

COVID-19 and the Egyptian economy

Estimating the impacts of expected reductions in tourism, Suez Canal revenues, and remittances

Clemens Breisinger, Abla Abdelatif, Mariam Raouf, and Manfred Wiebelt

Egypt's recent economic success will almost certainly be interrupted by the COVID-19 pandemic. We examine the likely impact on the Egyptian economy of a significant reduction in tourism, payments received from the Suez Canal, and remittances from Egyptians working abroad because of the slowdown in the global economy due to the COVID-19 virus.

- Our results suggest that COVID-19 could reduce national GDP by between 0.7 and 0.8 percent (EGP 36 to 41 billion) for each month that the global crisis continues.
- Similarly, household consumption and expenditure is estimated to decline on average by between EGP 153 and EGP 180 per person per month, which is between 9.0 and 10.6 percent of average household income.
- The cumulative loss in GDP from these three external shocks alone could amount to between 2.1 and 4.8 percent of annual GDP in 2020 if the crisis lasts for 3 to 6 months.

While the country's focus currently is rightly on fighting the health crisis and mitigating its immediate impacts, planning on how to re-open the economy should also start now.

Egypt has been a rising star among emerging economies in recent years. Even though several reforms remain to be completed, the reform program launched in 2016 has started to bear fruit with economic growth of over five percent in the last two years. As a sign of increased stability, the tourism sector recorded its highest revenues in 2018/19. Continued efforts aimed at improving Egypt's business climate were expected to lead to even stronger private sector growth and economic diversification in 2020 and beyond.

Egypt's recent economic success and on-going reform efforts will almost certainly be interrupted by the COVID-19 pandemic. While the government is taking actions to contain the spread of the virus and the number of reported infections in Egypt is currently (March 2020) low compared to levels of infection in many other countries, developments in the global economy are expected to have major knock-on effects for Egypt. International travel restrictions are already curtailing tourism to the country. Moreover, the slowdown in global economic activity is likely reducing payments received from the Suez Canal and remittances from Egyptians working abroad. These three sources together account

Text Box 1: Multiplier models using social accounting matrices

Multiplier models

Social Accounting Matrix (SAM) multiplier models are ideally suited to measuring short-term direct and indirect impacts of unanticipated, rapid-onset demand and supply-side economic shocks, such as those caused by the COVID-19 pandemic. At the heart of the multiplier model is a SAM, an economywide database that captures resource flows associated with all economic transactions that take place in the economy, usually over the course of a financial year. As such, the SAM represents the structure of the economy at a point in time, showing the relationships between actors, i.e., productive activities, households, government, and foreign institutions, in terms of how they interact and transact via commodity and factor markets. The SAM multiplier model provides a mechanism for estimating the effects of an external shock – typically an exogenous change in final demand for goods and services – on sectoral and national production, factor incomes (wages or rents), and household incomes on the basis of the production, employment, and consumption relationships captured in the SAM database.

Apart from the direct production effect in the sector affected by the demand change, other sectors are affected indirectly via changes in demand for intermediate inputs defined by input-output relationships. Additionally, resulting changes in the levels or composition of employment could lead to further changes in household consumption demand. The strength of the multiplier model lies in the fact that the multiple rounds of these indirect effects are fully estimated. The more detailed the SAM is in terms of the activities, commodities, and factor and household accounts it includes, the more refined the SAM multiplier analysis is in terms of analyzing the direct and indirect impact pathways and distributional effects of the external shock.

The short-run analysis period assumes that technical input-output relationships, the output choices of producers, and the consumption patterns of households do not (yet) change in response to the simulated shock. Such behavioral responses are captured in general equilibrium models, but the anticipated short-term nature of the COVID-19 shock and the likelihood that the economy will return to a “business-as-usual” state once the crisis dissipates makes the SAM multiplier framework a more appropriate tool for analyzing this particular shock. (See Breisinger et al. 2009; Round 2003.)

