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ADWA' Advancing the Decent Work Agenda in North Africa

ECONOMIC RESEARCH FORUM منتدى البحوث الاقتصادية

Tunisia COVID-19 Country Case Study

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Key Messages

- At the beginning of the pandemic in spring 2020, Tunisia undertook a stringent lockdown, but substantially loosened its closure measures in summer 2020 (to levels well below the rest of North Africa).
- Cases and deaths were below regional and global averages at the start of the pandemic and then large waves occurred in late 2020 and in 2021, particularly in July-August 2021. The acceleration of the vaccination campaign substantially attenuated the health crisis.
- Tunisia, which already had a low GDP growth rate in 2019 (0.9 per cent), had an overall GDP contraction of 8.8 per cent for 2020. This contraction was mainly due to the spring lockdown but also to the trade openness of the Tunisian economy and its exposure to global value chains and tourism shocks.
- There was an improvement in labour market indicators from November 2020 to June 2021. Increases in employment and labour force participation rates were driven by men in February and April 2021 and women in June 2021.
- Household incomes improved from November 2020 to April 2021 and then deteriorated again in June 2021. The lower-income quartiles were hardest hit. The reversal in June 2021 was mainly driven by the deterioration of the income of the poorest quartile.
- Informal wage workers outside establishments and self-employed individuals experienced the largest declines in their incomes. The decline in income has been more persistent for the self-employed.
- The period from November 2020 to June 2021 was very difficult for farmers with fewer days worked, smaller harvests and lower expected prices. The main difficulties were access to inputs, likely due to the lockdown and financial reasons. The difficulty of disentangling the effects of the health and economic crisis from those of the drought that occurred over the same period must be kept in mind.
- Microenterprises reported more closures from November 2020 to February 2021 and fewer thereafter. However, this improvement in operational status was not translated into higher incomes. Access to inputs and loss in demand substituted for access to customers as the main difficulties facing microenterprises.
- Small and medium enterprises (SMEs) had fewer closures than microenterprises. Although closures were reduced in Quarter 2 of 2021, their income performance was much lower in Quarter 2 of 2021. The main difficulties faced by SMEs changed between Quarter 1 and Quarter 2 of 2021, with access to inputs becoming the main difficulty and worker absenteeism starting to impact their performance.

- A declining share of microenterprises reported adapting their business model over the first three waves but an increase in the share was observed in June 2021. For SMEs, adaptation of the business model was very low in the first quarter but substantially improved in the second. The main way to reduce physical contact with customers for microenterprises was the phone, while for SMEs, it was the web and social media.
- Half of SMEs applied for and received government support, while only one fourth of microenterprises did. The most common form of support for SMEs was business loans and salary subsidies, while for microenterprises loans represented the bulk of the support. Government support dropped between Quarter 1 and Quarter 2 of 2021.
- Only 10 to 15 per cent of households reported being food secure during the survey period. Between 50 and 60 per cent of households had to reduce meals and portions.
- The most common household coping strategies were spending their savings and relying on family support. Only one fifth of households received some form of government support. Government assistance was mainly targeted to the first and second quartiles of income and decreased over time.
- Most children were back to school by February 2021. Online education was modest. The burden put on households, particularly on women, in terms of childcare increased with the return to classes.
- The share of respondents worried about infection with COVID-19 increased substantially in June 2021, which was the worst wave in Tunisia. This concern with infection was in the opposite direction of precautionary behaviours, which were falling The proportion of respondents reporting low wellbeing, which was stable at high rates between February 2020 and April 2021, increased substantially in June 2021 following the deadly summer 2021 COVID-19 wave.

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1. Introduction

The first COVID-19 wave had mainly economic and social rather than health consequences in Tunisia, given the rapidity and severity of authorities' responses. Economic, social, and political constraints prevented the country from implementing more stringent measures to manage subsequent waves. As a result, COVID-19 had much more damaging consequences on Tunisian lives and livelihoods thereafter, particularly in the summer of 2021. The acceleration of the vaccination campaign in August 2021 allowed the country to return to a very low COVID-19 caseload and the number of deaths fell substantially at the end of September 2021.

In this country report we focus on how Tunisian households and micro, small, and medium enterprises were affected by the pandemic through June 2021. This analysis is based on a series of phone panel surveys targeting individuals with mobile phones aged 18-64. The COVID-19 MENA Monitor also included a firm panel survey targeting private sector firms with 6-199 workers prior to the start of the COVID-19 crisis (in February 2020)[1].

The main objective of the report is to analyse livelihood outcomes and highlight who was particularly affected by the pandemic. We examine pandemic containment measures, pre-existing challenges, and key policy issues such as government support to households and enterprises.

We find steady improvement in labour market indicators from November 2020 to June 2021. Increases in employment and labour force participation rates were mainly driven by men in February and April 2021 and women in June 2021. Labour market outcomes impacted household incomes, which improved from November 2020 to April 2021, and then deteriorated again in June 2021. Moreover, the impact on household income varied across income categories and labour market statuses. The lower three quartiles of households experienced much larger losses than the highest income quartile, particularly the poorest quartile in June 2021. Informal wage workers outside establishments and self-employed individuals experienced the largest declines in their incomes.

The survey period was also very difficult for farmers due mainly to difficulties accessing inputs, likely because of the lockdown, financial constraints, and drought. Data from non-farm enterprises showed that small and medium enterprises (SMEs) had much fewer closures than microenterprises. Moreover, half of SMEs applied for and received government support, while only one fourth of microenterprises did so. Access to inputs and loss in demand substituted for access to customers as the main difficulties facing enterprises over time. The main adaptation tool for microenterprises was the phone, while for SMEs it was the web and social media.

The large majority of households reported experiencing food insecurity due to higher food prices and lower incomes. More than half of households even had to reduce meals and portions. They coped with the difficulties of the pandemic by using their savings and relying on family support and government support, particularly for the poorest quartile of households.

As for education, Tunisia's reliance on online delivery was modest. Most children were back to school by February 2021. However, the burden put on households in terms of childcare, and particularly on women, increased with the return to classes. Homework was presumably more demanding than in pre-pandemic years because social distancing measures imposed a lighter presence at school.

Worry about infection with COVID-19 increased substantially in June 2021 following the beginning of the worst COVID-19 wave in Tunisia. This concern with infection went in the opposite direction of precautionary behaviours, which were falling gradually since November 2020. A substantial increase in the proportion of people reporting low wellbeing, which was already high, was observed in June 2021.

[1]See the appendices for further details on telephone coverage in Tunisia, sampling, response rates, attrition, and weighting. All analyses presented in this study incorporate the sample weights.

2. Country context

The Tunisian economy can be described as an open economy in terms of its trade openness[2], which is high relative to other countries in MENA (World Bank 2021). Tunisia's trade openness and the large role of services in the economy have contributed to the sizeable pandemic era economic contractions (World Bank 2021). Moreover, the tourism sector, which played a key role in Tunisia's economy, was the most affected by the pandemic, as well as international trade (World Bank 2020). Moreover, Tunisia experienced substantial political instability leading to the president dismissing the prime minister, suspending parliament, and ruling by decree in late July 2021. Although our data predate these political events, they are important to keep in mind in understanding the policy responses and way forward.

The Tunisian economy, which was already in a bad shape in 2019, endured a harsh blow with the pandemic. Tunisian GDP contracted by 8.8 per cent in 2020 after modest growth of 0.9 per cent in 2019. The most affected sectors were "hotels and restaurants", which contracted by 77.3 per cent in the second quarter of 2020 relative to the same quarter a year earlier, and "transport", which sank by 51.4 per cent in the same period (Institut National de la Statistique (INS) 2021a; Krafft, Assaad, and Marouani 2021b). There was a slight recovery in the third and fourth quarters of 2020, but most sectors' growth remained negative relative to the same quarter in the previous year.

The government adopted a series of economic support and social protection policies to alleviate the effects of the crisis on firms and households. The emergency response cost 2.6 billion Tunisian dinar (TND), which represents 2.3 per cent of GDP (IMF 2021; Krafft, Assaad, and Marouani 2021c). The response included several measures to ease the burden on firms by postponing tax payments, social insurance contributions and loan reimbursements (IMF 2021; Krafft, Assaad, and Marouani 2021b). In addition, the government introduced a state guarantee for new credit that was extended in the 2021 budget law. The Central Bank also eased monetary policies and the regulatory standards for the banking sector and was allowed by the parliament to directly finance the government budget with TND 2.6 billion (IMF 2021).

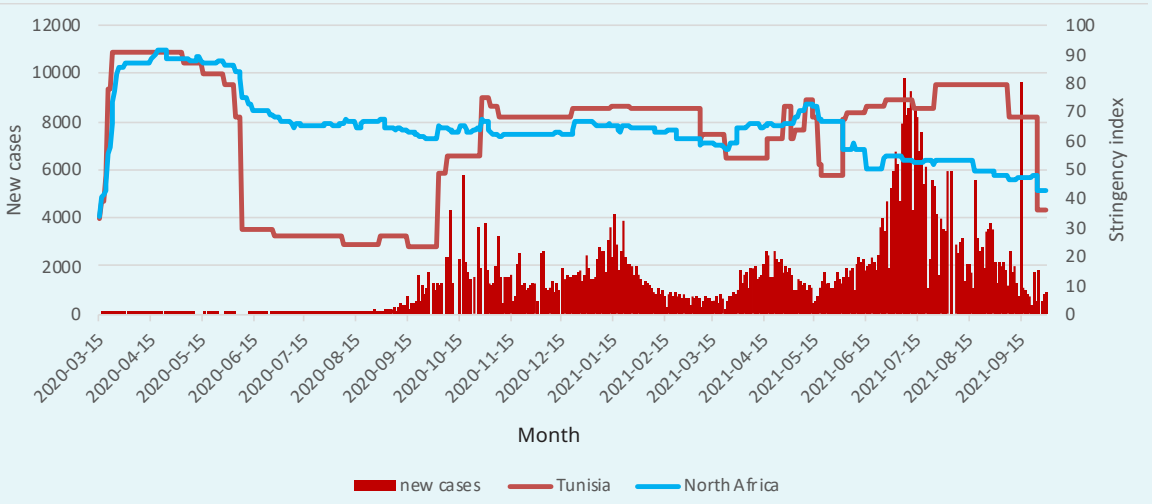
Several vulnerable groups of people received emergency cash transfers to cope with the crisis. Support relied on regular social protection schemes by targeting households enrolled in the national anti-poverty cash transfer program (PNAFN) and in subsidised health insurance schemes (AMGII) and some received one-off transfers (mainly during the full lockdown period) (Hassen, Marouani, and Wojcieszynski 2021). The Central Bank also postponed household loan payments for three to six months in Spring 2020 in order to support middle-class workers who did not benefit from cash transfers (Hassen, Marouani, and Wojcieszynski 2021).

[2]Exports plus imports.

2.1 COVID-19 case trends and health response

Tunisia adopted a very stringent lockdown regime at the beginning of the COVID-19 outbreak. However, political instability and high social and economic costs led to an end of the containment policy, which was reflected in a substantial drop in the stringency index[3] (Figure 1) from 80 to 27 between May 2020 and June 2020. This shift was, in turn, followed by an upsurge in the number of cases in the fall. This fall 2020 wave of the virus marked the real beginning of the epidemic in Tunisia, which, coupled with a stuttering vaccination campaign in its early stages and the advent of the delta variant, caused the health situation in Tunisia to deteriorate in July 2021 with higher numbers of cases (Figure 2) and deaths (Figure 3) than in the previous waves and than in neighbouring countries.

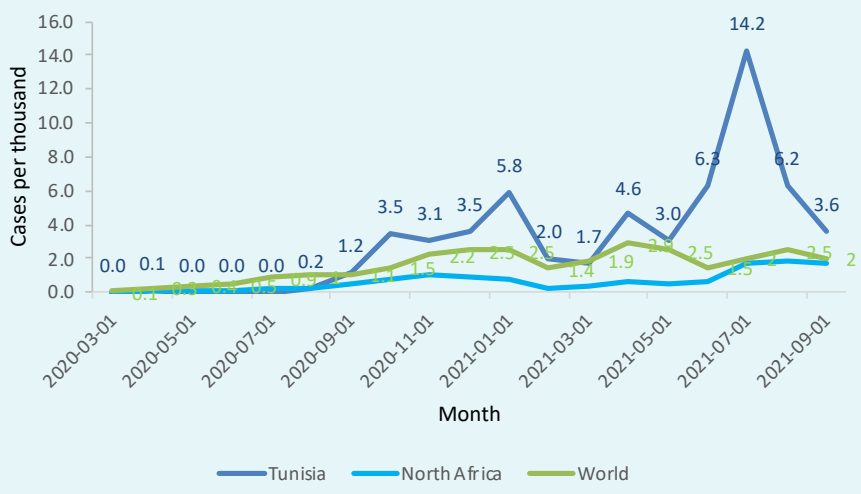
Figure 1: Stringency index for closure measures in Tunisia and North Africa and number of new cases per day in Tunisia



Source: Author's creation using data provided by Hale et. al. (2021) and Ritchie et al. (2021)

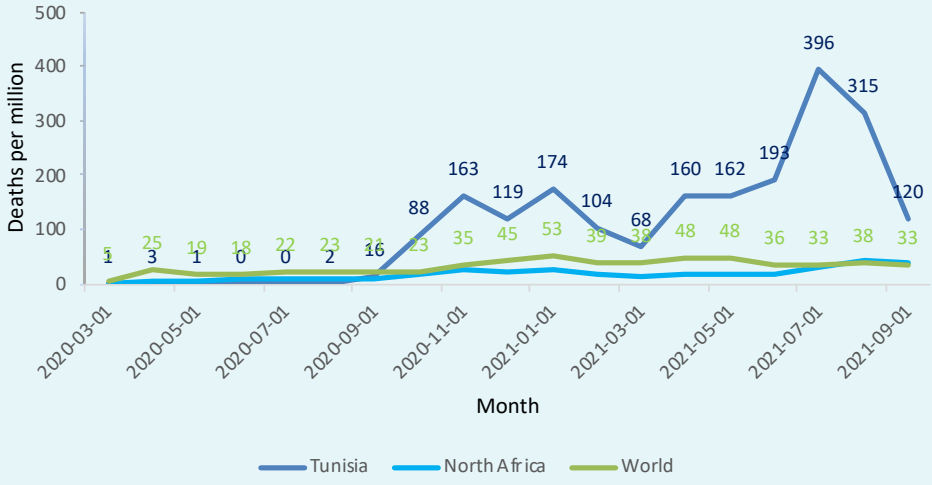
[3]The stringency index is a measure (ranging from 0 to 100) of the strictness of lockdown policies developed by the COVID-19 government response tracker project of the Blavatnik School of Government, Oxford University. See Hale et. al. (2021).

Figure 2: COVID-19 new cases per thousand per month in Tunisia, North Africa and the world, March 2020 to September 2021



Source: Author's computation using data provided by Ritchie et al. (2021)

Figure 3: COVID-19 new deaths per million per month in Tunisia, North Africa and the world, March 2020 to September 2021



Source: Author's computation using data provided by Ritchie et al. (2021)

The first case of coronavirus in Tunisia was detected on March 2nd, 2020. Two weeks later, the government implemented a very stringent set of measures to contain the spread of the virus. These measures included international border closures, school closings at all levels, all but essential workplace closures and restrictions on gathering and internal movements as shown in Table 1 below. All these measures led to a stringency index of 91 from March 22nd until May 3rd, 2020, among the highest in the world. The severe lockdown measures helped contain the virus spread as shown by the number of cases, which remained at a very low level from the start of the outbreak and throughout the summer of 2020. The authorities then proceeded to loosen the restriction measures substantially, making Tunisia one of the world's least restrictive country by mid-June 2020.

▶ **Table 1.** Timeline of government responses to COVID-19

	Response
Late March - April 2020	• School closing at all levels • Requiring closing for all-but-essential workplaces • Require cancelling of public events • Restrictions on any gatherings • Recommend closing of public transport • Stay-at-home with exceptions for essential trips • Internal movement restrictions • Total border closure
May – June 2020	• School closings loosened in late May • Workplace restrictions loosened in early May and lifted in early June • Cancelation of public events lifted in early June • Restrictions on gatherings lifted in early June • Closing of public transport lifted in early June • Stay-at-home loosened in mid-May and lifted in early June • Restrictions on internal movements lifted in early June
July – September 2020	• Restrictions on international travel loosened in early August and reinstated in late August
October – December 2020	• School closings reinstated in late October but loosened in mid-November • Workplace closings recommended in early October • Requirement to cancel public events reinstated in early October • Restrictions on all gatherings reinstated in early October • Stay-at-home requirements with exceptions reinstated in early October • Restrictions on internal movements reimposed in late October • International travel restrictions lifted in early November

January – March 2021	• Vaccination campaign launched mid-March • School closings loosened in early March • Cancelation of public events switched to recommendation in early March • Closing of public transport reinstated in late January and loosened in early March • Restrictions on international travel loosened in early March
April - June 2021	• Closure of schools until late April • Restrictions on internal movements • General lockdown from midnight through 05:00 (mid-May) • Internal movement permitted in mid-May • Schools opened first and then universities after the general lockdown in mid-May • Curfew from 22:00 to 05:00 from the end of June • Localized measures for regions experiencing a rise in COVID-19 cases • Closure of non-essential businesses in the end of June for all governorates and then for regions exceeding an infection rate of (200 cases/100,000 inhabitants • General lockdown for the most affected regions (over 400 cases/100,000 residents) • Ban on travel to and from governorates with an infection rate above 200 per 100,000
July - August 2021	• Night curfew with an infection rate greater than 200/100,000 inhabitants • Nationwide curfew reinstated in mid-August • Inter-city ban and ban on gatherings of at least three people in public spaces • Nation-wide curfew from 19:00 to 06:00 in late July • Vaccination has been made available for people over 40 years old • National vaccination against COVID-19 in early August

Source: Data on stringency index and closure measures is from Hale et al. (2021).

