "social tariff", as well as the delayed payment of water bills and its exemption of payment for low consumption users. A key measure on the social front has been the expansion of Mozambique's existing social protection programme aimed at increasing coverage from 592,179 to 1,695,004 households to include families affected by the COVID-19 pandemic who would not otherwise qualify for support.²¹

Measures to support businesses have included waivers and the postponement of payments of corporate taxes for firms with turnovers below MZN 2.5 million, the compensation of VAT tax credits with other taxes, a 10 percent reduction of electricity tariffs for businesses, the suspension of mobile phone money fees, a temporary increase in mobile money transaction limits or the forgiveness of social contribution fines, the introduction of a US\$ 22.9 million subsidized line of credit to support SMEs, as well as more general measures by the Bank of Mozambique to reduce interest rates and banking regulatory requirements, contributing to raise liquidity in the financial sector.²²

²¹Prior to COVID-19 these programmes mainly focused on supporting the very vulnerable, namely the elderly, persons with disabilities, those chronically ill, as well as certain categories of children (e.g. child headed households, orphans).

²²World Bank (2021) Mozambique Economic Update: Setting the Stage for Recovery. Maputo.

²⁰CTA (2020) Impacto da pandemia da COVID-19 no sector empresarial e medidas para a sua mitigação. Maputo.

3.2. The informal economy in Mozambique

The informal economy in Mozambique is estimated to account for 31 percent of GDP.²³ It includes a very wide and diverse range of activities that go from the millions of Mozambicans earning a livelihood from subsistence farming and fishing, to the many informal enterprises and self-employed people operating in the country's urban economy as petty traders, or involved in small-scale manufacturing, construction and artisanal activities.

INE's 2005 Survey of the Informal Sector, INFOR-2005²⁴, provides the most indepth account of this sector. Based on a nationally representative sample of 6,900 households, the survey provides detailed information of both formal and non-formal employment activities for people over the age of seven, generating robust indicators down to the provincial level. Any activity in which participants of the survey are engaged as employees, self-employed or entrepreneurs is considered part of the informal economy if none of the following two conditions are met:

1. The activity is registered either with the provincial authorities or in the corresponding Repartição de finanças/local tax office.
2. The enterprise is in possession of an official document, either a license (alvará) or a registration record (Ficha de Registro), or, for the case of employees, these hold an official work contract.

The results of the survey indicate that 75.2 percent of the workforce was employed in the informal economy in Mozambique in 2005, another 7.9 percent was employed in formal activities, while the remaining 17 percent was unemployed. Informality was more prevalent in rural areas, where of 86.9 percent of the workforce was involved in informal activities, with this same share only reaching 50.4 percent in urban areas.

It is important to note that a very large share of people in the informal rural economy identified in the INFOR-2005 survey engaged mainly in subsistence activities in agriculture and other

Table 3: Number of informal workers aged 7+ years by main sector of activity (in %)

	Agriculture	Industry and Construction	Trade and Tourism	Other Services	Total
Urban	68.9	6.9	18.4	5.9	100
<i>Maputo City</i>	10.9	13.8	49.4	25.9	100
Rural	97	0.7	1.4	0.8	100
National	90.9	2	5.1	1.9	100

Source: INE (2006)

primary sectors, constituting a very different profile to that of informal economy workers in urban areas. Thus, data from this survey indicates that 97 percent of rural informal workers were employed in agriculture and other primary activities. In urban settings, however, this share was significantly lower, although still considerable: 68.9 percent, and was followed by those employed in trade and services, 24.3 percent, and those engaging in construction activities: 6.9 percent (see **Table 3**).

Interestingly, the INFOR-2005 survey found that a significant share of formal workers, 17 percent, also engaged in secondary informal activities. This share was particularly high in rural areas, where up to 36.4 percent of formal workers engaged in informal activities, but was also significant in urban settings, in both cases most of these formal workers engaging also in informal activities in agriculture.

Informal sector workers were not particularly young in the INFOR-2005 survey: 42.9 percent of them were 35 years of age or older. Those under the age of 25 only represented 31 percent of the total. The survey also found important gender dimensions to informality, with 58.5 percent of informal workers in the country being women. These differences were particularly noticeable in the south of the country, where up to 65.8 percent of informal sector workers were women. In terms of employment status, the survey found that a large majority of informal economy operators outside agriculture, 73.2 percent, were self-employed or entrepreneurs, the rest (26.8 percent) being employed by others.

²³See footnote 3.

²⁴INE (2006). "Resultados do Primeiro Inquérito Nacional ao Sector Informal: INFOR-2005". Maputo.

A study on informality in Mozambique by Byiers (2009) using data from INE's INFOR-2005 survey and focusing only on non-agricultural self-employed entrepreneurs, finds that 57.7 percent of these operators could be classified as involuntarily informal, with 44.1 percent of them citing a lack of salaried employment opportunities as the main reason for operating an informal business, and an additional 13.6 percent explicitly citing survival-related reasons. According to this same study, the estimated effect of being formally registered on labour productivity for this particular segment of the informal sector was of between 31.6 to 34.5 percent, controlling for all other possible firm characteristics, with the implied average annual value-added premium for a microenterprise registering reaching between US\$513 and US\$560 per year.

The World Bank's recent 2018 Mozambique Enterprise Survey, which includes a specific module on informal enterprises, also provides useful insight into the country's informal economy.²⁵ Based on a sample of 554 informal firms operating in Beira, Maputo and Nampula²⁶, the survey finds that informal firms tend to be smaller and younger than formal enterprises, employing on average 1.6 employees, as opposed to 14.1 employees for formal enterprises, and having an average age of 4.7 years, against 8 years for micro formal enterprises and 14.9 years for larger formal companies. Informal enterprises in these locations are also more likely to be owned by women and mostly operate in the retail sector, with an estimated 72 percent of them involved in retail activities, against 52 percent of formal enterprises included in the survey.

Beyond these descriptive traits of the informal sector, the results coming out of this 2018 enterprise survey indicate that informal firms sell less, are less productive and are less profitable than micro formal firms. Hence, Aga et al (2019) find that informality for firms in this survey is associated with selling 25 times less than formal firms and selling 15 times less than formal firms with fewer than 5 employees. Informal firms are also

between 17 and 19 times less profitable than formal companies. A significant part of these differences can be explained by differences in firm and ownership traits that exist between formal and informal enterprises. But even after controlling for these differences, informal firms are still between 2 to 3 times less productive than formal micro enterprises. Despite these differences, Aga et al (2019) find that few informal firms transition into the formal sector, with very few of them having even considered this move. Mostly, because these firms see no benefit of registering their businesses, with 33.5 percent of surveyed firms citing this as the main reason for not doing so, although other factors such as the time, fees and paperwork involved in formalizing (26.1 percent) or the lack of information (18.6 percent) were also important.

Despite these findings regarding the structural differences that exist between formal and informal enterprises, Aga et al (2019) find that there is significant heterogeneity among informal firms. In fact, some of these present firm characteristics and levels of performance that very much resemble those of formal enterprises. These are firms, they argue, that could potentially become formal enterprises with the adequate support (training and skills development, formalization assistance, market and technology access support, etc.). The rest, representing close to 60 percent of surveyed firms are, however, unlikely to be able to make this shift towards formalization.

4. The COVID-19 Informal Sector Survey (CISS)

4.1. Background and objectives

From the outset, the urban informal sector in Mozambique has been identified as one of the potentially most vulnerable and at greater risk groups of the population to the socioeconomic impacts of the COVID-19 pandemic.²⁷ Three main reasons underlie these concerns.

²⁵See Aga et al (2019) for an analysis of main results coming out of this survey.

²⁶Firms were considered as informal if they lacked either an operating license, a business registration certificate, or a taxpayer's identification number (NUIT).

²⁷See for instance UN (2020) "Unpacking the potential socioeconomic impact of the Coronavirus pandemic in Mozambique" a United Nations situation analysis and policy recommendations. Maputo, March 30th.

First, as an intrinsic part of the urban landscape, which in developing countries tends to concentrate the more advanced and open parts of the economy (trade, industry, logistics), the informal economy is typically more exposed to global economic dynamics, in this case, the sharp downturn experienced by the global economy as a result of the COVID-19 pandemic.

Second, informal activities in developing countries, which often take place in streets and informal market areas, have been heavily hit by confinement measures and other COVID-19 related restrictions introduced by governments across the developing world to restrict mobility and business activity, especially in urban settings.

Finally, by their very nature, informal businesses and workers are likely to have limited access to social protection and business support programmes rolled out by governments in response to COVID-19. As businesses, because they typically lack registration and other basic business capacities (e.g., bank accounts) to benefit from government loans and other support measures. As informal workers and businesspeople, because they are unlikely to meet eligibility criteria established under most social protection programmes, which typically target the most vulnerable segments of the population.

It is against this background, that the UNDP Country Office in Mozambique decided in mid-2020 to undertake, in collaboration with the Ministry of Economy and Finance (MEF), a series of surveys to monitor and assess how the COVID-19 pandemic was impacting, from a socioeconomic perspective, informal sector operators in the city of Maputo: *The COVID-19 Informal Sector Survey*, CISS.

The CISS study has been done in partnership with ASSOTSI-AEIMO, Mozambique’s main association of informal economy operators, and has involved a variety of independent and UN experts in its design, implementation and analysis. Within the UN, UN-WIDER’s Inclusive Growth Programme in Mozambique provided specific support in the design of the survey and the analysis of results. The surveys were administered by the local office of IPSOS, the French market research and opinion polling firm.

4.2. Methodological considerations

The CISS survey was designed as a quantitative longitudinal study, consisting of an initial baseline survey and three follow-up waves, and was implemented between August 2020 and March 2021. The baseline survey was undertaken in September 2020 and sought to generate general background information on informal sector operators and their families, in addition to collecting a first round of data on the socioeconomic impact of the pandemic for this group of the population. The remaining three follow-up surveys aimed at monitoring over time the socioeconomic effects of COVID-19 in the informal sector by regularly collecting data on a set of indicators defined for this purpose. They were implemented between October 2020 and March 2021, as per the calendar presented in **Table 4**.

