C-19 Note
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The Short-term Impact of the COVID-19 Shock on Employment in Formal Firms in Kenya

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We document the short-term impact of the COVID-19 shock on formal sector employment in Kenya using administrative firm-level data. Employment by private sector firms fell by 16% between March and April as the Government of Kenya put in place a range of national containment measures. In contrast, salaries for employees that continued on their job were relatively stable throughout the first half of 2020.[1] Firm-level employment dynamics vary substantially by firm age, size, and sector, with the most severe impact concentrated in the hospitality sector. The main take-away is that there is no one size fits all policy that can address the loss in formal sector jobs due to the vastly different experiences and needs of firms.

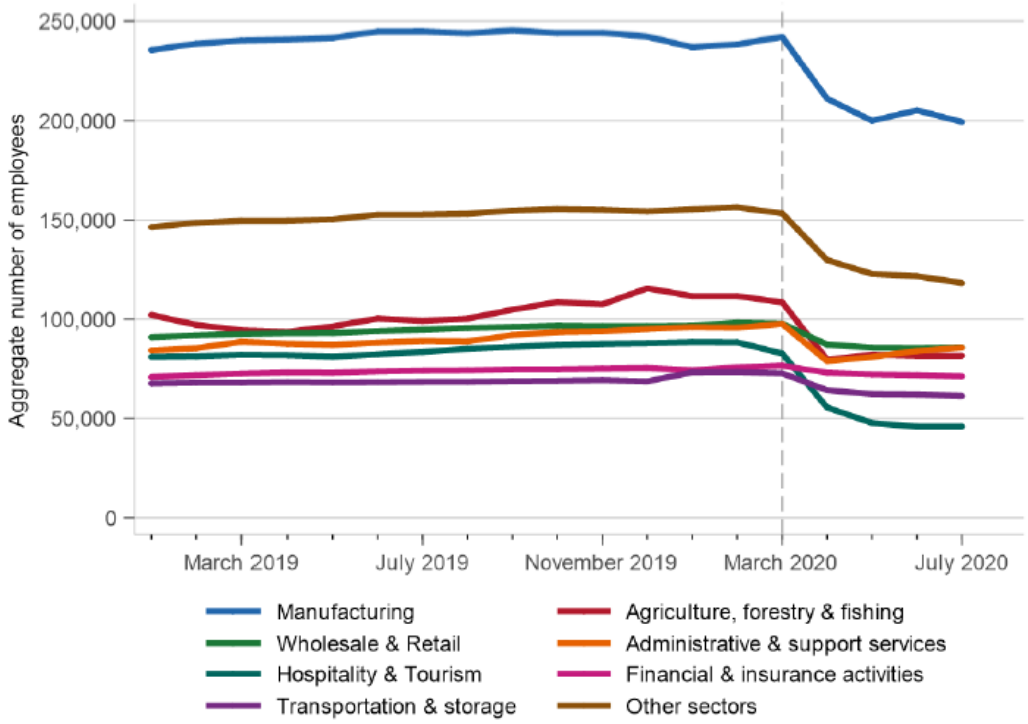
The private sector in Kenya was first impacted by disruptions of its trade with China in early 2020.[2] In mid-March the Government of Kenya closed national borders, restricted domestic travel, banned public gatherings, closed schools, and later imposed a night-time curfew. Additional lockdown measures for the most at-risk counties were put in place in April and lifted in July. Some of the developments started to impact firm-level employment dynamics as early as March. The most pronounced impact, however, was felt in April. Overall formal employment fell by 16% between March and April 2020. Comparing employment levels in April 2020 to the same month in the previous year, we document a decline of 13%. In addition, the overall payroll dropped by 10% between March and April 2020, and by 5% relative to April 2019. We use administrative tax records to explore firm-level employment dynamics up until July 2020 along three dimensions: sector of operation, firm age and firm size. We analyse the tax returns of all private corporations and partnerships filing tax returns for their employees.[3]

[1] A phone survey run by the World Bank and the Kenya National Bureau of Statistics shows that the wages in the informal sector dropped more substantially than in the formal sector. "World Bank. 2020. Kenya Economic Update, November 2020: Navigating the Pandemic. World Bank, Nairobi. World Bank. https://openknowledge.worldbank.org/handle/10986/34819 License: CC BY 3.0 IGO."

