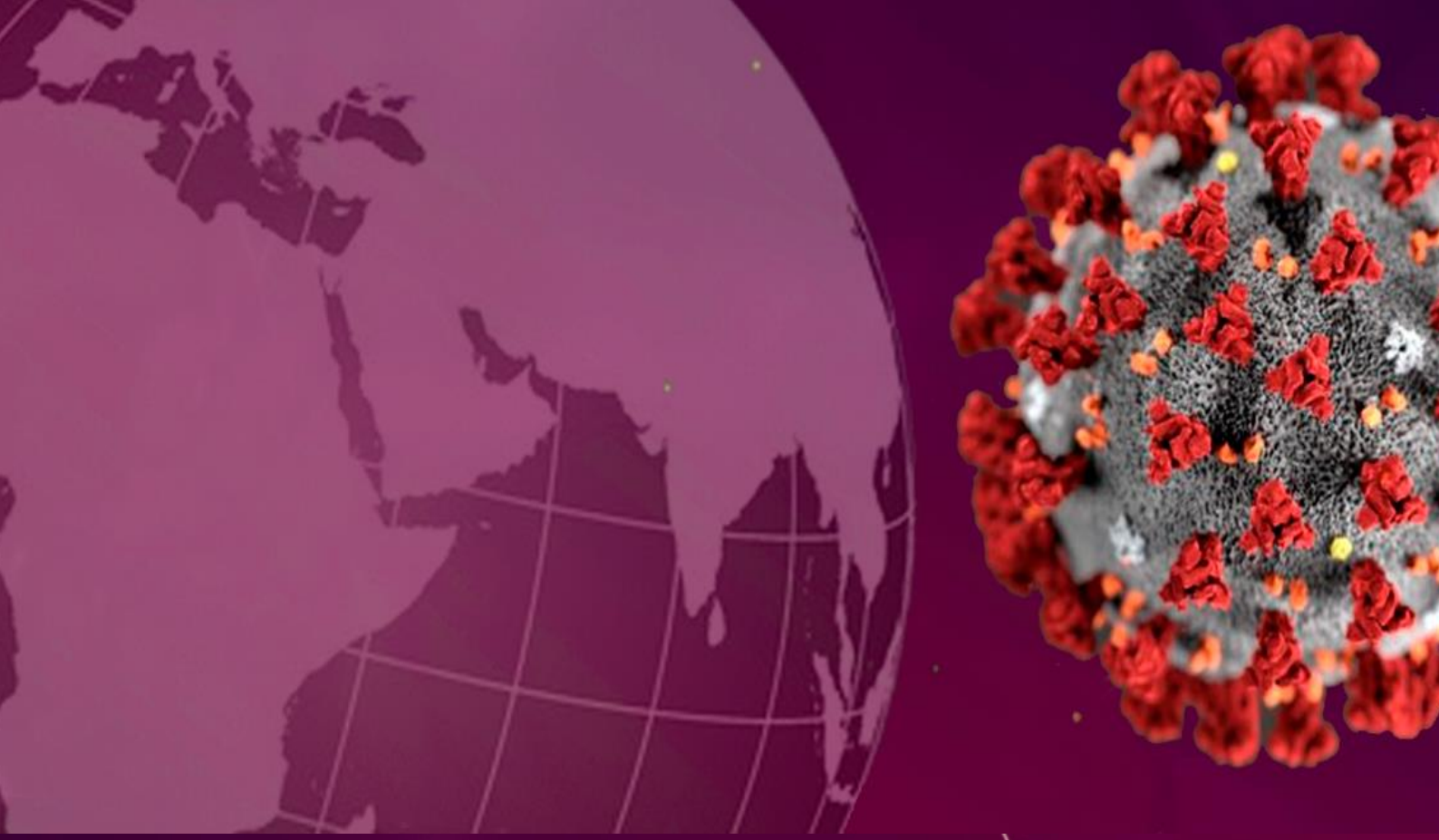


COVID-19 POLICY ASSESSMENT MONITOR MEDITERRANEAN AND AFRICA

March – September 2020

Rym Ayadi

Giovanni Barci

Sara Ronco

September, 2020

EURO-MEDITERRANEAN ECONOMISTS ASSOCIATION

EMNES EURO-MEDITERRANEAN NETWORK FOR ECONOMIC STUDIES
الشبكة الأورو-متوسطية للدراسات الإقتصادية

ABOUT THIS STUDY

EMEA- EMNES Studies – September 2020

EMEA - EMNES Studies – September 2020: Amidst the disrupting circumstances resulting from the global pandemic COVID-19, this new study provides a comprehensive overview of the evolution of the COVID-19 pandemic in the Mediterranean and Africa, policy and economic responses to curb it and to alleviate the socio-economic negative consequences. It provides the description of the EMEA COVID-19 Monitor Platform and the main findings from the monitoring implemented from the beginning of the pandemic till 24 September 2020. The Platform is composed of different sections, following the three pillars proposed by EMEA in its first study on COVID-19 (Ayadi et al., 2020). After several months of observations, the study provides a preliminary assessment of the COVID-19 evolution, containment and de-containment measures and the socio-economic preparedness and policies adopted to mitigate the impact of the pandemic. The study is part of the EMEA policy research initiative on COVID-19 launched on March 18th, 2020. The initiative provides up-to-date research on COVID-19 related topics, publishes studies, data and policy papers and organizes webinars to discuss the outcomes. It is led and coordinated by Prof. Rym Ayadi, President of EMEA and Director of EMNES.

EMEA also launched its online knowledge and research collaborative open access platform on April 15th 2020, to facilitate collaborative research between all researchers involved, in times where social distancing has been one of the critical containment policies in all the countries affected by COVID-19.

Since events surrounding COVID-19 are unfolding at the time of writing, EMEA research team and EMNES researchers and fellows continue updating the data, policy developments and the economic and social consequences of the pandemic throughout the Mediterranean and Africa.

The updates are posted regularly on the EMEA platform.

EMEA COVID-19 Tracker: https://research.euromed-economists.org/covid-19/

The Tracker collects automatically daily data from international institutions (e.g. WHO, OECD, IMF..) on the COVID-19 pandemic via a built-in algorithm.

EMEA COVID-19 Monitor: https://research.euromed-economists.org/introduction/

The Monitor provides weekly assessments of the COVID-19 evolutions and EMEA analysis on the topic.

DISCLAIMER:

The contents of the documents are the sole responsibility of the authors and can under no circumstances be regarded as reflecting the position of the Euro-Mediterranean Economists Association.

© Copyright 2020, Euro-Mediterranean Economists Association

Published by the Euro-Mediterranean Economists Association

ISBN-978-84-18352-04-1

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, mechanical, photocopying, recording or otherwise – without the prior permission of the authors.

TABLE OF CONTENTS

© EMEA 2020.

LIST OF FIGURES

LIST OF TABLES

LIST OF BOXES

© EMEA 2020.

EXECUTIVE SUMMARY

The COVID-19 pandemic started in China in February 2020, to then spread rapidly to the rest of the world by March 2020. With 118,000 cases and 4,291 deaths detected in 114 countries, on 11 March 2020 the World Health Organisation (WHO) declared COVID-19 to be a global pandemic. As of 14 September, there are 7,234,651 active cases, the total cases detected in the world reaching 29,436,535, amongst which there are 932,446 deaths and 21,269,438 recoveries.

In Europe, the pandemic spread fast, severely hitting unprepared healthcare systems suddenly having to face up to treating thousands of patients. In the South and East Mediterranean and Africa, the contagion followed later and gradually, giving countries in these regions the chance to test appropriate measures to contain the spread.

Governments across the globe adopted preventive and containment measures to try to contain the contagion. Most of countries opted for a lockdown, but policies of containment and mitigation were different in timing and types across countries. In the meantime, governments and international organisations implemented measures to cope with the socio-economic impacts of the pandemic and the healthcare systems crisis. The level of preparedness and the capacity to face, manage and recover from the pandemic vary significantly across countries, in particular in the Mediterranean and Africa. Furthermore, the recent re-surge of the contagion raises a lot of concern about the capacity of countries to face a second wave of the pandemic. For this reason, it is important to keep monitoring the spread and the responses to it, to learn from the recent past in order to avoid further draconian lockdowns and the collapse of healthcare systems, particularly in the most vulnerable countries.

In April 2020, EMEA, with the contribution of EMNES researchers, produced the first study on COVID-19 in the Mediterranean and Africa to provide a preliminary assessment of the policy responses and the evolution of the pandemic in these regions (Ayadi et al. 2020).

Furthermore, the study proposed a novel framework to assess the epidemiologic trend and the relative COVID-19 policy response. This framework is built on the **three mutually interactive pillars assessment matrix of policy responses**:

1. Preparedness and effectiveness of healthcare systems;
2. Timeliness and Completeness of COVID-19 containment/De-containment policies;
3. Comprehensiveness (and solidarity) of the socio-economic mitigation policies;

The three Pillars, proposed in the study, have been developed for building the online open access research platform EMEA COVID-19 Policy Response Monitor, a dynamic tool to monitor and assess the evolution of the pandemic and the policy responses. The tool is updated weekly, closely following the evolution of the pandemic and the relative government responses and readjusting to the new findings of the ongoing EMEA research. EMEA has been working on data collection and the monitoring of responses since the start of the pandemic, whilst the COVID-19 Monitor started monitoring in April 2020.

In this study, we provide a comprehensive overview of the evolution of the COVID-19 pandemic in the Mediterranean and Africa, policy and economic responses to curb the pandemic and alleviate the socio-

© EMEA 2020.

economic shock. We provide a description of the EMEA COVID-19 Monitor platform and the main findings from the monitoring implemented until now. The platform is composed of different sections, following the three pillars proposed by EMEA in its first study on COVID-19 (Ayadi et al., 2020). After about five months of observation, we can provide a preliminary assessment of the COVID-19 evolution, containment and de-containment measures and the socio-economic preparedness and policies adopted to mitigate the impact of the pandemic.

Pillar 1 analyses the healthcare preparedness in the region. The monitoring tool reveals that, according to the Global Health Security Index (GHS), the majority of countries in the North Mediterranean were seemingly prepared; particularly with a score of 68.6, France stands out for its health preparedness, considering the global average (40.2). Malta is the only country in the region scoring below the world average (37.3). South East Mediterranean countries were less prepared than the majority of the European countries; Algeria, Egypt and Tunisia score below the world average (respectively 23.6, 39.9, 33.7). In Sub Sahara Africa, most of the countries were critically unprepared; the only countries in the region scoring above the world average are Ethiopia, Kenya and South Africa (respectively 40.6, 47.1 and 54.8). The index we used considers the capacity of countries in the prevention, detection and response to a pandemic, the health capacity, various normative aspects related and country-specific environmental risks. Therefore, the variety in the level of health preparedness is reflected in the different capacities to test for COVID-19. Testing capacity is considered as the main tool, allowing for a good monitor and, therefore, a policy response to the pandemic. This is the second element under Pillar 1 of the EMEA Monitor. Testing has been controversial everywhere, but higher in the most prepared region, the North Mediterranean (with a 225,504 regional average of total tests per million performed by 14 September 2020). In the South East Mediterranean, the average number of tests per million is 92,389 as of 14 September. In Sub Sahara Africa, testing is either lower or not available at all (equivalent to 31,427 regional average of tests per million performed as of 14 September 2020). In all countries, tests increased during all the weeks observed, but at a generally decreasing rate, particularly after de-containment.

Pillar 2 of the EMEA Monitor assesses containment and de-containment policies. Countries in the North Mediterranean implemented strict containment measures at the beginning of the pandemic, but delayed from when the first case was detected, with varying intensity levels (high score equivalent to high intensity), in particular France (54 days, score 7), Spain (44 days, score 9) and Italy (25 days, score 9). A reverse tendency is observed in Sub Sahara Africa, where containment measures were strict in the majority of cases, but were implemented very swiftly, with varying intensity levels, in particular Mauritius (7 days, score 4), DRC (9 days, score 5). In the South-East Mediterranean, the picture is heterogeneous. Countries, such as Tunisia, implemented strict containment measures promptly (10 days) and at a high intensity (score 9) whilst others, such as Turkey, adopted loose and less intense measures (score 5) and late of when the first case detected (33 days). As for de-containment, we observed that the majority of countries in North and South East Mediterranean eased their containment measures in more than 40 days, except for Germany (29 days). In Sub Sahara Africa, only Cameroon, Cote d'Ivoire, Mauritius and Senegal exceeded 40 days of containment (respectively 44, 46, 56, 73). Tests per million performed at the time of de-confinement are low everywhere, particularly in the majority of the South East Mediterranean and Sub Saharan African countries. The number of active cases at the time of de-containment is exceptionally high in the North Mediterranean, but this could

© EMEA 2020.

be in a way correlated to the higher number of tests performed at the early stage of the pandemic. Mauritius is the only country easing restriction with 0 positive cases. The level of carefulness in de-containment (reflecting the precautionary measures adopted) is high in the South-East Mediterranean (7.56), followed by the North Mediterranean (7.13) and Sub Sahara Africa (6.85).

Data collected until this date (14 September 2020) allows for a preliminary assessment of the effectiveness of at least the policy measures implemented for curbing the pandemic, mainly containment policies. During the month of August (from Week 17 in the Monitor) we noticed an increasing trend of case weekly variations in the North Mediterranean. This trend could be related to the effect of de-containment, which, in some cases, led to new enforcement of preventive measures. The same trend is observed in the South East Mediterranean, particularly in Jordan and in Israel. Cases weekly variation seems to be tolerably constant and generally low in the majority of Sub Sahara African countries, except for Burkina Faso; nonetheless, the shallow testing capacity in Sub Sahara Africa could provide a misguided perception of the extent of the pandemic in those countries. The weekly case variations declined sharply during the containment, particularly in the North Mediterranean, suggesting a positive effect of the restriction measures being implemented. The decreasing trend in cases has started reverting a few weeks after the de-containment, hinting at a possible lack of carefulness in the easing of the restrictions. The case-fatality rate has been high in European countries, since the early stages of the pandemic; particularly high case-fatality rates have characterised France, Italy and Spain, but these are declining during the most recent weeks observed. The South East Mediterranean region and Sub Sahara Africa exhibited low case-fatality rates, except for Egypt and Burkina Faso (5% as of 14 September). During weeks between August-September 2020, the majority of countries presented a low variation of deaths at an inconsistent rate, except Palestine, Tunisia, Turkey and Togo. Although, between August and September 2020, the variation in deaths seems to slightly increase in the North Mediterranean and South East Mediterranean. In the last week considered, in the North Mediterranean, only Cyprus registered a 0% weekly death variation similarly to Burkina Faso and Cameroon in Sub Sahara Africa.

Pillar 3 of the EMEA Monitor aims at assessing the economic preparedness and the economic policy response. Socio-economic preparedness and exposure to external shocks were heterogeneous in the Mediterranean and Sub-Sahara Africa. Greece, Italy and Spain in the North Mediterranean; Egypt, Lebanon, Palestine and Tunisia in the East-South Mediterranean; and Cameroon, DRC, Nigeria and Senegal were the least prepared economically. Significant divergences are identified in the quality of institutions, the space for manoeuvre of fiscal and monetary authorities, the predominance of economic sectors that are particularly exposed to lockdown measures and the contraction of global value chains. Public social protection and banking sector soundness and profitability are also variegated across all countries. We found that, in most countries, the relative debt position seems to be one of the main drivers for preparedness. Nevertheless, not all countries show such a correlation, particularly in Portugal, Spain, Tunisia, Ethiopia, Kenya, Mauritius, South Africa and Togo. The short-term socio-economic policy response has been markedly heterogeneous across targeted countries and regions. In the North Mediterranean, Italy stands out as the worst performer, notably due to the significant delay of public intervention; Germany implemented the most sizeable and timely crisis management operations in the region. In the South East Mediterranean, Turkey remarkably outperforms other countries of the region, scoring three times higher than the second-ranked (Egypt). Most of the remaining countries' response has been at best incomplete. Performances are particularly variegated

© EMEA 2020.

in Sub Sahara Africa, where we noticed ample divergences amongst the top and bottom performers. Cameroon, Kenya and South Africa implemented the more robust policy reaction, whereas Burkina Faso, Ethiopia and Togo are lagging behind.

Amidst increasing infection cases in all the countries at the time of writing, it is still early to provide a firm assessment of the health and socio-economic consequences of this pandemic and of the mitigation actions used to contain it and to limit hardships in the targeted regions. EMEA continues monitoring the evolutions on a weekly basis via its online platform.

© EMEA 2020.

INTRODUCTION

COVID-19 pandemic has spread around the globe at a speed that caught governments unprepared in both developed and less developed countries. A global pandemic, caused by a little- known coronavirus, resulted in a major health crisis, which quickly transformed into an unprecedented economic and social crisis. The COVID-19 pandemic is peculiar. It is rapidly contagious, resistant, lethal, knows no borders, spares no one and with unknown health consequences. It hit the globe like a violent storm or a hurricane, starting in China and turning into a high-impact extreme event that shocked healthcare systems, economic models, societal and human values. It is an extreme exogenous shock that, with a powerful resistant contagious dynamic, became global and systemic[1]. Within a matter of days, governments across the globe were forced to take decisive actions to save lives of people. Measures ranged from mobilising and hoarding resources, to strengthening healthcare systems, to enacting draconian confinement measures and taking unprecedented actions to mitigate against the disastrous consequences of simultaneous demand/supply shocks on the real economy.

However, the uncoordinated policy response was somewhat diverse, unequal and revealing economic and social divides across the globe. Countries that have developed healthcare infrastructure, testing capacity, technology, science, research and development, advanced safety net systems, robust financial capacity and respectable democratic institutions and rule of law – all components of a sound and potentially resilient system – are better equipped to minimise the negative consequences for themselves. Other countries, that have little of these previously mentioned advances in place, are less equipped. Consequently, the probability of succumbing and/or losing control of the viral contagion, resulting in disastrous political and socio-economic consequences, is very high. It is critical to emphasise that COVID-19 spreads in waves, it is a recurring risk, hence the contagion. As was emphasised in Ayadi (2020), countries that do not succeed in finding, in good time, the optimal recipe of prevention, management and recovery - the three pillars of a resilient system - whilst mobilising financial resources, will extend the risk to themselves, their neighbours and the entire globe.

