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Intro a la serie

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Number 1
A Conceptual Framework for Analyzing the Economic Impact of COVID-19 and its Policy Implications
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Number 2
Title *(Forthcoming)*
Author name

Number 3
Title *(Forthcoming)*
Author name

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A Conceptual Framework for Analyzing the Economic Impact of COVID-19 and its Policy Implications

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Executive Summary

The persistence of universal non pharmaceutical interventions (NPIs), like social distancing that significantly reduce the labor supply and prevent a large sector of the economy from having any activity at all (travel, entertainment and some retail), have significant output costs. They could lead to an output decline that exceeds that of the great depression. All those who temporarily lost their income have to finance their fixed costs (e.g. consumption for households, wages for firms). This creates an unprecedented need for liquidity. If universal NPIs persist, it is likely that many firms will go bankrupt and unemployment will soar. The best policy option is to adopt more efficient NPIs that target only infectious individuals and protect those most likely to strain hospital capacity. A global multilateral cooperative approach to contain the epidemic will achieve better outcomes faster.

Introduction

This note offers a conceptual framework for analyzing the economic impact of the coronavirus disease (COVID-19) and considers some policy implications. It is a general note, limited in scope, covering fundamentals that are likely to affect a typical developing economy.

The coronavirus disease 2019 is produced by a new virus for which currently there is no pharmaceutical treatment. The dynamics of the disease are such that, in the absence of non-pharmaceutical interventions (NPIs), it overwhelms the capacity of national health care systems. Hence, governments chose to enact NPIs to contain the spread of the COVID-19 pandemic.

We first describe the fundamental problems that emerging economies currently face. We consider the direct and indirect economic costs of NPIs. We argue that the direct cost of NPIs could be significant: over 20% of GDP over the period in which NPIs are in place. If NPIs persist in time, these direct costs are exacerbated by indirect costs: many households and firms have to continue to pay fixed costs while their incomes fall. This transitory fall in income, coupled with the uncertainty about how long the income shock will last, will lead to a significant increase in the demand for liquidity. We are already seeing sizable portfolio shifts in US asset markets. The financial stress caused by the persistent mismatch between income and expenses will likely result in an increase in unemployment, tax deferments, and debt restructurings.

For emerging economies, NPIs to contain the spread of COVID-19 are being introduced at the same time that commodity prices are falling (25% so far) and sovereign credit spreads are increasing. Emerging economies running current account deficits are likely to experience a sudden stop in capital flows. These shocks are known to cause severe recessions in emerging economies.

The policy implications are that current NPIs are economically unsustainable. Investment in more efficient ways of identifying individuals requiring isolation is imperative. As this is a common concern for the whole world, the quest for more efficient and targeted NPIs should be a global multilateral cooperative endeavor.

We conclude with comments on the economic policy implications of the current situation. We emphasize the conflict between the fiscal stress faced by public finances in emerging economies and the need for immediate palliative economic policies. Governments face a loss of revenue, an increase in the demand for public expenditure, and tightened global financial conditions. The persistence of NPIs is a financial time bomb for the private sector as well as for sovereigns.

In considering the policy responses to the challenge posed by this global constellation of shocks, we encourage governments to assess how much expenditure they can afford in emergency spending bills and to include in them a future fiscal adjustment for the time when the epidemic is over. This budgeting includes as possible sources of funds loans from official multilateral lending institutions and from the monetary authority. Countries with a large current debt service burden may consider sovereign debt restructurings. The domestic policies we consider are expanded loan programs to firms and households in the formal sector and transfers to agents in the informal sector.

This is the first of a set of notes to be released by UNDP. Neither country specific policies nor the distributive impact of COVID-19 are considered.

The fundamental economic problems faced by emerging economies

The coronavirus disease 2019 is produced by a new virus for which currently there is no pharmaceutical treatment. The dynamics of the disease are such that, in the absence of non-pharmaceutical interventions (NPIs), it overwhelms the capacity of national health care systems. Hence, governments choose to enact NPIs to contain the spread of the COVID-19 pandemic. Even though there is a lot of uncertainty about the parameters of the mathematical models that describe the epidemiological dynamics of COVID-19, a recent study indicates that these policies may be necessary for a period of at least several months.[1] South Korea and China have contained the epidemic and are relaxing NPIs. These cases are encouraging but the jury is still out on whether there can be a second epidemic outbreak in those countries after social distancing policies are relaxed.[2]

The NPIs designed to contain the COVID-19 pandemic, like restrictions on the movement of people and social distancing measures, are expected to have a large impact on economic activity all over the world. This global shock has general equilibrium effects on prices that are known to have a large impact on business cycles in emerging economies.

Emerging economies are affected by COVID-19 through three main channels.

1. Direct effect of NPIs on economic activity due to:
   a. restrictions on the output of many industries such as travel and entertainment,
   b. restrictions on social contact force some people to work from home or to not work at all, also lowering output.

2. Terms of trade: many commodity exporting countries are experiencing a sharp fall in the prices of the commodities they export, affecting a sizable fraction of GDP and government revenues.