[2] See for example Socrates, Majune K. (2020) "The Effect of Lockdown Policies on International Trade Flows from Developing Countries: Event Study Evidence from Kenya." https://www.wto.org/english/news e/news20 e/rese 15dec20 e.pdf.

[3] We exclude parastatal companies, public entities such as government institutions, trusts, clubs, membership organisations, international organisations and non-governmental organisations. Registered corporations and partnerships with a minimum of one employee are required to declare all employees - including those earning below the income tax exemption thresholds. The income tax threshold was raised as a temporary measure during the pandemic.

Figure 1: Sector-level trends for formal employment between January 2019 and July 2020

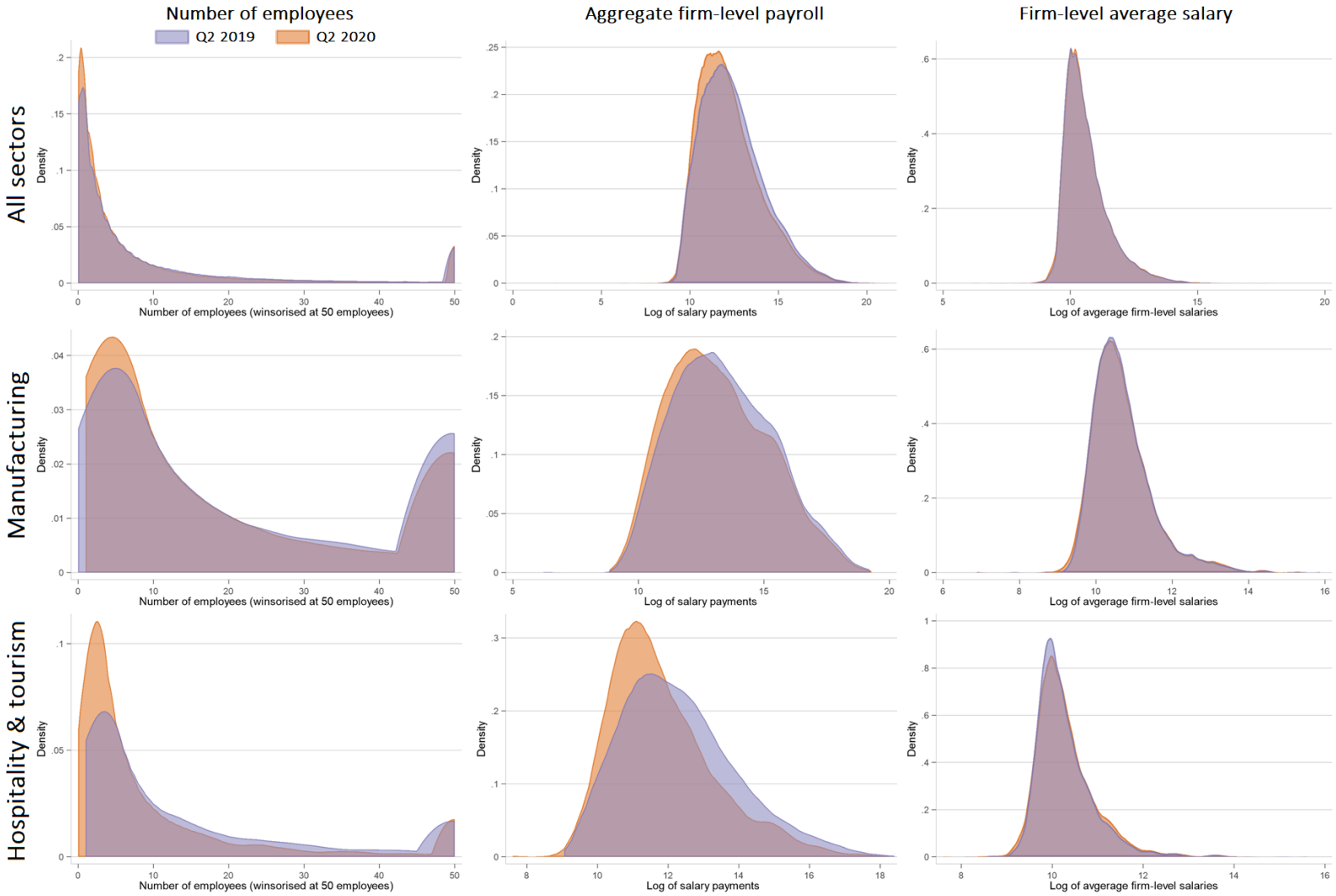


Note: The graph plots the aggregate number of employees in each sector over time. We decompose employment figures for the eight largest sectors, each of which employed more than 50,000 employees as of January 2020, and group the remaining ones as others. PAYE tax returns are filed by corporations and partnerships. Source: Authors' elaboration based on Pay-As-You-Earn tax returns, Kenya Revenue Authority.