As of 15 April 2020, while the health crisis was still unfolding, Ayadi et al. (2020), proposed a novel framework to assess COVID-19 policy response. This framework is built on the **three mutually interactive pillars assessment matrix of policy responses**:

1. Preparedness and Effectiveness of healthcare systems;
2. Timeliness and Completeness of COVID-19 containment/De-containment policies;
3. Comprehensiveness (and solidarity) of the socio-economic mitigation policies;

At the beginning of May 2020, EMEA launched the COVID-19 Policy Response Monitor, a dynamic tool with the purpose of monitoring and assessing the evolution and policy responses to the pandemic in the Mediterranean and Africa, based on the three pillars presented above. EMEA has monitored the pandemic on a weekly since April 2020, collecting data from various sources[2] and building key indicators to monitor the evolution of the pandemic from different perspectives. For each of the three mutually interactive

[1] Ayadi (2020).
[2] See https://research.euromed-economists.org/introduction/

© EMEA 2020.

pillars, a number of assessment criteria (dimensions) defined and monitored using several factors (indicators). A univariate analysis was performed to explore countries' responses and their effectiveness.

The objective of this new study is to describe the EMEA COVID-19 Monitor and to provide the preliminary findings on the three pillars monitored from the start of the pandemic to this date (24 September 2020).

The First Section of this study provides an overview of the global healthcare system preparedness and the international initiatives undertaken by countries and by the international community before the pandemic; then, the first Pillar of the EMEA Policy Response monitor is presented to assess health preparedness in the regions considered.

Section Two analyses the containment policies and measures, with an analysis of the international context; in this section, the Second Pillar of the EMEA Monitor aims to assess containment policy measures in the Mediterranean and Africa.

In Section Three, we explore the effectiveness of the containment measures through the monitoring of data on the variation in cases and deaths. Considerations on effectiveness are very preliminary and will continue to be enhanced overtime. The analysis only considers the capacity of the first wave of containment measures to curb the pandemic, looking at the variation in COVID-19 cases and deaths. EMEA will work on building a more comprehensive effectiveness analysis, with a more in-depth analysis of the socio-economic impact of COVID-19 and the capacity of governments to deal with it.

The Fourth Section is focussed on the second part of Pillar 2: de-containment policies. Starting from an international overview we analyse the de-containment policies in the Mediterranean and Africa.

Socio-economic preparedness and economic policy responses are analysed in Section Five. After a brief analysis of the international socio-economic impact of COVID-19, socio-economic preparedness and economic policy responses are assessed through EMEA's indices developed for the EMEA COVID-19 Monitor.

© EMEA 2020.

1. HEALTHCARE SYSTEM PREPAREDNESS

1.1 International Initiatives

In 1969, the World Health Organisation (WHO) approved International Health Regulations to prevent, control and respond to the global spread of diseases. Since the beginning of the 2000s, a general awareness against pandemics started to increase. During that time, the spreading of the Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS) coronavirus prompted the international community to enhance their preparedness to face a pandemic. After years of revisions and consultations with the member states, 2005 marked the publication of the third edition of the International Health Regulations by the WHO, which is still in use. One of the key recommendations stressed was the need for member states to strengthen and to develop their public health capacity (WHO, 2005).

Following the WHO's guidelines, member states were recommended to monitor the disease spread in their countries and to notify the WHO when they identified a disease that could be dangerous for the entire community (WHO, 2005). With the increase in international trade, as a key determinant of globalisation, the likelihood of the rapid spreading of health risks increased. In order to avoid possible travel and trade restrictions, which are detrimental to globalisation trends, the International Health Regulations (IHR) provided countries with a mechanism to communicate risks promptly and to implement specific measures at entry points (i.e. airport, ports). Each State was expected to produce a Joint External Evaluation mission report (JEE) to strengthen the implementation of the IHR. The JEE supported countries in assessing their capacity to prevent, detect and rapidly respond to public health risks. The framework is described in the IHR, Annexe 1 (Idem). The Country Evaluation Tool contains four dimensions: Prevent, Detect, Respond and IHR Related Hazard and Point of Entry (WHO, 2018). For each dimension, different indicators can result in a scale from no capacity to sustainable capacity (1 to 5). First, countries provide a self-evaluation based on the JEE framework tool and then the JEE team (a team of experts) discuss and visit the country to produce a draft, which is further shared with the country. Finally, the JEE report is published by the WHO. As of March 2020, not all 196 member countries have produced the JEE. The majority of countries in Africa presented the JEE between 2017 and 2018, few countries in the South Mediterranean, and none of the North Mediterranean countries[3].

In 2018, the WHO launched a new tool to monitor the IHR implementation, the State Party Self-Assessment Annual Reporting (SPAR). The SPAR is based on 24 indicators for the 13 HIR capacities needed to detect, assess, notify, report and respond to public health risks ("e-SPAR", WHO, 2020). The final score for each capacity is calculated as a percentage of performance. In 2020, the capacity average in the Africa Region is 44%; 66% in the Eastern Mediterranean region; and 75% in the European region (the highest). The average capacity for all WHO regions is 63%. As of April 17, all countries in the region had submitted the SPAR, with the only exception being Italy (Idem).

Other international organisations have also promoted separate initiatives. In 2017, the Coalition for Epidemic Preparedness Innovations (CEPI), a foundation created by a consortium of private foundations and

[3] Courtiers presenting the JEE between 2017 and 2018: Lebanon, Morocco, Tunisia, Burkina Faso, Cameroon, Congo, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Mauritius, Nigeria, Rwanda, Senegal, South Africa, Togo.

© EMEA 2020.

states (CEPI, 2020) was launched at the World Economic Forum. In the same year, the World Bank, collectively with the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), created the Pandemic Emergency Financing Facility (PEF), a financing mechanism to help the poorest countries in cases of epidemics ("Pandemic Emergency Facility", 2020). The fund was used during the COVID-19 pandemic with funding by Australia, Germany, IDA and Japan, as well as insurance coverage provided in 2017 with the catastrophe bonds issued by the World Bank and sold to capital market investors and insurance-linked swaps executed by the World Bank with insurance companies. In the same year, the World Bank International Working Group on Financing Preparedness, stressed the importance of investing in prevention, detection, containment and response to reduce their frequency and impact (IWG, 2017). The report on financing pandemic preparedness at the national level provided several policy recommendations:

- Calling on countries to produce the JEE;
- Calling upon the international community to commit to strengthening universal health security coverage;
- Inviting the World Bank (WB) to include preparedness indicators in the "specific systemic country diagnostic";
- Introducing an assessment of preparedness as a criterion in the mechanism that the WB uses in order to allocate IDA resources (the Country Policy and Institutional Assessment) (Idem).

In 2019, a comprehensive assessment of health security across the 195 countries was prepared as part of IHR (2005): Global Health Security Index, developed by the Nuclear Threat Initiative (NTI) and the Johns Hopkins Centre for Health Security (JHU) with The Economist Intelligence Unit (EIU) (NTI et al., 2019). The Index explores not only the health capacity of the country but also if there is regular control, recognising that the financing capacity gap is one of the more constraining factors that needed to be monitored and to overcome.

The international and multidisciplinary panel created a detailed framework of 140 questions organised across six categories, 34 indicators and 85 sub-indicators. The overall score assesses the countries' capacity to prevent and mitigate against pandemics or epidemics. The overall score goes from a minimum value of 0 to a maximum of 100. The average world score was of 40.2 in 2019, indicating global unpreparedness to an epidemic or a pandemic—the overall score results from the scores of all the six dimensions[4]. In 2019, the top three countries on the GHI Index are the United States, the United Kingdom and the Netherlands.

[4] The first dimension of the Index is Prevention of the emergence or release of pathogens, which includes different indicators from antimicrobial resistance to vaccination rate. Early detection and reporting for epidemics of potential international concern is the second dimension. The letter accounts for surveillance and reporting and laboratory quality systems, amongst others. The third dimension investigates the rapidity of the response to and mitigation of the spread of an epidemic, accounting for the presence of a national public health emergency preparedness and response plan, risk communication, and private sector involvement in preparedness and response amongst other indicators. Sufficient and robust health sector to treat the sick and protect health workers is the fourth dimension. In this dimension indicators are taken into account like facilities' capacities, hospital beds and access to healthcare. The fifth dimension assesses the commitment to improving capacity, financing plans to address gaps and adherence to global norms. Under this dimension are considered the IHR reporting compliance and disaster risk reduction, the participation in international agreements, and financing indicators. The last dimension is on the overall risk environment and country vulnerability to biological threats, accounting for the risk of social unrest, terrorism and poverty (NTI et al., 2019).

© EMEA 2020.

1.2 Assessing healthcare preparedness in the Mediterranean and Africa

All governments in the Mediterranean and Africa have supported the medical sector since the very beginning of the COVID-19 outbreak. During the pandemic, countries have adopted a large variety of measures: increase intensive care beds and improve healthcare facilities; use private structures for COVID-19 patients, in particular those needing intensive care units; increase the production or the import of protective masks, amongst others. The OECD collected a major policy response of health systems organising them along with the three key "Ss": Staff (mobilise personnel for diagnosis and treatment), Supplies (of equipment needed for diagnosis and treatment), and Space (facilities to test, isolate and treat people), monitoring all the government-related initiatives (OECD, 2020).

The following presents the assessment of EMEA's COVID-19 monitor on health system preparedness.

In order to compare and assess healthcare preparedness in the targeted countries, we have used the GHS Index and its dimensions ("GHS Index", 2020). We looked at the overall score of the Index for each country. There are countries scoring above the world average and countries scoring below the world average (40.2). In the North Mediterranean region, all countries, with the only exception of Malta, scored higher than the world average. France scored particularly high (68.2), followed by Germany (66) and Spain (65.9). In the South-East Mediterranean region, the highest score was from Turkey (52.4), followed by Morocco, Israel, Lebanon and Jordan. There is no data on Palestine. Algeria and Egypt scored below the world average (respectively 23.6 and 39.9). All countries in the North Mediterranean seemed to be prepared on the overall risk and norms' dimensions, whilst in the other regions, there was a more considerable variation amongst countries. In Sub Sahara Africa, the majority of countries presented a score below the world average. Only Ethiopia, Kenya and South Africa scored above, with respectively 40.6, 47.1 and 54.8; all countries scored low, particularly in the "sufficient and robust health sector" dimension. In the North Mediterranean, Algeria scored very low (23), whilst the majority of other countries scored slightly above the global average.

The scores for each dimension are reported in the EMEA monitor platform. The following table reports the GHS Index overall scores in the Mediterranean and Africa (2019). In the North Mediterranean, the majority of countries score largely higher than the world average, with the exception of Malta (Cyprus is barely above the world average scoring 43). The majority of countries in the South East Mediterranean and in Sub Sahara Africa score below the world average. In the South East Mediterranean, only Israel, Lebanon, Morocco and Turkey score above the world average. Only Ethiopia, Kenya and South Africa do so in Sub Sahara Africa.

© EMEA 2020.

Table 1: GHS Index: overall scores in the Mediterranean and Africa (2019)

Regions	Countries	Overall GHS	WRT World Average (40.2)
North Mediterranean	Cyprus	43	
	France	68.2	
	Germany	66	
	Greece	53.8	
	Italy	56.2	
	Malta	37.3	
	Portugal	60.3	
	Spain	65.9	
South East Mediterranean	Algeria	23.6	
	Egypt	39.9	
	Israel	47.3	
	Jordan	42.1	
	Lebanon	43.1	
	Morocco	43.7	
	Palestine	-	
	Tunisia	33.7	
	Turkey	52.4	
Sub Sahara Africa	Burkina Faso	30.1	
	Cameroon	34.4	
	Cote d'Ivoire	35.5	
	DRC	26.5	
	Ethiopia	40.6	
	Ghana	35.5	
	Kenya	47.1	
	Mauritius	34.9	
	Nigeria	37.8	
	Rwanda	34.2	
	Senegal	37.9	
	South Africa	54.8	
	Togo	32.5	

Performing above average

Score > World Average (40.2)

Performing below average

Score < = World Average (40.2)

© EMEA 2020.

Source: Author's elaboration of GHS Index data, retrieved from https://www.ghsindex.org/

The testing capacity is crucial to monitor the pandemic, in order to better assess its prevalence and to possibly avoid and better manage a new outbreak. There are different types of tests for COVID-19 detection, mainly the viral test to inform if there is an infection at the time of testing, and the antibody test to inform if the tested person had a previous infection. For a fast-track testing of the virus, several rapid tests have been developed by numerous laboratories around the world, but those must be validated by different authorities to allow for reliability (ECDC, 2020). On March 21 2020, the WHO published specific guidelines on testing strategy (WHO, 2020). In this document, different transmission scenarios and different testing capacities are considered. The WHO suggested having a differentiated approach, to consider each situation at the local level. The importance of testing was emphasised but, at the same time, recognising the possible shortage of agents necessary to perform tests and the lack of laboratories, in particular during a surge. For these reasons, a strategic approach suggested by the WHO, is to adapt to each case and prioritise the most risky or vulnerable people (WHO, 2020).

The Tony Blair Institute for Global Change suggested a precise strategy for testing, which should seek to enable rapid testing of those identified with symptoms, testing any detected contact of the infected person, implement regular testing for a sizeable part of the population using both antigen as well as antibody tests and daily test frontline health-care staff[5]. Other studies stress that, with limited testing capacity, the tests for seniors and healthcare workers should be prioritised and there should be an option for isolating symptomatic people[6]. Rapid Serology antibody tests and ELISA are tests with antibody responses, which proved helpful for understanding the prevalence and the incidence of SARS-COV-2 infections. The Diagnostic RT-PCR test (Polymerase Chain Reaction) is the most widely used, since it is the most accurate, whilst being more labour intensive and more costly[7]. Many countries have ongoing shortages in testing kits, as well as human resources to perform testing in laboratories.

A strategy adopted by some countries is the pool testing[8]. To be effective, pool testing should be implemented where the disease prevalence is low. In fact, if the prevalence is high, the risk is the need to do more tests than in the individual test strategy, since when the pool test result is positive each person in the group might be tested with a single PCT test. As for the sample, the greater the disease's prevalence in a population, the smaller the pool should be[9]. Furthermore, the smaller the sample is, the higher the sensitivity of the test. Pool testing can represent a good strategy for monitoring the prevalence of the virus. In this regard, the European Centre for Disease Prevention and Control (ECDC) provided a technical protocol on PCR testing on a random population sample to estimate the prevalence of SARS-CoV-2 infection (ECDC, 28 May 2020)[10]. The ECDC suggested member states consider applying this methodology, repeating the sample study each 2-3 weeks, in order to create a valuable surveillance system. In countries in Sub Sahara Africa, where the virus prevalence has been generally low compared with other parts of the world, pool testing has been widely used. Particularly, in Rwanda and Ghana the pool testing strategy has been used to massively test and to implement a surveillance strategy across those two countries[11]. In Ghana, the use of a drone service helped to transport testing kits and samples including in remote areas[12].

[5] https://institute.global/policy/architecture-containment-getting-gold
[6] https://www.brookings.edu/testing-responses-through-agent-based-computational-epidemiology-trace/
[7] https://covidtestingproject.org/faq.html
[8] This technique consists of combining biological specimens from group of subjects and testing them via a single test, conserving both material and human resources.
[9] https://edition.cnn.com/2020/07/06/health/coronavirus-pool-testing-wellness/index.html
[10] https://www.ecdc.europa.eu/sites/default/files/documents/Methodology-estimating-point-prevalence%20-SARS-CoV-2-infection-pooled-RT-PCR-testing.pdf
[11] https://theconversation.com/rwandas-covid-19-pool-testing-a-savvy-option-where-theres-low-viral-prevalence-141704
[12] https://www.globalhealthnow.org/2020-05/did-ghana-get-it-right

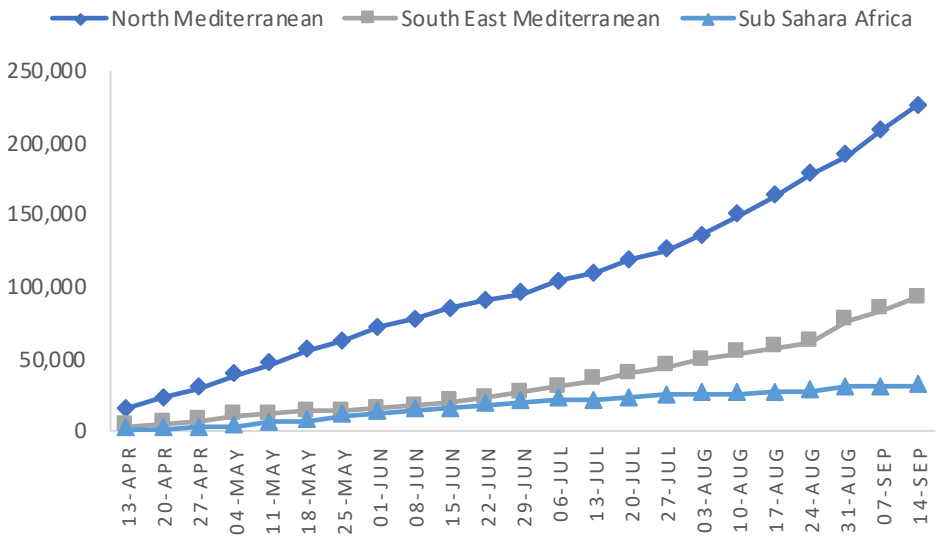
© EMEA 2020.

Looking at available data (for the beginning of July 2020), the percentage of populations tested is meagre everywhere, particularly in Sub Sahara Africa, where only Mauritius tested more than 10% of the population (15.22%), whilst other countries are close to zero. The only two countries where slightly more than 1% of the population has been tested are Ghana (1.96%), Rwanda (1.42%) and South Africa (3.63%). In the South East Mediterranean, only Israel tested more than 10% of its population (14%), whilst in Algeria, Egypt and Tunisia the percentage is close to zero. In the North Mediterranean, most countries have tested 10% or slightly more, except for France, Germany and Greece (respectively 2%, 8% and 4%)[13]. To monitor the testing capacity, we have calculated the weekly variation in testing. We computed test variation as the difference of the cumulative number of tests implemented at the start of the week and the start of the previous week over the total, in percentages. We applied simple criteria in order to assess performance in testing by region. We defined *low performing* countries as those scoring below the regional average, whilst *high performing* countries score above the regional average. In the North Mediterranean, the average number of tests performed per million is 225,504, the highest in the Mediterranean area. In the South-East Mediterranean, the regional average is 92,389 tests per million. In Sub Sahara Africa, testing is either lower or not available, and the regional average is 31,427 tests per million, as of September 14. During the same period, Malta, Israel and Mauritius are the countries with the highest level of testing capacity relative to their region, reaching respectively 491,248, 301,354 and 178,752 tests per million.

