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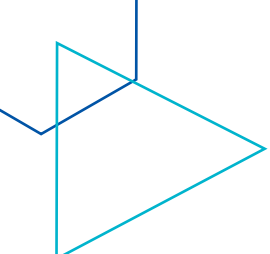
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HIGHLIGHTS REPORT: THIRD WAVE AUGUST 2021

Rapid Labour Force Survey of COVID-19 Impact in Tunisia

Published in January 2022



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Key findings

Key Findings

- This report complements the household survey analysis by looking at the key findings from the data collected on small and medium enterprises in Tunisia. It summarizes the main indicators that showed a noticeable change between the first three waves. Wave 3 was conducted in August 2021. More than half of the firms surveyed in Tunisia operated in manufacturing and agriculture and in trade and retail (44 and 19 per cent, respectively), while 18 per cent in services, 12 per cent in construction, and 7 per cent in food and accommodation.
- In the full sample, between February 2020 and the time of the interview, the mean number of all workers increased considerably for the first and second waves (from 24.9 to 30.1 in Feb 2020, to 43.6). This later decreased again to the similar levels to wave 1, with an average of 30.9 workers in the third wave. With the largest decline in the mean number of workers being in the category of indefinite duration contract workers (from 23.8 workers in the second wave to 18.5 in the third). Across economic activities, firms in manufacturing and agriculture had the largest decline of the mean total number of workers, from 54.5 workers in wave 2 to 37.1 in wave 3. The largest decline in the mean number of indefinite duration contract workers between waves 2 and 3, took place in firms in the services sector (from 25.1 to 13.9 workers), followed by firms in manufacturing and agriculture (from 27.9 to 23.2 indefinite duration contract workers). Similarly, definite duration contract workers also declined on average, from 15.9 in the second wave to 11.3 in the third wave. Within this category, firms in manufacturing and agriculture reported the largest decline from 22.9 workers to 14.4 between waves 2 and 3.
- Nearly one-third of the first wave surveyed firms in Tunisia either imported or exported in 2019 (28.6 per cent in the first wave), compared to 53.7 and 53.9 per cent in the second and third waves, respectively. The economic sector with the highest mean share of importing and/or exporting firms (traders) in the second wave was manufacturing and agriculture (76.1 per cent of the firms), only slightly declining to 70.4 per cent in the third wave. Followed by trade and retail (56.2 per cent of firms in wave 2), increasing to 68 per cent in the third wave.
- Most of the firms adapting to the pandemic in the third wave contracted bank credit (21 per cent compared to only 11 per cent in the first wave), purchased on credit and rescheduled bank loans (18 per cent compared to only 7 per cent in the first wave, respectively). The least adopted coping strategy in the third wave was receiving aid from family and friends from abroad (6 per cent in wave 2 and 2 per cent in wave 3). Out of the 106 firms reporting a reduction of working hours, 45 per cent were in manufacturing and agriculture, 21 per cent were in services, and 17 were in food and accommodation. Quite a few firms (11) reported temporary or permanent closure due to the pandemic, all of which operated in manufacturing and agriculture (6 firms).
- Firms in the first wave only expected to hire 0.2 additional workers on average while reporting 41.2 workers in the second wave, further increasing to 71.5 in the third. Firms in the second and third waves also expected to reduce and/or delay the earnings of 30.9 workers on average in the second wave and 26.9 workers in the third wave. More alarmingly, firms expected to permanently lay-off 18.3 workers and temporarily lay off 43.7 workers on average in the second wave compared to 55 permanent and 47.4 temporary layoffs in the third wave.

Introduction

This report complements the household survey analysis by looking at the key findings from the data collected on small and medium enterprises in Tunisia. It summarizes the main indicators that showed a noticeable change between the first three waves.

Table 2.1 below shows the distribution of the firms (number of firms) surveyed by size and economic activity with row percentages in parenthesis¹.

► **Table 2-1:** Sample distribution by firm size and economic activity

Firm size			Manu. & Agri.	Const.	Trade & retail	Accom. & food	Services	All activities
Wave 1	6-9 workers	Feb-20	38 (20.6)	18 (9.8)	55 (30)	17 (9.3)	56 (30.3)	184 (100)
		Current	36 (22.3)	16 (10.1)	44 (27.3)	16 (9.9)	49 (30.4)	163 (100)
	10-24 workers	Feb-20	42 (29.3)	20 (13.9)	30 (20.6)	19 (13.2)	33 (23.1)	144 (100)
		Current	42 (27.6)	18 (11.5)	39 (25.4)	19 (12.1)	36 (23.5)	154 (100)
	25-49 workers	Feb-20	26 (44.3)	9 (15.1)	7 (12.3)	8 (14.4)	8 (13.9)	58 (100)
		Current	25 (40.6)	10 (15.5)	9 (14.2)	9 (14.6)	9 (15.1)	61 (100)
	50+ workers	Feb-20	35 (46.3)	7 (9.7)	11 (15)	7 (9.3)	15 (19.7)	75 (100)
		Current	37 (44.3)	10 (12.5)	11 (13.5)	8 (9.4)	17 (20.3)	83 (100)
	Total	Feb-20	141 (30.5)	54 (11.7)	103 (22.4)	51 (11.2)	112 (24.3)	461 (100)
		Current	141 (30.5)	54 (11.7)	103 (22.4)	51 (11.2)	112 (24.3)	461 (100)

