How Have Firms Fared in Times of COVID-19 in Addis Ababa?

Evidence from Eight Rounds of High-Frequency Phone Surveys

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Acknowledgements

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1. Introduction

The COVID-19 pandemic has reshaped the global economy and daily lives of people across the world. Economic projections predict large declines in growth across countries and the World Bank’s most recent Poverty and Shared Prosperity Report shows the pandemic could push some 100 million people into extreme poverty in 2020 alone, and lead to an increase in global poverty for the first time since 1998. Increase in poverty associated with firm closures and job losses together with rising debts and failing tax revenues put at risk decades of development progress made in many low-income economies.

With a recent surge in infection and fatality rates, the COVID-19 pandemic continues to pose serious risk for Ethiopians’ health and economic wellbeing. Early-on, Ethiopia took several steps including the declaration of State of Emergency (SOE) in April 2020 to halt the spread of COVID-19 infections and to stave off its negative impacts on the economy. The swift government response partly explains the smaller number of COVID-19 cases between November 2020 and February 2021 compared to other countries in Africa (Figure 0). As restrictions loosened with the lifting of the SOE in September 2020, confirmed cases have been on the rise since January 2021 (Figure 0). At the time of writing, daily new confirmed cases reached all-time high ranging between 15 to 20 percent positivity rate and a total of 308,134 confirmed cases as of August 31, 2021.

The COVID-19 pandemic resulted in an unprecedented shock to the productive sectors of economies worldwide. The global economy was expected to shrink by nearly 5 percent in 2020 (IMF, 2020), and the World Bank estimates that growth in Ethiopia would be 4 percentage points lower than the pre-COVID-19 forecast (Dione, 2020). Pandemics can have serious impacts on firms and jobs—lockdown measures, disruptions to supply chains and a perceptible fall in consumer demand can lead to firm closures and job losses. Such effects on current productive capacities could potentially weaken the growth prospects of countries both in the short and long run, particularly if these impacts disproportionately

**Figure 0:** Daily new confirmed COVID-19 cases per million people in Ethiopia and Africa

[Graph showing daily new confirmed COVID-19 cases per million people in Ethiopia and Africa from 3/1/20 to 4/19/21. The graph plots data points for Africa and Ethiopia separately.]

Source: Johns Hopkins University CSSE COVID-19 Data.
fall on the more productive firms. It is already evident that the COVID-19 pandemic reduced economic activity and mobility, increased transaction costs, and lowered trading activities among countries. Moreover, we know that firms generate economic growth and a better understanding of the effects of the COVID-19 pandemic on firm operations could support the design of policies which reduce the pandemic’s impact on firms, speed-up recovery, and thus promote economic growth.

This paper assesses the impact of the COVID-19 pandemic and related containment measures on firm operations in Addis Ababa. The World Bank, in collaboration with the Job Creation Commission (JCC), implemented a high-frequency phone survey of firms (HFPS-F). The HFPS-F interviewed a sample of firms in Addis Ababa every three weeks between April and October 2020 for a total of eight survey rounds. The data collected are based on a sample of 645 firms in the industry and services sector using a list of registered firms provided by the Ministry of Trade and Industry. This high-frequency follow-up allows for a better understanding of the effects of and responses to the COVID-19 pandemic on firm operations, hiring and firing, and expectations of future operations and labor demand in order to better tailor and implement interventions and policy responses and monitor their effects.

Although there is a growing body of literature on the impact of COVID-19 on firms, to our knowledge, the high-frequency survey in Ethiopia is unique in that it was implemented within weeks of the onset of the pandemic (in April 2020) and interviewed a panel of firms over eight survey rounds (until October 2020). This paper presents numerous stylized facts that help understand (i) the degree to which COVID-19 affected Ethiopian firms with a closer look at gendered impacts, (ii) the main channels through which COVID-19 affected firms’ operations, (iii) firms’ reactions to the shock, (iv) firms’ future expectations and outlook after the pandemic, and (v) firms’ access to policy interventions such as government financial support schemes.

We find that 42 percent of firms in Addis Ababa ceased operations when the pandemic hit in April 2020. Even those that remained operational had to significantly scale down their activities—firms reduced the number of days of operations, froze hiring and laid off workers. As consumer demand improved and restrictions relaxed, days and hours of work rebounded, and outlooks improved. Full recovery, however, seemed to be a long way off. Nearly half a year into the pandemic, for example, a quarter of firms in Addis Ababa remained closed, and by the last survey round, in October 2020, about 21 percent of these firms were yet to resume operations.

Following the onset of the COVID-19 pandemic, firms in Addis Ababa also experienced a significant drop in sales revenue. We find that, compared to the same month of the previous year, revenues of firms were considerably lower in all rounds of the survey. In April 2020, for example, firms earned about 43 percent of the monthly revenue they had made in the preceding year, which further declined to 12 percent in round four (roughly mid-June through mid-July). After round four, the year-on-year drop in monthly revenues appeared smaller as firms started to increase their operations after a period of significant downturn.

Not surprisingly, the cash flow problem induced by the COVID-19 pandemic made it harder for firms to cover their operating costs. Most firms reported paying rent, invoices, staff wages, and social security as the most significant financial problems they faced. To cope with the financial consequences of COVID-19 and save on labor costs, firms responded in one or more of three ways: (i) sending workers on paid leave, (ii) laying off workers, and/or (iii) reducing wages.

Despite the large impacts on firm operations at the onset of the pandemic, worker layoffs and furloughing were largely limited. Firms mostly granted leave, which peaked at 30 percent in April 2020 at the height of the slowdown and recovered to nearly zero in October 2020. Firms also recovered relatively quickly in hiring behavior, particularly after round four of the survey. Yet, overall hiring expectations of firms remained subdued during the recovery phase.

