CHAPTER 1

GLOBAL FINANCIAL STABILITY OVERVIEW

MARKETS IN THE TIME OF COVID-19

Chapter 1 at a Glance

- Global financial conditions have tightened abruptly with the onset of the COVID-19 pandemic.
- Risk asset prices have dropped sharply as investors have rushed for safety and liquidity.
- Emerging and frontier markets have experienced a record portfolio flow reversal.
- A further tightening of financial conditions may expose financial vulnerabilities:
  - Asset managers may become distressed sellers, exacerbating asset price declines.
  - Leveraged firms may lose market access and defaults may spike.
- Banks' resilience may be tested as economic and financial market stress rise.
- Strong policy response and international cooperation are needed to tackle these challenges.

The COVID-19 Pandemic Triggered a Sharp Market Correction

The coronavirus (COVID-19) pandemic is a historic challenge. The necessary measures imposed by country authorities to slow the spread of the virus and to bolster the capacity of health systems have led to a sudden stop in economic activity and a sharp deterioration of the economic outlook. Global growth is now expected to decline by 3 percent in 2020, which is worse than during the global financial crisis (see the April 2020 *World Economic Outlook* [WEO]). The timing and the shape of future recovery remain highly uncertain.

Early in the year, financial markets were buoyed by a widespread sense of optimism on the back of supportive monetary policies, reduced trade tensions, and tentative signs of stabilization in the global economy. However, as COVID-19 spread globally, the prices of risk assets and commodities started to fall at unprecedented speed while the prices of safe-haven assets, such as gold and US Treasuries, gained as investors reassessed the economic impact of COVID-19 and rushed for safety and liquidity (Figure 1.1, panel 1). Equity markets experienced the fastest drop in history with the S&P 500 falling 20 percent from its peak in just 16 trading sessions. The asset price declines reached about half the magnitude seen in 2008–09 at the worst point of the sell-off, and implied volatility spiked across asset classes, in some cases to levels last seen during the global financial crisis (Figure 1.1, panels 1 and 2). However, markets pared back some of the losses more recently as decisive policy actions to contain the fallout from the pandemic managed to stabilize investor sentiment.

In early March, the failure of the OPEC+ countries to reach an agreement on output cuts to maintain stable oil prices in the face of weakening global demand added fuel to the fire. While spot prices fell the most, the entire oil futures curve shifted down, suggesting that investors expect oil prices to remain low for a long time (Figure 1.1, panel 3). Although the sell-off was broad-based, sectors most exposed to the impact of the virus containment measures—such as airlines, transportation, hotels, and restaurants—or to the energy market came under severe pressure (see Figure 1.1, panel 1).

The volatile market conditions throughout February and March sparked a flight to safety and liquidity among investors. Government bond yields in Germany and the United States fell sharply, on net, reflecting both declines in term premiums and a lower expected path of monetary policy (Figure 1.2, panel 1). The

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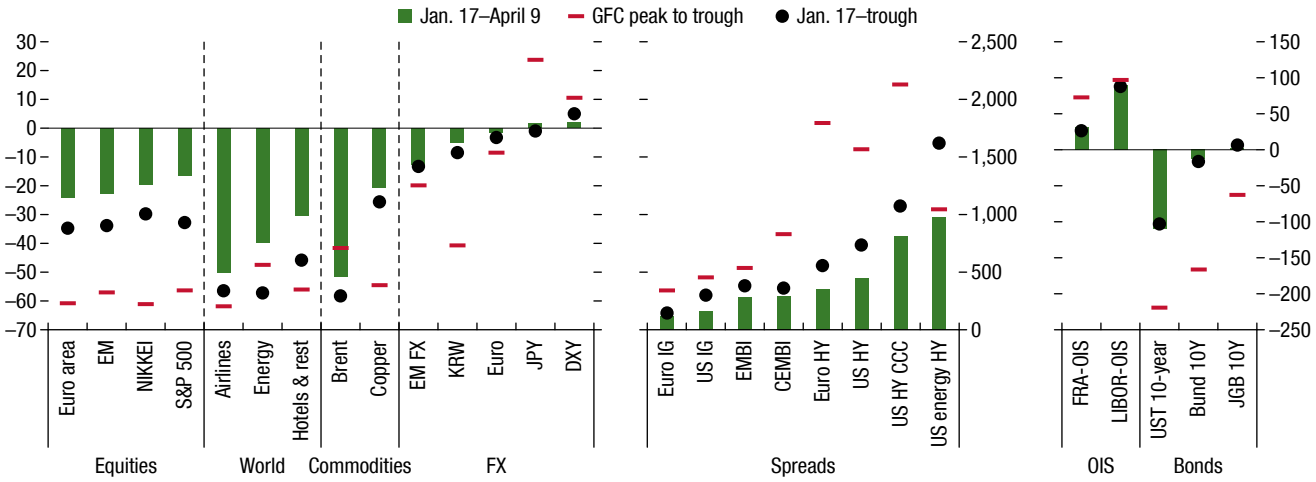
Figure 1.1. Financial Market Developments: Adding Oil to the Fire

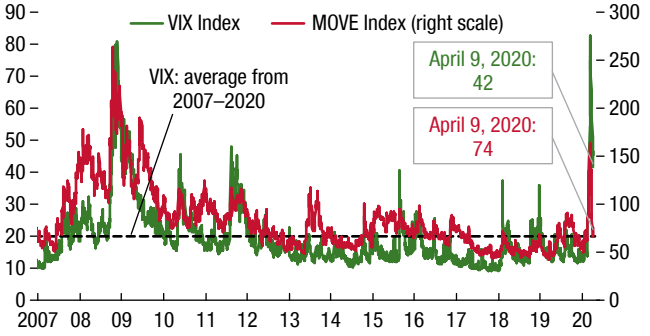
Investors fled risk assets for safe-haven assets, with some risk asset prices falling by more than 25 percent.

1. Asset Market Performance (as of April 9, 2020)
(Percent; basis points; basis points)



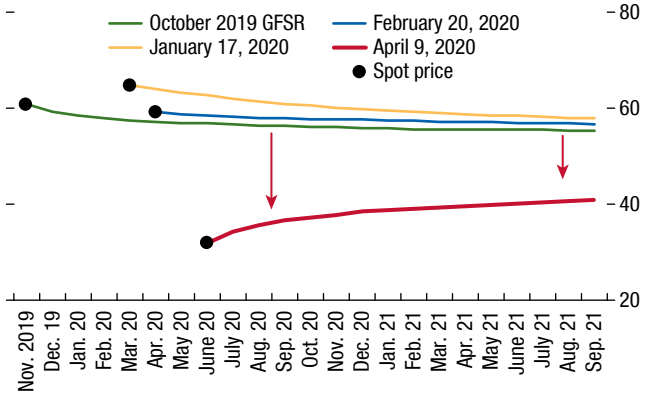
Market volatility spiked as COVID-19 spread globally.

2. Volatility Indexes
(Level in percentage points)



Oil prices collapsed as the OPEC+ deal fell apart on March 6.

3. Oil Spot and Futures Prices
(US dollars)



Sources: Bloomberg Finance L.P.; and IMF staff calculations.
Note: MOVE = Merrill Option Volatility Estimate; VIX = Chicago Board Options Exchange Volatility Index; CEMBI = corporate emerging markets bond index; DXY = dollar index; EM = emerging markets; EMBI = emerging markets bond index; FRA = forward rate agreement; FX = foreign exchange; GFC = global financial crises; HY = high yield; IG = investment grade; JGB = Japanese government bond; JPY = Japanese yen; USD = US dollar; KRW = Korean won; LIBOR = London interbank offered rate; OIS = overnight indexed swap; UST = US Treasury; Y = year.

market-implied probability of inflation falling below 1 percent in any single year over the next five years spiked in Europe and in the United States on concerns about the economic impact of COVID-19 and the fall in oil prices (see Figure 1.2, panel 2).

As central banks responded with decisive monetary policy easing, policy rates in several advanced economies came down close to zero (Figure 1.2, panel 3), and government bond yields are now expected to stay low for even longer. The stock of government bonds with yields of less than 1 percent (shown in light and dark blue in Figure 1.2, panel 4) doubled from about 40 percent of bonds outstanding at the end of 2019 to about 80 percent in March.

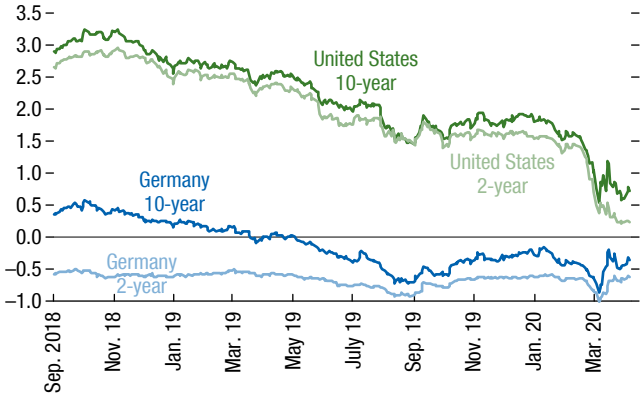
Stress in Credit Markets Was Amplified by Borrowers' Leverage and the Oil Price Collapse

Conditions in the *corporate credit markets* have deteriorated sharply since late February on the back of rising credit and liquidity risks. *Investment grade bond* spreads widened (Figure 1.3, panel 1), as investors started to

Figure 1.2. Advanced Economy Government Bond Markets: Lower for Even Longer

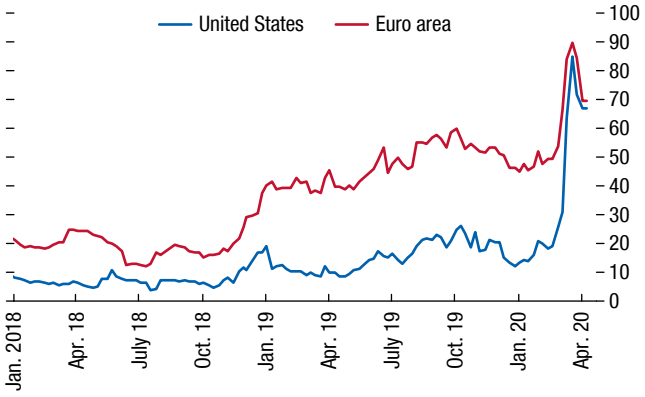
Yields collapsed initially on the back of lower-term premiums and expectations of central bank response ...

1. Advanced Economy Government Bond Yields (Percent)



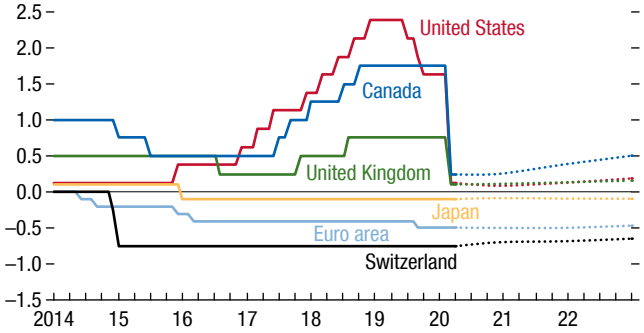
... as the inflation outlook deteriorated on expectations of sustained economic weakness.

2. Probability of Inflation Below 1 Percent over Five-Year Period (Percent)



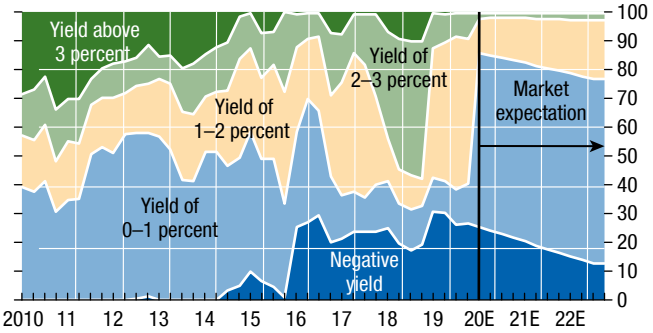
Central banks have cut policy rates aggressively ...

3. Actual and Expected Policy Rates (Percent)



... pushing down yields on government bonds even lower.

4. Advanced Economy Government Bonds (Percent of bonds outstanding, by yield)



Sources: Bloomberg Finance L.P.; and IMF staff calculations.

focus on a large share of BBB credits that are at risk of downgrades and elevated leverage in this market segment (see the April 2019 *Global Financial Stability Report* [GFSR]). In the primary market, European issuance declined, while US issuance surged, reflecting precautionary demand for cash (only partly met by bank credit lines) and strains in the commercial paper market (Figure 1.3, panel 2).

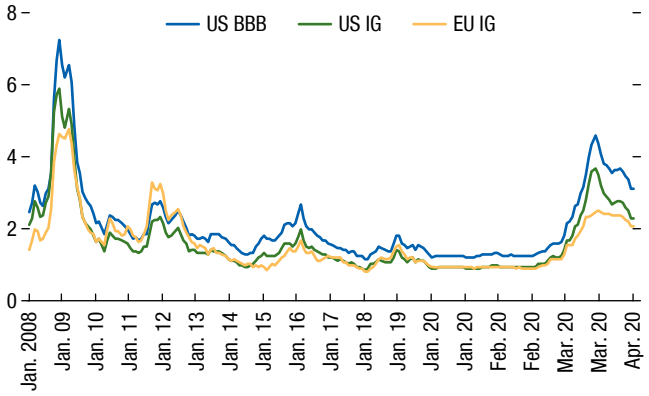
In response to pressures in the corporate bond markets, several central banks, including the US Federal Reserve, the European Central Bank, and the Bank of Japan, rolled out new facilities and expanded existing programs to support issuance and liquidity in corporate debt and commercial paper markets (see "Policy Priorities" section). These actions helped to reverse some of the initial widening of investment-grade bond spreads.

Strains in the *risky credit market segments*—high-yield bonds, leveraged loans, and private debt—continued to be evident through early April. These markets expanded rapidly after the global financial crisis, reaching $9 trillion globally, while borrowers' credit quality, underwriting standards, and investor protections weakened (see Chapter 2 of this report). Since late February, *high-yield bond* spreads have widened dramatically, particularly for energy firms and in sectors most affected by the pandemic, such as transportation (Figure 1.3, panel 3). *Leveraged loan prices* have experienced sharp declines, about half the drop seen during the global financial crisis at the worst point of the March sell-off (Figure 1.3, panel 4). Against a backdrop of already elevated leverage and expected declines in earnings, rating agencies revised up their speculative-grade default forecasts from

Figure 1.3. Corporate Credit Markets: Pricing Higher Default Risk

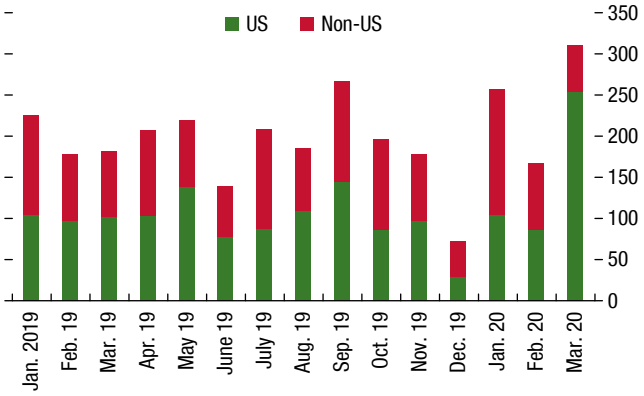
Global investment grade corporate spreads sharply widened.

1. Global Investment Grade (IG) Corporate Spreads (Percent)



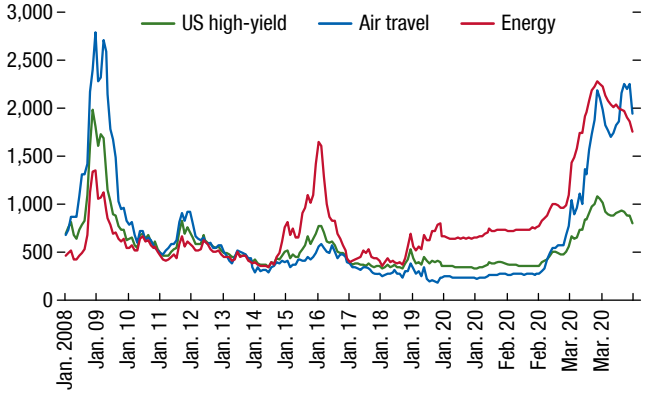
US investment grade firms continued to issue in March—in contrast to European firms—because of increased need for cash and strains in the commercial paper market.