¹ Figures in table 2.1 are weighted using firm weights

Wave 2	6-9 workers	Feb-20	6 (3.4)	13 (7.2)	34 (19)	61 (34.5)	64 (36)	177 (100)
		Current	4 (3.3)	11 (8.2)	26 (20.2)	46 (35)	43 (33.2)	130 (100)
	10-24 workers	Feb-20	9 (4.8)	23 (12.5)	42 (22.6)	60 (32.6)	51 (27.5)	185 (100)
		Current	9 (4.2)	22 (10.4)	46 (22.1)	67 (31.8)	66 (31.6)	210 (100)
	25-49 workers	Feb-20	3 (3.1)	9 (11.5)	23 (27.4)	15 (17.8)	33 (40.2)	83 (100)
		Current	4 (4.6)	10 (10.9)	23 (25.4)	20 (22)	34 (37)	92 (100)
	50+ workers	Feb-20	7 (16.5)	9 (20.5)	6 (15.4)	12 (27.8)	8 (19.8)	42 (100)
		Current	7 (14.2)	11 (22.1)	8 (16.1)	13 (26.9)	10 (20.7)	48 (100)
	Total	Feb-20	24 (5)	54 (11.1)	105 (21.5)	148 (30.4)	156 (32.1)	487 (100)
		Current	24 (5.1)	53 (11.1)	104 (21.6)	145 (30.3)	153 (32)	480 (100)
Wave 3	6-9 workers	Feb-20	27 (23.7)	19 (16)	37 (31.7)	10 (8.8)	23 (19.9)	116 (100)
		Current	30 (27.2)	19 (17.5)	32 (29.5)	11 (10)	17 (15.8)	109 (100)
	10-24 workers	Feb-20	78 (43.8)	17 (9.8)	33 (18.8)	12 (6.9)	37 (20.8)	178 (100)
		Current	70 (42.5)	11 (7)	33 (19.9)	10 (6)	40 (24.7)	164 (100)
	25-49 workers	Feb-20	48 (51.8)	13 (14.6)	15 (15.9)	6 (6.3)	11 (11.4)	92 (100)
		Current	40 (47.5)	17 (19.8)	14 (16.6)	6 (7.2)	7 (8.8)	84 (100)
	50+ workers	Feb-20	45 (65.1)	4 (6.3)	5 (6.5)	4 (6.2)	11 (15.9)	70 (100)
		Current	39 (57.7)	6 (8.5)	7 (10.8)	5 (7.7)	10 (15.3)	67 (100)
	Total	Feb-20	199 (43.6)	54 (11.8)	89 (19.6)	33 (7.1)	82 (17.9)	456 (100)
		Current	178 (41.9)	53 (12.5)	86 (20.3)	32 (7.5)	75 (17.8)	424 (100)

Source: Constructed by author using the ILO/ ERF COVID-19 Monitor

The third wave was conducted by phone on firms with 6 to 199 workers before the pandemic (i.e. before February 2020). Tunisia did not have a Yellow Pages or similar databases to roster firms, so administrative data sources had to be used from the National Institute of Statistics (INS) and the Agency for the Promotion of Industry and Innovation (APII) databases. The sample started with the INS frame with 1,238 firms with 6 to 200 wage employees. Firms were stratified into size economic activities, such as agriculture, industry, construction, trade, accommodation, and services. Firms were also stratified by a random selected sample and by size in terms of 6-49 versus 50-200 employees. The sample was further restricted to firms with 6 to 199 workers in February 2020 based on an eligibility question during the phone interview. After the INS sample was exhausted, the APII sample was used. APII only covered firms with 10+ workers and only covered firms in services and transport and in industry. Weights are based on the underlying data on all firms from INS, specifically: “Entreprises privées selon l’activité principale et la tranche de salariés”. The firm weights in Tunisia were ultimately stratified by industry and firms sized: 6-9 employees (since APII only covered 10+), 10-49, and 50-199 employees².

Up to five attempts were made to ensure response if a phone number was not picked up/answered, was disconnected or busy, or picked up but could not complete the interview at that time. After the fifth failed attempt, a firm was treated as a non-response and a random firm from the same stratum was used as an alternate.

Table 2.2 below shows the firms response rates by response type. The panel columns show the rates among firms who consented to a follow-up. Phones that were not in service, disconnected/busy (after multiple calls) and firms who were not eligible are excluded from the response rate calculations. The refresher column shows response rates among the newly added firms to the sample. The responses are based on the final result, which may have been obtained on the first, second, or third attempt.

► **Table 2-2:** Firm response rates by response (%)

	Wave 1	Wave 2 - Refresher	Wave 2 - Panel	Wave 3 - Refresher	Wave 3 – Panel
Phone disconnected/busy	3	11	2	0	0
Not in service	7	46	22	40	0
Did not answer	22	8	20	0	0
Picked up and refused	9	19	19	34	42
Incomplete, and refused	7	4	6	4	1
Incomplete, return call	7	1	1	0	0
Complete	44	8	31	8	57
Not Eligible	1	4	0	14	0
Total	100	100	100	100	100
Response rate	50	19	40	17	57

² See ERF sample and weighting technical documentation for more details

The data presented in this report has been weighted to ensure the basic characteristics of the sample reflect the underlying universe of firms. An inverse probability weighting was used to weight the firms' sample in Tunisia to account for non-response rates and the sampling strategy. The weights are then normalized to have a mean of one³.

