

# Economic Consequences of COVID-19 Pandemic in MENA region: Do Country Specific Characteristics Matter?

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# Introduction

- COVID-19 Pandemic has undoubtedly brought about permanent changes to the world economies (Farayibi & Asongu, 2020; Coibion, Gorodnichenko, & Weber, 2020) namely:
- The outbreak generated shocks and disruptions to global economic activities.
- It exacerbated the susceptibility of vulnerable countries.
- It debars the achievement of the Sustainable Development Goals (SDGs) scheduled to fruition by 2030.
- As an external shock, the pandemic creates disruptions in economic activities and challenges regional level of economic resilience (Briguglio et al., 2006).
- The containment measures caused disruptions in global oil market as it causes serious prices fluctuates.
- This unprecedented shock affected the inflow of foreign direct investment into the Middle-East and North Africa (MENA) region.

# Introduction contd.

- These shocks necessitated regions like the Middle-East and North Africa (MENA) to consider reprioritizing their approaches towards achieving the SDGs.
- COVID-19 pandemic portend significant effect on MENA region with country specific effects.
- The ostensible impacts of the pandemic shocks include the negative effects on employment, poverty rates, demand and production activities; which are the hallmarks of SDG1, SDG8 and SDG 9 respectively.
- Hence, it is important to understand the effects of COVID-19 on the trajectory of developmental policies in middle income countries like Egypt, Jordan, Morocco, Mauritania and Tunisia.

# Literature Review

- Empirical studies have been conducted to present an early review of the economic consequences of COVID-19 (ESCWA, 2020; Gourinchas, 2020; Agbe, 2020).
- The report of ESCWA (2020) documents that MENA countries could face a loss of \$42 billion of gross domestic product (GDP) and a 1.2% increase in the unemployment rate, and lose over 1.7 million jobs in 2020 as a result of the pandemic.
- Gourinchas (2020) notes that the trade-off between coronavirus spread limitation and economic goals is even more obscure as the crisis could have been deeper without these containment measures.
- Effects of the pandemic on oil price is via various channels, e.g., disruption of prices and global trade, decrease in remittances flows, contraction of tourism, and the atrophy of domestic capital, all accompanied by the fall of oil prices (Agbe, 2020).

# Literature Review Contd.

- The effect of the COVID-19 economic disturbances on achieving the Sustainable Development Goals (SDGs) (Farayibi and Asongu, 2020).
- However, research on country specific characteristics in MENA region, particularly middle income countries like Egypt, Jordan, Morocco, Mauritania and Tunisia, is still scant.
- This research presents an early review of the macroeconomic impact of the COVID-19 pandemic in the MENA region

# Methodology

The requisite empirical models to estimate the effect of the coronavirus disease on economic growth and development variables are specified below:

$$\begin{aligned} \text{Economic Dependent}_{i,t} &= \alpha + \gamma_1 \text{Pandemic}_{i,t} + \gamma_2 \sum \text{Control}_{i,t} + \mu_{i,t} \text{ where: } t = 1, 2, 3, \dots, T; i \\ &= 1, 2, 3, \dots, N \quad (1) \end{aligned}$$

We use GDP per capita as the main dependent variable representing the economic indicator. *Pandemic*<sub>*i,t*</sub> include total number of Covid-19 cases and deaths.

We control for the following independent variables: population, stringency index, hospital beds per thousand, handwashing facilities and life expectancy.

# Methodology

At this stage, we examine the impact of Covid-19 on the human development by proposing the following model:

$$\begin{aligned} \textit{Development Dependent}_{i,t} &= \alpha + \gamma_1 \textit{Pandemic}_{i,t} + \gamma_2 \sum \textit{Control}_{i,t} + \mu_{i,t} \textit{ where: } t = 1,2,3,\dots,T; i \\ &= 1,2,3,\dots,N \quad (2) \end{aligned}$$

After examining the effects of COVID-19 on economic growth using Equation (1), we then elaborate the pandemic's impacts on country- and region-level development by proposing Regression Equation (2).