3. Global financial shock. There is a global liquidity shock that entails massive portfolio shifts from riskier assets to safer liquid assets. For emerging economies, this implies capital outflows, an increase in their costs of funding, and a drop in the value of their currencies.

[1] Neil M Ferguson et. al., Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand, Imperial College, March 16, 2020.

[2] Epidemiological models predict that if a large fraction of the population is susceptible to a disease and the reproductive number is larger than one and outbreak will occur. This is what happened in December in Wuhan with covid-19. If contact rates between infectious and susceptible individuals go back to a level close to the one before the NPIs the epidemic is likely to spread again. See G. Bastin, *Lectures on mathematical modeling of biological systems*, Université Catholique de Louvain, August 2018 for the conditions for an epidemiological outbreak.

Direct impact of NPIs

It is too early to accurately estimate how much the direct cost of NPIs will be. We can only speculate. Preliminary data and back-of-the-envelope calculations indicate that they could be substantial.

In China, the drop in industrial production between December 2019 and February 2020 was close to 25%. Investment in fixed assets, a gauge of construction activity, slid 24.5% during the same period, reversing growth of 5.4% in 2019. Retail sales tumbled 20.5% in the first two months of the year–typically a boom season for consumption– compared with growth of 8.0% in December 2019.

As of March 20, 2020, in the US, JP Morgan expects a cumulative fall of output in 2020: Q1 and Q2 of 4.5% with a sharp recovery in Q3 and Q4 with an annual year-on-year fall of 1.4%. Goldman Sachs forecasts quarter-on-quarter growth rates of -1.5% in Q1, -6% in Q2, +3% in Q3, and +2.5% in Q4, leaving full-year growth at -3.8% on an annual average basis and -3.1% on a Q4/Q4 basis. JP Morgan assumes that the consumer services with inadequate social distance represent 7% of GDP and will be 63% of normal in March, 25% in April, 63% in May and are back to normal in June.

We are afraid that these forecasts have worrisome downside risks. Several back-of-the-envelope calculations lead to this conclusion. (a) Italy, Spain, Argentina, New York, Illinois and California have been fully locked down for (so far) two weeks. A very optimistic scenario is that economic activity is down to 50% of normal for two weeks and then it immediately rebounds. This would imply a quarter-on-quarter fall of 8.3% in the quarter with a lockdown with respect to a normal quarter.[3] If the lockdown is for three weeks instead of two, the quarter-on-quarter fall rises to 12.5%. (b) Assume that, on average, in a period of social distancing 40% of the economy works at 50% of normal. The implied drop in aggregate output is 20%. Table 1 shows how different combinations of the weight of sectors affected by NPIs and their output drops affect aggregate GDP. A more precise estimation of the impact of COVID-19 on GDP would be to estimate its direct effect on each particular sector and then to use input-output matrices to trace the response to the shocks on other sectors in the economy. (c) With a labor share in output of about ⅔, if effective labor hours worked fall by 30%, output will fall about 20%. These numbers are daunting. Extended periods of wide social distancing measures could be extremely costly.

Table 1. Hypothetical percentage change in GDP

Output drop in affected sector	Share of output affected by NPIs (%)								
	10%	20%	30%	40%	50%	60%	70%	80%	90%
10%	-1%	-2%	-3%	-4%	-5%	-6%	-7%	-8%	-9%
20%	-2%	-4%	-6%	-8%	-10%	-12%	-14%	-16%	-18%
30%	-3%	-6%	-9%	-12%	-15%	-18%	-21%	-24%	-27%
40%	-4%	-8%	-12%	-16%	-20%	-24%	-28%	-32%	-36%
50%	-5%	-10%	-15%	-20%	-25%	-30%	-35%	-40%	-45%
60%	-6%	-12%	-18%	-24%	-30%	-36%	-42%	-48%	-54%
70%	-7%	-14%	-21%	-28%	-35%	-42%	-49%	-56%	-63%
80%	-8%	-16%	-24%	-32%	-40%	-48%	-56%	-64%	-72%
90%	-9%	-18%	-27%	-36%	-45%	-54%	-63%	-72%	-81%

This table shows the percentage change in GDP as a function of the share of the affected sector in GDP and of the size of the collapse in those sectors.

[3] Economic activity is normal for five weeks and at 50% of normal for one week.

Indirect impact of NPIs

The direct impact of NPIs in the previous section does not take into account possible second round effects of this shock. There will likely be a series of hard-to-quantify indirect effects further decreasing economic activity.

In a social distancing environment, many firms experience negative value added as the cost of inputs exceeds gross production. Firms are unable to sell their goods and services but they still have to pay the wage-bill, service their debts, pay rents and taxes. Extended periods of NPIs will have several further deleterious effects on the economy.

