The Effects of the Coronavirus Pandemic in Emerging Market and Developing Economies: An Optimistic Preliminary Account

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The views expressed are those of the authors and do not necessarily represent the views of the IMF, its Executive Board, or IMF management
The Key Message of Goldberg and Reed (2020):

As of June 22, 2020, emerging markets and developing countries (EMDE) have fared relatively well:

- **On the public health front:** Low number of deaths—explained by having more young people and less obese people

- **On the economic front:**
  - Short-run effects are limited, economic recovery underway
  - Medium, Long-run effects can be devastating due to containment policies, indirect effects on education and health

- **High uncertainty:** Authors caution that paper’s conclusions can be reversed if infections and deaths accelerate in EMDE
1. Is “deaths per million” metric enough to evaluate the short-run public health impact?

2. What else might explain low deaths in EMDEs?

3. Nature of COVID shock and alternative ways to evaluate economic impact (drawing lessons from history)

A Cautious View from an Optimist.

What we have learned since February 2020:

- We are always behind and COVID is ahead.
- Hope for the best and prepare for the worst
Relevant Metrics: Deaths vs. Cases
New cases are increasing at a fast rate in EMDE
Data from John Hopkins University

June 22 Update

FT, Martin Wolf, June 9
Why Do Rich Countries Have More Deaths?
Rich **Countries** have MORE Deaths

Rich **Counties** have FEWER Deaths

**COVID-19 and income across countries**

\[
\text{Death} = 5.79 + 0.87 \text{ GDP (robust s.e. = 0.06)}
\]

**COVID-19 and Poverty across U.S. counties**

\[
\text{Death} = 0.08 + 0.43 \text{ Poverty (robust s.e. = 0.11)}
\]

Notes: binned plot with state fixed effects
Source: Census (Small Area Income and Poverty Estimates) and Johns Hopkins University (CSSE)
What does GDP a proxy for?

- **Paper’s Headline:** Older population and high obesity rates render GDP insignificant

- Any X that is positively correlated with GDP and has a positive $\beta$ creates an ↑ omitted variable bias

- **Usual suspect:** Delay in policy action/arrival of disease is correlated with GDP but cannot explain away the role of demographics and health

- **Alternative Interpretation I:** Misreporting (more testing, more reported deaths)

- **Alternative Interpretation II:** Better contact tracing due to lower institutional quality relative to AE
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- **Other suspects:** Paper’s robustness shows a group of testing/tracing variables can explain the positive relation between GDP and deaths

- **Paper’s Interpretation:** Better testing capacity in EMDE

- **Alternative Interpretation I:** Misreporting (more testing, more reported deaths)

- **Alternative Interpretation II:** Better contact tracing due to lower institutional quality relative to AE
## Testing/Tracing Results Revisited

<table>
<thead>
<tr>
<th>Dep. Variable</th>
<th>Deaths (1)</th>
<th>Deaths (2)</th>
<th>Deaths (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ln (GDP per capita)</td>
<td>0.56**</td>
<td>0.35**</td>
<td>0.29</td>
</tr>
<tr>
<td></td>
<td>(0.23)</td>
<td>(0.17)</td>
<td>(0.19)</td>
</tr>
<tr>
<td>Days since First Death</td>
<td>0.46***</td>
<td>0.45***</td>
<td>0.38*</td>
</tr>
<tr>
<td></td>
<td>(0.10)</td>
<td>(0.08)</td>
<td>(0.23)</td>
</tr>
<tr>
<td>Ln (COVID tests/1000)</td>
<td>0.35*</td>
<td>0.67***</td>
<td>0.73***</td>
</tr>
<tr>
<td></td>
<td>(0.20)</td>
<td>(0.14)</td>
<td>(0.15)</td>
</tr>
<tr>
<td>Test Ratio</td>
<td></td>
<td>0.05***</td>
<td>0.05***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Contact Tracing Index</td>
<td></td>
<td></td>
<td>-0.48**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.20)</td>
</tr>
</tbody>
</table>

| $R^2$                                   | 0.50       | 0.62       | 0.67       |
Nature of the COVID Shock and Economic Impact
COVID Shock is Multitude of Shocks for EMDE

- Health shock
- Supply shock
- Demand shock
- Capital inflow and exchange rate shock
- Commodity price shock — paper’s focus

Real-time macroeconomic data is slow in coming but crisis is large and novel, requiring fast and out-of-the-box policy response.