The following section summarizes the main findings from the firms' data. Section 3 presents the analysis of firm characteristics, survival, and coping strategies. Section 4 presents stylized facts on employment for firms in Tunisia.

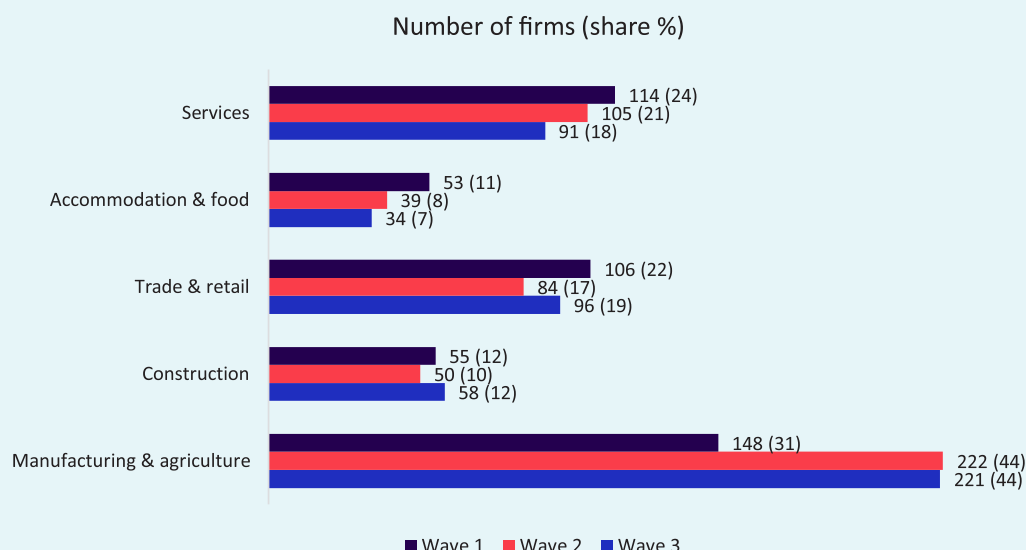


³ The weights used cannot overcome the unobservable characteristics of firms and their respective non-response bias. The weighting of the firms' data is discussed in further detail in the appendix of this report.

Firm characteristics, survival, and coping strategies

As shown in figure 3.1, the distribution of the 500 surveyed firms in the third wave is based on aggregated economic activities due to the low variation at a disaggregated level (given the sample size). It shows how the distribution of firms by economic activity and size did vary between the 3 waves. More than half of the firms surveyed in Tunisia operate in manufacturing and agriculture and trade and retail (44 and 19 percent, respectively), while 18 per cent were in services, 12 per cent were in construction, and 7 per cent in food and accommodation.

► **Figure 3-1:** Share of firms by economic activity



Source: Constructed by author using the ILO/ ERF COVID-19 Monitor

Looking at the total number of workers by economic activity before and after the pandemic shows a holistic view of how firms and workers were impacted. Table 3.1 shows the impact of the pandemic on firms for different types of employment, from the most stable type of employment (indefinite duration contract workers) to the least (unpaid workers), to other types of employment such as definite duration contract workers and workers without contracts. Table 3.1 also provides more detailed summary statistics on the impact of COVID-19 on firms and workers by type of employment and economic activity for firms in Tunisia. In the survey, firms were only asked to report on the number of unpaid workers in February 2020.

In the full sample, the mean number of all workers increased considerably between February 2020 and the time of the interview for the first and second waves (from 24.9 to 30.1 in the first wave and 43.6 in the second wave). This later decreased again to the similar levels to wave 1, with an average of 30.9 workers in the third wave. With the largest decline in the mean number of workers being in the category of indefinite duration contract workers (from 23.8 workers in the second wave to 18.5 in the third). Across economic activities, firms in manufacturing and agriculture had the largest decline of the mean total number of workers, from 54.5 workers in wave 2 to 37.1 in wave 3.

The largest decline in the mean number of indefinite duration contract workers between waves 2 and 3 took place in firms in the services sector (from 25.1 to 13.9 workers), followed by firms in manufacturing and agriculture (from 27.9 to 23.2). It is similarly declined on average, from 15.9 in the second wave to 11.3 in the third wave. Within this category, firms in manufacturing and agriculture reported the largest decline from 22.9 workers to 14.4 between waves 2 and 3.

