

Macro-Financial Implications of the COVID-19 Pandemic¹

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Abstract

This paper examines the macro-financial implications of the COVID-19 pandemic. The pandemic represents a massive macro-economic demand and supply shock with significant adverse ramifications for global economic growth, employment, and poverty and demands an unprecedented response by national policy makers and international organizations. Prior to the outbreak of the pandemic, many economies already displayed increased macro-financial vulnerabilities in the form of high levels of debt of households, businesses, and the public sector, secular stagnation of economic growth, and an extended period of quantitative easing and low interest rates. The economic impact of the pandemic in the form of a global recession due to social distancing measures, losses of revenue and income for households, businesses, and the public sector, increased public spending to manage the health impacts, contain the pandemic, and protect vulnerable businesses, households, state-owned enterprises, and public entities adds significantly to pre-existing macro-financial vulnerabilities. Managing these vulnerabilities will be critical for a resilient recovery from the COVID-19 pandemic, requiring a range of short- and medium term macro-financial policy measures.

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Keywords: Macro-financial risks, COVID-19

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Introduction

The COVID-19 pandemic has inflicted unprecedented damage on the global economy and has put severe strain on the financial system in many countries. The COVID-19 pandemic represents a massive macro-economic demand and supply shock with significant adverse ramifications for global economic growth, employment, and poverty and demands an unprecedented response by national policy makers and international organizations. Its full magnitude and duration as well as its economic and social impacts remain difficult to predict. After an initial outbreak was recorded in the Chinese city of Wuhan in December 2019, it quickly spread first in East Asia and subsequently to Europe and the U.S., whereas of early April 2020 the epicenter of the pandemic lies. However, at the current juncture, it appears that the peak impact and second round effects are still to come in many countries, particularly in those with weaker health infrastructure and policy buffers and pre-existing macro-financial sector vulnerabilities such as high corporate and sovereign debt levels, sizeable exposures to movements in global capital and funding markets, and weaker prudential and crisis management frameworks. Emerging market and developing economies (EMDEs) in other regions of the world are also starting to register cases with the specter that few countries will be spared from being deeply impacted by the COVID-19 pandemic.

With the rapid spread around the world, the pandemic has prompted a flurry of emergency measures – including the mandatory closure of business, limitations on gatherings, and travel bans -- to stem further spread, as well as a range of fiscal measures, interest rate cuts, and liquidity support -- to mitigate the disruption to economic activity and protect individuals and businesses from excessive hardship and irreversible damage, and avert a dislocation in financial markets. Major central banks have issued decisive monetary and liquidity measures and announced coordinated action to support stressed global funding markets which are essential for the flow of credit to the real economy.

Despite unprecedented policy measures, global financial markets remain volatile as investors struggle to assess and price the rapidly evolving impact of the outbreak and emerging policy responses. Further, selling of liquid assets is taking place as institutional investors need to meet large redemptions and some financial market segments have become dislocated. Oil prices fell to record lows and EMDEs are experiencing massive capital outflows, currency pressures, and tight external funding conditions. Significant reliance on regulatory forbearance and financial repression-type policies in some countries may create new financial risks, particularly in the absence of credible financial safety nets and fiscal backstops. Moreover, as liquidity challenges of borrowers transform into insolvency problems, the financial sector likely faces a rise in non-performing loans and put pressure on insolvency systems and bank balance sheets.

This paper examines the interaction between macro-financial risks and the COVID-19 pandemic. It brings together information on different macroeconomic and financial sector vulnerabilities. As such, it seeks to provide a broad overview of issues and presents data on countries exposure to both macro-financial risks and COVID-19.

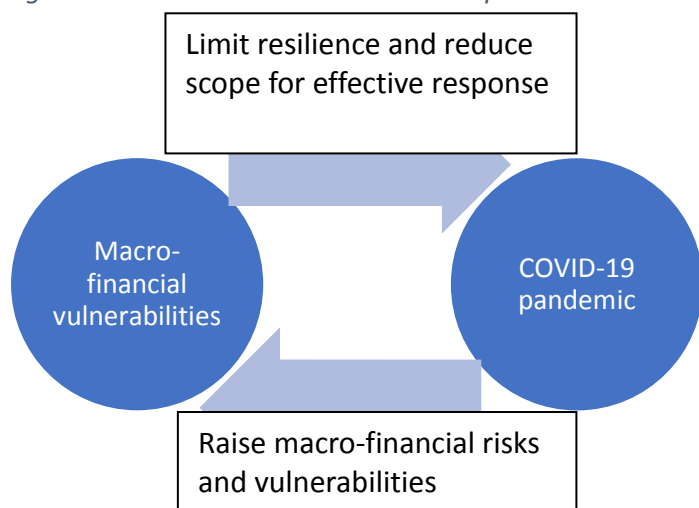
This paper is organized as follows: The remainder of this section lays out the conceptual framework used to examine these interactions. The second section examines in detail some of the linkages between risks related to COVID-19 and macro-financial developments and management, with a focus on fiscal and financial sector linkages. Section 3 uses indicators of macro-financial risk together with indicators of COVID-19-related risks to identify countries that may be at particularly elevated risk levels due to the co-

existence of COVID-19 exposures and macro-financial vulnerabilities. We conclude with a brief summary of key issues and policy implications for the immediate term and the medium-term.

Conceptual Framework

Our conceptual framework links the COVID-19 pandemic to macro-financial risks and developments. For many economies, the COVID-19 pandemic will result in a significant deterioration in the balance sheets of most economic actors and thus raise macro-financial vulnerabilities. Elevated macro-financial vulnerabilities in turn imply limited resilience to whether a severe economic shock and constrain the government's policy responses to effectively contain COVID-19 (Figure 1).

Figure 1: Interaction between COVID-19 pandemic and macro-financial vulnerabilities



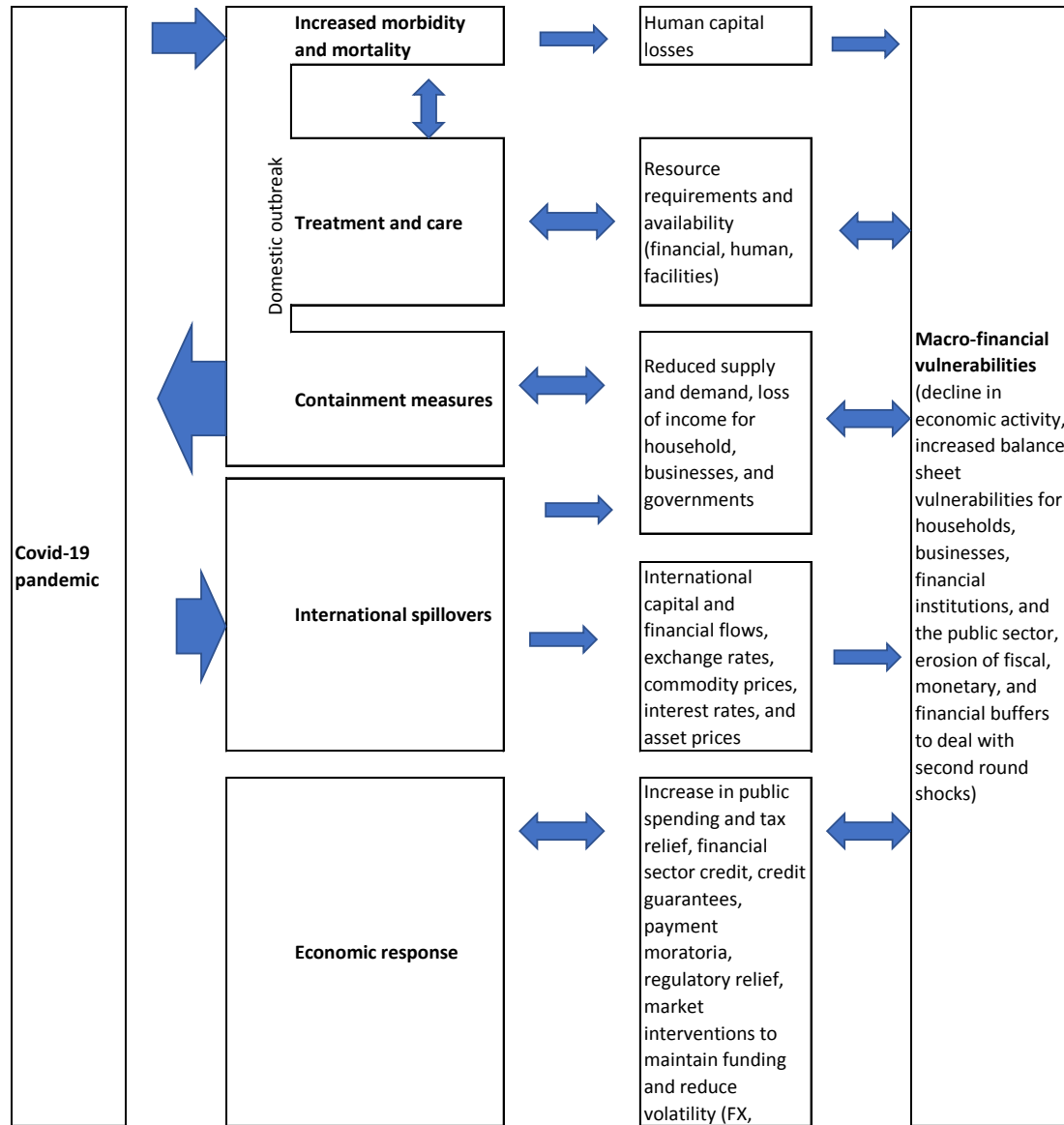
Countries will be affected through the COVID-19 pandemic through two principal channels. The first is when a country experiences a **domestic outbreak**, which in the first instance results in increased morbidity and mortality. This requires a health sector response in the form of treatment and care for affected persons. In parallel, containment measures in the form of social distancing and broad-based testing need to be adopted to limit the spread of the pandemic. The second channel are **international spillovers** which will affect economies around the world, independent of whether they experience an outbreak or not. Especially since the centers of global economic activity – China, the European Union, and the U.S. experience the most severe outbreaks, this has major repercussions on international trade, finance, labor mobility, and commodity markets. Both domestic outbreaks and international spillovers have severe economic consequences and most countries are putting in place **economic measures** that support both an effective health response and to protect households and businesses from existence threatening and irreversible impacts. All these elements of the COVID-19 pandemic interact directly with macro-financial vulnerability as shown in .

Figure 2 illustrates in more detail the linkages between the COVID-19 pandemic by distinguish between five transmission channels, namely

- (a) Health impacts;
- (b) Health response;

- (c) Containment measures;
- (d) International spillovers; and
- (e) Economic response.

Figure 2: Economic impact transmission channels of COVID-19



In the early stages of the COVID-19 pandemic, when most cases were registered in China, much of the international focus was on the **international spillovers** of the disruptions occurring in China. Among the key channels for international spillovers are disruptions to trade and value chains, tourism, and international remittances, and commodity prices. Tourism and international trade saw a significant decline due to widely-used travel restrictions to contain the virus outbreak and disruptions to global value chains and. Demand for fuel has weakened due to sluggish consumption and investment, while at the same time Saudi Arabia increased production after no agreement on a follow up arrangement to the

OPEC+ agreement could be agreed upon. International remittances are expected to decline significantly, as workers face reduced incomes as businesses lay off workers or reduce working hours at a massive scale. For subsequent analysis of economic vulnerability due to international spillovers we use the sum of all these four as proxies for global interconnectedness. As the COVID-19 pandemic spread globally, for many countries the consequences of domestic outbreaks moved into the foreground. Nonetheless, disruptions to international flows of goods, services, capital, and people remain an important aspect of the economic impact of the COVID-19 pandemic and restoring these flows may take time even once outbreaks are under control.