In the absence of second quarter GDP and BOP capital flows data:

- Inference from almost real-time data
- Model based estimates
Production Contracts both in EMDE and AE
PMI survey from IHS Markit

Manufacturing

PMI: Manufacturing - Output
(index; >50 = expansion; sa)

Services

PMI: Services - Business activity
(index; >50 = expansion; sa)
Compared to April WEO, IMF is projecting a deeper recession in 2020 and slower recovery in 2021—No country is spared.

Global growth decline is -4.9% in 2020.

For EMDE -3%, excluding China, -5%.

Gopinath, June 24, 2020: The cumulative hit to GDP growth over 2020-21 for EMDE is expected to exceed that in AE (w/o China).

High degree of uncertainty remains, countries should be agile with their policies and adopt to changing environment.
High frequency data is available only for portfolio equity (-100bn) and portfolio debt flows (-30bn)

Portfolio equity is not an important asset class for EMDE in their overall external borrowing; portfolio debt mainly involves sovereigns borrowing

The authors uses alternative net capital flows from IIF on 12 EMs, but this data is estimated based on current account (trade balance plus reserves)

We know that gross capital flows (especially banking) is what matters for EMDEs financial stability
When banks and corporates lose flows, real troubles start
This did not happen yet; only sovereigns lost capital flows
Large EMDE will recover when their local demand recovers and that depends on lockdown policies.

Recovery of local demand and effects of lockdown policies in EMDE depends on: infections, foreign demand, international I-O linkages and external finance.

In the absence of real time data, use model-based estimates.

An Epi+Macro Model for EM
Cakmakli, Demiralp, Kalemli-Ozcan, Yesiltas, Yildirim, April 2020

Partial lockdown losses are higher (11% of GDP) relative to full lockdown (5.8% of GDP).

Full lockdown recovers both domestic and external demand faster.

External demand effects local demand via international I-O links and external finance/capital flows.
All policies should be on the table

EMDE should be able to capitalize on international capital markets via search-for-yield motive of AE investors

- Historical evidence shows that MP/low r in AE is an important driver of positive spillovers/capital inflows to EMDE (Kalemli-Ozcan, 2019 Jackson Hole Symposium)

- **EMDE heterogeneity in attracting capital flows**: strong institutions and policy credibility are the key

- QE-type policies in EMDE should be transparent and well-communicated in order not to hamper policy credibility.
Conclusion

- Heroic effort to evaluate health and economic impact of COVID on EMDE for such a large and uncertain shock

- Global epicenter is moving to South; if deaths remain low, this will be a big success for EMDE and provide valuable lessons

- Known unknowns—still many uncertainties in terms of which factors make people more vulnerable and how epidemiology is linked to economic outcomes
Appendix
In the absence of capital flows data one can look at spreads.

Hard currency spreads came down as default risk came down—consistent with portfolio bond outflows.

The relevant spread for the EMDE external borrowing is the UIP premium: excess returns offered to foreign investors in order to borrow in international markets—peaked at different times.
More than 50% in debt for EM, more than 70% for DE
Share of loans is over 60% (EM) and 80% (DE) in debt
Banks are main private borrower in EM and Sovereigns in DE
Partial Lockdown–Annual Cost
11%GDP

Full Lockdown–Annual Cost
5.8%GDP
Sectors with more Trade Links and External Finance Needs have higher COVID Losses
Cakmakli, Demiralp, Kalemli-Ozcan, Yesiltas, Yildirim, April 2020

<table>
<thead>
<tr>
<th>Dep. Variable</th>
<th>Sector Output Loss (1)</th>
<th>Sector Output Loss (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-O Trade</td>
<td>15.98**</td>
<td>16.47**</td>
</tr>
<tr>
<td></td>
<td>(6.402)</td>
<td>(6.426)</td>
</tr>
<tr>
<td>I-O Trade Finance</td>
<td>34.78*</td>
<td>35.63**</td>
</tr>
<tr>
<td></td>
<td>(17.351)</td>
<td>(17.256)</td>
</tr>
<tr>
<td>FX Debt</td>
<td>0.16**</td>
<td>0.16**</td>
</tr>
<tr>
<td></td>
<td>(0.076)</td>
<td>(0.076)</td>
</tr>
</tbody>
</table>

$R^2$ 0.12 0.20
Data on Cumulative Confirmed Cases
European Centre for Disease Prevention and Control

EMDE: Cumulative confirmed cases
(log scale; Last update: June 22)

AE: Cumulative confirmed cases
(log scale; Last update: June 22)
$R^2$: GDP explains 24% of variation in deaths, whereas “time passed since first death” explains a larger fraction, 44%. Adding other variables have minimal effect on $R^2$. 