

# Economic impacts of COVID-19 lockdowns

## An examination of recoveries in Jordan



### In brief

- The unemployed share of the adult population in Jordan increased from 7% to 16% during the lockdown that lasted from 18th March to 15th April 2020. The unemployment share improved to 11% by September 2020, falling short of the pre-lockdown level.
- Wage earnings decreased by 42% of pre-pandemic baseline levels on average during lockdown. These partially recovered after the easing of lockdown restrictions but remained 19% below their baseline.
- About half of workers faced some difficulty buying food during lockdown. Even afterwards, about 10% of working respondents skipped meals or reduced portions. Borrowing and spending savings were the two most popular financial coping methods.
- Low wage workers and refugees earned only a small fraction of their pre-lockdown earnings during restrictions. Less educated workers also faced steep declines in earnings and hours during lockdown. Highly educated and high wage service workers saw relatively larger reductions in hours worked after lockdown compared with other workers, but smaller reductions in earnings.
- Lockdown restrictions implemented on 17th March reduced mobility, and more so for the rich. When measuring the number of trips taken per day using mobile phone meta-data, we find the number of trips taken within a day fell on average by 57% to between 1 and 2 per day, and more so for wealthy individuals living in high-rent neighborhoods. The impacts emerged with the first case of Covid-19 in Jordan and persisted, with curfews having large impacts on mobility.

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## Overview

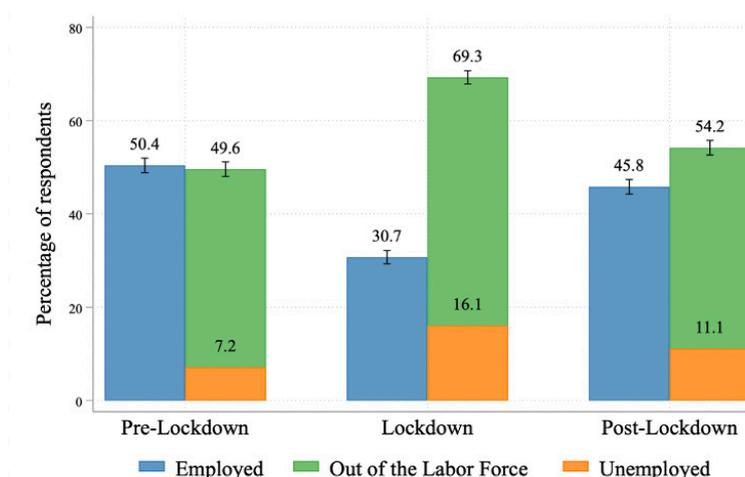
In this report, we discuss preliminary findings from a phone survey on the economic impact of COVID-19 lockdown policies in Jordan. We examine aggregate impacts on the labor force, as well as effects broken out for different groups of workers. Disadvantaged workers experienced more severe negative earnings and employment effects under lockdown. While all groups experienced some recovery after restrictions were lifted, highly educated and high wage workers seemed to do better, in part due to their earnings being less sensitive to their exact number of hours worked.

To perform our analysis, we drew a random sample of 4,000 accounts from one of the largest mobile phone operators in Jordan. We oversample Syrians (both inside and outside refugee camps) to ensure a sufficiently large subsample of refugees to characterize outcomes for this group. Our survey, conducted in July-September, focuses on outcomes before, during and after the most stringent lockdown in Jordan, which ran from March 18th to April 15th.

### Aggregate labour effects

Unemployment increased during lockdown, but partially recovered after the easing of restrictions. Prior to the initial lockdown, we estimate that the unemployment share among economically active adults stood at 7.2%.<sup>1</sup> During lockdown, the unemployed share increased to 16%. This recovered to a slightly elevated level at 11% post-lockdown (July-September), as shown in Figure 1.