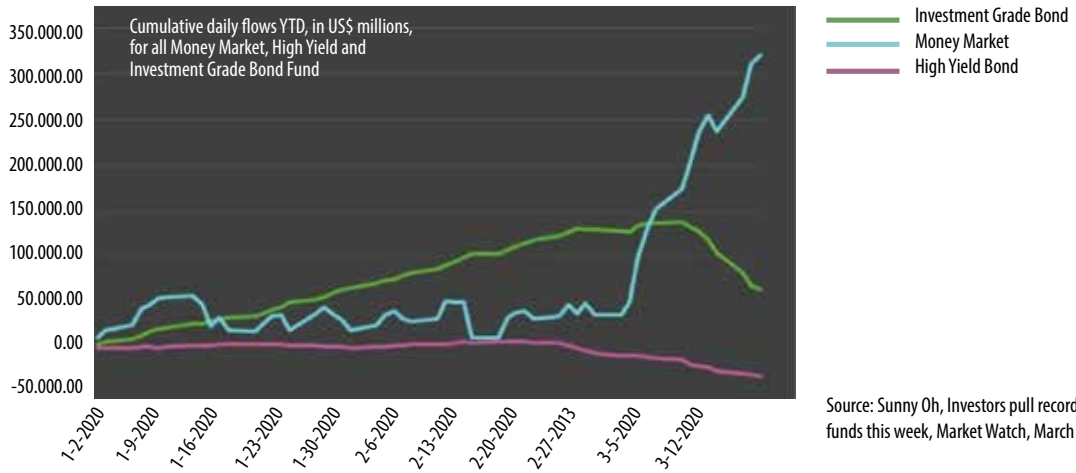
1. Many firms go out of business. This is especially true of firms in intensive social contact industries (travel and entertainment) and in small and medium enterprises (SMEs) with little working capital and limited credit lines. Restarting these businesses may be a long and costly process.
2. Firms depleting their capital will layoff workers. We know from previous recessions that after spikes in unemployment, matching workers and vacancies in the recovery is a slow process.
3. Layoffs reduce aggregate demand.
4. Households and firms facing increased uncertainty save more in the safest assets and ditch risky ones.

Figure 1 shows how, in the US, private agents are pulling money out of credit markets into money market mutual funds that are de facto backstopped by the Fed. We expect a similar type of increase in the demand for most liquid assets in Latin America.

5. The large portfolio shifts towards liquid assets and the uncertain fall in the value of firms will also have an important impact on credit markets:
   a. Exposure to firms that go out of business reduces bank capital.
      Banks typically lend to riskier firms that cannot raise funds in capital markets. Figure 2 shows the widening credit spreads for different credit ratings.
   b. The high demand for cash may dry up short term credit markets. In the US, the commercial paper market lost liquidity. The Federal Reserve is the only buyer.
6. Restrictions on economic activity and the limits on the movement of people reshape supply chains and production networks with a loss of efficiency.
7. New forms of working (telecommuting) may also reduce efficiency.

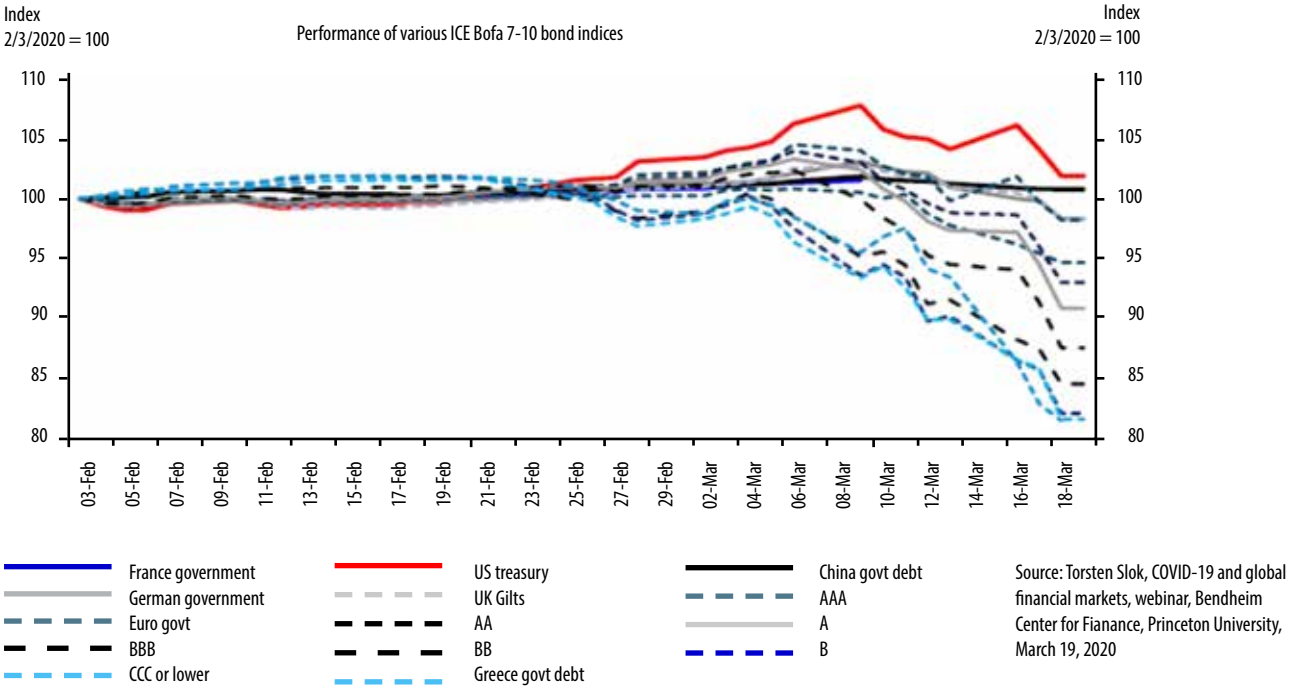
In the context of emerging economies two other shocks need to be considered.