2. Global Investment Grade Bond Issuance (Billions of US dollars)



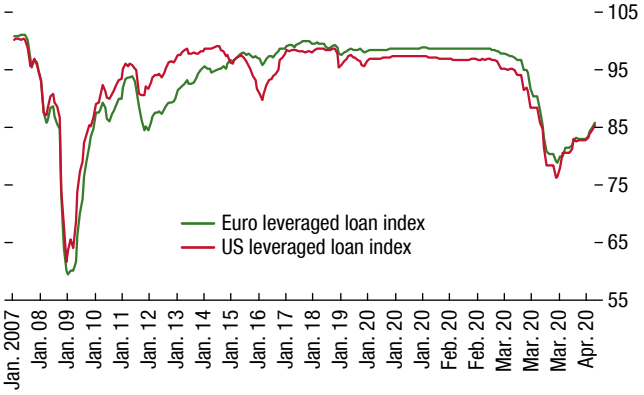
High-yield spreads rose to post-GFC highs, driven by energy and transportation sectors.

3. US High-Yield Corporate Spreads (Basis points)



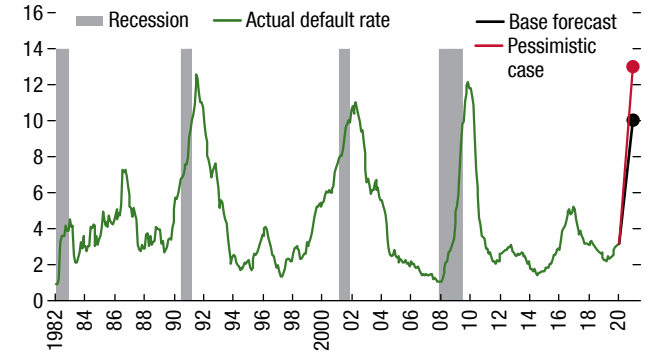
Leveraged loan prices experienced a decline of about half the drop seen during the global financial crisis.

4. Global Leveraged Loan Market Prices (Indices)



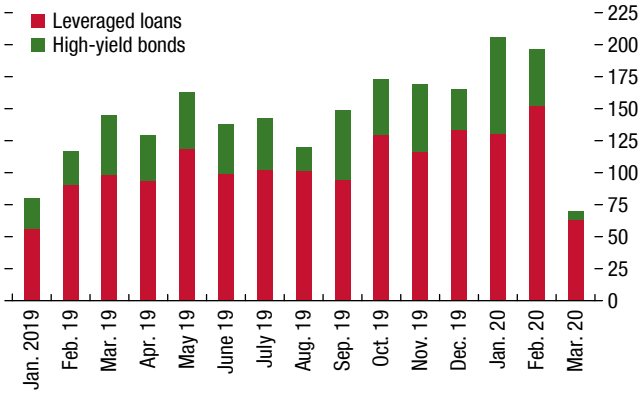
With credit risk rising, rating agencies revised up default forecasts to recessionary levels.

5. S&P US Speculative-Grade Default Rate (Percent of issuers)



The primary market for high-yield bonds and leveraged loans dried up in March.

6. Global High-Yield Bond and Leveraged Loan New Issuance (Billions of US dollars)

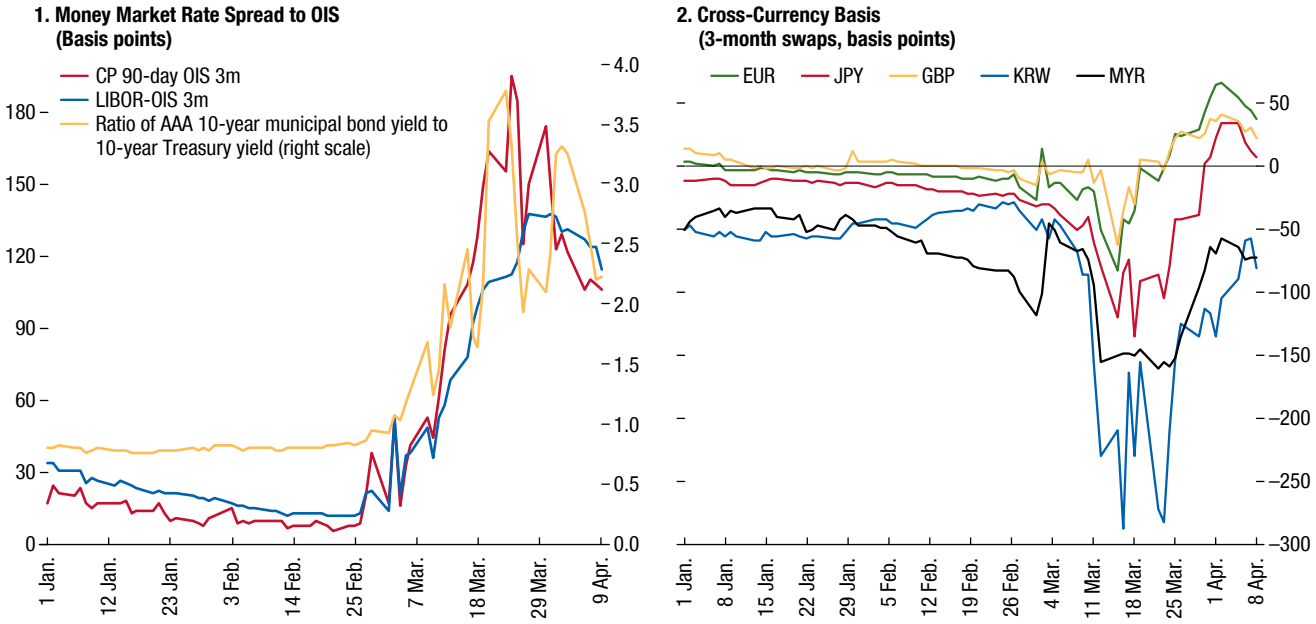


Sources: Bloomberg Finance L.P.; S&P Global Ratings; S&P Leveraged Commentary Data; and IMF staff calculations.
Note: GFC = global financial crises.

Figure 1.4. Short-Term Funding Markets: Under Stress

Commercial paper markets froze as dealers were unable to intermediate ...

... with the strains spilling over to the foreign exchange funding market.



Sources: Bloomberg Finance L.P.; J.P. Morgan & Chase Co.; and IMF staff calculations.
Note: In panel 1, CP 90-day yield is a composite of offered levels for A1/P1/F1 rated US commercial paper programs. 3m = 3 month; CP = commercial paper; EUR = Euro; GBP = British pound; JPY = Japanese yen; KRW = Korean won; LIBOR = London interbank offered rate; MYR = Malaysian ringgit; OIS = overnight index swap.

benign to recessionary levels (Figure 1.3, panel 5). Market-implied US high-yield defaults also rose to 8–10 percent. Global issuance of high-yield bonds came to a halt and issuance of leveraged loans fell considerably (Figure 1.3, panel 6).

However, spreads started to narrow even in these risky credit market segments following the US Federal Reserve decision to extend its emergency facilities to corporate debt, including in early April collateralized loan obligation vehicles, which are one of the largest buyers of leveraged loans (see Chapter 2).

Pressures in Short-Term Funding Markets Were Exacerbated by Dealers' Clogged Balance Sheets

The *US commercial paper market*, which is typically tapped by firms to meet their working capital needs, froze. Two factors contributed to this development. First, prime money market funds sought to reduce their commercial paper holdings to raise cash and build liquidity buffers in response to actual and expected investor outflows. And second, dealer banks were reportedly less able or willing to intermediate these flows as they faced balance sheet constraints and risk limits. As a result, commercial paper spreads widened dramatically (Figure 1.4, panel 1). A similar dynamic occurred in the US municipal bond market, as dealers could not warehouse the surge in supply resulting from outflows from municipal bond funds. Short-term funding markets in Australia, Canada, and the United Kingdom experienced similar pressures. In response, central banks launched several emergency facilities (see "Policy Priorities" section) that have provided some relief to short-term funding markets.

Conditions in global *US dollar funding markets* tightened as well. The spread between LIBOR—the floating rate at which banks lend to each other—and a risk-free rate widened sharply (Figure 1.4, panel 1). The cross-currency basis—a premium paid on the US dollar funding in exchange for local currency—widened for most currencies (Figure 1.4, panel 2). The extent of initial tightening in funding conditions was more severe in economies with large dollar funding

demand but with no swap lines with the US Federal Reserve. In response to these pressures, several central banks agreed to augment the provision of US dollar liquidity through an enhancement to existing swap lines or through new temporary swap lines, including with several emerging market economies (see "Policy Priorities" section for details). Since the end of March, pressures in global US dollar funding markets appeared to have abated somewhat.

Financial Deleveraging and Strained Market Liquidity Aggravated Selling Pressures

The sharp tightening in financial conditions put pressure on *leveraged investors* in March, forcing them to close out some of their positions in order to meet margin calls or to rebalance their portfolios—a dynamic that likely amplified asset price declines. For example, as volatility and correlations across asset classes shot up, *volatility-targeting investors* were apparently forced to liquidate some of their asset holdings, contributing to the sell-off.[1] The two-fold increase in the balances of *central counterparty clearing houses* with the US Federal Reserve in only two weeks is further evidence that leveraged investors faced significant margin calls.

As Treasury yields fell sharply and intraday volatility increased, leveraged investors who had engaged in the so-called *basis trades* in the US Treasury market were forced to unwind their positions.[2] This led to a substantial increase in dealers' holdings of Treasury bonds. With volatility surging, dealers' risk management practices and limits likely constrained their ability to intermediate markets, adding to stress (see Online Annex 1.1[3] for a discussion of dealers' balance sheet constraints and other market fragilities). As a result, liquidity conditions in the US Treasury market deteriorated sharply (Figure 1.5, panel 1).

In response to these developments, the US Federal Reserve took a number of steps aimed at preventing market disruptions, improving liquidity, and mitigating upward pressure on Treasury yields. These included increasing the scale of asset purchases, introducing additional large open-market operations to inject liquidity, allowing foreign central banks to repo their Treasury holdings in exchange for dollars, and temporarily excluding US Treasury securities and reserves from the calculation of the supplementary leverage ratio for bank holding companies (see "Policy Priorities" section for details).

With markets moving deeper into correction territory, *market liquidity* continued to deteriorate across a broad range of markets. According to the IMF staff's high-frequency jump analysis, liquidity conditions have worsened meaningfully since end-February (Figure 1.5, panel 2).[4] In recent weeks, however, liquidity has reportedly improved somewhat along with the market sentiment.

Stretched Asset Valuations Magnified the Speed of Asset Price Declines

In addition to the financial fragilities and amplifiers discussed above, the unwinding of stretched asset valuations (highlighted in previous GFSRs) likely exacerbated the sell-off. Deviations from fair value had reached extreme levels across multiple countries and sectors, before adjusting sharply in late February and March.

In *equity markets*, price-earnings ratios had reached the highest levels since the global financial crisis prior to the COVID-19–induced sell-off (as indicated by the percentiles in Figure 1.6, panel 1). The IMF staff's fundamentals-based assessment of equity price misalignments suggests that equity valuations had become increasingly stretched since the October 2019 GFSR, with the extent of overvaluation approaching

[1]Volatility-targeting investors—such as variable annuities, commodity trading advisors, and risk parity funds—seek to keep expected portfolio volatility at a specific target level. When market volatility is low, greater financial leverage is typically employed to meet volatility targets. However, as volatility and correlations spike, strategies that have less flexibility to deviate from targets (such as variable annuities) may be more likely to shed assets to ensure that they maintain their target volatility.

[2]Before the COVID-19–induced sell-off, some leveraged investors had built up sizable short positions in Treasury futures and long positions in off-the-run cash Treasuries in order to profit from the implied yield differential. Following decisive central bank easing, Treasury yields collapsed to a record low level, but less than the Treasury futures-implied yield. This price action forced many of these leveraged investors to unwind their basis trade positions to stop losses, to meet margin calls, or to keep their risk exposures below targets.

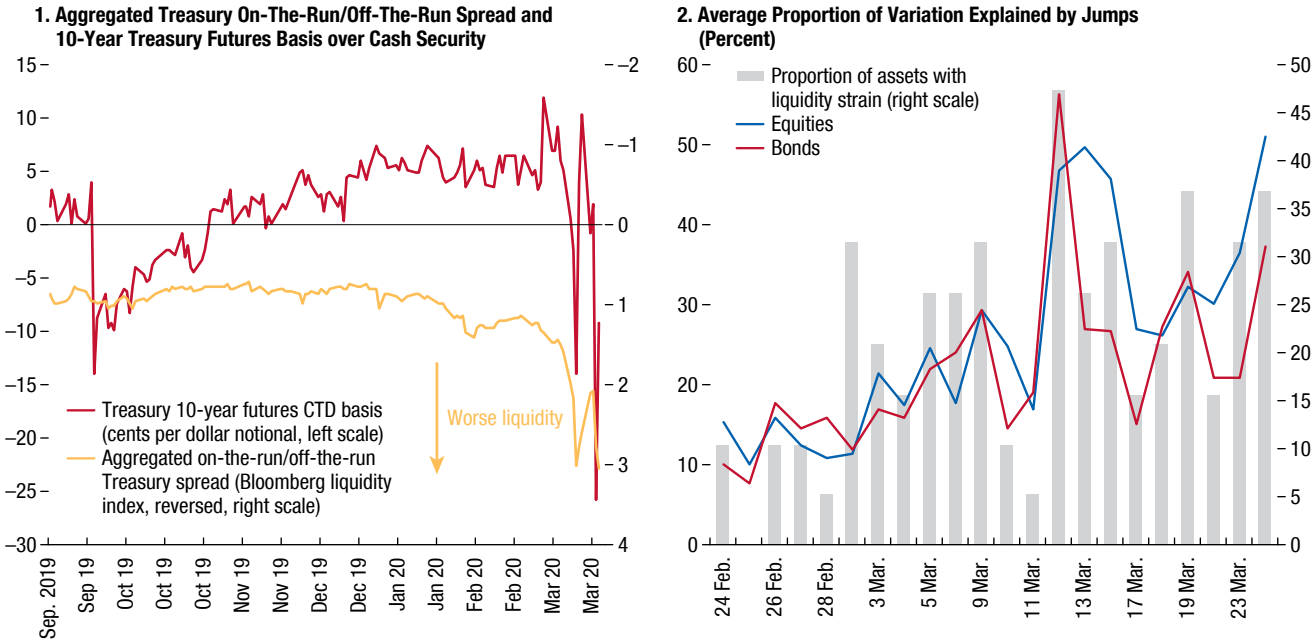
[3]See Online Annex 1.1 at www.imf.org/en/Publications/GFSR.

[4]The analytical framework employed here to detect liquidity stress—introduced in the October 2018 *Global Financial Stability Report* (GFSR) (Box 1.4 and Online Annex 1.1)—relies on examining jumps (or discontinuities) in intraday price evolution. Price jumps can be categorized into two types: "large" (finite activity) jumps that are linked to significant news events or episodic series of "small" (infinite activity) jumps. Since the virus outbreak, an increasingly larger proportion of price variation in global equity and sovereign bond markets has been attributable to discontinuities, or jumps, which are indicative of liquidity stress. See also the April 2019 GFSR ("Special Feature: Liquidity Risks in Capital Markets").

Figure 1.5. Market Liquidity Conditions: Under Strain

Treasury market liquidity has been impaired, partly due to constrained dealer balance sheets.

Liquidity conditions have deteriorated across a broad range of markets.



Sources: Bloomberg Finance L.P.; J.P. Morgan & Chase Co.; and IMF staff calculations.
Note: In panel 1, the Bloomberg liquidity index levels are measured by the root mean squared error between bonds' market yields and theoretical yields based on cubic and exponential spline methodologies. The index can be deemed as a proxy for aggregate on- and off-the-run spreads. In panel 2, the analysis includes equity markets in Brazil, China, euro area, India, Korea, Mexico, Spain, United Kingdom, and United States, and Treasury markets in Brazil, France, Germany, India, Italy, Mexico, Portugal, Spain, United Kingdom, and United States. CTD = cheapest to deliver: economically least valuable cash Treasury security, which a seller of futures contract can deliver to a buyer at settlement.

historically high levels in several countries in the last quarter of 2019 (Figure 1.6, panel 3).