We use the Human Capital Index (HCI) for the *Development Dependent*<sub>*i,t*</sub> and the other variables are consistent as presented in Equation (1) for country *i* at time *t*.

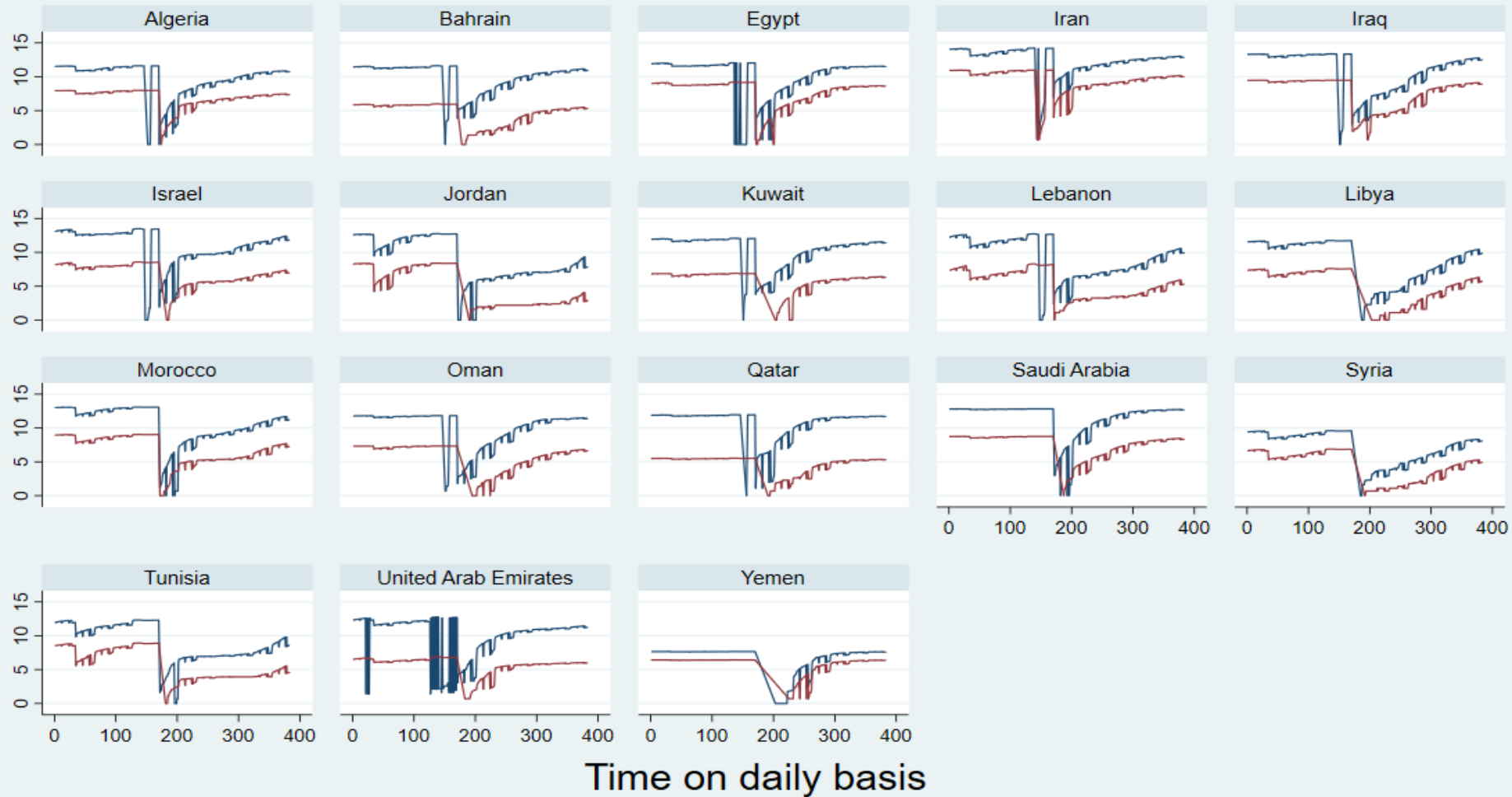
# Summary statistics

Table 1: Summary statistics

Variable	N	Mean	Min	p25	Median	p75	Max	Std. Dev	Skewness	Kurtosis
Country name	6397	9.4202	1.0000	5.0000	9.0000	14.0000	18.0000	5.1659	0.0145	1.7965
Continent	6397	1.7189	1.0000	1.0000	2.0000	2.0000	2.0000	0.4496	-0.9741	1.9488
Country	6397	9.3508	1.0000	5.0000	9.0000	14.0000	18.0000	5.1609	0.0200	1.8024
Total cases	6352	117161.10	1.00	2078.50	51191.50	134295.00	1526023.00	192512.40	3.4704	19.3132
Total deaths	5977	2998.3430	1.0000	122.0000	530.0000	2530.0000	59028.0000	7722.8630	5.1300	32.4152
Stringency index	6359	64.5543	0.0000	52.7800	65.7400	80.5600	100.0000	21.2778	-0.7790	3.3486
Population	6397	25600000	1701583	6825442	10200000	36900000	102000000	28000000	1.5485	4.4878
GDP per capita	6066	31536.330	1479.147	10849.300	17881.510	43290.700	116935.600	28975.570	1.5071	4.8323
Handwashing facilities	2433	81.3671	49.5420	70.5980	83.7410	94.5760	97.4000	14.8974	-0.9888	3.0148
Hospital beds per thousands	6397	1.8744	0.7000	1.4000	1.6000	2.3000	3.7000	0.7512	0.8149	2.9202
Life expectancy	6397	75.7427	66.1200	72.9100	76.6800	77.8600	82.9700	3.6574	-0.5544	3.7040
Human development index	6397	0.7562	0.4700	0.7070	0.7480	0.8480	0.9190	0.1059	-0.8456	3.7476