Note: Unless a change in closure restrictions is noted, the restrictions are assumed to be the same as those of the previous period.

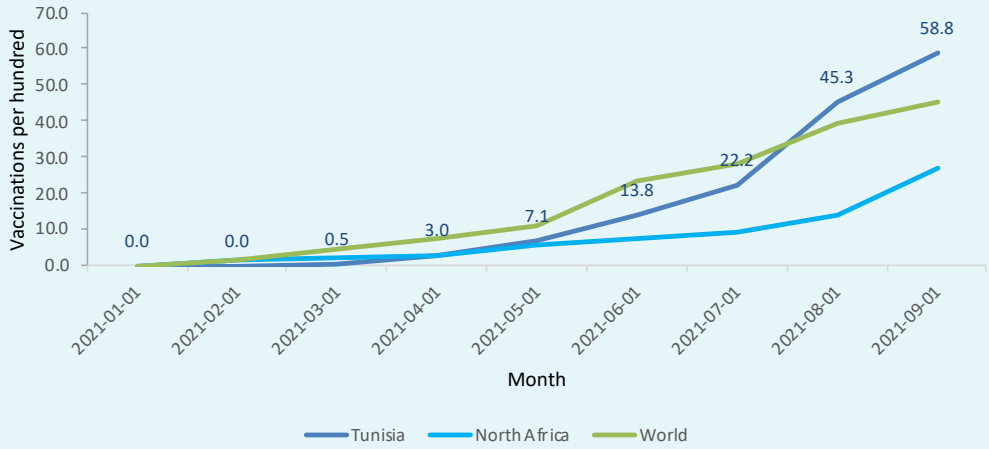
The Tunisian stringency index was much more volatile than neighbouring countries (Figure 1). This volatility can be attributed to several factors including political instability and the high economic and social costs that very strict lockdowns imply and which Tunisia could not afford. We can also see that after every phase of loosening restrictions came a wave of COVID-19. However the magnitude of the waves do not seem to be proportional to the reduction in the stringency index. Finally it is worth noting that the indices are based on a set of measures which may be announced but not necessarily applied.

With the loosening of restrictions in Summer 2020 came a resurgence of the pandemic. New cases per thousand per month went from 0.2 in August 2020 to 1.2 in September 2020 and then to 3.5 in October 2020 (Figure 2). This resurgence in the number of cases led to a resurgence in the number of deaths from 2 per million in August 2020 to 16 in September 2020 and then to 88 in October 2020 (Figure 3), far above the North Africa average and the world average at that time. These resurgences brought about a new set of restrictive measures that helped curb the spread of the virus during the first months of 2021. The number of cases per thousand per month went from a peak of 5.8 in January 2021 to 2.0 in February and then 1.7 in March.

Following this relative success in early 2021, the stringency index experienced a major decline in May 2021, going from 72 at the end of April 2021 to 48 at the end of May 2021. This decline was followed by a very strong resurgence of cases and deaths during the summer of 2021 with an all-time peak of 14.2 cases per thousand and 396 deaths per million in July 2021. Tunisia was in a critical situation with the near collapse of the health system for lack of space and oxygen (Saleh 2021). The country had to rely on external assistance of medical equipment and vaccines to regain control of the health situation and accelerate its vaccination campaign.

The vaccination campaign started slowly, although the vaccines were approved in the first months of 2021 (Figure 4). At the end of April 2021, the number of vaccines administered corresponded to the North African average of 3 per hundred. It was not until August 2021 with the arrival of vaccine donations that reached 6 million doses (Reuters 2021) that the vaccination campaign really accelerated. National vaccination days were organized in August and September, where hundreds of thousands of people received injections (sometimes even around 500,000 per day). In September the number of vaccines administered exceeded the world average and reached 58.8 vaccinations per hundred.

Figure 4: Cumulative number of vaccinations per hundred in Tunisia, North Africa and the world, January 2021 to August 2021



Source: Author's computation using data provided by Ritchie et al. (2021). Tunisian data was completed from the Tunisian Platform for vaccination Evax.tn ("Vaccin Anti Coronavirus." 2021), since some data were missing. Algeria was excluded from North Africa due to lack of data.

2.2 Economic and social protection responses

To mitigate the consequences of the pandemic, several measures were implemented. An emergency plan equal to 2.3 per cent of GDP (2.6 billion TND) on March 21, 2020 and direct fiscal measures were established (IMF 2021). This level of support is slightly lower than the MENA average of 2.7 per cent of GDP (Organisation for Economic Co-operation and Development (OECD) 2020) and much lower than the world average of 10.2 per cent of GDP (Organisation for Economic Co-operation and Development (OECD) 2021). Low fiscal space and debt financing considerations are among the main reasons explaining the weakness of the Tunisian economic response to the crisis.

A fund of 100 million TND was dedicated to health and food expenditures (Krafft, Assaad, and Marouani 2021b; World Bank 2020). The government announced the creation of investment funds (1500 million TND), a state guarantee for new credit (1500 million TND), and the compensation by the state of the difference between the effective interest rate on investment loans (3 per cent) and the policy rate. At the end of October 2020, a direct monetary financing plan was granted with an interest-free facility and for a maturity of 5 years to the government (2.8 billion TND) (Abouzzohour and Ben Mimoune 2020; Hassen, Marouani, and Wojcieszynski 2021; IMF 2021; Krafft, Assaad, and Marouani 2021c; b).

Voluntary solidarity contributions from businesses and citizens were taken through a fund created by the government called Fund 1818 (200 million TND) (Hassen, Marouani, and Wojcieszynski 2021; IMF 2021). At the beginning of the pandemic, direct adverse effects of the pandemic were addressed through additional resources to the health sector and access to necessary goods. Strategic food, sanitary product, and medical equipment stock were made, although the supply did not match the demand at the beginning of the pandemic. Medical equipment received several rounds of funding, such as the one provided by the Caisse des Dépôts et des Consignations (Organisation for Economic Co-operation and Development (OECD) 2021). Off-budget funds were also used to finance medical supplies (Abouzzohour and Ben Mimoune 2020; Hassen, Marouani, and Wojcieszynski 2021; IMF 2021; Krafft, Assaad, and Marouani 2021c; b).

2.2.1 Sectors and enterprises

Specific measures were taken for the most impacted sectors and enterprises in the 2021 Budget Law (IMF 2021). A specific unit was created to address the protection of jobs. For tourism, the deferral of loan repayments was extended to September 2021. To support the tourism sector, 500 million TND were allocated in loans at 2 per cent interest to support firms to pay salaries until March 2021 (Abouzzohour and Ben Mimoune 2020). Taxes for firms were suspended. The 2021 budget law extended the state guarantee scheme set up in 2020 (Abouzzohour and Ben Mimoune 2020; IMF 2021; Krafft, Assaad, and Marouani 2021c; b).

To support businesses affected by the closure policies, off-budget funds, support funds and a specific package from the Central Bank of Tunisia (CBT) were mobilized to finance the priority sectors (IMF 2021). A guarantee fund was established for the private sector. Furthermore, two support funds were put in place: an emergency fund ($300 million) for SMEs and an investment fund (500 million TND) (Abouzzohour and Ben Mimoune 2020).

Second, the reimbursement of the Value-Added Tax (VAT) for enterprises was accelerated and cash support was provided to firms (April-May 2020) (IMF 2021). In parallel, repayments for tax arrears and corporate taxes were postponed. Exporting companies were allowed to sell their production locally. Lastly, penalties were suspended, and the Cash-In-Transit (CIT) payment was exempted in 2021. Social insurance contributions (CNSS) were deferred for a three-month period (Abouzzohour and Ben Mimoune 2020).

On the monetary front, the Central Bank of Tunisia (CBT) reduced its policy rate twice in March and October of 2020, leading to a total decrease of 125 basis points (bps) (IMF 2021). Second, eligible collateral for CBT refinancing operations was expanded. Third, refinancing instruments with maturities of 1-3 months were introduced to expand the liquidity management toolkit in January 2021. The private sector was subject to deferred payment on effective loans, and fees were postponed for withdrawals and electronic payments. The CBT required the suspension of the reimbursement of credit for a period of 3-6 months, depending on the level of household income. (Abouzzohour and Ben Mimoune 2020; IMF 2021).

2.2.2 Workers and social transfers

Support for unemployed and self-employed workers and cash transfers to low-income households were provided in response to the pandemic. A day of salary was withheld from all workers (IMF 2021). An agreement between the employers' association Union Tunisienne de l'Industrie, du Commerce et de l'Artisanat (UTICA) and the trade union Générale Tunisienne du Travail (UGTT) in April 2020 helped workers to receive their full salary during the initial lockdown (International Labour Organization 2020). This underscores the role played by trade unions in the ongoing social dialogue and the importance of tripartism in decision making about social policy in Tunisia. Workers with incomes lower than 1000 TND were authorized to postpone loan payments. A decree was issued to protect workers against potential loss of their job for pandemic-related reasons (Abouzzohour and Ben Mimoune 2020)[4].

Support packages and grants were transferred to vulnerable populations and workers at risk of losing their jobs. Funding was established for displaced workers (300 million TND), but also cash transfers for vulnerable populations (Abouzzohour and Ben Mimoune 2020). By the end of June 2020, the government provided 300,000 support packages to vulnerable groups, gave grants to 460,000 workers and supported 15,000 institutions in an effort to prevent bankruptcies (Abouzzohour and Ben Mimoune 2020).

On the social support side, conditional and non-conditional cash transfers were made to households. Cash support was made at the beginning of the pandemic (April-May 2020) (Krafft, Assaad, and Marouani 2021a). Payments for temporarily unemployed and self-employed workers were given, with one additional pension payment (mid-May 2020). The main recipient populations for the household transfers were the following (Hassen, Marouani, and Wojcieszynski 2021):

- 260,000 households enrolled in PNAFN received 50 TND in addition to their monthly aid (180 TND), 370,000 households enrolled in AMGII received 200 TND
- 140,000 retired individuals received 100 TND if their pension was lower than 180 TND

2.3 Pre-existing labour market challenges

The Tunisian labour market pre-pandemic was facing issues including high rates of unemployment (15 per cent rate of unemployment as a share of the labour force, 27 per cent for higher education graduates in 2019) (Institut National de la Statistique (INS) 2021b), regional inequality between the coast and the interior regions (Hanmer, Tebaldi, and Verner 2018), and informality (El-Mekkaoui and Chaker 2020). Another issue was the high rate of youth not in education, employment or training (NEET) in rural areas (33 per cent for men, 50 per cent for women) but also in urban areas (20 per cent for men, 32 per cent for women) (World Bank 2014a).

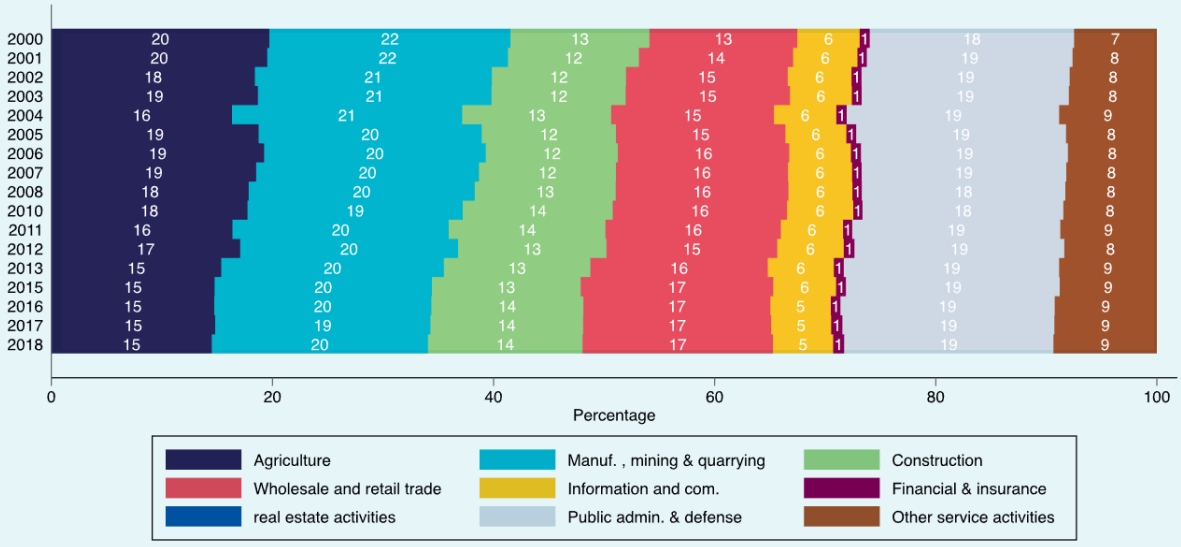
The country also had high discouraged unemployment, particularly among youth and in rural areas, as illustrated by the gap between broad unemployment and standard unemployment (Assaad, Ghazouani, and Krafft 2018a; Assaad and Krafft 2016). Moreover, the country is experiencing the so-called MENA paradox: the education gender gap has disappeared, but the participation of women in the labour market still remains low in the country (Assaad et al. 2020; Assaad, Ghazouani, and Krafft 2018a; b).

To understand the context, it is also relevant to discuss the structure of enterprises in Tunisia. According to UNDP (2020), 88 per cent of enterprises do not have employees and 97 per cent are microenterprises with five or fewer employees. Microenterprises account for 11 per cent of the total value added as of 2018 (UNDP 2020). The majority of microenterprises are operating in the informal sector (65 per cent) (UNDP 2020).

[4]Decree No. 2 of April 14, 2020.

The composition of employment in Tunisia experienced several shifts since 2000 (Figure 5). The share of agriculture decreased from one fifth of total employment to 15 per cent over the 2000-2018 period. The share of services increased from 46 per cent to 52 per cent during 2000-2018 (wholesale and retail trade grew particularly). Many of the jobs created were of low quality (World Bank 2014b). Manufacturing, which contributed to the emergence of a middle class in the country in the 1970s, has been losing ground, although slowly, marking a premature deindustrialisation of the country (ILO and ERF 2021). The share of public administration in employment remained high and constant over the period (18-19 per cent).

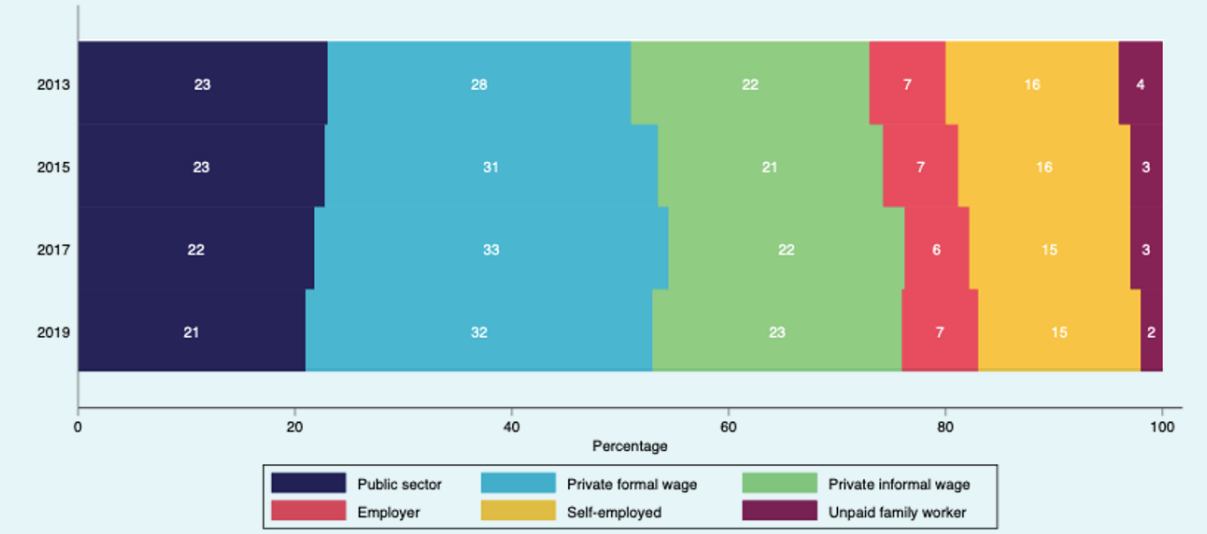
Figure 5: The distribution of employment by economic activity (percentage), employed individuals ages 15-64, 2000-2018



Source: ILO and ERF (2021)

In terms of employment status (Figure 6), the public sector remains quite important in employment (23 per cent in 2013 and 21 per cent in 2019). Between 2013 and 2019, the share of private formal wage employment increased 4 percentage points, while private informal wage work increased by 1 percentage point. Self-employed work decreased by 1 percentage point while unpaid family work decreased by 2 percentage points.

Figure 6: Employment status by year (percentage), ages 15-64, 2013-2019



Source: ILO and ERF (2021)

3. Data

This study relies on data from the COVID-19 MENA Monitor, a series of phone surveys targeting individuals with mobile phones aged 18-64. The COVID-19 MENA Monitor also included a firm survey targeting private sector firms with 6-199 workers prior to the start of the COVID-19 crisis (in February 2020)[5]. See the appendices for further details on telephone coverage in Morocco, sampling, response rates, attrition, and weighting. All analyses presented in this study incorporate the sample weights. Data are publicly available from the Economic Research Forum at *www.erfdataportal.com* (OAMDI 2021a; b).