With the global spread of the pandemic, **health impacts** in terms of increased morbidity have become the main focus for many countries. **Increased morbidity and mortality** due to the pandemic have a direct negative impact on the labor force. However, the age profile of people at the highest risk to suffer severe forms of COVID-19 differs significantly from other pandemics. While for COVID-19 the people at highest risk to suffer from a severe form of the disease are the elderly, the HIV/AIDS pandemic was most widely transmitted among people in their prime working age and had thus very high cost in terms of lost human capital.

Care and treatment for the sick requires significant financial and human resources as well as sufficient equipment and supplies and as a consequence increased public and private spending on health care. The third element of the health impacts is through **containment measures** -especially though social distancing, which affect both the demand and supply of a wide range of goods and services. Sectors that rely on direct contact with consumers such as tourism, entertainment, and retail are particularly affected. In countries with significant COVID-19 outbreaks, containment measures are resulting in a sharp drop in economic activity.

Finally, as the health-related measures have adverse impacts on incomes of people and businesses, most governments adopt **economic measures** to protect people and businesses from the most severe and potentially irreversible consequences of the pandemic.

Policy response so far

To date, the macro-financial policy response has mainly focused on: i) health measures to contain morbidity and mortality and contain the spread of the pandemic, ii) fiscal measures in support of individuals and businesses, and iii) monetary and financial sector measures aimed at providing market and funding liquidity, supporting affected borrowers, and offering regulatory relief to financial institutions.

Table 1 provides an incomplete list of fiscal, monetary, and financial sector measures adopted by countries to illustrate the breadth of the economic policy response underway in many countries. In the next two sections we discuss the interaction between macro-financial vulnerabilities and the COVID-19 pandemic. Key policy responses include:

- **Healthcare sector measures.** Providing health systems with the resources to address increased morbidity and mortality is the first priority for most countries. Aside from funding constraints, countries struggle to procure an adequate quantity of medical personnel, facilities, and supplies. Health systems are encountering shortages with regard to health sector personnel – which is at particularly high risk of infection; medical supplies – where the available supply of items such as

masks and ventilators is often insufficient; and facilities – where existing hospital capacity is insufficient to deal with the sharply increased number of people needing hospital care. In anticipation of an increase in cases across the developing world, various contingency plans are currently being developed by many countries in collaboration with development partners to enhance preparedness for a full-scale epidemic. The health systems of many EMDEs were already before the outbreak severely under-resourced to provide adequate services. With the COVID-19 pandemic, many countries will face difficult trade-offs between allocating human and physical resources to COVID-19 and other cases. Early evidence from China – where 42,000 doctors and nurses were sent to Wuhan to combat the outbreak – pointed to a sudden deterioration and de-prioritization of access to other ongoing health services such as maternal and childcare, HIV and TB treatments.

- **Fiscal measures to protect individuals.** As a consequence of social distancing measures, many people suffer unemployment or a significant loss of income. For countries with developed social protection systems, unemployment benefits and other social protection measures help to protect people from excessive hardship. Nonetheless, many advanced economies have adopted additional measures to soften the impact on individuals. This includes expanded coverage and increased benefits of existing social protection measures, targeted benefits aimed at individuals most severely impacted by the economic fallout of the pandemic, and revenue side measures – such as deferral of tax obligation and social security contributions or temporary reductions in tax rates to deal with cash flow problems.
- **Fiscal measures to protect businesses.** While the severe impacts on supply and demand caused by the pandemic affect most businesses, some sectors are particularly hard hit, including the transport, tourism, retail, and entertainment sectors. Most advanced countries have adopted a range of fiscal measures to address resulting cash flow problems and prevent layoffs and business closures. Such measures include credit facilities, tax and social security contribution deferrals or reductions, as well as targeted subsidies.
- **Monetary and liquidity measures.** Central banks have lowered policy rates and are providing massive liquidity support, in some cases also to non-bank financial institutions. In addition, some central banks are offering direct support to affected sectors through credit facilities.
- **Financial institution measures.** Policy makers are supporting financial institutions and affected borrowers by encouraging financial institutions to take advantage of available capital and liquidity buffers, as well as relying on temporary prudential forbearance (e.g., debt moratoria, flexibility in the treatment of affected loans and provisioning) to support the flow of credit to affected sectors -- households and SMEs in particular. Heavy reliance on regulatory forbearance measures are cause for concern since they can give rise to new risks, particularly if they are not well-calibrated and properly monitored. Some countries have encouraged the use of digital payments to prevent the spread of COVID-19 and are easing bankruptcy provisions. State-owned and development banks are asked to step up.

- **Financial markets measures.** Confronted by massive capital outflows, several EMDEs have intervened in foreign exchange markets and have established swap lines with other central banks to sustain adequate levels of foreign currencies. Market volatility triggered circuit breakers and some countries responded by closing their financial markets. Some countries banned short selling to curtail market volatility. Strains in capital markets has prompted policy makers to adjust their debt management strategies including identifying funding from other sources to reduce pressure on traditional wholesale market borrowing.

Table 1: COVID-19 outbreak: Examples of Fiscal, Monetary, and Financial Sector Policy Measures

| |
|---|
| This is an illustrative overview of measures that policy makers have taken or may take. It is not policy advice. |
| Revenue measures to protect businesses (first phase) |
| <ul style="list-style-type: none"> • Accelerated asset depreciation (CIT) • Extend loss carry-forward for losses incurred during the crisis (CIT) • Broaden tax deductibility (e.g., to all business expenses related to COVID-19) • Introduce tax credits • Deferral of tax filing (CIT, PIT for self-employed, VAT, other business taxes) • Deferral of tax and/or interest and penalty payments • Tax rate reduction (CIT, PIT for self-employed) • Tax amnesty / incentives • Accelerating refunds (VAT) • Lower advance payment (CIT, PIT for self-employed) • Suspend debt collection activities • Suspend audit activities |
| Revenue measures to protect individuals (first phase) |
| <ul style="list-style-type: none"> • Deferral of tax filing (PIT, payroll taxes, property tax, etc.) • Deferral of tax payments (PIT, payroll taxes, property tax, etc.) and/or interest and penalty payments • Tax rate reduction (PIT, payroll taxes, property tax, etc.) • Tax amnesty / incentives (including for overdue taxes and penalties) • Broaden tax deductibility (e.g., for contributions to health care) (PIT) • Introduce tax credits |
| Revenue measures to promote availability of medical items |
| <ul style="list-style-type: none"> • Lower tax rates for medical items (import duties, VAT and other indirect taxes) • Lower tax rates (import duties, VAT and other indirect taxes and levies) |
| Expenditure measures |
| <ul style="list-style-type: none"> • Health expenditures measures (first phase) • Supply of low-cost medical items (masks, gloves, testing kits, gowns, face shields, etc..) • Supply of high cost medical items (ventilators, etc.) • Targeted infrastructure investments to expand health care capacity • Expansion of human resources |
| Expenditure measures for cash transfers to individuals (first and second phase) |
| <ul style="list-style-type: none"> • Direct cash transfers for individuals • Expansion of unemployment benefits both in terms of compensation and length • Temporary expansion of existing benefits such as pension, health insurance • Supplementary ad hoc programs (feeding programs, utility waivers) • Wage compensation subsidies and enhanced paid/sick leave allowances |
| Support to businesses |
| <ul style="list-style-type: none"> • Preferential loans to firms (and industries) in distress • One-off grants to industries in distress |
| Monetary and liquidity measures (funding support) |

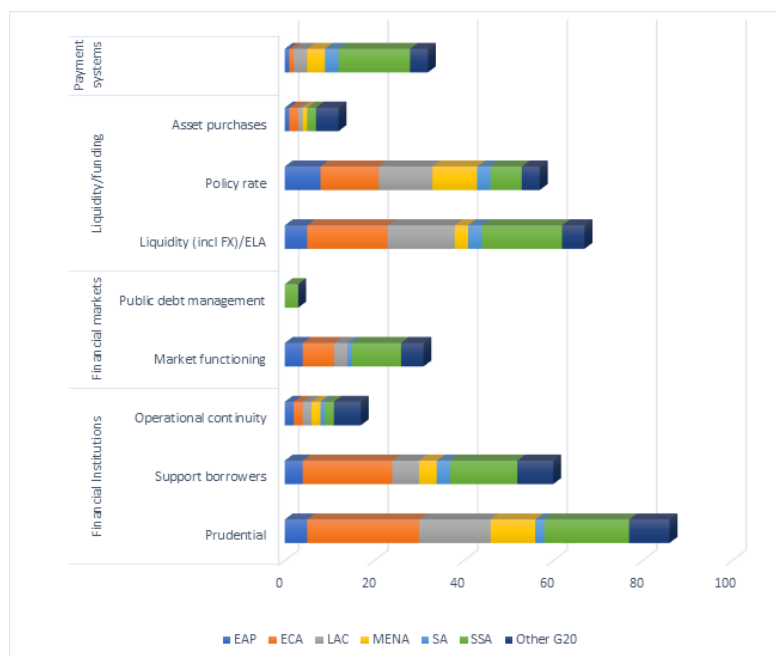
| |
|---|
| <i>Easing of policy rates</i> |
| <i>Liquidity support (e.g., OMO/repo, standing facilities, FX market interventions by CB, FX swap lines, minimum reserve requirements, collateral)</i> |
| <i>Credit easing (e.g. purchases of corporate, government, MBS paper; outright support to SMEs)</i> |
| Banking sector measures |
| <i>Micro and macroprudential measures</i> |
| <ul style="list-style-type: none"> • <i>Release/ defer capital buffers (conservation, counter-cyclical)</i> • <i>Ease other macroprudential measures (eg, DTI, LTV)</i> • <i>Ensure public risk disclosures by banks</i> • <i>Maintain close dialogue supervisor/industry (understand risks, unduly binding regulation and other constraints)</i> • <i>Set and communicate clear supervisory expectations (e.g. use of released buffers)</i> • <i>Prioritize critical supervisory actions</i> • <i>Structured process to consider regulatory and supervisory actions along the crisis</i> • <i>Reduce non-essential regulatory reporting requirements for banks</i> • <i>Consumer protection measures</i> • <i>Other existing measures</i> • <i>Release systemic capital buffers</i> • <i>Temporary ease on liquidity requirements (LCR, NSFR)</i> • <i>Support / facilitate restructuring of loans</i> • <i>Credit restructuring with public guarantee</i> • <i>Restrictions on use of profits and resources (e.g. dividends)</i> • <i>Suspension/limitation of banking fees</i> • <i>Lower risks weights for credit with public guarantees</i> • <i>Other special measures</i> • <i>Suspension of contagion /pooling rules</i> • <i>Easing limits on Large Exposures</i> • <i>Credit repayment moratorium</i> • <i>Freezing of credit limits</i> • <i>Relax days-past-due norms for NPE classification</i> • <i>Relax NPE provisioning rules (incl. related to IFRS 9 measures)</i> • <i>Lower risks weights for specific sectors</i> • <i>Temporary freeze on credit classification status</i> • <i>Reduce minimum pillar 1 capital requirements</i> • <i>Broadening the definition of regulatory capital</i> • <i>Other extraordinary measures</i> |
| <i>Support for borrowers</i> |
| <ul style="list-style-type: none"> • <i>Encourage private institutions to provide short-term cash support, waive fees and penalties, etc.</i> • <i>State (partial) guarantees on loans</i> • <i>State subsidies on borrowers' repayments</i> • <i>State loans to affected companies, sectors (e.g., through state banks)</i> • <i>Tax incentives encouraging forbearance measures</i> • <i>Credit registry measures</i> |
| <i>Crisis management</i> |
| <ul style="list-style-type: none"> • <i>State guarantees on bank liabilities (e.g., deposit guarantees to avert runs)</i> • <i>Freeze on deposit withdrawals/open-ended funds withdrawal</i> • <i>Capital injections, bailouts, bail-ins, bridge bank and nationalization</i> • <i>Additional (backstop) funding to deposit guarantee schemes</i> • <i>Overhaul of resolution framework/ deposit insurance scheme framework</i> |