The initial baseline survey was conducted on a randomly generated sample of 600 informal workers, 18 years of age or older, affiliated with ASSOTSI, for whom ASSOTSI had basic identity information (age, gender, etc.), as well as contact details. This sample was stratified by age, in order to better represent workers in the 2017 National Census, group which was taken as a reference of the relevant sample population of informal workers in Maputo. A subsample of 500 of these informal operators was randomly assigned every two months for each of the three follow-up waves conducted for this study.

The survey questionnaires comprised both standard household and enterprise survey questions, with the idea of capturing both these two dimensions in our analysis of the socioeconomic impact of the COVID-19 pandemic on the informal sector in Maputo. An effort was made to include or adapt questions to the COVID-19 context, based

Table 4: CISS Survey timelines

	Timeline of Survey	Participants
Baseline - "September"	31/08/20 - 23/09/20	600
Wave 1 - "October"	22/10/20 - 04/11/20	501
Wave 2 - "December"	09/12/20 - 30/12/20	500
Wave 3 - "March"	19/02/21 - 24/03/21	500

on similar pandemic-related work done in other countries, as well as on work in emergencies settings, adapting these to the context of informal sector workers in Maputo.

The CISS questionnaires were designed around five broadly defined areas deemed relevant for the purpose of the study:

- (1) Individual, business and household characteristics – this module was only administered in the initial baseline survey.
- (2) Evolving general business conditions in the informal economy.
- (3) Impacts on employment, revenue, earnings, savings and intra-household nutrition.
- (4) Business and household coping strategies.
- (5) Impact of support measures.

Interviews for the CISS surveys were conducted in Portuguese and Changana, depending on the preference of participants, and took an average of 40 minutes, in the case of the baseline survey, and of 20 minutes, for the three follow-up waves.

In order to comply with COVID-19 social distancing measures, interviews were conducted by means of telephone calls, which limited the scope of topics that could be inquired and the precision of some of the more complex information gathered. To address these concerns and minimize any form of bias or inaccurate collection of data, quality checks were conducted on every round of data collection. These involved having 16 percent of interviews monitored by a supervisor, reviewing 24 percent of interview recordings for the more complex questions included in the survey, and reviewing an additional 5 percent of interview recordings in their entirety. On the other hand, to deal with issues of attrition typical of longitudinal studies, interview substitutions of the original 500-person sample generated for each round were only made after 3 days attempting to contact the selected interviewee, with at least two calls made per day.

It is important to note that the design of the survey carries a series of limitations that need to be taken into account in interpreting results. Chief among these is the fact that the survey draws exclusively from a sample of Maputo-based registered members of ASSOTSI, association that

obviously does not include in its membership all informal sector operators in the city of Maputo, least so of Mozambique. The history of ASSOTSI and, in particular, of its creation, closely tied to the privatization process Mozambique underwent in the 1990s, which saw the layoff of thousands of SOE employees, most likely builds certain biases into the survey, with an overrepresentation of older and female informal workers and businessowners operating in particular activities of the informal economy in Maputo. Therefore, the conclusions of this study need to be interpreted with caution and not necessarily extrapolated to the population of informal urban workers in Maputo and Mozambique as a whole.

5. Characteristics of the sample – a highly vulnerable segment of the population

5.1. Individual characteristics

As noted in the previous section, a total of 600 informal sector workers took part in the CISS surveys. This is a largely female, middle-aged group of people, with basic levels of education. Hence, 64 percent of them are women, a share significantly higher than for self-employed workers residing in Maputo reported in the 2017 National Census – taken here as the reference sample population – 48.8 percent of which were women.

The average age of informal sector workers participating in the survey is of 39.8 years, with the median and modal ages both at 38. Women are somewhat older than men: 42.3 years of age, on average, as opposed to 35.3 years for men. The youngest person was 19 years old at the time of the survey. The oldest, was 70. Comparatively, the CISS sample is slightly older than the relevant group of the population in the 2017 National Census, for which the average age is 39.5.

Most informal workers in the CISS survey live in the greater Maputo metropolitan area, either in Maputo city (42.7 percent of the sample), in the neighbouring city of Matola (43.9 percent) or in Marracuene district (2.4 percent), north of Maputo. There is, however, a sizeable 9.2

Table 5: Profile of participants

	Female	Male	Total
Age of respondents (mean)	42.3	35.3	39.8
Gender of participants	64.2%	35.8%	
Educational level (% share)			
No school attainment	10.2%	0.9%	6.8%
Primary education	64.6%	54.4%	60.9%
Secondary education	23.2%	39.5%	29.1%
Technical education	1.3%	2.8%	1.8%
Tertiary education	0.8%	2.3%	1.3%

percent of informal workers who live in Gaza Province, around 2-3 hours' drive north of Maputo and who travel daily or weekly to Maputo to sell their produce in the capital. Interestingly, this group only includes women, as there are no men in the CISS sample living and traveling from Gaza.

In terms of educational attainment, up to 58.8 percent of informal workers in the sample have completed primary school. An additional 34.3 percent have attended, without completing, primary school. Out of 19.1 percent that had attended middle-school, 12.2 percent have completed middle-school and 1.3 percent that have higher education (see **Table 5** for details). These figures are broadly in line with those found in the 2017 National Census for self-employed workers residing in Maputo, which can be considered as the reference sample population of the CISS study.

Older workers show lower educational attainment. Thus, while the share of those with no formal education stand at 20.3 percent for workers aged 55 and above, it is only 11.7 percent for workers aged 46-54 years of age. Moreover, all workers aged 18 to 31, have at least attended primary school. There are also substantial gender differences in education: while the share of women that attended primary school without completing it is 42.8 percent, for men this share drops to 19.1 percent. Additionally, 10.2 percent of women never had school education, compared to only 0.9 percent of men.

5.2. Business and employment characteristics

From a business and employment perspective, the largest group of informal workers participating in the CISS survey is that of “Fixed merchants”, which constitute half of the sample (see **Table 6**). These are people operating in the various markets that exist in Maputo, and who typically own a fixed stall from which they sell their produce. These people trade in all type of goods and services, although there is a preponderance of those selling fresh and dry food (together, both these groups account for 48.4 percent of the sample), clothes (34 percent) and accessories (13.2 percent). This group is followed by that of street vendors (22.3 percent), and by informal workers providing plumbing, carpentry or shoe repair services (4.8 percent). In this regard, most survey participants are traders or service providers, with hardly any engaging in manufacturing or artisanal activities.

Compared to men, women tend to be largely fixed or street merchants, with 60 percent of street vendors and 69 percent of fixed merchants being female. Men, on the other hand, are comparatively dominant in services, with more than three quarters (77.4 percent) of all workers active in services being male. There are also differences in activity between people with different educational background. Service providers show a higher number of people with secondary education compared to fixed and street merchants, most of whom only have primary schooling.

Most of informal economy workers participating in the CISS survey have been engaged in these activities for many years, with 40 percent of them doing so for more than 10 years, 22.7 percent for between five and ten years and only 37.3 percent being engaged in informal economy activities for five years or less. In addition, most of these informal operators work on their own, although a sizeable 12.6 percent employ other informal workers in their businesses. This percentage is close to the share of adults residing in Maputo in the 2017 National Census reporting to be own-account workers with employees: 14.9 percent.

Table 6: Type of activity of participants

	Female	Male	Total
Fixed merchant	53.8%	44.2%	50.3%
Street merchant	21.3%	24.2%	22.3%
Unemployed, looking for a job	16.4%	15.8%	16.2%
Service (plumbing, shoe repair)	1.8%	10.2%	4.8%
Unemployed not looking for a job	5.7%	1.9%	4.3%
Telephone agent	0.3%	3.3%	1.3%
Mukherista / Importer	0.5%	0.5%	0.5%
Other	0.3%	-	0.2%

In terms of location, up to 55 percent of informal workers in the CISS survey operate in the Zimpeto-KaMubukwana neighbourhood, in the northern outskirts of Maputo, where the Zimpeto wholesale market is found, and which also has a high concentration of market retail activities. This is followed by informal workers operating in downtown Maputo (KaMpfumo), also known as A Baixa (9.2 percent), and by those based in Xipamanine market – Nlhamankulu (8.6 percent).

When asked where they operated, many informal workers, totaling 16 percent of the sample at the time of the baseline survey, reported having been recently relocated out of the areas in which they worked by local authorities. As discussed in greater depth in the next section, this phenomenon is closely linked to the high levels of unemployment reported by participants in the CISS study. It is important to note, in this regard, that there is a significant share of informal workers in the sample whom at the time of the baseline survey reported to be unemployed: 20.5 percent, if both those actively looking for work and those who are not are taken into consideration. This was a recurrent finding throughout the various waves of the CISS survey, with the share of unemployed in the sample actually increasing over time. This issue is explored in greater depth in the next section, given its direct links to the socioeconomic impact of COVID-19 on the Maputo informal sector.

There are also considerable gender differences in business and occupational characteristics in the sample, especially with regards to the type of activities that male and female informal workers engage in. Women are more likely to operate fix market stalls, selling fresh and dry food products, and also to be unemployed. Men, on the other hand, are more active as street hawkers, selling clothes and accessories, and in the provision of services, such as plumbing, carpentry, shoe repair, etc. Many of them also reported to be unemployed, but less so than women.

5.3. Characteristics of households in the sample

In examining the socioeconomic impacts of the COVID-19 pandemic on the informal sector in Maputo, it is important to look not only at the employment or business effects of the pandemic on this segment of the population, but also how these might affect their families. Data collected for this study suggests that this was an already highly vulnerable segment of the population, therefore, susceptible to being heavily impacted by the COVID-19 crisis.