Egypt model and data

The Egypt multiplier model is based on a SAM developed jointly by Egypt's Central Agency for Public Mobilization and Statistics (CAPMAS) and the International Food Policy Research Institute (IFPRI). While the SAM itself has a 2015 base-year, multiplier results are applied to national accounts, household income, and population data for 2019 to permit an assessment of the likely impacts of COVID-19 in 2020. Assuming linearity in the effects of the shock over time, our results can be multiplied by duration (in months) of the crisis to estimate the eventual total impact of the pandemic on the economy.

for 14.5 percent of Egypt's gross domestic product (GDP). Any disruptions to these foreign income sources will have far-reaching implications for Egypt's economy and population.

Using a Social Accounting Matrix (SAM) multiplier model for Egypt (Text Box 1), we simulate the individual and combined effects of a collapse in the tourism sector and reductions in Suez Canal revenues and in foreign remittances under more and less pessimistic scenarios. SAM multiplier models are well suited to measuring short-term direct and indirect impacts of unanticipated, rapid-onset demand- or supply-side economic shocks, such as those caused by the COVID-19 pandemic. We model the demand shocks as the anticipated reductions in tourism, Suez Canal, and remittances revenues experienced.

Our results document the potential significant adverse impact on economic growth and household welfare for each month that the COVID-19 crisis persists. However, if the dynamic effects of the COVID-19 shock on the Egyptian economy are different than those simulated in the multiplier model,

our results could be either under- or over-estimations of the aggregate economic impact of the crisis. Also, effects from other channels may reinforce the effects of the pandemic.

Economic scenarios

In 2018/19, revenues from tourism contributed USD 12.6 billion (4.2 percent of GDP) to the Egyptian economy; revenues from the Suez Canal, USD 5.7 billion (1.9 percent of GDP); and remittances, USD 25.2 billion (8.4 percent of GDP) (CBE 2020). In the analysis here, our less pessimistic scenario assumes a 10 percent reduction in remittances and Suez Canal revenues, respectively. Our more pessimistic scenario assumes a 15 percent reduction in remittances and Suez Canal revenues. Both scenarios assume a complete absence of international tourists and related lost monthly revenue of EGP 16 billion (USD 1 billion).

Tourism is a major sector in Egypt with strong linkages to many parts of the economy. About half of tourism expenditure is on accommodation and in the food and beverages sectors, including restaurants; a third is for transportation; while the rest is spent on other expenses, such as museums and monuments and buying handicrafts (OECD 2016). As in other countries, tourism has always been subject to periodic downturns. In March 2020, with COVID-19 beginning to spread in Europe, tourism declined sharply in Egypt with between 70 and 80 percent of hotel bookings being cancelled (ECES 2020b). The situation continues to worsen as international travel has been further restricted around the world. A complete loss in tourism revenues over the next few months, possibly lasting until the end of 2020 looks increasingly likely (ECES 2020b).

As COVID-19 affects all countries around the world, it is expected that global trade will slow considerably over coming months. As a large share of all globally traded goods pass through the Suez Canal, the Egyptian Center for Economic Studies (ECES) estimates that revenues from the Canal may decline by between 10 percent (optimistic) and 15 percent (pessimistic).

During past crises, remittances have proven to be a relatively stable source of foreign exchange earnings and a crucial source of income for many households, especially during economic downturns (Helmy, Zaki, & Abdallah 2016). In order to develop the scenarios to use with the SAM multiplier model here, ECES has drawn on past experiences in Egypt during crises and their impact on remittances. The more 'optimistic' scenario, in which remittances in fiscal year 2019/20 will decline by 10 percent, is similar to the decline in remittances following the financial crisis of 2008/09. The more pessimistic scenario is a 15 percent reduction in remittances (ECES 2020a). The main assumptions of this second scenario are that:

- Those workers sending remittances who may be in Egypt temporarily will be unable to return back to the countries in which they are employed due to international flight restrictions.
- Employers in other countries employing Egyptians may also lay off workers, with lower skilled workers likely being affected first.
- The decline in oil prices may lead to downsizing of investment projects in the Gulf countries, leading to less demand for Egyptian migrant labor.