**Figure 1: Share of each labour market status over time**

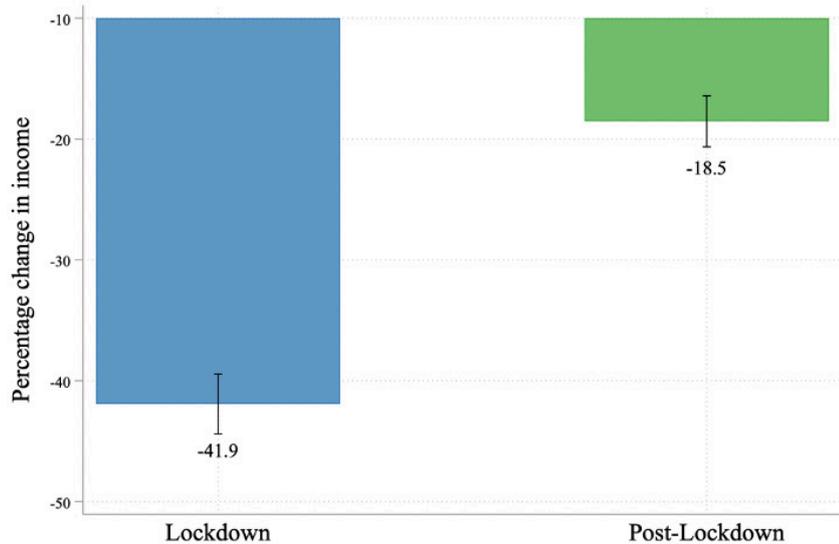


Note: Values are reported as percentages, with a 95% confidence interval. The combined share of unemployed adults and those not seeking work is shown at the top of the right bar in each period.

1. The estimated unemployment share for Jordanians prior to lockdown was 6.0%. The official statistic from the Department of Statistics for Jordanians in the first quarter 2020 was 6.7%, which is within the 95% confidence interval of our estimate.

Labor earnings fell during the lockdown, but partially recovered by July - September. During the lockdown, earnings fell by 42% of their baseline pre-lockdown level for workers who had been employed before the pandemic. Earnings partially rebounded to 19% below pre-lockdown in post-lockdown, as shown in Figure 2.

**Figure 2: Average percentage change in earnings relative to pre-lockdown level**



**Note:** Calculations include all employees and business owners who were employed before the lockdown.

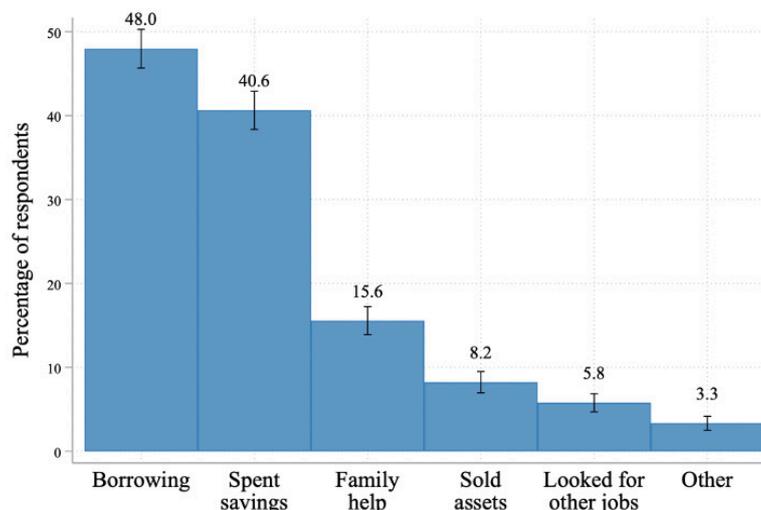
About half of survey respondents with jobs during the lockdown reported difficulties buying food due to restrictions, but that number dropped to 15% post-lockdown. About 28% of working respondents in the period after lockdown reported that income or price shocks created difficulties in buying food, with 10% reporting skipping meals or reducing portion sizes.

Workers relied primarily on borrowing and spending savings to cope with any financial hardships following lockdown. Although these were the two most frequently reported behaviors, at 48% and 41%, respectively, people also relied on family help, selling assets or looking for other work, as shown in Figure 3.

### **Employment impacts for disadvantaged workers**

Aggregate outcomes can sometimes miss differences in the experiences between demographic groups. We next consider how outcomes during and after lockdown varied for individuals belonging to disadvantaged groups.

**Figure 3: Actions taken during lockdown to cope with financial shocks**



Note: Calculations include all employees and business owners who were employed before the lockdown. Respondents could select multiple actions.