► **Table 3-1:** Workers by employment type and activity

			Manu. & Agri.	Const.	Trade & retail	Accom. & food	Services	All activities
Total workers	Mean	Feb-20	36	22	18.6	22.8	19.1	24.9
		Wave 1	44.5	28.1	21.8	25.4	22.9	30.1
		Wave 2	54.5	29.1	34.7	33.3	40.7	43.6
		Wave 3	37.1	28.1	22.4	32.6	27	30.9
	Median	Feb-20	19	15	9	17	10	12
		Wave 1	21	15	11	18	11	14
		Wave 2	39	18	17	15	20	22
		Wave 3	22	22	13	13	13	18
	Sd	Feb-20	40.3	18.9	23	19.3	23.1	29.6
		Wave 1	68.1	29.8	31.6	24.1	31.8	46.2
		Wave 2	51.8	45.7	41.6	47.7	51.6	50
		Wave 3	40.3	42.5	29.4	43.5	35.6	38.4



Indefinite duration contract workers	Mean	Feb-20	14.8	10.6	9.6	14.4	12.9	12.6
		Wave 1	18.5	13.4	10.1	15.9	14.6	14.8
		Wave 2	27.9	13.8	17.2	25.1	25.1	23.8
		Wave 3	23.2	13.6	13.2	22.9	13.9	18.5
	Median	Feb-20	7	6	6	10	7	7
		Wave 1	7	6	6	10	7	7
		Wave 2	16	7	9	8	10	12
		Wave 3	15	7	7	6	7	10
	Sd	Feb-20	22.9	13.8	13.1	14.9	19.6	18.5
		Wave 1	32.7	21.1	14.1	19.9	22.1	24.3
		Wave 2	32.3	21.2	26.5	41.8	44.6	34.6
		Wave 3	28.8	20.9	18.3	38.3	22	26.3
Definite duration contract workers	Mean	Feb-20	20.4	7.4	8.2	7.9	5.8	11.2
		Wave 1	24.9	8.6	10.7	8.7	7.6	13.8
		Wave 2	22.9	12.1	14.1	6.6	9.8	15.9
		Wave 3	14.4	10.8	7.6	8.1	10	11.3
	Median	Feb-20	9	4	2	4	2	4
		Wave 1	9	3	3	4	3	4
		Wave 2	12	3	5	2	2	5
		Wave 3	4	4	2	4	3	4
	Sd	Feb-20	30.7	10.5	15.9	12.2	11.3	21
		Wave 1	45.8	14	22.9	13.1	16.8	30.3
		Wave 2	30.5	27.4	27.2	13.9	18.2	26.7
		Wave 3	25.8	24.9	19.1	21.2	21.1	23.4

No contract workers	Mean	Feb-20	1.4	3.7	0.5	0.9	0.5	1.2
		Wave 1	0.6	5.7	0.6	1.1	0.8	1.3
		Wave 2	3.2	2.6	1.6	0.8	4.3	2.9
		Wave 3	1.7	2.9	0.9	0.6	2.8	1.8
	Median	Feb-20	0	0	0	0	0	0
		Wave 1	0	0	0	0	0	0
		Wave 2	0	0	0	0	0	0
		Wave 3	0	0	0	0	0	0
	Sd	Feb-20	11.3	8.9	2.1	3.5	2.6	7.3
		Wave 1	2.7	14.8	2.1	5.1	4.9	6.3
		Wave 2	22.4	12.9	5.2	4	14.3	17
		Wave 3	9.1	11	3.6	1.8	12.1	8.9
Unpaid workers	Mean	Feb-20	0	0.3	0.2	0.1	0	0.1
	Median	Feb-20	0	0	0	0	0	0
	Sd	Feb-20	0.3	0.7	0.5	1.1	0.2	0.5

Source: Constructed by author using the ILO/ ERF COVID-19 Monitor

Table 3.2 shows other firms' characteristics, including the percentage of firms who import or export (traders), the share of firms that are foreign owned (partially or fully), the size of foreign ownership, whether the firm keeps inventory or not and the number of inventory days kept by economic activity.

Nearly one-third of the firms surveyed in the first wave either imported or exported in 2019 (28.6 per cent in the first wave), compared to 53.7 and 53.9 per cent in the second and third waves, respectively. The economic sector with the highest mean share of importing and/or exporting firms (traders) in the second wave was manufacturing and agriculture, where nearly 76.1 per cent of the firms were traders, only slightly declining to 70.4 per cent in the third wave. Followed by trade and retail, where 56.2 per cent of firms were traders in the second wave, increasing to 68 per cent in the third wave.