In this more pessimistic scenario, remittances are set to decline by 15 percent. It is expected that rural and poor households in Egypt will be more vulnerable to the decline in remittances, given that initial layoffs are more likely to occur among lower skilled Egyptian migrant labor. Hence we assume that rural and poor households will lose more remittances income compared to better off and urban households.

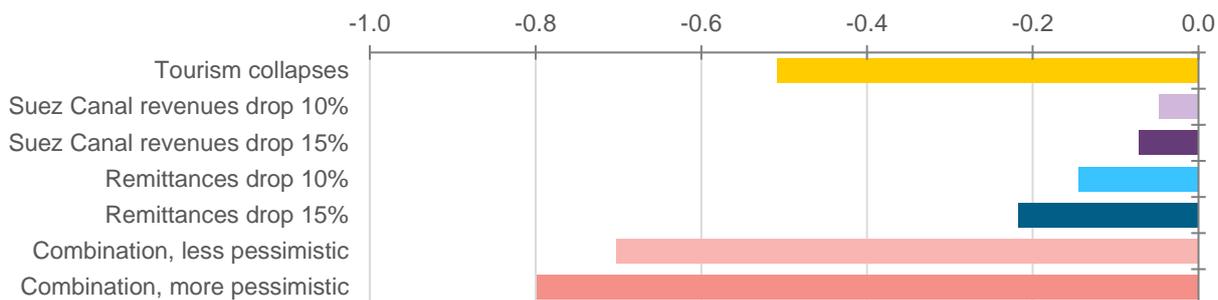
These expectations assume that there is no change in government policies to combat the crisis. This is important to recognize since, in reality, the Government is taking bold and important action. As such the model results are for scenarios that do not consider the impacts of specific government

policy to address the COVID-19 crisis, but are intended to support government decision makers in deciding upon the scale of their support to the economy and to Egyptian households.

Results of COVID-19 SAM multiplier model scenarios

Our simulations using IFPRI’s SAM multiplier model for Egypt suggests that COVID-19 could reduce national GDP by between 0.7 and 0.8 percent (EGP 36 to 41 billion) for each month that the global crisis goes on (Figure 1). Lower tourist spending will affect not only hotels, restaurants, taxi enterprises, and tourist guides, but also food processing and agriculture. Lower public revenues from Suez Canal fees are likely to affect the government budget. Lower consumption of households as a result of lower remittances income will affect consumption of consumer goods and adversely affect sectors producing intermediate goods. We estimate that the absence of tourists alone may cause monthly losses of EGP 26.3 billion or around USD 1.5 billion. That is, the total estimated impact is about one and a half times the expected direct loss in tourism revenues.

Figure 1: Estimated GDP loss per month, less pessimistic and more pessimistic scenarios, percent of average 2019 monthly GDP

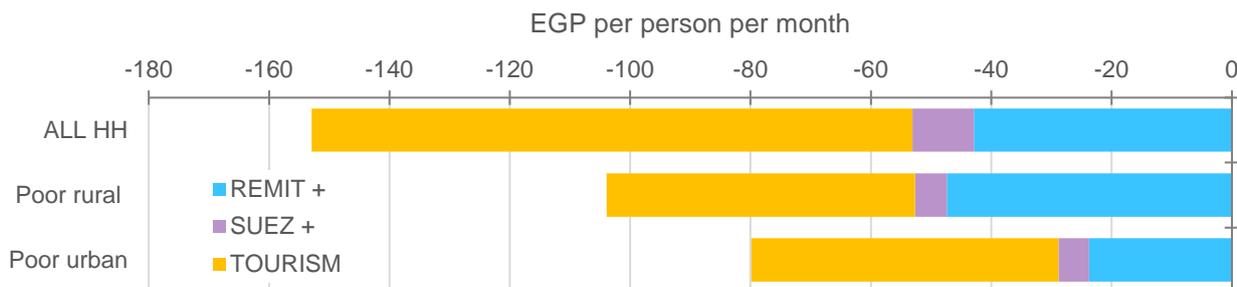


Source: Authors’ calculations.