| | |
|---------------------------------|--|
| Operational continuity | <ul style="list-style-type: none"> • Review business continuity and disaster recovery plans • Review of supervisory reporting requirements and methods as staff cannot access systems • Closing of bank branches and ATMs to prevent COVID-19 spread • Stimulate use of digital payments / channels to prevent COVID-19 spread (e.g., fees, regulation) • Measures to ensure continued operations of critical financial institutions and market infrastructures |
| Integrity | <ul style="list-style-type: none"> • Promoting digital channels (via e-KYC, digital signature collection, and online document submission) • Relief measures on customer identification (e.g. simplified CDD even in case of non-face-to-face relationships) • Increase limits (daily, monthly) for non-face-to-face transactions (mobile money, internet banking). • Suspension on non-urgent supervisory activities (on-site visits, inspection follow-ups, reporting) |
| Financial Markets | |
| Market functioning | <ul style="list-style-type: none"> • Outright asset purchases (e.g., securities of affected companies, sectors) • Halting of trading, bans on (naked) short selling • Temporary restrictions on cross-border capital (out)flows • Circuit breakers • Establish basis for decision-making and developing communications strategy • Identify funding from other sources to reduce pressure on traditional wholesale market borrowing |
| NBFI | <ul style="list-style-type: none"> • Insurance measures • Insurance (e.g. prudential, other) • Pensions (e.g., Allow early pension withdrawals/Use of pension fund liquidity for broader market support) |
| Public Debt Management | <ul style="list-style-type: none"> • Adapt the funding program to shifts in the demand for government paper • Ensure minimal functionality in the primary and secondary markets |
| Payment systems measures | <ul style="list-style-type: none"> • <i>Promoting and ensuring availability of digital payment mechanisms of compliance requirements</i> • <i>Consumer protection measures and ensuring availability and acceptance of cash</i> • <i>Cybersecurity</i> • <i>FMI risk management (including operational reliability)</i> • <i>Cash / Cheque usage restrictions</i> • <i>Relaxation of compliance requirements</i> |
| Insolvency measures | <ul style="list-style-type: none"> • Relaxing of bankruptcy filing obligations • Enhancing tools for out-of-court debt restructuring and workouts |

- *Promoting*
- *Relief mea*
- *relationships*
- *Increase li*
- *Suspension*

COVID-19 policy response relevant to the financial sector

Figure 3: Number of countries that have taken at least one policy measure by category, as of April 3, 2020



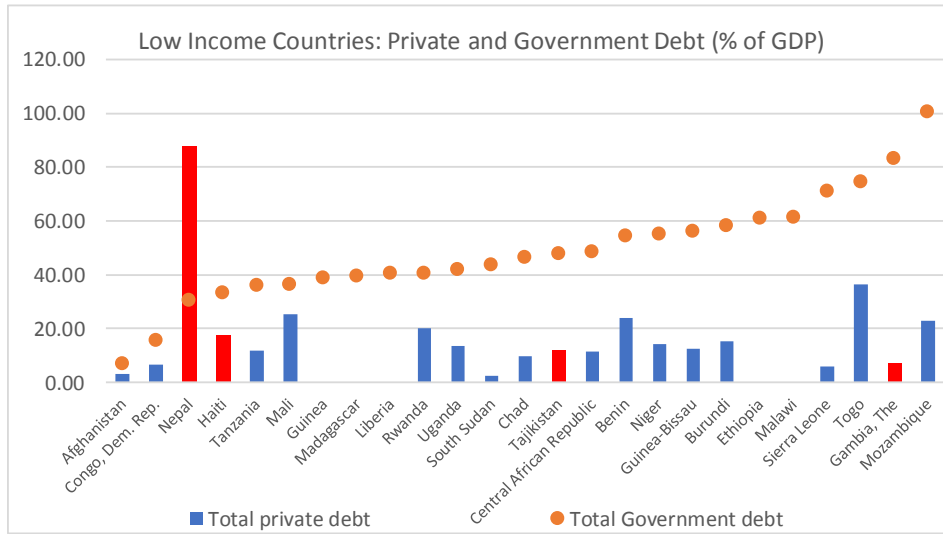
Pre-existing vulnerabilities mean limited resilience and constrain the response to COVID-19

A number of global developments over the past decade have contributed to the relatively high vulnerability and reduced resilience of many countries to the COVID-19 pandemic: This includes (a) sharp increases in public and private debt in many economies; (b) low economic growth in advanced and a number of EMDEs, and (c) loose monetary policies since the global financial crisis.

Public and private sector debt are elevated

Sharp increases in public and private debt during the past decade leave many countries with very limited fiscal space needed for an effective health and economic response to the COVID-19 pandemic. Jurisdictions with elevated levels of sovereign and corporate debt which have benefited from low interest rates and risk premia so far, appear more vulnerable, particularly if a significant portion of the debt is short dated, externally funded, and denominated in foreign currencies, particularly if capital flows recede, local currencies depreciates, and foreign reserves run low. Figures 4 – 8 show the ratios of private and public debt to GDP for countries grouped by income groups. In these charts we also highlight countries that are particularly vulnerable to international spill overs due to remittances, tourism or oil exports accounting for more than 10 percent of GDP.

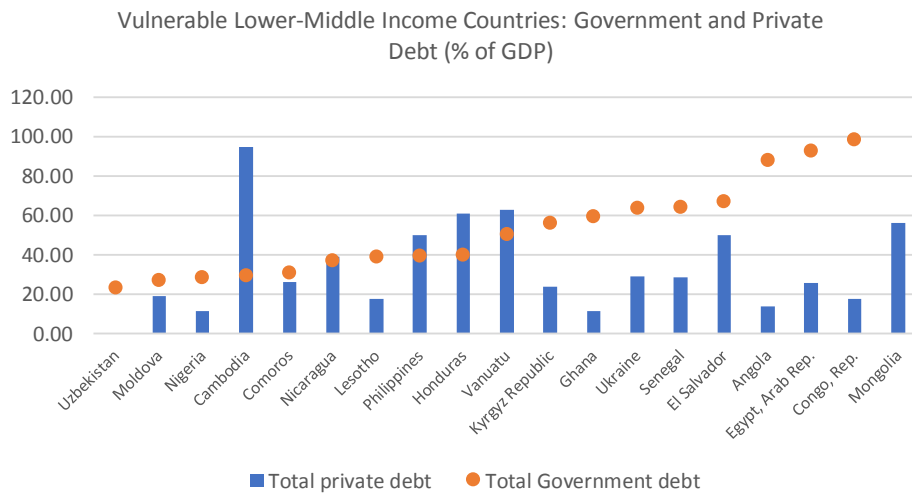
Figure 4: Low income countries: Government and private debt



Note: Countries in red are at an elevated risk of international spillover effects from the COVID-19 pandemic.

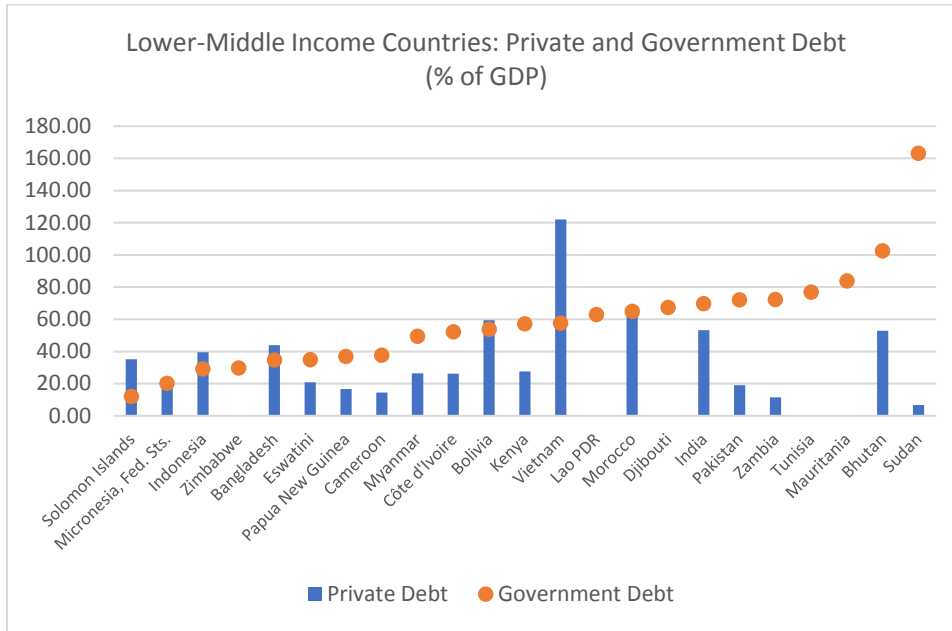
Source: World Bank; IMF.

Figure 5: Lower-Middle Income Countries Vulnerable to COVID-19 Spillovers: Government and Private Debt



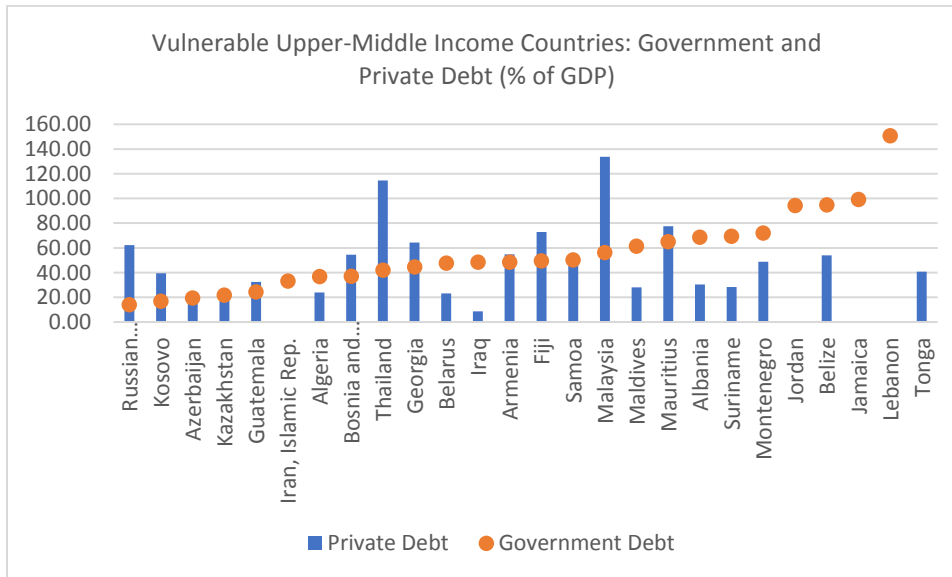
Source: World Bank; IMF.

Figure 6: Lower-Middle Income Countries: Government and Private Debt



Source: World Bank; IMF.

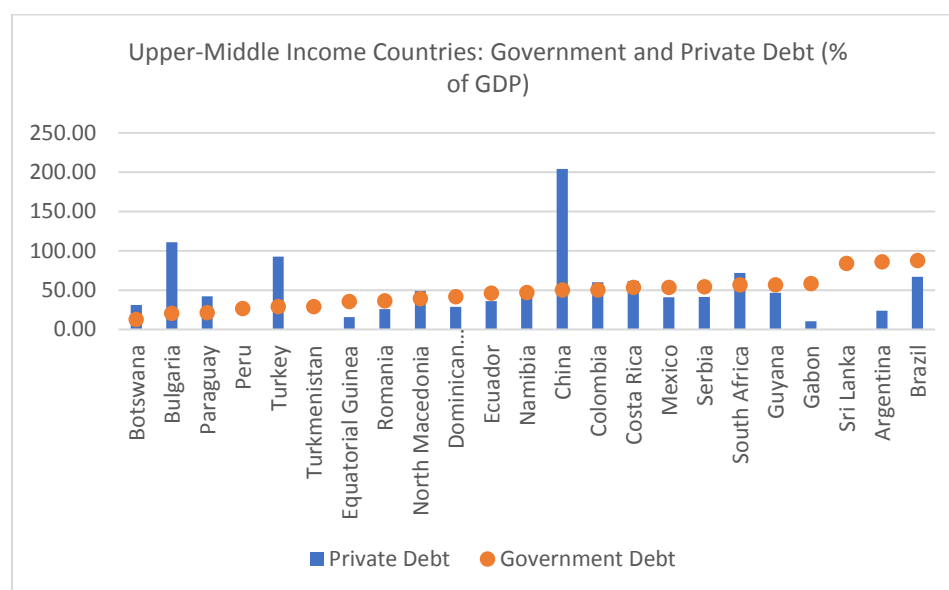
Figure 7: Upper-Middle Income Countries Vulnerable to COVID-19 Spillovers: Government and Private Debt



Note: The chart shows countries that at an elevated risk of international spillover effects from the COVID-19 pandemic.

