MENA Crisis Tracker – 1/3/2022

The MENA Crisis Tracker is a weekly newsletter that provides information on public health indicators, expected economy-wide losses, and social consequences of the ongoing COVID-19 crisis in the Middle East and North Africa. COVID-19's spread, fatality, and economic costs are particularly difficult to ascertain when testing is far from universal. Data transparency is key to facilitate context-specific policy responses, which require tradeoffs between public health outcomes and socio-economic conditions in the short run. But publicly available data must be interpreted with caution because testing is far from universal. In addition to presenting COVID-19 related indicators with caveats, the Tracker provides links to publicly available research on the economics of the pandemic and potential policy responses.

Highlights from this edition[1]:

- **Missing Data Alert**: In the absence of universal testing, general mortality rates during 2021 can be compared to pre-pandemic mortality as a proxy for the public health consequences of the pandemic. Unfortunately, MENA countries do not offer publicly available data on deaths.
- High-income MENA countries lead in testing per capita – see Public Health Tracker. Testing data for Algeria, Yemen, and Syria has been updated using Worldometer data, but WB staff cannot corroborate the information using official government sources. Many MENA countries have positivity rates above the WHO's recommendation of 5% or lower.
- The Tracker presents information on vaccination efforts across MENA. See last section under Public Health Tracker.
- Global evidence indicates that testing per person tends to rise with income per capita, after controlling for population size and the quality of public health systems. This finding confirms that developing economies are at a disadvantage relative to rich countries. See What Is Correlated with Testing per Capita.
- Expected macroeconomic losses due to the pandemic have surged since March 2020, reaching 6.3% of MENA's 2019 GDP as of November 30th, 2021 relative to the counterfactual scenario of no crisis. The expected GDP losses are highest for Lebanon, with an expected accumulated loss in 2021 equivalent to 10.2% of its 2019 GDP. See Macroeconomic Costs.
- The economic losses have increased poverty relative to the counterfactual scenario without the crisis. Yet estimates of increases in the number of poor people might be underestimated. See Poverty and Social Costs.
- In many MENA countries, food prices have risen by more than 20 percent since February 14th, 2020. See Insights from the MENA Welfare Observatory.

[1] The editor for this edition is Ha Nguyen, Senior Economist, Office of the Chief Economist for MENA. Excellent data assistance provided by Rana Lotfi. Our thanks to Minh Cong Nguyen for providing the poverty estimates in Table 8, and to Ifeanyi Nzegwu Edochie for providing the food prices heat map (Figure 4). This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work.

- Insights from Academia includes a new paper that examines labor reallocation and remote work during the pandemic.

Table of Contents

I. Public Health Tracker

Under the hypothetical of universal testing, the spread of the virus is measured by the number of COVID-19 cases per capita, and its fatality rate is tracked by the number of deaths per capita. Given that the incidence of testing around the world and in MENA is far from universal, indicators of the spread are neither strictly reliable nor comparable across countries. In fact, it is likely that countries with more widespread testing will present higher rates of spread and fatality. Hence the degree of testing itself must be tracked to put the indicators of the spread and deaths in perspective. Testing is tracked by two indicators: the number of tests per capita and the test positivity rate (number of positive cases over total tests) which tends to decline with the incidence of testing. Table 1 provides a summary of the indicators and their caveats.

Table 1: Summary of Public Health Indicators

	Indicator	Caveats
Testing	Tests per capita	Testing data is sparse for some economies
	Test positivity rate (number of positive cases over total tests)	Emerging rule-of-thumb: Test-positivity rate should be below 5 percent
Spread	Number of COVID-19 cases per capita	Testing is not universal; many cases may be missed
Fatality	Deaths due to COVID-19 per capita	COVID-19 deaths may be misattributed, or at-home deaths may be missed; deaths may be underestimated

Missing data alert: Given that testing is not universal, an arguably more trustworthy indicator of the fatality rate is the difference between total deaths reported during the spread and pre-pandemic mortality trends. Currently, most MENA countries do not provide readily accessible historical or recent data on the number of deaths (due to any cause). This alone indicates that MENA faces a transparency challenge.

Another caveat to keep in mind is that each country may be at a different stage of the pandemic. A country may seem to be faring better than another, although at the peak of the outbreak it may suffer more. Without universal testing, the true spread of the virus can only be understood by random population testing.[1][2] Notably, reported numbers are susceptible to selection bias, since it is common for only those with symptoms to be tested. Random population testing has only been undertaken in a few places. In New York State, random testing of 3000 individuals revealed that 14 percent were carriers of the COVID-19 antibody as of April 23.[3] In Indiana, random population

[1] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7138654/

[2] https://www.medrxiv.org/content/10.1101/2020.04.09.20059360v2

[3] https://www.reuters.com/article/us-health-coronavirus-usa-new-york-idUSKCN2252WN

testing in April suggested that the virus had a 2.8% prevalence rate in the state, implying that for every officially reported case of COVID-19, 10 cases were unreported.[4] In a state in southern Brazil, a program was launched to randomly test 18,000 people. A significant upward trend was observed over the course of three surveys, with an increase in seroprevalence from 0.135% in the first round to 0.222% in the third during the early days since the arrival of the virus in southern Brazil. [5]

In the MENA Region, few studies have tried to assess the seroprevalence of antibodies against SARS-CoV-2. In Al-Madinah, Saudi Arabia, after studying samples from 1,212 healthy blood donors between mid-May and mid-July, 2020, a study showed a seroprevalence of 19.3%.[6] In Iran, and based on a larger sample size of 8,902 individuals, random testing conducted between April and June 2020 showed a seropositivity rate of 17.1%.[7] A second study conducted in Iran's Guilan province during April 2020, based on 551 individuals, exposed an even higher seroprevalence of 22%.[8] However, it is important to notice that seropositivity rates may largely vary depending on the population and the surrounding circumstances. In Jordan, after studying 746 healthy blood donors living under strict lockdown measures between January and June 2020, it was found that none of the individuals carried COVID-19 antibodies. Still, it is possible that the spread of the virus could be much higher than reported by official statistics.

News Highlights:

- Report sheds light on the distributional impacts of Covid-19 in the Middle East and North Africa
- Oil rally hits Omicron demand roadblock as glut worries rise
- Qatar sees spike in COVID cases as it enters 'third wave'
- Kuwait encourages citizens to leave several European countries over omicron fears
- Can the COVID-19 pandemic be defeated in 2022?