Figure 1. Sudden increase in the demand for liquidity (U.S.)



Source: Sunny Oh, Investors pull record $108 billion out of bond funds this week, Market Watch, March 20, 2020 at 11:33 a.m.

Figure 2. Evolution of credit spreads among different credit ratings



Source: Torsten Slok, COVID-19 and global financial markets, webinar, Bendheim Center for Fianance, Princeton University, March 19, 2020

Commodity prices

Commodity prices tend to drive the business cycles in emerging economies (Schmitt-Grohe and Uribe, 2018).[4] Figure 3 shows an index of commodity prices (oil, soybean, copper, coffee, etc). The fall in commodity prices between January and February has been around 25%.[5]

For commodity exporters, this shock alone would typically be followed by a sharp currency depreciation and a recession. For countries where commodity exports are an important source of government revenue like, for example, Argentina, Bolivia, Chile, Colombia, Ecuador, and Mexico, this shock to the terms of trade will also strain public finances.

Commodity importers in Latin America and in the Caribbean will benefit from this shock.

Figure 3. Index of commodity prices

Source: Bloomberg's index (BCOM) of commodity prices.

[4] Schmitt-Grohé, S. and M. Uribe, (2018), "How important are terms of trade shocks?" *International Economic Review*, 59, 85-111.

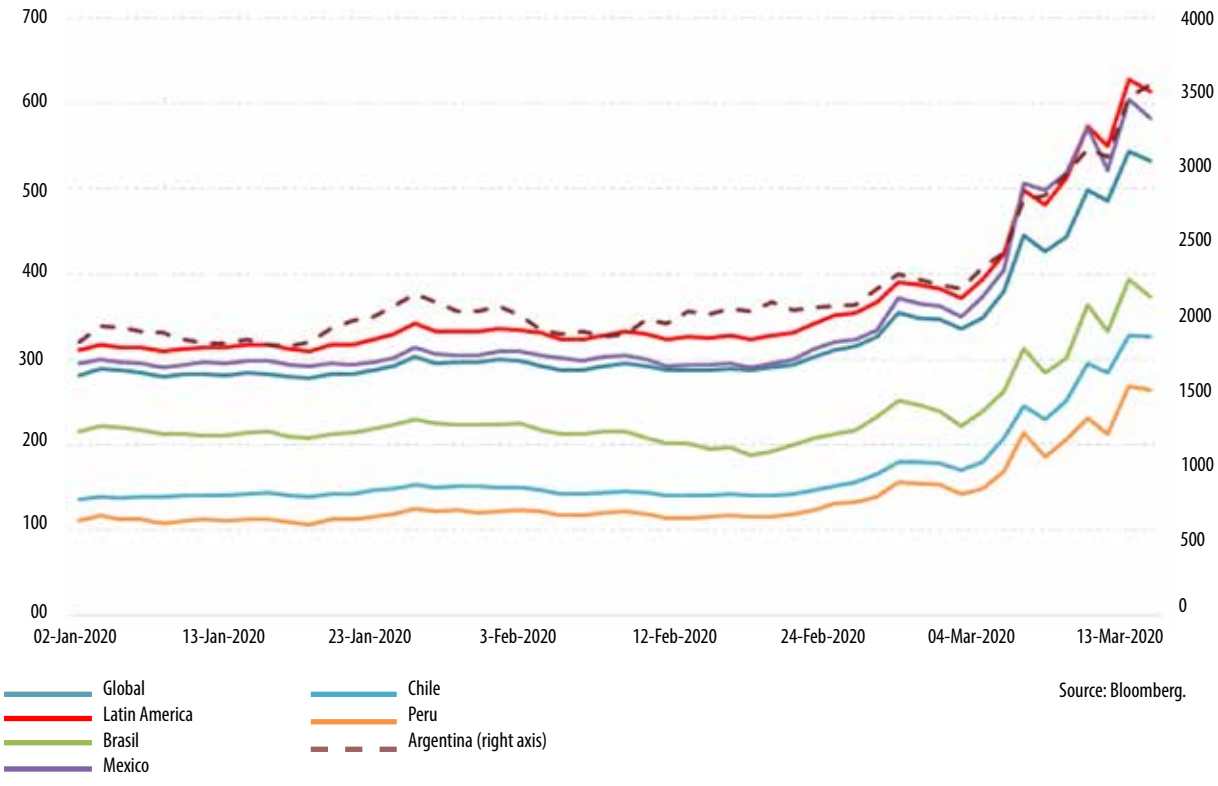
[5] In the energy sector, the fall in the price of oil may not be a direct consequence of COVID-19. Nevertheless, it is a shock that is hitting the economy simultaneously with the epidemic so we consider it here.