Overall, 65 percent of survey participants are heads of household. This percentage is considerably lower for female informal workers, 54.5 percent, but still significant. On average, CISS informal workers' households have six (5.9) people living in them, of which three (2.8) are children under the age of 18, many of which being significantly younger.²⁸ These are large and young households, both by Maputo and Mozambican standards. Hence, figures from the 2017 National Census put average household size for Maputo at 4.75 people, and at 4.5 people for Mozambique as a whole, with 1.9 and 2.5 children under the age of 18 living on average in these households, respectively.

A large majority of informal operators participating in the CISS survey, 77.5 percent, own the dwellings in which they live, mostly in and around Maputo city, in the greater Maputo metropolitan area. Of those renting, the majority are men (64.8 percent), and are younger than homeowners in the sample.

²⁸Hence, 57 percent of households have at least one child in the 0-5 years age group.

Table 7: CISS household characteristics

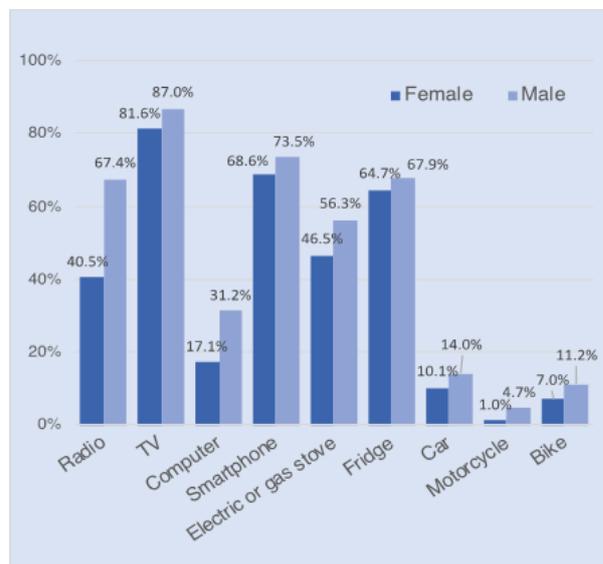
	Female	Male	Total
Household size	6.07	5.61	5.91
Nb. of children in HH	2.84	2.80	2.83
Nb. contributors to HH income	1.44	1.45	1.45
Ownership of housing	10.0%	32.0%	17.5%
Access to sanitation (Toilet inside the house)	18.7%	25.1%	21.0%
Access to safe drinking water (piped water in household)	49.9%	47.0%	48.8%

In general, living conditions for families in the CISS study are worse than those of the 2017 National Census reference sample population of own account workers residing in Maputo. In terms of sanitation conditions, only 21 percent of informal workers in the sample had a toilet in their homes, as opposed to 52.5 percent for own account workers residing in Maputo in the 2017 National census (see **Table 7**). The same goes for access to drinking water, with only 48.8 percent of informal workers participating in the CISS study having piped water in their homes, as opposed to 83.6 percent for the reference group of the 2017 National Census.

Informal workers participating in this survey also own on average fewer assets than the 2017 Census reference sample population. Hence, fewer of them own phones, computers, electric and gas stoves, or cars, and also a fewer number of them hold bank accounts (see **Figure 4**).

Of particular concern in the context of the sharp economic downturn caused by the pandemic, which has reduced economic activity and earnings throughout the Mozambican economy, are the limited sources of income that exist in households of informal workers participating in the CISS study. Up to 5.3 percent of these households had no one earning an income in the CISS baseline survey, and an additional 57 percent had only one income earner in the household. These shares are similarly high regardless of age, gender or household size and have remained at similar levels throughout all three follow-up waves of the CISS survey. There are also important gender differences in asset ownership in the CISS sample: 67 percent of men own a radio, 56

Figure 4: Asset ownership in CISS households



percent a gas or electric stove, and 52 percent hold a bank account. For women in the sample these percentages are significantly lower: 41, 46 and 29 percent respectively.

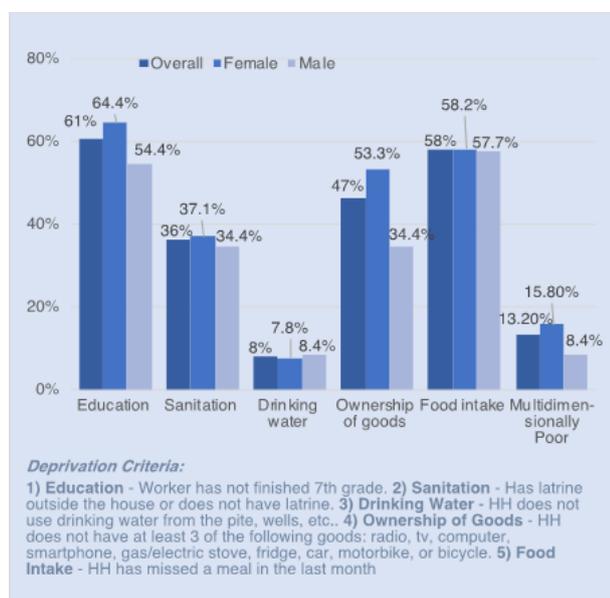
Overall, these figures on household wellbeing point at high levels of vulnerability of informal workers taking part in the CISS study. The multidimensional poverty figures reported in Figure 5, are further evidence of this. These were obtained broadly following the methodology used by the Ministry of Economy and Finance (MEF) for its 4th National Poverty Assessment of 2016²⁹, which follows the Alkire-Foster deprivation approach to measuring multidimensional wellbeing and poverty. Typically, this approach yields multidimensional poverty estimates strongly correlated with income or consumption-based poverty measures.

To this end, deprivation estimates were obtained for five wellbeing dimensions: (1) education attainment; (2) access to drinking water; (3) access to improved sanitation; (4) food intake; and (5) ownership of durable goods. A household was then considered poor if it suffered from deprivation in at least four of these five areas.³⁰ Based on these parameters, our estimates in-

²⁹MEF (2016) Pobreza e bem-estar em Moçambique: Quarta avaliação nacional (IOF 2014/15). Maputo.

³⁰This is a more stringent poverty measure than MEF's, which considers someone to be poor if they are deprived in 60 percent of the dimensions they take into consideration.

Figure 5: Deprivations and multidimensional poverty in CISS household



dicating that 13.1 percent of the sample suffered from multidimensional poverty at the time of the CISS baseline survey, in September 2020, and up to 37.3 percent suffered from at least three deprivations. As a comparison, according to MEF, in 2014/15 only 1 percent of the population of the city of Maputo suffered from multidimensional poverty.

Multidimensional poverty for informal workers in the CISS survey is predominantly female: 15.8 percent of women are multidimensionally poor, as opposed to only 8.4 percent of men. This is mostly driven by gender differences in both education and ownership of durable goods. Most of the poor are between 39–45 years old (27.8 percent), followed by the younger age group of 32 to 38 years (24.1 percent). Yet, when we only compare the shares of poverty among different age groups, the oldest ones aged 55 and above show the highest share of multidimensional poverty in their group (17.3 percent). Most people considered as multidimensionally poor have only attended primary school (96.2 percent), including 31.7 percent who have finished the primary education.

6. The socioeconomic impact of COVID-19 on the informal economy in Maputo

Having drawn the characteristics of informal workers in the urban informal economy in Maputo and that of their families and households, this section turns to the question of how they have been impacted by the pandemic – and how they have coped and responded to the crisis. It investigates these issues looking at different dimensions and channels of how the COVID-19 crisis has affected this segment of the population and their families, recognising that these impacts are often multifaceted in nature. Taking this multifaceted approach, by which several measures of impact and coping strategies are examined, also contributes to the robustness of the findings coming out of this analysis, in that the overall findings presented in this section are backed by more than one data point.

Overall, the analysis presented in this section shows that the COVID-19 pandemic has had a very severe impact on informal workers' businesses, employment conditions and on their lives, as well as that of their families, especially during the initial stages of the crisis. While the situation faced by these people has stabilized over time, informal workers continue to face a very challenging outlook. This is particularly worrying in a context in which this group of the population was already experiencing important vulnerabilities, as outlined in the previous section, and in which they have hardly received any form of support throughout the pandemic, at least up to the time of the last wave of the CISS study, in March 2021. Despite the very challenging environment and outlook faced by informal workers in Maputo, they overall remain optimistic and have done so throughout the various waves of the CISS study. However, this optimism is slowly waning.

6.1. Impacts on informal economy businesses and informal employment

Informal workers faced a sharp deterioration of business and market conditions

The COVID-19 pandemic has coincided with a very sharp deterioration of the business environment faced by informal workers in Maputo.

This sharp decline has been felt from the outset and has continued to affect informal economy operators in Maputo throughout the crisis, as captured in successive waves of the CISS survey. Mostly, this deterioration can be attributed to the sharp decline in economic activity registered in Mozambique since the beginning of the pandemic, as well as to the restrictions imposed by the government as part of the COVID-19 response. Yet, other factors not related to the pandemic have also played a role.

The September 2020 baseline survey for the CISS study already captures this rapidly deteriorating business environment faced by informal workers in Maputo. Back then, up to 83.6 percent of participants in the CISS baseline survey reported having seen their sales drop since the beginning of the pandemic. A similar 83.4 percent reported seeing the number of clients fall, while 60 percent claimed experiencing problems in purchasing goods or finding these more expensive. This latter trend probably owes to the disruption faced by global supply chains during the initial stages of the pandemic, disruption which also affected distribution channels in Mozambique. It has also been a recurrent finding, with informal workers taking part in the CISS study systematically putting the cost of goods as their top concern for all four waves of the CISS survey. Overall, no discernible differences can be appreciated between male and female informal operators taking part in the CISS study in any of these areas.

Data collected in subsequent waves of the CISS study indicate a certain stabilisation of market conditions faced by informal operators in Maputo (see **Table 8**). Hence, around a third of informal workers taking part in this follow-up surveys – 32 percent in the first wave, 33 percent in the second and 38 percent in the third – reported experiencing no significant changes during the previous month in the market conditions they faced. In fact, a few saw market conditions improve, reporting having more clients or finding goods and equipment cheaper or easier to find. Yet, mostly, business conditions faced by informal workers in the CISS study have not improved, and for many they have continued to deteriorate, with falling sales and goods becoming more expensive and harder to find.