# Covid-19 in MENA countries between Feb-2020 and Feb-2021

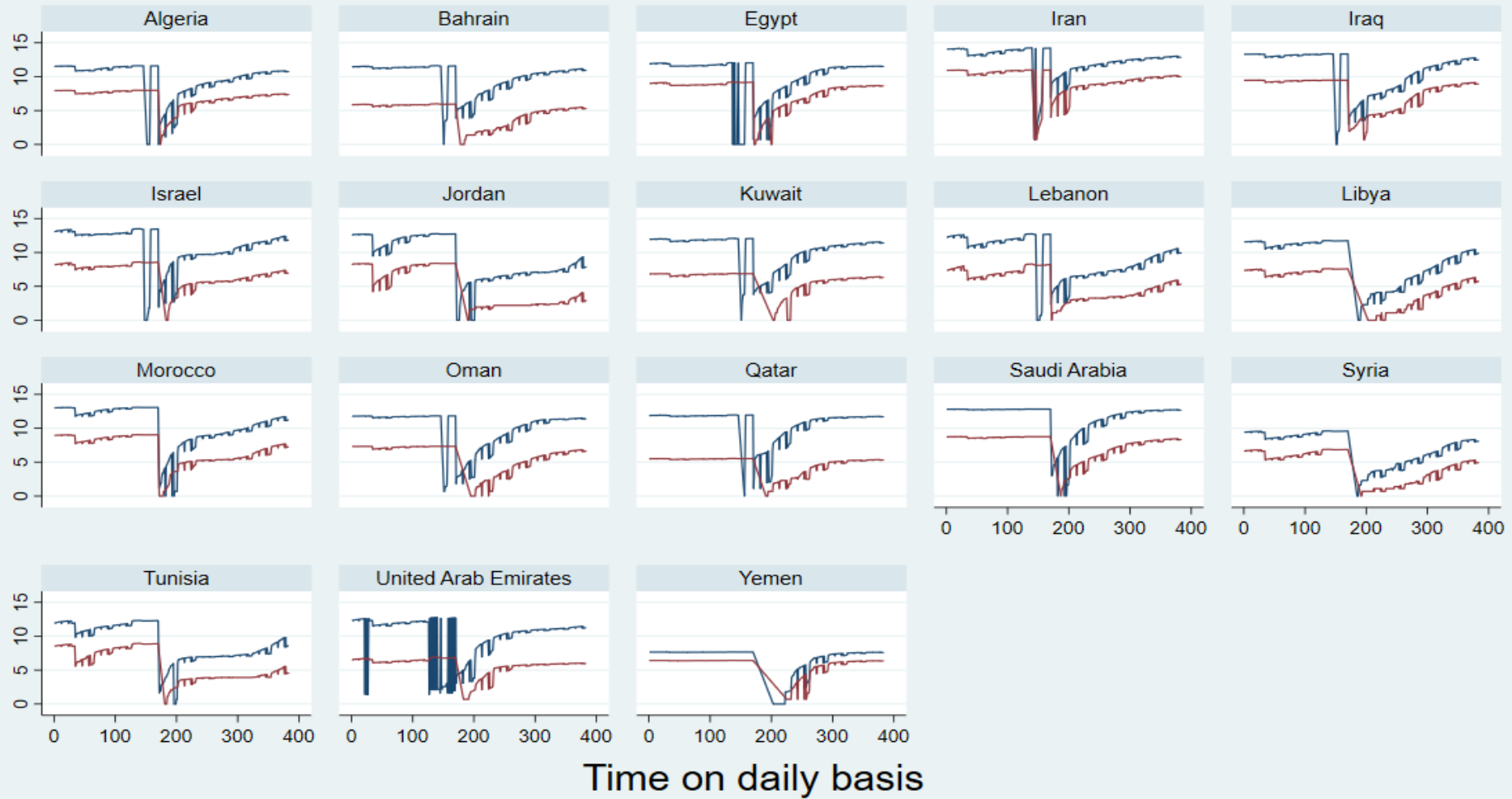


Graphs by country

# Covid-19 and the Economy

Table 2: Covid-19 and the Economy					
	(1)	(2)	(3)	(4)	(5)
$\ln(\text{GDP per Capita})_{i,t}$					
$\ln(\text{Covid} - 19 \text{ total cases})_{i,t}$	-.0148506*** .0025473	-.0148506*** .0020859	-.0148506* .0046648	-.0148506*** .003204	-.0148506*** .0025473
$\ln(\text{Covid} - 19 \text{ total deaths})_{i,t}$	.0176347*** .0026466	.0176347*** .0019415	.0176347* .0058528	.0176347*** .0031768	.0176347*** .0026466
$\text{Stringency index}_{i,t}$	.0004737*** .0000515	.0004737*** .0000383	.0004737 .000244	.0004737*** .0000253	.0004737*** .0000515
$\ln(\text{Population})_{i,t}$	-.137225*** .0018788	-.137225*** .0017914	-.137225** .030156	-.137225*** .0015179	-.137225*** .0018788