*“Workers in low-wage, manual jobs and refugees were both 73% less likely to be employed during the lockdown than before.”*

The share of employed individuals decreased across all groups during the lockdown with some groups hit harder than others. The share of employed refugees dropped more during lockdown than in other groups. Their employment share decreased by 28 percentage points during lockdown, relative to a 19-percentage point decrease for non-refugees as shown in Table 1. After the easing of lockdown restrictions, employment recovered to about 4 percentage points below the respective pre-lockdown levels for all groups.<sup>2</sup>

The above results report aggregate impacts on employment shares by demographic traits. Next, we focus on impacts to individuals who were employed before the lockdown. Workers in low-wage, manual jobs were 73% less likely to be employed during the lockdown than before. Low-wage workers recovered after lockdown to 18% below their baseline level. For comparison, refugees employed prior to lockdown faced a similar 73% decrease under lockdown, and a shallower recovery to 25% below their baseline by September. Employment for high-wage workers performed relatively better during and after the lockdown, with 42% and 15% drops from their baseline, respectively.

### **Earnings and hours impacts across disadvantaged worker groups**

Most workers employed before the lockdown experienced substantial decreases in their hours worked per week during lockdown restrictions. Refugees and low-wage workers experienced the sharpest reductions,

2. Employment shares differed across demographic groups prior to lockdown.

working only 9% and 14% of their baseline hours. Both groups recovered to around 25% reductions in hours from baseline on average, shown in the third and fourth columns of Table 1. Employees in public administration and defense were the exception, actually increasing their hours working only 9% and 14% of their baseline hours.

**Table 1: Percentage change in outcomes from pre-lockdown levels, during and after lockdown, by worker characteristic**

	Extensive margin		For those employed before lockdown			
	Employment		Hours Worked		Labor Earnings	
	Lockdown	After	Lockdown	After	Lockdown	After
<b>By Education Level</b>						
Less than secondary	-20.76 (1.05)	-2.96 (0.73)	-54.83 (3.20)	-17.24 (2.17)	-54.95 (2.48)	-18.54 (2.31)
Secondary	-20.52 (1.18)	-4.66 (0.90)	-39.72 (3.00)	-15.17 (1.90)	-39.78 (2.22)	-18.12 (1.81)
College or higher	-17.90 (1.10)	-5.58 (0.82)	-36.80 (2.76)	-27.37 (1.86)	-36.55 (1.92)	-18.91 (1.64)
<b>By Age</b>						
18-24	-16.57 (1.98)	-1.93 (1.82)	-50.52 (4.92)	-22.03 (3.99)	-46.41 (4.69)	-20.63 (4.33)
25-39	-21.64 (1.00)	-5.65 (0.79)	-36.13 (2.31)	-19.47 (1.51)	-35.47 (1.70)	-15.96 (1.44)
40+	-18.57 (0.91)	-4.07 (0.58)	-48.43 (2.98)	-22.71 (1.96)	-50.51 (2.02)	-21.89 (1.72)
<b>By Refugee Status</b>						
Non-refugee	-18.79 (0.73)	-4.41 (0.52)	-38.46 (1.93)	-20.23 (1.24)	-39.28 (1.39)	-17.81 (1.12)
Refugee	-27.92 (1.42)	-4.05 (1.22)	-90.57 (1.72)	-26.61 (3.40)	-86.64 (1.81)	-30.87 (4.22)
<b>By Job category</b>						
Low-wage, manual jobs	-72.53 (2.19)	-18.03 (1.88)	-86.13 (1.71)	-23.78 (2.49)	-79.71 (1.99)	-27.65 (3.04)
High-wage, service jobs	-41.98 (1.66)	-14.92 (1.20)	-50.47 (2.34)	-28.23 (1.71)	-47.28 (1.73)	-21.31 (1.53)
PA & Defense	-1.45 (0.64)	-0.53 (0.39)	11.94 (3.36)	-0.93 (1.67)	1.49 (1.64)	-0.72 (0.84)

Note: Values present average unconditional percentage changes in outcomes for each group, during and after lockdown. Standard errors are in parentheses. Employment outcomes in columns 1 and 2 include all respondents, except for results by job category. All other statistics are calculated from respondents who were employed before lockdown.

Examining the relative response in earnings to hours reveals two different experiences around lockdown based on worker type. Disadvantaged workers saw their earnings track closely with their reduction in hours, both during and after the lockdown. This was true for workers with less than a secondary education, younger workers, refugees and low-wage workers as shown in the last two columns of Table 1. On the other hand, higher educated and high-wage workers saw reduced hours but lower reductions in earnings, on average, after lockdown. For example, although after the lockdown college educated workers experienced a greater reduction in their work hours than their less educated peers, at 27% below baseline on average, they still faced the same 18-19% reduction in earnings as other workers. High-wage service workers reduced their hours by 28% from baseline after the lockdown, but

experienced just a 21% reduction in earnings.