Table 8: Changes in market conditions

	Oct. 2020	Dec. 2020	Mar. 2021
There were no major changes	32.0%	33.0%	37.5%
Products/equipment harder to find	15.0%	22.0%	16.4%
Products/equipment easier to find	7.0%	9.0%	2.8%
Products/equipment more expensive	25.0%	32.0%	34.1%
Products/equipment cheaper	4.0%	4.0%	1.6%
There is more security	1.0%	7.0%	1.3%
There is less security	2.0%	5.0%	0.6%
There are more customers	13.0%	23.0%	6.9%
There are fewer customers	43.0%	31.0%	35.6%
More problems with authorities	4.0%	4.0%	2.5%
Other	4.0%	0.0%	0.0%

Beyond these deteriorating market conditions, informal workers in the CISS study have also had to contend with restrictions on informal sector activities put into place by local authorities and the police in Maputo. Thus, only in the initial baseline survey of September 2020, up to 46 percent of informal workers reported having had to relocate their businesses to another part of town. Subsequent waves of the CISS study have continued to capture this phenomenon.

These relocations partly owe to the COVID-19 restrictions on businesses introduced by the government as part of its social distancing and confinement measures, which has limited when and where informal workers can operate. However, it also coincides with the Municipality of Maputo’s decision to clear of street vendors the central district and commercial hub of the city, “A Baixa”, as part of its urban regeneration efforts for this part of town, an initiative that predates the pandemic. In addition to these cases of relocation, many informal workers participating in the CISS study, up to 28.1 percent of them, have had their merchandise seized by the police, leaving them with no goods to sell and, therefore, resulting in significant losses.

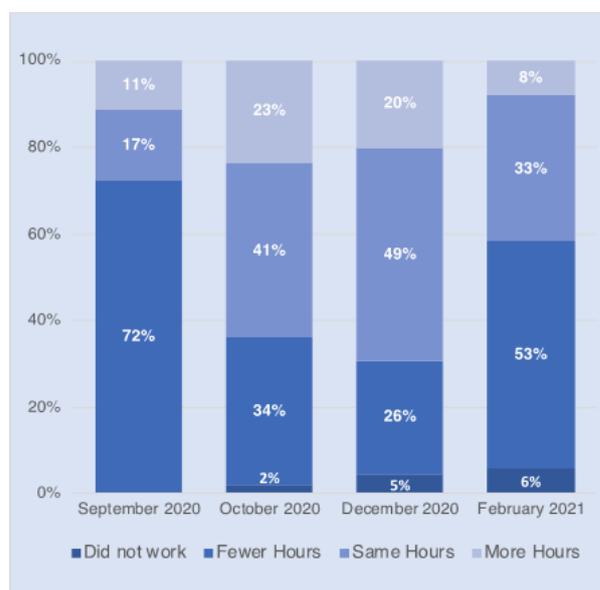
Informal operators saw the hours they worked significantly drop because of the pandemic

This deteriorating business environment faced by informal workers in Maputo since the beginning of the pandemic has had a direct impact on their activity, as captured in various performance indicators monitored for the CISS study. This impact has been felt from the outset, with no significant improvement experienced since.

This is the case, for instance, of the number of hours worked by informal workers in the CISS study (see **Figure 6**). At the time of the baseline survey in September 2020, a vast majority of these (72.3 percent) reported to be working fewer hours since the COVID-19 crisis began, while only 16.6 percent indicated they were working the same number of hours than before to the pandemic, suggesting business and work conditions for this sub-group might have not changed significantly since the pandemic. Informal operators with a fixed market stall were those most affected in terms of reduced working hours: 62.3 percent of those reporting fewer working hours were fixed merchants, followed by 30.1 percent street vendors. This finding is not surprising, given that as part of its COVID-19 response, the government of Mozambique has significantly reduced market opening hours.

As with other indicators, the impact of the pandemic on working hours in the sample stabilized during the last few months of 2020. Hence, the share of informal workers reporting to work the same number of hours as the previous month increased to 40.6 percent in October 2020, and then again to 49.4 percent in December 2020. On the other hand, the proportion of those reporting working fewer hours, fell to 33.8 percent in October and to 25.8 percent in December 2020, while the share of those indicating longer working hours increased to 23.4 percent in October and then experience a small decrease down to 19.9 percent in the CISS wave of December 2020. It is important to note, though, that these variations take the previous month of each of these two waves – October and December – as a reference, not the pre-COVID-19 situation. Therefore, if they are to be interpreted as an improvement, it is only with regards to the situation in September, at the time of the

Figure 6: Impact on hours worked



baseline survey, not in relation to pre-pandemic times. In any case, these trends seemed to have reversed by the time of the third follow-up wave, in March 2021, coinciding with the tightening of social distancing conditions in January 2021, following the sharp rise in COVID-19 infections and deaths experienced in early 2021, with the share of informal workers reporting working fewer hours increasing up to 52.6 percent in March 2021.

... They are also earning less during the pandemic

A similar pattern to the one observed for hours worked by informal sector workers emerges for reported earnings. Reported earnings need to be taken with caution in survey work, such as the CISS study. Hence, survey participants are often reluctant to share this type of information with strangers. They also have different understandings of what constitutes “earnings”, while recall data can be problematic and lack accuracy. The latter is especially the case for long recall periods and for survey participants, such as informal workers and informal businessowners, who are unlikely to keep accounts or business records and who are participating in a survey over a telephone call. Yet, assuming that respondents are consistent over time in their attitudes, in their understanding of concepts such as earnings and in their responses to survey questions, this data can provide useful trend information.

Figure 7: Earnings in the CISS sample (MZM)



As with hours worked, earnings for workers in the CISS sample experienced a very sharp drop between March 2020, prior to the pandemic, and the baseline survey, in September 2020. For the sample as a whole, earnings fell by 63.1 percent, from an average of 15,108 Meticaís per month in March 2020, to only 5,568 Meticaís in September 2020. This drop was particularly felt among participants in the survey who are multidimensionally poor, who saw their earnings drop by 71.7 percent during this same period, as well as by women participating in the CISS study, whose earnings fell by 66.2 percent, a drop higher than the sample average.

As depicted in **Figure 7**, from the baseline survey to the second wave, in October 2020, average earnings continued to drop for the sample as a whole, although more moderately and with earnings of the multidimensionally poor experiencing a slight increase. Average sample earnings then stabilized in the following round of the CISS survey – although they fell for the group of multidimensional poor – and then subsequently fell again for the final wave of the CISS study, in March 2021. Again, this coincides with the tightening of COVID-19 restrictions taking place in early 2021, following the spike in COVID-19 infections and deaths experience at the time.

Measures of business surplus and savings also show a sharp decline

In order to get a better sense of how the pandemic was affecting business surplus and savings, data was collected for the CISS survey on Xitiques in which informal workers in Maputo

participate. Xitiques are a form of rotating savings and credit associations (ROSCA) very popular among informal workers in Maputo. Participants in such schemes, typically informal workers operating in the same market or street, or in the same line of business, regularly contribute funds to a given Xitique, for instance, on a daily, weekly or monthly basis. They are then allowed to draw the full amount pooled by all participants into the Xitique every so often. Typically, the contributions are in a fixed amount. This makes these contributions a particularly robust indicator, in this case of savings or business surplus, as survey participants are likely to recall in greater accuracy the money they have put into Xitiques.

Prior to the pandemic, close to 70 percent (69.6) of informal workers in the CISS study regularly participated in Xitiques. This share was similarly high across all groups, including those who were unemployed at the time of our baseline survey. The only outlier were informal providers of services, for whom this share was even higher: 79.3 percent. Many workers participated in more than one Xitique before the pandemic: 20 percent did so in two of Xitiques, 6.8 percent in three and 1 percent in up to four Xitiques.

Before the pandemic, informal workers in the CISS study contributed on average 5,625 Meticaís per month to Xitiques. This amount was significantly higher for men (7,606 MZM) than for women (4,472 MZM) and than for informal workers who are multidimensionally poor (3,140 MZM). Workers would use the money that they regularly draw from Xitiques for a variety of purposes. Some used these funds to buy equipment or merchandise for their business. Others used them to purchase household durable goods, such as fridges or stoves. Xitiques were also used for savings, or for family and religious ceremonies.

The pandemic has had a dramatic impact on the use of Xitiques by informal workers, severely hampering their ability to operate and invest in their businesses and acquire basic household assets. To start, a very large number of informal workers have stopped participating in Xitiques altogether. Hence, by September 2020 only 30.5 percent of survey participants were contributing to Xitiques, down from 69.6 per-

Figure 8: Contributions to Xitiques (MZM)



cent before the crisis, with this share remaining at these levels throughout subsequent waves of the CISS survey. This observation is very similar for both men and women, but not so for the multidimensionally poor who have seen the number of participants in Xitiques plummet from a pre-crisis share of 62 percent, to only 17.5 percent in September 2020, with this proportion further decreasing in subsequent waves of the survey.

Moreover, the value of Xitique contributions has also fallen sharply, by an average of 71 percent between March and September 2020, with this drop being particularly intense for the multidimensionally poor (89.3 percent drop) and for women in the sample (76.8 percent). Since then, the situation has stabilised, although with these values remaining well below pre-COVID-19 levels. Thus, between September and October 2020, average Xitique contributions continued to fall, albeit at a slower pace and with average Xitique contributions actually increasing for both women and those informal workers who are multidimensionally poor. There was also a slight recovery in Xitique contributions at the end of the year, in December 2020, yet these contributions dropped again between December 2020 and March 2021, with this being the case for all groups under consideration: men, women and the multidimensionally poor, following a similar pattern to that observed for the case of earnings and hours worked in the sample (see **Figure 8**).