[4] https://www.medrxiv.org/content/10.1101/2020.04.09.20059360v2

[5] https://www.nature.com/articles/s41591-020-0992-3

[6] https://www.sciencedirect.com/science/article/pii/S1319562X20306641

[7] https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30858-6/fulltext

[8] https://www.medrxiv.org/content/10.1101/2020.04.26.20079244v1

The information below covers data for the date ending: January 3, 2022.

1. Testing as of January 3, 2022.

Table 2 presents each country's tests per million of population and the test-positivity rate. Test positivity rates have improved slightly in a few countries yet remained largely unchanged in most countries since January 2021. Last week showed no change in test positivity rate of the MENA average (6%) or of almost all countries relative to the preceding week—one country showed a marginal increase in that ratio. A low test-positivity rate in cases of low tests per million, or a high test-positivity rate suggests that testing is selective and insufficient relative to the spread of the disease.

Based on last week's data, Arabian gulf countries continue to lead the region in terms of having the highest tests per million in the region, specifically the UAE (11,146,597), Oman (4,715,717) and Bahrain (4,507,837). These three, joined by Saudi Arabia, Djibouti, and Yemen, also have the lowest test-positivity rates below the 5% recommended by the WHO.

Three countries, Syria, Algeria and Yemen, have consistently lacked reliable testing data over the course of the pandemic, have not been providing official updates, and have low tests per million. While the Worldometer database occasionally has updated testing data for these three countries, World Bank staff are unable to corroborate this data from the Worldometer database using official, government sources.

Oman has not released new testing data since September 13th, 2021, Egypt has not released new testing data since September 20th, 2021 and Lebanon has not released new testing data since November 22nd, 2021.

Table 2. COVID-19 Tests per Million of Population as of January 3, 2022

Country	Tests/1M	Total Tests	Tests last week	Cases/Tests (%)
United Arab Emirates	11,146,597	112,244,691	2,959,084	1
Oman	4,715,717	25,000,000	-	1
Bahrain	4,507,837	8,069,956	151,769	4
Kuwait	1,375,096	6,002,841	140,160	7
Jordan	1,313,846	13,605,243	268,328	8
Qatar	1,134,796	3,186,287	42,438	8
Saudi Arabia	937,363	33,396,224	586,841	2
Lebanon	707,364	4,795,578	-	15
West Bank and Gaza	540,996	2,856,092	27,516	15
Iran	490,412	41,982,912	491,391	15
Iraq	405,206	16,847,106	80,308	12
Libya	290,458	2,036,573	31,310	19
Morocco	289,475	10,874,879	114,445	9
Tunisia	282,480	3,390,992	73,814	21
Djibouti	256,906	259,365	2,413	5
Egypt*	35,098	3,693,367	-	10
Yemen*	8,609	265,253	-	4
Syria*	8,064	146,269	-	34
Algeria*	5,126	230,861	-	95
MENA Region	**629,378**	**288,884,489**	**4,969,817**	**5**

Source: Authors' calculations based on data from Worldometer (https://www.worldometers.info/coronavirus/). Color coordination done as follows: 0-5% Green, 6-10% Yellow, 11-19% Orange, 20% + Red. "-" means data is not currently available. Countries should aim to be below the 5 percent test positivity rate threshold, according to a May 12th advisory statement by the World Health Organization. * = World Bank staff have not been able to corroborate the data reported in the Worldometer database.

2. Spread of COVID-19 as of January 3, 2022

Table 3 presents the number of reported COVID-19 cases per million of population, cases in the past week and percentage change in cases last week compared to the preceding week. Bahrain (158,275), Lebanon (108,081), Jordan (102,901) and Kuwait (95,829) have the highest rates. Only one of these countries, Jordan, posted a percentage decrease in weekly cases (-22%), while Bahrain, Lebanon and Kuwait posted elevated percentage increases in weekly cases (171%, 73%, and 202% respectively).

In countries with ongoing conflicts such as Iraq, Libya, Syria, and Yemen, weak testing capacity could often lead to fewer reported positive cases and paint a potentially misleading picture of low spread. In this regard, Iraq (-20%) and Syria (-27%) reported moderate decreases in positive cases, whereas Libya (17%) and Yemen (7%) reported moderate increases in positive weekly cases. Only

three other MENA country reported decreases in Covid cases last week compared to the preceding week: -12% in West Bank and Gaza, -12% in Iran, and -3% in Egypt. Algeria reported a moderate increase in weekly covid cases, of 23%. Seven other countries reported elevated increases in weekly covid cases, ranging from 119% in the UAE to 222% in Morocco.

Table 3. Total Cases per Million Population as of January 3, 2022

Country	Cases/1M	Total Cases	Cases Last Week	Cases last week relative to previous week
Bahrain	158,275	283,344	3,539	171%
Lebanon	108,081	732,733	20,163	73%
Jordan	102,901	1,065,571	12,703	-22%
Kuwait	95,829	418,332	3,181	202%
Qatar	89,878	252,359	4,267	174%
West Bank and Gaza	83,342	439,987	1,724	-12%
United Arab Emirates	76,177	767,093	15,760	119%
Iran	72,388	6,196,913	12,151	-12%
Tunisia	60,666	728,260	5,465	210%
Oman	57,689	305,832	727	177%
Libya	55,572	389,650	4,252	17%
Iraq	50,367	2,094,097	1,613	-20%
Morocco	25,734	966,777	10,658	222%
Saudi Arabia	15,665	558,106	5,311	172%
Djibouti	13,555	13,685	113	205%
Algeria	4,866	219,159	2,522	23%
Egypt	3,679	387,159	5,816	-3%
Syria	2,775	50,337	248	-27%
Yemen	329	10,130	15	7%
MENA Region	**34,596**	**15,879,524**	**110,228**	**45%**

Source: Authors' calculations based on data from Worldometer (https://www.worldometers.info/coronavirus/). Color coordination done as follows: Any % decrease is Green, 0-24% increase is Yellow, 25-49% increase is Orange, 50%+ is Red.

3. COVID-19 Fatality as of January 3, 2022

Table 4 shows the deaths per million of population, and the last week's percentage change in deaths relative to the preceding week. A limitation of this measure is that it may underreport deaths by not counting deaths that occur at home, or by misattributing COVID-19 deaths to other causes. Due to either case, the numbers reported may be underestimates. Tunisia (2,131 per million of population) has the highest rate in the region, followed by Iran (1,538) and Lebanon (1,350). Iran

joined eight other MENA countries—Jordan, West Bank and Gaza, Iraq, Kuwait, Saudi Arabia, Egypt, Algeria and Yemen—in posting declines in Covid-related deaths last week relative to the preceding week, ranging from -2% to -100%. Five other countries had low-to-moderately high increases in deaths, ranging from 3% in Syria to 43% in the UAE, whereas Oman and Qatar had increases in deaths, (200%), both from very low bases. Djibouti again had no covid-related deaths during the week.