The pandemic exacerbated gender gaps in business earnings and employment. While women entrepreneurs face significant structural barriers in business start-up and operation, the COVID-19 pandemic intensified existing structural inequalities between men and women-owned firms further. We find some evidence that women-owned businesses disproportionally suffered relative to men from forced business closures, collapse in demand and a sharp drop in monthly revenue compared to the pre-COVID-19 levels. Furthermore, while layoffs have been generally low throughout the study period, when they did occur, women workers appeared to be affected more than men.

While the government pledged and committed resources towards COVID-19 related support to the business community in the early periods of the pandemic,

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1 Though we use the term “firm” for ease of understanding, our sample actually consists of establishments. An establishment is an economic unit that produces one predominant activity, typically at a single physical location. A firm, on the other hand, can consist of one or more than one establishment.

2 We consider “the recovery phase”, the phase after round four of the survey as an increasing share of firms hired employees.
few firms (about 12 percent) in Addis Ababa reported receiving the government support during the first six months of the pandemic. Of the menu of support firms could theoretically receive from the government, most indicated tax exemption as the most appropriate policy measure to reduce the negative impact of COVID-19.

The rest of the paper is organized as follows. Section 2 provides a brief description of the survey data. Section 3 describes the impacts of the COVID-19 pandemic on firms’ operations. Section 4 discusses responses of firms to the pandemic. Section 5 describes future expectations of firms, support firms received from the government during the pandemic, and preferred policy interventions to combat the impact of the pandemic. Finally, section 6 concludes.
2. Description of the Survey Data

This section provides a brief description of the sampling design of the High Frequency Phone Survey of Firms (HFPS-F). Face-to-face data collection was not possible in the early months of COVID-19 and survey data was thus collected via phone. The HFPS-F monitored the economic activities of firms in Addis Ababa and responses to the COVID-19 crisis, particularly its effects on firm operations, revenues and jobs, by calling a sample of establishments every three weeks between April 15 and October 26, 2020 for a total of eight survey rounds. The final dataset consists of a panel of approximately 500 firms in Addis Ababa. To account for non-response and attrition, 650 establishments were interviewed in round one. Table 1 shows the survey dates for each round.

<table>
<thead>
<tr>
<th>Rounds</th>
<th>Data collection period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>April 15 and May 5, 2020</td>
</tr>
<tr>
<td>2</td>
<td>May 6 and May 27, 2020</td>
</tr>
<tr>
<td>3</td>
<td>May 29 and June 18, 2020</td>
</tr>
<tr>
<td>4</td>
<td>June 22 and July 14, 2020</td>
</tr>
<tr>
<td>5</td>
<td>July 23 and August 15, 2020</td>
</tr>
<tr>
<td>6</td>
<td>August 17 and September 8, 2020</td>
</tr>
<tr>
<td>7</td>
<td>September 13 and October 4, 2020</td>
</tr>
<tr>
<td>8</td>
<td>October 6 and October 26, 2020</td>
</tr>
</tbody>
</table>

The sampling procedure was undertaken in three steps. First, the list of registered establishments in Ethiopia were obtained from the Ministry of Trade and Industry (MoTI), and then the list was cleaned by removing establishments with missing or invalid phone numbers. Second, all phone numbers of the cleaned list of establishments were shared with Ethio Telecom (the only telecom provider in Ethiopia). Ethio Telecom checked on the status of all numbers and only numbers deemed as “active” by Ethio Telecom were retained and constitute the sampling frame. The verification with Ethio Telecom was undertaken to avoid a scenario in which establishments were in the sample but could not be reached due to an invalid phone number. Third, with this sampling frame, a random sample of establishments were drawn. The sampling frame consisted of 288,660 establishments registered with MoTI with a valid phone number.

The sample was stratified by establishment size (proxied by its capital) and industry classification. Both variables were available in the sampling frame. Two industry classifications (industry and services) were considered and three firm size groupings: micro (below the 25th percentile in terms of capital), small and medium (25th to 75th percentile of capital), and large establishments (above the 75th percentile of capital) were used in the stratification process. The use of capital to proxy firm size is highly imperfect, as capital might be weakly related to employment size in Ethiopia. The sample consists of six strata: micro establishments in industry and services, small and medium establishments in industry and services, and large establishments in industry and services. The sample was drawn using a simple random sample without replacement. Expecting a high non-response rate, a sample of 1,450 establishments were drawn. To obtain unbiased estimates from the sample, the information reported by the establishment is adjusted by a sampling weight (or raising factor).

Approximately, a third of the sample firms are owned by women entrepreneurs. Male and female entrepreneurs appear to be largely comparable along key personal characteristics. Women (men) entrepreneurs are on average 37 (39) years old, had spent 11 (12) years in schooling and 70 (70) percent are married. There are, however, notable differences in sectoral distribution between male- and female-owned firms. About 96 percent of women-owned firms operate in the service sector, mostly in high-contact sectors, such as hospitality, food retailing and bars, which

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are highly vulnerable to mandated lockdowns and social distancing requirements. By contrast, less than 82 percent of male-owned businesses operate in the service sector with about a third engaged in wholesale trade and nearly a quarter in transport and storage.

**On average, firms are young and small.** Approximately 13 percent of firms are new firms (did not exist one year ago) and about 60 percent have less than five years of operational experience. A closer look at firm age shows that 29 percent are between 1 and 2 years, 18 percent between 3 and 4 years, and about 23 percent of firms are 9 years. Only 17 percent of firms are 10 years or more. Most firms are own-account firms (only the owner works in the firm and there are no payroll employees), followed by micro-firms (1 to 5 payroll employees). Given the low prevalence of small (6 to 30 employees), medium (31 to 100 employees), and large (100 or more employees) firms, these three categories are lumped together for analytical reasons. This category labeled as ‘Small, Medium or Large (SML)’ comprises only about 14 percent of firms (Figure 1).