Tightening global credit conditions for emerging economies.

The literature on business cycles in emerging economies has documented that economic activity reacts strongly to global credit conditions.[6] Worsening foreign financial conditions are associated with deep recessions. Figure 4 shows that yield spreads between Latin American sovereign bonds and U.S. treasuries have roughly doubled from the beginning of January until today for the best risks in the region. Figure 5 shows data on real money flows to emerging markets (from the Institute for International Finance) that already shows a large sudden stop in capital flows. Countries running a current account deficit will be forced to reduce aggregate demand. Typically, this entails a fall in output accompanied by a fall in consumption slightly larger than the fall in output and a fall in investment that is three times the percentage fall in output. This shows in the trade balance as a fall in imports.

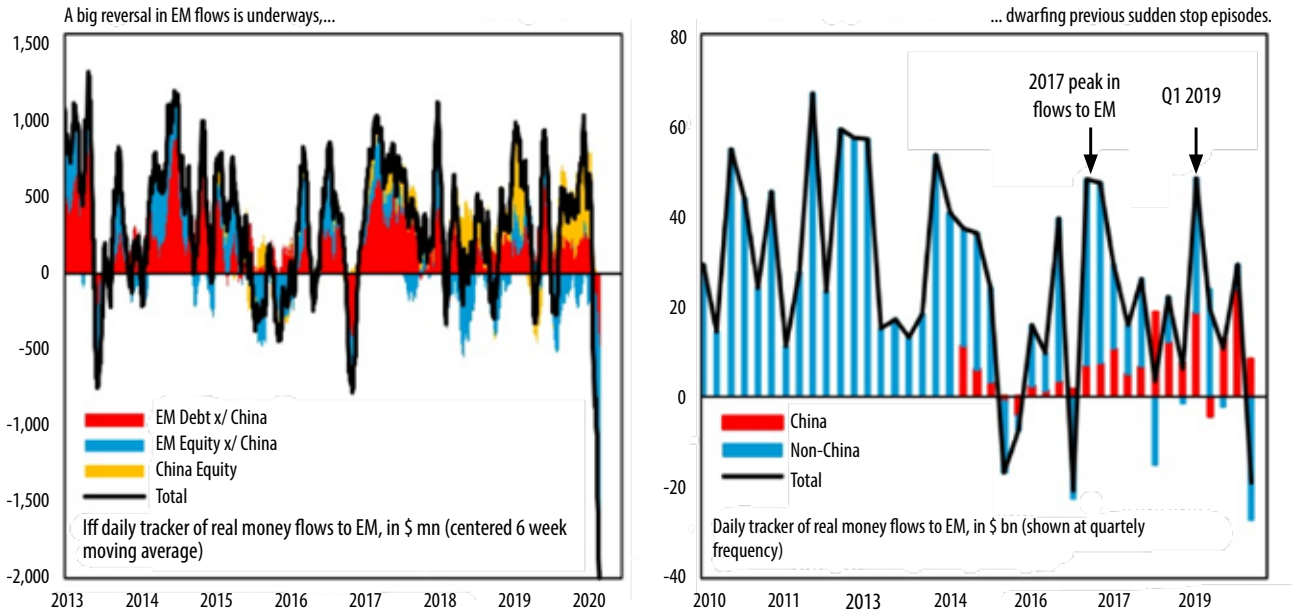
The adjustment in aggregate demand will have to be much larger for commodity exporters running a current account deficit. Especially so, if one considers that this adjustment is over and above the fall in output due to the NPIs.

Figure 4. EMBI spreads



[6] Pablo A Neumeyer and Fabrizio Perri, Business cycles in emerging economies: the role of interest rates, Journal of Monetary Economics, 52 (2), 345-380, 2005.
Guillermo Calvo & Alejandro Izquierdo & Luis-Fernando Mejía, 2004. "On the empirics of Sudden Stops: the relevance of balance-sheet effects," Proceedings, Federal Reserve Bank of San Francisco, issue Jun.

Figure 5. Sudden stop in capital flows



Source: Robin Brooks and Jonathan Fortum, GMV: The Covid-19 Sudden Stop. IIF working paper, March 12, 2020.