However, after the COVID-19 outbreak, equity prices fell sharply through mid-March, wiping out a significant portion of overvaluation in many markets and sectors. One notable exception is the US equity market, where the decline in prices in March has been outpaced by a sharp deterioration in the fundamentals-based value, leading to an increase in the extent of positive misalignment. The largest contributor to the reduction in the fundamentals-based value has been the dispersion in earnings forecasts, which has spiked to historically high levels (about two times the level seen in the global financial crisis), reflecting both increased economic uncertainty and lags in earnings revisions.[5] Downward revisions in earnings-per-share (EPS) growth forecasts have been material in many markets (Figure 1.6, panel 2), but, as of early April, likely do not fully reflect the extent of expected deterioration of corporate earnings outlook.[6]

In *credit markets*, corporate spreads had continued to tighten between the October 2019 GFSR and early 2020. In fact, the extent of spread misalignment—the difference between market- and fundamentals-based spreads—had increased in the United States and in the euro area, and remained high in the emerging markets high-yield segment in the last quarter of 2019 (Figure 1.6, panel 4), with spreads tightening well below the levels justified by fundamentals (as shown by percentiles at the lowest end of the ranges). After the COVID-19 outbreak, most spreads have widened dramatically, wiping out prior overvaluations.

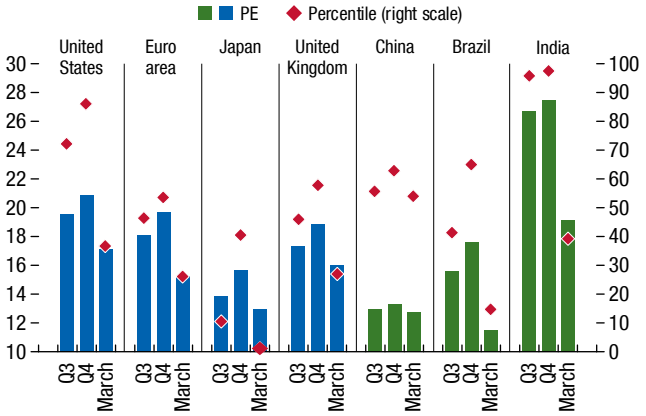
[5]Earnings revisions traditionally lag but such factors have played a particularly important role during this episode given the unprecedented pace of market price declines. Once earnings forecasts have been fully revised, the dispersion in earnings forecasts may decline, likely lessening the extent of overvaluation everything else equal.

[6]For example, estimates of S&P 500 EPS growth in 2020 by analysts at major investment banks range from −8 percent to −33 percent.

Figure 1.6. Asset Valuations: Wild Swings

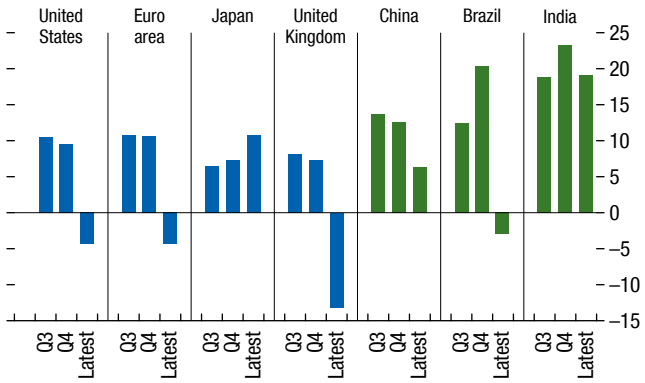
Global equity valuations adjusted as share prices collapsed ...

1. Equity Markets: Price-to-Earnings Ratios
(Percent, quarterly averages, left scale; percentiles based on 2010–2020 period, right scale)



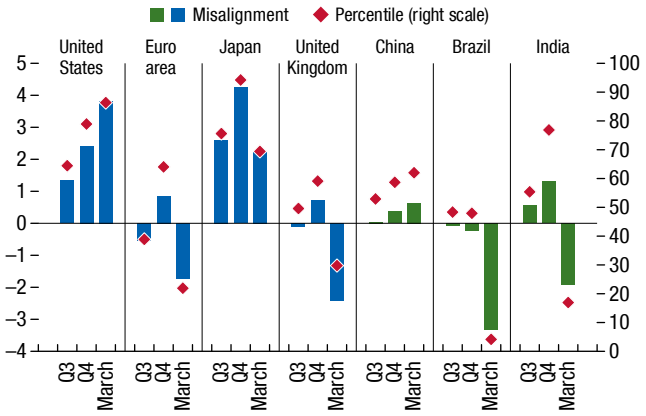
... and earnings growth prospects were downgraded.

2. 2020 Earnings per Share Growth Forecast
(Percent; Latest: April 2)



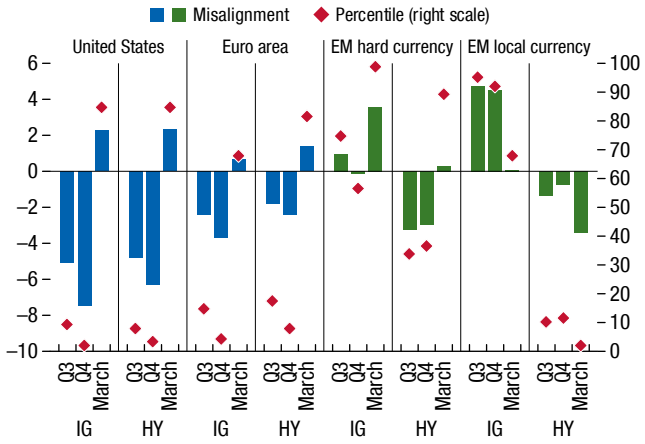
The declines in equity prices wiped out overvaluations in many equity markets ...

3. Equity Markets Misalignments
(Deviation from fair value per unit of risk, quarterly averages, left scale; percentiles based on 1995–2020 period, right scale)



... and most bond markets.

4. Bond Spread Misalignments
(Deviation from fair value per unit of risk, quarterly averages, left scale; percentiles based on 1995–2020 period, right scale)



Sources: Bloomberg Finance L.P.; Thomson Reuters Datastream; and IMF staff calculations.
Note: In panels 1–4, blue bars correspond to advanced economies, and green bars correspond to emerging market economies. In panel 3, misalignment is the difference between market and model-based values scaled by the standard deviation of monthly returns. Positive values indicate overvaluation. Intuitively, this measure indicates how many standard deviations of monthly returns (or "units of risk") it would take to get back to fair value. In panel 4, misalignment is the difference between market spread and model-based spread scaled by the standard deviation of monthly spread changes. Negative values indicate overvaluation. Intuitively, this measure indicates how many standard deviations of monthly spread changes (or "units of risk") it would take to get back to fair value. EM = emerging markets; HY = high yield; IG = investment grade; PE = price-earnings ratio.

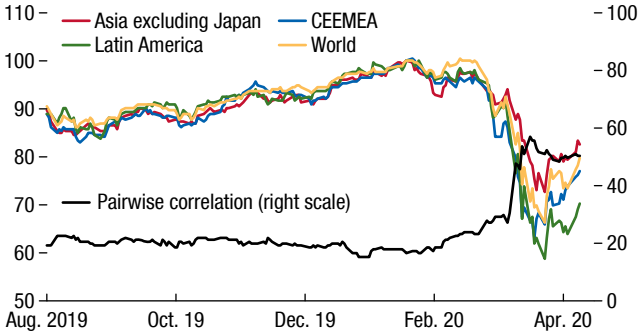
Emerging and Frontier Markets Are Facing the Perfect Storm

An unprecedented combination of external shocks (COVID-19 pandemic, oil price decline, increased global risk aversion, and a prospect of global recession) led to a broad-based *sell-off in emerging and frontier markets*. Emerging market equity prices have fallen by about 20 percent, on net, since mid-January despite the most recent rebound (Figure 1.7, panel 1). Currencies of commodity-producing economies (such as Brazil, Colombia, Mexico, Russia, and South Africa) tumbled by more than 20 percent against the US dollar in the first quarter of 2020 (Figure 1.7, panel 2). Currencies of other

Figure 1.7. Emerging Equity and Bond Markets: Facing the Perfect Storm

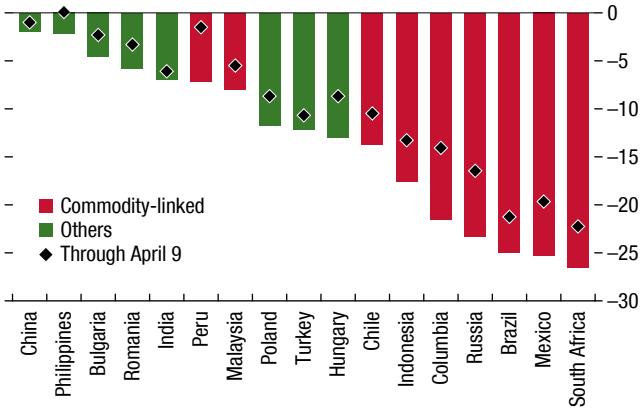
Equity markets sold off in anticipation of a sizable growth contraction ...

1. Emerging Market Equity Market Performance
(Index Jan. 17, 2020 = 100, and percent)



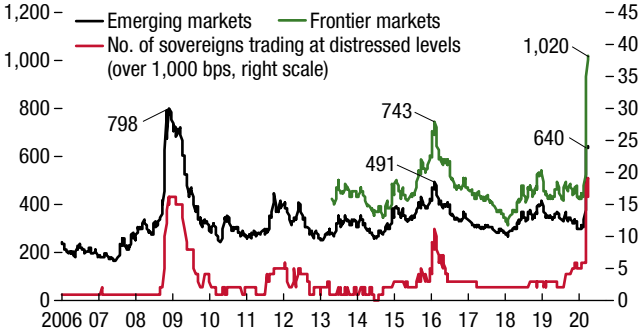
... and currencies depreciated against the US dollar, particularly for the commodity-producing economies.

2. Currency Performance
(Versus dollar; percent; bars are max drawdown in 2020:Q1, points are change through April 9)



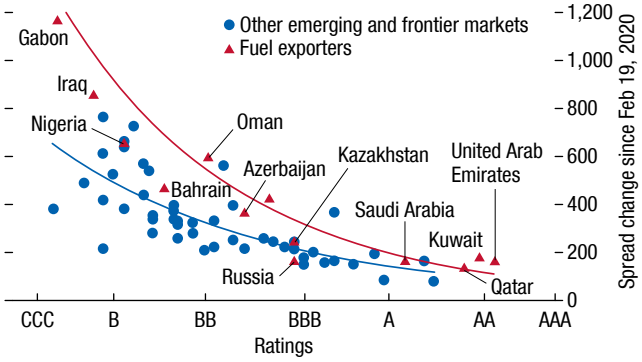
Dollar debt spreads widened to distressed levels in a record number of countries ...

3. Spreads of Dollar-Denominated Debt
(Basis points, left scale; number of countries, right scale)



... and bond spreads spiked more for lower-rated and oil-producing economies.

4. Spreads of Dollar-Denominated Debt and Sovereign Ratings
(Basis points, EMBIG spread change through March 31; ratings)



Sources: Bloomberg Finance L.P.; J.P. Morgan Chase & Co.; and IMF staff calculations.
Note: In panel 3, spreads are weekly average. Bps = basis points; CEEMEA = Central and Eastern Europe and the Middle East; EMBIG = JP Morgan Emerging Market Bond Index Global.

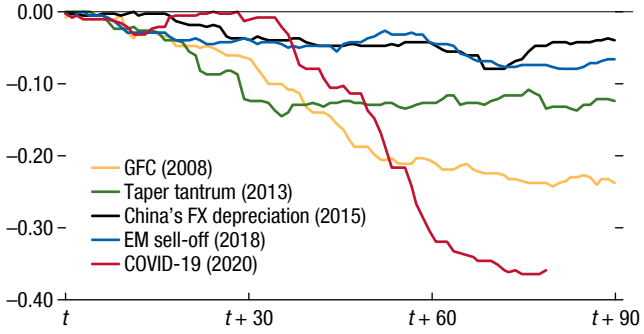
emerging markets have been relatively less affected, likely due to stronger currency interventions, as well as lower external vulnerabilities. Spreads of dollar-denominated emerging market sovereign bonds rose to nearly 700 basis points by the end of March—the highest level since the global financial crisis—although they have narrowed somewhat in recent weeks. But for some weaker economies, the current shock was particularly severe as the number of distressed sovereign issuers (those with spreads over 1,000 basis points) rose to record levels (Figure 1.7, panels 3 and 4). Oil-importing economies have generally fared better, but lower remittances, reduced external funding availability, and lower external demand may outweigh the positive impact of lower oil prices.

Portfolio flows to emerging markets have experienced a very sharp reversal. Nonresident portfolio outflows from emerging markets reached a record level in dollar terms (more than $100 billion since January 21) and the highest ever relative to their aggregate GDP in the first quarter of 2020 (Figure 1.8, panels 1 and 2). Outflows from Asia and from equity markets were initially particularly strong, given their sensitivity to the growth outlook (Figure 1.8, panel 2) (see Chapter 3 of this report). But outflows from bond markets

Figure 1.8. Portfolio Flows to Emerging Markets: A Big Reversal

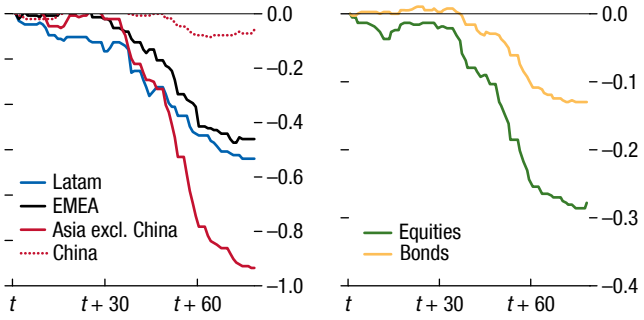
During the COVID-19 sell-off, emerging markets saw the strongest reversal since 2008 both in US dollar terms and relative to GDP.

1. Cumulative Nonresident Portfolio Flows to Emerging Markets (Percent of GDP, based on daily observations)



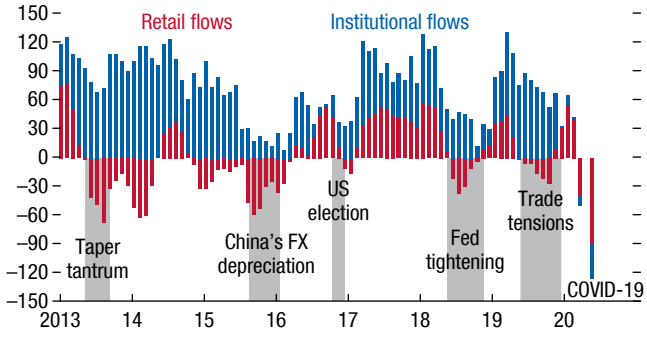
The strongest initial outflows were in emerging Asia (excluding China) and equity markets, while debt outflows accelerated more recently as the crisis widened.

2. Cumulative Nonresident Portfolio Flows to Emerging Markets, Aggregated by Regions and Asset Classes (Percent of GDP, based on daily observations)



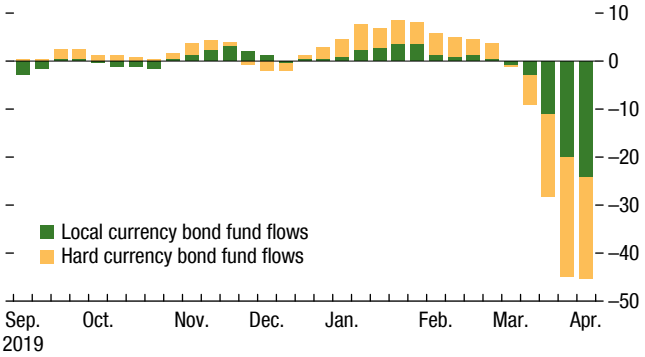
Retail fund outflows were particularly strong, while institutional investor flows also turned negative recently.