[13] Data comes from EMEA computations, based on data from https://www.worldometers.info/coronavirus/ retrieved on July 13.

© EMEA 2020.

Figure 1: Average tests per million in the Mediterranean and Africa (13 April-14 September 2020)



Source: Author's elaboration of data retrieved from https://www.worldometers.info/coronavirus/

All countries in the region are increasing testing, but the majority are doing so at a lower rate. There is no agreement on what level of tests each country should reach. The WHO suggests that countries with a ratio of positive cases over-tested people of up to 10% are likely to be testing enough (Stein, R. et al., 2020). In a WHO press conference, the WHO COVID 19 technical lead said that, where testing has been done relatively extensively, the positive tests out of the total implemented were between 3% and 12%[14]. If a tiny percentage of tests are positive, there is a risk of concentrating testing in the "wrong places". Whatever the benchmark used, the lack of testing remains an issue and increasing testing remains a priority.

There have been efforts to assess the severity of the pandemic. Lo and Sy, 2020 developed a Severity Index as a synthetic index, combining several indicators and accounting for different dimensions, with the aim of measuring and comparing the level of severity of the COVID-19 disease across countries[15]; it can assume values of between 0 and 1, where 1 means a very low level of severity. As of 10 May 2020, the average score for the countries in the sample (169 countries) is 0.74, suggesting a globally moderate severity. Europe scores on average 0.77, whilst countries in Africa present scores of between 0.99 and 0.30, with an average of 0.69. The index is calculated on a weekly frequency, making it possible to observe the evolution of severity over a period of months and, therefore, to investigate the main drivers for the recovery. As of 14 April 2020, the correlation between the GHS Index and the Severity Index of COVID-19 is almost zero, suggesting that a good healthcare system is just part of the equation for successfully coping with the virus. Between 14 April and 30 August, the Severity Index score increased from 0.68 to 0.83, denoting a global reduction of COVID-

[14] From https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-press-conference-full-30mar2020.pdf?sfvrsn=6b68bc4a_2

[15] The index is calculated on a sample of 179 countries and is composed of data on: infection rate (the number of cumulative infections compared to the size of the population); the progression of new infections in the recent period; the cure rate (ratio of the number of cured to the number of infected during the previous period); the progression of cures over a period; the flow of new deaths over a period compared to the number of infected in the previous period); the case-fatality rate (ratio of the number of deaths to the number of infected).

© EMEA 2020.

19 severity (Lo, M. and Sy, A., 2020 -draft-). In the same period, 82% of the African countries observed have shown an increase in severity score, therefore a decline in the severity of the pandemic. Ghana, Eritrea, Mozambique, Somalia, Gabon and Ivory Coast have shown the strongest increase in five months, whilst Libya, Namibia, South Africa and Botswana registered the largest decrease. As of 30 August, Europe is amongst the continents where the severity of the pandemic is increasing. Whilst during the period between 14 April and 07 June, Europe registered a gradual decrease in the severity of the pandemic, during the period from 5 July to 30 August, the continent has shown an increase in severity, particularly in Spain, France, Gibraltar and Albania (idem).

2. CONTAINMENT POLICIES

2.1 International Context

COVID-19 started spreading in China, precisely in Wuhan in the province of Hubei, in February 2020. In January 2020, the viral contagion spread to the rest of the world, even if recent studies consider that there were possibly earlier undetected infections in Europe (The New York Times, May 5, 2020). In April 2020, EMEA published the first study on COVID-19 in the Mediterranean and Africa, as part of its COVID-19 policy initiative. At that time globally, there were more than 2,5 million COVID-19 cases, with more than 173,700 deaths and more than 660,800 recoveries (Ayadi, R. et al., 2020). At the time of writing, coronavirus cases worldwide have surged to 29,436,535, with 932,446 deaths and 21,269,438 recoveries, and there are 7,234,651 active cases (worldometer.info, September 14, 2020). On March 11, the WHO declared COVID-19 a global pandemic. After that date, containment measures were implemented. China was the first country facing a fast spread of the virus and also the first to implement rigid containment measures.

As a consequence, the "Wuhan model" of confinement started to be taken as a reference model globally. Furthermore, it was effective in reducing the spread of the disease, as far as the data provided by China was concerned. For other countries, it was not possible to reach the stringency and control levels of China, although some of them opted for quite strict lockdowns (e.g. Italy, Spain, Ethiopia, Mauritius, Egypt, Israel, amongst other)[16].

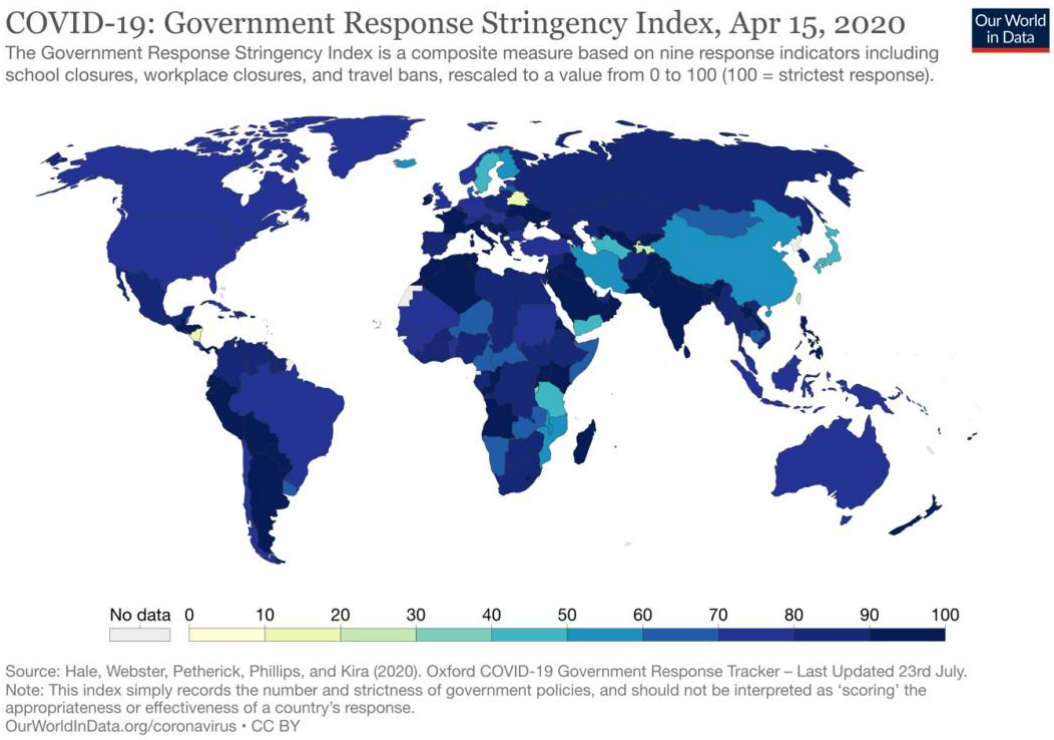
The University of Oxford developed an index capturing the stringency level of containment policies across the world (Hale, T. et al., 2020). The Index is constructed using indicators on containment but also on economic response, health systems, etc[17]. The map below shows the world stringency index, as for April 15. At that time, almost all countries worldwide were under stringent government response measures.

[16] See types of containment https://research.euromed-economists.org/pillar-2/

[17] The specific policy and response categories considered in the index are: school closures, workplace closures, cancel public events, restrictions on gatherings, close public transport, public information campaigns, stay at home, restriction on internal movement, international travel controls, testing policy, contact tracing.

© EMEA 2020.

Figure 2: Government Responses Stringency Index in April 2020



Stringent containment measures seemed to be adequate to curb the spread of the pandemic. Nevertheless, full lockdowns led to socio-economic problems, which were worse in some countries depending on their structural characteristics. Where informal employment is prevalent, such as in most countries in Africa, lockdown has meant a rapid increase in poverty, an increase in food insecurity and exacerbation of conflicts and criminal activities. The trade-off between saving lives and saving the economy has been widely debated since the very beginning of the pandemic, but the first short-term objective was clear for almost everyone: curb the pandemic to avoid the collapse of health systems and losing human lives.

In the next paragraph, we present EMEA's monitoring of containment policies in the Mediterranean and Africa.

2.2 Monitoring containment measures: a tool applied to the Mediterranean and Africa

In our Policy Response Monitor for COVID-19 containment policies, we considered three dimensions: timeliness, types and intensity of containment policies[18].

Countries in the North Mediterranean implemented strict containment measures but delayed from when the first case was detected and with varied levels of intensity. France, Germany, Italy and Spain are low performing in timing, delaying more than three weeks from the first case being detected and the implementation of containment measures. Nevertheless, they present high scores in the intensity of containment, above the regional average (6). All countries implemented full and national lockdowns, with the only exception being Malta, where the lockdown was national but partial. This policy decision could be linked to the fact that the containment measure in Malta was implemented very promptly (16 days). It is

[18] See Annexe 1 for methodology.

© EMEA 2020.

worth noting because, in countries which are high performing in timeliness, the virus started spreading considerably later than in low performing ones.

In Sub Sahara Africa, containment measures were strict in the majority of cases but were implemented very swiftly in all countries. Intensity also varies amongst countries in this region, with an average score of 6.46, slightly higher than the North Mediterranean. The disease started spreading to this region in March, more than one month later than in some of the most severely hit North Mediterranean countries (i.e. Spain, Italy).

In the South-East Mediterranean, the picture is heterogeneous, with countries such as Tunisia implementing strict containment measures promptly (10 days) and with a high-intensity score (9). Others, such as Turkey, which adopted loose and less intense measures (score 5) and later in respect of the first case detected (33 days).

African countries had the advantage of having had enough time to learn from other experiences and adapt. However, if a lockdown has a disastrous impact in advanced economies, such as the ones in Southern Europe, in fragile and less developed states in Sub Sahara Africa, the impact could be even more dangerous. In this region, the combination of curfews and partial or local lockdowns has only been preferred in a few countries (i.e. Burkina Faso, Cameroon, Cote d'Ivoire, Ghana). Furthermore, in some countries in Africa, violent police and military forces were deployed on the streets to control the containment situation and the protests against lockdown measures increased conflicts, further fragmenting socio-economic stability.

It is worth specifying that we categorised countries as high or low performing relative to some predefined criteria for each dimension, but this is not aimed at categorising overall government performances as "good" or "bad". Whether a country performed well or not overall in managing the pandemic shock, should be assessed through an effectiveness analysis, taking into account different factors (i.e. capacity to curb the pandemic, economic and social protection, etc.). EMEA will continue to deepen the overall effectiveness analysis in the following months. For the time being, in the next chapter, we present our first analysis on the effectiveness of containment, mainly looking at the first and most urgent short-term objective: curbing the spread of the pandemic to save human lives.

3. Effectiveness of containment policies in the Mediterranean and Africa

In order to monitor the effectiveness of containment policies, we looked at the weekly variation of cases, deaths and case-fatality rates. This monitor attempts to assess the effectiveness of containment policies in reducing the spread and the mortality of the disease[19].

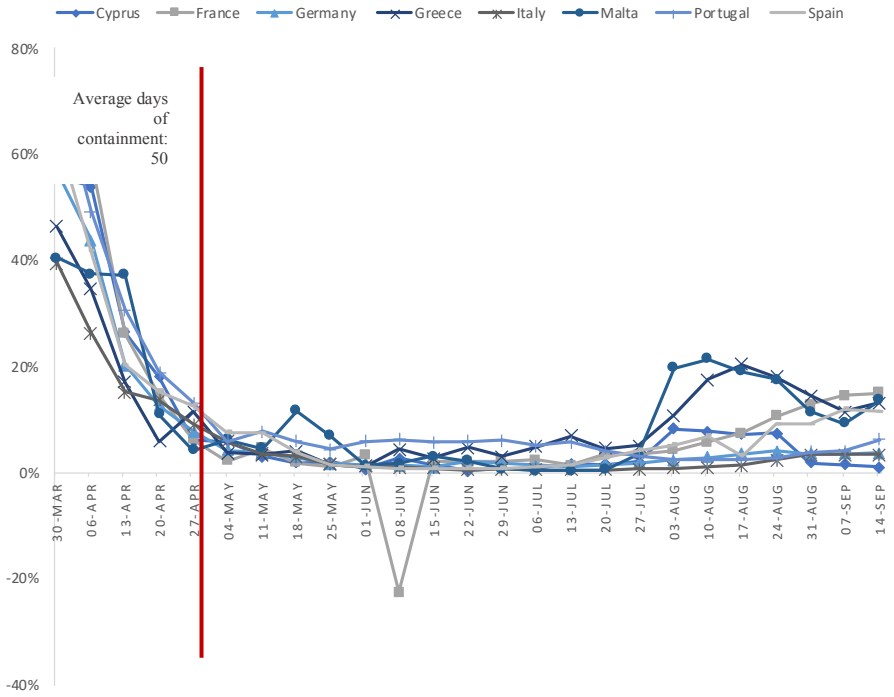
We computed the weekly variation of cases as the percentage of the difference between the cumulative number of cases registered at the start of the week and the start of the previous week over the total. The weekly variation of deaths is the difference between the cumulative number of deaths registered at the start of the week and at the start of the previous week, in percentage. The case-fatality rate is calculated as the percentage of the total cumulative deaths over the total cumulative cases registered on the last day of each week being considered.

[19] Mortality here is referring to the evolution of deaths and case-fatality rate. Nevertheless, it is worth specifying that when we talk about mortality, we don't refer to what is generally known in literature about pandemic as mortality rate, which would be the percentage of deaths for the disease over total population.

© EMEA 2020.

The graphs below show the percentage of weekly variation of cases for each region considered. The red line indicates the average date of lifting de-containment, whilst average days of containment are also reported. The graphs show a significant decrease in the weekly case variations in all regions since the end of March, suggesting that the containment policies worked well in slowing down the Covid-19 spread. The decrease is particularly sharp in the North Mediterranean, where the weekly increase seems to remain quite stable and low during the first weeks after the de-containment. The trend is similar in the other two regions, even if it is less linear and less homogeneous amongst countries. In all the regions, the average days of containment have been around 50.

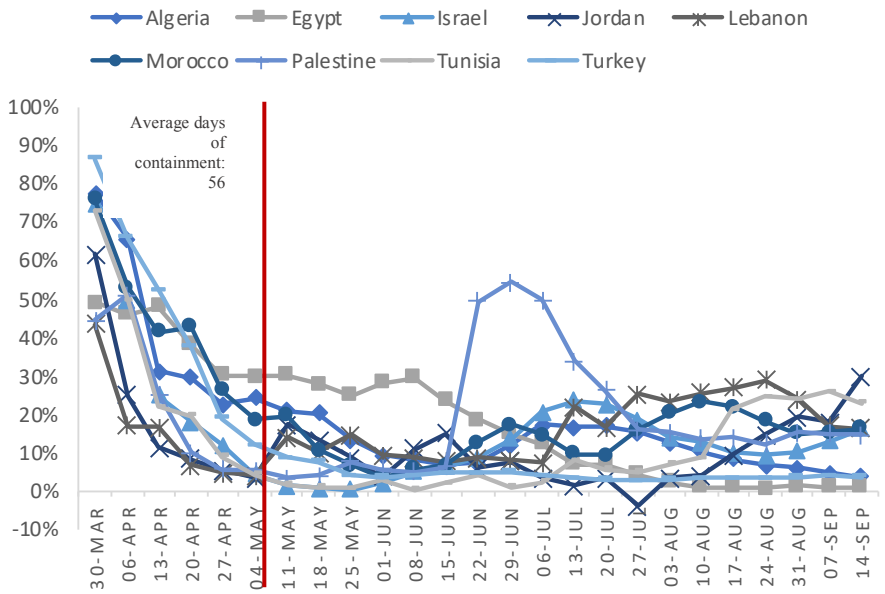
Figure 3: COVID-19 cases weekly variation in the North Mediterranean



Source: Author's elaboration of data retrieved from https://www.worldometers.info/coronavirus/

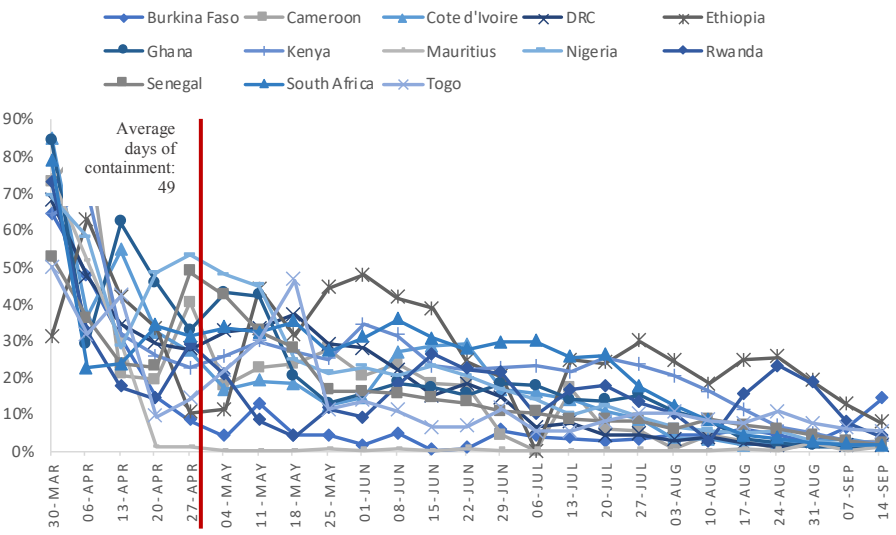
© EMEA 2020.

Figure 4: COVID-19 cases weekly variation in the South East Mediterranean



Source: Author's elaboration of data retrieved from https://www.worldometers.info/coronavirus/

Figure 5: COVID-19 cases weekly variation in Sub Sahara Africa (30 March - 14 September)



Source: Author's elaboration of data retrieved from https://www.worldometers.info/coronavirus/

If containment policies worked, weekly cases variations suggest that, a few weeks after de-containment, the spread of COVID-19 started to surge again. It is particularly evident in the North Mediterranean region, where curves began to increase quite sharply by the end of July, in particular in Malta,

© EMEA 2020.