Existing leverage poses additional risk

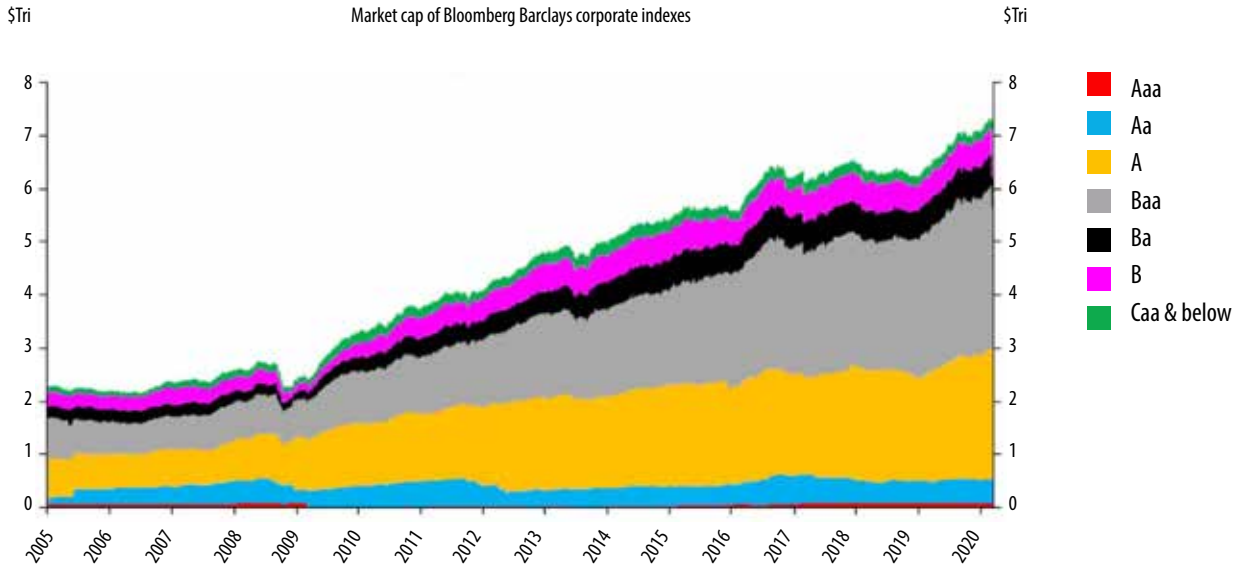
After a decade of near zero interest rates corporations and sovereigns are loaded with debt. If NPIs persist and these institutions cannot service or rollover their debt, a global financial crisis akin or worse than the one in 2008-9 could happen.

Figure 6 depicts the increase in nonfinancial corporate debt in the United States. If there is a persistent recession, B rated debt will likely be downgraded. Short term corporate debt (31% of total debt) stands at about 10% of GDP. Household debt service in the United States is on the order of 10% of personal disposable income. The service of these debts might not be rolled over.

Overleveraged sovereigns hit by the fiscal consequences of the recession and the commodity price drop in a world with tight financial conditions might be tempted to restructure their debts. The anticipation of these decisions might turn into a self-fulfilling prophecy. In this context it would be of interest to assess global public sector borrowing requirements against the IMF's firepower.[7]

[7] Argentina's public sector borrowing requirements in 2018 were 14% of the IMFs $1 trillion lending capacity. This is indicative that the IMF is probably underfunded in current circumstances.

Figure 6. Corporate debt



Source: Torsten Slok, COVID-19 and global financial markets, webinar, Bendheim Center for Fianance, Princeton University, March 19, 2020

Which type of recession: V, U, L or W?

There is a debate on the shape that the COVID-19 recession will take. Making any sort of prediction is a bold endeavor as there is a lot of uncertainty about the length of the NPIs in place and about the possibility that they would be reinstated months after being relaxed.

In the case of very short lived NPIs that do not scar the economic fabric we expect a short deep V shaped recession. This is the forecast of mainstream banks (Goldman Sachs, Morgan Stanley, JP Morgan-Chase, Citi).

There is a considerable risk that NPIs in some form or another will last longer and have more persistent effects. It takes time for unemployed workers to find jobs and for firms to rebuild their working capital.

If the NPIs persist long enough to seriously damage balance sheets of financial and nonfinancial agents the recession will probably look like a *staircase*.

Cycles of on-and-off NPIs could generate W shaped patterns.

Policy implications

The NPIs that are currently implemented in many countries have large economic costs. This section analyses different policy responses for governments in emerging economies markets.

More efficient NPIs

Societies are adopting extreme NPIs to contain the spread of COVID-19 because epidemiological models predict that health care systems, designed for normal times, cannot handle the extra burden posed by acute COVID-19 patients.

These epidemiological models predict that the daily rate of growth of the number of infection cases is proportional to the number $R_0 s-1$, where R_0 is the basic reproduction number (also called basic reproduction ratio) and s is the proportion of the population that is susceptible (not immune) to the disease. The ratio R_0 is the expected number of new infections from a single infected individual when all the population is susceptible. The product $R_0 s$ is the expected number of new infections from a single individual when the fraction s of the population is susceptible. It can be interpreted as the ratio between the expected recovery time of an infectious individual and the expected time between new cases. When the recovery time exceeds the time between new cases the epidemic grows. As we do not know the actual number of infectious cases, only those tested, estimates of R_0 and of s are very imprecise. Also, R_0 is not a biological constant: it is the outcome of a complex social equilibrium determined by the frequency with which infectious people make contact with other people for a time period long enough to transmit the virus. R_0 depends on policies and social norms and it can vary across countries, regions, and across time within a region. NPIs, such as the stay at home policies in Italy, Spain, Argentina, California, Illinois and New York are extreme measures to reduce contact rates among people and thus the basic reproductive number, R_0.