Table 4. COVID-19 Fatality Rate – Deaths/Million population as of January 3, 2022

Country	Deaths/1M	Total Deaths	Deaths last week	Deaths last week relative to previous week
Tunisia	2,131	25,586	59	4%
Iran	1,538	131,680	280	-12%
Lebanon	1,350	9,154	112	6%
Jordan	1,227	12,710	223	-13%
West Bank and Gaza	886	4,675	36	-3%
Libya	816	5,722	71	34%
Bahrain	779	1,395	1	-
Oman	777	4,117	3	200%
Iraq	581	24,167	37	-45%
Kuwait	565	2,468	0	-100%
Morocco	395	14,855	27	42%
Saudi Arabia	249	8,879	8	-11%
Qatar	220	618	3	200%
United Arab Emirates	215	2,168	10	43%
Egypt	207	21,797	189	-23%
Djibouti	187	189	0	-
Syria	160	2,905	30	3%
Algeria	140	6,291	53	-2%
Yemen	64	1,984	1	-86%
MENA Region	**613**	**281,360**	**1,143**	**-10%**

Source: Authors' calculations based on data from Worldometer (https://www.worldometers.info/coronavirus/). Color coordination done as follows: Any % decrease is Green, 0-24% increase is Yellow, 25-49% increase is Orange, 50%+ is Red. "—" indicates not applicable due to change from 0 cases the previous week.

4. COVID-19 Vaccinations as of January 3, 2022

Countries in the MENA region face mixed prospects of vaccine rollout in 2021-22. Arabian Gulf countries such as the UAE, Qatar, and Kuwait lead the region in the percent of the population vaccinated at 90.3%, 75.7%, and 77.3%, respectively (Table 5).

Data on vaccine doses administered has been inconsistent across the region. While most MENA countries have been consistently updating their vaccination numbers, other countries have been slow to release updated figures.

Table 5. COVID-19 Vaccinations as of January 3, 2022

Country	% of population vaccinated	Cumulative COVID-19 vaccine doses administered	Vaccine Contracts	Vaccine clinical trial participation (Y/N)	Vaccine imports through COVAX Facility (Y/N)
Algeria	12.6%	12.55 million by December 21st, 2021	Sputnik V, AstraZeneca, and Sinopharm	N	Y
Bahrain	67.4%	3.23 million by January 2nd	Pfizer and BioNTech, Sinopharm, AstraZeneca	Y	N
Djibouti	9.1%	200,309 by December 30th, 2021	Sputnik V	N	Y
Egypt	19.8%	52.82 million by December 24th	40m from Sinopharm, AstraZeneca	Y	Y
Iran	60.2%	116.21 million by December 26th	Sputnik V	N	N
Iraq	13.7%	14.14 million by December 27th	1.5m doses – Pfizer, Sinopharm, 1m Sputnik V	N	Y
Jordan	38.3%	8.27 million by December 28th	3m doses - Pfizer and BioNTech	Y	Y
Kuwait	77.3%	6.94 million by December 28th	1m doses - Pfizer, BioNTech, AstraZeneca	N	Y
Lebanon	27.1%	4.39 million by January 2nd	2.1m Pfizer, AstraZeneca	N	Y
Libya	11.9%	2.68 million by December 30th	$9.6 million of vaccines contracted with WHO	N	N
Morocco	61.6%	50.27 million by December 27th	65 million - Sinopharm and AstraZeneca	Y	Y
Oman	55.3%	6.05 million by December 19th	370,000 Pfizer-BioNTech doses, AstraZeneca	N	N
Qatar	75.7%	5.21 million by January 2nd	Pfizer-BioNTech and Moderna	N	Y
Saudi Arabia	65.7%	51.26 million by January 2nd	Pfizer-BioNTech	Y	Y
Syria	4.3%	1.75 million by December 21st	5,000 doses received	N	Y
Tunisia	49.8%	12.21 million by January 2nd	2m doses – Pfizer, 1m Sputnik	N	Y
UAE	90.7%	22.41 million by December 24th	Sinopharm and Pfizer	Y	Y
West Bank & Gaza	28.3%	3.32 million by December 20th	37,440 Pfizer and 24,000 AstraZeneca delivered through COVAX	N	Y
Yemen	1.2%	786,027 by December 2nd	2.3 million doses with COVAX	N	Y

Source: Data on vaccination from Our World in Data (https://ourworldindata.org/covid-vaccinations). The Pfizer-BioNTech vaccine has been approved by the WHO for emergency use. Other vaccines have been approved on a national level as follows: Sinopharm in China, UAE, Bahrain, and Egypt; Sputnik V in Russia, West Bank and Gaza, Algeria, and Paraguay; AstraZeneca vaccine in the UK, India, Argentina, Morocco, Kuwait, and Mexico.

II. What Is Correlated with Testing per Capita?

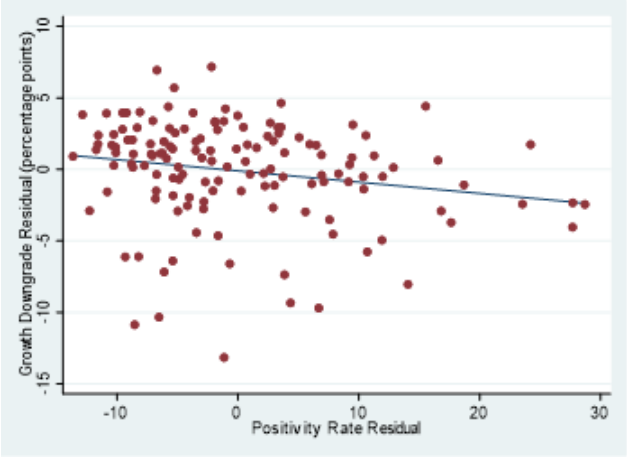
Using data on testing as of January 3, 2022 we can draw some insights about the correlates of testing across countries. The regression results reported in Table 6 below show that countries that are richer, have better health security and capabilities, or are smaller, tend to test more per capita. The regional fixed effects (not presented in Table 6) show that South Asia has the largest coefficient, followed by the Gulf Cooperation Countries group, then Europe and Central Asia. These are the only regions with statistically significant coefficients relative to East Asia and the Pacific, besides Sub-Saharan Africa reporting a negative coefficient. The conclusion is that richer countries test more, but there are no scale effects from being a larger economy. Arabian gulf countries on average appear to have more testing per capita than countries from other regions apart from South Asia after controlling for population size and GDP per capita.