Source: World Bank; IMF.

Figure 8: Upper-Middle Income Countries: Government and Private Debt



Source: World Bank; IMF.

While debt to GDP levels provide some indication of countries fiscal space and vulnerabilities, a full-fledged debt sustainability analysis provides a more robust indication of countries fiscal space and risk of fiscal debt distress. The World Bank and IMF conduct jointly annual debt sustainability analyses (DSA) for all International Development Association (IDA) recipients. These DSA's also show a significant shift towards higher risk of debt distress over the past decade, where by 2019, 21 of 67 assessed countries are assessed as being at a high risk of or in debt distress. Table 2 shows countries by their assessed risk of debt distress and divides them also in countries with higher and lower government capabilities, based on whether they are above or below the median according to their latest CPIA ratings.

Table 2: IDA countries classified by risk of debt distress (June 2019)

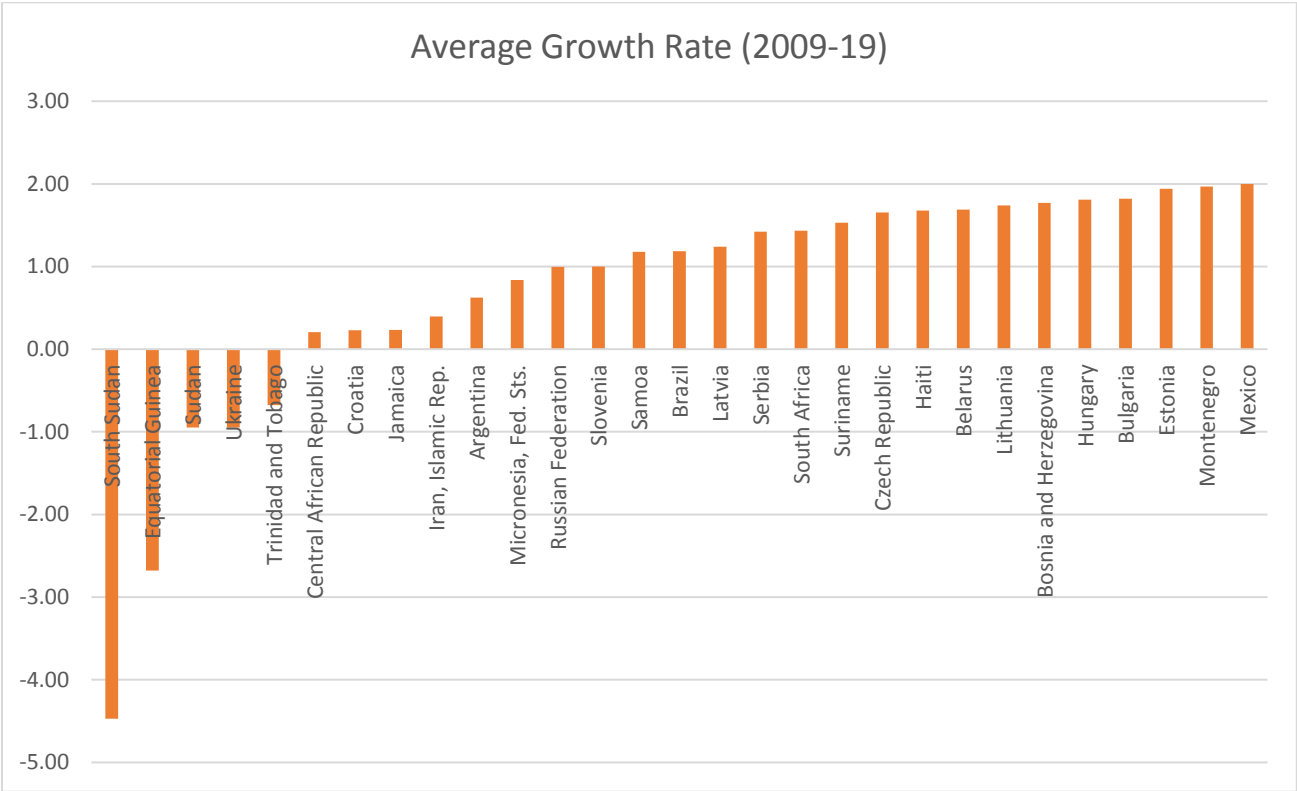
| Risk of Debt Distress | | |
|--|---|--|
| High or in debt distress | Moderate | Low |
| Mauritania, Samoa, Tonga, Grenada, St. Vincent & the Grenadines, Haiti, Yemen, Afghanistan, Burundi, Central African Republic, Chad, The Gambia, Mozambique, Sierra Leone, South Sudan, Zimbabwe, Kiribati, Marshall Islands, Micronesia, Tuvalu, Tajikistan | Benin, Ethiopia, Kenya, Madagascar, Mali, Niger, Togo, Burkina Faso, Vanuatu, Kyrgyz Republic, Fiji, St. Lucia, Maldives, Comoros, DRC, Guinea-Bissau, Guinea, Liberia, Malawi, Solomon Islands, Papua New Guinea | Honduras, Nicaragua, Dominica, Guyana, Bhutan, Cambodia, Nepal, Cameroon, Cabo Verde, Ghana, Cote d'Ivoire, Lesotho, Rwanda, Senegal, Tanzania, Uganda, Zambia, Moldova, Uzbekistan, Kosovo, Bangladesh, Myanmar, Lao PDR, Djibouti, Congo |

Secular stagnation not only in advanced economies

The 2000's were also characterized by low rates of economic growth in many advanced economies, which may have brought about an age of "secular stagnation" where an increasing propensity to save and a decreasing propensity to invest result in low growth and low real interest rates. A shrinking

working age population, rising inequality in incomes and wealth, and capital saving technological change are among the underlying drivers of secular stagnation. However not only advanced economies suffered from low growth rates during the last decade, but a number of EMDE’s also had very low average real growth during that decade. Even though the underlying reasons for slow growth in some of the EMDEs may be country specific, it puts them nonetheless in a weak position to deal with the COVID-19 pandemic and its economic fallout. Figure 9 shows countries which had average economic growth of two percent or less over the past decade.

Figure 9: Average growth rate of low-growth countries



Countries that entered the COVID-19 period with poor growth momentum are likely to feel more dire consequences of a recession and slower recovery once the pandemic has passed. While faster growing economies typically are characterized by a high rate of business start-ups, in slow growing economies such momentum is missing. In slow growing economies businesses also tend to be more vulnerable to economic downturns with less resources to bridge difficult times and more businesses have to close. Weak business start-up dynamics then imply that following the recession growth is often even more muted than before the recession.

Extended quantitative easing and “low for longer” interest rates

Loose monetary policies with low interest rates around the globe prior to the COVID-19 pandemic significantly add to vulnerabilities. In particular, in many countries there is very limited scope for effective monetary policy to support counter-cyclical policies and the burden for an effective crisis response is thus in many countries squarely with fiscal policy.

Some countries have reached the zero-lower bound limit already and in others the policy rate is below the natural rate of interest, which is the rate that would prevail when output is at the potential level and inflation is within the central bank's inflation target range. In LAC, and in many emerging economies, central banks had embarked on expansive monetary policies, following the FED, before the covid-19 virus emerged. Central Banks in some emerging economies have started purchasing corporate debt, such as Colombia. Peru and Chile or provided guarantees for credit between private institutions. In Brazil, BNDES (a public bank) restructured debts of private sector, states and municipalities. In Colombia, the central bank mandated banks to purchase government bonds, typical of financial repression of the sixties and seventies.

International spillovers of COVID-19 through macro-financial linkages

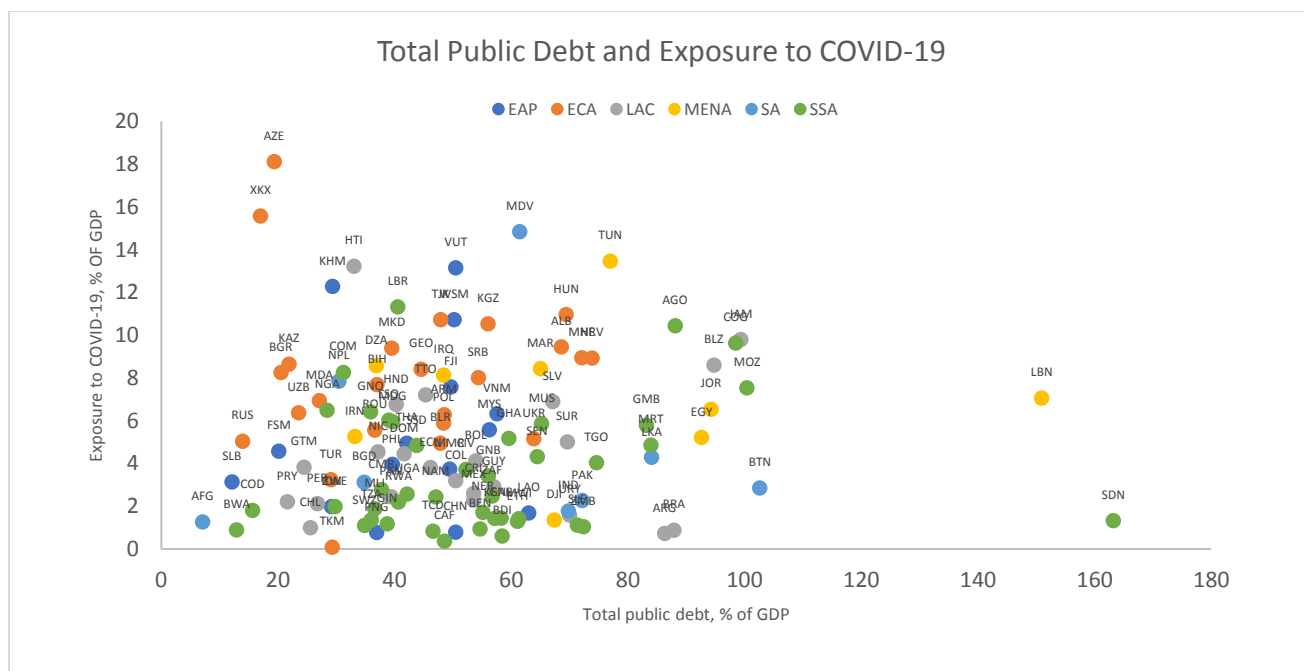
This section examines countries' vulnerability to international spillover effects. While COVID-19 represents a global shock and all countries will be affected, countries with stronger international trade and financial linkages will be particularly vulnerable to spillover effects. We construct a simple COVID-19 international spillover measure as the average of the following four factors: trade with key affected countries (i.e., China and Europe), remittances received, fuel exports, and tourism receipts, all as a percent of GDP (2018 or latest data). This impact measure seeks to capture vulnerabilities to negative external shocks caused or exacerbated by COVID-19. We expand our sample coverage to 133 EMDEs from all six World Bank regions and we consider six different types of pre-existing vulnerabilities: public debt, private debt, macroeconomic performance, banking sector, capital market and corporate insolvency. Each of these pre-existing vulnerabilities is represented by a key variable. These variables are total public debt, total private debt, real GDP growth, bank capital adequacy, total outstanding debt securities (public and private) and strength of corporate insolvency framework. Figures 10-15 present the correlation between each of the six macro-financial vulnerabilities and our measure of COVID-19 exposures using country-level scatterplots.