The analyses in this study draw on both retrospective data (asking about characteristics in February 2020 or 2019) and contemporaneous data, asking about current or recent outcomes. Questions also ask for comparisons between current outcomes and pre-pandemic ones (e.g., how much income has changed over time). The household survey included specific modules for wage workers, farmers, household non-farm enterprises, and women, as well as questions asked to all respondents about themselves or their households. The household enterprise module is used in this study to provide data on microenterprises with 1-5 workers, which is compared with outcomes from the firm survey.

Dates for the COVID-19 MENA monitor fielding for Tunisia were as follows:

- Households: November 2020 wave: October 3 to December 5, 2020
- Households: February 2021 wave: January 1 to February 19, 2021
- Households: April 2021 wave: March 15 to April 16, 2021
- Households: June 2021 wave: May 21 to July 27, 2021
- Firms: Q1 2021 wave: January 21 to April 26, 2021
- Firms: Q2 2021 wave: May 26 to July 15, 2021

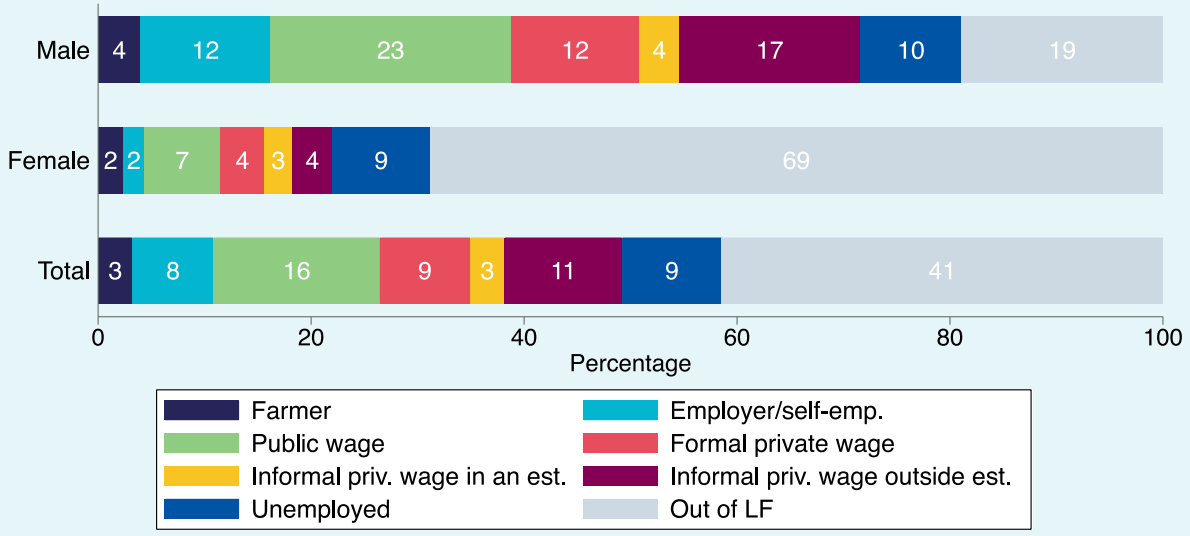
[5]See the appendices for further details on telephone coverage in Tunisia, sampling, response rates, attrition, and weighting. All analyses presented in this study incorporate the sample weights.

4. Results

4.1 Labour market outcomes

According to Figure 7, prior to the beginning of the COVID-19 pandemic (in February 2020) a large portion of the Tunisian adult population was out of the labour force (41 per cent). A high share of women (69 per cent) were out to the labour force, but a much smaller fraction of men were (19 per cent). Women reported working as public sector wage workers (7 per cent) or were unemployed (9 per cent, not an unemployment rate) more often than all other labour market statuses. Tunisian men were experiencing unemployment as well (10 per cent, not an unemployment rate). Most men worked as public sector wage workers (23 per cent), or as informal wage workers (without social insurance) outside establishments (17 per cent), or were an employer or self-employed (12 per cent). The large shares of public, informal and self-employed workers are important to keep in mind to understand the impact of the pandemic on Tunisian labour market outcomes.

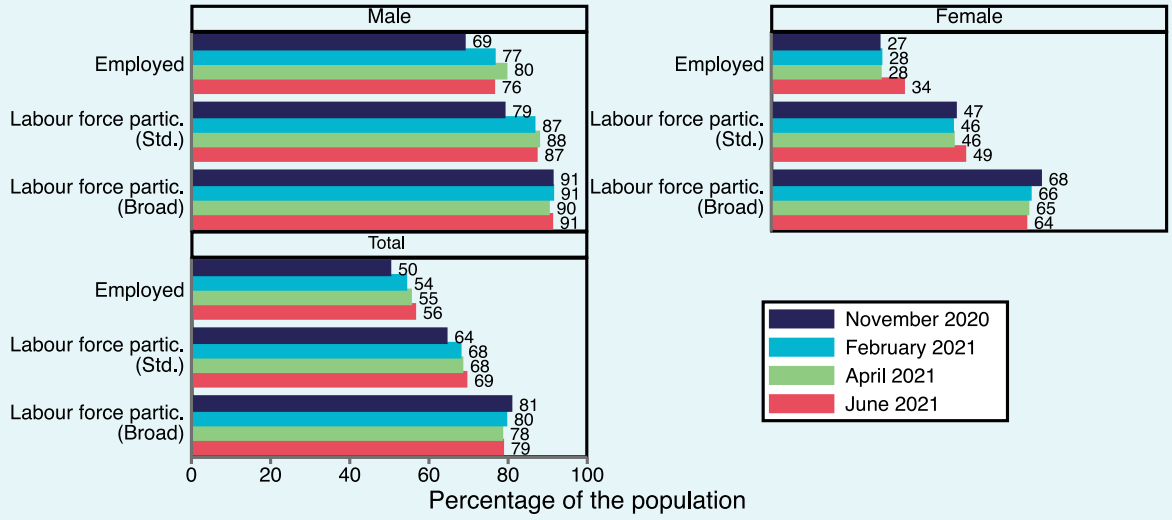
Figure 7: Labour market status in February 2020 (percentage), by sex



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020

Figure 8 shows employment and labour force participation rates during the COVID-19 pandemic. Overall, employment rates rose steadily, from 50 per cent in November 2020 to 56 per cent by June 2021. Among Tunisian men, there was an increase in the employment-to-population ratio between November 2020 (69 per cent) and February 2021 (77 per cent). This was followed by a further increase in men's employment rate to 80 per cent in April 2021 before falling back to 76 per cent in June 2021. Among Tunisian women, the employment to population ratio was steady around 27-28 per cent in November 2020 to April 2021 but increased to 34 per cent by June 2021. The labour forced participation rate by the standard (search required) definition followed a similar trend overall (from 64 per cent to 69 per cent) and mirrored the employment trends for men and women. Using the broad definition there was a decline of in the labour force participation rate between November 2020 (81 per cent) and June 2021 (79 per cent). This was driven by declines among women.

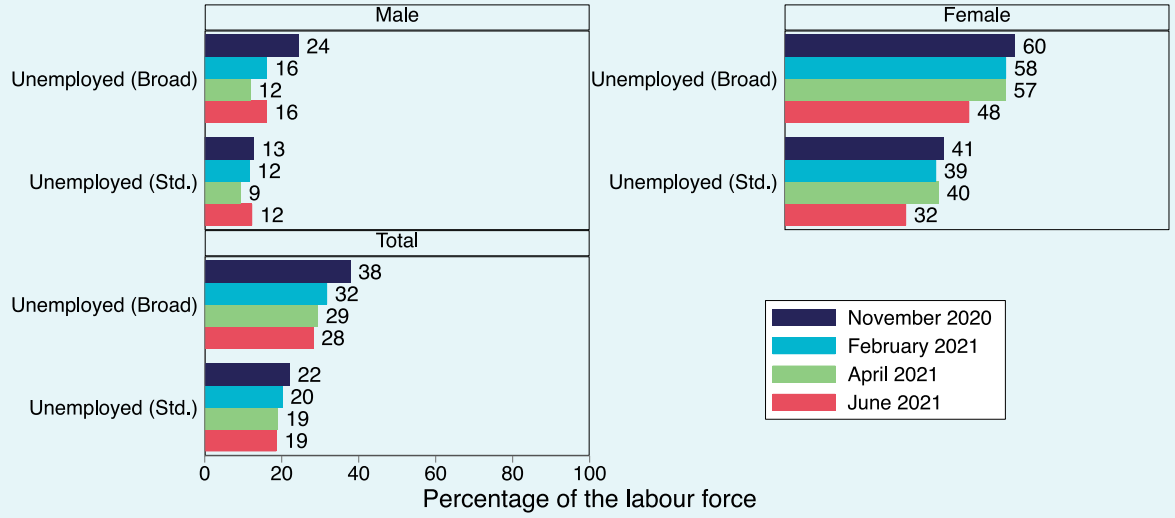
Figure 8: Labour force participation rates (standard and broad) and employment-to-population ratio (percentages), by sex and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Following the initial outbreak of COVID-19, 38 per cent of the labour force in November 2020 was unemployed by the broad definition and 22 per cent by the standard definition (Figure 9). Over time, unemployment rates steadily decreased to 28 per cent of the labour force (broad definition; 19 per cent by the standard definition) in June 2021. Women experienced much higher rates of unemployment than men. In November 2020, 60 per cent of women in the labour force were unemployed by the broad definition (41 per cent by the standard definition). During that same time, 24 per cent of men were unemployed by the broad definition (13 per cent by the standard definition). Among women, unemployment rates dropped substantially over April to June 2021(from 57 per cent to 48 per cent by the broad definition). Notably, the male labour force saw a steady decrease in unemployment between November 2020 and April 2021 (24 per cent to 16 per cent by the broad definition) and a marked increase between April and June 2021 (12 per cent to 16 per cent with the broad definition).

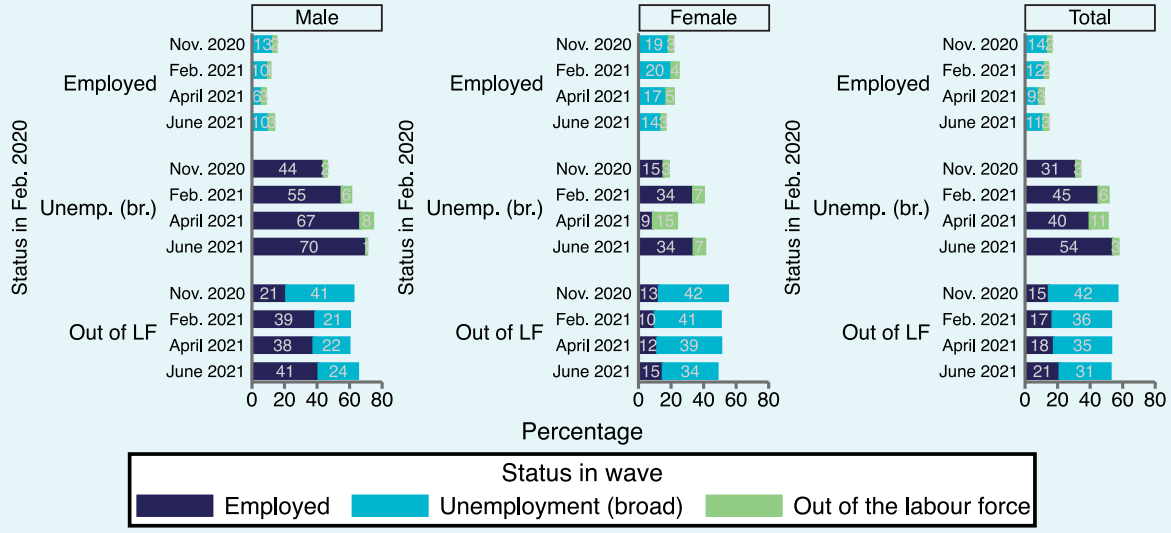
▶ **Figure 9:** Unemployment rates (standard and broad) (percentage of the labour force), by sex and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Figure 10 shows how labour market statuses changed for individuals depending on whether they were employed, unemployed or out of the labour force in February 2020, prior to the start of the pandemic. Among those employed in February 2020, 14 per cent were unemployed in November 2020 (19 per cent for women). The situation improved almost regularly until June 2021 (11 per cent unemployed; 14 per cent for women). Among those unemployed in February 2020, the peak of change was in June 2021, with 54 per cent becoming employed and 3 per cent leaving the labour force. While 70 per cent of unemployed men found jobs in June 2021, only 34 per cent of women did and 7 per cent of them left the labour force. Finally, most of those who were out of the labour force became unemployed (between 42 per cent in November 2020 to 31 per cent in June 2021) but few directly entered jobs (15 per cent in November 2020 to 21 per cent in June 2021). The share of individuals entering the labour force and finding jobs was much higher for men than for women (41 per cent for men versus 15 per cent for women in June 2021).

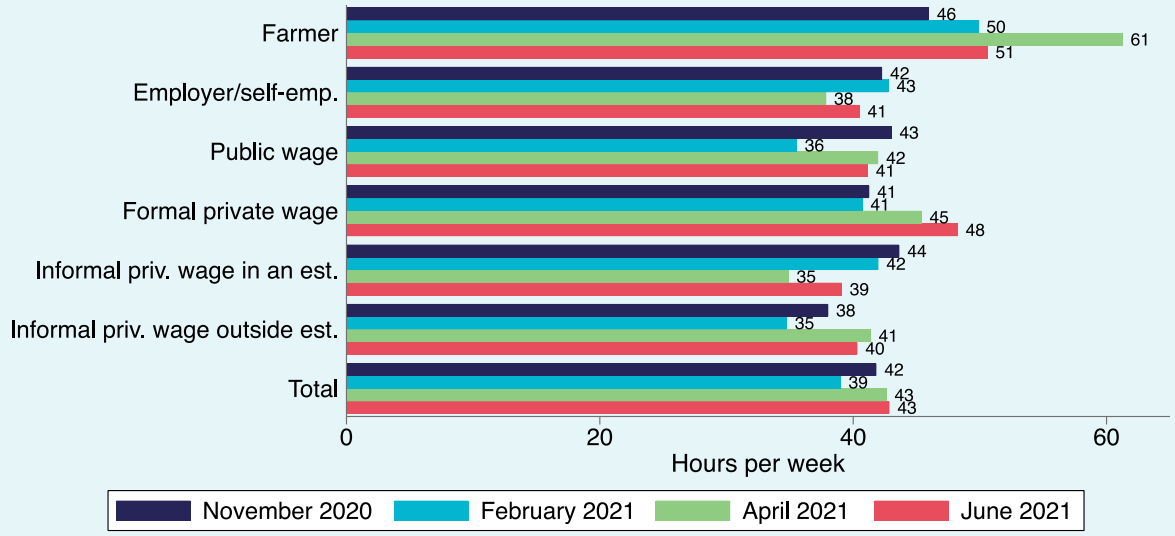
Figure 10: Changes in labour market status each wave, by status in February 2020, sex and wave (percentage of February 2020 status)



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Average working hours decreased from 42 per week in November 2020 to 39 in February 2021 and then stabilized (43 hours) in April and June 2021 (Figure 11). Farmers showed the greatest fluctuations in hours, from 46 in November 2020 to 61 hours in April 2021. Formal private sector wage workers experienced substantial increases in hours as well, from 41 per week in November 2020 and February 2021 to 45 in April 2021 and 48 in June 2021, which suggests some recovery for this segment. Informal wage workers and the self-employed, however, continue to have lower hours, which suggests these workers have been particularly affected by the pandemic.

▶ **Figure 11:** Average (mean) hours of employment per week, by status in February 2020 and wave

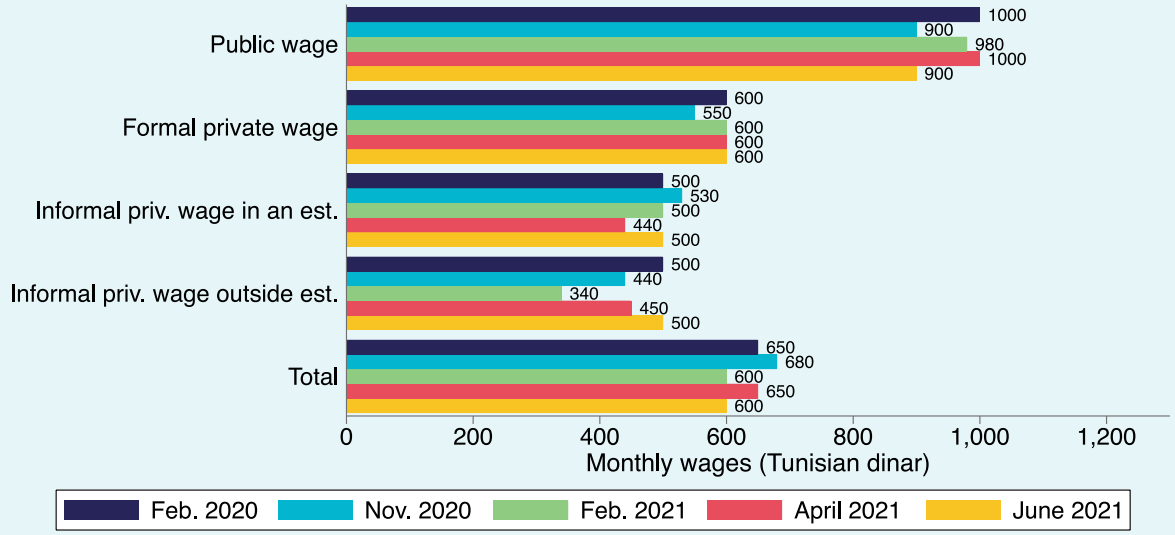


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Note: Statistics based on individuals employed in that wave.