- The best policy intervention to contain COVID-19 is to develop the technology to reduce the contact rate between infectious and susceptible individuals, while restricting society-wide human interaction as little as possible. Given the enormous costs of universal lockdowns, the rate of return on investments to enable targeted policies of isolation is huge. Targeted NPIs would only isolate a subset of individuals (for example, infectious individuals, persons that are likely to be infectious, and the more vulnerable susceptible).

- Two actions in this direction are aggressive testing to detect infectious and immune individuals.[8] This knowledge will allow immune individuals to circulate freely and work. Aggressive testing also helps to detect infectious individuals early and trace their contacts. Hong Kong, Iceland, Japan, Singapore and South Korea implemented targeted isolation policies.

- Aggressive testing could also enable policy makers to evaluate (in real-time) the effectiveness of different social distancing interventions (closing schools, shopping malls, sports events, etc.). Even though universal NPIs are extremely costly, there is no impact evaluation of different interventions.

[8] Singapore First to Test Out COVID-19 Serological Assay in Outbreak Contact Tracing

- Assembling a team of statisticians and epidemiologists to design testing strategies and nowcast the basic reproductive number across geographical and social clusters could help governments to allocate medical resources and social intervention policies more efficiently. **This data will help to design evidence based NPIs.**

- A plausible targeted NPI strategy could be
  - Test a representative sample of the population recording their socioeconomic and demographic characteristics.
  - Use statistical methods to infer whether particular characteristics predict infection in the entire population.
  - Develop targeted NPIs and surveillance strategies based on the previous information.

- Increasing the capacity of the healthcare system allows society to achieve herd immunity faster. An important epidemiological variable to consider is the speed with which herd immunity will be attained. Herd immunity is attained when a large enough fraction of the population is immune (not susceptible) so that contact between infectious and susceptible individuals is less likely. When the share of the susceptible population is lower than the threshold $1/R_0$, the number of infectious individuals naturally disappears.

If universal NPIs are lifted without the ability of targeting NPIs there is a risk that there will be a new epidemic outbreak and new universal NPIs will be necessary. Epidemiological models (such as the SIR model) predict that, if social distancing measures are relaxed while the share of the immune population is relatively small and medical treatment unavailable, the epidemic may rekindle.[9] The cases of Hubei Province and South Korea, that are currently relaxing social distancing measures, will shed more light on this risk.

- NPIs should also aim to limit the movement of people but, at the same time, protect the production and movement of intermediate goods so as to avoid disrupting the supply chain as much as possible.

- Finally, given the global nature of the pandemic a **cooperative multilateral solution** is desirable.
  - Coordinated efforts to develop pharmaceutical solutions to the containment of the epidemic could allocate resources more efficiently and produce results faster
  - Coordinated approaches to NPIs can allow many countries to leapfrog to best practices. A multilateral approach could also establish global protocols for the international movement of people.
  - A partnership between UNDP, WHO, non-governmental organizations and the international financial institutions to help developing countries assemble a team of statisticians and epidemiologists to track the epidemic locally will be of great value. It will also facilitate the implementation of commonly agreed international travel restrictions.

[9] See, footnote 2

Palliative care policies for the economy

Policy makers in Latin America have vast experience in managing financial and commodity price shocks.

- The textbook response to financial and commodity price shocks is to let the currency depreciate and adjust budget imbalances.

However, they have little experience or guiding academic research addressing supply shocks of this magnitude. As the supply shock is a consequence of social distancing measures put in place to contain the disease, the first policy response should be to use the time awarded by these economically costly measures to develop more efficient ways of minimizing contact between infected and susceptible individuals as indicated in the previous section.

The economic cost of universal NPIs depends on how long they are in place. The longer the universal NPIs are in place, the higher the second-round effects of these interventions will be. As mentioned before, NPIs create a liquidity squeeze: firms and individuals have to finance their fixed costs while they receive little or no income. Firms have to pay their wage bills, service their debts, and pay taxes. Households need to consume food and other basic goods and services. Those agents with liquid assets or access to credit could finance this mismatch between incomes and expenditures while their assets and good credit standing lasts. This liquidity shock induces savers to cash their assets and "de-risk". In addition, the fact that the duration of the universal NPIs is uncertain induces agents to increase their precautionary liquid savings. Social networks report that this precautionary savings includes hoarding toilet paper.

Governments at the national and subnational level face a similar problem to private agents as they need to finance their fixed costs with lower fiscal revenues due to the drop in economic activity and the fall in commodity prices. Moreover, social demands for additional government expenditures during the downturn will mount. In emerging economies, the global flight to quality in global financial markets will make it more difficult for governments to place debt. Countries with limited or no fiscal space will face difficult choices and will need assistance from the international community.