**On average, firms have low annual revenues.** Of firms reporting sales revenues, one out of four formal firms in Addis Ababa have annual revenues of less than ETB 50,000 and almost two thirds of all firms earned less than ETB 500,000 in the previous fiscal year (Table 2). Few firms (6 percent) have an annual revenue of ETB 10 million or higher. A larger share of firms operating in industry are represented in the larger revenue ranges, in line with industry firms being substantially bigger in size compared to services firms. As expected, firms’ revenues increased with firm size.

### Table 2: Share of firms by last fiscal year’s (EFY 2011) annual revenue (percent)

<table>
<thead>
<tr>
<th>Firm sector</th>
<th>Total</th>
<th>Industry</th>
<th>Services</th>
<th>Own-account</th>
<th>Micro-firm</th>
<th>SML-firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 50,000 Birr</td>
<td>27.7</td>
<td>18.6</td>
<td>29.3</td>
<td>47.7</td>
<td>16.2</td>
<td>2.5</td>
</tr>
<tr>
<td>50,000 - 100,000 Birr</td>
<td>19.3</td>
<td>11.1</td>
<td>20.7</td>
<td>22.1</td>
<td>21.3</td>
<td>4.6</td>
</tr>
<tr>
<td>100,000 - 500,000 Birr</td>
<td>21.0</td>
<td>28.3</td>
<td>19.7</td>
<td>17.8</td>
<td>28.2</td>
<td>8.9</td>
</tr>
<tr>
<td>500,000 - 1 million Birr</td>
<td>7.5</td>
<td>10.6</td>
<td>7.0</td>
<td>5.1</td>
<td>10.7</td>
<td>5.2</td>
</tr>
<tr>
<td>1 - 10 million Birr</td>
<td>18.4</td>
<td>24.1</td>
<td>17.5</td>
<td>6.8</td>
<td>19.9</td>
<td>48.5</td>
</tr>
<tr>
<td>Over 10 million Birr</td>
<td>6.1</td>
<td>7.2</td>
<td>5.9</td>
<td>0.5</td>
<td>3.6</td>
<td>30.3</td>
</tr>
</tbody>
</table>

*Source: Authors’ elaboration based on HFPS-F.*
3. Impacts of COVID-19 on Firms’ Operations

The COVID-19 pandemic affected more than 90 percent of firms in Addis Ababa, with differences across sectors, firm size and survey round. Figure 2 shows that a larger share of firms in the services sector reported being affected by the pandemic compared to firms in the industry sector in all rounds of the survey; except rounds five and six. This is likely related to reduced mobility of people, affecting businesses relying on direct customer contact. Likewise, a higher share of SML firms reported being affected by COVID-19 compared to own-account and micro-firms in most survey rounds.

A collapse in consumer demand for firms’ products or services is the main mechanism through which the pandemic affected firms’ operations. About 62 percent of firms reported that the sudden decline in demand was the most important COVID-19 induced shock to their operations at the onset of the pandemic in April 2020. While subsequent months indicated signs of recovery through firm reopening, the problem of demand appears to persist. Figure 3 shows that a larger share of firms, close to 90 percent, identified demand shock as a primary channel through which COVID-19 affected their operations in

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4 To understand whether a firm is affected by the COVID-19 pandemic, the firm representative is asked “Is #FirmName affected by the COVID-19/Coronavirus pandemic in any way?”
round eight (October 2020). This suggests that either the relative importance of other disruptions have declined, or consumer spending might not have fully recovered or both. Trends by sector (industry and services) and firm size (own-account, micro-firms and SML firms) largely follow these overall trends. For example, the collapse in demand for products or services increased from round one of the surveys, when only 8 percent of firms in the services sector reported this effect of the pandemic on their businesses, to over 88 percent in round eight. Similarly, 15 percent of firms in industry reported this effect of the pandemic on their businesses in round one, compared to over 86 percent in round eight.

COVID-19 also triggered disruptions to firms’ supply chains, which culminated in lower access to and higher prices of raw materials and intermediate goods. The supply shocks produced lagged effects as few firms reported concerns in the early days, but they became more important in the later survey rounds. Compared to round one (8 percent), for example, a larger share of firms (26 percent) reported that the supply of raw materials and intermediate goods were lower due to COVID-19 in the last round (Figure 3). In the same vein, in the last round, one in three firms reported being significantly affected by a sharp increase in the prices of raw materials and intermediate goods. This is a considerable increase from round one, where only 7 percent of firms attributed COVID-19 as a reason for price hikes.

The COVID-19 pandemic and containment measures to curtail its spread had significant impacts on firm operations. Figure 4 shows that COVID-19 greatly affected firms’ operations with more than 42 percent of firms completely closing their business (0 days operational) in April 2020. Moreover, no firm was fully operational in April 2020. This is most likely associated with restrictions in movements and on business activities introduced by the government through its SOE. Most firms restarted operations relatively quickly with three-quarters of firms being fully operational (15–21 days operational) by September 2020 after the SOE was lifted (round six).