Among wage workers in February 2020 who kept their jobs, wages increased slightly in November 2020 (to 680 TND from 650 TND) before decreasing again in February 2021 to 600 TND (Figure 12). The median monthly wage returned to its pre-pandemic level in April 2021 and decreased again in June to 600 TND. Formal private sector wage workers and public sector wage workers had higher wage levels and lower fluctuations. The largest decline was observed for informal private workers outside establishments who lost one third of their median monthly wage between February 2020 and February 2021, before recovering by June 2021. Informal workers were clearly the most vulnerable to pandemic-related shifts in labour demand and income.

▶ **Figure 12:** Median monthly wages (Tunisian dinar), by status in February 2020 and wave

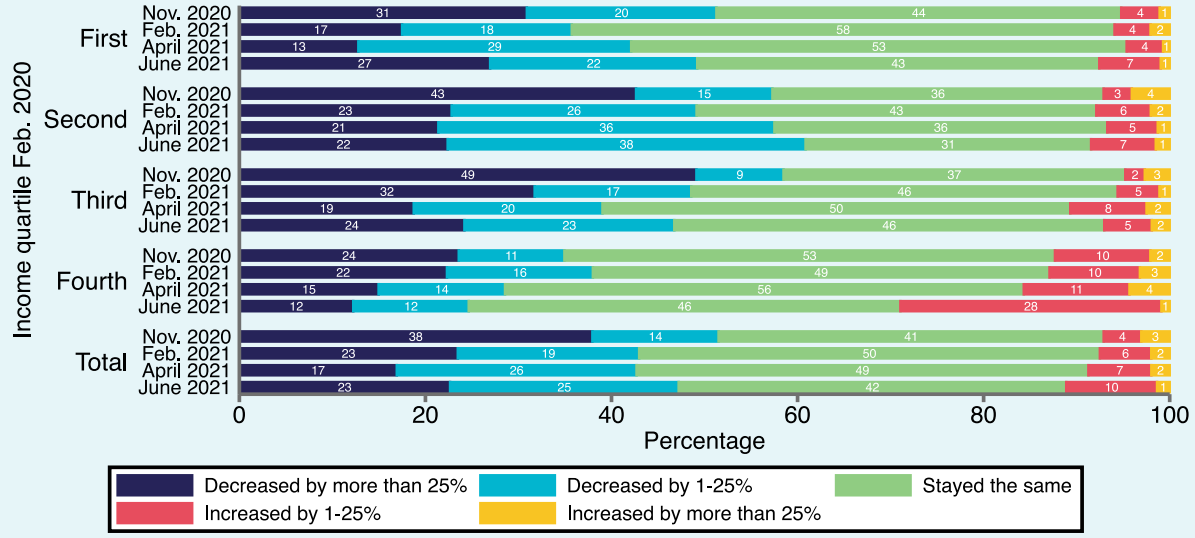


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Note: Statistics for Nov. 2020 onwards based on wage workers in that wave.

Compared to February 2020, more than half of households witnessed a decrease of their income in November 2020 (Figure 13). The situation improved slightly in February 2021 and April 2021 before worsening in June 2021. In November 2020 was when households tended to have the largest income decreases, of more than 25 per cent. The bottom two quartiles of income experienced more losses, and the highest-income quartile had the fewest losses and was particularly likely to experience increasing income by June 2021.

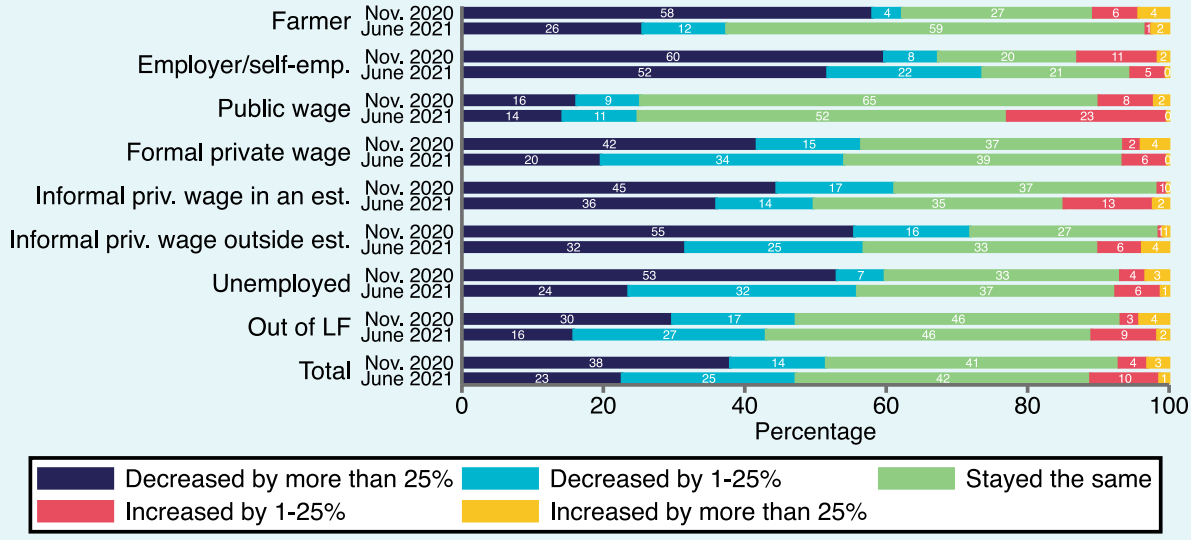
Figure 13: Changes in household income from February 2020 to wave (percentage of households), by income quartile in February 2020 and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

While public sector workers were the least negatively (and the most positively) affected in terms of income changes, as expected, self-employed, farmers, informal workers outside establishments and the unemployed witnessed the largest income decreases (by more than twenty-five per cent) as shown in Figure 14. The situation improved somewhat by June 2021, but particularly among the self-employed, more than half still experienced income decreases of more than 25 per cent. It was particularly public sector workers, who already had high wages, who experienced increases in income. Formal private sector wage workers experienced more recovery than informal private sector wage workers.

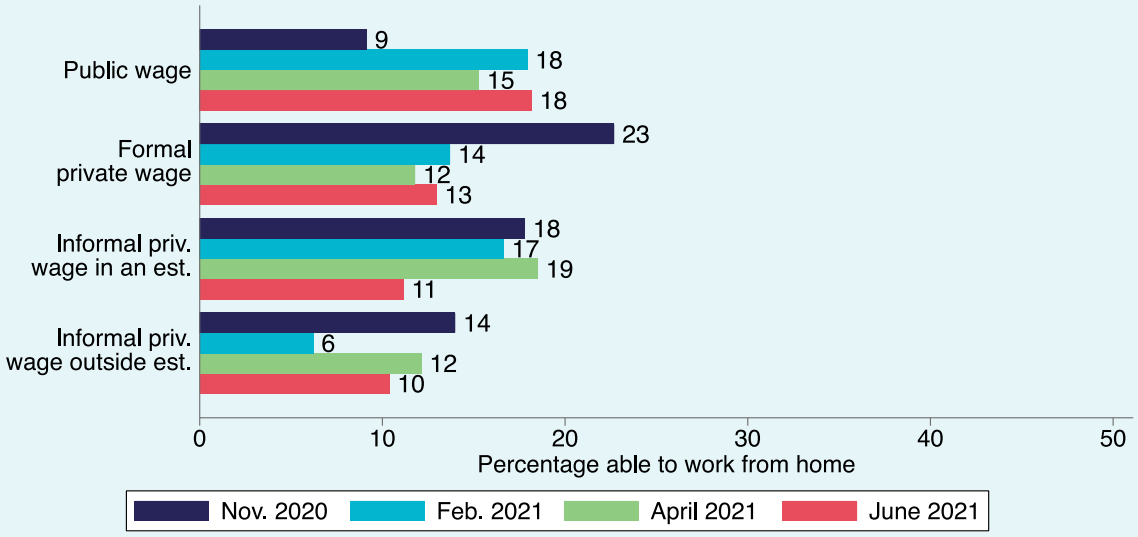
Figure 14: Changes in household income from February 2020 to wave (percentage of households), by February 2020 labour market status and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020 and June 2021 waves

Figure 15 shows that the vast majority of Tunisians were not able to work from home. The ability of public sector wage workers to work from home increased from a 9 per cent to 18 per cent from November 2020 to June 2021. This may be due to an adaptation of the government to cope with a longer than planned duration of stay-at-home measures. On the contrary, formal private wage workers have witnessed the opposite evolution (work from home falling from 23 per cent to 13 per cent over November 2020 to June 2021), possibly reflecting employers' preference to have their employees in the office to monitor their work. Fewer informal workers, particularly few of those working outside establishments, could work from home. Among those not able to work from home, the primary reason was it was not possible to do their job from home (93 per cent across waves).

Figure 15: Percentage of wage workers able to work from home, by wave-specific labour market status and wave



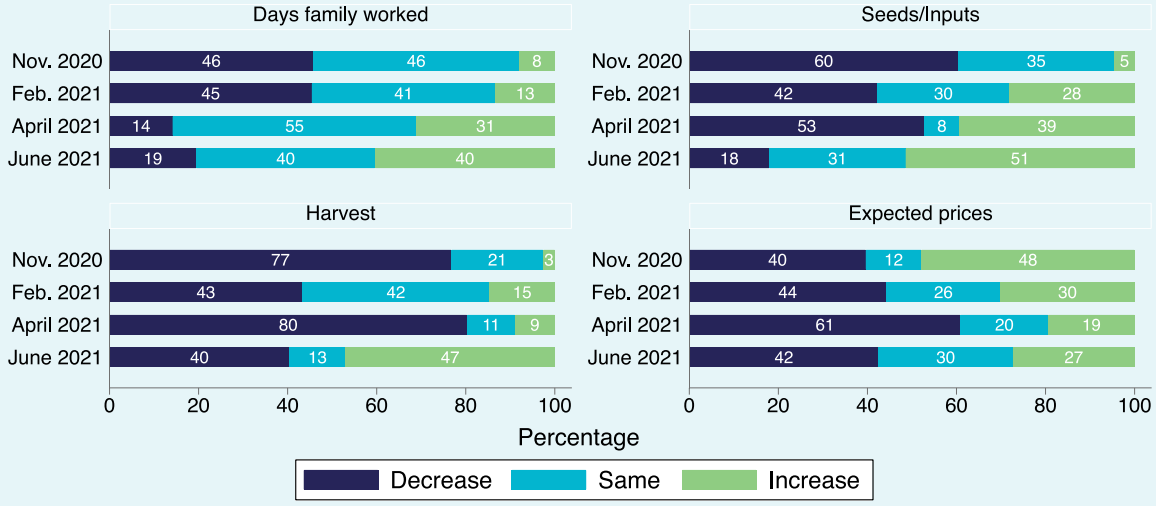
Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Note: If observation is base wave for individual, February 2020 and contemporaneous wage work type assumed to be the same.

4.2 Farmers

In comparison to 2019, Figure 16 shows that the period from November 2020 to June 2021 was very difficult for farmers with lower days worked (particularly from November 2020 to February 2021), lower harvests, and lower expected prices (particularly in April 2021). Farmers may have had difficulties buying inputs for lockdown reasons at the beginning of the pandemic and then increasingly due to financial difficulties induced by the economic crisis. Nevertheless, the situation improved from 60 per cent of farmers experiencing a decrease in inputs in November 2020 to 18 per cent in June 2021. We must however keep in mind that for agriculture it is difficult to disentangle the effects of the pandemic from those of the drought that the country is witnessing (Karam and Durisin 2020). However, the effects of the two shocks combined can have a devastating effect on farmers' income and would imply further attention is needed in terms of social protection.

Figure 16: Farmers' experiences compared to the 2019 season (percentages), by wave



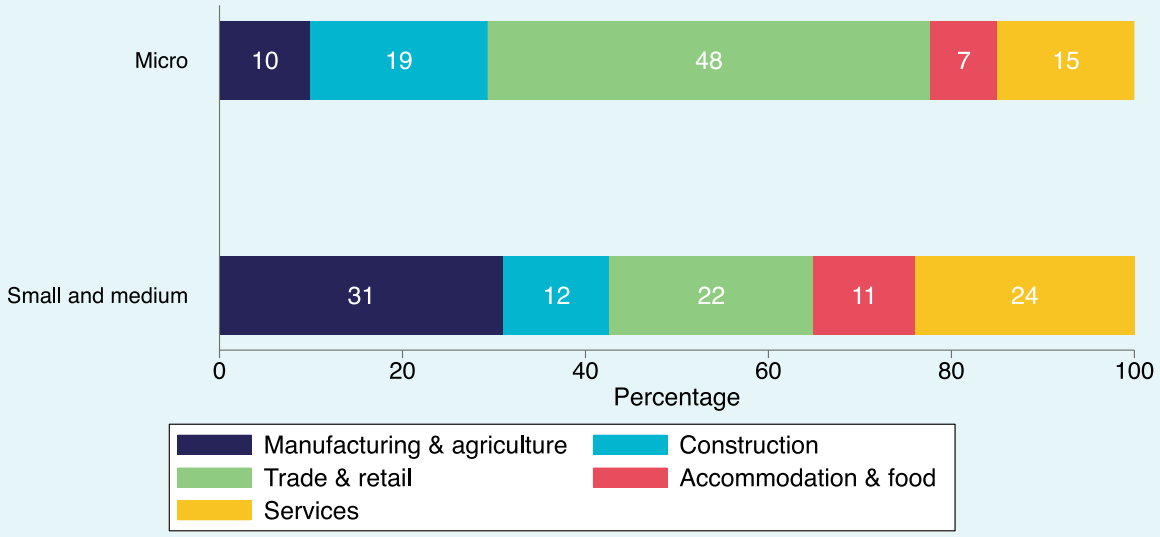
Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Note: If observation is base wave for individual, Feb. 2020 farmer, otherwise contemporaneously farmer.

4.3 Micro, small, and medium enterprises

This section is based on household surveys for household microenterprises (1-5 workers) and firms' surveys for small and medium enterprises (6-199 workers). As shown in Figure 17 half (48 per cent) of microenterprises operate in the trade and retail sector and one fifth in construction (19 per cent), followed by other service activities (15 per cent). SMEs are more concentrated in manufacturing (31 per cent), services (24 per cent) and trade and retail (22 per cent). These industries must be kept in mind for understanding the impacts of the pandemic on enterprises.

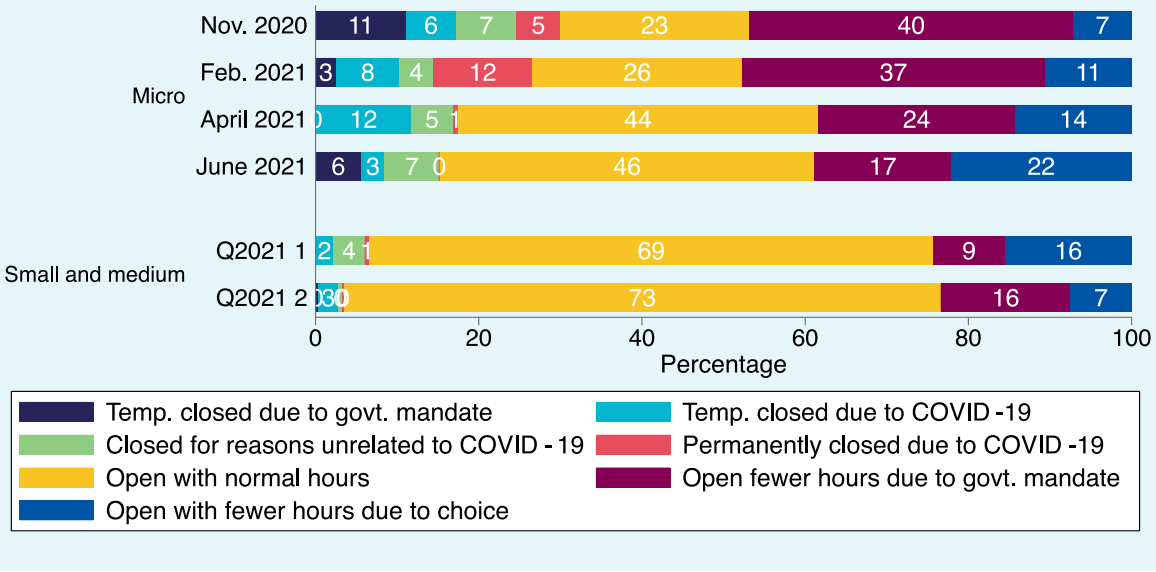
▶ **Figure 17:** Industries in February 2020 (percentage), by firm size



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020 and Q1 2021 waves

Although microenterprises were increasingly able to open with normal hours from November 2020 to June 2021 (from 23 per cent to 46 per cent), their ability to operate normally was much lower than SMEs, which did better since the first quarter of 2021 (69 per cent open normal hours) (Figure 18). This may be due to the large share of manufacturing among SMEs. This sector was much less negatively affected except during the lockdown of Spring 2020 (Krafft, Assaad, and Marouani 2021b). Microenterprises were reducing their opening hours increasingly due to choice rather than government mandates across survey waves, reflecting the deterioration of households' income and demand.