► **Table 3-2:** Foreign ownership and inventory status

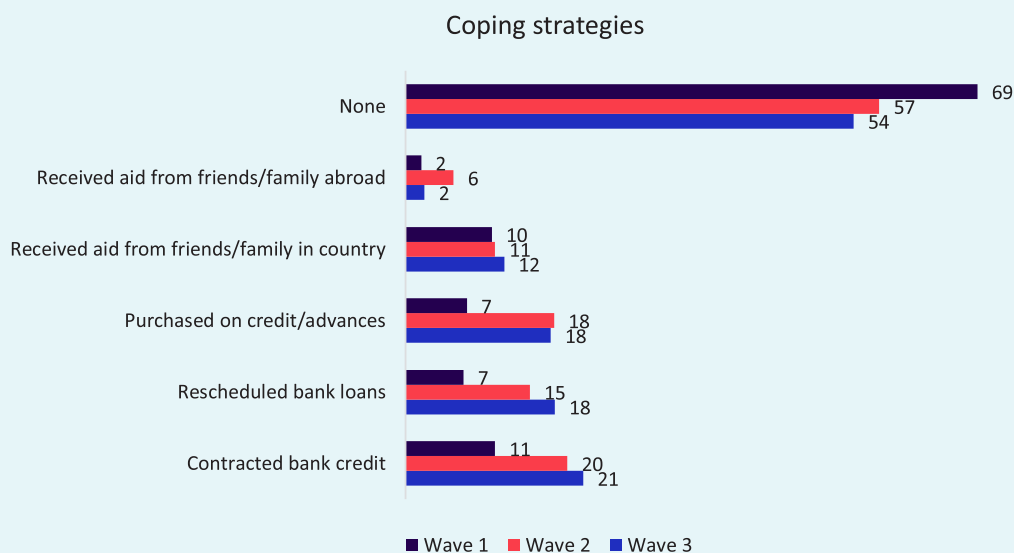
			Manu. & Agri.	Const.	Trade & retail	Accom. & food	Services	All activities
Traders (%)	Wave 1	Mean	49.2	7.7	22.6	3.6	29.1	28.6
		Sd	50.2	26.9	42	18.8	45.6	45.2
	Wave 2	Mean	76.1	17	56.2	16.2	36	53.7
		Sd	42.8	37.9	49.9	37.2	48.3	49.9
	Wave 3	Mean	70.4	28.7	68	9.4	31.7	53.9
		Sd	45.8	45.7	46.8	29.5	46.8	49.9
Foreign owned (%)	Wave 1	Mean	18.7	2	2.6	3.3	15.6	10.7
		Sd	39.1	14.2	16	17.9	36.5	31
	Wave 2	Mean	21.3	5.5	5.5	7.1	18.6	15.4
		Sd	41	23	22.9	25.9	39.1	36.1
	Wave 3	Mean	15.2	3.5	5.4	6.8	10	10.5
		Sd	36	18.7	22.7	25.5	30.2	30.6
Size of foreign ownership (%)	Wave 1	Mean	68.7	-	79.6	72	72.1	70.8
		Median	63	-	100	49	80	80
		Sd	31.2	-	30.6	35.9	25.6	28.5
	Wave 2	Mean	82.4	43.3	90	65	73.9	78.7
		Median	100	20	100	65	60	100
		Sd	28.4	49.3	22.4	49.5	24.8	29
	Wave 3	Mean	85.6	43.2	79.3	66.1	68.9	79.8
		Median	100	20	100	100	99	100
		Sd	25.2	48.8	32.8	49.5	37.5	30.6
Keeps inventory (%)	Wave 1	Mean	26.7	8.9	44.2	7.8	8.9	22.1
		Sd	44.4	28.8	50	26.9	28.5	41.6
	Wave 2	Mean	26.5	7.6	34.9	8.4	14.9	22.2
		Sd	44.3	26.7	47.9	28	35.8	41.6
	Wave 3	Mean	32.1	18.1	35.4	10.6	12.5	26.1
		Sd	46.8	38.8	48	31.2	33.3	43.9

Number of inventory days	Wave 1	Mean	417.1	653.3	227.5	18.2	143.5	302.1
		Median	60	998	30	20	45	45
		Sd	478.5	475.3	376.9	10.8	331.1	427.3
	Wave 2	Mean	128.9	392.5	160.2	56.8	213.9	150.1
		Median	30	60	60	15	60	37
		Sd	248.6	570.4	281.8	90.6	362.3	275.4
	Wave 3	Mean	64.1	15	89.8	47.9	47.6	67.1
		Median	30	15	60	15	30	30
		Sd	92	0	92.6	80.8	70.7	89.3

Source: Constructed by author using the ILO/ ERF COVID-19 Monitor

Firms differed by their response to the pandemic and adopted different coping strategies based on the business models, economic activities and types, and employment size offered. Figure 3.2 below shows the share of firms adopting different coping strategies. The majority of firms surveyed in Tunisia reported adopting no coping strategies (69 per cent, 329 firms out of 477 surveyed in wave 1) compared to 57 per cent in wave 2 and 54 in wave 3.

► **Figure 3-2: Firms' coping strategies**

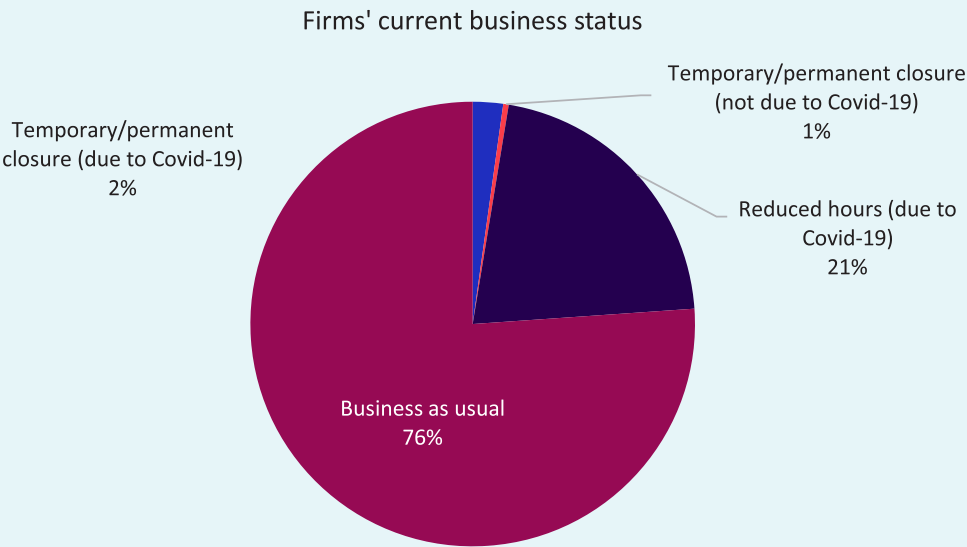


Source: Constructed by author using the ILO/ ERF COVID-19 Monitor

Most of the surveyed firms adapting to the pandemic in the third wave contracted bank credit (21 per cent compared to only 11 per cent in the first wave), purchased on credit and rescheduled bank loans (18 per cent compared to only 7 per cent in the first wave, respectively). The least adopted coping strategy in the third wave was receiving aid from family and friends from abroad (6 per cent in wave 2 and 2 per cent in wave 3).