3. Estimates of Retail versus Institutional Flows (Billions of US dollars; three-month rolling sum)



Outflows have been significant for both local and hard currency bond funds.

4. Bond Fund Flows across Categories (Billions of US dollars; four-week rolling sum)



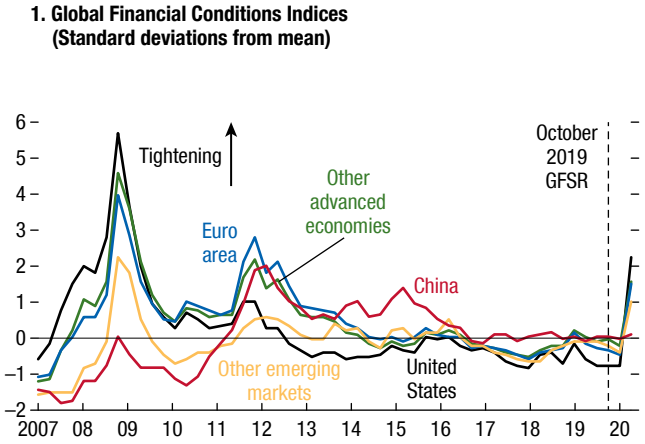
Sources: Bloomberg Finance L.P.; EPFR Global; Haver Analytics; Institute of International Finance; and IMF staff calculations.
Note: In panel 3, retail flows are estimated using EPFR Global data. The last bar is for February and March, adjusted for the full quarter. Economies included in panel 1 are China, Brazil, Hungary, India, Indonesia, Korea, Mexico, Pakistan, Philippines, Qatar, Sri Lanka, South Africa, Taiwan POC, Thailand, Ukraine, and Vietnam. EM = emerging markets; EMEA = Europe, the Middle East, and Africa; FX = foreign exchange; GFC = global financial crisis; Latam = Latin America; Taiwan POC = Taiwan Province of China.

have become significant more recently (Figure 1.8, panel 2, right).

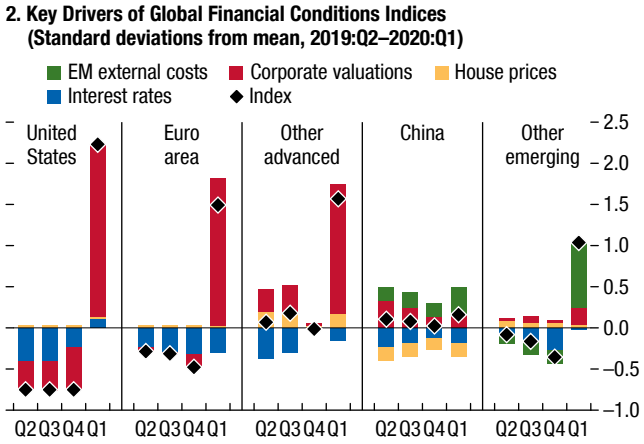
The *breadth of outflows*—in terms of the number of affected countries—was the largest since the global financial crisis. The depth of outflows was significant for many countries, with South Africa and Thailand witnessing outflows of more than 1 percent of GDP in just two months. Moody's downgraded South Africa's local currency rating to sub-investment grade, raising the specter of further outflows by benchmark-driven investors (see the April 2019 GFSR). Retail outflows surged, but institutional investors reportedly also had to reduce positions because of redemptions or risk limits given heightened volatility (Figure 1.8, panel 3). The reversal of bond portfolio fund flows was broad-based, but relatively worse for hard currency bond funds (Figure 1.8, panel 4). To mitigate the impact of outflows on domestic economies, country authorities have stepped up currency interventions, provided liquidity support to the bond market and to the banking system, and sought to establish swap lines with the US Federal Reserve and the European Central Bank (see "Policy Priorities" section for details).

Figure 1.9. Global Financial Conditions: Getting Tighter

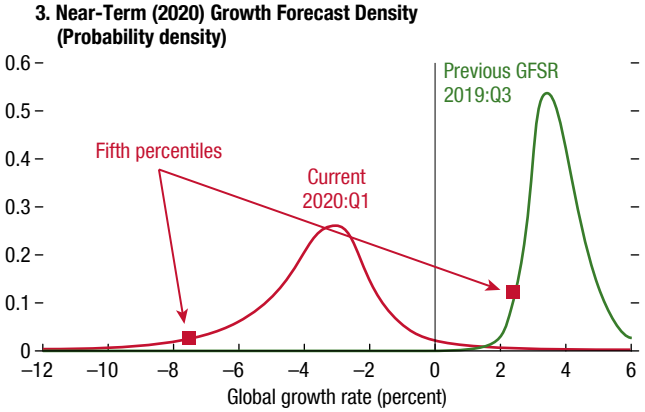
Financial conditions tightened sharply in 2020:Q1 ...



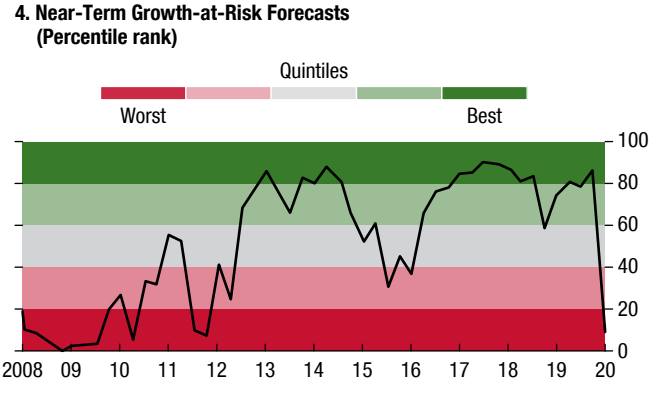
... largely driven by a very significant deterioration in corporate valuations.



Near-term downside risks have increased sharply ...



... approaching the levels last seen in 2008.



Sources: Bank for International Settlements; Bloomberg Finance L.P.; Haver Analytics; IMF, International Financial Statistics database; and IMF staff calculations.
Note: In panels 1–2, the 2020:Q1 = average values for March 2020. In panel 2, the interest rates component contains real short-term interest rates, term spreads or medium-term interest rates, and interbank spreads. In panel 3, near-term refers to the year 2020. Forecast density estimates are centered around the *World Economic Outlook* forecasts for 2020. In panel 4, the color of the shading depicts the percentile rank for the 5th percentile threshold (growth-at-risk) of near-term growth forecast densities from 1991 onward. See the April 2018 *Global Financial Stability Report* (GFSR) for details. EM = emerging market.

The Sharp Tightening of Global Financial Conditions Significantly Increased Risks to Financial Stability

Global financial conditions, which had been easing steadily over the course of 2019 and into the beginning of 2020, tightened sharply in March (Figure 1.9, panel 1).[7] Not only was the tightening very pronounced, but the speed was unprecedented, even compared to the global financial crisis. Falling equity prices and widening corporate spreads were only marginally offset by declines in interest rates across most advanced and emerging market economies (see Figure 1.9, panel 2). Other *emerging markets* (not including China) also experienced a significant tightening of financial conditions mainly driven by a sharp increase in their external funding costs (see Figure 1.9, panels 1 and 2).

China was the first to experience the COVID-19 outbreak. However, financial conditions in China have been broadly stable, in contrast with other countries (Figure 1.9, panels 1 and 2). This may have reflected, among other things, still limited external financial linkages, a strong role of government-owned financial institutions and firms, and early proactive efforts by the authorities that helped stabilize market

[7]The values of the Financial Conditions Indices (FCIs) for 2020:Q1 are based on the March 2020 average.

conditions and sentiment. The central bank maintained highly accommodative interbank liquidity, directed banks to maintain corporate credit growth, and reduced policy rates. Equity markets reversed initial declines on reports about government intervention. That said, financial conditions for specific weaker segments may be worse than headline numbers suggest.

All in all, the sharp tightening of global financial conditions since the COVID-19 outbreak, together with the significant downward revision of the 2020 global growth forecast from 3.3 percent in the January 2020 *World Economic Outlook Update* to −3 percent in the April 2020 WEO, shifted the near-term distribution of global growth dramatically to the left. This shift implies a significant increase in downside risks to growth and financial stability. More specifically, the one-year-ahead forecast distribution based on economic and financial conditions as of March 2020 (Figure 1.9, panel 3) indicates that there is a 5 percent probability (an event that happens once every 20 years) that global growth could fall below −7.4 percent. For comparison, this threshold was above 2 percent in October 2019. In addition, the balance of risks is now skewed to the downside, with the odds of global growth exceeding zero this year close to only 4 percent. Compared to historical norms, the near-term growth-at-risk metric is approaching levels last seen during the global financial crisis (Figure 1.9, panel 4).[8]

The continued spread of COVID-19 globally may require imposition of tougher and longer-lasting containment measures, which might lead to a further tightening of global financial conditions. In such a scenario, policy space may become more limited and investor sentiment may become more fragile. For emerging and frontier markets, authorities may find it challenging to contain destabilizing effects of a sharp reversal of portfolio flows on domestic financial markets. A widespread distress of banks and other financial institutions could lead to a permanent scarring of balance sheets, which may further delay the recovery. The Scenario Box of the April 2020 WEO presents three alternative outcomes for the evolution of the global fight against the COVID-19 virus. In the most severe scenario, where it would take longer than expected to contain the outbreak in 2020 and there is also a second outbreak in 2021, global output would continue to fall throughout 2020 and 2021 and would be almost 8 percent below baseline in 2021.

[8]The growth-at-risk (GaR) framework assesses the downside risks to financial stability by gauging how the range of severely adverse growth outcomes (5th percentile of the growth distribution) shifts in response to changes in financial conditions and vulnerabilities (see Chapter 3 of the October 2017 GFSR for details). Assumptions pertaining to policy responses or macroeconomic shocks are captured in the GaR framework to the extent that they affect the current economic and financial conditions, or the baseline growth forecast.

A Further Tightening of Financial Conditions May Expose Financial Vulnerabilities in Banks and Other Financial Institutions

While events are still unfolding, a further tightening in financial conditions may expose more "cracks" in the global financial system. Banks have more capital and liquidity than in the past, and they have been subject to stress tests and greater supervisory scrutiny, putting them in a better position than at the onset of the global financial crisis. The resilience of banks, however, may be tested in some countries in the face of a sharp slowdown in economic activity that may turn out to be more severe and lengthy than currently anticipated—a development that may lead to larger-than-anticipated losses. In addition, a prolonged period of dislocation in financial markets may result in distress among other financial institutions, including asset managers, to an extent that could lead to a credit crunch for nonfinancial borrowers.

Financial vulnerabilities had been elevated in some systemically important economies before the outbreak of COVID-19 (Figure 1.10),[9] and they may become exposed should financial conditions continue to tighten:

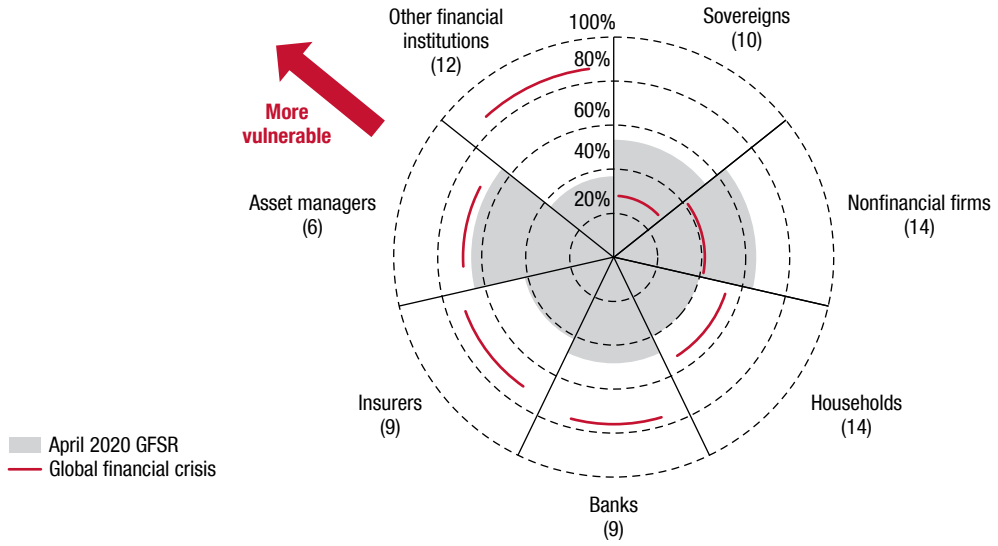
- Vulnerabilities are elevated in *nonfinancial firms*, reflecting high levels of debt. Nonfinancial corporate sector vulnerabilities are significantly higher now than in 2008–09, implying that a prolonged period of negative growth and elevated cost of funding

[9]This assessment is based on the methodology introduced in the April 2019 GFSR, which covers 29 jurisdictions with systemically important financial sectors. In this GFSR, other nonbank financials have been split into asset managers and other financial institutions to help better track the evolution of vulnerabilities in different parts of this large and diverse sector. Asset managers include all collective investment schemes for which sectoral data are publicly available. For Brazil, fund-level data have been aggregated for this purpose. For China, the category includes investment funds, trusts and the off-balance-sheet wealth management products of banks, securities companies, and insurers. The other financial institutions category can include broker dealers, merchant banks, securitization vehicles, finance companies, holding companies, funding companies, credit guarantors, multipurpose nonbank financial corporations, custodians, and different forms of nonbank lending institutions and/or residual aggregates for nonbank financial companies excluding investment funds, pension funds, and insurers.

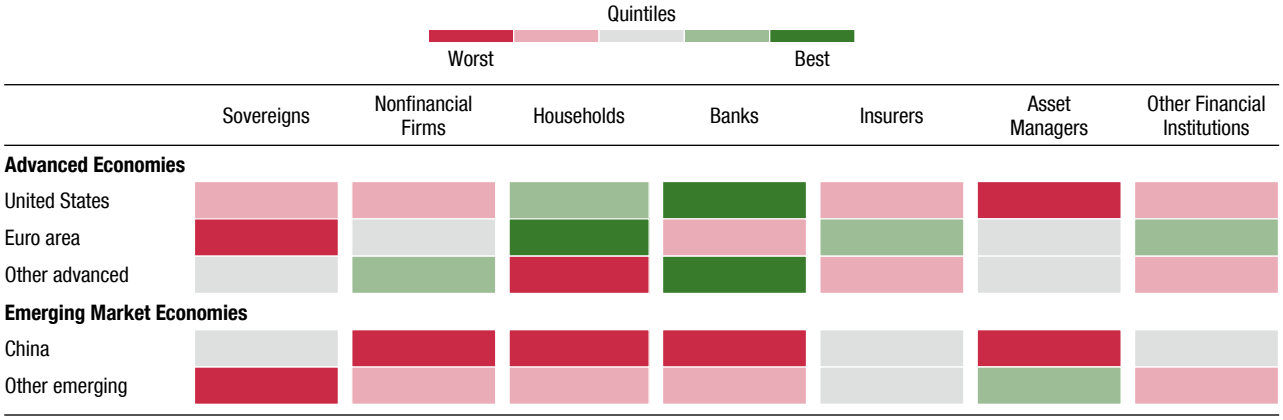
Figure 1.10. Global Financial Vulnerabilities: Preexisting Conditions

Vulnerabilities are elevated in the corporate and sovereign sectors as global nonfinancial sector debt has reached new highs, while asset managers have taken on more risks in the low-yield environment.