Notwithstanding important caveats which require cautious interpretation of the data, the charts suggest that a significant number of countries face a double jeopardy due to the simultaneous presence of macro-financial vulnerabilities and COVID-19 spillover exposures. The scatterplots showcase countries with at least one elevated macro-financial risks (high public or private debt, low GDP growth, low bank capital adequacy, high exposure to debt securities and more vulnerable corporate insolvency framework) and high COVID-19 exposures. Using readily available indicator, we find that for almost all of the six vulnerabilities, all six World Bank regions have countries facing a double jeopardy situation.

- **Private debt.** Across many regions, various countries with elevated private debt levels also have a high direct exposure to COVID-19. Examples include Cambodia, Fiji, Malaysia, Thailand and Vietnam from EAP; Bulgaria, Hungary and Poland from ECA; Tunisia from MENA, Nepal from SA, and Mauritius from SSA.
- **Low economic growth.** Many countries experienced both low pre-crisis economic growth and high COVID-19 exposures. This double jeopardy of low growth and high COVID-19 exposures is pronounced for all regions except EAP and SA. Examples of such double jeopardy include Azerbaijan, Croatia, Belarus, Ukraine from ECA; Belize, El Salvador, Jamaica, Suriname and Trinidad and Tobago from LAC; Lebanon, Tunisia and Jordan from MENA; Angola, Congo, Rep., Liberia and South Sudan from SSA.

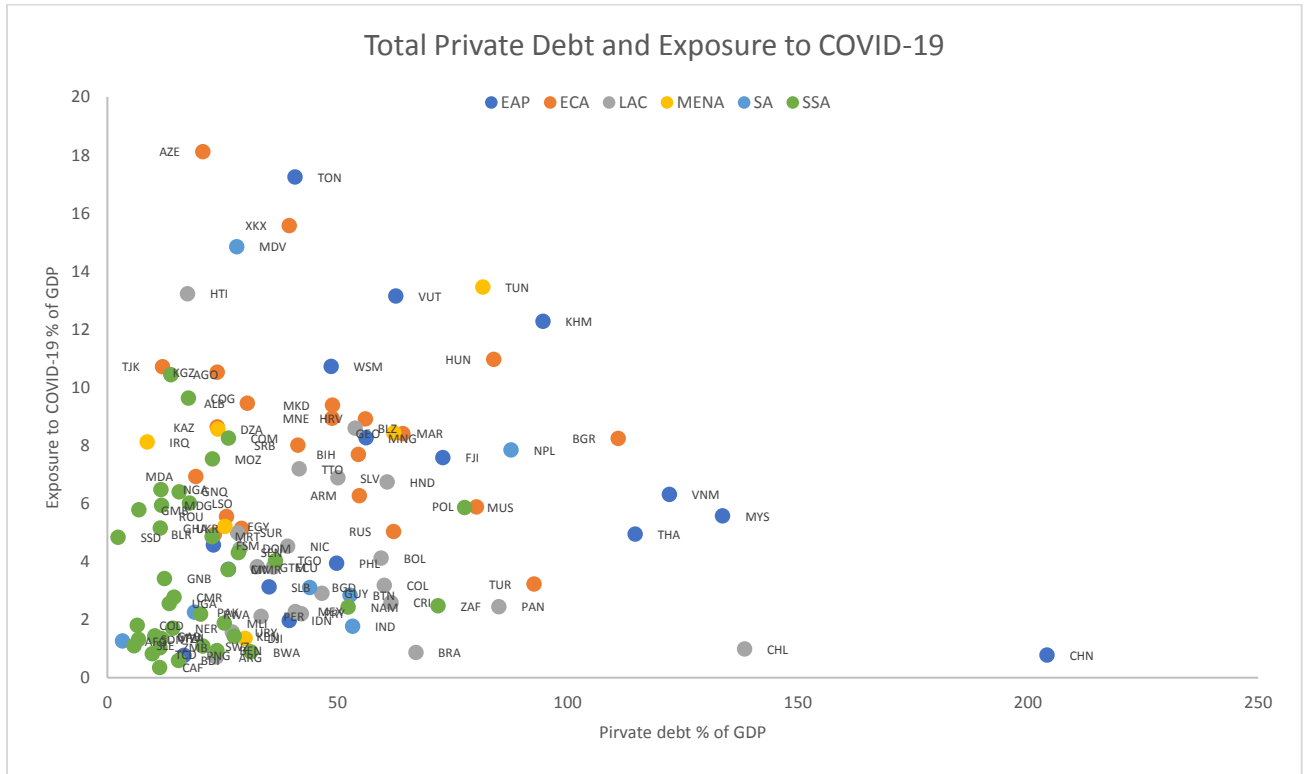
- **Bank buffers.** A few countries have both low bank capital adequacy and high COVID-19 exposures. Some examples include Honduras, Russia and Vietnam.
- **Capital markets.** Only a couple of countries experience both high capital market vulnerability (measured by total outstanding public and private debt securities) and high COVID-19 exposures. Some examples include Hungary, Jamaica, Lebanon, Malaysia and Thailand.
- **Corporate insolvency.** Many countries experienced both weaker corporate insolvency framework and high COVID-19 exposures. ECA countries comprise the lion's share of the list of countries facing this double jeopardy. Examples from ECA include Albania, Azerbaijan, Kosovo, Hungary, Montenegro and North Macedonia, to name only a few. Countries from other regions facing such a double jeopardy include Thailand and Mauritius.

Figure 10: Total Public Debt and Exposure to COVID-19



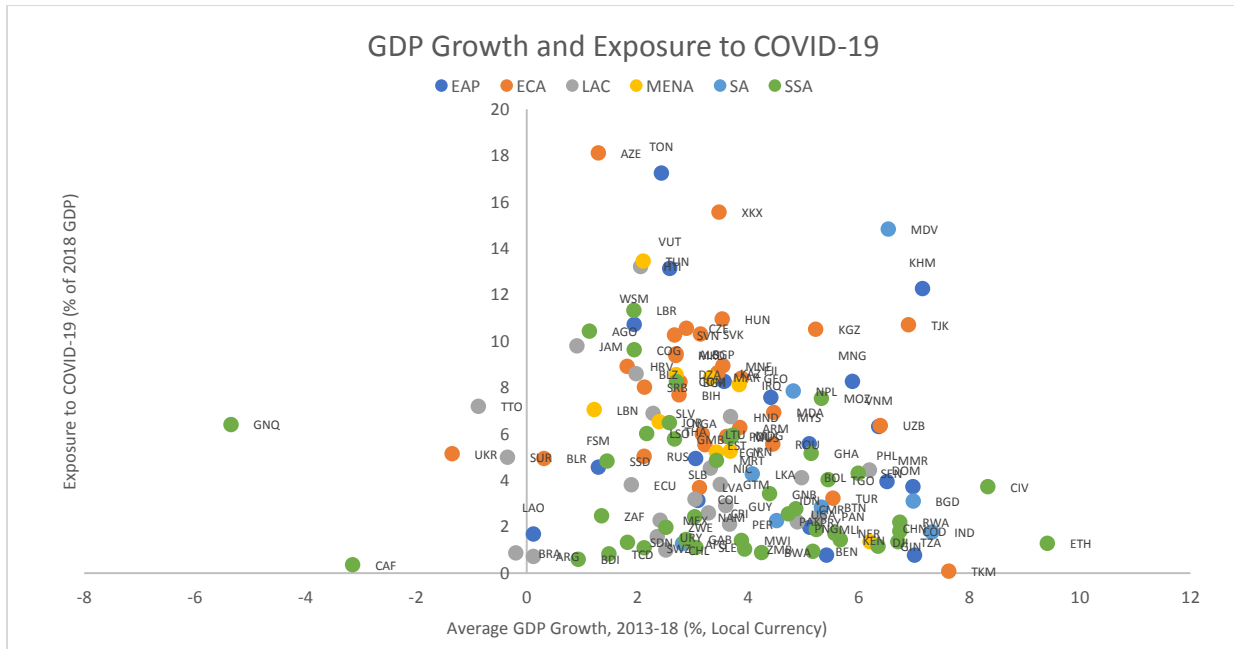
Source: World Development Indicators (WDI), World Integrated Trade Solution (WITS), Prospect Group.

Figure 11: Total Private Debt and Exposure to COVID-19



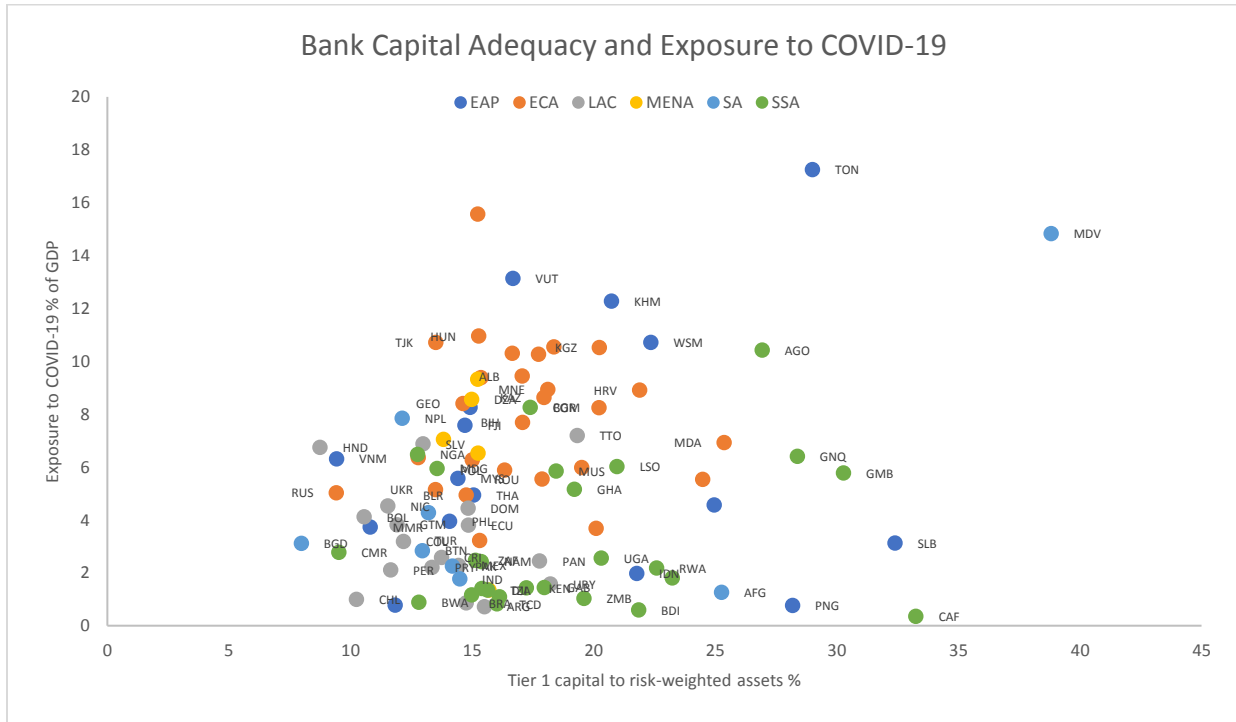
Source: World Development Indicators (WDI), World Integrated Trade Solution (WITS), IMF.