Note: The less pessimistic combination scenario assumes a 10 percent reduction in Suez Canal revenues and in remittances. The more pessimistic scenario assumes a 15 percent reduction in these payments. Both combination scenarios assume a complete absence of international tourists.

At the household level, household consumption and expenditure is estimated to decline by between EGP 153 (less pessimistic scenario) and EGP 180 (more pessimistic scenario), per person per month for each month that the crisis continues (between 9.0 and 10.6 percent of household income). The expected reduction in tourism has the strongest negative impact on all households, making up more than half of the economic impact for all household types in the model (Figure 2). Households are also affected directly by lower remittances from abroad.

Figure 2: Estimated household consumption loss per month under the less pessimistic scenario, disaggregated by source of loss



Source: Authors’ calculations

Note: The less pessimistic scenario assumes a 10 percent reduction in Suez Canal revenues and in remittances, respectively..

While all households are hurt by lower tourist expenditures, it is poor households – and especially those in rural areas – that suffer the most from lower remittances from abroad. Due principally to the

relatively greater decline in remittances that they experience, rural poor households are estimated to lose in total between EGP 104 and 130 per person per month, or between 11.5 and 14.4 percent of the average income of these households, while urban poor households will see their incomes decline somewhat less by between EGP 80 and 94 per person a month, or between 9.7 and 11.5 percent of their average income.

Policy considerations

If the crisis persists over a 3-month or a 6-month period, as many now believe is likely, the cumulative loss in GDP from these three external shocks alone could amount to between 2.1 and 4.8 percent of annual GDP in 2020. Importantly, our simulations only measure the effects that might emanate via specific impact channels, specifically foreign sources of remittances and revenues. Domestically, restrictions on movement of people and goods within Egypt and on certain productive activities are likely to have significant adverse impacts on the economy as well. On the other hand, some sectors may benefit, such as ICT, food delivery, or the health-related goods and services sectors.

The authorities have begun a course of decisive action to counter these negative impacts by allocating EGP 100 billion for curbing the virus outbreak, enacting tax breaks for companies operating in the industrial and tourism sectors, reducing the cost of electricity and natural gas to industries, cutting interest rates, and considering providing a grant for seasonal workers. Additional measures could be considered, such as increasing cash transfer payments to poor households, increasing unemployment benefits, and providing targeted support to specific sectors.

While the country's focus currently is rightly on fighting the health crisis and mitigating its immediate impacts, planning on how to re-open the economy should also start now. To emerge stronger after the COVID-19 crisis, both the public and private sectors should continue to strengthen their collaboration. The government should further improve the business climate for the private sector and continue undertaking serious reforms to overcome institutional weaknesses. The crisis may also provide an opportunity to strengthen analytical capacity in Egypt to provide to policy makers research-based solutions for what can be done to safeguard Egypt's economy during a crisis like COVID-19. Finally, the crisis has highlighted the importance, but also the vulnerability, of the inter-connectedness of the world. For a prosperous Egypt and a prosperous world, a global solution is important to end this crisis and to be better prepared for the future.