The short-term impact on overall formal employment and the payroll

The impact of the COVID-19 shock varies greatly across sectors. Employment in the hospitality and tourism sector started to decline in March. By April 2020, we find a drop in employment levels across all sectors (Figure 1). Employment in the manufacturing sector has taken the biggest hit in absolute numbers with over 31,000 jobs lost (13% of total employment). However, with a 33% drop in employment, the hospitality and tourism sector has witnessed the most pronounced impact in relative terms. The least impacted (in terms of job losses) have been the financial sector as well as wholesale and retail. While we also see a decline in salary payouts across multiple sectors, it can mainly be attributed to firm-level adjustments on the extensive margin: firms laying off employees. In Figure 2 we plot the shift in the distribution of the number of employees across all sectors, as well as for the two most affected sectors: manufacturing and hospitality. The more pronounced skew in the distribution and the thinner right tail in the second quarter of 2020 relative to the same quarter in the previous year indicates downsizing dynamics. The reduction in the firm-level workforce is also reflected in the reduction of firm-level aggregate payrolls (column 2). In contrast, the distribution of average firm-level salaries remains largely unchanged (column 3).

Figure 2: Shifts in the distribution of monthly firm-level payrolls between 2019 and 2020

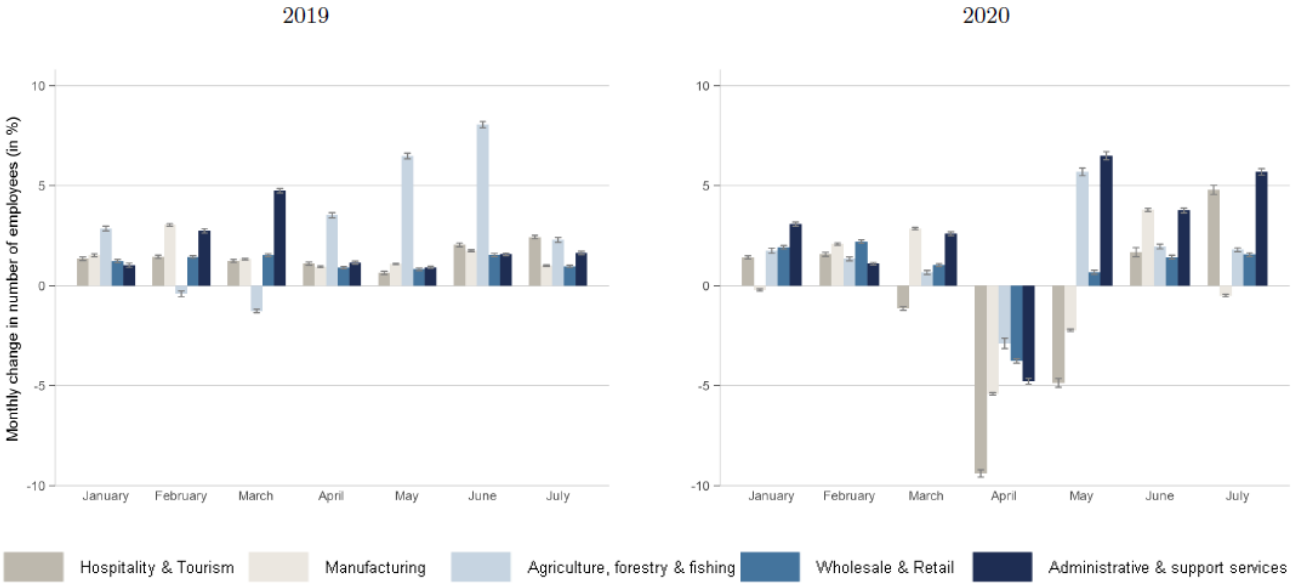


Note: Q2 refers to the second quarter of the calendar year, i.e. the months of April, May, and June. The graph plots the kernel density of different employment-related firm-level outcomes for the second quarter of 2019 (purple) and 2020 (orange) respectively. The first column shows the distribution of the number of employees (winsorised at 50 employees to improve readability). The graphs in the second column show the distributions of the aggregate firm-level payroll. Finally, the graphs in the third column show the distribution of average salaries paid by the firms. The graphs are based on employment records from PAYE returns filed by private sector corporations and partnerships. Source: Authors' elaboration based on PAYE returns, Kenya Revenue Authority.