Table 6. Correlates of Testing per Capita – Scale vs. Per Capita Income

Model	**OLS**		
Outcome Variable	**Log of Tests per Million of Population (as of January 3, 2022)**		
	(1)	**(2)**	**(3)**
Log of GDP per capita (constant 2010 US$), 2018	0.734***	0.723***	0.594***
	(0.084)	(0.086)	(0.086)
Log of Population, 2018	-0.272***	-0.292***	-0.299***
	(0.060)	(0.064)	(0.055)
Global Health Security Index, 2019	0.033***	0.032***	0.029***
	(0.010)	(0.010)	(0.010)
Days since the 100th case (January 2, 2022)		0.001	0.000
		(0.001)	(0.001)
Constant	9.376***	9.220***	10.819***
	(1.189)	(1.181)	(1.064)
Region Fixed Effects	NO	NO	YES
Number of observations	162	162	162
Adjusted R2	0.737	0.736	0.771

note: *** p<0.01, ** p<0.05, * p<0.1, Robust Standard Errors. East Asia & Pacific omitted.

Figure 1: Change in Forecasts October '20 - October '19 vs Total Positivity Rates (Cases/Tests %)



Note: Y axis is the difference in growth projections (using IMF WEO data) for year 2020, October 2020 minus October 2019. X axis is the total positivity rate is a percentage calculated by dividing total number of cases by total number of tests (using Worldometer data). Sample includes all countries for which data is available.

On the right, we introduce several control variables: log of GDP per capita in 2019 (in USD, October 2020 WEO), total trade value in GDP in 2019 (percent), days since first positive case until Nov. 30, 2020 (JHU), and tourism as a % of export in 2018 (WDI).

	Growth Downgrade (Oct 2020 minus Oct 2019)	
	[1]	[2]
Total positivity rate as of Dec 7, 2020	-0.0309	-0.0786***
	-0.0337	-0.0277
Log of GDP per capita in 2019		-1.583***
		-0.458
Tourism (% of exports in 2018)		-0.126***
		-0.0187
Trade (% of GDP in 2019)		-0.0055
		-0.0045
Days from the first confirmed case as Nov 30		-0.0038
		-0.0067
Constant	-9.072***	1.296
	-0.614	-1.726
Observations	139	139
R-square	0.00413	0.389

Standard errors in parentheses
* p<0.10, ** p<0.05, *** p<0.01

The downward trendline in Figure 1 that demonstrates the relationship between change in growth forecasts and total test positivity rate reveals a negative correlation between the two variables. Using a global sample for which data is available, regression results indicate that, even after controlling for log of GDP, tourism, and trade, a higher test positivity rate means a lower GDP growth forecast. As reported in Table 6, countries that are more developed tend to have higher incidences of testing. Figure 1 shows that countries who have maintained a low overall test positivity rate are likely to have a growth forecast.

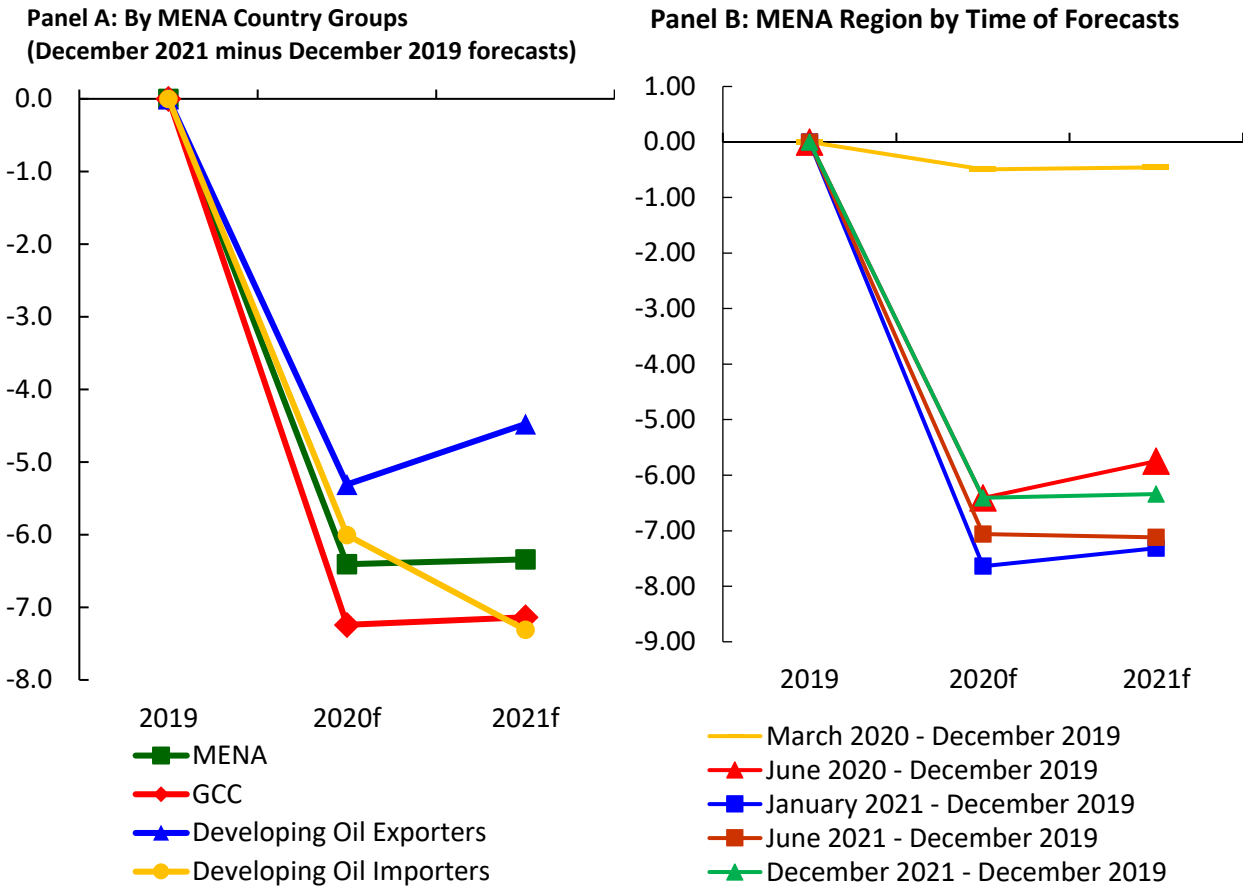
III. Macroeconomic Costs

Updated consensus growth forecasts by the private sector were released on November 30th, 2021 containing information available through November 28th, 2021. We compute the effect of the crisis on the level of economic activity (GDP) as the growth downgrade for 2020 plus the impact of the changes in growth forecasts for 2021. MENA's 2021 GDP level reflects a downgrade of 6.3 percentage points on average (see Panel A of Figure 2).