Informal businesses and workers have adapted to the crisis in a variety of ways

Informal businesses and workers are responding and adapting to this challenging and deteriorating business in a variety of ways (see **Table 9**). Within their businesses, many have decided to reduce purchases of merchandise to respond to the drop in the number of clients and falling demand. This strategy has consistently been adopted throughout the pandemic by around 40 percent of informal workers in the CISS study, as captured in the various waves of the survey. Other workers have opted to sell different type of products, and in some cases they even increased purchases of merchandise – although the rationale behind this latter strategy was not made explicit by these informal operators.

Many workers in the Maputo informal sector have gone a step further and have switched business, altogether, for instance going from having a fixed stall in the local market to selling goods on the streets of Maputo. This has been a recurrent feature throughout the crisis, with the share of workers in the CISS sample reporting to have switched activity during the previous month hovering around 10-20 percent: 19 percent in October 2020, 12.8 percent in December 2020 and 15.8 percent in March 2021. One of the groups for which this phenomenon has been more prominent is that of informal workers with fixed market stalls, who have seen their numbers drop from 244 in the September 2020 baseline

Table 9: Changes made to business

	Sep. 2020	Oct. 2020	Dec. 2020	Mar. 2021
Bought less merchandise	64.2%	38.8%	40.1%	38.4%
Bought more merchandise	-	11.7%	16.4%	6.6%
Changed workplace	43.4%	5.5%	6.3%	2.3%
Changed products bought or sold	21.0%	4.3%	5.5%	4.0%
Other changes	6.5%	2.1%	5.5%	2.5%
No changes	22.4%	46.0%	35.9%	49.2%

survey to only 203 by the time the third wave of the CISS study of March 2021, equivalent to a 16.8 percent drop.

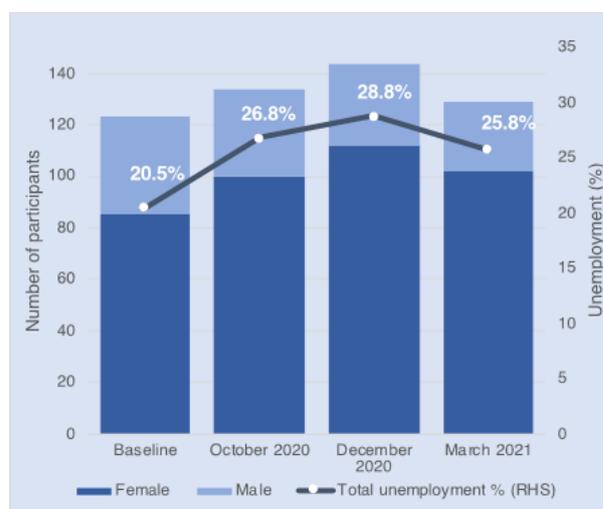
When asked about the reasons for switching activity, most informal workers reported business or livelihood reasons, such as need to earn more money to make ends meet (25.3 percent in the March 2021 CISS wave), the drop in sales (19 percent), having fewer clients (5.1 percent), or the higher costs of the merchandise they sell (11.4 percent), among other reasons. There is, however, a small, yet not insignificant number of informal workers changing business that had other motives. This includes the fact they were forced to relocate from their usual workspace (3.8 percent), that they had had their merchandise seized by the police or the local authorities (3.8 percent) or lack of safety (2.5 percent).

Many informal sector workers have stopped working altogether

A very significant share of those “switching” activities, have actually become unemployed or have stopped working and looking for work, altogether. This is perhaps one of the more striking findings coming out of the CISS surveys, considering that these workers have no access to unemployment insurance and that many live in already highly vulnerable family settings. Unemployment for participants in the CISS study has hovered around the 20-30 percent range throughout the various CISS surveys. During this time, unemployment in the CISS sample has gone from 20.5 percent in September 2020 to 26.7 percent in the October 2020 wave, increasing again to 28.8 percent in December 2020, and then dropping slightly to 25.8 percent in March 2021 (see **Figure 9**).

Unemployment in the informal economy in Maputo is a recent phenomenon. Hence, the bulk of the unemployed in the CISS study, up to 80 percent, reports having lost their job in the months immediately following the outset of the pandemic. Very few of them were unemployed prior to that. It is also largely a female phenomenon, with women accounting for 80 percent of unemployed informal workers in third CISS wave of March 2021, a percentage significantly higher than the proportion of women in the CISS sample: 64 percent.

Figure 9: Unemployment in the CISS sample



Detailed data on unemployment collected for the baseline survey indicates that 70 percent of these people were informal workers operating a fixed market stall before becoming unemployed, while 24 percent were street vendors. Unemployment particularly affects informal workers selling second-hand clothes and shoes (46 percent of the total), as well as informal workers who used to operate in the central neighborhood of “A Baixa”. Many of these are workers who were relocated out of this area by the local authorities, as part of the municipality’s urban regeneration efforts for this part of Maputo. These workers were meant to move to the new market area of Laulane, in the northern outskirts of the city. However, at the time of these relocations, the Laulane market did not have the minimum basic infrastructure conditions (transport access, washrooms, warehousing space) required by the municipality for this market to be able to open to the public, leaving these informal workers with no place to operate.

A “deep dive” undertaken for the second follow-up wave of the CISS survey, in October 2020 to understand better the conditions of those unemployed revealed that, while not able to work in their usual line of business, some of these workers were actually engaged in other activities that could be qualified as being working. These workers represented around 35 percent of those claiming to be unemployed. While some of them were doing odd jobs, or biscates, to earn some money, the majority of these informal workers had decided to stay at home, spending their time fixing

their houses, tending family plots (machambas), or taking care of family members, typically children not able to go to class due to the closure of schools decreed as part of the government's COVID-19 restrictions.

When asked why they were not able to go back to do their usual work in the Maputo informal economy, most of these informal workers claimed not having enough money to buy products to sell, with 71.6 percent of unemployed workers citing this as a major factor. Similarly, an additional 10 percent mentioned the high cost of buying products to sell. Many, however, around 30 percent, cited the fact that they had been forced to relocate, with no alternative location offered in which to operate, or that they had had their goods seized by the local authorities leaving them with nothing to sell, reason cited by 11.9 percent of these workers.

Some informal workers have actually done quite well during the pandemic

Despite the very challenging socioeconomic environment faced by the informal economy in Mozambique during the COVID-19 crisis and the negative impact it has overall had on informal workers livelihoods, some of them have actually fared relatively well during the pandemic.

The number of informal workers in the sample reporting positive growth in earnings was very small for the September baseline survey, only 26, representing 5.8 percent of workers for which data on earning was collected during that

wave. This is a sign of the magnitude of the impact that the COVID-19 crisis had on the informal economy during its initial months of the pandemic. Yet, these numbers have increased over time: 99 informal workers reported growing earnings in the October wave, 94 in the December wave and 106 in the final follow-up survey conducted in March 2021 (see **Table 10**). It is important to note that not all workers have done well throughout the pandemic. In fact, only 18 reported growing earnings over all four waves of the CISS study.

Men in the sample seem to have done better by this metric, although the share of women and poor informal workers reporting positive growth in earnings throughout the surveys was still significant. Both average and median growth in earnings for this group of workers was also significant; i.e. the few who did well in terms of growth in earnings from one wave to the next, did significantly well.

Informal workers positing growing earnings between waves tend to be somewhat younger, better educated, less deprived and to live in households with more income earners than the rest. But these differences are not major, and, in many instances cases, they are not statistically significant.

Despite the very challenging outlook, informal workers overall remain optimistic

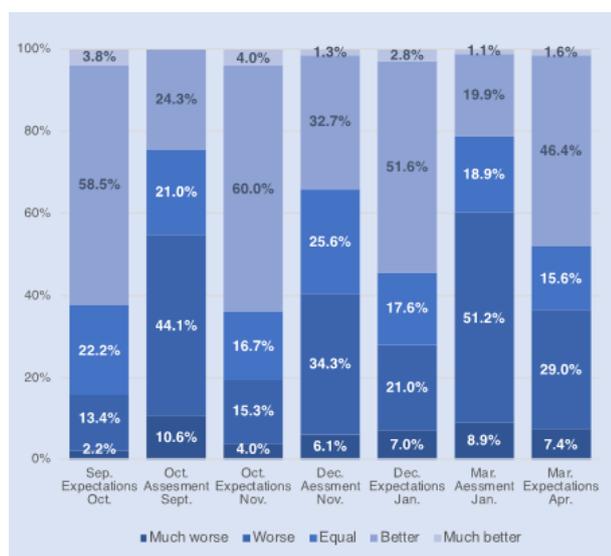
Despite the difficulties that informal workers in Maputo have faced since the beginning of the COVID-19, they have remained overall optimistic about their situation. This has been the case even recognizing, wave after wave, that these positive expectations have consistently not been met. However, over time, their optimism has dropped.

Hence, in September 2020, 62.3 percent of informal workers considered things would be better or much better during the following month, despite having experienced a drop in earning of up to 63.1 percent since the beginning of the COVID-19 crisis and with the country entering some of the most challenging moments of the pandemic. A month later, in October 2020, the share of informal workers that felt in the same positive way had actually increased

Table 10: Informal workers that did better

	Sep. 2020	Oct. 2020	Dec. 2020	Mar. 2021
No. workers whose earnings grew	26	99	94	106
% of total	5.8%	28.7%	28.8%	31.4%
% for men	8.2%	36.2%	35.1%	35.8%
% for women	4.5%	24.9%	25.6%	28.9%
% for poor	6.7%	21.3%	20.0%	25.0%
Average growth in earnings	108%	188%	400%	128%
Median growth in earnings	29.2%	100%	50.0%	45.0%

Figure 10: Expectations vs. assessments



slightly to 64 percent, even though 54.7 percent of them thought September 2020 had gone worse than expected, and an additional 21 percent felt things had not changed during the past month. The share of those remaining optimistic in the December 2020 continued to remain high, although at a significantly lower proportion of 53.4 percent. The March 2021 CISS wave seems to confirm this slow but downward trend in levels of optimism, with the proportion of informal workers considering things would be better or much better during the following month dropping to a low, but still significant, 48 percent (see **Figure 10**).