Figure 3.3 below shows the business status of firms at the time of the interview. Seventy- six per cent of firms surveyed in the third wave reported continuing business as usual. Out of the firms experiencing disruptions due to the pandemic, 21 per cent reported reducing hours, and only 2 per cent reported temporarily or permanently closing down due to the pandemic.

► **Figure 3-3:** Current business status



Source: Constructed by author using the ILO/ ERF COVID-19 Monitor

Table 3.3 below shows the breakdown of the business status responses by economic activity. Out of 106 firms reporting a reduction of working hours, 45 per cent were operating in manufacturing and agriculture, 21 per cent were in services, and 17 were in food and accommodation. Quite a few firms (11) reported a temporary or permanent closure due to the pandemic, all of which operated in manufacturing and agriculture were only 6.



► **Table 3-3:** Business status by economic activity

Number of firms (share, %)	Manu. & Agri.	Const.	Trade & retail	Accom. & food	Services	All activities
Temporary/permanent closure (due to Covid-19)	11 (100)	0 (0)	0 (0)	0 (0)	0 (0)	11 (100)
Temporary/permanent closure (not due to Covid-19)	1 (49.3)	1 (50.7)	0 (0)	0 (0)	0 (0)	2 (100)
Reduced hours (due to Covid-19)	45 (42.7)	7 (6.4)	16 (15.3)	17 (16.2)	21 (19.5)	106 (100)
Business as usual	163 (42.9)	50 (13.3)	80 (20.9)	17 (4.4)	70 (18.5)	381 (100)
Do not know	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)

Source: Constructed by author using the ILO/ ERF COVID-19 Monitor

Table 3.4 shows the detailed breakdown for the distribution of firms by business challenges and economic activity. The most-reported challenge faced by businesses in Tunisia was difficulties in accessing customers due to mobility restrictions (65 per cent) in wave 1. This changed in the following waves where the most-reported business challenge was the reduction in the availability or price increases of the main inputs (83 per cent in wave 2 and 69 per cent in wave 3).

Similarly, most firms reporting challenges with accessing inputs in the third wave operated in manufacturing and agriculture (49.7 per cent), followed by trade and retail (20.2 per cent). The next most frequent business challenge in wave 3 was the loss in demand, followed by mobility restrictions in accessing customers. Overall, firms in manufacturing and agriculture and trade and retail were the most to report facing business challenges.



► **Table 3-4:** Business challenges by economic activity

Business challenge		Number of firms (share, %)	Manu. & Agri.	Const.	Trade & retail	Accom. & food	Services	All activities
Difficulties in accessing customers mobility restrictions	Wave 1	Not Mentioned	40 (24.2)	19 (11.7)	38 (22.8)	9 (5.4)	60 (35.9)	166 (100)
		Mentioned	108 (34.7)	36 (11.6)	68 (21.9)	44 (14.2)	55 (17.6)	311 (100)
		Total	148 (31)	55 (11.6)	106 (22.2)	53 (11.2)	114 (24)	477 (100)
	Wave 2	Not Mentioned	106 (48.7)	19 (8.7)	28 (12.7)	16 (7.3)	49 (22.5)	218 (100)
		Mentioned	116 (41.1)	31 (11.1)	56 (19.9)	23 (8.1)	56 (19.8)	282 (100)
		Total	222 (44.4)	50 (10.1)	84 (16.8)	39 (7.8)	105 (21)	500 (100)
	Wave 3	Not Mentioned	92 (43.7)	16 (7.8)	39 (18.4)	15 (7.2)	49 (22.9)	212 (100)
		Mentioned	128 (44.5)	42 (14.5)	57 (19.7)	19 (6.5)	42 (14.7)	288 (100)
		Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)
Loss in demand due to other customer reasons	Wave 1	Not Mentioned	50 (30)	13 (7.7)	39 (23.2)	10 (6)	56 (33.1)	167 (100)
		Mentioned	98 (31.6)	43 (13.7)	67 (21.7)	43 (14)	59 (19)	310 (100)
		Total	148 (31)	55 (11.6)	106 (22.2)	53 (11.2)	114 (24)	477 (100)
	Wave 2	Not Mentioned	80 (46.6)	16 (9.4)	25 (14.6)	4 (2.5)	46 (27)	171 (100)
		Mentioned	142 (43.3)	34 (10.4)	59 (17.9)	35 (10.5)	59 (17.9)	329 (100)
		Total	222 (44.4)	50 (10.1)	84 (16.8)	39 (7.8)	105 (21)	500 (100)
	Wave 3	Not Mentioned	77 (49.3)	16 (10.5)	23 (14.6)	8 (4.8)	32 (20.7)	156 (100)
		Mentioned	144 (41.9)	42 (12.2)	73 (21.2)	27 (7.7)	59 (17.1)	344 (100)
		Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)