The largest GDP-level downgrade in 2021 is seen in forecasts for Developing Oil Importers (7.3 percentage points lower than what was implied by the forecasts of December 2019), followed by GCC (7.1 percentage points) and Developing Oil Exporters (4.5 percentage points). These GDP-level downgrades can be interpreted as the expected macroeconomic costs of the COVID-19 pandemic and oil price collapse as a percent of MENA's 2019 GDP.

The expected GDP losses for 2021 have remained substantial as more information became available. In addition, the recovery in GDP level in 2021 will not be a V-shaped recovery (Panel B of Figure 2). The 2020 GDP level downgrade for MENA, using the baseline December 2019 forecasts, was 0.5 percentage points in March, 1.8 percentage points in April, 5.1 p.p. in May, 6.4 p.p. in June, 6.9 p.p. in July, 7.3 p.p. in August, 7.5 p.p. in September, 7.7 p.p. in October, 7.4 p.p. in November, and 7.5 p.p. in December. Then, in 2021, the GDP level downgrade for MENA has been 7.6 percentage points in January of 2021, 7.3 p.p. in February, 7.5 p.p. in March, and 7.2 p.p. in April, 7.4 p.p. in May, 7.1 p.p. in June, 7.2 p.p. in July, 6.6 p.p. in August, 6.2 p.p. in September, 6.1 p.p. in November and 6.3 p.p. in December. Amid a general improving trend, on average, of private sector forecasters' views of the cost of the crisis during 2020 and into 2021, the slight downgrade in the December GDP forecast reflects forecasters' concerns about implications of the new COVID Omicron variant.

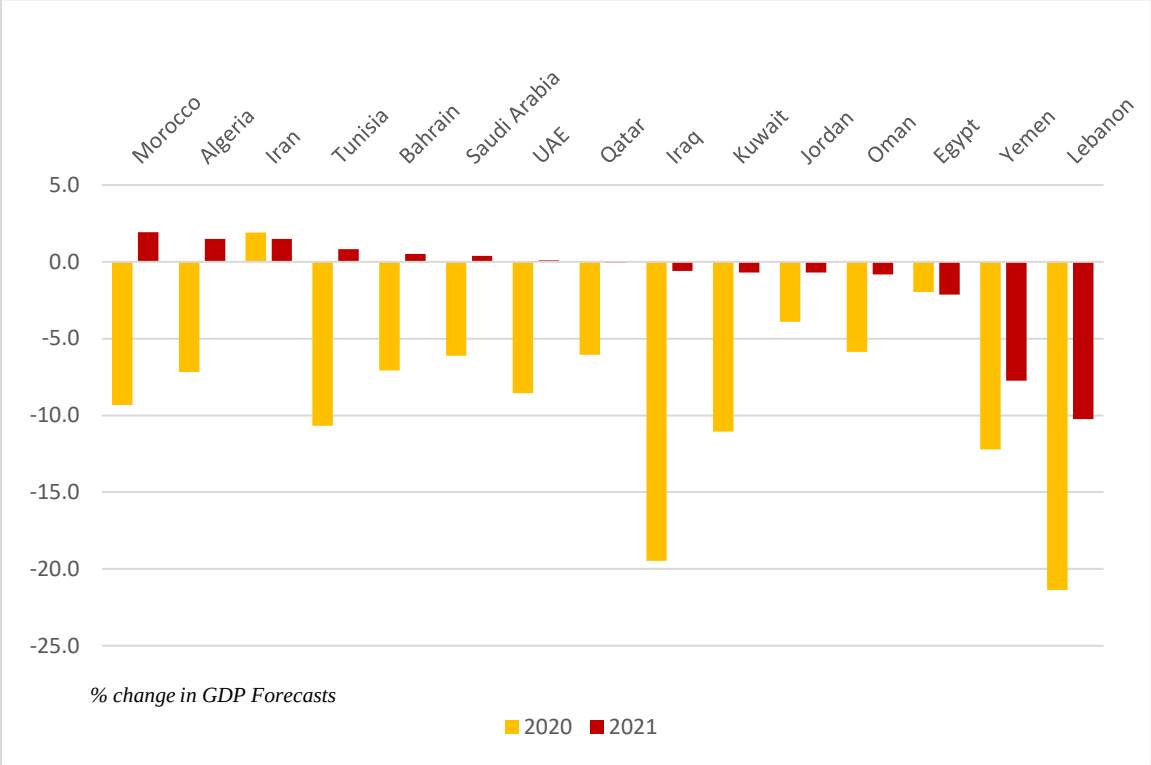
Figure 2. Not a V-Shape Recovery Relative to the Counterfactual of No Crisis: The Expected GDP Losses of the Crisis



Sources: World Bank Staff calculations based on data from Focus Economics.
Notes: "*GCC"* includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE. "*Developing Oil Exporters*" includes Algeria, Iran, Iraq, and Yemen. "*Developing Oil Importers"* includes Egypt, Jordan, Lebanon, Morocco, and Tunisia. "*MENA*" includes countries in all three groups. Data for Egypt correspond to its fiscal year, running from July 1 to June 30 in Egypt.

Figure 3 presents expected GDP-level downgrades by various private sector forecasters for each country. The 2021 GDP-level forecasts for half the countries were still downgraded, though now better off than the 2020 GDP-level forecasts computed in December 2019. Lebanon has the largest downgrade. Figure 3 also reveals that the expected GDP losses during 2020 are expected to be recovered during 2021 for almost half of the countries. For the other half of MENA countries' GDPs, the current December forecasts for 2021 are slightly worsened over the November forecasts for 2021 (except for Egypt and Oman), but the GDP forecasts remain below their no-crisis counterfactual levels.

Figure 3. Recovery Relative to the Counterfactual of No Crisis: Expected GDP-Level Downgrades of the Crisis by Country in 2020 and 2021



Source: World Bank Staff calculations based on data from Focus Economics. Note: Data for Egypt corresponds to fiscal years (July 2019 -June 2020, and July 2020 – June 2021) not calendar years, which makes it not comparable to the data from other countries.