Figure 12: Economic Growth and Exposure to COVID-19



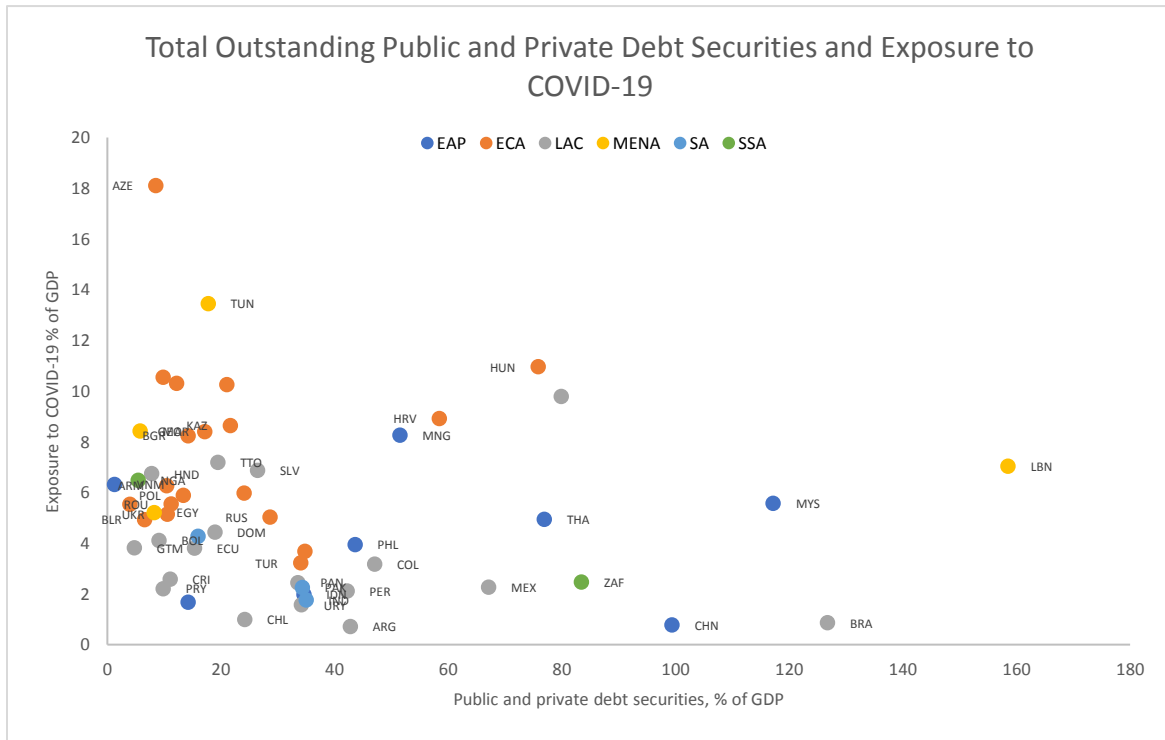
Source: World Development Indicators (WDI), World Integrated Trade Solution (WITS), IMF International Financial Statistics (IFS).

Figure 13: Bank Capital Adequacy and Exposure to COVID-19



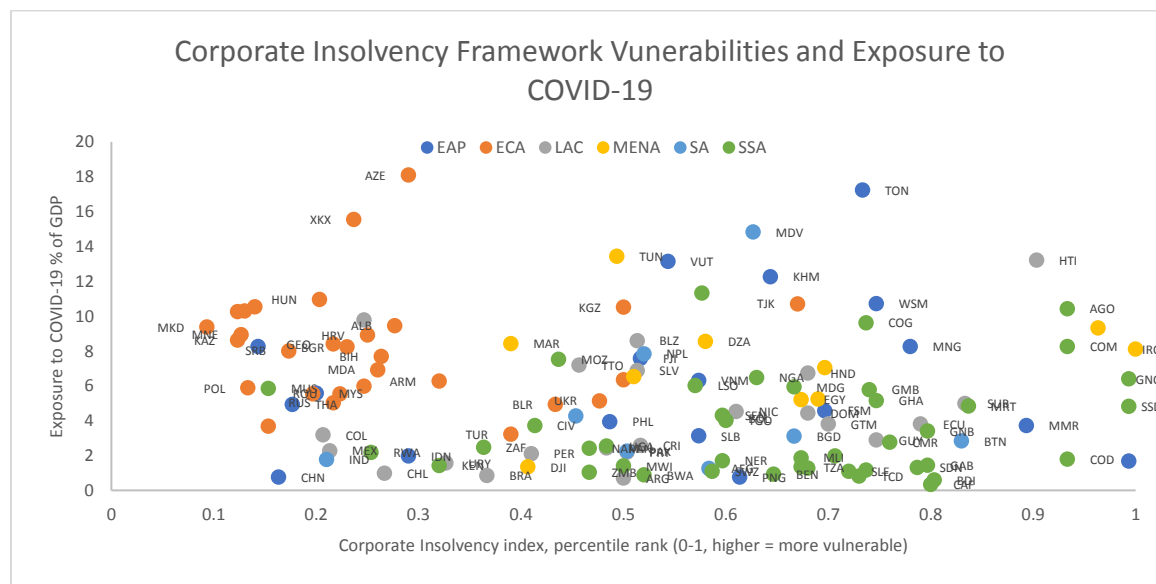
Source: World Development Indicators (WDI), World Integrated Trade Solution (WITS), IMF Financial Stability Indicators (FSI)

Figure 14: Capital Market Vulnerability and Exposure to COVID-19



Source: World Development Indicators (WDI), World Integrated Trade Solution (WITS), IMF International Financial Statistics (IFS).

Figure 15: Corporate Insolvency Framework and Exposure to COVID-19



Note: The corporate insolvency framework index is an average of percentile ranks of three indexes from Doing Business: Strength of insolvency and Legal rights, Recovery Rate and Quality of judicial process. The index ranges from 0 to 1 with higher values indicating higher vulnerability. Source: World Development Indicators (WDI), World Integrated Trade Solution (WITS), Doing Business.

COVID-19 increases macro-financial risks and vulnerabilities

The COVID-19 pandemic will affect all sectors of the economy. This section discusses (a) how individual aspects of macro-financial risks will be affected and (b) potential areas of contagion between the different risk areas.

Direct impacts on macro-financial risks

We discuss the potential impacts of the COVID-19 pandemic in each of the nine areas monitored by the MFR. The analysis shows that the COVID-19 pandemic, its economic fall-out, as well as the policy measures necessary to deal with health impacts, contain the pandemic, and provide some protection to households and businesses will lead to a significant deterioration in risk indicators for all indicators.

Spillover risks from the external environment outside the region

COVID-19 represents a significant, across the board increase in spillover risks. Factors that add to spillover risks include disruptions in international value chains as a result of supply side impacts and reduced production in many advanced economies, capital movements away from EMDEs, and depreciation of many currencies against the US dollar which supports competitiveness, but also raises the cost of debt service. Falling commodity prices help commodity importers but have severe negative impacts on economic growth and fiscal balances for commodity exporters. High levels of integration into international value chains and capital markets, dependence on tourism, commodity exports and remittances as sources of foreign exchange, and high levels of external debt create vulnerabilities to COVID-19 spillover risks.

Macroeconomic risks

The pandemic is leading to severe economic downturns in virtually all countries and a global recession, the length of which is difficult to predict at this stage. Increased fiscal and balance of payments imbalances will add to macro-economic risks. Capital movements away from EMDEs in a flight to safety suggest that the COVID-19 pandemic has heightened market perceptions of sovereign risks. With the ongoing deterioration of many macro-financial indicators as a result of the COVID-19 pandemic, many EMDEs are likely to see downgrades in their sovereign risk ratings over the coming months.

The COVID-19 pandemic has led to sharp recessions in many country and the path to recovery is uncertain and may be long. Aside from short to medium term impacts, the COVID-19 pandemic can also have medium to long term consequences for economic output and growth through reduced private investment and employment. In the case of the USA, shocks to private investment dissipate, on average, after 4 years. In LAC countries, shocks to private investment tend to be more persistent, lasting between 5 and 6 years to dissipate completely. During this transition period, the capital stock will be lower than it would have been in the absence of the shock. In the case of employment, the effects might even be longer.

Bank and non-bank financial institution risks

The main risks for banks in EMDEs will be the increased demand for liquidity and cash, plummeting valuation of assets and increasing defaulted loans, the exposure to the sovereign and to foreign denominated claims. Cash flow disruptions for households and businesses will reduce in their debt servicing capacity. Debt moratoria, credit guarantees, bank bridge financing, and loan restructuring for sound borrowers who have become cash-strapped can help mitigate these impacts and avoid a wave of value-destroying defaults. However, authorities should remain vigilant that such measures can create new risks. Moreover, mounting liquidity pressures and asset quality deterioration of financial institutions can adversely interact quickly and lead to instability and impede lending to the real economy, particularly for financial systems with limited buffers and weaker crisis management and corporate insolvency frameworks. In some countries, under-reporting of non-performing loans implies that banks are not provisioning enough for the credit losses to which they are exposed, with the provisioning shortfall essentially inflating tier 1 capital.

The sovereign-bank nexus has tightened. In the last decade, the median EMDE banking system has seen its total exposures to government and non-financial public entities more than double. As a result of COVID-19, governments are also experiencing severe fiscal pressures and may seek to restructure their debt to be able to respond to emergency fiscal needs.

Non-bank financial institutions have become increasingly complex and interconnected in some EMDEs and pose a vulnerability in some countries. Dysfunctional capital markets may have a special negative impact on those NBFIs that rely mostly on wholesale funding. These institutions face many of the same issues as banks and are particularly exposed to withdrawal runs and declining asset quality. Insurers would mainly be impacted in the short-run via the asset side of their balance sheets. However, transport and credit insurance have to be monitored as they are particularly sensitive to GDP shocks.

Ensuring the smooth functioning of market infrastructures, such as payment systems, is essential to receive rapidly disbursed relief payments from governments (e.g., digital financial services), to mitigate the shock to remittances flows and to enable customers to transact with limited physical interactions. Precautionary measures are testing the contingency plans of financial institutions, market infrastructures and market participants. Remote work and limited staff availability are increasing operational risk and may challenge the execution of complex market operations and centralized functions in banks and other financial institutions.

Public sector risks

The economic slow-down caused by the COVID-19 pandemic will result in many countries in a significant deterioration of the fiscal position, caused by the cyclical decline in revenue and increases in expenditures due to automatic stabilizers (such as unemployment and social protection payments), as well as specific fiscal policy measures in response to the pandemic.

The COVID-19 pandemic and related economic slowdown will lower government revenues. Revenues are expected to decline faster than GDP for the following reasons: (1) the tendency of some tax bases to decline faster than GDP in the face of an economic downturn (profits, capital gains, excises, and imports tend to decline faster than GDP during a recession); (2) a decline in commodity prices and related revenues; and (3) possible discretionary changes in tax policy in response to the crisis, such as lowering of tax rates or scaling up of increasing tax allowances deductions. In the present circumstances, revenues performance may be further harmed by the increased risk of worsened taxpayers' compliance, and the inability of tax administrations to maintain business continuity.

The pandemic and related economic slowdown will have immediate impacts on the expenditure side through multiple channels: (1) activation of automatic stabilizers in response to economic effects of the crisis on household incomes and job losses; (2) disruptions to implementation of programs and activities planned within the budget cycle; and (3) discretionary changes in expenditure policy in response to the crisis, such as increasing budget allocations to health systems, additional cash transfers, introduction of wage compensation schemes and various support mechanisms for targeted business and industries. The deterioration of the fiscal position will have to be in many cases financed through issuance, leading to an increase in public debt.

As countries see their fiscal and external positions deteriorate, servicing external debt will often become more challenging. The G-20 Debt Service Suspension Initiative (DSSI) offers important breathing room to eligible countries². However, the initiative covers only part of eligible countries' debt and many middle-income countries are not eligible to participate in the DSSI, but may experience similar challenges in servicing their debt

Contingent liabilities are also likely to rise significantly and need to be monitored closely. This includes explicit contingent liabilities established through guarantees provided as part of the COVID-19 response. However, the weakening of balance sheets of households, businesses, financial sector institutions, and public entities will raise the risk of these entities requiring at some future point in time government support.