$\ln(\text{handwashing})_{i,t}$	.0477013*** .0001545	.0477013*** .0001412	.0477013*** .0016455	.0477013*** .000168	.0477013*** .0001545
$\text{Hospital beds/thousand}_{i,t}$	-.2468007*** .0043085	-.2468007*** .0028672	-.2468007** .0498057	-.2468007*** .0016452	-.2468007*** .0043085
$\text{Life expectancy}_{i,t}$	.0850811*** .0006435	.0850811*** .0006415	.0850811** .0124561	.0850811*** .0002254	.0850811*** .0006435
<b>Constant</b>	1.834822 .0581542	1.834822*** .0594246	1.834822 1.144098	1.834822*** .0188053	1.834822*** .0581542
<b>Number of obs</b>	1,961	1,961	1,961	1,961	1,961
<b>Prob &gt; F</b>	0.0000	0.0000	Nil	0.0000	0.0000
<b>R-squared</b>	0.9980	0.9980	0.9980	0.9980	0.9980
<b>Default standard errors</b>	Yes	No	No	No	No
<b>Robust</b>	No	Yes	No	No	No
<b>Clustered robust by Country</b>	No	No	Yes	No	No
<b>Clustered robust by Time</b>	No	No	No	Yes	No
<b>Ordinary least squares (OLS)</b>	No	No	No	No	Yes