IV. Poverty and Social Costs

The crisis shock will increase poverty in 2021. The uncertainty of the magnitude of the economic shock caused by the pandemic, as well as the uncertainty of the distribution of its effects on household per capita consumption, imply that any estimate of the expected percent changes in poverty due to the pandemic relies on restrictive assumptions. Tables 7 and 8 present alternative estimates of expected percent changes in poverty headcounts for 8 developing MENA economies. Both tables show estimated impacts of the pandemic by applying poverty-rate-to-growth elasticities to changes in GDP forecasts by Focus Economics. In both sets of estimates, the elasticities are based on the assumption that the economic shock is "inequality-neutral," which means that they rely on the assumption that all households are impacted by a constant proportion of the GDP shock equal to 0.85, which is known as the "pass-through rate."

Table 7 uses a common elasticity for the eight MENA countries at each poverty threshold, which is the median elasticity for the sample of MENA countries listed in the table at each poverty line. These elasticities were estimated with pre-crisis data by Mahler, Lakner, Aguilar and Wu (2020).[2] In contrast, the estimates reported in Table 8 allow for the poverty-to-GDP elasticities to vary across countries as well as across poverty thresholds. These estimates were provided to the Tracker by the World Bank's MENA Poverty team.

Lastly, please note that if a country has negligible pre-crisis poverty rates at low poverty-line thresholds, the absolute change in poverty rates (the number of poor people as a share of the population) can also be negligible. This is the case of Lebanon in Tables 7 and 8.

[2] The median MENA regional inequality-neutral elasticity for the international poverty rate ($1.9 in 2011 PPP) is -4.8, for the lower middle-income poverty rate ($3.2 in 2011 PPP) is -3.3, and for upper middle-income poverty rate ($5.5 in 2011 PPP) is -2.3. All these MENA-specific elasticities are larger in absolute values than median elasticities for the world as provided by World Bank Economist, Daniel Mahler of the Development Economics Data Group (DECDG) on May 1, 2020. The median global elasticities are lower: -1.4 for the $1.9 threshold (1.4% decline in $1.90 headcount ratio per 1% increase in GDP), the median elasticity for $3.2 is -1.2, and the median elasticity for $5.5 is -0.9.

Table 7. Estimates of Increases in Poverty Headcounts due to the Crisis based on Private-Sector Growth Forecasts as of November 2021 and Median MENA Poverty Elasticities (percentage of pre-crisis poverty rates)

Country	Change in Forecasts (%)	% Change in Poverty Rates Due to the Crisis GDP Losses		
		International poverty rate ($1.9 in 2011 PPP)	Lower middle-income poverty rate ($3.2 in 2011 PPP)	Upper middle-income poverty rate ($5.5 in 2011 PPP)
	2021	2021	2021	2021
Algeria	1.5	-7.2	-5.0	-3.5
Egypt	-2.1	10.1	6.9	4.8
Iran	1.5	-7.2	-5.0	-3.5
Iraq	-0.6	2.9	2.0	1.4
Jordan	-0.7	3.4	2.3	1.6
Lebanon	-10.2	49.0	33.7	23.5
Morocco	1.9	-9.1	-6.3	-4.4
Tunisia	0.8	-3.8	-2.6	-1.8

Source: MNACE Staff calculations based on data from Focus Economics and poverty-GDP elasticities by Daniel Mahler (World Bank, DECDG). The median MENA regional inequality-neutral elasticity for the international poverty rate ($1.9 in 2011 PPP) is -4.8, for the lower middle-income poverty rate ($3.2 in 2011 PPP) is -3.3, and for upper middle-income poverty rate ($5.5 in 2011 PPP) is -2.3. * indicates that pre-crisis poverty rates at the indicated thresholds were estimated at zero. Forecasts for Egypt are based on data from its fiscal year of 2021, which runs from July 1st, 2020 to June 30, 2021.

Table 8. Estimates of Increases in Poverty Headcounts due to the Crisis based on Private-Sector Growth Forecasts as of November 2021 using Varying Elasticities (percentage of pre-crisis poverty rates)

	Change in forecasts (%)	% Change in Poverty Headcount Due to Expected GDP Losses from the Crisis		
Country	2021	International poverty rate ($1.9 in 2011 PPP)	International poverty rate ($3.2 in 2011 PPP)	International poverty rate ($5.5 in 2011 PPP)
Algeria	1.5	17.0	28.3	17.0
Egypt	-2.1	14.8	10.9	3.4
Iran	1.5	-27.8	-22.1	-16.2
Iraq	-0.6	130.5	65.7	27.1
Jordan	-0.7	1.3	16.8	13.3
Lebanon	-10.2	0.0	-	223.1
Morocco	1.9	22.1	22.9	16.2
Tunisia	0.8	53.9	41.9	28.3

Source: World Bank Staff calculations based on data from Focus Economics and varying poverty-GDP elasticities. "—" indicates that pre-crisis poverty rates at the indicated thresholds were estimated at zero.[3]

As mentioned, the estimates of the impact of the crisis on the number of poor people presented in Tables 7 and 8 rely on the weak assumption that the impact is "inequality neutral." Yet, it is likely that some individuals or households will be more severely affected than others. Across the region, those at risk of falling into poverty are probably self-employed, informal sector workers who lack social protection, and individuals working in sectors directly hit by the COVID-19 crisis. Migrant workers—for example in GCC countries—are excluded from safety nets available to citizens. In addition, the crisis is affecting some industries more than others, which implies that the economic risk of individuals depends on their sector of employment. For example, hard-hit sectors include tourism, retail, textile, and garment industries, which are particularly salient for the economies of Lebanon, Tunisia, Morocco, and Egypt. Individuals whose livelihoods are tied to these sectors are probably at a higher risk of falling into poverty. Thus, the estimates of the expected increases in the number of poor people need to be interpreted with a grain of salt. But it suffices to say that poverty is expected to rise, possibly by large numbers.