Corporate sector risks

Non-financial private sector debt in EMDEs is at a historic high, following a wave of debt accumulation since the global financial crisis. The disruption of business activities caused by the pandemic will have to be bridged by many businesses through access to credit and an increase in their indebtedness. Further, the composition exacerbates debt sustainability and refinancing concerns: there is high-reliance on foreign-currency debt in many countries. Moreover, over US\$19 trillion of syndicated loans and bonds will mature

² The DSSI covers all IDA-eligible and UN LDC countries that are current on debt service to the IMF and the World Bank. Eligible countries can request to suspend principal or interest payments on their debts to G20 members from May 1 through the end of 2020. Once the eight months elapse, the countries will have to pay the deferred principal and interest over the three years following a one-year grace period.

this year, with some important EMDEs facing high repayments and bond redemptions. As COVID-19 decreases corporate profitability, and stock market valuations, a massive downgrade of the large stock of corporate debt outstanding could trigger debt distress in the corporate sector, with worrisome implications for the banks who hold these corporate debts. Further, credit risks for financial institutions are compounded when cash-constrained firms – SMEs which rely more on bank funding -- and households fail to secure bridge financing to cover for an immediate loss of income and delays in receivables.

The lack of a strong corporate insolvency framework may trigger value-destroying defaults across supply chains when corporates and SMEs fail. The lack of solid bank resolution and crisis management frameworks could amplify feedback loops, particularly if the ability of the sovereign to support the financial system has become compromised. A strong legal and institutional framework for insolvency and debtor/creditor rights is critical to support the speed and efficiency of banks' recoveries and the resolution of distress to minimize economic damage, especially when defaults surge. However, these frameworks exhibit deficiencies in many EMDEs and can thus amplify shocks. The pandemic is already affecting the operations of basic institutions that deal with corporate insolvency, creating further unpredictability. Many courts and insolvency agencies are struggling to operate, especially in EMDEs where court processes are less digitized -- some are closing their doors.

Household risks

Household risks are likely to increase sharply as a result of the pandemic. Higher unemployment and loss of income will force many households to draw down assets and increase debt. As unemployment rates increase to levels not seen in decades due to COVID-19 related layoffs, distressed households will face major difficulties servicing their debt. This occurs at a juncture where household debt has risen in several jurisdictions. As countries slip into deep economic recessions, property price growth will soften as demand for home purchases decreases. Combined with the massive decline in stock prices and returns in many countries, this can be expected to generate significant negative wealth effects which could restrain private consumption and investment for an extended period. Some governments have been active in providing liquidity support to households through a variety of measures such as direct cash transfers, moratoriums on mortgage debt payments and support from the banking sector.

Market and liquidity risks

Capital market liquidity has all but evaporated and all segments of funding markets show severe strain. The primary market for new bond issues has essentially closed, with low levels of price transparency across many markets adversely impacting risk taking and financial intermediation. Large capital outflows from many emerging markets are amplifying market moves. This leads to currency depreciations, an increase in the cost of capital and surging fiscal pressures, especially for sovereigns already facing deficits. Countries with deeper and more liquid capital markets and a stronger domestic institutional investor base will be able to more effectively mobilize funding to cushion the fiscal shock of increased expenditures and lower revenues and better withstand asset price and capital flow volatility and thus mitigate spillovers to the real economy. Countries with high public and private debt levels, high foreign investor participation as well as less developed domestic capital markets are most exposed. Further, short-term private sector refinancing needs appear significant in several countries.

Monetary and financial conditions

Central banks have lowered policy rates and are providing massive liquidity support, which in some cases also includes the non-banking financial sector. In addition, some central banks are offering direct support to affected sectors through credit facilities. These measures are put in place so that bank can continue the provision of credit to households and corporates at a reasonable cost. The easing of monetary and financial conditions should help the economy cope with the disruptions caused by the pandemic, but might cause financial vulnerabilities to build up in the longer run by encouraging risk-taking and debt accumulation.

Risk appetite

Risk appetite has changed markedly since the global spread of COVID-19, with risk aversion and flight to safety taking the center stage in the global financial markets. Volatility of market prices is elevated, reflecting major investor uncertainties regarding the duration and impact of the global pandemic. Market volatility triggered circuit breakers and some countries responded by closing their financial markets. Some countries banned short selling to curtail market volatility. Investor flight towards safe assets has been strong, with extremely tight credit markets, strain in US Dollar global funding markets, and severe price corrections of risky assets.

EMDEs have experienced unprecedented portfolio debt and equity outflows as a result of portfolio reallocations, and the risk of sudden stops is becoming real. Several EMDEs have intervened in foreign exchange markets and have established swap lines with other central banks. A broad-based decline in equity prices and increase in sovereign yields have been observed in EMDEs in all regions.

Macro-financial interlinkages and feedback loops

The simultaneous increase in risks in all risk categories also creates significant contagion risks, where adverse developments in on area of the economy can easily spread to other parts of an economy as well as to other economies. For example, a decrease in earnings prospects of highly indebted corporates could put stress on the banking sector which have limited buffers in some countries. Non-bank financial institutions such as insurance companies may also become more vulnerable and could contribute to capital market volatility. Banks' mortgage portfolios will be affected as housing demand shrinks along with delayed investments. Capital outflows at a time of increased risk aversion may trigger exchange rate depreciation and price volatility which could reveal weaknesses in corporate and bank balance sheets. The lack of a strong corporate insolvency framework may trigger value-destroying defaults across supply chains when corporates and SMEs fail. The lack of solid bank resolution and crisis management frameworks could amplify feedback loops particularly if the ability of the sovereign to support the financial system has become compromised.

Some countries will be impacted by the precipitous drop in remittances inflows since they constitute a primary source of foreign exchange to bolster reserves as well an important source of income for households and the local economy.

The tight interlinkages between sovereigns, banks, and the corporate sector may give rise to contagion and spillovers. For example, many countries face both elevated government and private debt and rising contingent liabilities. Further, in the last decade, the median EMDE banking system has seen its total exposures to government and non-financial public entities more than double. As a result, the sovereign-bank nexus has tightened and is prevalent in many countries.

With increased vulnerabilities at the country level and high contagion risks across countries, the world will also be for some time at an elevated risk of waves of crises, where economic instability in one country can easily spread to other countries, especially through capital and financial markets. The financial sector is affected by the COVID-19 shock through various channels, particularly in EMDEs where the sector is weaker compared to advanced economies. The duration of the shock is key, but highly uncertain at the current juncture -- prolonged conditions of financial stress will have significant spillovers to the real economy through:

1. **Market risk.** Sharp adjustments in investor sentiment and the economic outlook affect riskier assets first, particularly in EMDEs. Compounded by heightened uncertainty, this may result in a persistent surge in risk premia and international and domestic funding costs for sovereigns, firms, and banks. More broadly, financial markets in EMDEs are shallower and less liquid. As such, adverse global financial conditions may affect currencies, sovereign bond yields, and equities markets – this will also have repercussions on non-bank financial institutions and asset managers. These fragilities may be amplified when COVID-19-induced fiscal pressures give rise to concerns about sovereign debt sustainability exactly at the time when sovereigns may need to tap markets. In the extreme, this may result in market dislocations and a “sudden stop” which puts acute pressure on countries and firms with sizeable refinancing needs, particularly when these are denominated in foreign currency. Further, disorderly markets will give rise to fire-sales and trigger adverse feedback loops.
2. **Liquidity risk.** Market volatility has spurred demand for liquidity. Moreover, cash flow disruptions of affected firms, and shifts in demand for cash by the public could tighten funding and liquidity conditions for banks and, subsequently, lending to the private sector. Further, market participants may refrain from lending to each other and cause dislocations in, for example, the interbank market. Ensuring the smooth functioning of critical financial infrastructures such as payment systems is essential. In the extreme, runs on banks and open-ended funds may occur, particularly if policy makers fail to maintain public trust. This could be more challenging for countries with weaker financial institutions, financial market infrastructures, and crisis management frameworks.
3. **Credit risk.** Dimmed economic prospects will adversely impact non-performing loans and constrain banks to lend and support real activity. Credit risks are compounded when cash-constrained firms – SMEs in particular which rely more on bank funding-- and households fail to secure bridge financing to cover for an immediate loss of income, delays in receivables, etc. In the extreme, this may lead to a credit crunch which adversely interacts with the economy.
4. **Operational risk.** The restricted ability of staff of critical financial institutions, market infrastructures, and third-party service providers as well as regulatory agencies to travel and otherwise carry out their duties may pose additional risks. In the extreme, critical market functions may be disrupted, trigger contagion, and tighten financial conditions.
5. **Risk to earnings and resilience.** The aforementioned risks will weaken earnings and profitability in the financial sector, particularly if stressed conditions are persistent. The first stage impact is through lower bank loan growth, reduced fee income, and, in a second stage, weaker asset quality. Some banks may also experience mark-to-market losses due to sharp declines in financial markets. Central bank policy easing to support the economy may compress margins and reduce

profitability. In the extreme, this may lead to the erosion of bank buffers and undermine their resilience and trigger a credit crunch.

Figure 16: Links between public, private, and bank balance sheets

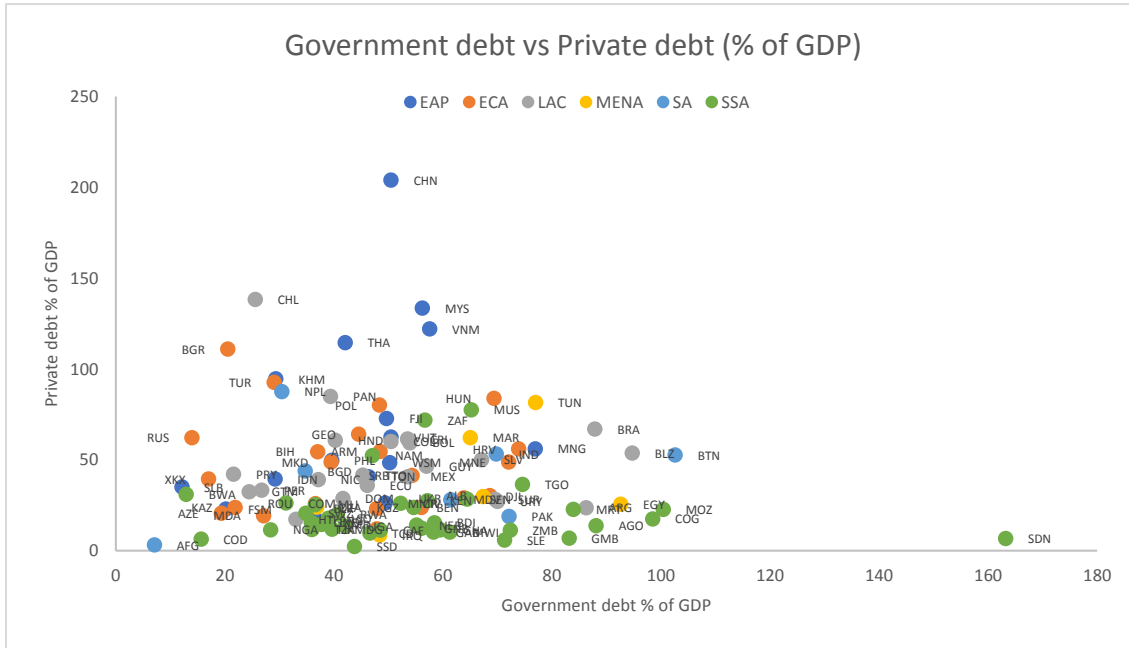
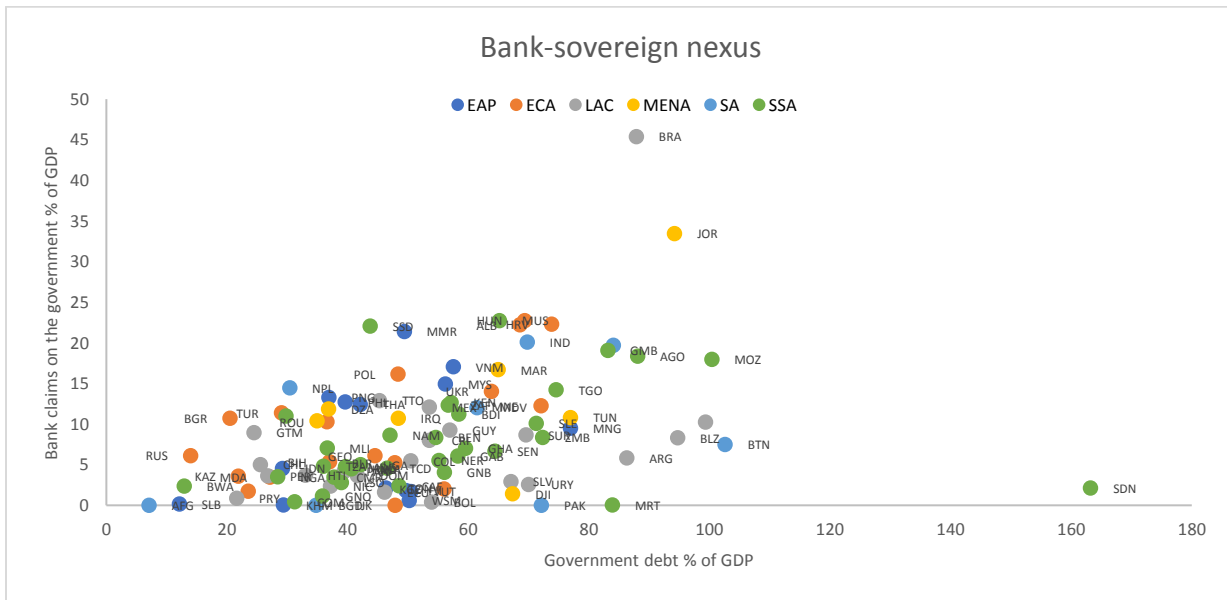


Figure 17: Bank-sovereign nexus



Source: World Bank; IMF; 4th EFI Macro Financial Review.