The short-term impact on firm-level employment growth rates

We further observe substantial variation in the experience of individual firms. To study the firm-level variation, we look at firm-level month-over-month employment growth rates as the main indicator. Firms involved in accommodation, food services, and tourism activities on average saw a decline in the number of employees of close to 10% in April 2020 and an additional decline of 5% in May 2020 (Figure 3). While there are signs of recovery in the industry in July 2020, the positive average growth rate falls short of the level required for getting anywhere close to a full recovery from the substantial job losses. The trend is almost entirely driven by the entry of new firms. The only sector where we do see indications for a substantial catch-up effect are administrative and support service activities. The positive growth rates of firms in the agricultural sector in May 2020 are largely explained by seasonality as suggested by the high growth rates during the same month in 2019, which we plot for comparison in Figure 3.

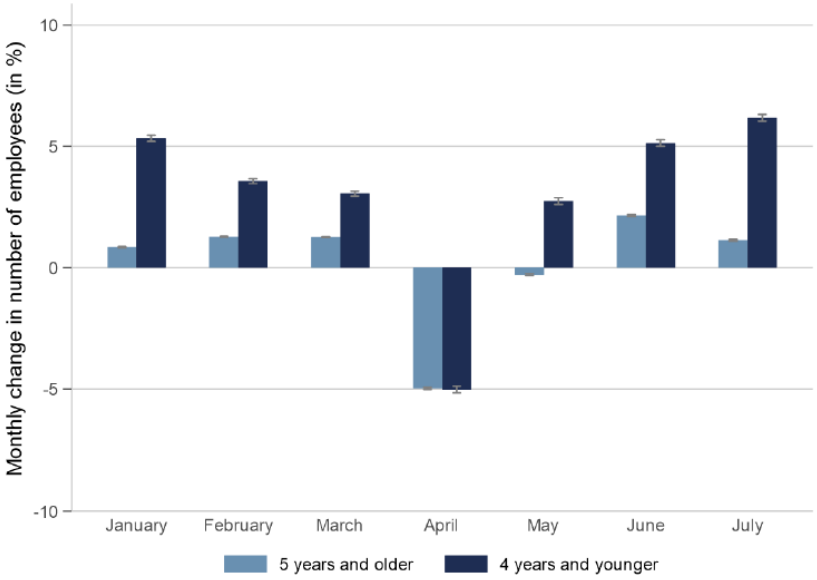
Figure 3: By sector: Change in the number of employees relative to the previous month (in %)



Note: The graphs plot the average of firm-level month-over-month growth rates by sector. Firm-level employment growth rates are winsorised at the 1% and the 99% level. Observations are weighted by firm size. The grey error bars show the 95% confidence intervals of the weighted average growth rate. The graphs are based on employment records from Pay-As-You-Earn tax returns filed by private sector corporations and partnerships. As of March 2020, 3,154 firms operate in the hospitality & tourism sector, 3,060 firms in manufacturing, 1,421 firms in agriculture, forestry & fishing, 6,903 firms in Wholesale & Retail, and 2,045 firms provide administrative and support service activities. Source: Authors' elaboration based on Pay-As-You-Earn tax returns, Kenya Revenue Authority.