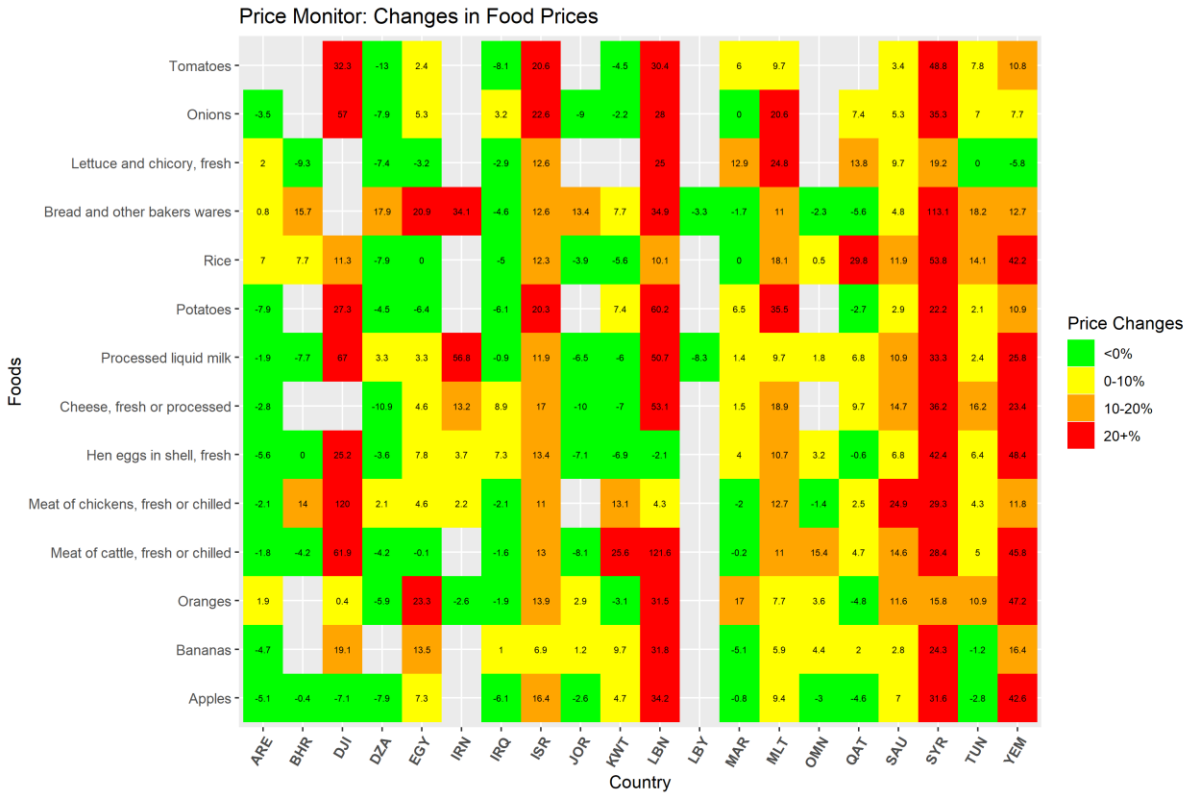
[3] The estimates of the increase in the number of poor people relative to the counterfactual scenario of no crisis are based on simulations. The results are sensitive to the pre-Covid distribution of household consumption per capita. In the case of Lebanon, the original data come from the 2011/2012 household survey. The poverty rates since then were estimated by applying a pass through of GDP per capita growth to household per capita consumption, assuming that all households were affected by the same proportion -- the inequality-neutral shock assumption. Earlier this month, the revised 2011 purchasing power parities data (released in May 2020 from the International Comparison Program (ICP)) was updated in the poverty calculation. The result was that measured poverty in 2011 and all subsequent years were estimated to be lower than previously thought. More importantly, the distribution of per capita consumption at the bottom tail (low levels of per capita consumption) is flat, and thus the poverty elasticity with respect to GDP shocks also fell. This explains why the current estimates in Table 8 for Lebanon and other countries are lower than those previously reported in this Tracker.

V. Insights from the MENA Welfare Observatory (Poverty Team)

1. Food Price Changes

COVID-19 poses considerable risks to already vulnerable populations. One of these risks come from rising food prices, which have come under stress due to breakdowns in global supply chains. Food-price inflation is assessed here by analyzing changes in food prices since February 2020 (prior to COVID-19) across the MENA region, for five food categories: carbohydrates, diary, fruits, meats, and vegetables. Across the region food prices have been rising (see Figure 4). In most countries price increases have been modest (5% or less) but in Djibouti, Iran, Lebanon, Syria, Yemen, and even Malta prices of staples have increased by more than 20 percent since February 14th, 2020. Lebanon, Djibouti, Syria, and Yemen have been particularly hard hit, with prices increasing across the board between February 14, 2020 and December 14, 2021. Since food expenditures tend to account for a large share of poor households' consumption relative to rich households, food inflation tends to be regressive.

Figure 4: Food Price Changes between February 14, 2020 and as of December 14, 2021



Note: WB staff calculations based on food price data from the FAO.

VI. Insights from Academia

1. Labor Reallocation and Remote Work During COVID-19: Real-time Evidence from GitHub
by Grant R. McDermott & Benjamin Hansen

This paper investigates the effect of the COVID-19 pandemic on labor activity using real-time data from millions of GitHub users around the world. It shows that the pandemic triggered a sharp pattern of labor reallocation at both the global and regional level. Users were more likely to work on weekends and outside of traditional 9 am to 6 pm hours, especially during the early phase of the pandemic. The paper also documents considerable heterogeneity between different user groups and locations. Some locations show a steady reversion back to historical work patterns, while others have experienced persistent trend deviations in the wake of COVID-19. The pattern of labor reallocation is slightly more pronounced among males, suggesting that men may have benefited more from the increased flexibility provided by remote work than women. Finally, the pattern of reallocation was accompanied by a simultaneous increase in overall activity, though this effect is more transient. The authors discuss several potential mechanisms and draw tentative conclusions for broader workplace trends.

2. Sovereign Debt Sustainability and Central Bank Credibility
by Tim Willems and Jeromin Zettelmeyer

This paper surveys the literature on sovereign debt sustainability from its origins in the mid-1980s to the present, focusing on four debates. First, the shift from an "accounting based" view of debt sustainability, evaluated using government borrowing rates, to a "model based" view which uses stochastic discount rates. Second, empirical tests focusing on the relationship between primary balances to debt. Third, debt sustainability in the presence of rollover risk. And fourth, whether government borrowing costs below rates of growth ("r < g") generate a "free lunch" in the sense that debt sustainability does not require future primary surpluses. We argue that liquidity services provided by sovereign debt may indeed lead to a "free lunch", albeit of limited size. The value of such services depends on the credibility of the central bank, which can be accumulated via prudent policies and subsequently drawn on to allow for looser fiscal policy.