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**Figure 3:** Channels through which firms are affected by COVID-19, percent

<table>
<thead>
<tr>
<th>Disruption</th>
<th>R1 (Apr)</th>
<th>R8 (Oct)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher price of raw materials &amp; intermediate goods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower price of raw materials &amp; intermediate goods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher price for products/services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher demand for products/services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insufficient protective equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closure of marketplaces/shops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workers absence from workplace</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forced closure of business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restricted movement of workers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower supply of raw materials &amp; intermediate goods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower demand for products/services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Authors’ elaboration based on HFPS-F.*

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5 While Ethiopia did not introduce a complete lock-down, it declared a 5-month State of Emergency (SOE) in April 2020 to limit the spread and mitigate the impact of COVID-19. The SOE included important restrictions that affected business operations including but not limited to banning the congregation of more than four people, banning the sale of alcoholic drinks in bars and restaurants, early closure of restaurants, limiting transportation services (even-odd plate scheme to encourage people to stay at home), reduction of passenger load by 50 percent, banning tenant eviction and rental price hikes, suspending all forms of sporting activities, and closing of playgrounds, meeting venues and so forth.
Correspondingly, the share of firms that operate on a full-time basis (15 to 21 days) increased from 0 percent in R1 to 65 percent in R8. We also see a slight reduction in firm operations in round eight of the survey, which is likely attributed to two popular holidays in Ethiopia (Ethiopian new year and Meskel) which coincide with the reference period of round eight and during which time many firms close or have reduced business hours.

The pandemic created differential impacts on firms’ operations according to sector and firm size. Figure 5 shows that firms in the industry sector were less likely to be fully operational compared to firms in the services sector in all rounds of the survey. With regards to firm size, own-account firms were less likely to be fully operational compared to micro and SML firms in all rounds of the survey.

COVID-19 induced firm closures were largely temporary with only few entrepreneurs deciding to close the business permanently. Figure 6 shows that, of firms that were closed, more than 80 percent were temporarily closed. The main reasons for business closures were lower demand for products/services, lower supply of raw materials and intermediate goods, COVID-19 regulations, and closure of marketplaces/shops. For example, on average, about 56 percent of firms were closed due to lower demand for products/services between round five and eight.

The COVID-19 pandemic significantly reduced firms’ sales revenues in the early months of the pandemic. While sales revenues of firms gradually recovered (as shown in Figure 7), a substantial number of firms have operated with zero revenues. Figure 7 shows that the share of firms with zero revenues was high and remained stable between round one and four. In round five and thereafter, however, the share decreased. This is consistent with Figure 8 which shows that firms’ average sales revenues increased starting in round six, mainly associated with the resumption of full operations by most firms both in industry and services sectors. A higher proportion of firms in the industry sector did not earn any sales revenues, relative to those firms in the services sector, in all rounds of the survey. This is consistent with firms in industry laying off more workers and being more affected by the sales revenue loss. Similarly, the share of firms not earning any sales revenues was highest for both own-account and micro-firms.

Firms’ revenues significantly declined, compared to the same month of the previous year, in all rounds of the survey. Not surprisingly, the demand shock that firms faced reverberated into a plunge in sales revenue, eroding their earning capacity. The year-on-year comparison of sales revenue between same months before COVID-19 and after COVID-19 makes this point clearer as presented in Table 3. The highest percentage drop in average revenues is observed in round four of the survey, where firms’ current year’s revenue amounted to only 12 percent of revenues in the same month of the previous year. Although it is not a monotonic increment, after round four, the ratios of firms’ revenues increased, which can be attributed to increased operations by most of the firms. This evidence is consistent with Figure 8 which shows that average revenues of firms increased as they started full operations particularly from round six onwards. Table 3 also shows that the ratios of average revenues in the industry sector was lower in the early months of the pandemic than the services sector, but higher after round five of the survey. With regard to firm size, micro-firms are more likely to report larger sales revenue losses than own-account and SML firms.

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**Figure 4: Share of firms operational in past 21 days**

![Figure 4](image_url)

Source: Authors’ elaboration based on HFPS-F.
Figure 5: Share of firms operational in past 21 days, by sector and size

Figure 6: Share of firms temporarily or permanently closed of those firms closed
Firm sales revenues gradually recovered as restrictions were lifted and firms adjusted their operational modalities. In Addis Ababa, firm sales revenues decreased in the first four months of the pandemic but slowly recovered particularly after round five (roughly August 2020). Figure 8 shows that firms’ revenues decreased between round one and round four. However, revenues increased between round four and round five; and between round six and round eight. The increased revenues (mainly after round six) is associated with increased operations by most of the firms. The average revenues in industry drastically declined from ETB 910,000 in round one to
ETB 59,000 in round two. On the other hand, the average revenues in the services sector increased from ETB 146,000 to ETB 228,000 over the same period. Moreover, the average revenues in the services sector was higher than the average revenues in industry in all rounds of the survey except round one. The revenues in the services sector increased with full operations of firms from round six onwards. However, the revenues in industry remained low. Overall, despite some hint of recovery, sales revenues remained far below the pre-crises levels as indicated in the last column of Table 3.

In the first six months after the onset of the pandemic, SML firms experienced a rapid deterioration of sales revenues relative to micro and own-account firms. Their revenues, however, recovered thereafter (Figure 8). More specifically, the revenues of SML increased from ETB 353,000 in round six to ETB 1,829,000 in round eight. This is also linked to the larger share of SML firms restarting full operations compared to own-account and micro-firms. The revenues of micro and own-account firms were very low but slightly increased between round six and eight. The revenues of micro-firms increased from ETB 32,000 in round six to ETB 60,000 in round eight. Similarly, the revenues of own-account firms increased from ETB 12,000 in round six to ETB 29,000 in round eight.