Policies in Latin America will have to take into account the fact that 53% of the labor force is employed in firms with less than five workers and that most of national income is accounted for by the employees in larger establishments. (See Table 2, from Matías Busso, Mariano Spector and Andrés Neumeyer, Skills, Informality and the Size Distribution of Firms, 2012). As SMEs by and large live hand-to-mouth and have limited access to financial institutions, providing SMEs and their employees with resources for their financial needs is an important logistical challenge.

- A clear communication policy on the expected duration of the universal NPIs and of the policies to be enacted after the lockdown would reduce uncertainty and ameliorate the liquidity squeeze.

Table 2. Size distribution of firms

	Entrepreneurs			Employees	
LAC					
Firm Size (employees)	0	1-5	6-	1-5	6-
Education	7.8	8.4	11.6	7.8	11.2
Relative Country Income	44%	71%	175%	56%	121%
Income	100	141	428	117	273
Share Employment	22%	11%	1%	20%	46%
OECD					
Firm Size (employees)	0	1-10	11-	1-10	11-
Education	12.6	12.9	14.1	12.5	13.6
Numeracy	499	506	549	495	523
Literacy	501	502	535	504	528
Relative Regional Income	34%	84%	115%	55%	75%
Income (PPP)	100	197	381	141	157
Share Employment	9%	5%	1%	20%	65%

Source: PIAAC, IDB Harmonized Household Survey

Monetary and fiscal aspects of financial policy

NPIs increase the demand for liquidity and only the monetary authority can expand available liquid assets. Central banks are in a unique position to provide liquidity without worrying about inflation because of the large increase in the demand for money (liquidity). This provision of liquidity can be implemented by buying either treasury bonds or liabilities of the private sector.

Providing liquidity to stressed formal firms so that they keep paying workers is very important. Financing firms that lose income is a way to provide liquidity to its employees that otherwise would be unemployed. This liquidity will also trickle to SMEs that sell to them to the extent that they can spend the money.

Governments can encourage financial institutions to increase their balance sheet with the objective of providing liquidity to those that need it. On the assets side of the balance sheet, financial institutions could:

- increase credit lines for households and firms,
- automatically postpone debt service and
- increase their liquid assets to service the demands of their customers.

In order to expand the liability side of financial institutions' balance sheet

- the central bank can extend credit directly to financial institutions or indirectly through the treasury

- Official financial assistance to corporations might be contingent on the corporate's income drop and on not firing workers.
- Banks may need regulatory forbearance to expand their balance sheet without having to raise additional capital (risking a future banking crisis?).

Observe that, in this context, the persistence of NPIs is a financial time bomb.

- Another mechanism for providing liquidity is for the government to allow firms to defer corporate and labor income taxes for future payments. The tax authority could even lend money to corporations in need. At a future date, when NPIs are removed, the government can securitize and sell claims to these future cash flows to other investors. As obligations to the tax authority are senior to unsecured debt in the event of a bankruptcy, the securitization of future tax payments is a mechanism for those firms to issue senior debt to alleviate their liquidity problems.
  - This form of intervention has built-in future fiscal adjustment without the need to pass politically difficult legislation in the future to raise taxes or lower expenditures.
  - International coordination to develop this type of financial instrument with boilerplate contracts can help to make the market for these instruments more liquid and appealing to international investors.

Fiscal policy

The prime directive of fiscal policy is to realize that the persistence of NPIs compounded by the shock to commodity prices and financial conditions requires a long-term fiscal adjustment. At the same time, immediate palliative economic measures to reduce the social pain inflicted by the NPIs require an increase in the fiscal deficit.

In this context, there is a role for multinational development banks (World Bank, IDB, CAF) to provide special financing to fiscally distressed governments. One possibility to finance these massive programs is for these institutions to sell bonds/preferred stocks to central banks engaged in quantitative easing.

When planning the scale of their programs and policy interventions, countries might want to consider the following issues:

- Include long term fiscal adjustment measures in legislative proposals to increase current government spending.
- Estimate how much debt governments can issue to private lenders domestically and abroad.
- Estimate how much governments can borrow from multilateral development banks and the IMF assuming the Rapid Finance Instrument (100% of quota) and a 250% of quota stand-by agreement.
- Determine how much inflation governments are willing to tolerate to finance these programs through money creation.
- Reduce temporarily non-critical government programs.
- If servicing the public debt requires net payments, consider the benefits of restructuring it.

Newly unemployed, self-employed workers in the informal sector, and independent workers will need assistance. Governments should find mechanisms to efficiently and rapidly target monetary transfers to those that are most likely to suffer from the negative income shock. These transfers may be given on top of any formal or informal credit arrangements that those households may get from the government or the financial system. The particular way in which this liquidity should be provided will depend on the institutional capacity of each government.

- Are existing government programs (e.g. cash transfers) rapidly scalable? Can they be targeted to the individuals most impacted by the economic effects of the NPIs introduced to contain COVID-19?
- To the extent that it is possible, target financial assistance in the form of loans, not transfers.

The challenge that governments are likely to face is that those who actually need income support may not be those targeted by the current social programs put in place.

A second-best alternative could be to provide universal transfers to all households in the informal sector and/or independent workers. However, this might be very expensive; let's say the minimum wage times half of the labor force.

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