6.2. Impacts on informal workers’ families

The impact of the COVID-19 socioeconomic crisis on informal workers in Maputo has undoubtedly also been felt in their homes and families. In some areas, this has led to worrying outcomes and dynamics. In others, families have so far managed to withstand the worst effects of the COVID-19 socioeconomic crisis. This section presents key findings in this area.

Many families are finding it challenging to meet basic food and nutrition needs

Perhaps one of the most concerning findings coming out of the CISS study is the impact that the COVID-19 crisis has had on informal workers’ ability to bring enough food home, with many informal workers and their families hav-

ing to cut back on their food intake and also on the number of daily meals they take. While the share of those families going through this situation has dropped over time, it still remains high.

As displayed in **Table 11**, at the time of the baseline survey, in September 2020, almost three quarters (72.5 percent) of participants in the CISS study reported having eaten less than usual during the past month due to lack of money. Of these, almost four out of five (78.6 percent) indicated they had at least missed a meal during this same period. These two shares have been dropping since then, yet for the March 2021 wave of the CISS survey those eating less than they should, due to lack of money still stood at a significant 65.4 percent. Of these, 60.9 percent had missed at least a meal during the past month. Nutritional stress is particularly high among informal workers in Maputo deemed multidimensionally poor, with more than 80 percent of these reporting having to cut on food and missing meals for all four waves of the CISS survey.

To obtain more insights on the families’ nutritional dynamics, additional information was solicited on this topic in the March 2021 CISS wave. The information collected suggests that families are facing considerable nutritional stress. Hence, of those respondents claiming to have missed at least a meal in February 2021, 14.6 percent had done some more than 20 times during that month, 16.1 percent eight to 10 times and 38.7 percent, 4 to seven times. These problems were not only affecting informal workers or other adults in the family: 92.7 percent of those informal workers reporting having to eat less in February indicated that cuts in food were also affecting children in the household. Moreover, families in the informal sector in Maputo

Table 11: Nutrition trends in the CISS sample

	Sep. 2020	Oct. 2020	Dec. 2020	Mar. 2021
% that ate less than usual	72.5%	71.1%	67.2%	65.4%
% that missed meals (among those eating less)	80.0%	80.9%	79.5%	60.9%

were not only having to cut on food. Up to 16.8 percent also reported not having sufficient water during the month of February to meet households' basic water needs.

It is important to note that nutritional stress in the CISS sample is something relatively recent and very much coincides with the COVID-19 pandemic. Thus, the number of meals missed by informal workers in the CISS study stood at an average of 1.4 meals in March 2020, just before the COVID-19 pandemic hit Mozambique, as reported by survey participants, compared to an average of 8.4 meals missed in March 2021. In fact, almost 80 percent of those missing a meal in the month prior to the March 2021 CISS wave, had not experience any sort of nutritional stress a year earlier.

Households are being forced to sell home assets and miss key payments

In addition to cutting back on meals, informal workers and their families have sold household assets to generate cash. The sale of assets has been a recurrent feature in the CISS surveys, reaching a high in September 2021 when 21.3 percent of the CISS sample reported having tried to sell household assets during the past month. This share dropped significantly during subsequent waves of the CISS survey, to between 8 and 11 percent (see **Table 12**). Overall, 32.2 percent of participants in the CISS study had had at some point since the beginning of the pandemic to sell household assets to generate additional income. In general, men in the sample engage more in this type of coping strategy than women, but this could simply reflect that fact that ownership of durable goods and other household assets in the households is skewed and tends to lie with men in Mozambique.³¹

Households have not only engaged in the sale of durable goods as a way of coping with the negative income shocks brought about by the pandemic. They have also missed important payments, such as rents. Hence, of the approximately one fifth of informal workers in Ma-

Table 12: Share of participants that tried to sell assets

	Sep. 2020	Oct. 2020	Dec. 2020	Mar. 2021
Overall	21.3%	8.6%	11.4%	8.0%
Women	14.3%	5.0%	5.8%	3.4%
Men	34.0%	15.2%	21.8%	16.3%
Poor	27.9%	11.1%	13.9%	12.9%

puto participating in the CISS study that live in rented dwellings, a sizeable 43.5 percent had failed to pay the rent in October 2020, the first time this question was raised in the CISS surveys. This percentage has since increased, reaching 53.7 percent in March 2021.

Households have resorted to savings and credits to mitigate the impact of the crisis

With business slowing down and both sales and earnings dropping, many informal workers have had to borrow money or use their savings to make ends meet at home and in their businesses. In this regard, figures for participants in the various waves of the CISS study show worrying patterns.

Thus, by September 2020, almost half of informal workers in the sample (44.4 percent) reported to have used up all their savings since the beginning of the pandemic, in March 2020. Another 41 percent did not even have any savings to start with, while only 5 percent stated not having used their savings. This points to a situation of generalised financial stress among informal workers in Maputo and their families.

By groups, it was those most vulnerable or most affected by the socioeconomic impact of the pandemic, including the unemployed and street vendors, who have resorted to greater extent to using their savings. This is likely to have increased their vulnerability, as without savings they find it harder invest or purchase merchandise for sale and, therefore, to sustain their livelihoods.

On the other hand, there seems to have been a surge in borrowing among informal workers in Maputo, especially during the initial phases of the crisis, with CISS study participants claim-

³¹Data from the 2017 National Census of Mozambique helps illustrate this. Hence, that year, up to 30.8 percent of men owned a mobile phone and 12.2 percent had a bank account. For women, these percentages were of 22.4 and 6.6 percent, respectively.

Table 13: Share of CISS participants that borrowed

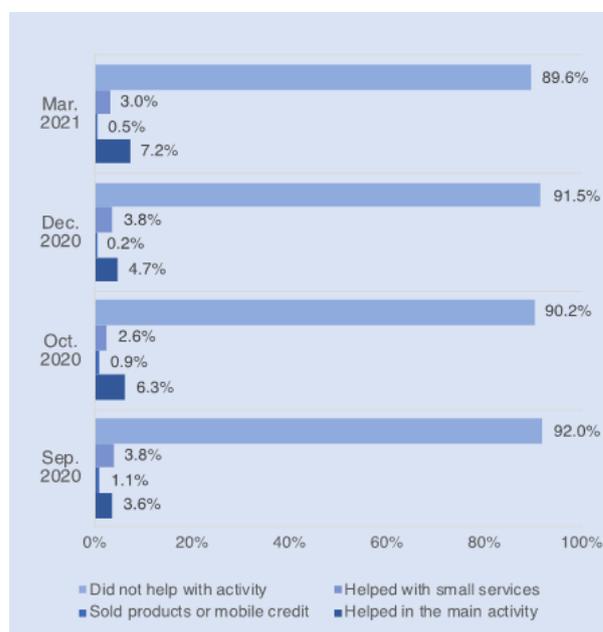
	Sep. 2020	Oct. 2020	Dec. 2020	Mar. 2021
Overall	31.5%	16.6%	20.2%	20.8%
Women	29.6%	18.0%	19.0%	19.6%
Men	34.9%	14.0%	22.4%	23.0%
Poor	27.9%	15.9%	16.9%	17.7%

ing in the September 2020 baseline survey to have had to borrow money coinciding with the impact of the pandemic reaching 31.5 percent. This share has dropped since, although remaining at a considerable 17 to 21 percent of the sample in subsequent waves of the CISS study (see **Table 13**).

Close to two thirds of those informal workers borrowing money have resorted to family, friends and relatives, and only around 20 percent have benefitted from bank or microfinance financial support. These loans have mainly gone to acquire merchandise to sell in the market, although a not insignificant part has been devoted to buy food and other basic goods for informal workers households, e.g., 20 percent in the March 2021 CISS survey.

Families have mostly kept children out of work

On a positive note, a main concern at the outset of the pandemic – that the impact of the COVID-19 socioeconomic crisis would lead to a rise in child work – has not materialized, at least not to a significant extent among those informal workers and their families taking part in the CISS study. Thus, when asked whether families had had to get their children to help with their business during the past month, around 90 percent of respondents throughout all four waves of the CISS survey indicated this had not been the case (see **Figure 11**).

Figure 11: Children’s support in income activities

Informal workers and their families have received limited support

Despite the very challenging environment and outlook that informal workers in Maputo have faced since the beginning of the pandemic, the support they have received has been very limited – and has remained so throughout the various waves of the CISS survey. This is not only the case of the various initiatives established by the government to support business and vulnerable families as part of its response to the COVID-19 crisis, for instance through the expansion of social protection programmes, the introduction of tax breaks and incentives, or the establishment of subsidized credit lines, as described in Section 3 of this report. It is also true for other potential sources of help, such as that coming from national and international NGOs, charities, etc.

In this sense, a very large majority of informal workers in Maputo taking part in the CISS study have consistently reported not receiving any kind of support or help: over 90 percent in all four waves of the CISS survey. Whatever support informal workers have received, it has come mainly from relatives (see **Table 14** for details).

Table 14: Assistance to CISS participants

	Sep. 2020	Oct. 2020	Dec. 2020	Mar. 2021
Received no assistance	94.5%	96.4%	93.8%	94.8%
Family	3.0%	3.0%	5.0%	3.8%
Government	1.2%	0.0%	0.0%	0.4%
Trade Association	0.5%	0.0%	0.0%	0.0%
Church	0.5%	0.6%	0.4%	0.2%
Friends or Neighbors	0.5%	0.4%	0.8%	1.0%

6.3. Understanding drivers of impacts and coping strategies in the CISS study

Having analysed how COVID-19 has affected informal workers and their families in various areas, this section brings together the main elements examined in previous sections to explore, in a multivariate manner, how different factors are associated with key outcomes of the COVID-19 crisis, as identified in this report. This multivariate approach allows to take into consideration the interrelation between different explanatory variables and find statistically significant associations between these explanatory variables and specific outcome variables of interest.