Greece, Spain and France. In the South East Mediterranean, the re-increase of cases is less sharp than in Europe but is still observable from June. In Sub Sahara Africa, weekly case variations seem to keep a slight and inconsistent decline throughout all countries. Some considerations might be done on testing capacity. The higher the testing capacity of a country, the greater the chance of really representing the magnitude of the pandemic. In Sub-Sahara Africa testing is very low. During the month of August 2020, several countries re-introduced or reinforced some restrictions due to the surge in cases. Lockdown was needed to curb the spread of the virus and prepare for better management to avoid further lockdown, but since the virus is still circulating and there is not yet a vaccine, a high level of care must be implemented the current "day-to-day" life.

The weekly variation in deaths is quite low, but increasing slightly during recent weeks in all regions, particularly in South East Mediterranean and in Sub Sahara Africa. The majority of countries in North Mediterranean registered death weekly variation close to 0%, with the only exception of Greece (6.77%)[20]. Italy, France and Spain present high case-fatality rate (respectively 12.34%, 7.99% and 5.03%), but critically declined during the last weeks. South East Mediterranean and Sub Sahara Africa present a low case-fatality rate, except for Egypt (6%).

4. De-containment policies

4.1 International context

On April 14, the WHO published the "COVID-19 Strategy Update" in which it stressed the need for countries to have the right public health measures in place before lifting containment measures. Without a vaccine in the short and medium-term, the best-case outcome for many countries is to manage controlled transition to a sustainable steady state of low-level or no transmission of the disease. The WHO suggested six criteria that should guide nations towards this direction[21]:

1. COVID-19 transmission should be controlled to a level of sporadic cases and cluster of cases;
2. Sufficient health system and public health capacities should be in place (detection, testing, isolation, quarantine of contacts traced);
3. Outbreak risks in high-vulnerability settings should be minimised;
4. Workplace preventive measures should be established;
5. Risks of imported cases should be managed;
6. Communities should be fully engaged with behavioural prevention measures that must be maintained.

The six criteria suggested are difficult to accurately monitor. All countries started to de-contain when the epidemiologic curve started to stabilise on a flatter slope. All other indicators are not easy to monitor. At the same time, data on improved healthcare, risk management and awareness of citizens are challenging to achieve. Furthermore, even if Covid-19 started to be more understood in its complexity and its way of

[20] Also, Malta presented a high weekly deaths' variation, but we do not consider it, because the country presents less than 20 deaths since the pandemic started.
[21] https://www.who.int/docs/default-source/coronaviruse/covid-strategy-update-14april2020.pdf?sfvrsn=29da3ba0_19

© EMEA 2020.

spreading, there is still a lot of missing or misleading information. There is no agreement on the "right" treatment, for example, there was a heightened debate on the effectiveness and the risk related to the use of chloroquine and hydroxychloroquine. A two week period is widely considered as the standard maximum period needed for the development of symptoms but, in some cases, it could be up to more than three weeks, and in some other cases symptoms could never develop, with an unknown likelihood of being in contact with asymptomatic people. It is not yet clear the level of infection that asymptomatic can have. In order to avoid having an uncontrolled circulation of asymptomatic people, testing and tracing are crucial.

The level of implemented tests is quite low everywhere, looking at both the percentage of the overall population tested and the implemented tests per million. Different types of tests are now circulating, both antibody and PCR (antigen) ones, with different percentages of reliability of the results. Since people infected need a long time before eradicating the virus, more tests are needed - both to control the spread of the virus and to monitor the recovery of infected people. Besides increasing testing capacity, contact tracing apps could be crucial in swiftly detecting new cases and avoiding uncontrolled spread. A recent study by the University of Oxford found that, if 56% of the population used an app, alone it could reduce the virus reproduction number from about three to below one; other studies say that the apps only work in curbing the spread of the virus if 60% of people use them; others also say the effect is also substantially lower [22]. Nevertheless, the use of apps for tracing contacts is a vigorously debated issue worldwide. Privacy concerns, risks of authoritarian government control and the possible violation of human rights are particularly stressed with regards to MENA countries[23]. Amnesty International analysed some apps from MENA and Europe and found that apps from Bahrain, Kuwait and Norway are the most dangerous in terms of privacy policies. In this regard, the MIT developed the "Covid Tracing Tracker" a database documenting contact tracing efforts, mainly backed by national governments globally, reporting the app's producer, the technology used, the level of penetration and transparency, and the amount of time data would be detained, amongst other characteristics. A separate issue from privacy and governmental control is that in countries where digital penetration is low (in Sub Sahara Africa countries) there are large parts of the population that will not be able to have access to digital tools. Therefore, as stressed by the WHO amongst others, manual and labour-intensive detective-like work of contact tracing should not be abandoned, and more workers should be involved in this process (WHO, 2020).

Lockdown and similar containment measures drastically reduce the spread. Nevertheless, it is also clear that lockdowns have dramatic consequences on society and economies. Some call it "new reality" others "coexistence time". Whatever the name, the world is now conscious about the reality that we all have to live with this virus and that it will be a common global challenge for many months or years. The spread of the virus continues and, in some countries, has started to surge again since de-containment. De-containment is necessary, but care is also needed. It is not clear exactly how the virus spreads and how long it survives (i.e. droplets, air, surfaces, etc.). Much has been said, but research is still ongoing.

Nevertheless, social distancing, self-protection and disinfection are measures helping to reduce the probability and the speed of spreading. Despite the initial uncertainty regarding the use of facemasks as a

[22] https://www.sciencemag.org/news/2020/05/countries-around-world-are-rolling-out-contact-tracing-apps-contain-coronavirus-how
[23] https://www.accessnow.org/covid-19-contact-tracing-apps-in-mena-a-privacy-nightmare/

© EMEA 2020.

preventive measure, many studies recommended the compulsory use of masks in public spaces, mainly where social distancing is not possible or difficult to maintain. At the time of writing (July 22), about 95% of the world lives in countries where governments and experts agree on the effectiveness of masks in reducing the spread of the disease. Indeed, more than 86% of the world population lives in countries with a general or state-wide requirement of masks in public places and/or universal mask usage [24]. Many studies show that the higher the rate of people wearing masks the more likely it is that Rt[25] remains below 1[26] and, therefore, the pandemic is easier to manage and control.

De-containment started to be implemented, not only domestically but also across countries, with the reopening of national borders. During lockdowns, the majority of countries only allowed international travel in exceptional circumstances and the closure of borders was the first containment initiative undertaken. Any exceptional travel allowed during the containment period required a compulsory quarantine for people upon the arrival in most of the countries. The reopening of borders is crucial, particularly for countries with an economy mainly reliant upon tourism. Nevertheless, imported Covid-19 cases still represent a high risk for reigniting the contagion, particularly for countries where there is a low level of cases. Therefore, borders started reopening with a broad spectrum of conditions. Some countries are only reopening borders to countries with the same level of contagion or lower, others are maintaining mandatory quarantine for all or have introduced combinations of quarantine and mandatory tests.

Countries in the Mediterranean eased containment measures gradually, monitoring the epidemiological situation when lifting each measure. Containment measures were needed to stabilise the epidemiologic curve and avoid an uncontrolled spread of the contagion and deaths, as is occurring in Brazil. Sweden represents an example of how avoiding lockdown benefits neither society nor the economy. The country did not align with other European countries, avoiding any type of containment. In July, Sweden recorded more than 5,420 deaths from Covid-19, suffering 40% more deaths than the United States and 12 times more than Norway, if looking at deaths per million[27]. From an economic perspective, Sweden's economy is expected to contract by 4.5% this year, which is similar to the figure expected in Denmark. The possible negative impact in delaying a full lockdown has also been investigated by Demiralp (2020)[28], finding that an efficiently implemented lockdown minimises the economic costs by containing the pandemic faster. Nevertheless, if lockdown lasts for too long, the consequences could be particularly severe. At the same time, if de-containment is applied too early, the risk of a new surge of the disease is high, as some countries in our region are demonstrating.

In the following paragraph, we will present the EMEA monitor for de-containment in the Mediterranean and Africa.

[24] https://masks4all.co/ , consulted on June 30.
[25] Rt is the net reproduction number (the equivalent of R0 calculated over a time t). R0 represents a function of the probability of transmission by single contact between an infected and a susceptible person, the number of contacts of the infected person and the duration of the infectivity. Generally used for the monitoring of the effectiveness of interventions during an epidemic, the use of Rt for monitoring the COVID-19 pandemic is generating criticism, which is linked to the low capacity of governments to provide reliable punctual data on the evolution of the pandemic (different methods for reporting cases, different testing strategies, delay in the analysis of data, etc.).
[26] See https://institute.global/policy/architecture-containment-getting-gold and https://masks4all.co/
[27] https://www.nytimes.com/2020/07/07/business/sweden-economy-coronavirus.html, consulted on June 30.
[28] https://www.nytimes.com/2020/07/07/business/sweden-economy-coronavirus.html

© EMEA 2020.

4.2 Monitoring de-containment: a tool applied to the Mediterranean and Africa

In our Policy Response Monitor for COVID-19 de-containment we considered timing, testing, active cases and carefulness. Carefulness is assessed by looking at the Index built by EMEA[29].

In the North and South East Mediterranean, the majority of countries lifted restrictions after more than 40 days, with the only exception of Germany (29 days). In Sub Sahara Africa, only Cameroon, Cote d'Ivoire, Mauritius and Senegal exceeded 40 days of containment, respectively 44, 46, 56 and 73. Tests per million performed at the time of de-containment are low everywhere, particularly in the majority of South East Mediterranean and Sub Sahara African countries. The countries with the highest level of tests per million in North Mediterranean are Malta (81,994), which also presents low number of active cases (77) after little more than one month of containment (43 days) and Cyprus, with 54,437 tests per million and 563 active cases after 57 days of lockdown. Surely, part of their outstanding performance in testing is related to their geographical and demographic conditions, since both countries are islands with respectively 441,595 and 1.2 million inhabitants. Mauritius is the only country, in all the regions considered, which started easing restrictions with 0 positive cases. Furthermore, it is amongst the best performers in testing, registering 54,863 tests per million at time of de-containment. As with the cases of Malta and Cyprus, the fact that Mauritius is also a small island could have driven its ability to test massively and contain the disease.

The level of carefulness in de-containing is quite high in all the regions. The Index takes into account measures in place at the first de-containment. We attempt to investigate the level of precautions of countries at the time of lifting containment measures. The highest regional average score is registered by the South East Mediterranean region (7.56) followed by the North Mediterranean (7.13) and the Sub Sahara Africa (6.85). In the North Mediterranean, the level of carefulness is quite homogeneous across the region, with only Germany and Spain scoring above the regional average. In the South East Mediterranean, the level of carefulness is very high, but is different amongst countries, with countries like Algeria and Palestine scoring well below the regional average (respectively 7 and 5) and other countries, like Egypt and Turkey, scoring 9, well above the regional average. In Sub Sahara Africa, countries differ more than in the other regions for carefulness, with Burkina Faso, Cameroon, Cote d'Ivoire, Mauritius, Rwanda and Togo scoring below the regional average. In the following paragraphs, we will analyse in more detail each dimension of carefulness.

For scoring the tested positive indicator, we considered the weekly percentage of those tested positive in the 2 weeks before de-containment (see Annexe 2). In the North Mediterranean, the only three countries performing well in tested positive[30] are Germany, Italy and Spain (respectively 4.52%, 3.12% and 3.22% in the week before de-containment and 6.47%, 4.64% and 7.03% in the previous week). The majority of countries in the South East Mediterranean and Sub Sahara Africa registered a value of tested positive outside the benchmark interval. Therefore, the majority of countries eased containment measures with an unrealistically fair perception of the magnitude of the pandemic in the country.

The majority of countries in the three regions made wearing of face masks mandatory in public places, with penalties applied to those not respecting the rules.

[29] See Annexe 2 for methodology.
[30] As for "performing well in tested positive" we mean a percentage falling into the 3%-10% benchmark interval, as better explained in Annexe 2.

© EMEA 2020.

Mandatory quarantine was a widely adopted measure for people allowed to travel during the restriction of movement. With the easing of the containment measures and the reopening of borders, in some cases, quarantine has been abolished. In the North Mediterranean region, the European Union played an important guiding role. The European Commission issued a recommendation on June 11 to the Schengen Associated States and the Member States to lift all internal borders, allowing standard travel of EU citizens amongst European countries from June 15. Furthermore, the European Commission recommends the extension of the external border closure until June 30. The EU recommendation also suggested lifting travel restrictions for selected extra-EU countries, chosen together by the Member States based on criteria such as the health situation, ability to apply containment measures during travel and reciprocity, looking at data from ECDC and WHO. Nevertheless, the management of borders is a competence of the Member States; therefore, each country adopted different measures at different times. As for quarantine measures, each country established different rules. On June 30, the European Council approved a list of 15 third tier countries considered safe for travel, considering their epidemiologic situation. The list will be updated every 15 days, monitoring the epidemiologic situation of these third tier countries. Some North Mediterranean countries, like Italy, provide that some countries, amongst the extra-EU allowed countries, upon arrival have to undergo a fortnight of quarantine. Other countries, like Cyprus, classified countries in three categories, based on risk level: there are no restrictions for the first category countries; for people coming from the second category, it is mandatory to have a PCR test done 72 hours prior their arrival or to conduct a test upon arrival; for the third category, the entry is only allowed in exceptional cases, and quarantine is mandatory. The management of border reopening differs widely from country to country. Nevertheless, amongst all the countries analysed, there are still countries which are not allowing travel from some third tier countries, despite the gradual reopening of borders. Therefore, the possibility to travel for urgent and exceptional cases remains for people coming from countries that are not listed, with mandatory quarantine upon the arrival. The majority of countries in South East Mediterranean and in Sub Sahara Africa lifted restrictions without opening borders or keeping mandatory quarantine for all. In South East Mediterranean countries, Tunisia adopted measures for travellers, similar to Cyprus. Countries allowed to travel to Tunisia are divided into different categories depending on risk levels and those with "higher risk" must present a PCR test that is done within 72 hours of arrival. Turkey will test anyone for COVID-19 arriving from the allowed countries list and, in the case of positive results, there are governmental facilities for quarantine. A completely different approach to travellers has been adopted by Morocco, where anyone arriving has to: present a negative PCR and serologic test for COVID-19 (done in the 48 hours prior to arrival; self-quarantine for 14 days upon arrival); sign a statement on oath and download the tracking app "Wiqaytna". All countries in Sub Sahara Africa require a mandatory quarantine for all, provided at the date of the borders reopening.

The availability of an app for contact tracing is the last dimension we considered for assessing carefulness and is probably the most debated issue relating to Covid-19 de-containment. All countries in the North Mediterranean and the South East Mediterranean developed an app for contact tracing. Not all countries in Sub Sahara Africa, but the majority of them, also did the same. Algeria, Tunisia and Turkey are the only three countries in the regions considered that are developing a contact tracing app which is not downloadable on a voluntary base. Amnesty International is investigating the Algerian and Tunisian apps. In

© EMEA 2020.

Turkey, the app is mandatory for people tested positive for Covid-19, who have to share data with the police [31].

At the time of writing, some countries in the Mediterranean and South-East Mediterranean have already reintroduced some restrictions since de-containment (i.e. Spain, Morocco, Israel). Further study and research are needed to better investigate the elements which trigger a sustainable and durable de-containment and recovery, avoiding further lockdown.

5. Socio-economic preparedness and economic policy response

The ultimate impact on the economic system is tough to predict, due to the multifaceted nature of the shock. Economies across the world are going through a massive contraction in activity, with multiple social implications. As a result of the Initiative on Global Markets (IGM) Economic Expert Panel[32], economic activity contraction arises due to five main reasons (Carracciolo, G. et al.,2020):

- Direct loss in labour supply due to deaths and infections with associated medical costs;
- Further loss in labour supply due to Government non-pharmaceutical interventions, such as lockdown and social distancing;
- A decline in household consumption propensity and firms' propensity to invest due to increased uncertainty and lockdown;
- Global interactions, in terms of disruption of trade and global value chains;
- Possible hysteresis effects, preventing a return to the pre-crisis economic equilibrium.

The COVID-19 pandemic has led to a deep global recession; the fourth deepest since 1879 and the most severe since the end of World War II (WB, 2020). Output in advanced economies is set to contract sharply in 2020, following a major disruption in domestic demand and supply, trade and finance. In 2020, the Euro Area is expected to contract by 9.1%, MENA countries by 5.8% and Sub Sahara Africa by 5.3% (Idem). The ILO estimates that global working hours declined by 4.5% in the first quarter of 2020, equivalent to approximately 130 million full-time jobs[33]. Furthermore, it is estimated that earnings of informal workers declined by 60% globally just in the first month of the crisis[34]. In 2020, world merchandise trade is expected to fall by between 13% and 32%. Estimates of the expected recovery in 2021 are uncertain due to the high uncertainty around the duration of the outbreak (WTO)[35]. UNCTAD estimations don't expect a slow recovery of investment flow before 2022, forecasting a decrease in FDI by up to 40% in 2020[36]. For the same year, global remittances are expected to fall by 19.9%, and flows to Africa by 23.1% (WB). Developing countries and vulnerable people are the most dependent on remittances. An unprecedented fall in remittances, as expected, is likely to severely contribute to pushing a large number of people into poverty (Kalantaryan, S. and McMahon, S.,

[31] https://www.technologyreview.com/2020/05/07/1000961/launching-mittr-covid-tracing-tracker/, consulted on July 19.
[32] http://www.igmchicago.org/surveys/policy-for-the-covid-19-crisis/
[33] https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_743146.pdf
[34] *Idem*.
[35] https://www.wto.org/english/news_e/pres20_e/pr855_e.htm
[36] https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2396

© EMEA 2020.

2020). The WB estimates that COVID-19 could push up to 100 million people into extreme poverty in 2020, representing the first increase in extreme poverty since 1998[37]. COVID-19 has worsened and magnified inequality both within countries and between countries. Inequalities in terms of access to income, assets, internet, public services, education, formal employment, equal opportunities and social protection are exacerbated by the COVID-19[38]. Middle East and North African (MENA) countries and Sub-Saharan African (SSA) countries present severe structural and systemic vulnerabilities, aggravating the socio-economic effects of the pandemic. Most MENA countries have fragile economies, conflicts are endemic, as is also political uncertainty; furthermore, the recent sharp decline in oil prices placed more pressure on entire societies. SSA countries are presenting with weak healthcare systems, constrained fiscal policy space and limited sanitation infrastructure; furthermore, high debt levels, border closures and trade-restrictive policies are challenging the already precarious state of food security (WB, 2020).