1. Proportion of Systemically Important Countries with Elevated Vulnerabilities, by Sector
(Percent of countries with high and medium-high vulnerabilities, by GDP [assets for banks, asset managers, other financial institutions, and insurers]; number of vulnerable countries in parentheses)



2. Financial Vulnerabilities by Sector and Region



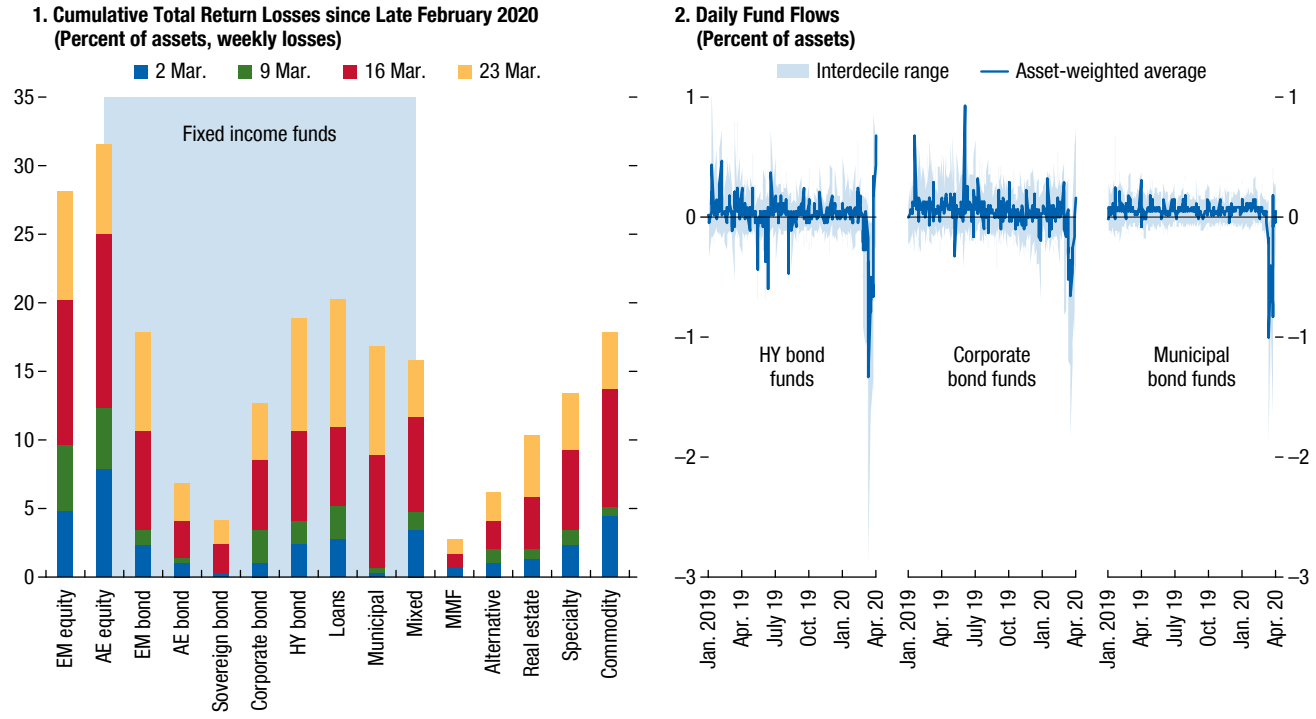
Sources: Banco de Mexico; Bank for International Settlements; Bank of Japan; Bloomberg Finance L.P.; China Insurance Regulatory Commission; European Central Bank; Haver Analytics; IMF, Financial Soundness Indicators database; Reserve Bank of India; S&P Global Market Intelligence; S&P Leveraged Commentary and Data; Securities and Exchange Commission of Brazil; WIND Information Co.; and IMF staff calculations.
Note: In panel 1, global financial crisis reflects the maximum vulnerability value from 2007–08. In panel 2, dark red shading indicates a value in the top 20 percent of pooled samples (advanced and emerging market economies pooled separately) for each sector from 2000–19 (or longest sample available), and dark green shading indicates values in the bottom 20 percent. In panels 1 and 2, for households, the debt service ratio for emerging market economies is based on all private nonfinancial firms. Other systemically important advanced economies comprise Australia, Canada, Denmark, Hong Kong Special Administrative Region, Japan, Korea, Norway, Singapore, Sweden, Switzerland, and the United Kingdom. Other systemically important emerging market economies are Brazil, India, Mexico, Poland, Russia, and Turkey.

A number of methodological changes have been introduced in this *Global Financial Stability Report* for *the other nonbank financial sector*. (1) country-specific data series for 10 individual euro area countries have been added to the data set for other financial institutions and asset managers, complementing respective euro area aggregate data; (2) country-level data are aggregated to regional totals using asset-based weights, rather than GDP; (3) the euro area data set has been expanded to include data on nonbank financial institutions beyond securitization vehicles; and (4) a new indicator measuring the gross derivative exposures has also been added. For *insurers*, the country-specific data series for 10 individual euro area countries (Austria, Belgium, France, Finland, Germany, Ireland, Italy, Luxembourg, Netherlands, Spain) were added to the data set for insurers. Previously, the assessment of the euro area insurers was based on the data at the euro area level. A new indicator of profitability was also added. In the computation of the regional and global aggregates, the GDP-based weights were replaced by total assets-based weights.

Figure 1.11. Investment Funds: Losses and Redemptions

As asset prices declined, investment funds' losses began to mount.

Fixed income funds—especially those exposed to risky credit market segments—faced rapidly growing outflows.



Sources: Bloomberg Finance L.P.; Morningstar; and IMF staff calculations.
Note: Panel 2 reports estimated daily net flows for a sample of fixed income funds with assets of more than $700 million. Flow rates have been winsorized at an absolute value of 50 percent. AE = advanced economy; EM = emerging market; HY = high yield; MMF = money market fund.

could lead to a large-scale corporate distress (see the corporate debt-at-risk analysis in Chapter 2 of the October 2019 GFSR).

- Vulnerabilities remain high among *asset managers* and close to the levels seen during the global financial crisis, as discussed in the October 2019 GFSR. Asset managers in several countries (notably, China and the United States) entered the COVID-19 crisis with higher leverage, maturity, and liquidity mismatches. In the euro area and other advanced economies, vulnerabilities are somewhat lower, on aggregate, than in other regions.
- *Bank* vulnerabilities are moderate overall, though there are pockets of weaker institutions. For example, vulnerabilities continue to be high in China and they have increased in other emerging market economies and the euro area.
- In the *global insurance sector*, vulnerabilities appear to be less pronounced in aggregate than in other sectors but are still high in some countries and regions. In the United States, insurers face elevated liquidity mismatches and credit risk, while in other advanced economies insurers also tend to have currency mismatches. In the euro area, vulnerabilities in the insurance sector are less pronounced, but credit risks are elevated and coupled with profitability and solvency challenges from the low-yield environment. Chinese insurers operate with high liquidity mismatches.

Pressures on Asset Managers May Lead to Fire Sales

Asset managers may be forced to sell assets, thus amplifying asset price declines. Since the virus outbreak, investment funds have faced large portfolio losses (Figure 1.11, panel 1). This led to concerns about actual and anticipated redemptions, especially in the case of fixed income funds (Figure 1.11, panel 2). Cash buffers, which typically serve as a first

line of defense against redemptions, are estimated at about 7 percent of assets for an average open-end fixed income fund (see the October 2019 GFSR), and even lower for some riskier credit funds (see Chapter 2 of this report). While on aggregate still smaller than cash buffers, outflows could, if they continue or accelerate, exhaust these buffers and force the sale of other high-quality liquid assets or even less-liquid assets. The latter would reinforce price declines across a number of markets.

These pressures, however, may be partly mitigated by liquidity management mechanisms used by investment funds (including the tapping of credit lines), as well as by central bank purchases of corporate bonds and by liquidity facilities offering relief for money market funds (see "Policy Priorities" section).

Anticipation of weaker liquidity conditions may have led some funds to de-risk portfolios early by selling less liquid and lower-rated credit assets with the aim of strengthening the liquidity of their remaining portfolios. These actions may have initially exacerbated price declines in riskier markets. A further deterioration in market conditions could in turn lead to more redemption pressures, especially for funds with low liquidity buffers or a particularly price-sensitive investor base. So far, there have been very few suspensions of investor redemptions. In the United Kingdom, several property funds were gated. Market reports suggest that some smaller European bond funds were suspended as well, but most of these suspensions were lifted within days.[10]

Banks Could Act as an Amplifier Should the Crisis Deepen Further

In 2007–08, a sharp cutback in bank lending, due to liquidity strains and losses at banks, exacerbated the impact of the global financial crisis on the economy. There is a danger that this could be repeated. The higher levels of capital buffers built since the global financial crisis, however, will help banks to absorb losses. Average Tier 1 capital ratios across economies with large financial systems are more than 400 basis points higher than they were at the end of 2007 (Figure 1.12, panel 1). Bank supervision has been enhanced, including through the use of stress testing to assess bank health, and regulations have been strengthened.

Banks are also holding more liquid assets than in the past. Furthermore, the substantial and coordinated action by central banks to provide liquidity to banks in many economies, including in repo (repurchase) operations and dollars via central bank swap lines, should also help alleviate liquidity strains (see "Policy Priorities" section) and mitigate the impact of higher wholesale funding costs faced by banks (Figure 1.12, panel 2). Greater access to liquidity should also help banks to cope with the drawdowns of credit lines by companies. Total undrawn lines of credit amounted to $10 trillion at the end of 2019 for a sample of almost 400 banks headquartered in Group of Seven (G7) economies—some 50 percent of risk-weighted assets (Figure 1.12, panel 3). Nevertheless, the prospect of large draws on lines of credit may impair banks' ability or willingness to maintain the flow of credit to the economy.

Despite their stronger initial position, banks will likely face both mark-to-market and credit losses as a result of the COVID-19–induced sharp slowdown in economic activity:

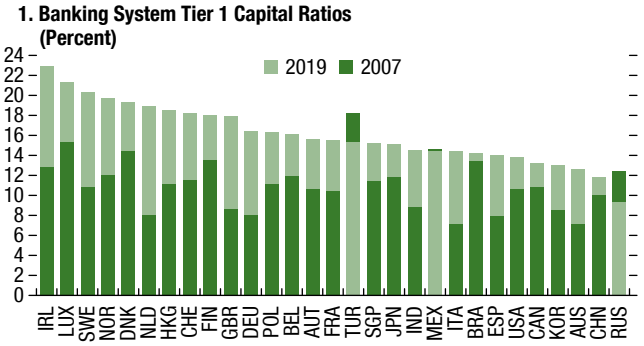
- The declines in asset prices are expected to lead to losses on banks' portfolios of risky securities, though this could be partly offset by gains on their holdings of safe-haven assets. For example, strains have emerged in the commercial real estate sector, with US commercial mortgage-backed security spreads widening by about 400 basis points, on average, from mid-February to their peak (Figure 1.13, panel 1). Furthermore, increases in bond yields for some highly indebted governments may lead to a reemergence of the sovereign-financial sector nexus in some jurisdictions.[11]
- The longer the sudden stop in economic activity continues, the more likely it is that banks will see credit losses on their lending to households and companies. Banks account for a significant portion of lending to commercial real estate, ranging from about 50 percent to 70 percent of debt in this sector (Figure 1.13, panel 2). The fall in the oil price has put energy companies under additional pressure, and banks could also see credit losses on loans to these firms. Finally, banks may also face losses on

[10]Bloomberg Finance L.P. reported on March 20, 2020 on redemptions halts for Swedish funds, and *The Financial Times* reported on March 22 on suspensions of Nordic funds.

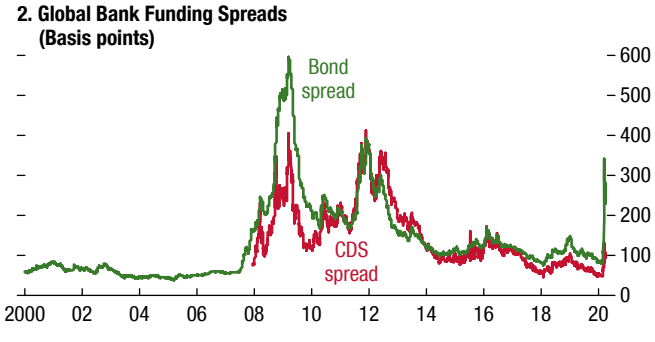
[11]See the April 2019 GFSR for a discussion of the sovereign-bank nexus in the euro area.

Figure 1.12. Banks in Large Economies: Resilience Tested

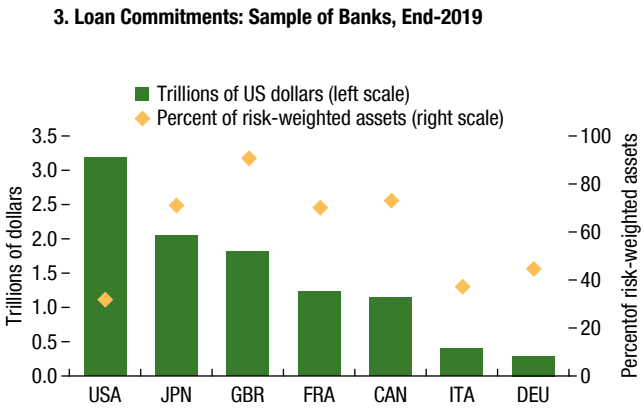
Banks now have more capital to absorb losses ...



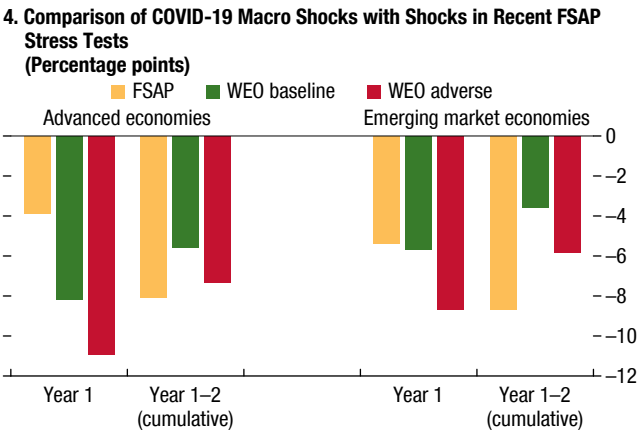
... but are facing sharply higher wholesale funding costs ...



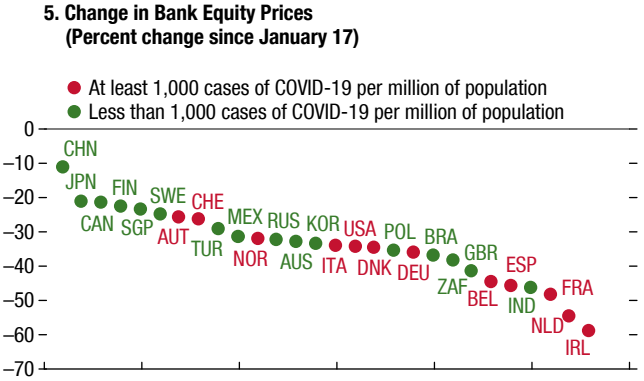
... and calls on lines of credit are adding to liquidity strains.



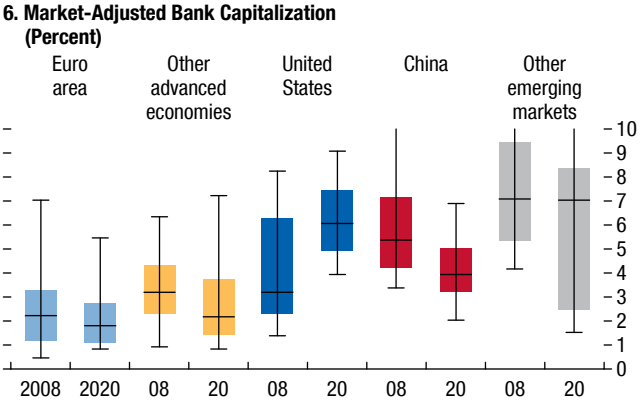
The deterioration of the economic outlook suggests that banks may face losses ...



... as implied by sharp falls in bank equity prices ...



... which have led to low market valuations in some economies.

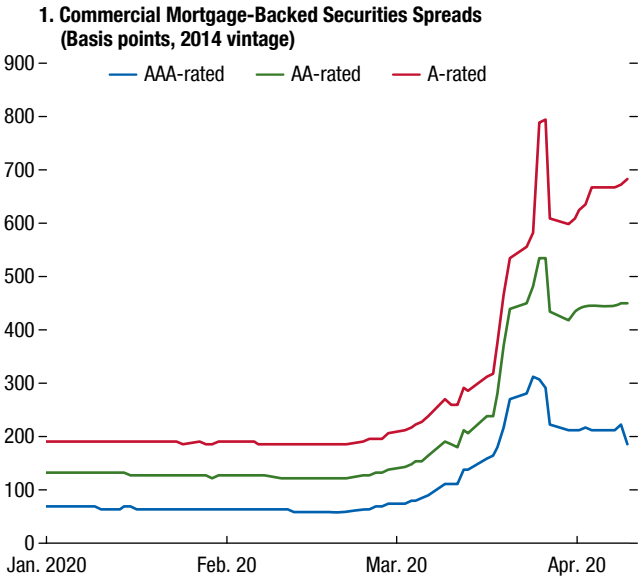


Sources: Bloomberg Finance L.P.; Haver Analytics; IMF, Financial Soundness Indicators database; Refinitiv; S&P Global Market Intelligence; SNL Financial; and IMF staff calculations.