As a result of the COVID-19 crisis, firms faced significant financial stress. The most significant financial problems firms reported included challenges in paying rent, invoices, and staff wages and social security (Figure 9). In contrast, by October 2020, repayment of loans and payments of other expenses diminished as a significant financial concern from round one of the surveys, presumably because few firms had access to the financial market even prior to the COVID-19 crisis and needed to meet existing repayment obligations. While firms in the services sector were more likely to be affected by expenses related with rent and invoices, firms in the industry sector were more likely to be affected by repayment of loans, staff wages and social security and other expenses. In addition, SML firms faced greater difficulty in paying staff wages and contributions, while own-account and micro-firms reported financial stress related to paying invoices (these are not shown separately in Figure 9, but available upon request).

The COVID-19 pandemic affected women-owned businesses to a larger extent than men-owned businesses, exacerbating existing inequalities. With the pandemic-related confinement measures, including school closures, the rising demand for child and family care disproportionally fell on women, and consequently, their businesses were disproportionately affected. As a result of the COVID-19 crisis, firms faced significant financial stress. The most significant financial problems firms reported included challenges in paying rent, invoices, and staff wages and social security (Figure 9). In contrast, by October 2020, repayment of loans and payments of other expenses diminished as a significant financial concern from round one of the surveys, presumably because few firms had access to the financial market even prior to the COVID-19 crisis and needed to meet existing repayment obligations. While firms in the services sector were more likely to be affected by expenses related with rent and invoices, firms in the industry sector were more likely to be affected by repayment of loans, staff wages and social security and other expenses. In addition, SML firms faced greater difficulty in paying staff wages and contributions, while own-account and micro-firms reported financial stress related to paying invoices (these are not shown separately in Figure 9, but available upon request).

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outlined in Abebe et al. (2020), women-owned firms are relatively small—55 percent of women-owned businesses had no employee in contrast to 44 percent of men-owned businesses—and only 4 percent of women-owned businesses generated sales turnover exceeding 1 million ETB in the last fiscal year (2011 EC) compared to 14.5 percent of men operated business. Moreover, slightly more women-owned firms were affected by the COVID-19 pandemic compared to their male counterparts prior to round eight (Figure 10).

Compared to their male counter parts, women owned firms are more likely to experience a forced closure of their businesses due to the COVID-19 pandemic (Figure 11). In each survey round, firms were asked to describe how their businesses were being affected by the COVID-19 pandemic. A sharp decline in demand, disruption to supply chains, restricted mobility and forced closure of businesses were four important impediments to their businesses that they commonly identified (Figure 12). While we also observe subtle gender gaps across product/service demand and input supply dimensions, the gender
gap is highly pronounced in COVID-19 induced firm closures. As indicated in Figure 11, except for round five, where male-owned firms reported slightly higher forced closure rates, the share of women-owned businesses that report to be closed to comply with COVID-19 restrictions and related challenges were higher than the share of male-owned businesses throughout the survey period. In round one, for example, 35 percent of women-owned businesses reported that COVID-19 forced their businesses to close, a figure 12 percentage points higher compared to COVID-19 induced closure rates reported by their male counterparts in the same period. Similarly, women-owned firms are more likely to report higher closure rates even when it is not necessarily forced upon them. In rounds one and eight, for example, about one in five women entrepreneurs reported that COVID-19 pandemic affected their businesses through closure of marketplaces and shops. By contrast, 12.5 percent and 13.7 percent of male-owned businesses reported that COVID-19 induced such shocks in rounds one and eight respectively (Figure 12).

A substantial decline in demand caused by the pandemic is by far the single most important challenge businesses faced. Figure 12 shows that in April 2020, about 60 percent of men-owned businesses and 67 percent of women-owned businesses identified low demand for their products or services to be the driver through which the pandemic affected their businesses. In subsequent rounds, this figure jumped significantly, and, by October 2020, more than 87 percent of all firms suffered from low demand. Forced closure of firms, closure of marketplace and restricted movement of workers continued to be commonly cited COVID-19-induced constraints following the demand shock that affected firms. Moreover, we also observe that firms were increasingly worried about the lower supply of raw materials and intermediate goods. At the onset of the pandemic in April 2020, only about 9 percent of men-owned businesses and 6 percent of women-owned businesses reported lower supply of raw material as a concern. In October 2020, however, the share of firms identifying this as a challenge increased to roughly 24 and 23 percent in male- and female-owned businesses respectively.

Businesses—women- and men-owned businesses alike—experienced a serious decline in revenues. As shown in Abebe et al. (2020), sales revenues in women-owned businesses were only a fraction of those of men-owned businesses before the pandemic. While all firms experienced a drastic decline in revenues due to the pandemic, the dip appears to be more severe in women-owned businesses at the onset of the pandemic. For example, in April 2020 women-owned businesses experienced nearly a 70 percent decline in sales revenue compared to the revenues they had generated in April 2019. Men-owned businesses also generated only about 30 percent of the revenue that they had generated in the same month of the previous year (Figure 13). We also observe that revenues deteriorated further the longer
the pandemic lasted and only started recovering, albeit with limited scale, after July 2020. In October 2020, women-owned firms generated only about 40 percent of the revenues they had generated in October 2019, a proportion that is similar to men-owned businesses.

However, given the small size and weak financial positions prior to the pandemic, the drastic decline in sales revenue is expected to hurt women-owned firms more than their male counterparts.

**Figure 12:** Channels through which firms are affected by COVID-19, by gender

![Figure 12](image-url)

Source: Authors’ elaboration based on HFPS-F.

**Figure 13:** Percentage change in average revenues compared to previous year’s average revenues, by gender

![Figure 13](image-url)

Note. The Figure indicates percentage changes in monthly revenue between pre- and post-COVID-19 period. To remove outliers, we winsorized the mean at the 99 percentile level.