Most countries have made unprecedented efforts to deploy resources fast, through fiscal and monetary policy. By the end of May, over 90 countries had already announced or introduced measures totalling US$10 trillion. Fiscal measures in advanced economies average 5% of GDP in each country; the figure is 2.3% of GDP in emerging and developing countries. In many low-income countries, fiscal space is too limited for governments to act[39]. International community efforts were also unprecedented and put in place early on, at the first stage of the pandemic[40]. Nevertheless, all the efforts deployed were simply not sufficient to restore some economies, considering the magnitude of the shock and pre-existing deep vulnerabilities. EMEA developed the socio-economic preparedness index and the economic policy response index (under the Pillar 3 of the EMEA Monitor) to assess socio-economic conditions pre-pandemic and the magnitude of the economic policy responses implemented.

5.1 ASSESSING SOCIO-ECONOMIC PREPAREDNESS AND SHORT-TERM ECONOMIC POLICY RESPONSE

The pandemic generated a symmetric shock to world economies. Nevertheless, the actual impact of the shock has been asymmetric across countries. Some of them had weaker economic fundamentals, others were particularly exposed because of the structure of their economy and their rooted dependency on the rest of the world, whilst certain others were already facing major social inequalities and poverty. Besides marked differentials in socio-economic resilience, governments around the world reacted differently in terms of promptness, magnitude and targeting of policy response.

In this section, we aim to produce a preliminary assessment of each countries socio-economic preparedness/exposure to the exogenous shock and government ability to tame the downturn and to design a path to recovery. We perform a cross-country analysis by building two indices[41] to evaluate countries relative performance. It is relevant to stress that, to no extent does our analysis aim to assess countries' preparedness and policy reaction *per se*, but it only looks at countries' *relative* position.

[37] http://pubdocs.worldbank.org/en/461601591649316722/Projected-poverty-impacts-of-COVID-19.pdf
[38] http://www.fao.org/3/ca8843en/CA8843EN.pdf
[39] https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_749399.pdf
[40] See Ayadi, R. et al. 2020. Covid-19 in the Mediterranean and Africa. Diagnosis, Policy Responses, Preliminary Assessment and Wat Forward. EMEA-EMNES Studies – April 2020. Box 2- International/Regional Organization Responses, p.108.
[41] See Annexe 3 for methodology.

© EMEA 2020.

The main results of our analysis are summarised in Figure 6. Notably, the red line indicates the economic preparedness index, whilst the yellow one plots countries' economic policy response performance, both relative to the Global region. There are two elements that stand out.

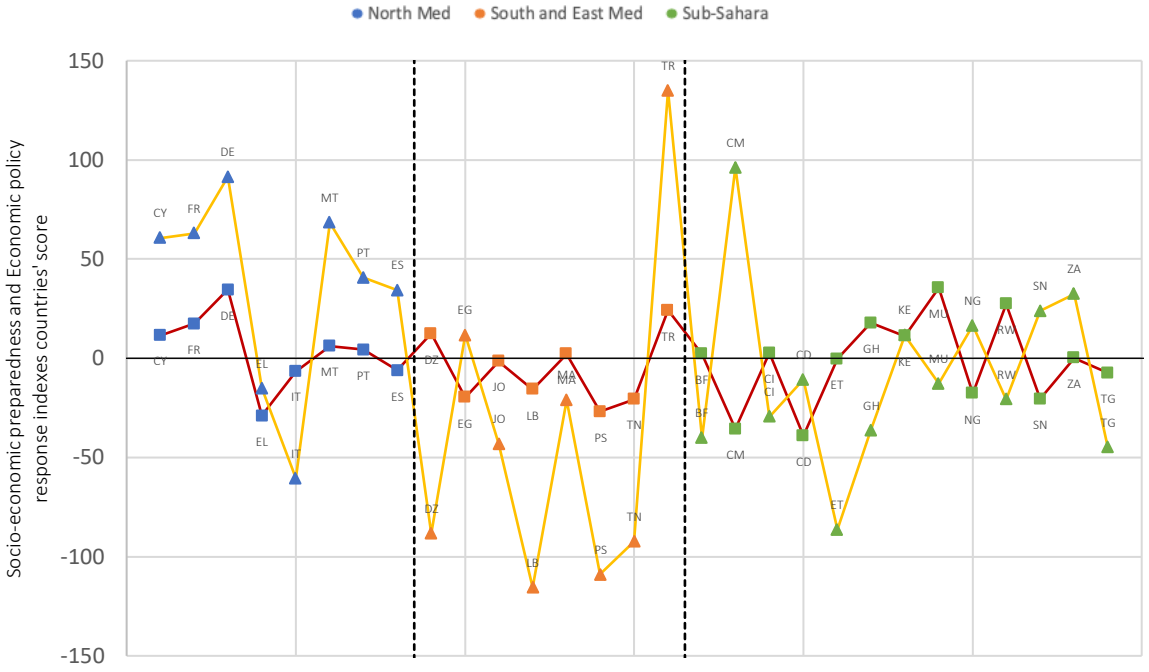
First, there does not seem to be an overall correlation between the economic preparedness and the economic policy response indices at the global level (-0.07). Nonetheless, the correlation is robust and positive in the North Mediterranean region (0.77), slightly lower in the South and East Mediterranean region (0.64) and low and negative in the Sub-Sahara Africa (-0.44). Note, that the two indices are calculated via different methodologies and based on substantially different types of data. It is, thus, appropriate to make a within-index comparison and a between-index correlation analysis, whereas a cross-indices absolute values comparison might lead to biased conclusions.

The second relevant element that arises from the chart below is a clear regional divide. The North Mediterranean region performs systematically above average in both indices, with only a few exceptions. On the contrary, countries in the South and East Mediterranean region seem to be lagging behind, in terms of preparedness and their economic policy response appears relatively insufficient. Finally, the situation in Sub-Sahara Africa is particularly mixed and no clear pattern can be identified.

The findings, highlighted above, tend to suggest that geographical location plays a key role in a country's economic performance. Given that an analysis at the global level does not allow appreciation of local specificities, we consider a regional breakdown, which allows the isolation of unobserved region-specific factors, a better strategy to investigate countries' socio-economic preparedness and policy response. The rest of the chapter will then linger and comment on a region-specific analysis.

© EMEA 2020.

Figure 6: Socio-economic preparedness and Economic policy response Indexes



Source: Authors' elaboration on IMF, KPMG, Deloitte, OECD data[42] EMEA Online Platform

5.2 Regional breakdown

The cross-country comparative analysis we conducted relative to the global region, highlighted clear regional patterns. In this section, we aim to go a step further and breakdown our study at a region-specific level. As mentioned, this will allow us to isolate unobserved heterogeneity and, thus, take into account region-specific peculiarities which, in turn, will strengthen our analysis and results.

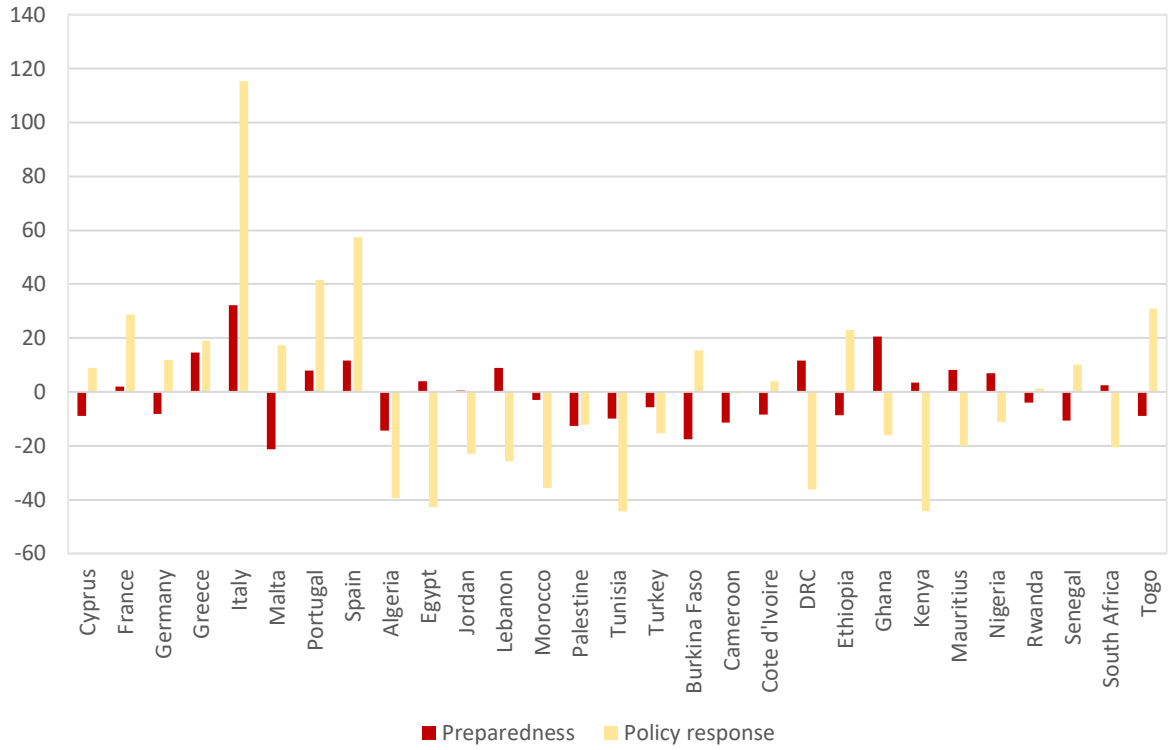
As described above, our indices are roughly defined as countries' deviation from the mean performance. We showed that countries' scores tend to be clustered at a regional level. This, in turn, means that regional averages tend to be different across the sample and, eventually, when calculating indices on regional averages rather than the global average, outcomes are markedly different. This discrepancy is illustrated in Figure 7, in which bars represent the difference between countries' performance relative to the global mean and countries' performance relative to the regional average. Again, we identify a clear pattern in the North Mediterranean region (regional average > global average) and South and East Mediterranean region (regional average < global average), and mixed results in Sub-Sahara Africa. These results confirm the appropriateness of an analysis at the region level, rather than the global level, to add to and reinforce our conclusions. The

[42] Other minor sources have been consulted to integrate single data entries;
BF, CM, JO, LB, NG, ZA data on the fiscal response size are not available;
data on fiscal response for EL includes guarantees and data for TG refers to a multi-year programme, so they are excluded;
data sources apply also to the other charts of this chapter unless otherwise specified.

© EMEA 2020.

reminder of the chapter will then linger on the regional layer, focussing on countries' relative preparedness and policy response, clustered by geographical location.

Figure 7: Global and regional performance: a comparison



Source: Authors' elaboration – EMEA Online Platform

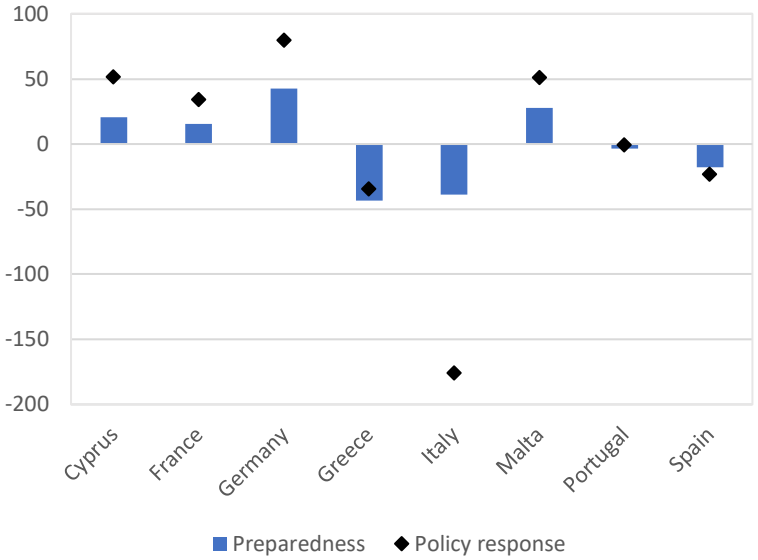
5.2.1 North Mediterranean

The North Mediterranean region was, overall, more prepared and less exposed to the exogenous shock than the global average. The economic policy response has been substantially more comprehensive and more sizeable relative to the other regions' part of our analysis. That said, Figure 8 below indicates that countries within the region performed differently. Note, that all countries in the North Mediterranean region are part of the eurozone which, in turn, means that their joint monetary policy has been set and implemented at the European Central Bank (ECB). Similarly, given that in many cases, national banking supervisors applied measures to less significant institutions that mirrored the ones directed to the significant institution by the Single Supervisory Mechanism, we only include the latter in our policy response index, to avoid redundancies. Including national supervisor, additional measures would have inflated the banking reaction pillar in the policy response index: a higher score would have reflected only the coexistence of two supervisors rather than the actual size of intervention. Given the above, i.e. monetary and banking policy are identical across the region, the policy response in Figure 8 *de facto* only represents countries' fiscal measures and the timing of monetary and banking measures relative to the country-specific containment policies.

© EMEA 2020.

As previously highlighted, we record a high positive correlation between the economic preparedness and the economic policy response indices. This means that countries that were more prepared are also the ones that implemented the more sizeable and most timely policy response. This is not surprising, given that our preparedness index takes into account countries' fiscal space and financing constraints. A high public debt elevates yields on government bonds and a negative fiscal balance dramatically limits room for manoeuvre, eventually resulting in the implementation of relatively minor stimulus packages. Alternatively, one could have expected that a more sizeable policy response would have had to be put in place, in order to compensate for high exposures and weak fundamentals. Evidence finds pre-existing constraints to be binding and highlights a clear path-dependency on previous policy and budgetary decisions.

Figure 8: Preparedness and Policy Response Indices – North Mediterranean



Source: **Source**: Authors' elaboration – EMEA Online Platform

Greece, Italy and Spain were the least prepared and most vulnerable countries in the North Mediterranean. Germany outperformed other countries. Both Italy and Greece had to face tight fiscal space whilst being confronted with a very poor quality of institution relative to the regional average. Whereas high public debt crucially constrained the potential for fiscal intervention, even assuming sizeable expansionary budgetary measures, low performing institutions and high corruption levels imply a low ability to rapidly and effectively reach households and companies in need. Low prepared countries also pay for the structure of their economies, in particular the relevance of the tourism sector, which is clearly exposed to the suspension of national and international travel. Furthermore, relatively high poverty and unemployment rates, marked inequalities, together with lacunose safety nets, make Italy, Greece and Spain the most socially vulnerable countries in the North Mediterranean region. Finally, less sound banks drag down the score of low performing countries.

© EMEA 2020.

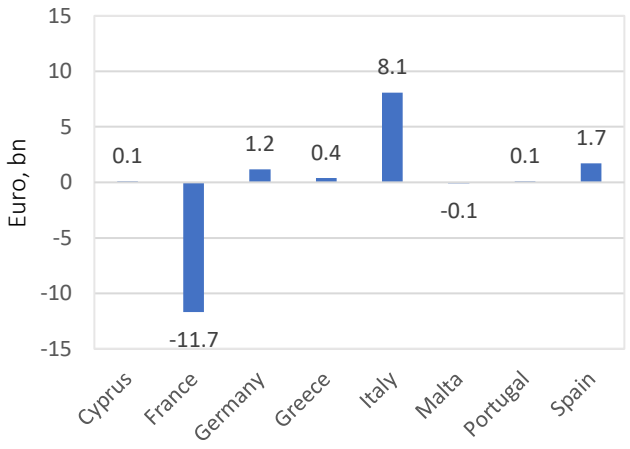
The policy response has been quite timely and sizeable in all countries of the region.

On the monetary side, the European Central Bank implemented several relevant measures.

First, the ECB launched a massive quantitative easing programme, both reinforcing its existing Asset Purchase Programme (APP) and initiating the Pandemic Emergency Purchase Programme (PEPP). The latter has been designed to be flexible enough to cope with the historically dramatic economic downturn the region is facing. Specifically, within the PEPP, the pool of eligible assets has been extended to tame potential sovereign rating downgrades and to include otherwise excluded countries, i.e. Greece. Moreover, the PEPP allowed flexibility in short-term purchases relative to countries' capital key. Figure 9, below, shows deviations from the capital key in April-May purchases for the countries in our sample.[43] Italy and Spain, the countries hardest hit by the pandemic, benefitted the most from the embedded flexibility.

Second, the ECB committed to injecting liquidity into the economy and refinancing the banking sector at favourable costs, via the launch of TLTRO III and PELTRO operations. The ECB also announced additional FAFR auctions. Being at the zero-lower bound, the ECB could not further lower its policy rate, however, by exercising its forward guidance strategy, it committed to maintain key interest rates at the current level until inflation reaches a sustained growth path towards the treaty objective of below but close to 2%.

Figure 9: PEPP purchases. Deviation from countries' capital key in March-April 2020



Source: Authors' elaboration on ECB data – EMEA Online Platform

The fiscal response has been relatively similar in terms of size across the region, i.e. 4-5% of GDP, with the exception of Spain (3%) and Portugal (2.5%). On the contrary, the timing of the authorities' reaction widely differed amongst countries. Italy, being the first country in the region to be hit by the pandemic, is by far the worst performer in terms of timing of economic response. In fact, from the day the lockdown started, 23

[43] The amount of sovereign bonds purchased at the country level has not been included in the index because that information was not available for many countries outside the EU. The series was treated as binary (sovereign bond purchases operated by the central bank= YES(1)/NO(0)).

© EMEA 2020.

days were needed for the government to announce the first relevant fiscal reaction measures. Some countries, like Germany and France, designed a stimulus package before they entered a lockdown.