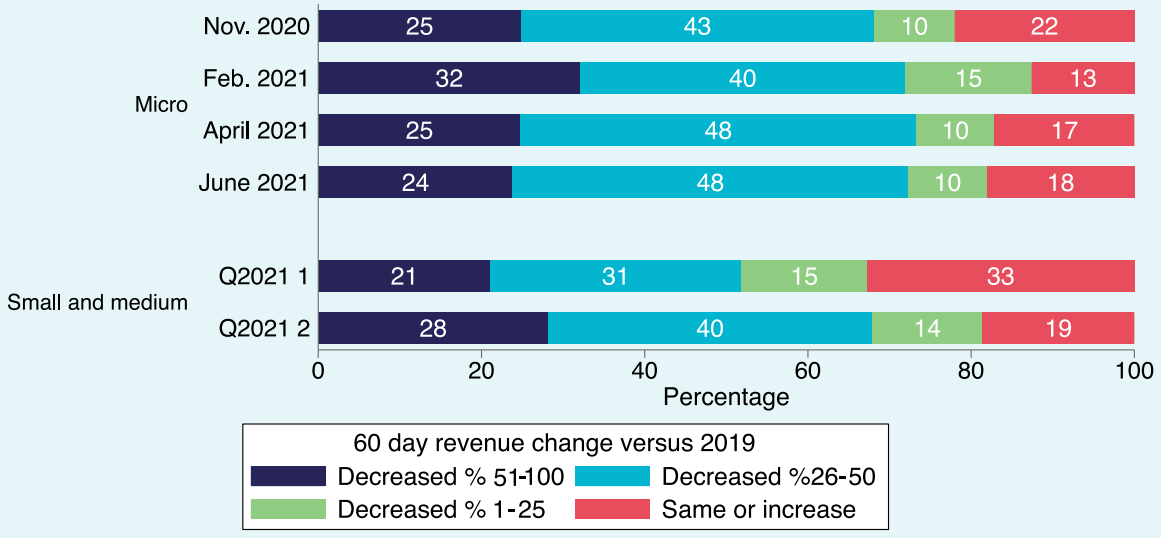
▶ Figure 18: Operational status of enterprises (percentage), by size and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, June 2021, Q1 2021, and Q2 2021 waves

The pandemic had a large negative effect on enterprise revenues (Figure 19). Among microenterprises, one quarter lost more than half of their income and almost half lost between 26 to 50 per cent of their 2019 income. The levels of loss were relatively stable over time. SMEs were doing relatively better in Q1 of 2021 but their situation deteriorated to similar levels observed in microenterprises by Q2.

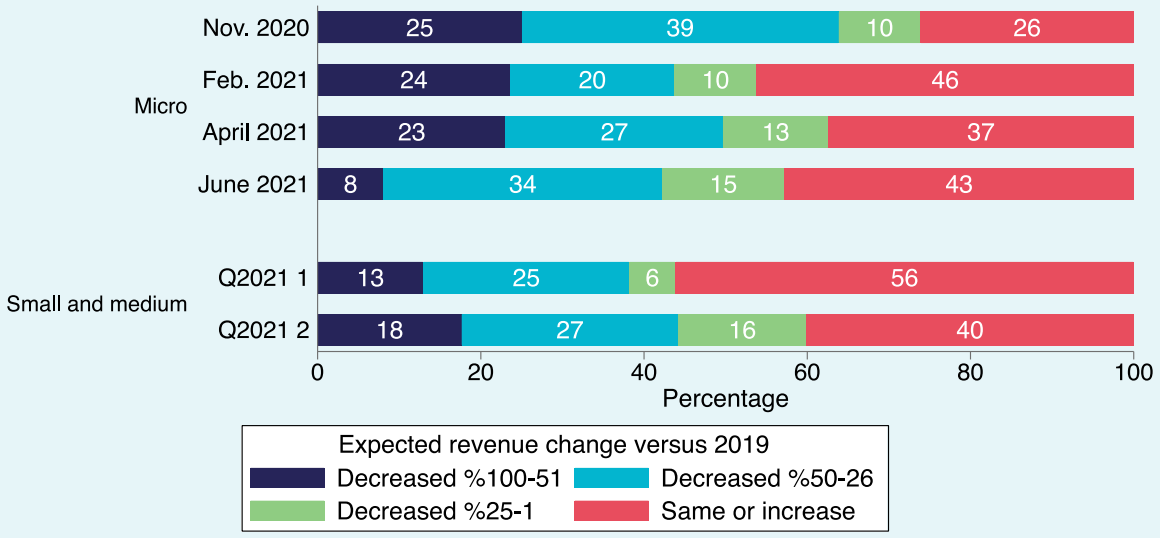
Figure 19: Revenue changes of enterprises, past 60 days compared to same season in 2019 (percentage), by size and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, June 2021, Q1 2021, and Q2 2021 waves

Figure 20 presents the expectations of enterprises for annual revenue changes compared to 2019. Microenterprises' expectations to have the same or higher annual revenue almost doubled between November 2020 (26 per cent) and June 2021 (43 per cent). For SMEs there was a large deterioration of expectations between Q1 and Q2 with the share of optimistic entrepreneurs dropping from 56 per cent to 40 per cent. These differing shifts highlight the differences between the two types of enterprises and the need for targeted policies for each type. Expectations are particularly important for SMEs, which invest relatively more than micro firms.

Figure 20: Expected annual revenue changes of enterprises, compared to 2019 (percentage), by size and wave

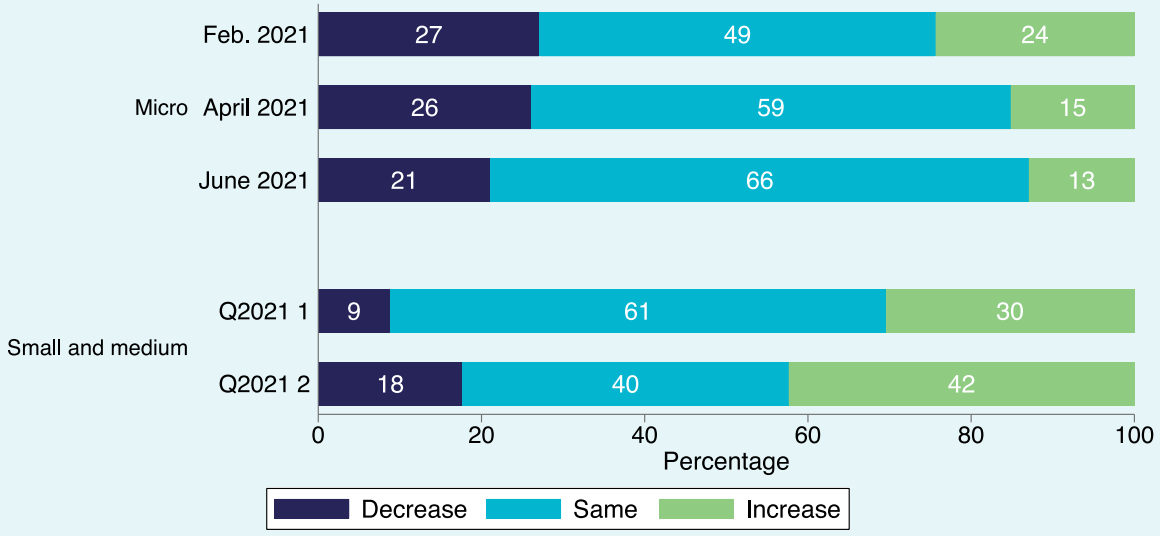


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, June 2021, Q1 2021, and Q2 2021 waves

Note: Q1 2021 asked about 2020 year, all others refer to year at fielding.

Figure 21 shows employment changes in microenterprises in SMEs relative to February 2020. In February 2021 the situation of employment in microenterprises was still relatively stable on net (27 per cent with decreased employment and 24 per cent increased). However, it deteriorated across waves to more microenterprises with decreased numbers of employees than increased. This may reflect a strategy based on reducing labour costs given the weak demand and the absence of policy support. SMEs did better than microenterprises in Q1 as only 9 per cent of firms reduced employment and 30 per cent increased their number of employees. In Q2, 18 per cent of firms reduced employment and 42 per cent increased their number of employees.

▶ **Figure 21:** Employment changes of enterprises, compared to February 2020 (percentage), by size and wave

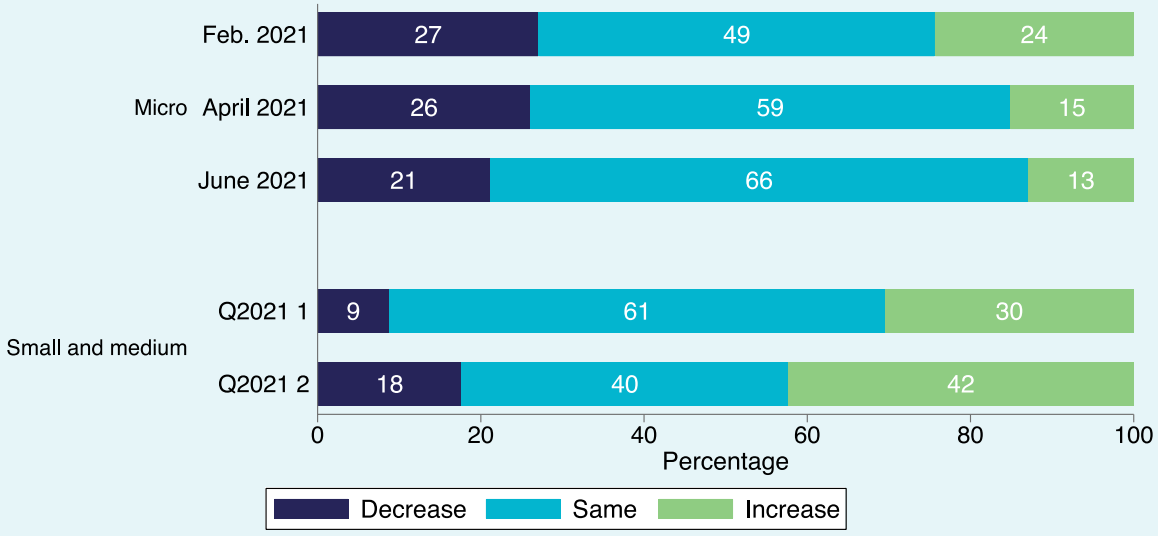


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, June 2021, Q1 2021, and Q2 2021 waves

Note: contemporaneous employment for household enterprises only collected in panel data (thus Nov. 2020 not available).

According to Figure 22 a key difficulty facing enterprises is the access to inputs, particularly in Q2 2021 (89 per cent for micro and 83 per cent for SMEs). Loss in demand was around 80 per cent for microenterprises and 65 per cent for SMEs. Accessing customers was also a major difficulty pointed out by microenterprises (around 70 per cent) and SMEs (58-65 per cent). Only 1 to 8 per cent across size and time declared having no difficulties.

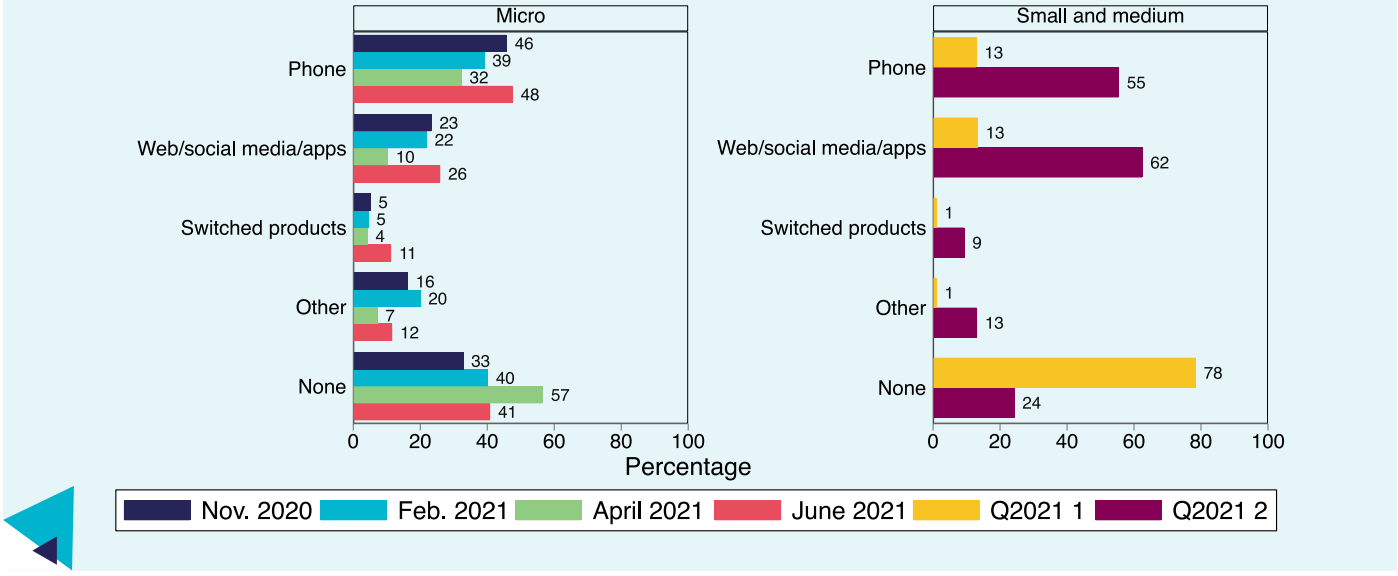
▶ **Figure 22:** Difficulties facing enterprises in the past 60 days (percentage), by size and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, June 2021, Q1 2021, and Q2 2021 waves

As shown by Figure 23, microenterprises and SMEs used varying strategies to adjust their business model over time. Microenterprises relied mainly on the use of phones (32-48 per cent over time) and web/social media/apps (10-26 per cent over time). SMEs adjusted more in the second quarter of 2021, when they used web/social media/apps (62 per cent) and phone (55 per cent). These adjustments may be in response to the evolving public health situation as well as building capacity in new methods.

Figure 23: How enterprises adjusted business model to reduce physical contact with customers (percentage), by size and wave

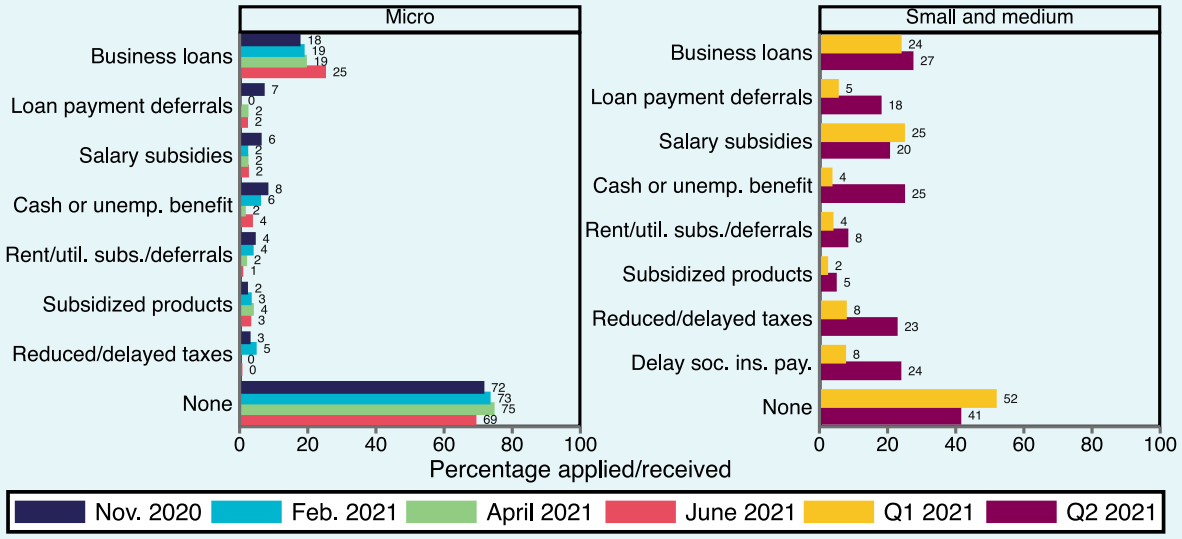


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, June 2021, Q1 2021, and Q2 2021 waves

Note: Multiple responses possible.

In Figure 24, enterprises report government programs received or applied for. Here we notice a substantial difference between microenterprises and SMEs. While only one quarter of microenterprises applied or benefited from government support, half of SMEs received or applied to the measures (52 per cent in Q1 and 51 per cent in Q2 of 2021). Microenterprises reported mainly applying for business loans (18-25 per cent across waves) with a slight increase in June 2021. As for SMEs, business loans and salary subsidies were reported at an almost constant share over time (one quarter each). However, in Q2, tax reductions/ delays, cash or unemployment benefits, and delayed social insurance payments became the most common support measure applied for or received (23-25 per cent). The share of cash or unemployment benefit increased also substantially from 4 to 25 per cent.