Source: Authors’ elaboration based on HFPS-F.
4. Responses of Firms to COVID-19

To attenuate the adverse effects of the COVID-19 pandemic, firms granted leave, laid off workers, and adjusted wages. In response to lockdowns, stay at home orders and social distancing requirements triggered by the COVID-19 pandemic, businesses were forced to find ways to cope with the negative financial consequences of the pandemic. We observe that firms in Addis Ababa adjusted operations and performance by (i) granting paid and/or unpaid leave, (ii) laying-off workers, and (iii) adjusting employees’ wages. Firms opted to send employees on leave—Figure 14 reports that as a reaction to the pandemic, many firms (particularly larger ones) opted to send workers on leave. With improved operational environment at the latter days of the pandemic, the share of firms which granted leave also decreased. Higher share of SML firms granted leave to their employees than micro-firms in all rounds of the survey. The majority of firms granted their employees paid leave as opposed to unpaid leave in all rounds of the survey.

Despite the severity of shocks imposed by the pandemic on firms’ operations, the extent of layoffs was relatively limited. Similar trends were observed in other Sub-Saharan African countries that conducted high-frequency phone surveys to monitor the impacts of the COVID-19 pandemic. For example, in Kenya, labor adjustments on the intensive margin (e.g., leave, reduced wages and hours) have been smaller (Vargas et al., 2021). Relatively few firms have reduced working hours of at least one employee (12 percent), reduced wages (8 percent), or granted leave of absence with or without pay (5 and 11 percent, respectively). Figure 15, panel A depicts that

**Figure 14:** Share of firms which granted leave to employees since the preceding survey round

Source: Authors’ elaboration based on HFPS-F.
about 6 percent of firms laid off employees between round one and two of the surveys. Limited layoffs could have potential links with the declaration of the State of Emergency (SOE)—instated between April and September 2020—which prohibited firms from laying off employees. Figure 15 also shows that layoffs were low even after the SOE was lifted. This evidence, to a larger extent, implies that the impact of the pandemic started fading away as firms recovered in subsequent months. The SOE may have contributed to firms not resorting to layoffs even in months when they were most affected. Firms operating in the industrial sector laid off a larger number of workers compared to those firms operating in the services sector in almost all rounds of the survey.

Though layoffs affected temporary and permanent employees, it seems that firms resorted to laying off temporary workers first to mitigate the crisis. Between rounds one and three, a much larger share of firms laid off temporary workers (Figure 15) than permanent workers. However, as the pandemic persisted, firms went on laying off a relatively larger share of permanent employees compared to temporary employees.

While layoffs were limited, hiring rates drastically declined and separation rates increased significantly in the early days of the pandemic. Firms hire to both replace and expand their workforce, and workers leave either because they are laid off or quit voluntarily. In a previous survey of large employers, Abebe et al. (2021) find that monthly hiring rates are on average 2.5 percent and separation rates are 1.6 percent in Addis Ababa.6 We find that hiring rates were 2.6 percent (excluding own-account firms) and separation rates were 9.1 percent in the pooled sample across the eight waves (in a six-month period). There are significant variations in hiring and separation rates across the survey waves. In round 1 of the survey, for example, hiring rates were 0.8 percent and separation rates were 14.2 percent. Signaling recovery, in round 8, hiring rates increased to 4 percent and separation rates declined to 0.7 percent.

The COVID-19 pandemic disproportionately affected women employees in Ethiopia. Figure 13 indicated that women-owned businesses experienced significant shocks to their sales revenues and that this further widened the gender gap in business earnings. Additional disaggregation
of firms’ workers by sex indicates that women employees were affected the most by worker layoffs although layoffs were limited in scale. Figure 16 shows that women employees were disproportionately affected by the pandemic, as among the few firms who laid off workers, a significant share laid off women employees in most of the survey rounds. When the pandemic hit in April 2020, about 70 percent of laid off workers were women, even though they only constituted 42 percent of the workforce. Even though layoffs tapered off in subsequent months, the overall share of women who were laid off increased throughout the pandemic (Figure 16). Moreover, an increasing number of studies, for example UN Women’s report, reveals that the COVID-19 shock and measures to prevent its spread are driving a disproportionate increase in women’s unemployment (as compared to men) and also decreasing their overall working time.

The longer the pandemic lasted, firms moved from granting leave and laying-off workers to reducing workers’ salaries with pay cuts observed in the later months of the pandemic. The COVID-19 pandemic heavily reduced the salaries of both low- and high-skilled workers with high-skilled workers being more severely affected. While salaries only slightly reduced at the onset of the pandemic in April 2020, 8 months into the pandemic, we observe a more severe reduction in salaries of more than 15 percent on average compared to the same month of the previous year. Both low- and high-skilled workers in the services sector are more severely affected by salary reductions as compared to workers in other sectors.

Figure 16: Share of laid off employees since last survey round who are women

![Figure 16: Share of laid off employees since last survey round who are women](image)

Note: Authors’ elaboration based on HFPS-F.

Table 4: Ratios of current year’s average workers’ salary to previous year’s average salary

<table>
<thead>
<tr>
<th></th>
<th>Full sample</th>
<th>Industry</th>
<th>Services</th>
<th>Micro-firms</th>
<th>SML firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R1 R7 R8</td>
<td>R1 R7 R8</td>
<td>R1 R7 R8</td>
<td>R1 R7 R8</td>
<td>R1 R7 R8</td>
</tr>
<tr>
<td>Low-skilled workers</td>
<td>97 85 92</td>
<td>100 83 85</td>
<td>96 85 83</td>
<td>99 85 83</td>
<td>93 83 83</td>
</tr>
<tr>
<td>High-skilled workers</td>
<td>95 82 83</td>
<td>100 83 87</td>
<td>93 82 82</td>
<td>93 82 82</td>
<td>99 82 83</td>
</tr>
</tbody>
</table>

Source: Authors’ elaboration based on HFPS-F.