Regarding the type of adopted fiscal measures, we observe rather low heterogeneity. All countries provided credit support, mostly via state guarantees to targeted new loans issuance. Tax deferrals, loans and mortgage repayments, both in terms of principal and interest, and a temporary freeze on specific rent payments played a key role in releasing liquidity to households and the private sector in the immediate short-term. All countries in the region adopted income support measures. In particular, short-term employment schemes have been reinforced and extended. Governments also provided transfers to households in need, often targeted to new needs that arose from mandatory teleworking (e.g. childcare benefits). Finally, a sizeable chunk of fiscal intervention has been devoted to support the most vulnerable and hardest hit sectors. In particular, SMEs, the self-employed, the tourism and transports sector received dedicated attention. Obviously, the priority had remained on the strengthening of health-related infrastructures and the expansion of medical staff numbers, together with investments in research to find a disease-treatment and/or a vaccine. Overall, the fiscal reaction has been similar across the region, both in terms of size and type of policy implemented. Slight discrepancies can be found in the distribution of funds amongst the types of intervention. On the other hand, not every authorities' fiscal response has been prompted and immediate.

On the banking side, supervisors relaxed capital and liquidity constraints. The use of counter cyclical capital buffers has been encouraged. Moreover, authorities allowed flexibility in loss provision on new loans issued under neo-created government guarantees. Although not binding, banks have been asked to temporarily cut dividend payments and suspend share-buyback operations. All the mentioned accommodative measures have been intended to grant flexibility, remove major constraints and allow the banking sector to increase its lending capacity, in order to channel cheap liquidity to the real sector. In addition, banks conceded substantial moratoria on loan repayments.

Overall, the North Mediterranean economic policy response has been sizeable and timely.

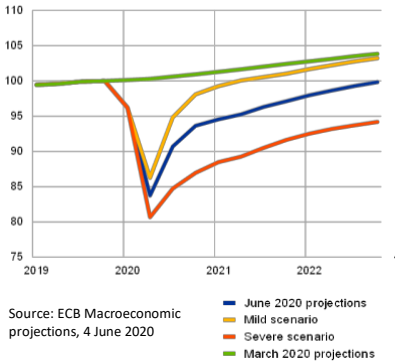
On a final note, it is to be highlighted that the Italian policy response score is dramatically low due to an ample delay in policy intervention relative to the start of lockdown. The explanation is that Italy has been the first North Mediterranean country to be severely hit by the pandemic. The Italian policy reaction discounted any surprise component from the shock which other countries were not faced with. Furthermore, considering that our policy response index takes into account only monetary and banking/supervision measures undertaken at the EU level, a low performance in the index timing component is physiological, given that national authorities are not fully sovereign in the mentioned domains. On the contrary, the magnitude of the Italian fiscal intervention has been in line with, or above, the regional average.

© EMEA 2020.

Box 1: The EU fiscal road to recovery

In projections released in June, the European Central Bank outlined different recovery scenarios. The actual projection forecasts a 13% drop in EU GDP in 2020q2. The ECB expects real GDP to undergo a 8.7% decline in 2020 and to rebound by 5.2% in 2021 and by 3.3% in 2022. Additional relevant policies might contribute to achieving the objective of a steeper V-shaped recovery path. This box concisely outlines the main expansionary fiscal measures undertaken at the EU level and linger on those under discussion, which might play a decisive role in paving the way towards a faster and sustained recovery. Given its binding institutional constraints and operational impediments, due to the necessity to adopt key decisions via consensus amongst Member States, the EU fiscal response has been remarkably rapid, especially when considering the timing of intervention during the previous crises that the region faced, i.e. financial and sovereign debt. The EU deployed several recovery packages across its various institutions for an amount of EUR 540 bn, proposed to be increased by an additional EUR 750 bn.

Figure 10: EU27 GDP - ECB projections and



Source: ECB Macroeconomic projections, 4 June 2020

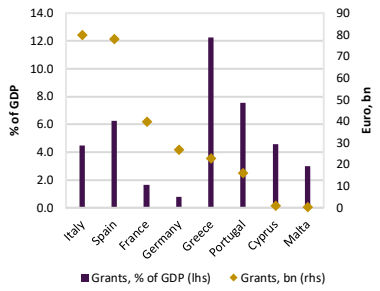
First, Member States agreed to introduce a COVID-dedicated credit line (EUR 240 bn) within the European Stability Mechanism (ESM) framework, to support sovereign states facing financing constraints. The ESM Pandemic Crisis Support credit line offers favourable condition loans for an amount up to 2% of GDP of the applying Member State, at a maximum maturity of 10 years. The liquidity is bound to be spent to finance direct and indirect healthcare. Given the size and the targetting of spending, borrowers are expected to implement structural reforms, enhancing resilience and preparedness for future potential pandemic waves and other health threats. Notwithstanding the apparent benefits, in many Member States, a domestic debate is undergoing on whether to use the ESM funds. On top of a diffused scepticism that spread across the EU after the debated ESM management of the Greek *de facto* sovereign default, Member States fear a severe market reaction subsequent to a request for emergency lending.

Bond holders and potential buyers might, in fact, interpret the use of ESM funds as a signal for an unsound government budget, eventually leading to a market request for higher interest rates which might, in turn, lead to a negative net impact of the emergency borrowing on public finances. Second, the European Council endorsed the creation of a Pan-European Guarantee Fund (EUR 25 bn) that would allow the European Investment Bank (EIB) to increase its lending capacity by an additional EUR 200 bn to tackle the economic consequences of the COVID-19 pandemic. Notably, EIB operations are expected to be targeted mainly to SMEs, with the objective of channelling liquidity into the real economy. Finally, the European Commission adopted the Support to mitigate Unemployment Risks in an Emergency (SURE) package, a short-term employment scheme to support income during emergencies. The neo-introduced tool provides financial assistance (EUR 100 bn) in the form of loans to Member States that face a sudden increase in public expenditure, for the preservation of employment. As mentioned, the firepower of existing fiscal instruments equals EUR 540 bn. Notwithstanding the remarkable efforts in terms of financial commitments, it is to be noted that all the instruments briefly described above are essentially a form of emergency lending. This type of financial assistance is vital when sovereign states lose access to the market. However, if assuming sovereign stable access to funding, the net benefit for beneficiaries is realised only in terms of savings, due to lower interest rates and longer maturity on the loans. When facing major downturns, emergency lending alone might not be sufficient to reverse recessionary spirals. Moreover, many EU countries are confronted with worryingly high debt/GDP ratios which are expected to increase dramatically in the coming quarters. Additional lending, even on favourable terms, might end up not being sustainable. As a remedy, the European Commission proposed an additional package of fiscal interventions, named Next Generation EU.

© EMEA 2020.

The proposal was generally approved by the European Council in its mid-July meeting. According to the latest draft, the package would make available EUR 750 bn to Member States to cope with the downturn and sustain the recovery transition via the seven-year multiannual EU budget, to be approved by 2021. Notably, EUR 390 bn will be distributed in the form of grants, with the remainder being lent to Member States.

Figure 11: Expected NextGenEU grants distribution across Member States



Source: European Commission

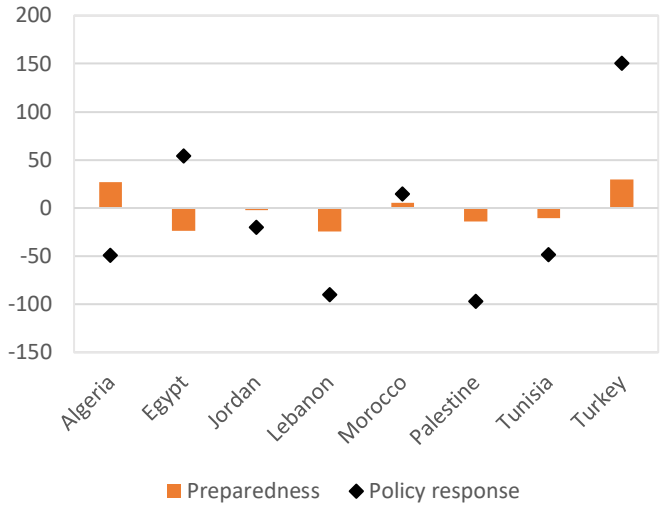
The increase in EU spending is planned to be financed by a commitment to an increase in the own resources ceiling within the coming Multiannual Financial Framework (MFF) up to 2% of EU27 GNI, relative to the current 1.2% of GNI. The buffer would function as a pan-EU guarantee to allow the European Commission to issue bonds to finance its spending. The Next Generation EU plan represents an historical milestone in EU integration. In fact, besides breaking the taboo of joint-liability Eurobond issuance, the package will allow, for the first time, the MFF to be run with a budget deficit. Essentially, the EU budget will operate pure fiscal transfers over a multiannual horizon via debt issuance. Notably, spending is to be allocated on the basis of lost GDP due to the pandemic and unemployment rate, whereas the burden will be distributed based on national income. On a final note, emphasis should be given to the clear commitment to channel part of the resources, released via the NextGenEU plan, towards a green and digital transition. Besides sustaining the economic rebound to pre-shock levels, the EU recovery plan aims to build a more resilient

5.2.2 South and East Mediterranean

The analysis we conducted in the first part of this chapter highlighted a high vulnerability, low preparedness and insufficient policy reaction in the South and East Mediterranean region relative to the global average. When breaking down the analysis at the regional level, findings point to relevant divergencies in countries' performance in both criteria parts of our investigation. In addition, 70% of countries in the region score below average, both when considering the preparedness and the policy response indices. Given the methodology by which indices are built this, in turn, means that a few countries outperform the others by far. The regional average, excluding those countries, would be dramatically low.

© EMEA 2020.

Figure 12: Preparedness and Policy Response Indices – South and East Mediterranean[44]



Source: Authors' elaboration – EMEA Online Platform

Figure 12, above, shows heterogeneity in both preparedness and policy response across the South and East Mediterranenan region. Notably, as in the North Mediterranean region, we find a rather high positive correlation between the preparedness and policy response indices. Again, this result tends to confirm that pre-existing constraints crucially limit space for intervention.

Egypt, Lebanon, Palestine and Tunisia are found to be the lowest scoring in preparedness. In particular, Egypt pays for its relative limited fiscal and monetary space, driven by a high budget deficit, debt and inflation and Tunisia discounts its elevated external debt and high corporate taxes. Despite a very high public debt, Lebanon enjoys potentially more ample room for manouvre thanks to its low tax rates. In addition, we find that, with only the exception of Tunisia, the quality of institution, rule of law and corruption scores are also concerningly low in under-performing countries. Whereas economic openness and relevance of particularly exposed sectors seem not to be a common feature amongst low-scoring countries, that is not the case when it comes to social vulnerability and existence of comprehensive social safety nets. In particular, high unemployment and poverty rates, combined with a lack of sufficent precautionary savings buffers, are reasons for concern. Finally, Lebanon scores dramatically low in all banking-related components of our analysis. Amongst the above-average prepared, Turkey and Morocco out-perform the remaining countries of the region in almost all indicators we consider. Notwithstanding its high dependency on oil and a very low institutional quality, Algeria enjoys favourable social conditions and an inward-looking, profitable banking sector. Finally, Jordan stands out for the quality of its institutions , low corruption rates and rule of law.

As mentioned above, the economic policy response has been below the global average - Turkey and Egypt being the only exceptions.

Monetary authorities' intervention has been timely overall, with at most a week of delay from the first day of containment and movement-restriction measures. Apart from Palestine and Lebanon, most

[44] Data on the banking pillar is only available for Algeria, Jordan, Lebanon and Turkey

© EMEA 2020.

central banks substantially cut their policy rates. The range of reduction goes from the high 300 basis points cut in Egypt to 50 basis points announced by the Algerian central bank. Whilst Turkey and Egypt also put in place relevant bond purchase programmes, only Morocco operated on its exchange rate. Whilst easing requirements on collaterals, many countries' central banks extended and enhanced refinancing operations; in the case of Egypt, this was partly channelled into lending to the most vulnerable, i.e. SMEs, low-income households and the tourism sector.

The fiscal stimulus has been weaker than in the North Mediterranean region. Algeria and Palestine respectively devoted only 0.35% and 0.7% of their GDP to support the economy. Turkey managed to put in place a recovery plan of about 5% of GDP. Other countries spent roughly 2-3% of GDP. Algeria paid a high price for its oil-rent dependency, which accounts for more than 12% of its GDP. Crude oil has been traded even at negative prices during the first burst of the pandemic. Algeria's insufficient fiscal response reflects the dramatic drop in revenues subsequent to the oil price collapse.

Regarding the types of policy implemented, the majority of countries promoted credit enhancing measures, in most cases via state guarantees on new loan issuance. All governments undertook measures to smooth the income fall. The measures were shaped as tax deferrals, bills and rent payment postponements, transfers, grants and favourable conditions on new credit lines. On top of these, Egypt subsidised energy and fuel for a three month period. Finally, whereas all countries directed resources to the health sector, the support to other sectors at risk has not been homogeneous. It is important to notice that, differently from the North Mediterranean region, the authorities in the South and East Mediterranean paid specific attention to the informal sector, mostly via money transfers and food distribution. A final note has to be made on the commitment of the Turkish Wealth Fund to buy stakes of distressed firms up to the value of 0.4% of GDP.

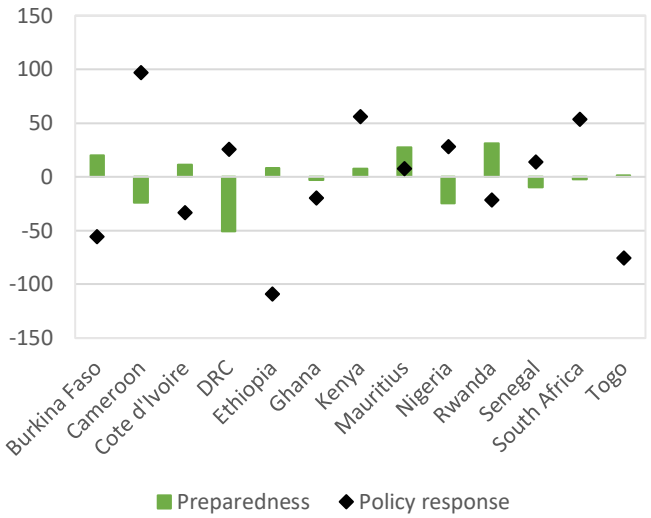
Dealing with the banking/supervision pillar, we find moratoria on loans and mortgages in all countries. Only a few supervisors allowed the easing of regulatory constraints. Amongst those, the Algerian authorities consented to ease liquidity, capital, NPL and reserve ratios. Although not all - and not to the same magnitude - similar measures have also been undertaken in Morocco, Turkey and Jordan. Notably, amongst other measures, Egypt allowed a temporary suspension of credit score blacklists and relaxed regulation on lenders' screening of borrowers' data. In Morocco, we find an easing in provision of requirements for targetted loans and a temporary suspension of dividend payments. Finally, we record the adoption across the region of policies to ease electronic payment and reduction of withdrawal fees. The intervention of the banking sector has been timely, particularly in Turkey. In this regard, it is important to notice that the relative outstanding score of Turkey's policy response, both at the global and regional level, is partially driven by the rapidity of intervention (-25 days from the first day of lockdown). Timing being defined as the days between the first day of lockdown and the day the first relevant economic reaction measure was approved, a negative value may be due either to a rapid economic policy response or to a delay in containment measures. In the case of Turkey, it is a combination of both.

© EMEA 2020.

5.2.3 Sub-Sahara Africa

The analysis we performed on the Sub-Sahara region produced mixed results. Relative to the global mean, roughly a third of SSA countries were more prepared, a third were less prepared and third were essentially on the average line. On the other hand, many countries lagged behind on the economic policy response side. A few relevant exceptions are represented by Cameroon, Kenya, Nigeria, South Africa and Senegal. Differently from the other two regions, when correlating the preparedness and the policy response indices, we find a negative relation. One of the reasons could lie in the fact that almost all countries in the Sub-Sahara Africa region received financial assistance, in the form of emergency lending and/or debt relief from the International Monetary Fund and other countries. This might have levelized previously existing fiscal and monetary space discrepancies and encouraged more generous support policies. Moreover, more unprepared countries, i.e. Cameroon, DRC and Nigeria, succeeded in counterbalancing their existing unfortunate conditions via expansionary economic measures because, differently from North Mediterranean and South and East Mediterranean regional under-performers, their low preparedness score was not driven by fiscal and monetary constraints.

Figure 13: Preparedness and Policy Response Indices – Sub-Sahara Africa



Source: Authors' elaboration – EMEA Online Platform

Figure 13 confirms the lack of homogeneity highlighted in the first part of this chapter, when we analysed countries' performances relative to the global average.

When it comes to socio-economic preparedness and vulnerability, Burkina Faso, Mauritius and Rwanda positively stand out. The opposite applies to Cameroon, DRC and Nigeria. Under-performing countries, in particular DRC, discount their bad institutions. Besides a vulnerable economic structure, the social fragility, paired with inadequate social safety nets, drives the low scores of the worst performers. On top of that, the banking sector appears unstable and, in some cases, insufficiently profitable.

© EMEA 2020.

The overall economic policy response in the Sub-Sahara Africa region has been generally below the global and the North Mediterranean average, but above the South and East Mediterranean average.

Monetary authorities across the region adopted the first relevant measures before countries entered a lockdown. When compared to the other two regions we analyse, this represents one of the main differences. About a half of countries in the region benefitted from central bank policy rate cuts. The more sizeable reduction has been recorded in South Africa (250 bp), but it has been remarkable also in DRC and Ghana (150 bp). Whereas central banks in South Africa, Ghana and Rwanda engaged in relevant bond purchases, only Nigeria operated on its exchange rate. Only 30% of countries witnessed a relaxation in collateral standards as counterparts to central bank operations. On the other hand, efforts to reinforce and extend refinancing operations have been widely spread across the region.

The fiscal intervention has been rather variegated both in terms of timing and size. Kenya was the first country in the region to implement fiscal measures - almost two weeks before the country adopted contagion-containment measures – however, only 0.4% of GDP was dedicated to the budgetary reaction. In the other countries, relevant fiscal measures have been adopted generally in a time interval i within the week before/after the lockdown begun. Regarding the size of intervention, it ranged from 0.4% of GDP for Kenya to 7% of GDP in Senegal. All countries provided income support to their citizens. These operations were mainly shaped as monetary transfers, subsidies on water and electricity provision, tax and payments deferrals and, in a few cases, reinforcement of short-term employment schemes. Most of the countries approved credit support interventions, either in the form of state guarantees on new loans, or direct lending via national and regional development banks. Some countries tackled extreme poverty vulnerabilities, distributing food and shelters to the population in most need. Furthermore, specific attention has been paid to the sectors most at risk. The Self-employed, SMEs and the tourism sector enjoyed tax relief and grants as emergency measures. The transport sector was also dedicated targeted assistance, similar to the other regions. On top of these, some countries decided to lower licence fees. Finally, it is relevant to note that many governments in the region addressed conspicuous resources to reinforce the health sector, amounting up to 0.5% of GDP in 50% of the countries in our sample.