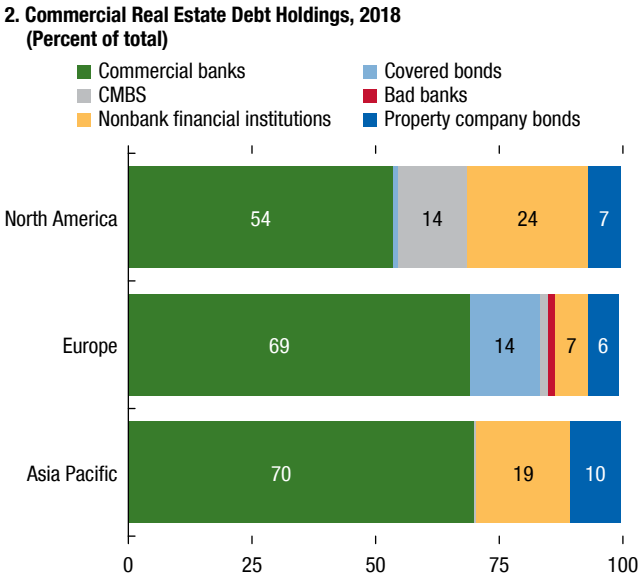
Note: In panel 2, the global credit default swap (CDS) spread is the average of indices for Asia, Europe, North America, and the United Kingdom. Panel 3 is based on a sample of about 400 banks from the seven economies shown in the panel. Commitments include only irrevocable commitments where disclosed, and total reported commitments otherwise. Most banks either distinguish between revocable and irrevocable commitments, or include only revocable commitments. In panel 4, the WEO baseline is the difference between the April 2020 baseline scenario and the forecast in the January 2020 WEO *Update*. The WEO adverse is the difference between the alternative scenario in the WEO with a longer outbreak of COVID-19 in 2020 and the January 2020 WEO *Update*. Advanced economies is the average of the Group of Seven economies, the Netherlands, Spain, and Switzerland. Emerging market economies is the average of Brazil, China, India, Russia, and South Africa. Panel 5 shows the average change in equity prices of banks in each country. Panel 6 shows the range of market-adjusted capitalization of individual banks in each economy. Market-adjusted capitalization is calculated as the product of tangible common equity and the minimum of the price-to-book ratio and 1, all as a percentage of tangible assets (which are adjusted for derivatives netting at US banks). The box shows the 25th to 75th percentile, the vertical lines show the 5th to 95th percentile, while the horizontal lines shows the 50th percentile. The vertical axis has been set to a maximum of 10 percent to aid presentation. In panels 1, 3, and 5, data labels use International Organization for Standardization (ISO) country codes. FSAP = Financial Sector Assessment Program; WEO = *World Economic Outlook*.

Figure 1.13. Commercial Real Estate and Commercial Mortgage-Backed Securities

Spreads of commercial mortgage-backed securities have widened significantly over the past two months ...



... and banks have significant exposures to commercial real estate debt.



Sources: Bloomberg Finance L.P.; Cushman & Wakefield; J.P. Morgan; and IMF staff estimates.
Note: In panel 2, no number labels are included for amounts less than 2 percent. Totals do not add up to 100 due to rounding. CMBS = commercial mortgage-backed securities.

indirect exposures, through their lending to households that are employed in vulnerable sectors.

- The low level of bank profitability in some advanced economies (as discussed in Chapter 4 of this report) means that banks will have less income available to offset losses than in the past.

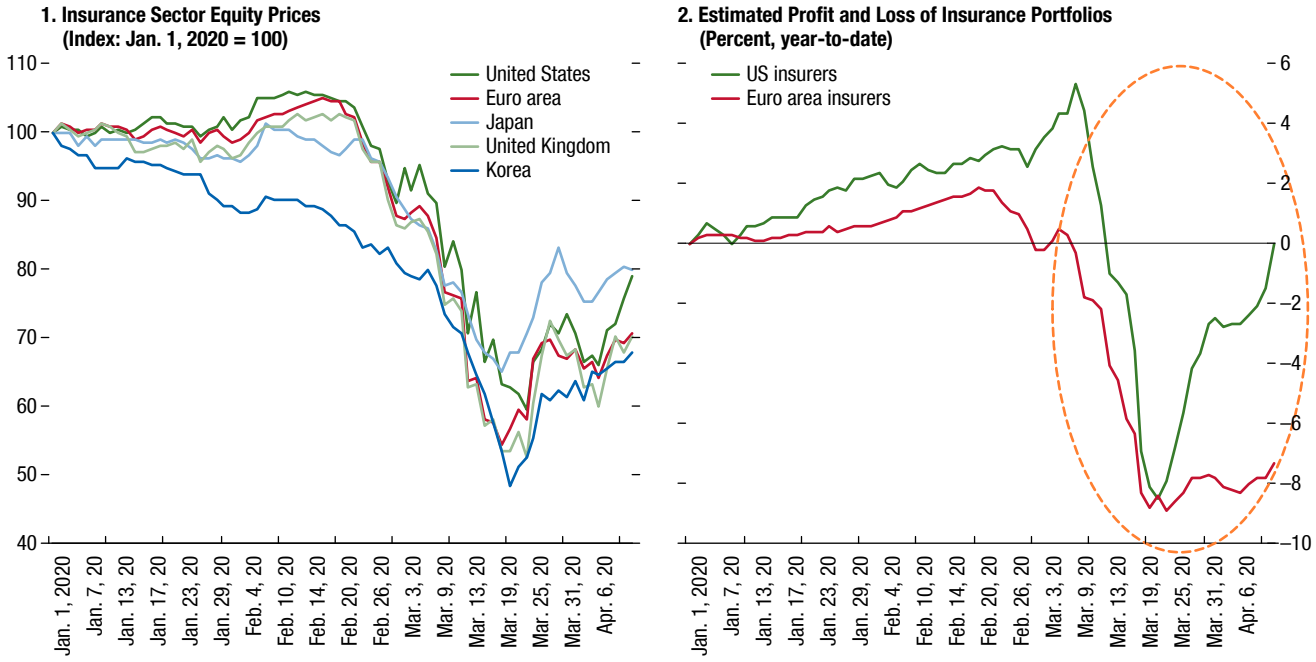
The potential for losses at banks is illustrated by Figure 1.12, panel 4, which shows that the shock to economic activity in the *WEO baseline*—defined here as the change in the baseline economic forecast since the January 2020 *World Economic Outlook Update* (the green bar)—is greater over a one-year horizon than the economic shocks typically assumed in Financial Sector Assessment Program (FSAP) stress tests (the yellow bar). The economic shock in FSAPs over two years tends to be larger than the baseline WEO projections for 2020–21. However, downside risks around the forecasts are significant. For example, even the first alternative scenario in the April 2020 WEO Scenario box—where the fight against the spread of the virus in 2020 takes roughly 50 percent longer than in the baseline (the red bar)—results in a much larger growth shock than typically assumed in FSAP stress tests in the first year. However, bank resilience would likely not be as severely impacted as in the past, since the historical relationship between economic growth and loan impairments, that FSAPs take as given, may be much weaker in the current environment given the large amounts of fiscal and other support measures being provided.

The large declines in bank equity prices since mid-January suggest that investors are concerned about bank profitability and possibly resilience. Equity prices fell by about 35 percent, on average, over this period and by up to 60 percent in some countries (Figure 1.12, panel 5). If market valuations are used to calculate capital ratios at banks, instead of book values, many banks would appear to have weak capitalization—similar to levels during the global financial crisis (Figure 1.12, panel 6). Median market-adjusted capitalization is now higher than in 2008 only in the United States. These considerations underscore the need for decisive policy action to prevent problems at banks leading to a sharp reduction in lending at a time when economic activity is already weak.

Figure 1.14. Insurance Companies: Worries about Potential Losses

The shares of global insurers have been hit hard ...

... with insurance investment portfolios suffering large losses across fixed income and equity exposures.



Sources: Bloomberg Finance L.P.; European Insurance and Occupational Pensions Authority; Haver Analytics; National Association of Insurance Commissioners; and IMF staff calculations.

Note: The estimated year-to-date performance of US and euro area insurance portfolios in panel 2 is meant to serve as an illustration of gross portfolio returns and does not reflect accurately the performance of the portfolios of each insurance company. The estimation uses broad aggregate data for the exposures of insurance portfolios in both jurisdictions as of the third quarter of 2019. For simplification, it excludes all non-fixed income and equity investments. It also assumes that all euro area insurers are invested in the broad Bloomberg Barclays indices for each sector (sovereigns and credit) in the euro area and the Euro Stoxx 50 index. For the United States, Bloomberg Barclays indices and the S&P 500 index are used as proxy.

Insurance Companies May Suffer Losses

Pressures have also been rising for *insurance companies*, limiting their ability to play their traditional countercyclical role. The shares of insurers in major jurisdictions have been hit hard, with most experiencing declines of more than 30 percent before reversing some of their losses in late March to early April (Figure 1.14, panel 1).[12] Their credit default swap spreads also widened alongside those of other financial institutions.

The shares of insurance companies have underperformed broader equity indices since the second week of March, when the widening of corporate credit spreads accelerated and government bond yields started to rise (particularly in the euro area and emerging markets). Because the portfolios of insurance companies are heavily skewed toward long-term sovereign and corporate bonds, heavy losses on fixed income investments have weighed on their portfolio returns through mid-March (Figure 1.14, panel 2).[13] The situation improved for US insurers once the US Federal Reserve stepped in to support the corporate bond markets in late March to early April.

In addition, insurers' bond holdings may be subject to credit downgrades. For example, US insurers are estimated to have over $40 billion of BBB credits at risk of downgrade to sub-investment grade.[14] While this is less than 2 percent of their corporate bond investments, further increases in corporate bond downgrades could increase losses as well as capital

[12]The euro area, Japan, Korea, the United Kingdom, and the United States are five of the largest insurance jurisdictions, accounting for about two-thirds of life premium volumes globally.

[13]This refers to the estimated mark-to-market losses on the investment portfolios of insurers. The ultimate impact of these shocks on insurers will, however, be alleviated somewhat by regulatory mechanisms that can be activated in periods of market stress (see "Policy Priorities" section).

[14]As of March 17, 2020 (source: CreditSights).

requirements for insurers.[15] Some supervisors have already made use of available flexibility in the current framework to mitigate the impact of these shocks on insurers to preserve their operational viability (see "Policy Priorities" section).

Prolonged External Pressures Will Be a Test for Emerging and Frontier Markets

The sudden stop in economic activity and portfolio outflows, together with the oil price shock, represent a severe stress test for many emerging and frontier market economies, especially as many of them entered the COVID-19 crisis with weaker initial conditions than in 2008:

- First, emerging market bond issuers are much more leveraged now than they were in 2008 (see Figure 1.15, panel 1), and they include new issuers with a larger dependence on oil and other commodities (Gulf Cooperating Council member countries), as well as lower-rated issuers (such as frontier markets—see Figure 1.15, panel 2).
- Second, many major emerging market economies have less policy space. Real policy rates in most emerging market economies are now lower than before 2008, especially for those with traditionally much higher interest rates (such as Brazil). Fiscal policy space is generally more constrained as well, with debt at significantly higher levels (as in Brazil, China, and South Africa) and wider structural budget deficits.
- Third, many of the emerging market and frontier economies are now much more reliant on foreign portfolio investors and external funding more generally than in 2008–09 (Figure 1.15, panels 3 and 4; also see Chapter 3 of this report for details).

The *main vulnerabilities* of major emerging and frontier market economies, given the current constellation of shocks, are highlighted in Figure 1.16, panel 1. The sharp decline in economic output and sudden increase in borrowing costs could hurt economies with limited fiscal space, high financing needs, or external financing vulnerabilities, which include Brazil, Colombia, Egypt, Hungary, India, South Africa, and Turkey. Additionally, economic output decline is also likely to be meaningful for Mexico, Russia, and Thailand. Oil exporters are at risk, given the nearly 60 percent oil price collapse in the first quarter of 2020, with Colombia, Nigeria, Russia, and Saudi Arabia being most exposed. As a result of these pressures, Colombia, Mexico, South Africa, and several Middle Eastern economies have been downgraded or put on negative outlook by rating agencies. On the positive side, some economies have large foreign currency reserves and other buffers that can be used to absorb these shocks.

Furthermore, some of the systemic state-owned enterprises have become more vulnerable due to lower oil prices (for example, Mexico's Pemex) or to weaker electricity demand (for example, South Africa's Eskom) as well as higher funding costs (also see the October 2019 GFSR).

Countries where banks have high nonperforming loans, significant exposures to state-owned enterprises, and large holdings of government bonds are vulnerable to an intensification of the sovereign-financial sector feedback loop. For example, in *India*, where nonbank financial institutions had already been under intense funding pressure, following two defaults before the COVID-19 shock, state-owned banks have a sizable stock of bad loans and significant links to nonbank financial institutions. Other countries, notably African economies, may be vulnerable to disruptions in trade financing if cross-border funding and correspondent banking relations become affected.

In *China*, vulnerabilities are particularly elevated in the corporate, banking, and shadow-banking sectors (as discussed in previous GFSRs, and also shown in Figure 1.10). The ongoing health crisis and a significant growth slowdown could increase financial stress through several channels. First, the balance sheets of small- and medium-sized banks will likely weaken further as their limited capacity to support their vulnerable small and private borrowers increases distress among these firms. Second, credit and liquidity risks are rising for the large and heavily indebted property developer sector, which is under heightened pressure due to dollar funding strains and the sharp slowdown in sales. Third, outflows from nonbank financial institutions, some of which operate with significant liquidity and maturity mismatches and often high leverage, could be set off by slumping equity prices, rising bond defaults, or further weakening of investor confidence.

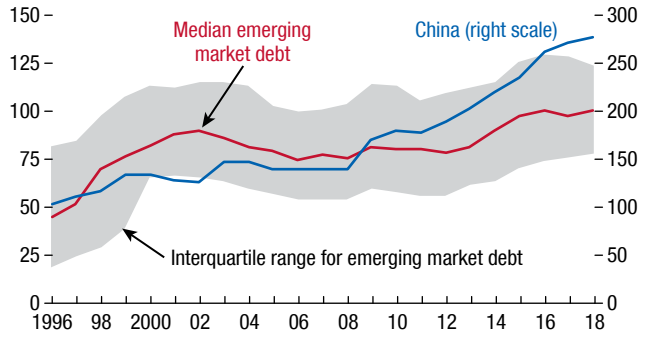
In *frontier market economies*, the fears of global recession pushed borrowing spreads to their highest levels since 2008, at a time when rollover needs are set to

[15]Derivative exposures could also come under pressure and subject insurers to further losses. For example, large life insurers can hold derivatives to hedge the guarantees provided by their variable annuity businesses.

Figure 1.15. Emerging and Frontier Markets: 2008 versus 2020

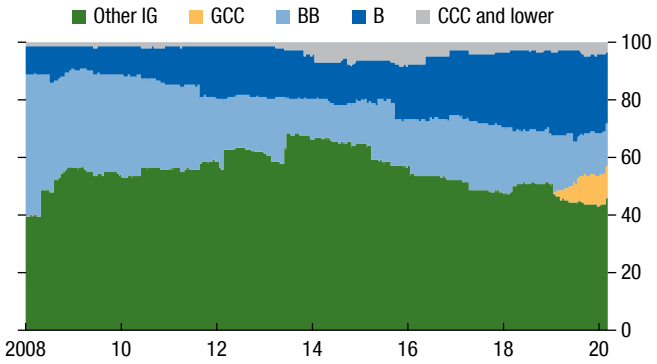
Leverage has risen considerably in emerging market economies, especially in China ...