Note: One observation was considered an outlier and removed from our analysis. The ratios are calculated as (current year workers’ / previous year workers’ salary)*100. Previous year salaries are adjusted to inflation.

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7 In interpreting the layoff figures an important caveat on sample size is in order: across the three survey rounds a total 244 workers were laid off from 39 firms, and hence sample size concerns pervade inference.
reductions compared to workers in the industrial sector. Low-skilled workers of SML firms are more severely affected by salary reductions compared to workers of micro-firms. Conversely, high-skilled workers of micro-firms are more severely affected by wage reductions than those in SML firms (Table 4).

Despite the strong negative effects of COVID-19 on firms in Addis Ababa, firms recovered relatively quickly, as reflected in firms’ hiring behavior in later rounds of the survey. Figure 17 shows that despite the disruption in firms’ operations, an increasing share of firms hired workers particularly after round four of the survey. A higher share of firms in the services sector hired new workers relative to firms in the industrial sector in all rounds of the survey—even though layoffs were much larger in industry. Similarly, a larger share of SML firms hired new employees compared to micro-firms in all rounds of the survey. Despite firm hiring, the average number of payroll employees in the 2012 Ethiopian fiscal year (July 2019 to June 2020) was still lower than the pre-COVID period (July 2019 to June 2020). For example, in round eight of the survey, the average number of payroll employees was 5.7 and 4.2 in the 12 months between July 2018 and June 2019 (EFY 2011) and July 2019 and June 2020 (EFY 2012) respectively. This suggests that while there was a gradual improvement in recent months, full recovery to pre-pandemic levels might take a little longer.

Consistent with a sign of recovery, an increasing share of firms reported creating new jobs, which are more likely to be permanent than temporary positions (Figure 18). A key concern associated with COVID-19 induced shocks to firm operations is that firms will replace better quality jobs (in our case permanent jobs) with worse quality jobs (in our case temporary jobs). According to a report by the ILO (2020), workers in diverse forms of employment that differ from full-time wage and salary work with a permanent contract, such as self-employed workers, those on temporary, on-call or part-time contracts and

![Figure 17: Share of firms which hired employees since last round](image-url)
workers in the informal economy, have been highly exposed to the job and income losses prompted by the pandemic. Moreover, workers on fixed-term contracts have been among the first to lose their jobs during the crisis as contracts that came to an end were not renewed.

In France, for example, the increase in new unemployment claims in March and April 2020 was almost entirely driven by temporary agency workers and workers in temporary jobs whose contracts were not renewed.

Figure 18: Share of firms that hired permanent and temporary employees since last round

Source: Authors’ elaboration based on HFPS-F.
Overall, hiring expectations remain subdued during the recovery phase among firms in Addis Ababa. Similar trends were observed in other Sub-Saharan African countries. For example, in Kenya, firms on average expect employment to decrease by 20 percent due to the COVID-19 pandemic. In a pessimistic scenario, Kenyan firms anticipate employment to decline by 39 percent and in an optimistic scenario by 8 percent (Vargas et al., 2021). Figure 19 shows that around 2 percent of firms expected to hire new employees in round eight which is lower than the 4 percent observed in round one. Hiring expectations decreased in the industrial sector from about 11 percent in round one to 4 percent in round eight. Hiring intentions of own-account firms and micro-firms remained unsurprisingly low in all rounds as these firms were less likely to use paid workers even in the pre-crisis period. SML firms reported an increase in the intention of hiring new workers between round one and round five. However, the share of firms with hiring intentions decreased from 18 percent in round five to 6 percent in round eight. To gauge firm recovery, it is important to look not only at whether firms expect to hire workers but also at the number of workers (as a share of the current number of employees). Table 5 shows that though firms expected to make hires, they did not expect to hire large numbers of workers. More specifically, a larger share of firms expected to hire less than 10 percent of their current number of employees.

Source: Authors’ elaboration based on HFPS-F.
Table 5: Share of firms which expect to hire new employees compared to their current employees

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>R7</th>
<th>R8</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 percent of their current employees</td>
<td>50.0%</td>
<td>60.0%</td>
<td>42.9%</td>
</tr>
<tr>
<td>10 - 50 percent of their current employees</td>
<td>22.2%</td>
<td>40.0%</td>
<td>42.9%</td>
</tr>
<tr>
<td>&gt; 50 percent of their current employees</td>
<td>27.8%</td>
<td>0.0%</td>
<td>14.3%</td>
</tr>
</tbody>
</table>

Source: Authors’ elaboration based on HFPS-F.

A sign of optimism on firm recovery is also reflected in the fact that firms in Addis Ababa did not expect additional challenges resulting from COVID-19 in the medium term towards the later survey rounds. Figure 20 presents that though firms’ intentions of hiring new workers remain subdued, firms’ expectations to lay off workers in the subsequent two weeks and three months also significantly decreased between round one and eight. The fact that some firms might have already adjusted their workforce following the COVID-19 shock may have contributed to the easing of layoff expectations.