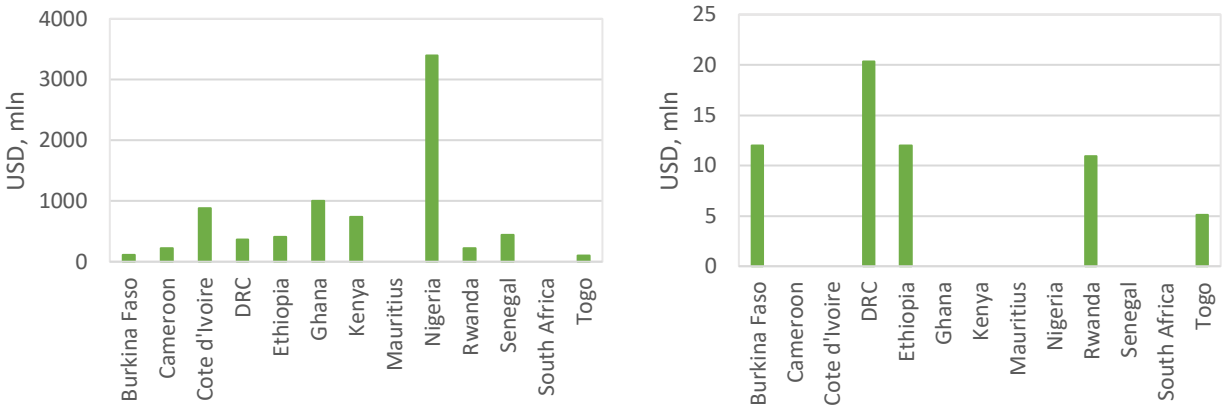
The banking/supervision response has been timely, but less relevant in terms of size when compared to the other regions. That said, almost all countries conceded moratoria on loan repayments. Many regulatory constraints have been relaxed. In particular, we record a reduction in reserve and capital conservation buffer requirements and flexibility regarding liquidity and cash reserve ratios. Notably, the NPL ratio has been allowed to fluctuate above pre-crisis limits, if fluctuation was due to COVD-related delinquencies. In addition, there has been flexibility regarding provision and classification of rules for specific loan categories. Interestingly, almost all countries implemented measures to ease electronic payments, with the objective of reducing the spread of the contagion. Finally, a few governments encouraged banks to postpone dividends and bonus distribution and to channel resources to the real economy.

As a final remark, we find that, as mentioned above, almost all countries in the region enjoyed emergency lending and debt relief operations from the International Monetary Fund. These operations are essential in times of crisis. A debt relief operation frees up short-term liquidity, aiming to avoid shortages that might compromise the functioning of the economy and drag it into a self-perpetuating recessionary spiral. On the other hand, emergency lending allows borrowing at lower rates and assures access to funding

© EMEA 2020.

when countries are *de facto* cut out from the market. When confronting a paralysing pandemic, these operations are crucial, especially for countries that were already confronting major pre-crisis inefficiencies and shortages.

Figure 14: IMF Emergency lending (left-panel) and debt relief (right-panel)[45]



Source: Authors' elaboration – EMEA Online Platform

Following the example of the IMF and encouragement from the World Bank[46], the G20 group[47] and the Paris Club agreed to freeze debt repayment for the 77 poorest countries in the current year. Although appreciable, the full capacity of these efforts cannot be fully reaped if a coordinated approach is missing. In fact, according to Reuters[48], a few countries did not apply to take advantage of debt relief because they feared that payment suspension would have been considered as missed payments by rating agencies, eventually leading to a rating downgrade, hence compromising access to finance from the markets.

[45] Emergency lending is the sum of Rapid Credit Facility (RCF) and Rapid Financing Instruments (RFI) lending; Debt relief refers to Catastrophe Containment and Relief Trust (CCRT) operations.

[46] https://www.worldbank.org/en/news/statement/2020/03/25/joint-statement-from-the-world-bank-group-and-the-international-monetary-fund-regarding-a-call-to-action-on-the-debt-of-ida-countries

[47] https://g20.org/en/media/Documents/G20_FMCBG_Communiqu%C3%A9_EN%20(2).pdf

[48] https://www.reuters.com/article/parisclub-debt/paris-club-debt-relief-to-pick-up-after-g20-deal-clarified-france-idUSL8N2D158F

© EMEA 2020.

Annexe 1:
Methodology for assessing containment policies

We define an asset of various dimensions aimed at monitoring and assessing containment policies in the Mediterranean and Africa. We choose the indicators and established the benchmark values for each of them after a deep analysis of the literature and of the data available on the issue, part of the comprehensive research on COVID-19 in the Mediterranean and Africa that EMEA and EMNES researchers have been conducting since March 2020.

Different indicators were used to assess the *timeliness* dimension: the date of the first COVID-19 case detected; the date of the first containment measure implementation; the number of days that passed from the first case detected to the implementation of the measures; and the number of days that passed from the WHO declaration of the Global Pandemic (March 11). We consider to be a crucial factor the number of days to implement containment after the first positive case being detected. We assessed the performance of countries looking at this variable: *high performing* if countries implemented containment measures in less than three weeks from the first case being detected, low performing countries otherwise[49].

The second dimension we considered is *type of containment*. We did not consider the closure of borders, which is a preventive measure adopted rapidly by all countries. We considered as measures of containment the following: *social distancing*, whether people have to maintain a greater than the usual physical distance from each other to avoid direct contact; *curfew* implementation, for which we distinguish between local and national measures, whether it is imposed at local or national level; and *lockdown* measures for which people are required to stay at home and activities are to close. For the latter, we distinguished between different types: *local lockdown*, when it is imposed on a few cities or regions; *national lockdown* when it is imposed on national territory; *partial lockdown* if the lockdown measure requires only certain activities to close; and *full lockdown* if all economic activities are required to close with the exception of essential ones. We divided measures between *Strict* and *Loose*. We considered the *implementation of containment* as *strict* when the following measures were imposed: social distancing and full or national lockdown. We define *containment loose* when measures imposed were: social distancing and curfew (local or national) or a lockdown (only partial or local). Countries implementing strict containment measures are defined as *high performing*, the ones with loose containment measures as *low performing*.

The third dimension we considered is the intensity of containment. We computed a score to attribute a level of intensity to each country. In order to define the level of intensity, we have taken into consideration different variables with different weights. The first variable we considered is the type of containment. We took the previous definition of strict and loose containment, and we attributed value +1 if the country presented strict measures, +0 otherwise. The targeting indicator considered whether in the country containment measure applied only for a targeted portion of the population (i.e. only elderly). We considered the containment to be more intense if the measures were not targeted. Therefore, we attributed a score +1 if the country did not target the implementation of the containment and +0 otherwise. The extensions

[49] We used three weeks (21 days) as a reference period because we took the mean of all the maximum periods of incubation observed (14, 19, 24, 27 days) as reported on: https://www.worldometers.info/coronavirus/coronavirus-incubation-period/

© EMEA 2020.

variable captures the number of times the period of containment has been extended. If the country did not extend the period of containment, we scored it +0; if containment has been extended once, we scored it +1, +2 if the extensions were more than 1, and +3 if an ending date for containment has not been defined from the beginning. The last two indicators accounted for the enforcement of containment. We considered military deployment to patrol the streets, scoring +2 if it was implemented and +0 otherwise. Finally, we considered the provision of penalties for not respecting the containment measures. As for penalties, we looked at penalties on individuals (i.e. fines for a single person not respecting the confinement) and penalties on the activities (i.e. fines or closure for a longer time for shops staying open when they are not allowed by containment measure). We scored +1 if there were penalties, +0 otherwise.

Furthermore, we considered the possibility of going to jail if not respecting the confinement, scoring +3 if it was provided, +0 otherwise. We computed the overall score, summing the scores of each indicator considered. The score can go from a minimum value of 0 to a maximum of 10. We computed the average score for each region, considering countries as high performing when they score above the regional average and low performing otherwise.

© EMEA 2020.

Annexe 2:
Methodology for assessing de-containment policies

We define an asset of various dimensions aimed at monitoring and assessing de-containment policies in the Mediterranean and Africa. We choose the indicators and established the benchmark values for each of them after a deep analysis of the literature and of the data available on the issue, part of the comprehensive research on COVID-19 in the Mediterranean and Africa that EMEA and EMNES researchers have been conducting since March 2020.

The first set of elements we considered are the *timing* (the date of de-containment and the numbers of days of containment), *tests per million* performed and *number of active cases* at time of de-containment. This data provides a picture of the situation in which each country started easing restrictions.

The second set of elements we looked at are aggregated in a score measuring the level of carefulness in the de-containment phase. To assess the level of carefulness, we computed an overall score resulting from the sum of different dimensions' scores. The overall score ranges from 0 to 10, where 0 means no carefulness and 10 very high carefulness. In order to provide a preliminary assessment on carefulness, we compared the overall country score to the regional average score. We defined as *high performing* those countries scoring above the regional average, low performing those scoring below their regional average. The first dimension we considered is *tested positive* the percentage of people whose test result was positive. We calculated this value computing the percentage of new cases detected over tests implemented weekly, in the two weeks before the de-containment. We looked at tested positive data in the two weeks before de-containment. We attributed a score of 1 where the percentage was equal or above 3% and equal or below 10% in both weeks considered, and we scored 0 if it was more than 10% in at least one of the two weeks considered. We used 3%-10% as it is an acceptable benchmark[50]. The table below reports the data used for scoring.

[50] The WHO in the press conference suggested a benchmark of <10% tested positive as an indicator of sufficient testing; nevertheless in the same press conference, the WHO COVID-19 technical lead said that, where testing has been done relatively extensively, the positive tests out of the total implemented were between 3% and 12%. In fact, if a tiny percentage of tests are positive, there is a risk of concentrating testing in the "wrong places" (see:https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-press-conference-full-30mar2020.pdf?sfvrsn=6b68bc4a_2, consulted on June 30); 10% is also considered as a good threshold by Harvard's epidemiologists in "Which States are doing enough testing? This benchmark helps settle the debate" from: https://www.npr.org/sections/health-shots/2020/04/22/840526338/is-the-u-s-testing-enough-for-covid-19-as-debate-rages-on-heres-how-to-know, consulted on June 30; in May 2020, the WHO suggested a positive rate of less than 5% as a criteria indicating the pandemic is under control, and maintain the threshold for at least two week (see https://www.who.int/publications/i/item/public-health-criteria-to-adjust-public-health-and-social-measures-in-the-context-of-covid-19). We decided to take a percentage between 3% and 10% for the two weeks before de-containment as a benchmark for scoring the tested positive dimension.

© EMEA 2020.

Table 2: Scores for tested positive dimension in the index of de-containment

Regions	Countries	Date of de-cont.	Week* of de-cont. (Wt)	% tested positive (Wt)	% tested positive (Wt-1)	BERK 3%<X<10%	Score
North Mediterranean	Cyprus	04-May	4	0.34	0.31		0
	France	11-May	5	2.8	0.57		0
	Germany	20-Apr	2	4.52	6.47		1
	Greece	04-May	4	0.66	2.46		0
	Italy	04-May	4	3.12	4.64		1
	Malta	04-May	4	0.44	0.42		0
	Portugal	04-May	4	1.67	2.55		0
	Spain	04-May	4	3.22	7.03		1
South East Mediterranean	Algeria	08-Jun	9	..	..		..
	Egypt	06-May	4	6	4		1
	Israel	26-Apr	3	3	2		0
	Jordan	29-Apr	3	0.07	0.42		0
	Lebanon	28-Apr	3	0.39	1		0
	Morocco	09-Jun	9	0.45	0.44		0
	Palestine	25-May	7	..	0.15		0
	Tunisia	04-May	4	1	2		0
	Turkey	01-Jun	8	3.3	3.47		1
Sub Sahara Africa	Burkina Faso	21-Apr	2	..	..		..
	Cameroon	01-May	4	..	..		..
	Cote d'Ivoire	08-May	5	11.5	10.78		0
	DRC	22-Apr	2	..	..		..
	Ethiopia	28-Apr	3	0.19	0.96		0
	Ghana	19-Apr	3	1.58	1.55		0
	Kenya	06-Jul	13	7.82	5.56		1
	Mauritius**	15-May	6	0	0		1
	Nigeria	04-May	4	10.54	18.57		0
	Rwanda	04-May	4	0.15	..		0
	Senegal	04-May	4	3.08	77.03		0
	South Africa	01-May	4	20.5	2.62		0
	Togo	09-Jun	14	1.59	1.42		0

Sources: Author's computation with data from https://www.worldometers.info/coronavirus/
*Week classification is available on the EMEA Monitor platform
**The case of Mauritius is a peculiar one since the country started de-containment after detecting zero cases for a few weeks.

© EMEA 2020.

The second dimension taken into consideration is the requirement of *wearing a mask* in public places. We scored 0 if wearing a mask was not compulsory, 1 if it was just recommended, 2 if it was mandatory but without penalties in case of infringement and 3 if it was mandatory and penalties were provided to those not respecting the rule. *Mandatory quarantine* is another variable considered for assessing carefulness. We only took into account the international dimension, that is looking at whether it was imposed on people coming from outside the country. We attributed value 0 to countries where quarantine was not mandatory. We scored 2 if there was not a mandatory quarantine imposed generally, but there were some specific requirements for foreigners coming into the country, i.e. the possibility to enter only with a certificate of a Covid-19 test being done during the 72 hours prior to travel, as required in Cyprus. Score 2 was also assigned to those countries requiring a mandatory quarantine only for some countries, based on their epidemiological trend. Countries received the highest score (3) if they have not reopened borders during the easing of limitations and for those that reopened but are keeping mandatory quarantine for all. The last dimension taken into account was the development of a contact tracing app for citizens. Data on contact tracing is retrieved from the MIT Covid Tracing Tracker project and EMEA and EMNES research. The MIT initiative on Covid Contact Tracing is monitoring the development of apps for tracing Covid-19 infections, also reporting the level of transparency, detention of data, voluntary or mandatory downloading, amongst other characteristics. Our interest in building the score was to account for the level of carefulness in easing the restrictions. For this reason, we scored 0 if in the country was not available a contact tracing application was not available in the country at the time of de-containment, 1 if it was available and could be downloaded by the citizen on a voluntary base, and 2 where having the app was mandatory.

© EMEA 2020.

Annexe 3:
Methodology for building economic preparedness and economic policy response indices

The first index reflects the socio-economic preparedness and vulnerability to the COVID-19 shock in the countries in our sample and it is calculated as follows:

$$Preparedness\ Index_c = \frac{\sum_{i=1}^{I}[(o_{c,i} - \mu_{r,i})/\sigma_{r,i}] * \beta * 100}{I}$$

where $o_{c,i}$ is the is the observation for each country c and each indicator i, $\mu_{r,i}$ and $\sigma_{r,i}$ are respectively the average and standard deviation at the regional level r for each indicator i and β is a dummy equal to +/-1 which incorporates qualitative considerations (e.g. a negative sign is assigned to debt/GDP above average; a positive sign is assigned to a fiscal balance above average). Indicator i ranges from 1 to 35 and comprehends macroeconomic fundamentals, the economic structure, social vulnerability, public safety nets and information on the banking sector[51].

We distinguish three regions, namely North Mediterranean, South and East Mediterranean and Sub-Sahara Africa. We also consider one comprehensive region, which is defined as "Global" and includes all countries in the sample. In other words, the index is built by normalising indicator series at the regional level and grouping them by averages. Absolute normalised values are mathematically derived, whereas the sign is imposed to reflect qualitative considerations. Absolute values are multiplied by 100 to improve readability. Positive values indicate a performance above average, the opposite applies to negative values. The higher the absolute value, the higher the deviation from mean performance.

The second index aims at analysing and assessing the countries' socio-economic policy response. Note that a comprehensive and effective policy response has to be composed of two stages, namely crisis management and recovery design. The first step encompasses immediate short-term measures, aimed at mitigating the adverse impacts of an unexpected shock and avoiding dramatic consequences. The second step lays out measures to ease the economy back to its potential, whilst addressing vulnerabilities to enhance resilience. At the time of writing, we find almost all countries in our sample to still be engaging in the crisis management phase, with the North Mediterranean region being the only relevant exception. For this reason, our economic policy response index is built to only assess countries' relative crisis management policy response. A concise description of the main recovery-oriented measures undertaken in the North Mediterranean region, specifically at the European Union level, will be presented in Box 1 at the end of the chapter.

[51] For more details, see Annexe

© EMEA 2020.

The economic policy index is built in two steps, as follows:

$$a_{c,x} = \frac{\sum_{i=1}^{I}[(o_{c,i} - \mu_{r,i})/\sigma_{r,i}] * \beta * 100}{I}$$

$$Economic\ policy\ response\ Index_c = \frac{\sum_{x=1}^{X} a_{c,x}}{X}$$

The first step methodology is almost identical to the preparedness index one. The differences lie on the indicators i used and on the fact that we distinguish three supra-indicators x, namely fiscal, monetary and banking/supervision policy. The second step is simply an average of countries' relative performance in the three policy areas, x. The indicator i has a different range, conditional on supra-indicator x. In all x is included as a timing component, defined as the delay from the first day of country lockdown and the day of economic policy response announcement, and a size component, defined differently in each policy area[52]. In the case of fiscal policy, it is simply the magnitude of intervention as percent of GDP. In the case of banking/supervision policy, size is built assigning a value of 1 to each relevant measure undertaken by competent authorities (e.g. moratoria on loan repayment, relaxation of capital and liquidity ratios, etc.) and by summing them. The monetary policy size is a combination of numeric series (e.g. the reduction in the policy rate operated by central banks) and non-numeric series (e.g. asset purchase programmes, enhanced refinancing operations, etc.), which are aggregated as in the banking/supervision pillar. We decide to decompose the index formula in two steps to emphasise the fact that, while deeply interconnected, the three policy areas considered remained neatly separated and we prefer to analyse them as such. The second reason is that, whereas dealing with fiscal policy we use a clearly defined numeric measure, indicators used to build the synthetic indicators for monetary and banking/supervision policy are qualitatively heterogenous and higher in number. Whilst averaging via a two-steps procedure amplifies differences giving more prominence to high absolute values, correlation with a one-step average is higher than 0.98. Given that we are analysing relative performance, which disregards magnitude per se, using a one-step or a two-step procedure does not make a dramatic difference. As mentioned, we opted for a two-step strategy to emphasise the distinction amongst policy areas and to give prominence to any major deviation from mean performance in each of them. A limitation of this methodology lies in the fact that we do not distinguish between the size of each relevant non-numeric monetary and banking measure. Instead, we assign a fixed value of one. In addition, notwithstanding our attempt to maintain objectivity and to guarantee consistency, it is unavoidable that the decision about the relevance of measures undertaken by monetary and banking authorities ends up being discretional. That said, we consider our synthetic indices to be precise and comprehensive enough to produce reliable results and to allow us to draw relevant conclusions.