Policy implications

While the immediate focus of the response to the COVID-19 pandemic is to manage the health impacts and soften the economic impact on households, businesses, and financial institutions and markets, it is also important to look beyond the immediate impacts of the crisis with a view towards long-term fiscal sustainability and economic recovery. Given that the COVID-19 pandemic has triggered sharp drops in financial markets around the world and parallel developments in the oil markets, attention to these issues is even more important. In the following we discuss such broader elements which include preventing structural damages to the economy, ensuring long-term fiscal sustainability, and taking action to foster economic recovery and sustained economic growth. At the same time, the current crisis may also be a window of opportunity to embrace reforms that would not only support fiscal sustainability and economic recovery, but also accelerate the transition toward lower carbon emissions and enhanced resilience. We distinguish between short- and medium-term measures. Short term measures are considerations that should be taken into account in the design of the immediate crisis response with a view to containing the increase in macro-financial vulnerabilities. Medium term measures would be aimed at lowering macro-financial vulnerabilities once the immediate crisis has passed.

Short-term measures to stem the immediate impact

Prevent structural damage to the economy. Temporary measures to contain the COVID-19 pandemic are resulting in significantly reduced demand for many sectors and reduced demand for labor. If this results in significant business closures and unemployment, this may be difficult to reverse once the temporary impacts of the COVID-19 pandemic pass. Measures to prevent unemployment and business closures are thus high on the agenda of many countries. With regard to preventing lay-offs and unemployment this includes measures where government covers part of the salaries of temporarily underemployed workers and reduces or postpones social security payments. For businesses (particularly SMEs who rely more on banks) and vulnerable market segments (e.g. mortgages, agriculture) interventions include the establishment of liquidity and (partial) credit guarantee facilities to help overcome liquidity shortages and bolster financial institution balance sheets to support lending, sector-specific subsidies to offset significant losses of revenue, and, under extreme conditions, also government bailouts of businesses that are considered to be of systemic importance to the economy. However, these measures need to be carefully weighed against the longer-term implications for moral hazard and market discipline.³ Development banks can also be deployed to provide countercyclical lending to the real economy. Broader countercyclical measures to stimulate demand will also be of importance to accelerate economic recovery and ensure that impacts on households and businesses remain temporary.

Keep an eye on fiscal sustainability. Dealing with the health consequences of the pandemic and protecting people and businesses from existence threatening and potentially irreversible impacts clearly has to be the priority and will in many cases require temporary deviations from fiscal sustainability trajectories. For low income countries with limited fiscal space and limited access to borrowing, external support will need to play an important role in supporting essential health measures and protecting households and businesses. Nonetheless, cost, long-term fiscal implications, and reversibility of measures will need to be considered with a view towards ensuring long-term fiscal sustainability. In particular, some

³ During the global financial crisis, several countries bailed out their automotive and financial sectors to prevent long-term damages to their economies. The considerations for moral hazard and market discipline constituted a significant part of the post-crisis G20 global financial regulatory reform agenda (e.g., “ending too-big-to-fail”).

forms of support, such as tax deferrals, credits and guarantees rather than outright grants and subsidies may be attractive, as they hold the prospect of repayment once businesses and households recover. Contingent liabilities are also likely to rise significantly and need to be monitored and managed carefully.

Support payments, remittances, social transfers, and digital financial services. To ensure households and SMEs can receive government cash transfers (G2P), maintain access to remittances flows, and can make and accept payments, policy frameworks require expedited adaption (e.g., simplified Customer Due Diligence (CDD) and remote Know Your Customer (eKYC) rules. Moreover, policy makers should support the shift to digital payments and their acceptance, particularly by essential entities (e.g. hospitals), also to mitigate COVID-19 spread.

Maintain financial stability. In the immediate term, countries need to maintain financial sector resilience and support the flow of credit to the real economy by judiciously providing targeted liquidity support to ailing, but otherwise solvent banks and non-bank financial institutions. This would also help reduce the bank-sovereign nexus and reduce investor concerns, particularly when fiscal measures are taken simultaneously. Authorities should encourage financial institutions from utilizing the inherent flexibility in the existing macro(prudential) framework (e.g., loosening capital and liquidity buffers). At the same time policy makers should refrain from relaxing minimum standards and other forms of regulatory forbearance that can give rise to moral hazard, lower transparency, and poorer underwriting standards. In particular, it is critical that forbearance and other emergency measures are designed so as not to jeopardize future financial stability for banks and non-banks, including insurers and pension funds. Non-bank financial institutions have become important suppliers of credit to the real economy in some countries. As such policy makers should ensure access to liquidity and protect their assets (e.g. prudent standards for pension fund early redemption schemes).

Strengthen solvency frameworks. Rapid actions regarding solvency frameworks are necessary to prevent a surge in insolvency filings, value-destroying liquidations, and asset fire-sales (e.g., out-of-court conciliatory measures, legal frameworks for corporate and consumer debt restructuring). This also helps preserve employment and also reduce pressures on bank balance sheets which impair their functioning and stability.

Preserve the functioning of core financial markets. In the immediate term, policy makers need to strengthen capacity to deploy effective tools and instruments to conduct open market and liability management operations to ensure adequate funding and a minimal level of functioning in the primary and secondary government bond markets as well as money markets.

Medium-term measures after the immediate impacts have passed

Transition from expansionary fiscal and monetary policies to fiscal consolidation. The economic response to the COVID-19 pandemic involves unprecedented fiscal and monetary measures to limit adverse and irreversible impacts on households and businesses. As the COVID-19 pandemic is moving most countries and the global economy into a deep recession, expansionary fiscal and monetary policies will also have to play an important role in supporting countries economic recovery. A particular challenge for many countries will be to find the right transition path from expansionary policies to fiscal and monetary consolidation. While a transition that takes place too early or too quickly risks stalling the recovery, delayed or incomplete consolidation can lead to increased risk of an economic crisis and undermine business confidence. Oil exporting countries face particular challenges. Not only will they have

to deal with the aftermath of the COVID-19 pandemic, but the oil shock will in many cases require adjustment to their lower permanent revenue.

As there is now in most countries a strong consensus on the need to take extraordinary measures to fight the pandemic and its economic fallout, fiscal consolidation will raise many questions as to how to distribute the burden of fiscal consolidation, as for example through the progressivity of tax measures.

The COVID-19 crisis is likely going to accelerate the relative importance of effectively taxing e-commerce and the digital economy more generally. In many economies, the digital economy is a significant and rapidly growing source of tax revenues. Social distancing is accelerating the growth of digital delivery models, including online sale of goods and trade in services such as education and banking as traditional delivery models are under pressure. This step up in market share is likely to carry over in the post-COVID-19 world. The international consensus on how to capture revenue from indirect taxes allocates taxing rights to the jurisdiction where the final consumption occurs. But many developing economies have not yet put adequate policies and administrative structures in place to impose VAT on the direct supply to consumers of services and intangibles by foreign suppliers. Implementing rules to tax the sector is hence one potential avenue to protect government revenues and should also contribute to a level playing field for less non-digital providers.

Deal with high debt levels. Already prior to the COVID-19 pandemic, many EMDEs had reached unsustainable debt levels which put emphasis on measures to reduce debt vulnerabilities, including through increased debt transparency and debt management, but also through debt restructuring and debt relief.

- *Sovereign level.* The G20 have put in place a moratorium on debt service payments for low income countries which provides temporary liquidity for eligible IDA countries. While fiscal consolidation and growth recovery will be central elements of achieving debt sustainability, there may be cases where additional measures may be needed. The ongoing discussion in the European Union on some sharing of the burden through Euro or Corona bonds is an example of such measures.
- *Business and household level.* The active use of macroprudential policy is important to rein in excessive borrowing. Policies such as debt-to-income (DTI) ratio or loan-to-value (LTV) ratio have become part of the standard macroeconomic policy toolkit since the global financial crisis and should continue to be pursued to ensure the soundness of business and household balance sheets. Macroprudential policies aimed at tilting business and household borrowings toward longer-maturity and less FX-exposures could also play an important role. Managing the volume and composition of business and household debt is crucial to crisis-preparedness in the medium to longer term.

Formulate structural reform for resumption of sustained economic growth. Fiscal sustainability will also depend on the trajectory of the recovery and economic growth beyond the crisis period. Policy reforms that enhance countries' international competitiveness should thus be an integral part of efforts to stem the crisis impacts. Reforms will need to be country specific, but "stroke of the pen reforms" that can be implemented quickly may be of particular importance, especially in the areas of streamlining regulation to reduce the burden on businesses, strengthening the regime for resolving insolvency, facilitating employment and access to credit.

Create pathways to tilting the economic recovery green. As policymakers design and implement large stimulus packages and policy measures aimed at economic stabilization and recovery, pathways to green and lower carbon economic growth need to be considered. In a context of limited fiscal space in many countries, key policy measures can be supported by environmental tax reforms. Especially if oil prices remain at a low level, such carbon pricing may both support fiscal consolidation and a shift towards a less carbon intensive economy. To the extent that governments are able to employ countercyclical investment policy, considering green investments will also be important. Avoiding lock-in to higher carbon needs is particularly important, when considering counter-cyclical investments. Green investments provide a durable expansion of output potential whereas brown investment will temporarily expand output, which in a future carbon constrained world may become stranded assets, leading to significant adjustment costs when high-carbon assets need to be retired before their physical wear-out, cutting short their operational lifetimes.

Strengthen financial resilience of institutions and markets. Every economic crisis also highlights the importance of enhancing economic resilience through adequate fiscal buffers and public expenditure, revenue, and investment systems that have the capacity to perform well and support the implementation of fiscal measures to address the next economic crisis. In the medium term, policy makers should aim to normalize the government and state-owned enterprise debt markets including through re-designing the issuance plan strategy, debt reprofiling and restructuring, and conducting liability management operations. Some countries may need guarantees and liquidity support to regain access to markets or lower their borrowing costs. Policy makers should judiciously roll back extraordinary and temporary prudential measures while closely monitoring the stability of the financial sector. Further, to bolster resilience against medium-term shocks, policy makers should continue to strengthen bank resolution, safety nets, and crisis management frameworks. Countries should also further enhance financial preparedness for future crises and disasters.