In Ethiopia, the government implemented numerous policy measures to support firms. To address the financial crisis resulting from the COVID-19 pandemic, governments around the world have deployed numerous policy instruments. For example, in many high-income countries, governments provided financial support to firms (e.g., VAT deferral) to facilitate both credit to businesses to improve growth, support employment, and diversify business activities in the economy. In addition, governments implemented comprehensive measures to help businesses retain their employees through short-time work schemes or wage subsidies. There is evidence, from policies implemented in the wake of the global financial crisis, that keeping people in work through such schemes is an effective means to provide income support and limit job losses, while avoiding costly search and matching processes as recovery progresses (OECD, 2020). The COVID-19 pandemic exposed businesses to solvency and liquidity risks. As a result, many countries have implemented policies that can potentially adapt to the changing nature of risks including extending deferrals, expanded loss carry-backs which help loss-making firms, and accelerated VAT refunds (OECD, 2020). To stem the impending wave of firms closures and job losses because of the COVID-19 crisis and containment measures, the Ethiopian government also adopted early on a range of policy options. Most notably, the government announced measures to support workers and firms on April 30, 2020. The policy responses that the government put in place included covering, reducing, or freezing operational...
costs, reducing costs for electricity, gas, and logistics, reducing or deferring payroll taxes or providing wage subsidies, waiving tax payments, reducing bank interest rates, freezing loan repayments, extending loan terms or partial debt relief, providing access to capital through financial grants and providing access to capital through zero-interest loans.

However, government support measures have not reached a majority of firms in Addis Ababa. A larger share of firms in Addis Ababa did not receive any government support, particularly at the onset of the pandemic (Figure 21). However, we observe a greater reach of support in July/August 2020. Yet, in October 2020, only about 9 percent of firms received government support. One possible reason explaining why only a small share of firms received government support is that the types of policies put in place are more relevant and applicable for larger and well-established firms. However, the vast majority of firms in Ethiopia are own-account and micro-firms and young firms.9, 10

To overcome the financial challenges resulting from the COVID-19 pandemic, firms indicated that waiving tax payments was one of the most relevant policy measures (Figure 22). Firms also emphasized the importance of covering, reduction or freeze of operational costs and freeze of loan repayment, extension of loan terms or partial debt relief. Providing access to capital through zero-interest loans was also considered as a critical measure by the firms.
payments, covering operational costs (such as costs for sheds and working spaces), freezing loan repayments, and extending loan terms or partial debt relief were the most relevant policy measures to support them (Figure 22). The share of firms indicating that waiving tax payments was the most appropriate policy measure increased substantially between round one (39 percent) and round two (52 percent).

Firms, both in industry and the services sector, indicated waiving tax payments was the most appropriate policy measure in the early months of the pandemic. Compared to firms in the services sector, firms in industry indicated providing access to capital through zero-interest loans was also an important policy response to mitigate the impact of COVID-19 (Figure 23). Similarly, own-account, micro and SML firms indicated that waiving tax payments was the most appropriate policy measure for their firms. Importantly, the demand for access to capital through zero-interest loans considerably increased particularly from round four onwards.

Throughout the survey period, tax exemption, subsidizing operational costs and facilitating access to zero-interest loans, remained the three most important policy actions preferred by firms in Addis Ababa. As indicated earlier, however, few firms have benefited from COVID-19 related policy measures and, understandably, there is a limit to what can be done by leveraging public spending in low-income countries like Ethiopia.

**Figure 23:** Share of firms indicating most relevant policy measures, by sector and size of firms

Source: Authors’ elaboration based on HFPS-F.
6. Conclusions

Nearly a century after the influenza pandemic (also called the Spanish flu), the world is currently experiencing another devastating pandemic. Despite recent promises in vaccine development and roll out, the global economic order and public health systems continue to struggle to curtail the spread of COVID-19 infections and reduce morbidity and mortality. In addition to the unprecedented shocks to the public health system, the world is also reeling from the economic fallout of the COVID-19 pandemic—infections and ensuing containment measures have disrupted markets resulting in firm closures and job losses, even more than a year after its onset.

This paper, based on a high frequency firm panel of firms in Addis Ababa, illustrates that Ethiopia is no exception. While infection rates had remained low in the early days of the COVID-19 outbreak, mandatory restrictions associated with the SOEs (from April-September 2020) led to a slump in business activities. At the onset of the pandemic, for example, more than 40 percent of firms in Addis Ababa stopped operations, and among those that remained open, firms reduced the number of days of operations, froze hires and furloughed workers. The pandemic has also led to a collapse in consumer demand and disruptions to supply chains, which threw firm revenues into a tailspin. Insufficient cash flow made it even more challenging for firms to cover their operating costs, amplifying their financial distress. The pandemic also exacerbated the operational and financial challenges of women-owned firms, intensifying the effect of pre-existing business constraints and further widening gender gaps in firm performance.

To alleviate the liquidity crunch and encourage worker retention, the Ethiopian government introduced support packages that extended debt relief, tax waivers as well as additional income tax incentives for firms. The survey, however, shows that only about twelve percent of firms in Addis Ababa report to have obtained any form of COVID-19 related support from the government.

The good news is that most of the early impacts were short-lived and there are signs of recovery, particularly in the later rounds of the survey. After the first few months of the pandemic, firms were more likely to be open, and when open, were likely to be fully operational, make new hires and reduce layoffs. The survey also indicated that layoffs generally stayed low throughout the pandemic, which is partly attributed to restrictions, such as the SOE that prohibited layoffs—firms instead chose to grant paid leave to their workers in the early days of the pandemic. The ability to downsize along with early policy responses that extended financial and regulatory support likely avoided a large-scale retrenchment of the workforce and widespread permanent firm closures.

However, as the infection rates rise and the health system struggles to contend with rising cases, we still caution that these early positive signs are easily reversible and may not constitute a complete turnaround. Containment and mitigation measures, possibly including mobility restrictions and stricter social distancing requirements, might be introduced in the near future, which could introduce further uncertainty to the economic recovery. Finally, while we hope that this paper offers insights into the effect of and policy responses to the pandemic, a series of further follow-up studies are warranted to closely monitor and understand the changing and the lasting impact of the pandemic and the state of recovery.
References