To this end, this section presents the results of a simple pooled logistic regression analysis that seeks to identify factors associated with six dependent dichotomous variables capturing some of the main outcomes coming out of the analysis presented in the previous sections: (1) whether informal workers are unemployed or not; (2) whether they participate in Xitique; (3) whether they have experienced positive earnings' growth (4) whether they have borrowed throughout the crisis; (5) whether their households have had to cut on food; and (6) whether they have had to sell household assets. It uses a pooled logistic regression approach to use the full set of data collected in the various waves of the CISS study and examine these issues.

The analysis considers as possible predictors or explanatory variables key individual, household, business and employment characteristics discussed throughout this report. These include gender, age and level of education of participants of the CISS study. The size and levels of deprivation they face. The number of people earning an income in their households. The type of activity they engage in. The number of years they've been working or running businesses in the informal economy. Their employment status, the location in Maputo in which they operate and whether they participate or not in Xitiques.

The following sections present the main results for each of these outcome-based dependent variables. **Table 15** below presents detailed results for these pooled logistic regressions, as well as the full list of explanatory variables considered for this analysis.

Unemployment

As discussed in Section 6.1, one of the main impacts of the COVID-19 crisis on the informal economy in Maputo has been in unemployment levels among informal workers. The results presented in Table 15 (column 1) indicate that several of the factors or characteristics under consideration in this report are statistically associated with unemployment in the sample, in that presenting any of these characteristics increases the chances of becoming unemployed.

Some of these factors present a positive association, meaning that their occurrence increases the chances of becoming unemployed. Others, a negative association. Among the former, there is being a female informal worker, or being located, at some point throughout the CISS study, in the "Bairro Central", the central district of Maputo. In this latter case, this positive association with becoming unemployed is linked to the fact that many of these informal workers have been moved out from Central Maputo, without local authorities providing alternative locations in which to operate. The chances of being unemployed also increase with the number of deprivations faced by households in the informal sector. In addition to these three factors, having technical education and having been operating or working in the informal sector for up to 10 years are also positively associated with becoming unemployed.

On the other hand, factors negatively associated with unemployment, for which their occurrence or magnitude decreases the chances of becoming unemployed, include the number of members earning an income in the household. In other words, the larger the number of members of the household earning income the less likely an informal worker is to become unemployed. This could perhaps be explained as the result of “network effects”, by which informal workers are able to tap into family business and work networks to remain employed. It also includes participating in a Xitique. The likely explanation behind this negative association is that, if people are participating in a Xitique, it’s because they are still earning an income or have money saved that they don’t need and, therefore, they can put into a rotational savings scheme, meaning that they are unlikely to be unemployed. Another factor that lowers the probability of unemployment is having a primary education level compared to no formal education at all.

Finally, the non-significant coefficients for the Wave dummy variables presented in Table 15 would confirm that, on average, we cannot observe any trend in unemployment vis-à-vis the baseline survey.

Overall, the above results underscore the fact that it is the most vulnerable who are more exposed to the unemployment phenomena detected in the Maputo informal sector during the COVID-19 pandemic. It is women, deprived and multidimensionally poor households and families with fewer income earners that are likelier to become unemployed during COVID-19.

Xitiques Participation

As indicated in previous sections, Xitiques are a popular form of rotating savings scheme among informal workers in Maputo and are widely used to manage surplus, savings and investment needs. As with the analysis of unemployment, the pooled regression analysis of Xitique participation yields statistically significant associations in both directions, both positive and negative, as in decreasing or increasing the changes of informal workers participating in Xitiques during the pandemic (see **Table 15**, column 2).

Factors with statistically positive association with participating in a Xitique include having a greater number of members in the household earning an income, running an informal business for more than 5 and 10 years, as opposed to a year or less, which is the comparator age of the firm.

The first of these associations is self-evident: the greater the number of income earners in a household the more savings or surplus cash they are likely to be able to generate and, hence, the likelier it is that these households continue to put part of these savings into a Xitique. The second of these associations is perhaps the result that older businesses are likely to be more established in the line of business in which they operate and hence they perhaps perform better and are better able to withstand business shocks such as that caused by COVID-19.

Factors negatively associated with participating in a Xitique include age of informal workers, the number of deprivations faced by households in the sample, as well as being unemployed. In other words, the older an informal worker and the more deprived is his/her household, the lower the chances of participating in a Xitique. The same happens to those unemployed. These results make sense, considering that participating in a Xitique can be taken as a proxy of being relatively well off.

Finally, the negative and statistically significant coefficients found for all three CISS follow-up surveys (Wave 1, 2 and 3) confirms that Xitique participation has followed a downward trend throughout the pandemic. That is, the situation has consistently worsened over time on this particular performance metric.

Altogether these findings point to the fact that it is the more vulnerable – deprived households with fewer income earners or the unemployed – who have been more affected by the impact of the pandemic and less able to continue participating in Xitiques which, in the context of the Mozambican informal economy, is a key investment and cashflow management mechanism.

Increases in earnings

As outlined in section 6.1, despite the very large negative impact that COVID-19 has had on the informal economy in Maputo, some informal workers have managed to come out relatively unscathed, reporting to have seen their earnings increase at some point since the beginning of the pandemic. **Table 15**, column 3, presents the results of a pooled logistic regression of the odds of positing growing in earnings at some point during the various waves of the CISS study that seeks to identify participants' characteristics associated with this outcome.

As can be seen from the results presented in this table, several variables present statistically significant coefficients: being a female (negative), having secondary or technical education (negative), the number of contributing members to household income (positive), having worked in the central district of Maputo (positive), plus all three trend – Wave 1, Wave 2 and Wave 3 – variables (positive).

We can interpret these results as indicating that, other things equal, reporting increases in earnings is associated with being a man, not having secondary or technical education, living in a family with a larger number of income earners and not having worked in central Maputo. Conversely it can be said that women, those who have worked in the central district of Maputo or those living in more “income vulnerable” households are less likely to report increases in earnings. Again, this points to the fact that those people who are or tend to be more vulnerable are those fairing worse on this performance metric. Finally, the positive coefficients on the trend variables simply indicate that the number of workers reporting increases in earnings has increased over time.

Borrowing

As discussed in section 6.2., many informal workers in the CISS study have had to borrow money in order to deal with the loss of profit and income during the COVID-19 pandemic. The logistic regression results on borrowing behaviour presented in **Table 15** (column 4), which include mostly the same variables as for unemployment and Xitique, present who is likelier to borrow in the sample.

The only statistically significant variables associated with borrowing are that of age of respondents and their unemployment status. Age has a negative impact on the probability of borrowing. In other words, older workers are less likely to borrow money. Unemployment also negatively influences the probability of borrowing. The reason behind this might be that without any income, unemployed informal workers cannot afford to borrow or, simply, cannot find a moneylender or financial institution willing to give them a loan.

The three dummy variables capturing each of the three follow-up waves done after the baseline survey are also statistically positive, with all three presenting a negative coefficient. This indicates that overtime, borrowing has consistently been less frequent during the pandemic. This is important, in that this declining trend in borrowing may be hampering informal workers' capacity to invest in their businesses or obtain working capital with which to purchase merchandise to sell.

All other variables under consideration for this logistic regression of borrowing patterns in the sample, such as the age of businesses, household size or the number of people earning an income in the household, are statistically not significant, meaning we cannot establish a statistically robust association between these variables and informal workers borrowing behaviour.

Nutrition in the household

As described in section 6, a considerable number of informal workers and their families had to resort to negative coping strategies in response to the COVID-19 crisis, including cutting back on meals and on the amount of food eaten at home. Column 5, in **Table 15**, presents the results of our logistic regression for this coping strategy.

Not surprisingly, the more deprived respondents and their families are, proxied by the variable capturing the number of deprivations faced by informal workers' households, the higher the likelihood of cutting back on food. The results also suggest that families with fewer people earning money have greater likelihood of cutting back on food. Other variables, such as the size of the household, the maturity of business or the

age of the worker show no statistically significant impact on the probability of borrowing.

Importantly, two of the coefficients for the dummy variables capturing each of the three follow-up surveys done for the CISS study, those for Waves 2 and 3, are negative and statistically significant, meaning that over time, and especially since December 2020, problems of nutrition and lack of food in informal workers' households have, on average, become less of an issue.

Selling household assets

Another trend observed during the pandemic among informal workers in the CISS study is the sale of household assets. For many, this has served to generate additional cash to be used by households in a context of extreme hardship. The results of the logistic regression analysis presented in **Table 15** (column 6) shows the correlations between trying to sell household assets and selected explanatory variables.

Age has a negative relationship with the probability of selling household assets. That is, younger people are more likely to sell household goods than older ones. A gender difference comes to light once again – women are less likely to sell their assets. The reason behind lies probably in the much lower ownership of goods among women than men in Mozambique and in the CISS sample, in the first place. Thus, while 53 percent of female participants do not possess at least three durable goods (among radio, tv, computer, smartphone, gas or electric stove, fridge, car, motorbike, or bicycle), this only applies to one third of the men in our sample. In addition, the results of the logistic regression analysis also suggest that the higher the level of deprivation a household suffers, the higher is the probability it sells durable assets. This is a concerning insight, underlining the risks of the poor becoming even poorer during the pandemic.

The results also show a positive relationship between the age of businesses and the likelihood of selling household goods. In other words, the longer a worker has been in the informal economy the more likely s/he is to sell household assets. Worryingly, this means that even people working for years have had to resort to selling household assets.

Finally, it is important to note that the positive and statistically significant coefficients found for all three CISS follow-up surveys (Wave 1, 2 and 3) in this logistic regression confirms that the sale of household assets has followed an upward trend throughout the pandemic. That is, the situation has consistently worsened on this particular duress metric, with the sale of assets becoming more common over time among informal workers.

7. Conclusion: Main findings and policy recommendations

7.1. Main findings

The COVID-19 Informal Sector Survey (CISS) study has provided a rich set of data of informal workers in the city of Maputo and their families, as well as of the socioeconomic impact of the COVID-19 crisis in this particular group of the population.