▶ **Figure 24:** Government programs received or applied for (percentage), by size and wave

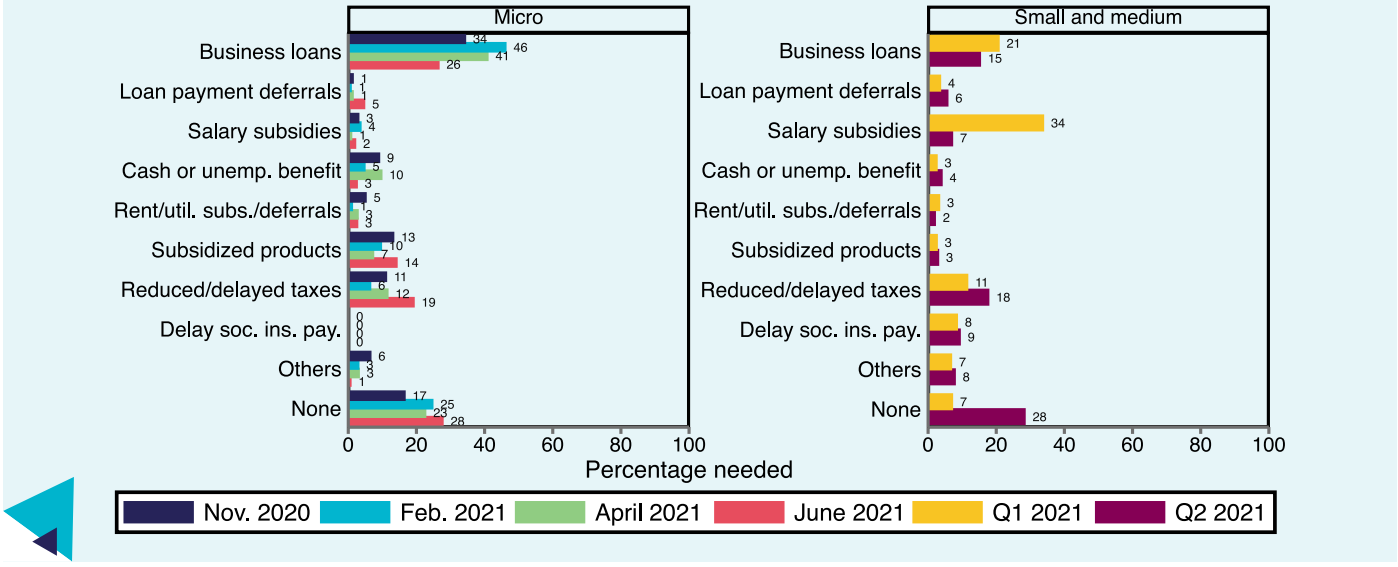


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, June 2021, Q1 2021, and Q2 2021 waves

Note: "Others" not asked about applied/received. Multiple responses possible for applied received, only one response for policy most needed.

When asked about most needed government programs a large share of microenterprises (between 26 and 46 per cent across waves) pointed to business loans (Figure 25). For SMEs the most needed policy is salary subsidies (34 per cent) and business loans (21 per cent) in Q1 and reduced/delayed taxes in Q2 (18 per cent). It is also worth noticing that the share of SMEs stating that they do not need assistance moved from 7 per cent in Q1 to 28 per cent in Q2, while the share of microenterprises stating they do not need assistance was around a quarter, rising from 17 per cent in November 2020 to 28 per cent in June 2021.

Figure 25: Government programs most needed (percentage), by size and wave



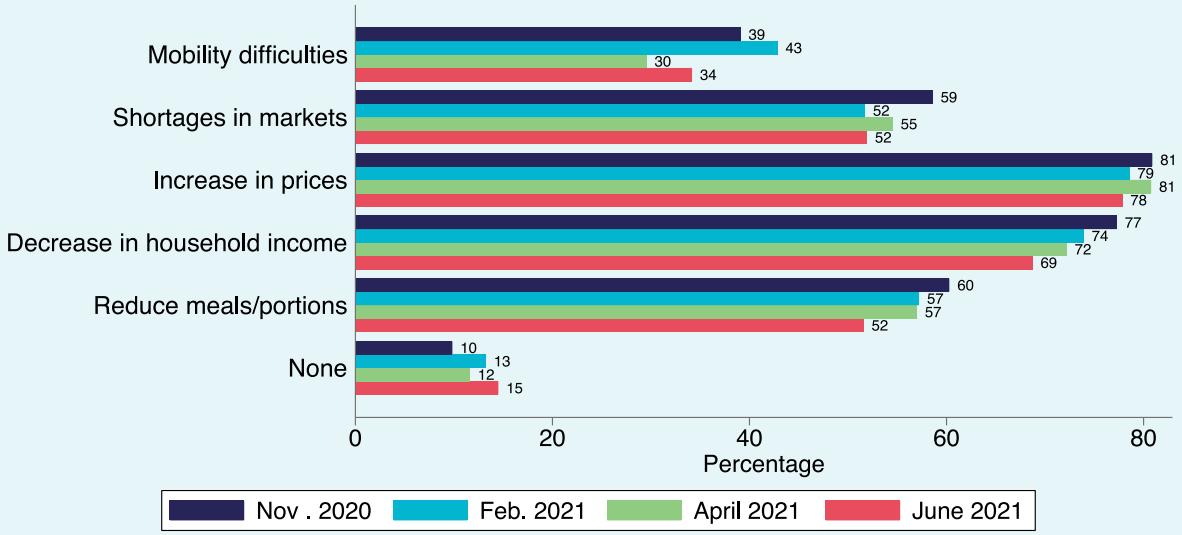
Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, June 2021, Q1 2021, and Q2 2021 waves

Note: "Others" not asked about applied/received. Multiple responses possible for applied received, only one response for policy most needed.

4.4 Shocks and coping

The COVID-19 pandemic induced substantial shocks to livelihoods of Tunisians. This section deals with the ways households coped with the shocks, including food insecurity, and describes the distribution of social assistance across households. The pandemic had a large impact on Tunisians' food security. Only 10 to 15 per cent of households over time reported no experiences of food insecurity (Figure 26). The main issues were food difficulties related to price increases (78 to 81 per cent) and lower income (69 to 77 per cent). The only positive aspect to highlight is that food security improved slightly between November 2020 and June 2021, but even with the improvement food insecurity is very high. One of the most concerning results is that between 52 and 60 per cent of households had to reduce meals/portions which will have negative impact on health, particularly for children.

▶ Figure 26: Household food insecurity (percentage of households), by wave

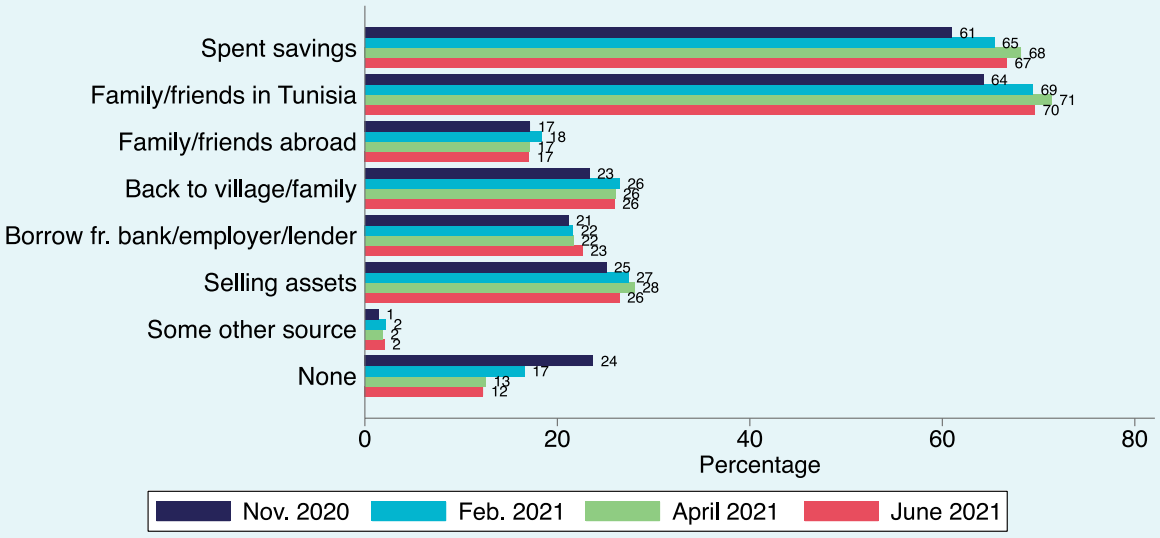


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves.

Note: Food security questions asked: "In the past 7 days, have you or any household member experienced any of the following?" "Mobility difficulties" is based on the question "Difficulties in going to food markets due to mobility restrictions imposed by government/closures." "Shortages in markets" is based on the question "Unable to buy the amount of food we usually buy because of shortages of food in markets." "Increase in prices" is based on the question "Unable to buy the amount of food we usually buy because the price of food increased." "Decrease in household income" is based on the question "Unable to buy the amount of food we usually buy because our household income has dropped" and "Reduce meals/portions" is based on the question "Had to reduce the number of meals and/or the portion of each meal we would usually eat."

According to Figure 27, Tunisian households relied on multifaceted strategies to cope with the crisis. The two most common coping strategies (two thirds on average) were spending their savings and relying on family/friends for support. Selling assets and going back to family/village each were used by one fourth of households on average. Bank or employer loans (21-23 per cent) and support from family abroad came last (17-18 per cent). It is interesting to highlight that the share of households with no coping strategy decreased from 24 per cent in November 2020 to 12 per cent in June 2021. The length of the crisis required an increasing share of households to use their savings. If the crisis lasts longer this strategy will be exhausted, particularly for poor and middle-class households whose savings are often relatively low.

▶ **Figure 27:** Household coping strategies since February 2020 (percentage of households), by wave

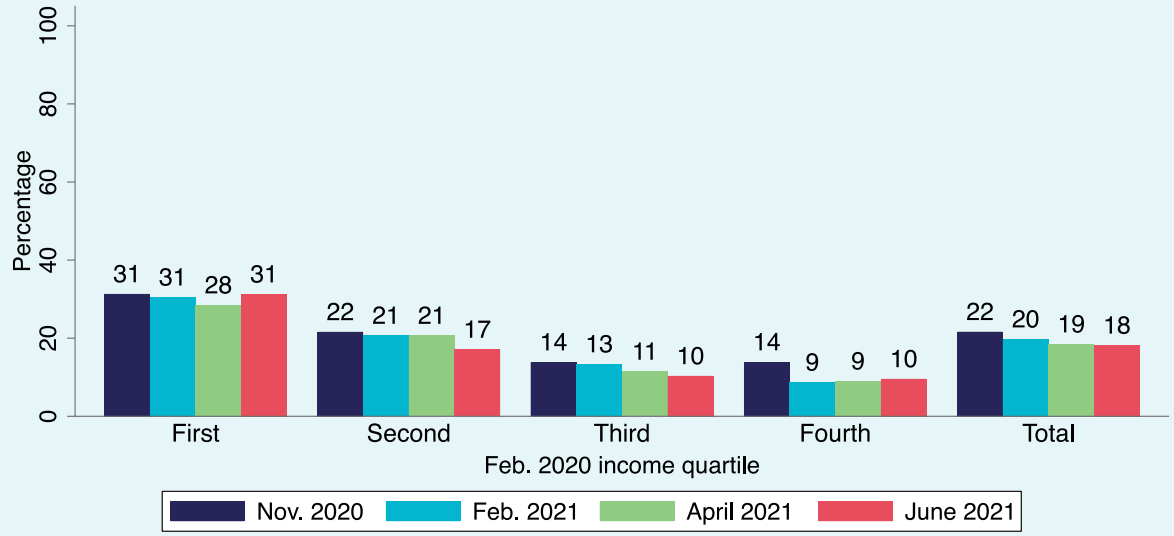


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Note: Coping strategies are cumulative over time.

According to Figure 28, government assistance covered approximately one fifth of the population. Coverage was reduced from 22 per cent in November 2020 to 18 per cent in June 2021. The first quartile of household income in 2020 had the highest and most stable government assistance coverage (31 per cent). One of the main reasons is that regular social protection programs (mainly the PNAFN and AMGII) are well established for this category. When we look at the other quartiles, we notice that assistance decreases with pre-pandemic income, particularly in June 2021. However, even in June 2021 we see 10 per cent of households in the richest quartile received assistance, which suggests assistance may not be very well targeted.

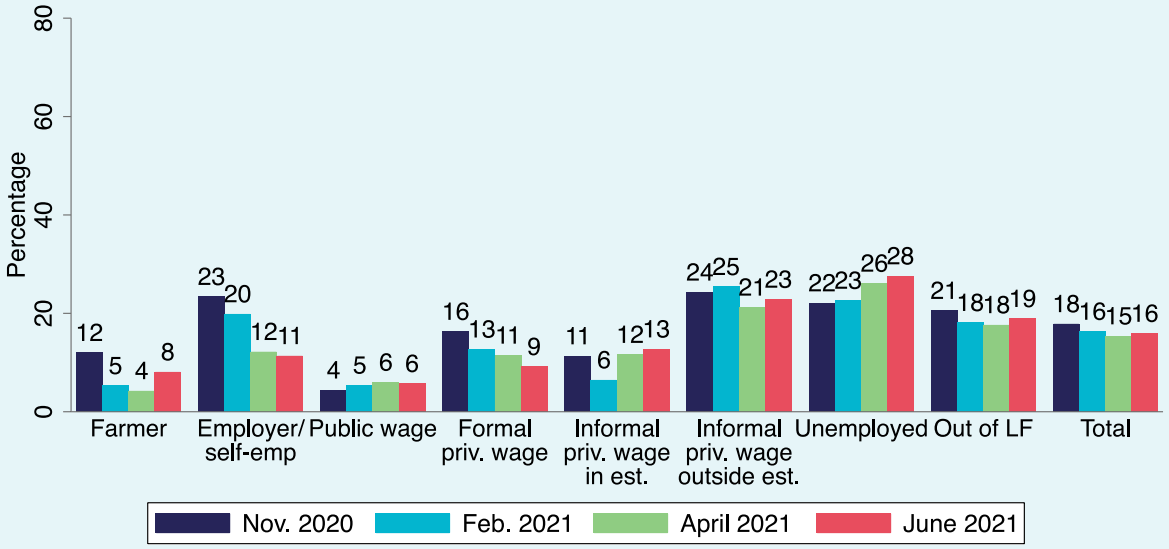
Figure 28: Receiving government assistance (percentage of households), by February 2020 income quartile and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Informal workers outside establishments, unemployed and out of the labour force individuals were the main beneficiaries of government assistance (Figure 29). The coverage of self-employed workers, formal private workers and farmers was substantially reduced between November 2020 and June 2021. The evolution of incomes for these different labour market statuses does not provide a rationale for reducing assistance to some categories over others (Figure 14).

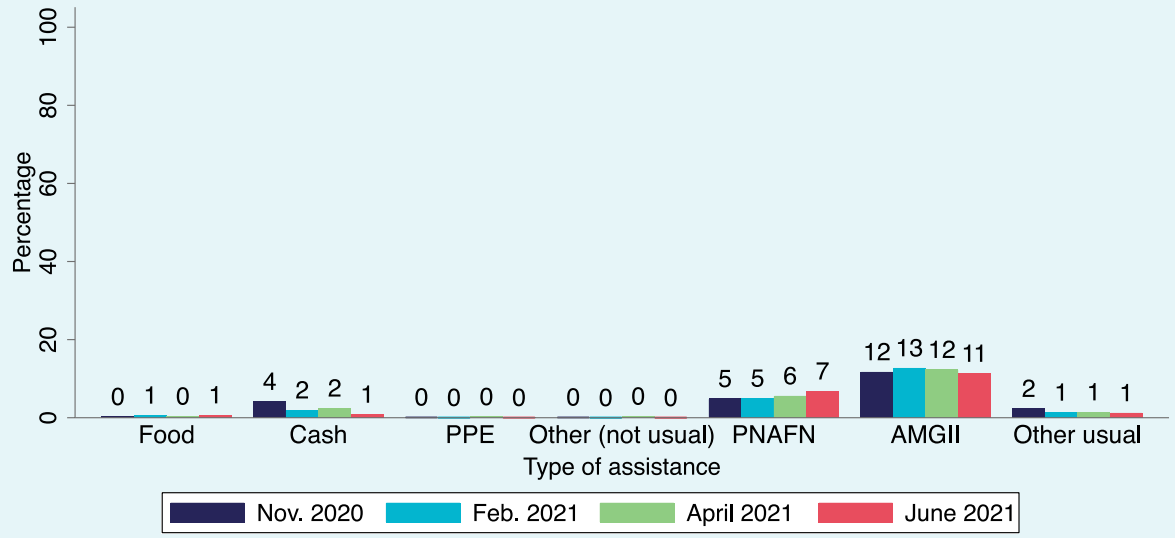
Figure 29: Receiving government assistance (percentage), by labour market status in February 2020 and wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Figure 30 confirms that social assistance was mainly provided through regular social protection programs (PNAFN and AMGII). While 5-7 per cent of assistance was PNAFN, 11-13 per cent was AMGII. Other transfers did not cover more than 4 per cent of the population in November 2000 and 1 per cent in June 2021.