[52] For more details, see Annexe

© EMEA 2020.

Table 3: Preparedness index - Indicators

Government	Fiscal and monetary space	Fiscal balance, % of GDP
		Debt/GDP, %
		External debt, % of total
		Yield on 10-years government bonds, %
		CB policy rate, %
		Inflation
		Corporate tax rate, %
	Quality of institutions	Corruption
		Government Effectiveness
		Regulatory Quality
		Rule of Law
Economy	Economic relevance of sector at risk	Manufacture VA, % GDP
		Travel and tourism employment, % of total
		Oil rents, % of GDP
	Dependency on the rest of the world	Net foreign investment inflows, % of GDP
		Exports, % of GDP
		Current account balance, % of GDP
		Remittances inflows, % of GDP
Society	Social vulnerability	Unemployment rate, %
		Poverty headcount ratio ($1.9,2011 PPP)
		GINI
		GDP per capita, PPP
		Informal employment, % tot. non-agriculture
	Social buffers and protection	Household Debt, % of GDP
		Gross savings, % of GDP
		Social spending, % of GDP*
		Coverage of social safety net programmes, % of population **
Banking	Banking soundness	NPL, % of total loans
		Regulatory capital to risk-weighted assets, %
		Liquid Assets to Total Assets, %
	Exposure to the rest of the world	Loans to non-residents, % of total loans
		Net Open Position in Foreign Exchange to Capital, %
	Profitability	Return on Assets, %
		Return on Equity, %
		Interest Margin to Gross Income, %

Note: *only for North Mediterranean; ** only for South and East Mediterranean and Sub-Sahara Africa

© EMEA 2020.

Figure 15: Drivers of Preparedness Index – Correlations[i]

The chart plots the correlation between each indicator and the Preparedness Index, both at the global and regional level.

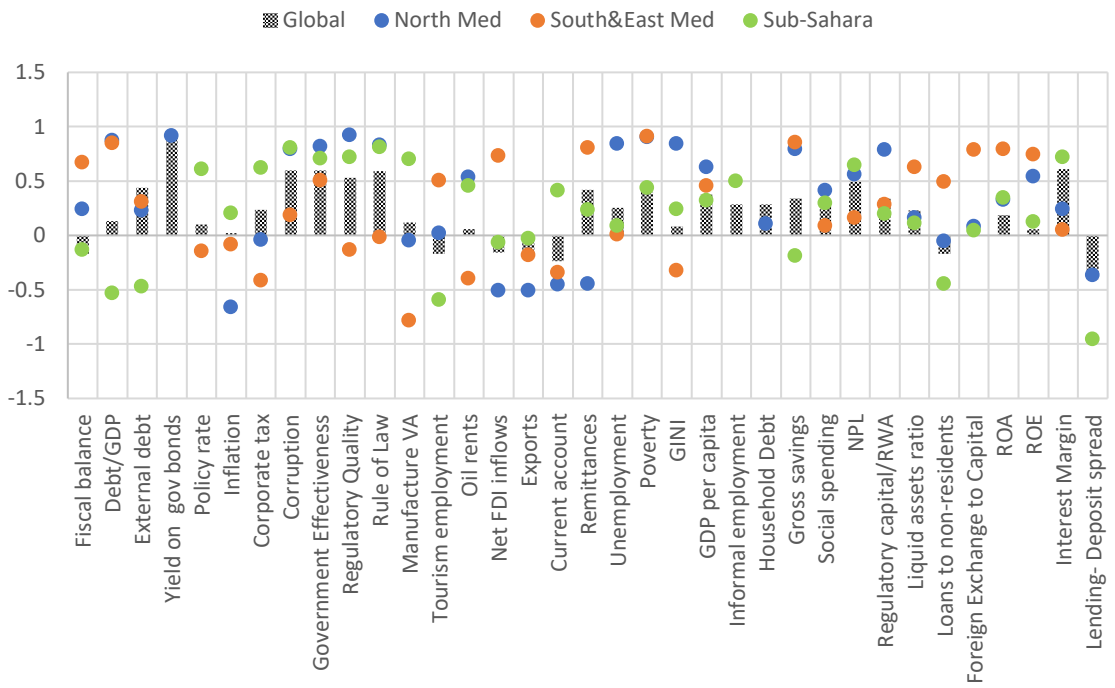


Table 4: Socio-economic policy index - Breakdown

Country	Aggregate	Monetary	Fiscal	Banking
Cyprus	52	76	4	76
France	34	12	79	12
Germany	80	65	108	65
Greece	-34	1	-106	1
Italy	-176	-233	-62	-233
Malta	51	65	23	65
Portugal	-1	33	-69	33
Spain	-23	-20	-30	-20
Algeria	-49	-22	-102	-23
Egypt	55	98	26	40
Jordan	-20	-4	-38	-18
Lebanon	-90	-79	-98	-93
Morocco	15	0	12	32
Palestine	-97	-68	-81	-140
Tunisia	-48	-72	-49	-23
Turkey	150	126	171	154
Burkina Faso	-56	-12	-107	-48
Cameroon	97	190	102	-3
Cote d'Ivoire	-33	-27	-43	-30

© EMEA 2020.

DRC	25	29	-80	127
Ethiopia	-109	-94	-27	-207
Ghana	-20	-51	-73	63
Kenya	56	-6	48	127
Mauritius	7	26	-49	45
Nigeria	28	11	88	-16
Rwanda	-22	-44	-14	-9
Senegal	14	-27	138	-70
South Africa	53	23	116	20
Togo	-76	-50	.	-102

Table 5: Policy response non-numeric series - Detailed country performance

Country	Monetary					Banking				
	Bond purchases	Exchange rate	Relaxation of collateral standards	Enhanced refinancing operations	Other	Moratoria on loan repayment	Guarantees on new loans	Capital requirement easing	Other regulatory easing	Other
Cyprus										
France										
Germany										
Greece										
Italy										
Malta										
Portugal										
Spain										
Algeria										
Egypt										
Jordan										
Lebanon										
Morocco										
Palestine										
Tunisia										
Turkey										
Burkina Faso										
Cameroon										
Cote d'Ivoire										
DRC										
Ethiopia										
Ghana										
Kenya										
Mauritius										
Nigeria										
Rwanda										
Senegal										

© EMEA 2020.

South Africa										
Togo										

Colour	Number of relevant policy measures
	0
	1
	2
	3

Source: Authors' elaboration – EMEA Online Platform

© EMEA 2020.

REFERENCES

1. Ayadi et al. (2020). *Covid-19 in the Mediterranean and Africa. Diagnosis, Policy Responses, Preliminary Assessment and Way Forward*. EMEA, April 2020.
2. Carracciolo, G. et al. (2020). Covid-19 and Economic Analysis: a Review of the Debate. Banca d'Italia
3. Eurosistema. Literature Reiew Issue no.1, 30 April 2020
4. CEPI (2020, June 15). From: https://cepi.net/
5. *Coronavirus Disease 2019. Testing for COVID-19* (2020, June 13). Centre for Disease Control and
6. Prevention (CDC). From: https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/testing.html
7. ECDC (2020). *An overview of the rapid test situation for COVID-19 diagnosis in the EU/EEA.* Technical Report. Stockholm, 1 April 2020.
8. El-Khatib and Samet, A. (2020).The impact of COVID-19 on Emerging Markets. EMNES Working Paper N. 38/ July, 2020.
9. *E-SPAR State Party Annual Report*, WHO. (2020, June 15). From: https://extranet.who.int/e-spar#capacity-score
10. *GHS Index. Welcome to the 2019 Global Health Security Index* (2020, May 3). From: https://www.ghsindex.org/
11. Hale, T. et al. (2020). *Variation in government responses to COVID-19*. BSG-WG-2020/030, Version 6.0. May 2020, Blavatnik School of Government. University of Oxford.
12. IMF (2020). External Sector Report: Global Imbalances and the COVID-19 Crisis. Washington, DC, August 2020.
13. International Working Group on Financing Preparedness (IWG) (2017). *From Panic and Neglect to Investing in Health Security*. World Bank.
14. Kalantaryan, S. and McMahon, S. (2020). Covid-19 and Remittances in Africa. EUR 30262 EN, Publications Office of the European Union, Luxembourg, 2020.
15. Lo, M. and Sy, A. (2020). A COVID-19 Severity Index. EMNES Working Paper No 32 / June 2020.
16. Lo, M. and Sy, A. (2020). Indice de Sévérité de la COVID-19. Analyse de l'évolution sur 5 mois (avril-aout) dans le monde. Secrétariat General du Gouvernement, Bureau de Prospective Économique. Draft, 13 Septembre 2020.
17. National Public Radio (npr.org). 7 May 2020. From: https://www.npr.org/sections/health-shots/2020/05/07/851610771/u-s-coronavirus-testing-still-falls-short-hows-your-state-doing
18. NTI, Johns Hopkins Response School of Public Health, EIU (2019). *GHS Index, Global Health Security Index. Building Collective Action and Accountability.*
19. OECD (2020). *Beyond Containment: Health systems responses to COVID-19 in the OECD.* Tackling coronavirus (COVID-19)-Browse OECD contributions

© EMEA 2020.

20. *Pandemic Emergency Financing Facility, The World Bank*. (2020, June 14). From: https://www.worldbank.org/en/topic/pandemics/brief/pandemic-emergency-financing-facility
21. Stein, R. et al. (2020). *U.S. Coronavirus Testing Still Falls Short. How's Your State Doing?*
22. UNCTAD (2020). The Covid-19 Shock to Developing Countries: Towards a "whatever it takes" programme for the two-thirds of the world's population being left behind. Trade and Development Report Update. March, 2020.
23. WB (2020). Global Economic Prospects, June 2020. Washington, DC: World Bank.
24. WHO (2005). *International Health Regulations.* Third Edition.
25. WHO (2018). *Technical framework in support to IHR (2005) monitoring and evaluation. Joint External Evaluation Tool.* World Health Organisation, Second Edition, 2018.
26. WHO (2020). Digital tools for COVID-9 contact tracing. Annexe: Contact Tracing in the context of COVID-19. 2 June 2020.
27. WHO (2020). Laboratory strategy recommendations for COVID-19. Interim guidance, 21 March 2020.

Other References:

1. https://www.weforum.org/agenda/2020/06/how-africa-manage-post-covid-economy/
2. http://pubdocs.worldbank.org/en/461601591649316722/Projected-poverty-impacts-of-COVID-19.pdf
3. http://www.fao.org/3/ca8843en/CA8843EN.pdf
4. http://www.igmchicago.org/surveys/policy-for-the-covid-19-crisis/
5. https://bcf.princeton.edu/event-directory/covid19_24/
6. https://coronavirus.jhu.edu/testing/testing-positivity
7. https://covidtestingproject.org/faq.html
8. https://edition.cnn.com/2020/07/06/health/coronavirus-pool-testing-wellness/index.html
9. https://g20.org/en/media/Documents/G20_FMCBG_Communiqu%C3%A9_EN%20(2).pdf
10. https://institute.global/policy/architecture-containment-getting-gold
11. https://masks4all.co/
12. https://public.tableau.com/profile/nicco.cirone#!/vizhome/COVID-19GovernmentMeasures/COVID-19GovernmentMeasures
13. https://public.tableau.com/profile/visualitics#!/vizhome/Covid-19GovermentMeasuresWorldwide/CovidGovernmentMeasuresWorldwide
14. https://research.euromed-economists.org/introduction/
15. https://research.euromed-economists.org/pillar-2/

© EMEA 2020.

16. https://theconversation.com/rwandas-covid-19-pool-testing-a-savvy-option-where-theres-low-viral-prevalence-141704
17. https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2396
18. https://www.accessnow.org/covid-19-contact-tracing-apps-in-mena-a-privacy-nightmare/
19. https://www.accessnow.org/covid-19-contact-tracing-apps-in-mena-a-privacy-nightmare/
20. https://www.brookings.edu/testing-responses-through-agent-based-computational-epidemiology-trace/
21. https://www.brookings.edu/testing-responses-through-agent-based-computational-epidemiology-trace/
22. https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker
23. https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html
24. https://www.ecdc.europa.eu/sites/default/files/documents/Methodology-estimating-point-prevalence%20-SARS-CoV-2-infection-pooled-RT-PCR-testing.pdf
25. https://www.globalhealthnow.org/2020-05/did-ghana-get-it-right
26. https://www.google.com/covid19/mobility/
27. https://www.gspublishing.com/content/research/en/reports/2020/04/27/3a0089c7-c1d1-4243-8dbd-da6141a501be.html
28. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_743146.pdf
29. https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_749399.pdf
30. https://www.npr.org/sections/health-shots/2020/04/22/840526338/is-the-u-s-testing-enough-for-covid-19-as-debate-rages-on-heres-how-to-know
31. https://www.npr.org/sections/health-shots/2020/04/22/840526338/is-the-u-s-testing-enough-for-covid-19-as-debate-rages-on-heres-how-to-know
32. https://www.nytimes.com/2020/05/05/world/europe/france-coronavirus-timeline.html
33. https://www.nytimes.com/2020/07/07/business/sweden-economy-coronavirus.html
34. https://www.reuters.com/article/parisclub-debt/paris-club-debt-relief-to-pick-up-after-g20-deal-clarified-france-idUSL8N2D158F
35. https://www.sciencemag.org/news/2020/05/countries-around-world-are-rolling-out-contact-tracing-apps-contain-coronavirus-how
36. https://www.technologyreview.com/2020/05/07/1000961/launching-mittr-covid-tracing-tracker/

© EMEA 2020.

37. https://www.theguardian.com/world/live/2020/may/10/coronavirus-live-news-obama-trumps-covid-19--chaotic-as-global-cases-pass-4-million-mexico-russia-germany-south-korea-deaths-
38. https://www.un.org/africarenewal/news/coronavirus/globalisation-linkage-covid-19-how-africa%E2%80%99s-economy-impacted
39. https://www.who.int/docs/default-source/coronaviruse/covid-strategy-update-14april2020.pdf?sfvrsn=29da3ba0_19
40. https://www.who.int/docs/default-source/coronaviruse/covid-strategy-update-14april2020.pdf?sfvrsn=29da3ba0_19
41. https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-press-conference-full-30mar2020.pdf?sfvrsn=6b68bc4a_2
42. https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-press-conference-full-30mar2020.pdf?sfvrsn=6b68bc4a_2
43. https://www.who.int/publications/i/item/public-health-criteria-to-adjust-public-health-and-social-measures-in-the-context-of-covid-19
44. https://www.worldbank.org/en/news/statement/2020/03/25/joint-statement-from-the-world-bank-group-and-the-international-monetary-fund-regarding-a-call-to-action-on-the-debt-of-ida-countries
45. https://www.wto.org/english/news_e/pres20_e/pr855_e.htm

© EMEA 2020.

ABOUT EMEA and EMNES

The Euro-Mediterranean Economists Association (EMEA) is a Barcelona-based regional think-tank established in 2012 that serves as a leading independent and innovative policy research institution; a forum for debate on the political and socio-economic reforms in Mediterranean and Africa; and promoter of actions and initiatives that fulfill objectives of sustainability, inclusiveness, regional integration and prosperity. It strives to contribute to the rethinking of the Euro-Mediterranean and Africa partnerships in view of the new dynamics of an emerging multi-polar world and amidst of protracted crises. EMEA has a large network of economists, high-level experts and institutional partners (research institutes, think tanks and universities) in the Euro-Mediterranean and Africa. EMEA builds on the collaborative research network MEDPRO (funded by the EU's Seventh Framework Programme (2009-13) and provides forward-looking thinking and political and socio-economic integrated analyses on the Euro-Mediterranean region. EMEA is also the promoter and co-funder of the Euro-Mediterranean Network for Economic Studies (EMNES), co-funded by the European Commission (DG NEAR) between 2015 and 2019. EMNES is a regional network composed of 30 institutions and more than 100 experts and researchers in the Mediterranean region. From January 2020, EMEA coordinates EMNES.

The Euro-Mediterranean Network for Economic Studies (EMNES) aims to provide a renewed vision for socio-economic development in the Mediterranean region, mainly focussing on employment creation, social inclusion, sustainable development and regional integration. It performs economic and policy research, exploring the pillars of inclusive and sustainable economic models in the Euro-Mediterranean region, along the following **research areas**:

1. Institutions and institutional reforms;
2. Private sector, micro, small and medium sized enterprises and social business development;
3. Entrepreneurship and innovation;
4. Human capital development, education, labour markets and migration;
5. Demographics, health and social protection;
6. Macroeconomic policy , inequality and social inclusion;
7. Inclusive and sustainable finance;
8. Regional integration, trade, investment and infrastructure;
9. Energy, water, environment and sustainable development;
10. Euro-Mediterranean partnership;
11. Scenario analysis and foresight;
12. Other evolving research areas.

EMNES is a network of research institutions and think tanks from Algeria, Belgium, Egypt, France, Germany, Greece, Italy, Jordan, Morocco, Slovenia, Spain, Tunisia, Turkey and the UK. Between 2014-2019, EMNES was co-funded by the European Commission – under Grant Contract N° ENPI/2014/354-488 and EMNES Partners and Associates. EMNES is built on four core principles: independence, excellence, policy relevance and a deep knowledge of Euro-Mediterranean affairs.

EURO-MEDITERRANEAN ECONOMISTS ASSOCIATION

EMNES EURO-MEDITERRANEAN NETWORK FOR ECONOMIC STUDIES
الشبكة الأورو-متوسطية للدراسات الإقتصادية