The results of this study indicate that the pandemic has had a very significant and negative impact on informal workers in Maputo and their families. The impact has been felt across many areas: on employment, on hours worked, on earning and savings, and hence the ability to invest. Also, on an increasingly challenging business and market environment, with rising prices for goods that informal workers purchase to resell, falling demand and fewer clients, or restrictions on business hours. Families of informal workers have also suffered, using up family savings to make ends meet, cutting back on meals, or selling household durable goods, among others. In addition, in middle of the pandemic, many informal workers have had to deal with the added challenge of having to move business location, as part of the municipal government's urban regeneration efforts in the central district of Maputo. Many, in fact, have become unemployed as a result of these relocation measures.

Data collected in the various rounds of the CISS survey indicates that this impact was particularly intense during the initial stages of the crisis, from March to September 2020, yet has continued to unravel over ensuing months. Hence, while the situation seems to have stabilised to-

wards the last quarter of 2020, on many accounts the overall situation of informal workers has continued to deteriorate, albeit at a slower pace. This, of course, doesn't mean that all informal workers have been negatively impacted by the pandemic. A few have managed to see their earnings increase at some point during the pandemic, with these numbers growing over time – but still remaining small in comparison to those negatively affected by the COVID-19 crisis. Against this background, informal workers in Maputo remain surprisingly optimistic about future business prospects. However, this optimism has waned over time.

The results of this study suggest that informal workers and their families were already considerably vulnerable group of the population going into the pandemic. The COVID-19 crisis, if anything, seems to have exacerbated these vulnerabilities. It is important to note, in this regard, that our analysis indicates that it is those who were already more vulnerable who have fared worse during the pandemic. It is women and informal workers in families with fewer income earners and suffering from greater deprivations who have been harder hit by unemployment. It is older people, the unemployed and, again, those suffering from greater deprivations, who are not able to save or borrow and, therefore, to invest in a way out of crisis. It is the most deprived families and those with fewer breadwinners who are having to cut back on meals and the amount of food they bring to the plate. And it is these same families who are finding themselves selling household assets. Against this highly challenging context, very few of the informal workers taking part in the CISS study have received any support or help, whether from government, relatives or local NGOs and charities. This has been the case since the first baseline survey was undertaken in September 2020, all the way to the last wave, in March 2021.

Over time, as the pandemic unfolds and continues to affect informal workers and their families in Maputo in the coming months, these dynamics carry the risk of chronifying these people's vulnerability, making it harder for them to overcome this situation. In this sense, action is required to mitigate the situation currently faced by informal workers in Mozambique and pave

the way for post-pandemic recovery in the informal economy.

7.2. Policy recommendations

The findings coming out of the various rounds of the CISS survey point to a number of areas where action could contribute to ameliorate the situation of informal workers in Maputo in the context of the pandemic. It also provides useful findings that can help inform how best to support informal workers and their families going forward and how best to respond to crisis such as the COVID-19 pandemic. This section outlines some of these findings and recommendations.

- One of the main findings coming out of the study is that there is a significant number of informal workers who have become unemployed coinciding with the pandemic. Many of these find themselves in this situation after being relocated from their regular places of work by the local authorities in Maputo without being provided alternative locations. The situation of these people could be improved by providing new spaces for them to operate, for instance, in the new market area in Laulane or in other locations in existing markets around Maputo.
- Consistently, throughout the various rounds of the CISS survey, informal workers in Maputo have identified rising prices for the merchandise they sell as one of the main difficulties they've faced throughout the pandemic. This finding is consistent with that of other studies.³² It is unclear what might be driving these price dynamics. During the initial stages of the COVID-19 crisis global supply chain disruptions might have been behind these dynamics, but these disruptions seem to have now been solved. The relevant government authorities could perhaps investigate this issue further.
- The impact of the pandemic has resulted in reduced earnings for informal workers and has forced many of them to use their

³²See, for instance, TechnoServe (2020). "COVID-19 Impacts on Micro-Retail Businesses". Women in Business (WIN) Programme. Maputo, April.

savings and, in the extreme, sell household assets. This has left them with no working capital with which to purchase merchandise, or with which invest, for instance in new workspaces (e.g. in building new market stalls). The very sharp decline in Xitique participation attests to this. In this respect, part of the COVID-19 response could go to provide liquidity or subsidized loans to informal workers, for instance through local microcredit schemes.

- Given the difficulties faced by informal workers in accessing the government's cash-based social protection scheme that has been established to support the pandemic response, alternative support approaches could be considered. For instance, soup or community kitchens could be established in partnership with local CSOs, CBOs or charities targeting specific residential areas where the more vulnerable segments of the population in Maputo live. This could help mitigate some of the difficulties identified in the CISS study that families in the informal sector face in regularly having the recommended three meals per day.
- Similarly, local authorities or local charities, CSOs and NGOs could consider establishing cash-for-work programmes for those workers in the Maputo informal sector who have become unemployed during the pandemic, which as shown in the CISS survey are a considerable number.
- More generally, the experience of the informal sector in Maputo suggests there might be a need to rethink how best to assist, from a social protection perspective, those in need in emergency situations. Hence, established social protection schemes typically address the needs of "standard" vulnerable groups: the elderly, single parent families, people with disabilities, etc. However, emergency situations may give rise to new groups of vulnerable people, people whom, moreover, might require urgent assistance. In this context, existing social protection programmes may not be best suited to address these needs, especially if requirement complex administrative processes and logistics (bank accounts, mobile phones, etc.). Other social protection approaches might, in this regard, provide a more effective way to respond to these emergency situations.

Table 15: Pooled logistic regression results

	(1) Becoming unemployed	(2) Participating in Xitique	(3) Positive earnings growth	(4) Borrowing	(5) Cutting back on food	(6) Sale of HH assets
Age	0.00346 (0.00673)	-0.0163** (0.00570)	-0.005 (0.008)	-0.0326*** (0.00620)	0.000478 (0.00573)	-0.0433*** (0.00859)
Female	1.020*** (0.147)	0.0831 (0.118)	-0.671*** (0.157)	0.212 (0.123)	-0.0194 (0.114)	-1.078*** (0.160)
Base: No education						
Primary education	-0.562* (0.266)	0.379 (0.262)	-0.103 (0.304)	0.367 (0.285)	-0.493* (0.245)	0.128 (0.487)
Secondary education	0.0452 (0.297)	0.392 (0.284)	-0.680** (0.339)	0.481 (0.305)	0.267 (0.265)	0.438 (0.502)
Technical school	1.149* (0.454)	-0.413 (0.458)	-0.896* (0.503)	0.808 (0.457)	0.0376 (0.416)	0.0733 (0.685)
University	0.837 (0.565)	0.637 (0.490)	-0.557 (0.700)	0.0797 (0.561)	-0.381 (0.436)	0.132 (0.721)
Nr. of deprivations	0.217*** (0.0583)	-0.220*** (0.0526)	-0.120 (0.078)	0.0467 (0.0536)	0.670*** (0.0579)	0.323*** (0.0750)
Size of HH	0.0407 (0.0222)	0.0249 (0.0191)	-0.0130 (0.026)	0.0216 (0.0203)	0.0290 (0.0189)	-0.0154 (0.0270)
Nr. of HH contributors	-1.393*** (0.155)	0.133* (0.0672)	0.188** (0.080)	-0.0885 (0.0695)	-0.211*** (0.0627)	-0.144 (0.102)
Worked in Central	1.534*** (0.133)	-0.0147 (0.125)	-0.806*** (0.179)	0.0188 (0.136)	0.198 (0.126)	0.539** (0.175)
Base: Business age: <1 year						
Business age: <3 years	1.347*** (0.282)	0.362 (0.245)	-0.293 (0.361)	0.461 (0.254)	-0.154 (0.240)	0.821* (0.343)
Business age: <5 years	0.703** (0.269)	0.765** (0.234)	0.127 (0.323)	0.115 (0.253)	-0.0310 (0.233)	0.764* (0.349)
Business age: <10 years	0.803** (0.258)	0.410 (0.223)	-0.261 (0.328)	0.377 (0.237)	-0.0641 (0.220)	0.863* (0.336)
Business age: >10 years	0.449 (0.238)	0.642** (0.211)	0.125 (0.295)	0.323 (0.229)	0.0649 (0.213)	0.817* (0.319)
Base: Baseline Wave						
Wave 1	-0.153 (0.178)	-1.913*** (0.148)	2.472*** (0.275)	-0.869*** (0.162)	-0.203 (0.153)	-1.245*** (0.210)
Wave 2	-0.0488 (0.173)	-1.776*** (0.146)	2.460*** (0.266)	-0.603*** (0.154)	-0.412** (0.148)	-0.900*** (0.188)
Wave 3	-0.309 (0.179)	-1.925*** (0.148)	2.574*** (0.265)	-0.589*** (0.153)	-0.491*** (0.148)	-1.340*** (0.212)
Xitique participation	-1.157*** (0.138)		1.117*** (0.163)	-0.0144 (0.122)	-0.164 (0.115)	-0.174 (0.157)
Baseline activity: Street merchant		0.127 (0.183)		0.0590 (0.210)	-0.119 (0.204)	-0.163 (0.260)
Baseline activity: Fixed merchant		0.277 (0.164)		-0.114 (0.200)	-0.236 (0.191)	-0.168 (0.245)
Baseline activity: Services		0.191 (0.264)		-0.227 (0.305)	-0.132 (0.282)	0.121 (0.337)
Unemployed		-1.057*** (0.158)		-0.832*** (0.203)	0.302 (0.186)	-0.0326 (0.244)
Constant	-1.354** (0.519)	0.862 (0.489)	-2.638 (0.667)	-0.182 (0.527)	0.260 (0.487)	-0.413 (0.768)
Observations	2071	2071	1455	2071	2071	2071

Standard errors in parentheses

Note: Each regression is a Pooled logistic regression with robust standard errors.

* p < 0.05, ** p < 0.01, *** p < 0.001