Difficulties in accessing suppliers due to mobility restrictions	Wave 1	Not Mentioned	57 (23)	26 (10.5)	61 (24.7)	29 (11.5)	76 (30.4)	249 (100)
		Mentioned	91 (39.8)	29 (12.9)	45 (19.6)	25 (10.8)	39 (16.9)	228 (100)
		Total	148 (31)	55 (11.6)	106 (22.2)	53 (11.2)	114 (24)	477 (100)
	Wave 2	Not Mentioned	110 (41.7)	24 (8.9)	41 (15.6)	23 (8.9)	66 (24.9)	264 (100)
		Mentioned	112 (47.5)	27 (11.3)	43 (18)	15 (6.5)	39 (16.7)	236 (100)
		Total	222 (44.4)	50 (10.1)	84 (16.8)	39 (7.8)	105 (21)	500 (100)
	Wave 3	Not Mentioned	107 (41)	26 (10)	47 (18.2)	22 (8.4)	58 (22.3)	260 (100)
		Mentioned	114 (47.6)	32 (13.4)	48 (20.2)	12 (5)	33 (13.8)	240 (100)
		Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)
Reduction in the availability/ price increases for the main inputs	Wave 1	Not Mentioned	64 (23.8)	25 (9.3)	58 (21.6)	28 (10.2)	94 (35.1)	269 (100)
		Mentioned	84 (40.4)	30 (14.6)	48 (23.1)	26 (12.4)	20 (9.6)	208 (100)
		Total	148 (31)	55 (11.6)	106 (22.2)	53 (11.2)	114 (24)	477 (100)
	Wave 2	Not Mentioned	27 (31.5)	1 (1.1)	13 (15.1)	9 (10.6)	36 (41.7)	86 (100)
		Mentioned	195 (47.1)	49 (11.9)	71 (17.1)	30 (7.2)	69 (16.7)	414 (100)
		Total	222 (44.4)	50 (10.1)	84 (16.8)	39 (7.8)	105 (21)	500 (100)
	Wave 3	Not Mentioned	24 (22.9)	5 (4.8)	15 (14.9)	14 (13.6)	45 (43.7)	103 (100)
		Mentioned	197 (49.7)	53 (13.5)	80 (20.2)	20 (5)	46 (11.6)	397 (100)
		Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)
Difficulties with worker absenteeism	Wave 1	Not Mentioned	120 (29.8)	42 (10.5)	93 (23.3)	46 (11.5)	100 (24.9)	402 (100)
		Mentioned	28 (37.5)	13 (17.3)	13 (16.8)	7 (9.4)	14 (19)	75 (100)
		Total	148 (31)	55 (11.6)	106 (22.2)	53 (11.2)	114 (24)	477 (100)

	Wave 2	Not Mentioned	91 (40.1)	14 (5.9)	40 (17.4)	25 (11.1)	58 (25.4)	228 (100)
		Mentioned	131 (48)	37 (13.5)	44 (16.3)	14 (5)	47 (17.3)	272 (100)
		Total	222 (44.4)	50 (10.1)	84 (16.8)	39 (7.8)	105 (21)	500 (100)
	Wave 3	Not Mentioned	66 (34.1)	18 (9.1)	45 (23.3)	19 (10)	45 (23.5)	194 (100)
		Mentioned	155 (50.5)	41 (13.3)	51 (16.5)	15 (4.8)	46 (14.9)	306 (100)
		Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)
Difficulties tending to my business b/c care giving	Wave 1	Not Mentioned	124 (29.4)	51 (12.1)	93 (22)	53 (12.5)	102 (24.2)	422 (100)
		Mentioned	24 (43.8)	4 (8.2)	13 (24.4)	1 (1.3)	12 (22.4)	55 (100)
		Total	148 (31)	55 (11.6)	106 (22.2)	53 (11.2)	114 (24)	477 (100)
	Wave 2	Not Mentioned	135 (44.5)	21 (6.9)	56 (18.4)	22 (7.3)	70 (22.9)	304 (100)
		Mentioned	87 (44.2)	29 (15)	28 (14.3)	17 (8.5)	35 (18)	196 (100)
		Total	222 (44.4)	50 (10.1)	84 (16.8)	39 (7.8)	105 (21)	500 (100)
	Wave 3	Not Mentioned	122 (45.2)	26 (9.5)	48 (17.6)	17 (6.4)	58 (21.3)	270 (100)
		Mentioned	99 (43)	33 (14.2)	48 (21)	17 (7.4)	33 (14.5)	230 (100)
		Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)
Other difficulty (specify)	Wave 1	Not Mentioned	143 (31.3)	53 (11.5)	105 (22.9)	50 (11)	106 (23.2)	457 (100)
		Mentioned	5 (23.9)	3 (14.6)	1 (6)	3 (15)	8 (40.6)	20 (100)
		Total	148 (31)	55 (11.6)	106 (22.2)	53 (11.2)	114 (24)	477 (100)
	Wave 2	Not Mentioned	209 (45.5)	41 (8.9)	77 (16.8)	35 (7.6)	98 (21.3)	459 (100)
		Mentioned	13 (32.6)	9 (22.6)	7 (16.6)	4 (10.2)	7 (17.9)	41 (100)
		Total	222 (44.4)	50 (10.1)	84 (16.8)	39 (7.8)	105 (21)	500 (100)