1. Total Emerging and Frontier Market Debt (Private and public sectors; percent of GDP)



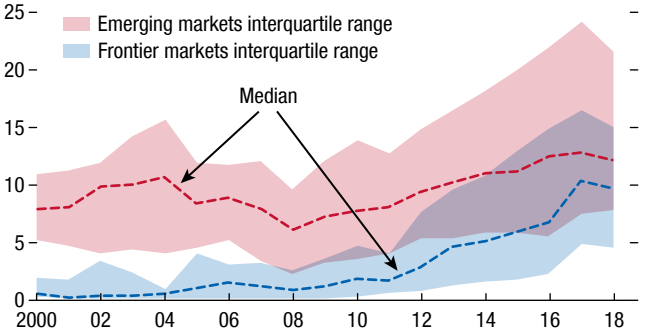
... while more emerging and frontier market debt issuers have weaker credit ratings now than in 2008.

2. Ratings Distribution of the Components of the EMBI Global Index (Percent)



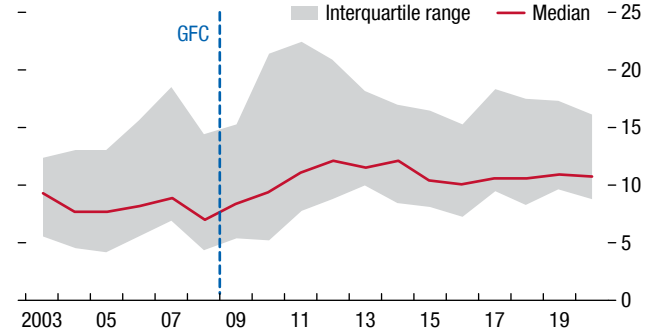
Foreign investors hold a considerably larger amount of debt issued by emerging and frontier market economies than in 2008 ...

3. Portfolio Debt Liabilities (Percent of GDP; international investment position; dotted lines are the median values)



... and dependence on external financing has increased as well.

4. External Financing Requirements (Percent of GDP)



Sources: Bloomberg Finance L.P.; J.P. Morgan Chase & Co.; and IMF staff calculations.
Note: Panel 1 is based on 59 emerging market countries. In panel 3, frontier and emerging market samples include 30 countries each. Panel 4 is based on 20 large emerging market countries. EMBI = J.P. Morgan Emerging Markets Bond Index; GCC = Gulf Cooperation Council; GFC = global financial crisis; IG = investment grade.

rise in many of these countries (Figure 1.16, panel 2). Debt restructuring is under way in Argentina, Ecuador, Lebanon, and Zambia. Frontier markets often lack financial depth and have a shallower domestic investor base, which can impair monetary policy transmission and compound market pressures in times of stress (see Chapter 3 of this report).

Policy Priorities

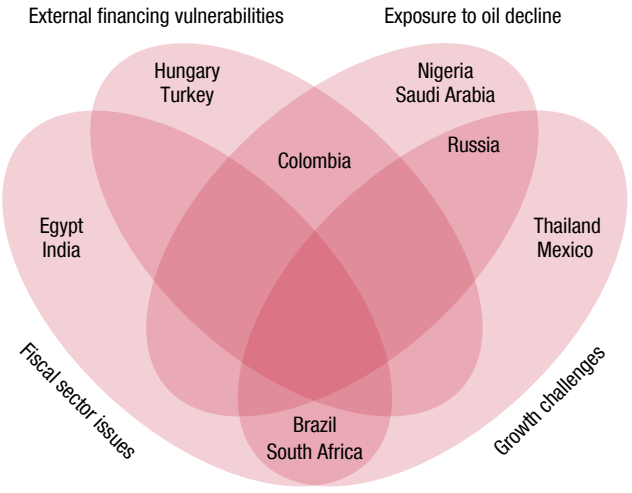
What Has Been Done So Far?

The COVID-19 pandemic has required urgent measures to address health concerns, to safeguard economic and financial stability, and to prevent the emergence of adverse macro-financial feedback loops (see also the April 2020 WEO). Country authorities have taken timely, temporary, targeted fiscal measures, including additional support for health agencies, wage subsidies, cash payments to citizens, government-funded paid sick and family leaves, expanded unemployment benefits, and deferral of tax payments (see the April 2020 *Fiscal Monitor*). Many countries have also implemented measures to support firms and individuals facing payment difficulties through loan moratoria, restructuring of loan terms, or credit guarantees. Several countries have expanded loan programs, including guarantees, for financing

Figure 1.16. Main Vulnerabilities of Emerging and Frontier Market Economies

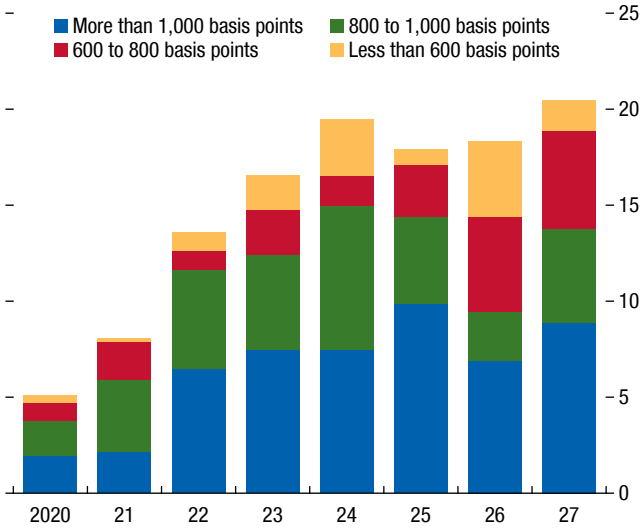
Some emerging market economies show vulnerabilities along several critical dimensions.

1. Key Vulnerabilities of Major Emerging and Frontier Market Economies



Frontier market bond spreads are near or at record high levels, with some issuers facing sizable debt rollovers in the coming years.

2. Frontier International Bond Redemptions by Credit Spread (Billions of US dollars)



Sources: Bloomberg Finance L.P.; J.P. Morgan Chase & Co.; and IMF staff calculations.
Note: In panel 1 the country sample is 18 emerging and frontier markets: Brazil, China, Colombia, Egypt, Hungary, India, Indonesia, Malaysia, Mexico, Nigeria, Peru, Philippines, Poland, Russia, Saudi Arabia, South Africa, Thailand, and Turkey. The countries with elevated vulnerabilities are identified as the ones that are in the bottom quartile when ranked across the multiple indicators in each category. Indicators in the fiscal sector include central government balance (share of GDP), public debt (share of GDP), and gross financing needs (share of GDP). Indicators in the external sector include current account balance (share of GDP), short-term debt to remaining maturity (share of GDP), external debt (share of GDP), foreign holdings of government debt (share of total), and IMF's reserve adequacy metric. Exposure to oil decline is based on oil balance as a share of GDP. Growth challenges are highlighted for the countries where GDP is expected to contract by more than 5 percentage points year-over-year in 2020.

small- and medium-sized enterprises[16] (see Table 1.1 for details).

To preserve the stability of the global financial system, central banks have been the first line of defense in leaning against the tightening in financial conditions. Decisive monetary policy actions have been taken in three main areas (Table 1.1):

- First, central banks have significantly *eased monetary policy* by cutting policy rates by 50–150 basis points in 13 of the 29 jurisdictions with systemically important financial sectors as well as by providing forward guidance and expanding their asset purchase programs to put downward pressure on long-term interest rates and mitigate a rise in long-term borrowing costs for households and firms.
- Second, most central banks have provided *additional liquidity* to banking systems, including by lowering bank reserve requirements, easing collateral terms, upsizing liquidity repo operations, and extending the term of such operations.[17] Some country authorities activated or enhanced programs to provide funding support to banks.[18]

[16]For example, the Bank of England introduced several loan schemes (such as the Coronavirus Business Interruption Loan Scheme [CBILS] and a new Term Funding Scheme with additional incentives for small- and medium-sized enterprises [the TFSME]) to support small- and medium-sized enterprises.

[17]For example, the US Federal Reserve continues to offer repo operations for at least $175 billion in overnight repo each day, at least $45 billion in two-week term repo twice per week, and $500 billion in one-month term repo and $500 billion in three-month term repo each week.

[18]For example, the European Central Bank has made the terms of its targeted longer-term refinancing operations (TLTROs) more favorable, raised the borrowing allowance to 50 percent of the stock of a bank's eligible loans, and reduced lending performance threshold to 0 percent. For further details, see https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200312_1~39db50b717.en.html. The Bank of England has also provided a term funding facility to banks (see https://www.bankofengland.co.uk/markets/market-notices/2020/term-funding-scheme-market-notice-mar-2020).

Table 1.1. Monetary and Financial Policy Responses to COVID-19

(In 29 jurisdictions with systemically important financial sectors)

	Advanced Economies																						Emerging Market Economies						
	Euro Area										Other Europe					N. America		Asia-Pacific											
	AUT	BEL	FRA	FIN	DEU	IRL	ITA	LUX	NLD	ESP	DNK	NOR	SWE	CHE	GBR	CAN	USA	AUS	HKG	JPN	KOR	SGP	CHN	BRA	IND	MEX	POL	RUS	TUR
Monetary Policies																													
1. Policy rate cuts (basis points)	—	—	—	—	—	-	—	—	—	—	-	125	-	-	65	150	150	50	114	-	50	-	30	50	75	50	50	-	100
2. Central bank liquidity support	—	—	—	—	—	Y	—	—	—	—	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3. Central bank swap lines	—	—	—	—	—	Y	—	—	—	—	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	-	Y	-	Y	-	-	-
4. Central bank asset purchase schemes	—	—	—	—	—	Y	—	—	—	—	-	-	Y	-	Y	Y	Y	Y	-	Y	-	-	-	-	-	-	Y	-	-
External Policies																													
1. Foreign currency intervention	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y	Y	-	Y	Y
2. Capital flow measures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Financial Policies for Banks																													
1. Easing of the countercyclical capital buffer	-	Y	Y	-	Y	Y	-	-	-	-	Y	Y	Y	Y	Y	-	-	-	Y	-	-	-	-	-	-	-	-	-	-
2. Easing of systemic risk or domestic capital buffer	-	-	-	Y	-	-	-	-	Y	-	-	-	-	-	-	Y	-	-	-	-	-	-	-	-	-	-	Y	Y	-
3. Use of capital buffers	—	—	—	—	—	Y	—	—	—	—	-	Y	Y	Y	Y	-	Y	Y	-	Y	-	-	-	Y	Y	-	Y	Y	Y
4. Use of liquidity buffers	—	—	—	—	—	Y	—	—	—	—	Y	Y	Y	Y	Y	Y	Y	-	-	Y	-	-	Y	-	-	-	Y	Y	Y
5. Adjustments to provisioning requirements	—	—	—	—	—	Y	—	—	—	—	Y	Y	Y	-	Y	-	Y	Y	-	-	-	-	Y	Y	-	Y	Y	Y	Y
Financial Policies for Borrowers																													
1. State loans or credit guarantees	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	-	-	-	-	Y	-
2. Restructuring of loan terms or moratorium on payments	-	Y	Y	Y	-	Y	Y	Y	Y	Y	-	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	Y	Y	Y

Source: IMF staff.

Note: The table shows policy measures for 29 economies with systemically important financial sectors. The table does not include details on all of the central bank measures that have been introduced, but rather groups them under "central bank liquidity support" or "central bank asset purchase." "Foreign currency intervention" includes central bank interventions in the foreign exchange spot and derivatives markets, as well as other measures, such as changes in foreign exchange reserve requirements. "Easing of the countercyclical capital buffer" includes an easing from announced or effective levels, or an easing of the sectoral countercyclical capital buffer. "Restructuring of loan terms or moratorium on payments" includes both official actions and measures taken by banks. Data labels in the table use International Organization for Standardization (ISO) country codes. For more details, see www.IMF.org/COVID19policytracker.

- Third, several central banks have agreed to *enhance the provision of US dollar liquidity* through swap line arrangements to ameliorate tighter conditions in the global US dollar funding market.[19]

To enhance the liquidity and functioning of *short-term funding markets* as well as to maintain the *flow of credit to the broader economy*, several central banks launched facilities aimed at a number of markets, including commercial paper, municipal bonds, asset-backed securities, as well as corporate debt. By stepping in as "buyers of last resort" in these markets and effectively setting an upper limit on the cost of credit, central banks aim to ensure that households and firms continue to have access to credit at an affordable price. Table 1.2 provides examples of such facilities in G7 countries, but similar measures have been implemented in other countries as well, including in emerging market economies.[20]

To counter foreign currency funding pressures and mitigate damage to their economies from *unprecedented capital flow reversals*, central banks in emerging market economies have implemented a number of measures. Some (Brazil, Indonesia, Mexico, Russia, Thailand) have restarted or continued foreign currency intervention programs to mitigate excessive volatility in their domestic currencies; several countries have reduced foreign currency reserve requirements (for example, Indonesia and Turkey) or increased availability of foreign currency swaps and repos (for example, Brazil, Indonesia, Mexico, and Russia).

[19]On March 15, the Bank of Canada, the European Central Bank, the Bank of England, the Bank of Japan, and the Swiss National Bank started offering US dollars with 84-day terms, in addition to the existing one-week operation. On March 19, the Federal Reserve announced the establishment of temporary US dollar swap lines with nine central banks including four emerging market economies.

[20]See www.IMF.org/COVID19policytracker.

Table 1.2. Selected Central Bank Facilities to Support Funding Markets

	Money Markets and Government Securities	Corporate Bonds	Other Markets
Bank of Canada	**Bankers' Acceptance Purchase Facility** Purchases of eligible bankers' acceptances to maintain credit to small- and medium-sized businesses. **Provincial Money Market Purchase Program** Purchases of provincial money market securities in the primary market. **Commercial Paper Purchase Program** Purchases of eligible commercial paper in the primary and secondary markets to maintain the smooth flow of credit to corporations.		
Bank of England	**Asset Purchase Facility** A £200 billion increase in the central bank's holdings of UK government bonds and sterling nonfinancial investment-grade corporate bonds to a total of £645 billion. **COVID-19 Corporate Financing Facility** For 12 months the central bank and Treasury will purchase commercial paper of maturities up to one year issued by companies making a material contribution to the UK economy.		
Bank of Japan	**Outright purchases of commercial paper and corporate bonds** A temporary (until the end of September 2020) increase in holdings of corporate bonds and commercial paper, moving from reinvesting proceeds of maturing assets into making net purchases. **Policy actions to enhance the liquidity and functioning of short-term funding markets** The Bank of Japan announced funds-supplying operations against pooled collateral and purchases of Japanese government securities with repurchase agreements. In addition, it conducted unscheduled outright purchases of Japanese government bonds and expanded its Securities Lending Facility.		**Purchase of Exchange Traded Funds and Real Estate Investment Trusts** A doubling in the pace of exchange-traded fund (ETF) purchases.
European Central Bank	**Pandemic Emergency Purchase Program** Purchases of private and public sector securities, until the end of 2020, up to a total amount of EUR 750 billion. Expanded European Central Bank Asset Purchase Program, with additional EUR 120 billion in asset purchases focusing on the corporate sector. The collateral eligibility was amended to promote inclusion of corporate sector securities.		
US Federal Reserve	**Primary Dealer Credit Facility** Provision of credit to primary dealers in exchange for a broad range of collateral for term funding with maturities up to 90 days. **Commercial Paper Funding Facility** Purchases from eligible issuers, via a Special Purpose Vehicle (SPV), of three-month US dollar–denominated commercial paper. **Money Market Mutual Fund Facility** Provision of liquidity to eligible money market mutual funds.	**Primary Market Corporate Credit Facility** Purchases of investment-grade bonds and some bonds recently downgraded from investment grade from eligible issuers, via an SPV, and loans to eligible borrowers. **Secondary Market Corporate Credit Facility** Purchases of investment-grade corporate bonds and some bonds recently downgraded from investment grade in the secondary market from eligible issuers. Purchases of investment grade exchange-traded funds (ETFs) along with the remaining funds allocated to high-yield ETF purchases.	**Term Asset-Backed Securities Loan Facility** Loans to holders of certain AAA-rated asset-backed securities, including collateralized loan obligations and commercial mortgage backed securities, based on newly and recently originated consumer and small business loans. **Municipal Liquidity Facility** Purchases of short-term notes issued by US states, counties, and cities.

Sources: National central banks. See URLs in the reference list for more details.