Figure 30: Receiving specific government assistance (percentage of households), by wave

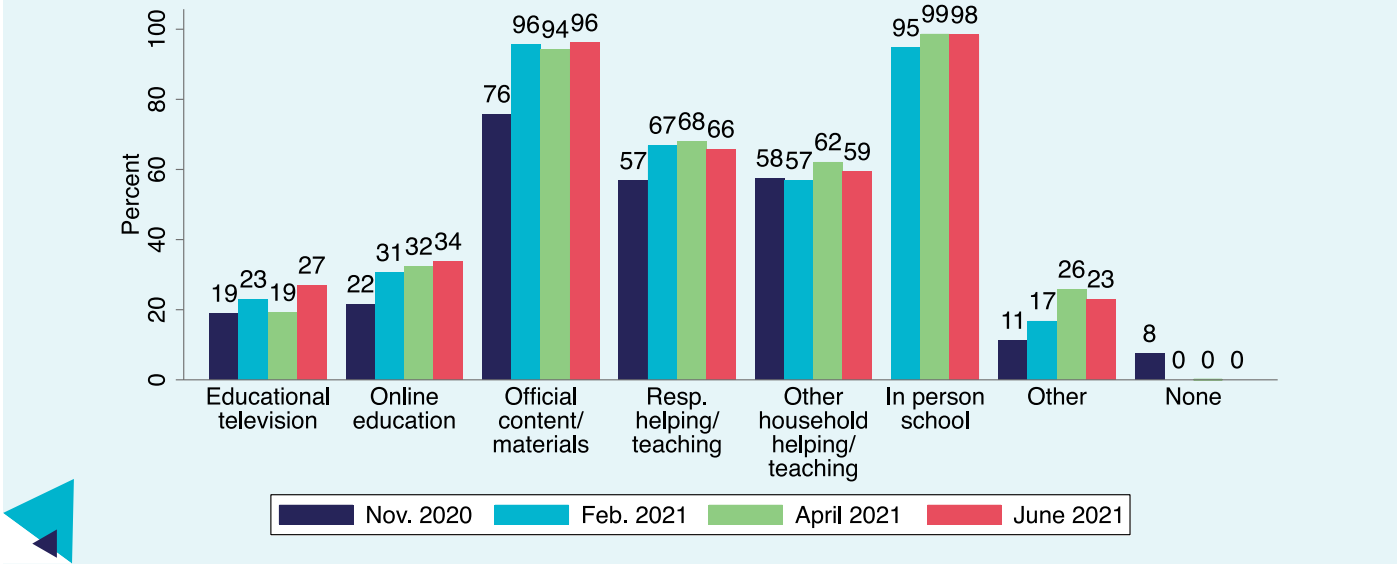


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

4.5 Education and care work

Figure 31 shows households used a variety of educational strategies during the pandemic. The November 2020 responses show education during the lockdown, when schools were shut. Although in person education covered almost 100 per cent of households since February 2021, social distancing constraints imposed a lighter presence of students in classes. Families therefore used a variety of strategies including official content/materials (94-96 per cent in 2021), the respondent or other household members helping/teaching (57-68 per cent in 2021), as well as online education (31-34 per cent in 2021) and educational television (19-27 per cent in 2021).

▶ **Figure 31:** Educational activities of children (percentage of households), by wave

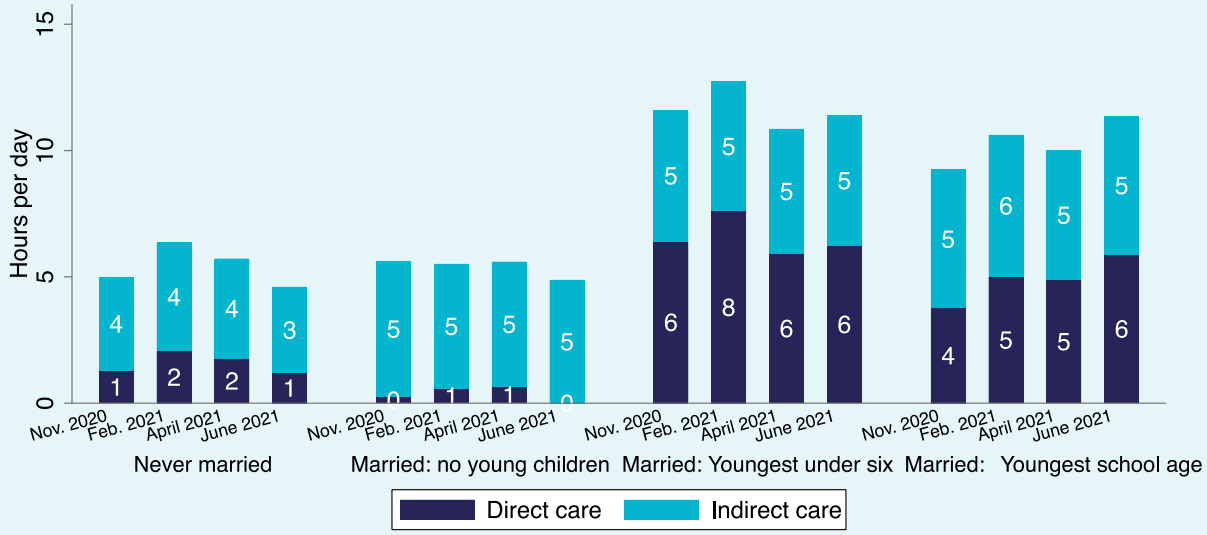


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Note: Multiple responses possible. November 2020 responses refer to during the lockdown in spring 2020.

Figure 32 shows the time women spend in care work by their family composition. Direct care is time spent taking care of children (exclusively or while doing other things) while indirect care is housework (cooking, cleaning, washing dishes, shopping, and so on). Never married or married with no young children Tunisian women spend on average around 5 hours on care per day (mostly indirect care). Married women with their youngest child school-age spend more than 10 hours on direct and indirect care. Finally, women with the youngest child under six spent around 12 hours a day on care (with more direct care than for women with only school-age children).

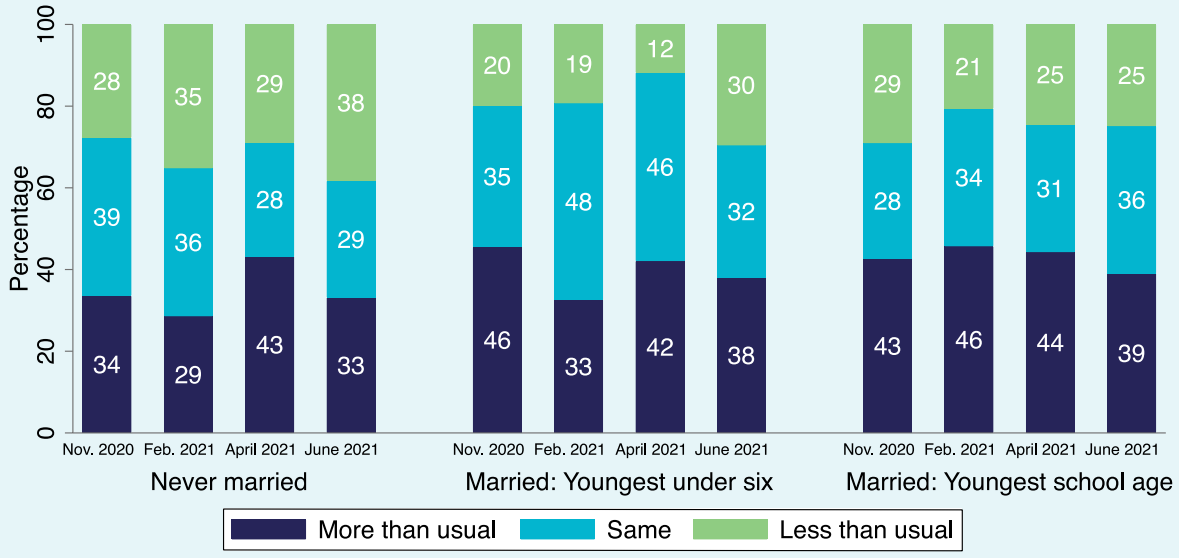
▶ **Figure 32:** Average hours of direct and indirect care work per day, by family composition and wave, women



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Figure 33 shows women's reports of how their care work has changed since February 2020. The share of women who report they are spending more time on childcare than before the pandemic is high, particularly for married women with their youngest child at school (between 39 and 46 per cent report spending more time). Women with their youngest child below school age also reported more can than usual (33 to 46 per cent across waves). Never married women had similar chances of reporting the same, more, or less care.

Figure 33: Care for children in the past week compared to February 2020 (percentage), by family composition and wave, women

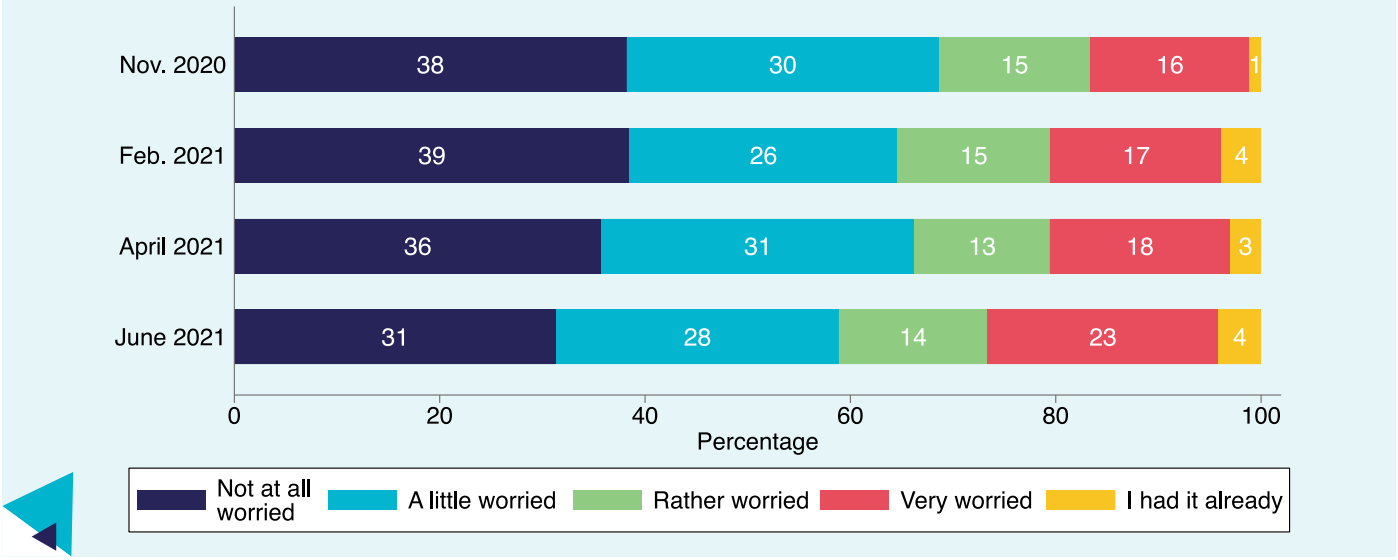


Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

4.6 Health

The share of respondents worried about being infected by COVID-19 increased slightly over time, as shown by Figure 34. While in February 2021, 39 per cent of Tunisians were not worried about COVID-19 infection, this fell to 31 per cent in June 2021. The share very worried also rose (from 16 to 23 per cent over time). In June 2021, Tunisia entered its worst wave of the pandemic in terms of infections and death, which likely explains the shift. Furthermore, by June 2021, 4 per cent of Tunisians reported they already had COVID-19.

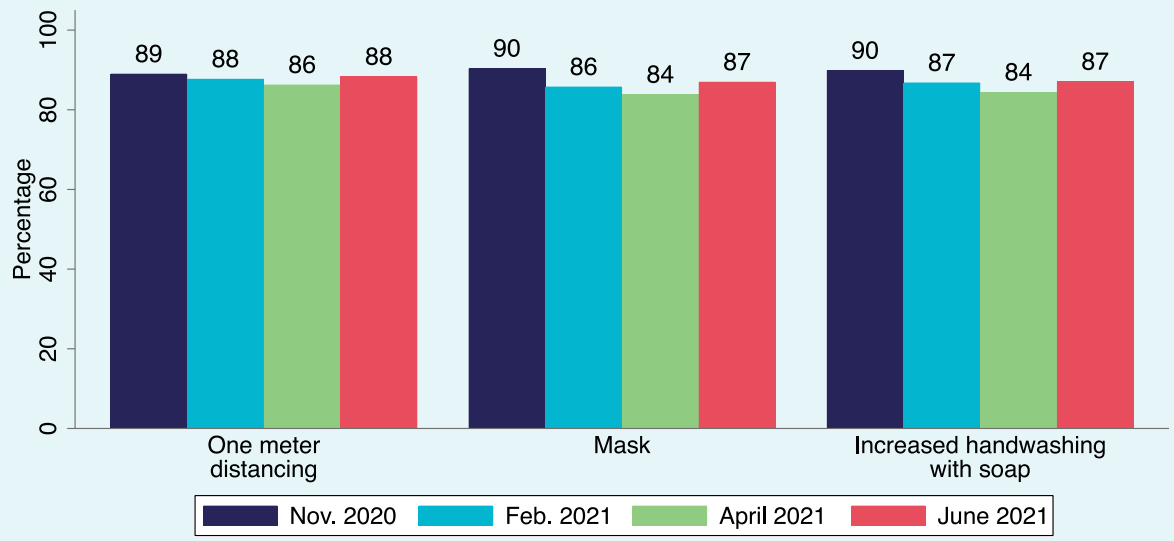
▶ **Figure 34:** Worry level about infection with COVID-19 (percentage), by wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

From November 2020 to April 2021, Tunisians decreased slightly their rate of public health behaviours: one-meter distancing, wearing masks, and increased handwashing with soap (Figure 35). However, there was an increase again in June 2021, as the new wave of the pandemic occurred. Although self-reported, the rates of these health behaviours are generally high (84-90 per cent across waves).

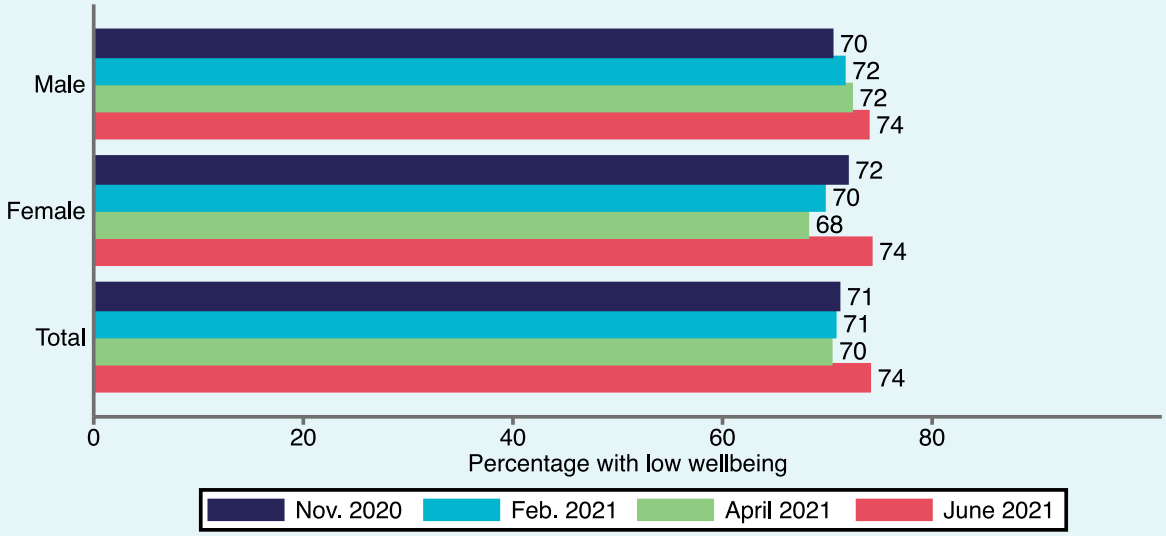
Figure 35: Health behaviours (percentage), by wave



Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

In Figure 36, we explore rates of low wellbeing based on the WHO-5 scale and a cut-off of less than 50 as the score for low wellbeing (Topp et al. 2015). Rates of low-wellbeing were high – more than 70 per cent overall – and have increased from 70 per cent in April 2021 to 74 per cent in June 2021. Men and women had relatively similar rates of low wellbeing. While women's rates of low wellbeing declined from November 2020 to April 2021 before rising in June 2021, men's rates of low wellbeing steadily rose over time, suggesting men and women may be responding to different stressors in the pandemic.

▶ **Figure 36:** Rates of low wellbeing (percentage), by sex and wave



Source:Authors' calculations based on Tunisia COVID-19 MENA Monitor November 2020, February 2021, April 2021, and June 2021 waves

Note: Based on the WHO-5 scale and a cut-off of <50 as the score for low wellbeing.

Conclusions

This report dealt with the impact of the pandemic on individuals, households and firms across various dimensions including health, the labour market, income, government policies, education and subjective wellbeing. We analysed four waves of household surveys (November 2020-June 2021) and two waves of enterprise surveys in the first and second quarters of 2021. The first wave of the household survey was conducted during the first deadly wave of COVID in Tunisia. It followed a period when restrictions in Tunisia were among the lowest in the world. The second household survey wave conducted in February 2021 and the first enterprise survey wave in Q1 2021, which corresponded to a period of declining COVID-19 cases and reduced closure measures. The third wave of the household survey in April 2021 started in a period of low infections and lower restrictions and ended in a period corresponding to a new peak of infections and a resumption of higher restrictions. The fourth wave of the household survey in June 2021 and the second enterprise survey in Q2 2021 corresponded to the start of the very deadly Tunisian COVID-19 wave and the subsequent implementation of new restrictions. Subsequently, the president dismissed the prime minister and suspended parliament, ruling by decree, which will shape policy responses to COVID-19 going forward.

While we, as expected, find that employment, business, and income outcomes have worsened in comparison to pre-pandemic, these effects varied in important ways. Men's labour market indicators improved from November 2020 to April 2021 and deteriorated thereafter, while women's labour outcomes stagnated and then improved. Income declines have hit the lower three quartiles of income hardest, worsening poverty and inequality. Government assistance is focused on the first quartile given that it is the poorest, but also because it is the easily identifiable by regular social protection schemes.

Small and medium enterprises did relatively better than microenterprises in terms of revenue changes in Q1 2021, but had similar outcomes in Q2 of 2021, and in all periods losses dominated. Half of SMEs applied for or obtained government support, while only one fourth of microenterprises did so. While access to customers and loss in demand were the main constraints in Q1, access to inputs and absenteeism (particularly for SMEs) became very constraining in Q2.

Food insecurity due to lower income and higher prices reached very high levels in Tunisia. More than half of households even had to reduce meals and portions. They coped with the challenges of the pandemic by using their savings, relying on family, and in some cases on government support. Worry about infection with COVID-19 increased substantially in June 2021 following the beginning of the worst COVID-19 wave in Tunisia. Health and food insecurity are probably among the major causes of low wellbeing, which increased substantially with the summer 2021 deadly wave.