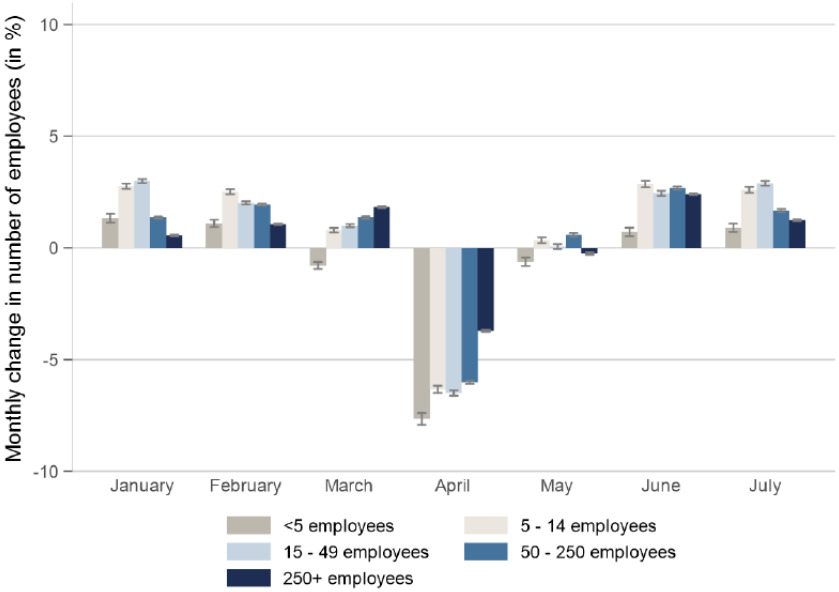
Older firms (5 years plus), experienced a more substantial decline in their number of employees in April 2020 (Figure 4). For the average young firm, we document foregone growth rather than a reduction in their work force. The number of jobs in younger firms typically grows at 5% or more per month, but this figure dropped to less than 5% in every month since March 2020 with a negative average growth rate (5%) in April 2020.

Figure 4: By firm age: Change in the number of employees relative to the previous month (in %) for 2020



Note: The graph plots the average of firm-level month-over-month growth rate by firm age. Firm-level employment growth rates are winsorised at the 1% and the 99% level. Observations are weighted by firm size. The grey error bars show the 95% confidence intervals of the weighted average growth rate. The graph is based on employment records from Pay-As-You-Earn tax returns filed by private sector corporations and partnerships. As of March 2020, we observe 9,866 firms which have been operational for less than 5 years, and 39,887 firms which have been operational for 5 years or more. Source: Authors' elaboration based on Pay-As-You-Earn tax returns, Kenya Revenue Authority.

Figure 5: By firm size: Change in the number of employees relative to the previous month (in %) for 2020



Note: The graph plots the average of firm-level month-over-month growth rate by firm size. Firm-level employment growth rates are winsorised at the 1% and the 99% level. Observations are weighted by firm size. The grey error bars show the 95% confidence intervals of the weighted average growth rate. The graph is based on employment records from Pay-As-You-Earn returns filed by private sector corporations and partnerships. In March 2020, we observe 29,704 firms with less than 5 employees, 10,717 firms with 5-14 employees, 5,962 firms with 15-49 employees, 2,618 firms with 50-250 employees, and 752 firms with 250 employees or more. Source: Authors' elaboration based on Pay-As-You-Earn tax returns, Kenya Revenue Authority.

Lastly, we find that the adverse impact of the crisis has been more substantial for smaller firms relative to larger firms (Figure 5).[4] Firms with less than five employees on average experienced a decline in their workforce as early as March 2020. For this group of firms, we observe a negative average growth rate for three months in a row. In addition, the positive growth figures for June and July 2020 are far from a noteworthy catch-up effect. Large firms with 250+ employees on the other hand experienced more robust employment dynamics throughout the crisis with some indication of a mild catch-up in June. For the segment of firms employing 5-14 workers we again observe similar dynamics to the young firms. For this group of firms, the crisis did not lead to negative growth rates in most months, but rather dampened pre-crisis firm-level employment growth rates.

Overall, our analysis highlights substantial variation in firm-level employment-dynamics by age, size and sectors. Some firms, in particular older ones and those in sectors relying on national and international travel, had to lay off a substantial proportion of their workforce or even stopped operating. Others, however, have continued to grow amid the crisis. Although firms that continued to grow have been seemingly less affected, they deserve at least as much attention from policy makers as they continue to serve as a motor of growth for formal sector jobs. This is especially the case for young firms. A large shock early on in the firm's life cycle might dampen their long-run growth prospects. The key take-away for policy makers is that there is no *one size fits all* policy that can address the loss in formal sector jobs due to the vastly different experiences and needs of firms. Policy interventions should be tailored on a case-by-case basis to support struggling but potentially viable firms from closure or lay-offs while the crisis persists.

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This note is based on research conducted as a part of PEDL ERG 7873.

[4] This finding is also in line with the pattern documented in by the firm survey discussed in "World Bank. 2020. Kenya Economic Update, November 2020: Navigating the Pandemic. World Bank, Nairobi. World Bank. https://openknowledge.worldbank.org/handle/10986/34819 License: CC BY 3.0 IGO."