References

- Breisinger, C., M. Thomas, and J. Thurlow. 2009. *Social Accounting Matrices and Multiplier Analysis: An Introduction with Exercises*. Food Security in Practice Technical Guide 5. Washington, DC: International Food Policy Research Institute.
- CBE (Central Bank of Egypt). 2020. *Monthly Statistical Bulletin: Time Series*. Cairo: CBE. <https://www.cbe.org.eg/layouts/15/WopiFrame.aspx?sourcedoc={6C51BD9C-502C-4256-BE0E-A1B72C32B2DB}&file=External%20Sector%20Data%20276.xlsx&action=default>
- ECES (Egyptian Center for Economic Studies). 2020a. *Views on Crisis. Remittances from Egyptian Workers abroad. Issue: 1*. Cairo: ECES. <http://www.eces.org.eg/PublicationsDetails?Lang=AR&C=1&T=1&ID=1184> رأي-في-خير-(رأي-في-أزمة)---العدد-1:تحويلات-العاملين-بالخارج
- ECES (Egyptian Center for Economic Studies). 2020b. *Views on Crisis. Impact on the Tourism Sector in Egypt. Issue: 3*. Cairo: ECES. <http://www.eces.org.eg/PublicationsDetails?Lang=AR&C=1&T=1&ID=1186> رأي-في-خير-(رأي-في-أزمة)---العدد-3:قطاع-السياحة
- Helmy, O., C. Zaki, and A. Abdallah. 2016. *Do Workers' Remittances Promote Consumption Stability in Egypt?* Egyptian Center for Economic Studies (ECES) Working Paper 187. Cairo: ECES.
- MPMAR (Ministry of Planning, Monitoring and Administrative Reform). 2020. *National Accounts*. Cairo: MPMAR. http://mpmar.gov.eg/National_Accounts.aspx
- OECD (Organization for Economic Co-operation and Development). 2016. *OECD Tourism Trends and Policies 2016*. Paris: OECD Publishing.
- Round, J. 2003. "Social Accounting Matrices and SAM-based Multiplier Analysis." In F. Bourguignon and L. A. Pereira da Silva, eds. *Techniques and Tools for Evaluating the Poverty Impact of Economic Policies*. Washington, DC and Oxford, UK: World Bank and Oxford University Press. ch. 14.

ABOUT THE AUTHORS

Clemens Breisinger is a Senior Research Fellow in the Development Strategy and Governance Division (DSGD) of the International Food Policy Research Institute (IFPRI) and Head of IFPRI's Egypt Strategy Support Program (ESSP), based in Cairo. **Abla Abdelatif** is the Executive Director of the Egyptian Center for Economic Studies in Cairo. **Mariam Raouf** is a Research Associate of ESSP, based in Cairo. **Manfred Wiebelt** is a Senior Research Fellow and Professor of Economics at the Kiel Institute for the World Economy, Kiel, Germany.

ACKNOWLEDGMENTS

We thank Dr. Diaan Nouredin, Senior Advisor; Dr. Sahar Aboud; Principal Economist; Racha Seif Eldin, Senior Economist; and Mohamed Hosny, Economist, all at the Egyptian Center for Economic Studies (ECES), for their inputs to this study through their excellent work on ECES's Views on News – Views on Crisis series. We also are grateful to Xinshen Diao, James Thurlow, and Karl Pauw, all of IFPRI, for their technical review and comments.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

1201 Eye St, NW | Washington, DC 20005 USA
T. +1-202-862-5600 | F. +1-202-862-5606
Email: ifpri@cgiar.org | www.ifpri.org | www.ifpri.info

IFPRI-EGYPT

World Trade Center, 1191 Corniche El Nile, Cairo, Egypt
T: +20(0)225778612
<http://egyptssp.ifpri.info/>

The Middle East and North Africa Regional Program is managed by the Egypt Strategy Support Program (Egypt SSP) of the International Food Policy Research Institute (IFPRI). The research presented here was conducted as part of the CGIAR Research Program on Policies, Institutions, and Markets (PIM), which is led by IFPRI. This publication has been prepared as an output of Egypt SSP. It has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and do not necessarily reflect those of IFPRI, PIM, or CGIAR.

© 2020, Copyright remains with the author(s). This publication is licensed for use under a Creative Commons Attribution 4.0 International License (CC BY 4.0). To view this license, visit <https://creativecommons.org/licenses/by/4.0>.