Public Administration and Defense again stands out. Despite working more hours during lockdown, their earnings remained flat. After lockdown, they worked similar hours at baseline with similar earnings, on average.

### **Food insecurity and coping mechanisms across disadvantaged workers**

Groups experiencing particularly negative impacts on work and earnings likewise faced elevated levels of food insecurity post-lockdown. After lockdown, low-wage, manual workers, those with less than a secondary education and refugees faced greater difficulties buying food due to price and income shocks and were more likely to skip meals or reduce portion sizes.

In terms of coping mechanisms, lower educated workers and refugees are significantly more likely to rely on borrowing, selling assets and looking for other jobs than their counterparts. They report relying on savings and family help at similar rates to the rest of the population.

### **Mobility under lockdowns**

We construct measures of mobility based on mobile phone use on one of Jordan's largest telecommunications networks. Anonymized meta-data of mobile phone transactions (voice calls, SMS and data activity) and geo-coordinates of the connecting towers allow us to assign neighborhood and tower catchment area of residence for users, and detect the number of trips made by users per day. For the purpose of this report we identify a trip when a transaction occurs over a tower at least 1.5 km from their home tower. Prior to lockdown, individuals typically took 3-3.5 trips per day.

The impact of the stringent lockdown beginning on March 17th can be clearly seen in the reduction of the average number of trips per user in the mobile phone data. The implementation of those lockdown measures reduced the average number of trips per day by about 2. The partial restrictions active from March 14th - 17th, made less of an impact on mobility. Curfews also coincide with sharp reductions in the number of trips detected in the data.

At the onset of Covid-19 in Jordan, individuals living in more affluent neighborhoods reduced their number of trips with greater intensity than individuals from poorer neighborhoods. Focusing on Amman, Figure 4 compares the average number of trips made by users from affluent neighborhoods (in the highest quartile of rent per square meter), to those from low cost neighborhoods (in lowest quartile of rent per square meter).<sup>3</sup> Prior to the date of the first Covid-19 case in Jordan, no discernible difference

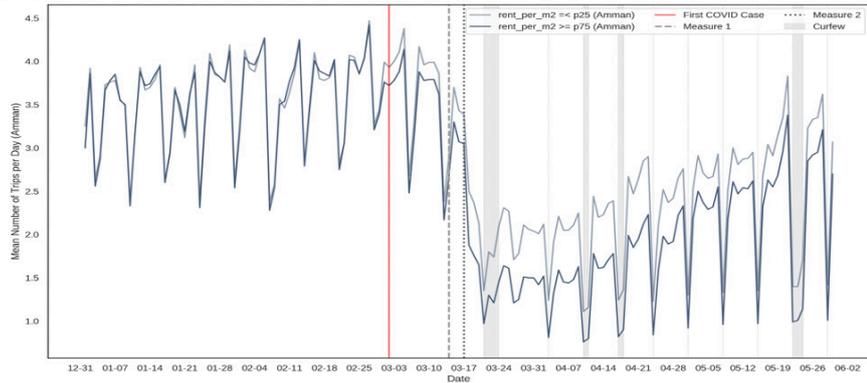
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3. By connecting neighborhood residence from mobile tower data to population census data, we assigned each user a neighborhood average rent per square meter for housing.

*“Groups experiencing particularly negative impacts on work and earnings likewise faced elevated levels of food insecurity post-lockdown.”*

exists in the number of trips per day. Individuals from high rent areas immediately reduced their trips per day thereafter, on average, relative to individuals in low rent areas. The gap in the number of trips actually widens during lockdown, then narrows slightly upon the easing of restrictions on April 15th. However, individuals from high rent neighborhoods consistently make fewer trips during the pandemic than those in the lowest rent neighborhoods.

**Figure 4: Average number of trips per day detected in mobile phone data, by neighbourhood rent-per-square-meter in Amman**



Note: Trips include return travel. “Measure 1” refers to the set of school suspensions, bans on social gatherings and the partial dosing of borders enacted on 14<sup>th</sup> March. “Measure 2” refers to the full restrictions applied on 17<sup>th</sup> March, including the suspension of all flights and closure of land borders. “Curfews” refer to 24 hour periods of comprehensive restrictions on mobility.