No particular challenge	Wave 3	Not Mentioned	217 (44.2)	57 (11.6)	95 (19.2)	34 (6.9)	89 (18.1)	492 (100)
		Mentioned	4 (45.2)	1 (15.1)	1 (15)	0 (0)	2 (24.7)	8 (100)
		Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)
	Wave 1	Not Mentioned	137 (31.3)	54 (12.3)	95 (21.7)	53 (12.1)	99 (22.7)	439 (100)
		Mentioned	11 (28.2)	2 (4.3)	11 (28.8)	0 (0)	15 (38.8)	38 (100)
		Total	148 (31)	55 (11.6)	106 (22.2)	53 (11.2)	114 (24)	477 (100)
	Wave 2	Not Mentioned	217 (45.1)	50 (10.5)	81 (16.9)	39 (8.1)	94 (19.5)	481 (100)
		Mentioned	5 (26.8)	0 (0)	3 (13.8)	0 (0)	11 (59.4)	19 (100)
		Total	222 (44.4)	50 (10.1)	84 (16.8)	39 (7.8)	105 (21)	500 (100)
	Wave 3	Not Mentioned	218 (45.2)	58 (12.1)	93 (19.4)	31 (6.4)	82 (17)	483 (100)
		Mentioned	3 (16.5)	0 (0)	2 (13.5)	3 (18.7)	9 (51.3)	17 (100)
		Total	221 (44.2)	58 (11.7)	96 (19.1)	34 (6.8)	91 (18.2)	500 (100)

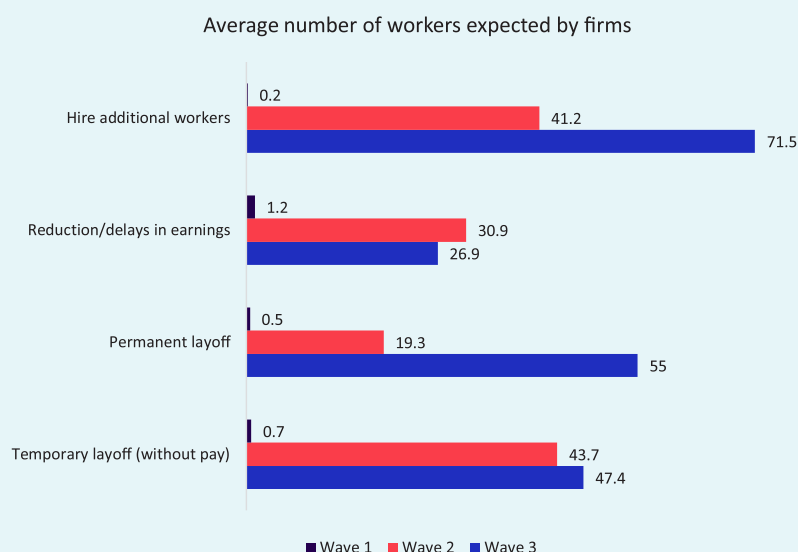
Source: Constructed by author using the ILO/ ERF COVID-19 Monitor



Employment

Firms were also asked about their workforce expectations for the next six months. Figure 4.1 shows firms planned hires, layoffs, or cuts or delays in wage payments, for the upcoming six months. The difference in responses between waves is quite stark. Firms in the first wave only expected to hire 0.2 additional workers on average while expected to hire 41.2 workers in the second, further increasing to 71.5 in the third. The hiring expectations of firms suggest that they expect to have increased business activities for the next six months. However, firms in the second and third waves also expected to reduce and/or delay the earnings of 30.9 workers on average in the second and 26.9 workers in the third wave. Firms also reported a large increase in their expected temporary and permanent layoffs, from 18.3 and 43.7 workers respectively on average in wave 2 to 55 and 47.4 in the third wave.

► **Figure 4-1:** Employment expectations



Source: Constructed by author using the ILO/ ERF COVID-19 Monitor



Appendix

Inverse probability weighting was undertaken to account for the sampling strategy and non-response. Weights had the following inputs:

- Total number, T , of firms in the stratum, s , in the sampling frame (T_s)
- Number, N , of firms in the stratum, s , successfully completed in the sample (N_s)
- Share of firms successfully contacted in the stratum that were eligible (e_s)

The weight for a firm, f , in stratum s is calculated as:

$$w_{(f,s)} = (T_s * e_s) / N_s$$

We adjust the total number of firms in the sampling frame to account for the fact that not all firms were eligible by multiplying the sample frame number of firms in the strata, T_s , by the fraction eligible among contacted firms, e_s . Weights are then normalized to have a mean of one. The resulting weight is the same for all firms that are in the same stratum. In Morocco the weight also accounts for the number of firms on the randomly selected page, N_p , as in:

$$w_{(f,s,p)} = (T_s * e_s) / N_s$$

We adjust the total number of firms in the sampling frame to account for the fact that not all firms were eligible by multiplying the sample frame number of firms in the strata, T_s , by the fraction eligible among contacted firms, e_s . Weights are then normalized to have a mean of one. The resulting weight is the same for all firms that are in the same stratum.

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