3. Has Global Agricultural Trade Been Resilient Under Covid-19? Findings from an Econometric Assessment of 2020
by Shawn Arita, Jason Grant, Sharon S. Sydow & Jayson Beckman

Global agricultural trade, which increased at the end of 2020, has been described as "resilient" to the COVID-19 pandemic impacts; however, the size and channels of the impacts are not clear. Using a reduced-form, gravity-based econometric model for monthly trade, the authors estimate the effects of COVID-19 incidence rates, policy restrictions imposed by governments to curb the outbreak, and the de facto reduction in human mobility/lockdown effect on global agricultural trade through the end of

2020. The paper reports that while agricultural trade remained quite stable through the pandemic, the sector as a whole did not go unscathed. First, COVID-19 reduced agricultural trade by approximately 5 to 10 percent at the aggregate sector level, an impact two to three times smaller than the estimated impact on trade occurring in the non-agricultural sector. Second, there was a sharp difference across individual commodities. In particular, non-food items (hides and skins, ethanol, cotton, and other commodities), meat products including seafood, and higher-value agri-food products were most severely impacted by the pandemic; however, the COVID-19 trade effect for the majority of food and bulk agricultural commodity sectors were found to be insignificant or, in a few cases, positive. Finally, the paper also examined the effects across low vs high income countries, the changing dynamics of the pandemic's effect on trade flows, and the effects along the extensive product margins of trade.

4. Covid-19 and Food Security Challenges in the MENA Region
by Dina Atef Mandour, Economic Research Forum Working Paper No. 1506, November 2021.

This paper assesses the link between the pandemic and food security status with special focus on the MENA region. It highlights the different channels through which the pandemic could impact the status of food security (FS) in terms of affordability, availability, and utilization. Globally as well as in MENA, COVID mainly affected affordability and utilization, and had negligible effects on the availability, at least so far. To understand the link between food insecurity and the pandemic, the study employs two datasets and correspondingly two equations that were estimated using two different indicators for measuring food security and two indicators to proxy the effect of the pandemic. Both approaches confirmed that the variability in food security status across all countries is significantly negatively related to pandemic stringency at global and MENA region levels. The empirical assessment has drawn vivid attention to the relative importance of the role of institutional and demographic prerequisites, consecutively, needed to handle the pandemic in explaining the food insecurity variability across all countries, compared to the effect of the pandemic as measured by the number of confirmed cases. Regression results show the MENA region is disadvantaged compared to the rest of the world, regarding limitations in its coping capacity as reflected in weak governance, high prevalence of corruption and fragile health systems in explaining countries' variability in food security levels. COVID has thus the potential of being the catalyst that would intensify the urgency to undertake radical reforms in food systems and to revisit several directly and indirectly related structural and institutional rigidities that have affected accessibility and utilization pillars in MENA region.

5. The Effects of Fiscal Measures During COVID-19
by Pragyan Deb, Davide Furceri, Jonathan D. Ostry, Nour Tawk, and Naihan Yang.

This paper empirically examines the effects of fiscal policy measures during the COVID-19 pandemic, using a novel database of daily fiscal policy announcements—classified by type of fiscal measure—and high-frequency economic indicators for 52 countries from January 1 to December 31, 2020. The results suggest that fiscal policy announcements have been effective in stimulating economic activity, boosting confidence, and reducing unemployment, but their effect varies by type of measure and country characteristics. Emergency lifeline measures (which form the bulk of below-the-line measures)

are more effective when containment policies are stringent, providing cashflow support to firms and households. Demand-support measures (which comprise most of above-the-line measures) are more effective when containment measures are relaxed.

VII. Useful Resources for Information on COVID-19

COVID-19 & Government Response Trackers	Description	Link
World Bank	World Bank COVID-19 Operations Projects	https://www.worldbank.org/en/about/what-we-do/brief/world-bank-group-operational-response-COVID-19-coronavirus-projects-list
Worldometer	Daily updates of data on COVID-19 spread, fatalities, and testing per capita	https://www.worldometers.info/coronavirus/
Coronavirus News Tracker	Daily updates on COVID-19 media coverage including the levels of panic and misinformation	https://coronavirus.ravenpack.com/
WHO Tracker	Daily updates of new COVID-19 cases, total confirmed cases, and death totals	https://covid19.who.int/
Our World in Data	Visualization and downloadable data on daily COVID-19 statistics	https://ourworldindata.org/coronavirus
Bloomberg Live	COVID-19 visuals including global map of travel restrictions	https://www.bloomberg.com/graphics/2020-coronavirus-cases-world-map/
Johns Hopkins Coronavirus Research Center	COVID-19 totals of cases, deaths, and testing with visuals	https://coronavirus.jhu.edu/map.html
Financial Times Coronavirus Tracker	Visualization of COVID-19 daily deaths per country including government response stringency index	https://www.ft.com/coronavirus-latest
Oxford University	Government response Tracker	https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker
Ugo Gentilini (World Bank Social Protection Expert)	Social Protection Response to COVID-19	https://www.ugogentilini.net/

Worldwide Lockdown Dataset	Dataset of lockdowns by country	https://www.kaggle.com/jcyzag/covid19-lockdown-dates-by-country#countryLockdowndates.csv
IMF	Global Fiscal Support Monitor with a breakdown of country-specific fiscal responses to COVID-19	https://blogs.imf.org/2020/05/20/tracking-the-9-trillion-global-fiscal-support-to-fight-COVID-19/
The Guardian	COVID vaccine tracker: when will a coronavirus be ready?	https://www.theguardian.com/world/ng-interactive/2020/aug/31/covid-vaccine-tracker-when-will-a-coronavirus-vaccine-be-ready
Human Mobility Data	**Description**	**Link**
Cuebiq	Analysis of mobility and shelter in place analysis by tracking movement of its users through their devices (mostly US so far). Cuebiq maintains direct relationships with 80+ apps that reach a diverse base of anonymous, opted-in users, giving the ability to collect accurate and precise SDK location data at scale on a daily basis.	https://www.cuebiq.com/visitation-insights-covid19/
Facebook Disease Prevention Maps	Mobility patterns tracked using Facebook data	https://dataforgood.fb.com/tools/disease-prevention-maps/
Satellite Data (to capture COVID-19 effects)	**Description**	**Link**
ESA: Sentinel 5P	Air Pollution Maps	https://earth.esa.int/web/guest/missions/esa-eo-missions/sentinel-5p
NASA Goddard: Black Marble	Night Lights maps	https://blackmarble.gsfc.nasa.gov/#home

Social media and Crowd-sourced data	Description	Link
Premise	Custom questions as part of on-going micro-surveys, for example perceptions of social distancing measures, government support, livelihood impacts	https://www.premise.com/
Google Trends	High frequency data COVID-19 related searches	https://trends.google.com/trends/story/US_cu_4Rjdh3ABAABMHM_en
Waze	Crowd-sourced data on quarantine-related road closures, medical testing centers, and emergency food distribution centers	https://www.waze.com/covid19