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5. Appendix 1: Sampling and weights: household survey

The sample universe for the household survey was mobile phone users aged 18-64. Random digit dialling, within the range of valid numbers, was used, with up to three attempts 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. Samples were stratified by country-specific market shares of mobile operators.

For follow-up waves, previous wave respondents were recontacted if they consented to follow-up in the previous wave. Up to three attempts were used, including contacting second and family/friend numbers, if provided in the previous wave, on the third call. If the individual could not be reached or refused, a refresher individual was added to the sample in their place, randomly selected as with base wave respondents.

5.1 Initial weights

This section discusses the initial, base wave weights, and a subsequent section discusses panel weights and then refresher and combined weights.

Inverse probability weighting was undertaken to reduce bias along a number of observable dimensions. Weights were created on three levels: Individual, household, and household member. Weights had the following inputs:

- Telephone operators and their market shares, provided by the data collection firm
- Number of phones by operator for individuals (individual weight) and household members (household weight and household member weight)
- Representative data with comparable demographic and household characteristics to weight for non-response

Denote individuals as *i* (ranging from 1 to *N*) and households as *h* (ranging from 1 to *N*). Denote the number of phones from a particular operator, o, as t_o (operators ranging from 1 to *M*). Denote as the total number of phones there should have been in the sample from o, given the total number of phones observed and market shares, as T_o.

We then generated initial market-share individual weights as:

$$w_i = 1/\sum_1^M [(\{\sum_1^N t_{o,i}\}/T_o) * t_{o,i}]$$

With these individual weights, we then pooled the phone surveys with representative in-person surveys and used a probit model weighted with survey weights (for the representative survey) and w_i (for the COVID-19 monitor data) to estimate the probability an individual with particular characteristics was in the phone survey data. The predicted probability from that model, p_i, was used to generate individual weights for the COVID-19 monitor data as:

$$w'_i = w_i * (1-p_i)/p_i$$

We likewise generated initial market-share household weights as:

$$w_h = 1/\sum_1^M [(\{\sum_1^N t_{o,h}\}/T_o) * t_{o,h}]$$

Which accounts for the number of phones in the household, across all members, and thus for a higher probability of sampling a household with more members or more phones. The predicted probability from the individual level model was combined with the market-share household weight to generate a household weight as:

$w'_h = w_h * (1 - p_i)/p_i$

Household member weights were calculated by multiplying household weights by household size. Household and individual weights (but not member weights, for internal consistency) were all winsorized at the 99th percentile to ensure that no outlier weight drove statistics. Weights were then normalized by dividing by the mean weight.

The representative in-person national survey sample used to generate weights was the Tunisia Labor Market Panel Survey 2014 (Assaad et al. 2016; OAMDI 2016). This was selected as the most recent publicly available data with individual phone ownership and relevant demographic and labour market characteristics. Specifically:

- Sex
- Age group
- Education level
- Household size (categorically)
- Labour market status in February 2020
- Region
- Urban v. rural
- Int. b/w region and urban
- Marital status
- Presence of kids 0-5
- Presence of kids in school
- Int. of covariates and sex
- Int. of covariates and urban

5.2 Panel weights

All respondents who consented to follow up in the prior wave were contacted in an attempt to include them in the subsequent wave. We compute a response adjustment factor, r, to weight the households and individuals retained in the panel from one wave to the next, based on the predicted probably of attrition, Pr(A), from a probit model with attrition as the binary outcome, as follows:

$$r = \frac{1}{1\_Pr\ (A)}$$

This response adjustment factor multiplies the preceding wave household, household member, and individual weights for panel households that were retained, in order that they can represent the preceding (and ultimately base) wave universe.

The panel attrition models use a few base wave variables in addition to those used for initial weighting. Specific additional variables are:

- Telephone operator
- Household income (categorically) in February 2020
- Base wave labour market status (employed, unemployed (search required), out of labour force))
- Interactions with sex for categorical income and base wave labour market status

5.3 Refresher and combined weights

The refresher weights are created in an identical fashion to the base wave, initial weights, but for the refresher samples within the subsequent waves of the panel. For subsequent waves (waves after the base wave), cross-sectional weights combine the panel and refresher data. Weights are normalized to one within each of the panel and refresher samples and then combined into a single, representative cross-sectional weight.

6. Appendix 2: Attrition and non-response: household survey

This appendix describes non-response and attrition between waves for the household survey. Attrition could occur between waves if respondents did not consent to follow-up, or if they were unreachable, refused, or did not successfully complete the subsequent wave. Table 2 shows responses and response rates for Tunisia. In terms of panel follow up:

- 64.7 per cent (1,294 of 2,000) of Nov. 2020 respondents in Tunisia were successfully tracked to February 2021
- 77.7 per cent (1,613 of 2,077) of February 2021 respondents in Tunisia were successfully tracked to April 2021
- 84.6 per cent (1,741 of 2,057) of April 2021 respondents in Tunisia were successfully tracked to June 2021

Table A2. Responses and response rates for households, by wave

Response	Tunisia (Nov. 2020)	Tunisia Panel (Feb. 2021)	Tunisia Refresher (Feb. 2021)	Tunisia Panel (April 2021)	Tunisia Refresher (April 2021)	Tunisia Panel (June 2021)	Tunisia Refresher (June 2021)
Phone disconnected/busy	26	5	21	3	20	3	16
Not in service	35	4	42	3	43	0	44
Did not answer	11	10	26	6	15	5	15
Picked up and refused	8	8	3	8	10	5	14
Incomplete, and refused	3	5	1	1	3	1	2
Incomplete, return call	1	0	0	0	0	0	0
Complete	14	68	6	79	7	86	8
Not Eligible	3	0	1	0	2	0	1
Total	100	100	100	100	100	100	100
Response rate	38	74	18	84	21	89	20

Note: Responses are for individuals who consented to follow-up in the previous wave. Not shown are: 85 Tunisia Nov. 2020 respondents who did not consent to follow-up; 16 panel February 2021 respondents in Tunisia excluded due to quality control issues; 33 Tunisia and February 2021 respondents who did not consent to follow-up; and 29 Tunisia and April 2021 respondents who did not consent to follow-up.

7. Appendix 3: Telephone coverage: households

This appendix uses data from the 2014 wave of the Tunisia Labor Market Panel Survey (TLMPS) to assess the pattern of mobile phone ownership in Tunisia along various individual characteristics. The sample includes 4,521 households and 9,807 individuals in the age range of 18-64 years. The variables used in the analysis are whether individuals own a mobile phone or not, gender, marital status, education level, labour market status, residence in urban or rural area, age group, and quintiles of household wealth. As shown in Table 3, we calculate the proportion of individuals who do not own mobile phones across these explanatory variables.

The percentage of women not owning mobile phones (22 per cent) is about 2.5 times that of men (8 per cent). Similarly, in both rural and urban areas, more women do not own mobile phones compared to men. The percentage not owning mobile phones is highest for women in rural areas (37 per cent). Across marital statuses, married men (8 per cent) had similar rates of not owning phones to single men. The proportion not owning mobile phones is highest for divorced women (37 per cent), followed by widowed women and is lowest for single women, who are presumably younger. Men in the age range of 20 to 54 years have quite uniform and relatively high ownership rates of mobile phones. For women quite uniform and comparatively higher mobile phone ownership is found among those 15 to 44 years. However, the percentage not owning phones is still 2-3 times higher than that of men in the same age range. Phone ownership increases as the quintile of household wealth increases, for both men and women; the range being higher for women, varying from 47 per cent not owning phones for poorest to 9 per cent for richest. As the education level increases, mobile phone ownership increases appreciably; with the variation again being largest for women, ranging from 39 per cent not owning phones for those with less than basic education to 2 per cent for those with university and above education. For men, phone ownership is quite uniform across labour market statuses; but is somewhat lower for those out of labour force. For women, working in the public sector or in formal private wage work is associated with high levels of phone ownership. It is lowest for women working as family enterprise workers in agriculture sector, where only about half own phones.

▶ **Table A3.** Percentage of individuals who do not own mobile phones by sex and selected characteristics

	Male	Female	Total
Urban/Rural			
Urban	7.5	14.6	11.2
Rural	10.5	37.4	24.5
Marital status			
Single	8.1	14.6	11.1
Married	8.3	24.7	17.1
Divorced		36.7	32.3
Widowed		30.5	31.3

	Male	Female	Total
Age Group			
15-19	10.0	16.6	13.3
20-24	6.5	11.6	9.2
25-29	7.3	14.2	10.9
30-34	5.6	13.7	9.7
35-39	8.0	15.8	12.0
40-44	8.6	20.9	14.7
45-49	8.9	28.6	19.2
50-54	7.9	34.7	21.8
55-59	11.4	41.3	25.3
60-64	18.0	44.1	32.4
Quintiles of household wealth			
Poorest	15.9	47.3	33.0
Second	9.9	28.0	19.3
Third	8.0	16.7	12.2
Fourth	7.3	13.0	10.2
Richest	3.4	9.1	6.4
Educational Attainment			
Less than basic	14.8	39.1	29.3
Basic	5.8	14.2	9.6
Secondary & postsecondary	5.5	6.9	6.1
University & above	3.4	2.1	2.7

Labour Market Status			
Public sector worker	5.8	5.3	5.6
Formal private wage worker	5.1	7.2	5.6
Informal private wage worker	6.1	16.8	7.8
Employer	2.1		2.0
Family enterprise worker: non-agriculture	4.2	21.2	7.0
Family enterprise worker: agriculture	6.8	49.2	20.1
Unemployed	8.1	9.8	9.2
Out of the labour force	17.8	24.7	23.4
Out of manpower basis	6.9	25.4	18.3
Total	**8.4**	**21.8**	**15.3**

Source: Authors' calculations based on Tunisia Labor Market Panel Survey 2014

Note: Universe is made up of the population 18-64 years of age. Family enterprise workers are either self-employed or unpaid family workers; the unemployed are those not working, desiring to work and available for work (does not require active search); those out of the labour force are those of working age and who are not employed and not unemployed based on the definition above; out of manpower basis are those who are permanently disabled. Blank cells had fewer than 30 observations and were suppressed.

8. Appendix 4: Sampling and weights: firms survey

The sample universe for the firm survey was firms that had 6-199 workers pre-COVID-19. Stratified random samples were used to ensure adequate sample size in key strata. A target of 500 firms per country was set. The sampling strategy was incorporated into the weights.

Up to three attempts (five in Tunisia first wave) 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 third (or fifth) failed attempt, a firm was treated as a non-response and a random firm from the same stratum was used as an alternate.

8.1 Sampling frames

National Institute of Statistics (INS) and Agency for the Promotion of Industry and Innovation (APII) databases

- Tunisia did not have a Yellow Pages or similar database, so administrative/statistics data sources had to be used
- The sample started with the INS frame with 1,238 firms with 6-200 wage employees||
  - Firms were stratified into: (1) Agriculture (2) Industry (3) Construction (4) Trade (5) Accommodation (6)
  - Firms were also stratified by size in terms of 6-49 versus 50-200 employees
  - A random stratified sample (order) was selected
  - Further restricted to firms with 6-199 workers in February 2020 based on an eligibility question during the phone interview
  - This sample frame was eventually exhausted
- After the INS sample was exhausted, the APII sample was used
  - APII only covered firms with 10+ workers
  - APII only covered (1) services & transport, and (2) industry
- Weights are based on the underlying data on all firms from INS, specifically: Enterprises privées selon l›activité principale et la tranche de salariés (RNE 2019).
  - We ultimately stratify the Tunisia weights by industry and firms sized: 6-9 employees (since APII only covered 10+),10-49, and 50-199 in wave one and combine 6-49 and in some cases 6-199 in subsequent waves.

8.2 Initial weights

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

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

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

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

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, Ts, by the fraction eligible among contacted firms, es. 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.

8.3 Panel weights

All firms who consented to follow up in the prior wave were contacted in an attempt to include them in the subsequent wave. A total of 25.1 per cent (121 of 482) of Q1 2021 firms in Tunisia were successfully followed to Q2 2021.

We compute a response adjustment factor, r, to weight firms retained in the panel from one wave to the next, based on the predicted probably of attrition, Pr(A), from a probit model with attrition as the binary outcome, as follows:

$$r = \frac{1}{1 - Pr\ (A)}$$

This response adjustment factor multiplies the preceding wave weights for firms that were retained, in order that they can represent the preceding (and ultimately base) wave universe.

The panel attrition models use a few base wave variables in addition to the strata[6] used for initial weighting. Specific additional variables are

- Operating status in base wave (open normal, open reduced hours, closed)
- Revenue change (categorically) since February 2020
- Industry as reported in the survey data (five categories)
- Size as reported in the survey data at the time of the wave (four categories)

8.4 Refresher and combined weights

The refresher weights are created in an identical fashion to the base wave, initial weights, but for the refresher samples within the subsequent waves of the panel. For subsequent waves (waves after the base wave), cross-sectional weights combine the panel and refresher data. Weights are normalized to one within each of the panel and refresher samples and then combined into a single, representative cross-sectional weight.

[6] In the case of Tunisia due to the change in sample frames, the strata had to pool some sizes starting in Q2 2021. Moreover, the initial strata of combined size and sector had small cell sizes, some of which fully attrited, so were combined across sizes and modified to create estimable panel models (see strata variable in the data for further details).

9. Appendix 5: Attrition and non-response: firms survey

Table 4 includes responses and response rates. For the panel, response rates are among those who consented to 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 responses are based on the final result, which may have been on the first, second, or third attempt (or fourth or fifth in Tunisia Q1 2021).

Table A4. Responses and response rates for firms, by wave

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

Source: Authors' calculations based on Tunisia COVID-19 MENA Monitor Q1 2021 and Q2 2021 waves

Note: Responses are for firms who consented to follow-up in the previous wave. Not shown are: 84 Q1 2021 firms who did not consent to follow-up.

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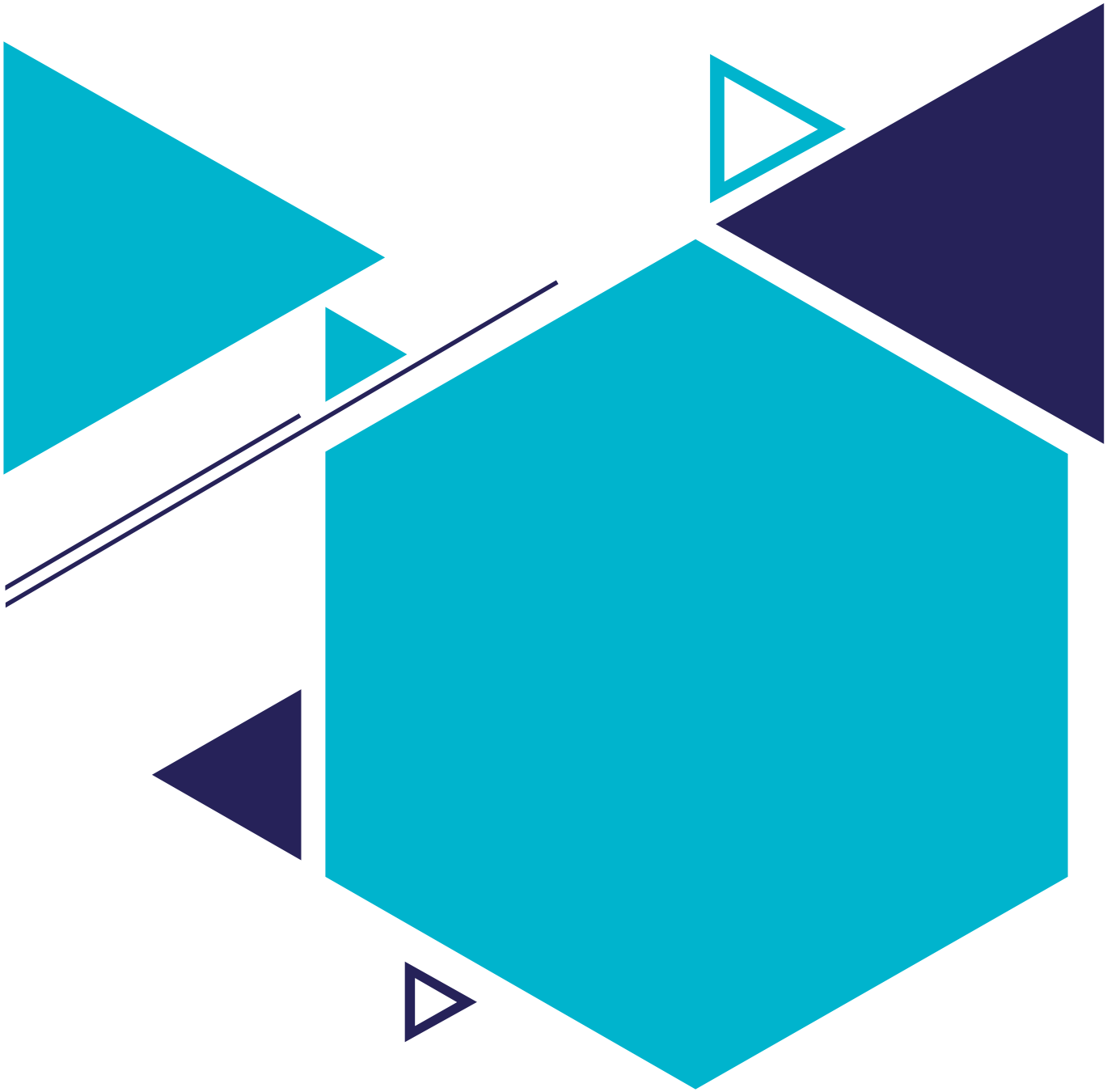

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