Regulators and supervisory authorities have implemented a range of financial policy measures:

- To allow *banks* to absorb losses and support the flow of credit to the economy, some countries (see Table 1.1) have released *macroprudential buffers* (such as the countercyclical capital buffers, or domestic systemic risk buffers) and issued supervisory expectations that *capital and liquidity buffers* included in the Basel III framework should be used (for example, enabling banks to operate below normal liquidity requirements and to use the capital conservation buffers). Some countries have also temporarily adjusted *supervisory priorities* and eased certain *regulatory requirements*, including delaying stress tests, introducing flexibility for banks in their treatment of nonperforming exposures, or easing other requirements.[21] Some supervisory authorities have also recommended restricting bank dividend payouts.
- Many *insurance* supervisors have focused on regulatory actions to support business continuity and fair treatment of policyholders, for example by supporting a grace period on premium payments for the affected policyholders and allowing more flexibility on supervisory reporting.[22] A few National Competent Authorities have gone beyond the measures set out in the Solvency II framework. Some supervisory authorities have also recommended insurers to restrict dividend payments in order to ensure the health of their capital position in balance with the protection of the insured.
- *Asset managers* have been supported by some targeted measures as well. For example, the US Securities and Exchange Commission halted enforcement actions against affiliated parties' purchases of assets from money market funds and temporarily permitted other open-end mutual funds to borrow from affiliated parties and related funds. Supervisors in several jurisdictions have extended deadlines for regulatory filings.
- *Short-sale bans* have been introduced in many countries to reduce the risk of downward price spirals and prevent further deterioration in liquidity conditions that could create systemic risk. *Circuit breakers* have been triggered in many markets over recent weeks to halt trading temporarily to ensure orderly trading conditions. Some exchanges also reparametrized their circuit breakers.

What Are the Next Steps?

Given that events are still unfolding, it is not possible to fully assess the effectiveness of policies implemented so far, although market sentiment has shown signs of improvement in response to policymakers' actions and risk asset prices have retraced through early April some of their earlier declines. It is clear that a combination of monetary, fiscal, and financial sector policies will continue to be needed going forward to support the stability of the global financial system and to preserve soundness of financial institutions, especially if economic activity remains paralyzed for longer than expected. Some difficult questions, such as maintaining adequate capital at banks, as needed, and providing liquidity support to a broad range of market participants, including nonbank financial institutions, may have to be addressed if the situation evolves according to a more severe scenario.[23]

Furthermore, some constraints on policy options may emerge. Given that policy rates in most advanced economies are now close to or below zero (Figure 1.17, panel 1), asset purchases and forward guidance about the expected policy path will likely be the main tools in the central banks' monetary policy arsenal going forward, but room may be reduced given already very low long-term rates. In terms of macroprudential tools, only about a third of systemically important jurisdictions had the option of releasing the countercyclical capital buffers before the virus outbreak (Figure 1.17, panel 2), though some countries may also be able to ease other macroprudential tools. Given that some countries have limited or no fiscal space, it may be challenging for them to provide credible fiscal backstop.

While the central bank emergency facilities have been extended to many segments of financial markets, there are still some that are beyond the reach of current

[21]For example, the US Federal Reserve has temporarily relaxed supplementary leverage ratio requirements to exclude on-balance-sheet holdings of US treasuries and deposits at the Federal Reserve from ratio's denominator to enhance the ability of large bank holding companies to provide market liquidity. For further details, see https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200401a.htm.

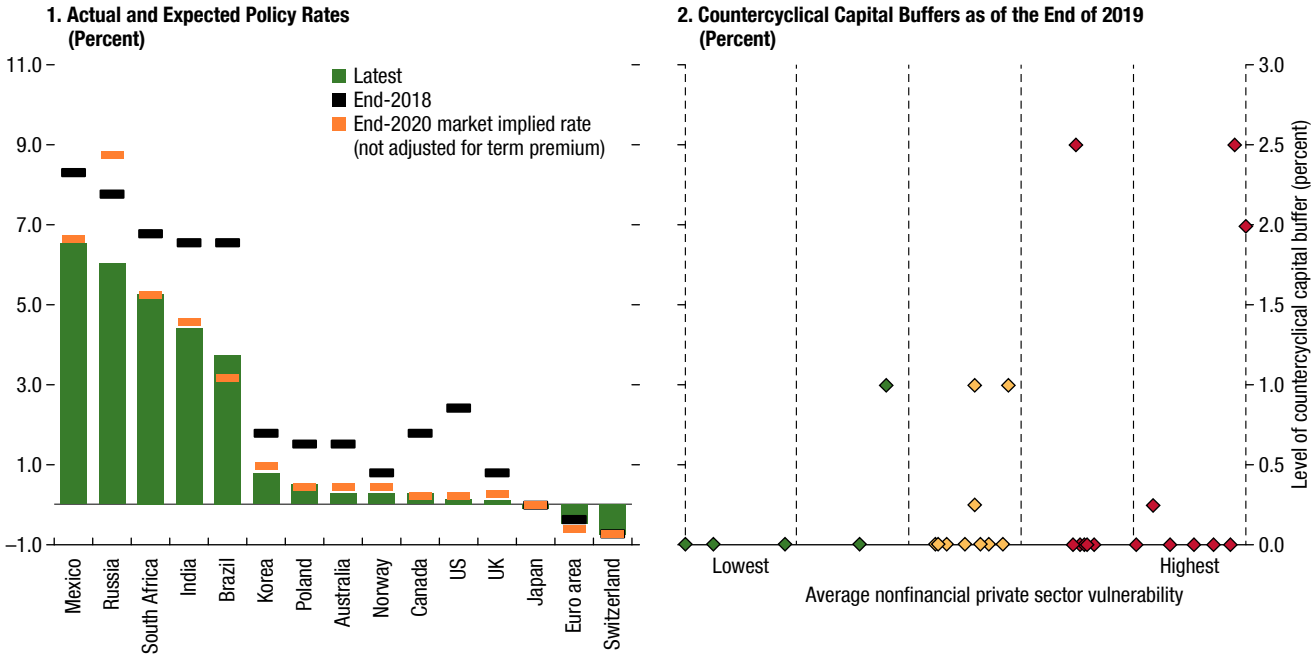
[22]The European Insurance and Occupational Pensions Authority issued a statement noting Solvency II provides flexibility in extreme situations in the ladder of supervisory interventions, including measures to extend the recovery period of affected insurers.

[23]For example, the European Commission has introduced the temporary state aid framework, which provides significant flexibility and waives burden-sharing requirements for government support to banks including via precautionary recapitalizations.

Figure 1.17. Shrinking Monetary and Macroprudential Policy Space

Policy rates are close to or below zero in many countries, and few additional rate cuts are expected.

Despite rising vulnerabilities, relatively few countries had built up countercyclical capital buffers before the pandemic.



Sources: Bank for International Settlements; Bloomberg Finance L.P.; Haver Analytics; and IMF staff calculations.
Note: Panel 2 shows the latest data on the countercyclical capital buffer (CCYB) levels in 29 systemically important jurisdictions with low (1) to high (5) vulnerabilities in the nonfinancial private sector (average of the household and nonfinancial corporate sectors weighted by the level of debt in each sector), based on the information used to draw Figure 1.10. Green diamonds are used for the lower two quintiles, yellow for the middle quintiles, and red for the upper two quintiles. The CCYB rates are as of February 2020.

facilities, such as riskiest credit markets. In several countries, efforts are under way to close these gaps.[24] Central bank measures to support the *corporate sector* appear to have improved market functioning, eased near-term liquidity stress, and boosted market sentiment, as discussed above. However, there were still some signs of bifurcation in the risky credit markets through early April, with the gap between investment- and speculative-grade spreads widening and limited issuance in riskier credit markets. Should financial conditions deteriorate further, and credit downgrades and defaults rise meaningfully, authorities may consider further measures to support the flow of credit to the broader economy.

[24]For example, the US Federal Reserve is rolling out the Main Street New Loan Facility (MSNLF), the Main Street Expanded Loan Facility (MSELF), and the Paycheck Protection Program Lending Facility (PPPLF). The Main Street facilities are backed by $600 billion from the CARES act with $75 billion in equity from the US Treasury and will provide loans to businesses. The PPPLF will provide term financing to lenders backed by Paycheck Protection Program (PPP) loans to small businesses that are 100 percent guaranteed by the Small Business Administration.

What Should Be the Guiding Principles for Financial Sector Policies?

The regulatory and supervisory responses to deal with the impact of the pandemic would need to maintain the balance between preserving financial stability, maintaining soundness of financial institutions, and supporting economic activity:

- *Loan restructuring:* In the face of the unprecedented but temporary shock, and of the substantial official sector response, supervisors should encourage banks to prudently renegotiate loan terms for companies and households struggling to service their debts. This should be done without lowering loan classification and provisioning standards. While a loan restructuring may not automatically lead to an increase in credit risk or loan losses, if borrowers remain likely to repay their obligations, banks need to assess their customers' creditworthiness on an ongoing basis and reflect any deterioration in asset quality in a timely manner. In cases where authorities have announced a loan moratorium or repayment holidays, banks may not be

able to reliably assess the implications of the crisis on their customers within a short period of time. Banks should, however, aim to update their assessments as soon as feasible, taking into account the implications of any supporting mechanisms provided by governments and guidance by supervisors.[25]

- *Accounting treatment of credit losses:* Regulators globally have provided guidance on how to apply IFRS 9 Expected Credit Loss (ECL) requirements in light of COVID-19. They have clarified that the requirements should not be applied mechanically and that forward-looking ECL estimates should be reasonable and supportable, taking into account the expected nature of the shock (likely temporary), the impact of the economic support measures, and the scarcity of available and reliable information.
- *Banks:* In the first instance, banks' existing capital and liquidity buffers should be used to absorb financial costs of any customer loan restructuring and to relieve pressures on banks' funding and liquidity using full flexibility within the existing regulatory frameworks. In cases where the impact is sizable and longer lasting and bank capital adequacy is affected, supervisors should take targeted actions, including asking banks to submit credible capital restoration plans. In such cases, authorities may also need to step in with fiscal support to banks' clients—either direct subsidies or tax relief to help borrowers to repay their loans and finance their operations—or provide credit guarantees to banks. Throughout this process, transparent risk disclosure and supervisory expectations on dealing with the implications of the outbreak will be important for market discipline to work effectively. Supervisors should also discuss operational risks associated with the COVID-19–related containment measures and business continuity plans with banks.
- *Insurance companies:* Insurance solvency frameworks in many jurisdictions include a ladder of supervisory intervention that allows for some flexibility of regulatory actions in cases of extreme market stress, including measures to extend the allowed recovery period of affected insurers. While temporary regulatory accommodation may be necessary, supervisors should not signal a lowering of standards. Supervisors should ask insurers to prepare credible plans to ensure that they can maintain or restore their solvency positions while continuing to provide necessary insurance cover to policyholders. Supervisors should also consider the macroprudential implications so that the actions they take do not incentivize the fire sale of assets through enhanced liquidity risk monitoring and management.
- *Asset managers:* Regulators should ensure that risk management frameworks are being applied in a robust and effective manner. Regulators should support the availability of the widest possible set of liquidity management tools (such as gates/deferred redemptions, swing pricing) and encourage fund managers to make full use of the available tools where it would be in the interests of unitholders to do so. Depending on the asset classes within the portfolio, a fund manager may face difficulties in obtaining timely and reliable valuations. Authorities should monitor developments and seek to provide clarity to fund managers on their expectations, including on the circumstances in which use of liquidity management tools, including a (temporary) suspension of redemptions, may become appropriate.
- *Financial markets:* For circuit breakers, volatility controls, and other market resilience measures to be effective, they need to be well calibrated, clearly defined, and appropriately communicated. When adopting temporary restrictions, such as the use of short selling, authorities should consider the potential negative impact on liquidity and price discovery and ensure that they are justified to support market confidence and financial stability. The restrictions should be temporary and only implemented within a predictable and reliable framework.
- *Liquidity provision by central banks:* Central banks may intervene to prevent impairment in money, securities, and foreign exchange markets that could emerge in the wake of financial disruptions, that is, when funding or market liquidity deteriorates substantially relative to normal conditions or if dealers are not able to trade assets at reasonable prices and without excessive price fluctuations. The lending operations may involve short- and long-term repo operations (reverse repurchase agreements), discount window (possibly at longer maturities), and foreign exchange swaps. The outright asset purchases, which can take the form of a program to buy securities or foreign exchange, may be appropriate to improve market liquidity. To effectively target the source of the market disruption, central banks may need to expand the range of eligible

[25]In its April 3, 2020, statement, the Basel Committee provided clarifications on how various extraordinary support measures should be treated in the regulatory framework (such as using the sovereign risk weight in relation to loans guaranteed by governments and the treatment of moratoria). See https://www.bis.org/press/p200403.htm.

collateral (for both lending and outright operations) beyond what they accept during normal times while also expanding the range of counterparts with whom they deal. Central banks should also carefully assess which markets are critical to support in order to maintain financial stability, while ensuring the design of the program, as much as possible, minimizes moral hazard and the risks to the central bank.

How Should Emerging and Frontier Markets Address External Pressures?

Emerging market and developing countries may be particularly hard hit by the virus outbreak given their dependence on external funding, increased leverage, and high reliance on commodity production for some economies (as discussed in Chapter 3 of this report):

- *Manage exchange rate pressures:* Many emerging markets are already facing volatile market conditions due to sharp reversals of portfolio flows. Exchange rate flexibility should be used, where feasible. Multilateral and bilateral swap lines may be needed to alleviate foreign currency funding pressures. For countries with adequate reserves, exchange rate intervention can lean against market illiquidity and thus play a role in muting excessive volatility. However, interventions should not prevent necessary adjustments in the exchange rate. Interventions should be planned on the basis that the pressures arising from the current crisis might last several months or longer. If macroprudential buffers exist, their relaxation can reduce the impact of the current shock on market conditions and on the overall economy. For example, foreign currency reserve requirements can be relaxed to mitigate foreign-exchange funding pressures.
- *Managing capital outflows:* In the face of an imminent crisis, introducing outflow capital flow management measures (CFMs) could be part of a broad policy package, but CFMs cannot substitute for warranted macroeconomic adjustment. Considerations to introduce CFMs need to have due regard to the country's international obligations. CFMs generally need to be broad-based and effectively enforced to reduce capital outflows. Such measures should be implemented in a transparent manner, be temporary, and be lifted once crisis conditions abate.
- *Prepare for longer-term external funding disruptions:* Sovereign debt managers should put in place contingency plans for dealing with limited access to external funding markets for a prolonged period. From the perspective of the trade-off between cost and risk, reducing rollover risks should take priority over concerns about containing costs when there are large downside risks stemming from potential loss of market access. Using cash buffers may become necessary, and some countries may need to seek bilateral and multilateral assistance (see the April 2020 WEO). For those countries that are facing rapidly deteriorating debt dynamics, limited market access, high external financing requirements, or high volatility, it may become necessary to preemptively and cooperatively seek a debt resolution with their creditors, including official creditors.

What Should Be the Focus of International Policy Coordination?

Multilateral cooperation can help mitigate the health impact of the COVID-19 pandemic and its damage to the global economy and financial system. In the first instance, cooperation is needed to avoid price controls and ease trade restrictions on essential medical supplies. Bilateral and multilateral swap lines may need to be provided to a broader range of emerging markets. Greater international coordination may also be needed to reduce broader capital flow disruptions. Furthermore, the considerable international efforts to bolster regulation of the financial system since the global financial crisis should be maintained and any rollback of regulation, or fragmentation through domestic actions that undermine international standards, should be avoided.

The IMF, with $1 trillion in available resources, is actively supporting member countries through various lending facilities. The recent doubling of access limits of the IMF's emergency financing facilities will allow the Fund to meet an expected demand of $100 billion in emergency financing, provided through the Rapid Credit Facility and the Rapid Financing Instrument, of which the former is only for low-income countries. The Catastrophe Containment and Relief Trust can currently provide about $500 million in debt service relief, including the recent $185 million pledge by the United Kingdom and $100 million provided by Japan, as immediately available resources. Official bilateral creditors have been called upon by the IMF Managing Director and the World Bank President to suspend debt repayment from International Development Association countries that request forbearance. This action would help with their immediate liquidity needs to address the challenges of the pandemic.

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