# Covid-19 in MENA countries between Feb-2020 and Feb-2021



Graphs by country

# Covid-19 and Human Development

Table 3: Covid-19 and Human Development					
<i>Human development</i> <sub><i>i,t</i></sub>	(1)	(2)	(3)	(4)	(5)
<i>Ln(Covid – 19 total cases)</i> <sub><i>i,t</i></sub>	-.0086494*** .0014514	-.0086494*** .001246	-.0086494 .0097975	-.0086494*** .0010317	-.0086494*** .0014514
<i>Ln(Covid – 19 total deaths)</i> <sub><i>i,t</i></sub>	.0112068*** .0014892	.0112068*** .0013843	.0112068 .0114715	.0112068*** .0011532	.0112068*** .0014892
<i>Stringency index</i> <sub><i>i,t</i></sub>	-.0002288*** .0000303	-.0002288*** .0000231	-.0002288 .0001256	-.0002288*** .0000181	-.0002288*** .0000303
<i>Ln(Population)</i> <sub><i>i,t</i></sub>	.0016009 .001109	.0016009* .0007894	.0016009 .0073616	.0016009** .000613	.0016009 .001109
<i>Ln(handwashing)</i> <sub><i>i,t</i></sub>	.004023*** .0000882	.004023*** .0000673	.004023** .0008524	.004023*** .000041	.004023*** .0000882
<i>Hospital beds/thousand</i> <sub><i>i,t</i></sub>	.0009806 .0026074	.0009806 .0018924	.0009806 .0322452	.0009806 .0007658	.0009806 .0026074
<i>Life expectancy</i> <sub><i>i,t</i></sub>	.0172973*** .0003887	.0172973*** .0001875	.0172973** .0030269	.0172973*** .0001111	.0172973*** .0003887
<b>Constant</b>	-.9208608*** .0350696	-.9208608*** .0189785	-.9208608* .2900189	-.9208608*** .0101662	-.9208608*** .0350696
<b>Number of obs</b>	2,285	2,285	2,285	2,285	2,285
<b>Prob &gt; F</b>	0.0000	0.0000	Nil	0.0000	0.0000
<b>R-squared</b>	0.9437	0.9437	0.9437	0.9437	0.9437
<b>Default standard errors</b>	Yes	No	No	No	No
<b>Robust</b>	No	Yes	No	No	No
<b>Clustered robust by Country</b>	No	No	Yes	No	No
<b>Clustered robust by Time</b>	No	No	No	Yes	No
<b>Ordinary least squares (OLS)</b>	No	No	No	No	Yes

# Results Discussion

- As forecasted, Covid-19 has negatively affected on the economy of MENA countries. The empirical results of Model 1 show that given 1% increase in the total the Covid-19 cases, the GDP per capita decreased by 1.48% in MENA region.
- The results also present a negative impact of Covid-19 on the Human Development Index (HDI) and stringency index(SI). Given 1% increase in Covid-19 number of cases, the HDI and SI are reduced by 0.8% and 0.02%, respectively.

# Conclusion

- The study documents a negative effect of Covid-19 on MENA countries in general.
- The results are consistent when we include country-characteristics by using a robust regression country and clustered by country and time.
- The clustered robust results are statistically significant at 5% and 10% level.

Thank you for listening my presentation