Economic Insights: Impact of COVID-19

EVALUESERVE
POWERED BY MIND+MACHINE

Analysis of Fiscal and Policy Response by G20 Nations

July 2020

COVID-19: How is This Recession Different?

- Bottoms-up in nature and began as a supply shock.
- Supply shock, that originated in China, led to supply chain issues and inventory shortage across the world.
- As the virus spread, the crisis switched from supply concerns to a broader demand crisis, as the mandatory quarantine measures were introduced, which led to complete economic shutdown

Parameters	1929-41 Great Depression	1970-80s Oil Price crisis	2009 Global Financial Crisis (GFC)	2019- ? COVID-19
Transmission of crisis	↓	↓	↓	↑
Sectors initially impacted	Industrial	Industrial	Banking	Consumption
Monetary/fiscal policies	Intermittently expansionist/ tightening	Expansionist/ geopolitical	Expansionist	Expansionist; complemented by support of healthcare systems

Please refer to our previous blog for a more detailed analysis:
https://www.linkedin.com/feed/update/urn:li:activity:6664157552634273794

COVID-19 Crisis – Overview of G20 Countries' Global Fiscal and Monetary Measures

$8tn[1]

Total global fiscal spending 5.6% of 2019 GDP

Economic support provided by almost every major country can be broadly classified into

I. **Direct welfare support** provided to individuals through unemployment benefits and deferral of tax and utilities payments

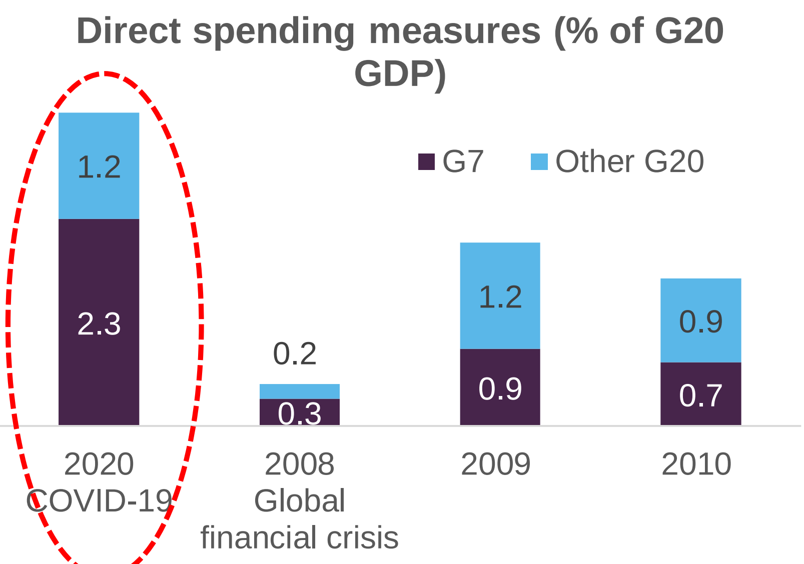
II. **Direct and indirect support to** businesses and firms in the form of loans, loan guarantees, deferral of installments, tax credits, purchase of equity in affected companies

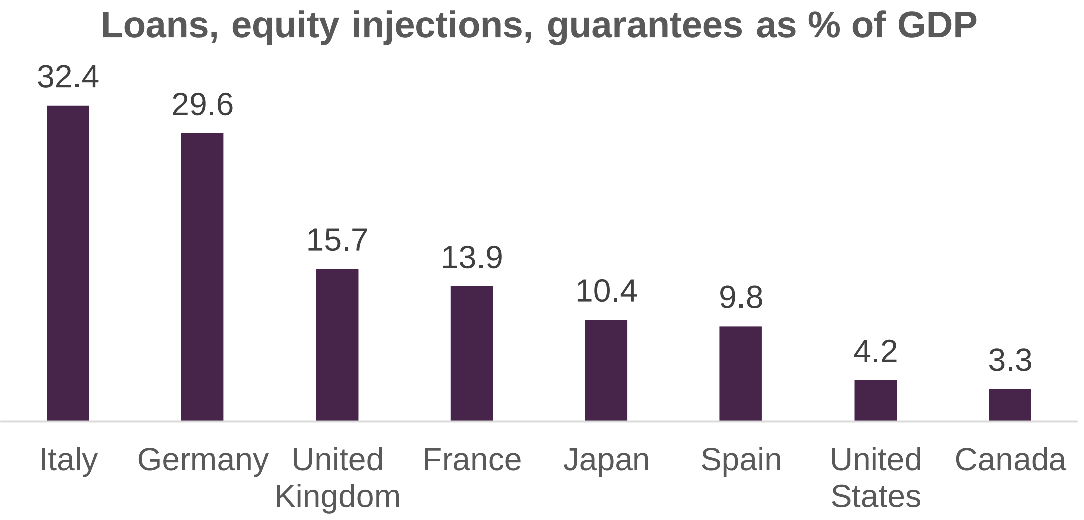
III. **Monetary stimuli** through reduction in interest rates and open market purchases of corporate debt

Developed countries, with higher levels of industrialization, such as the US and Germany, have adopted policies that direct substantial amounts to guaranteeing corporate debt and bailouts (such as the bailout of Lufthansa by Germany). **Emerging economies** have primarily focused on providing welfare support to weaker and affected households.

Global fiscal spending by G20 to contain COVID-19 has been higher than that invested during the global financial crisis of 2008-09, particularly in the case of G7 countries.

Direct fiscal spending has been backed by countries providing loans and credit guarantees for corporate and banking loans, apart from equity injections.

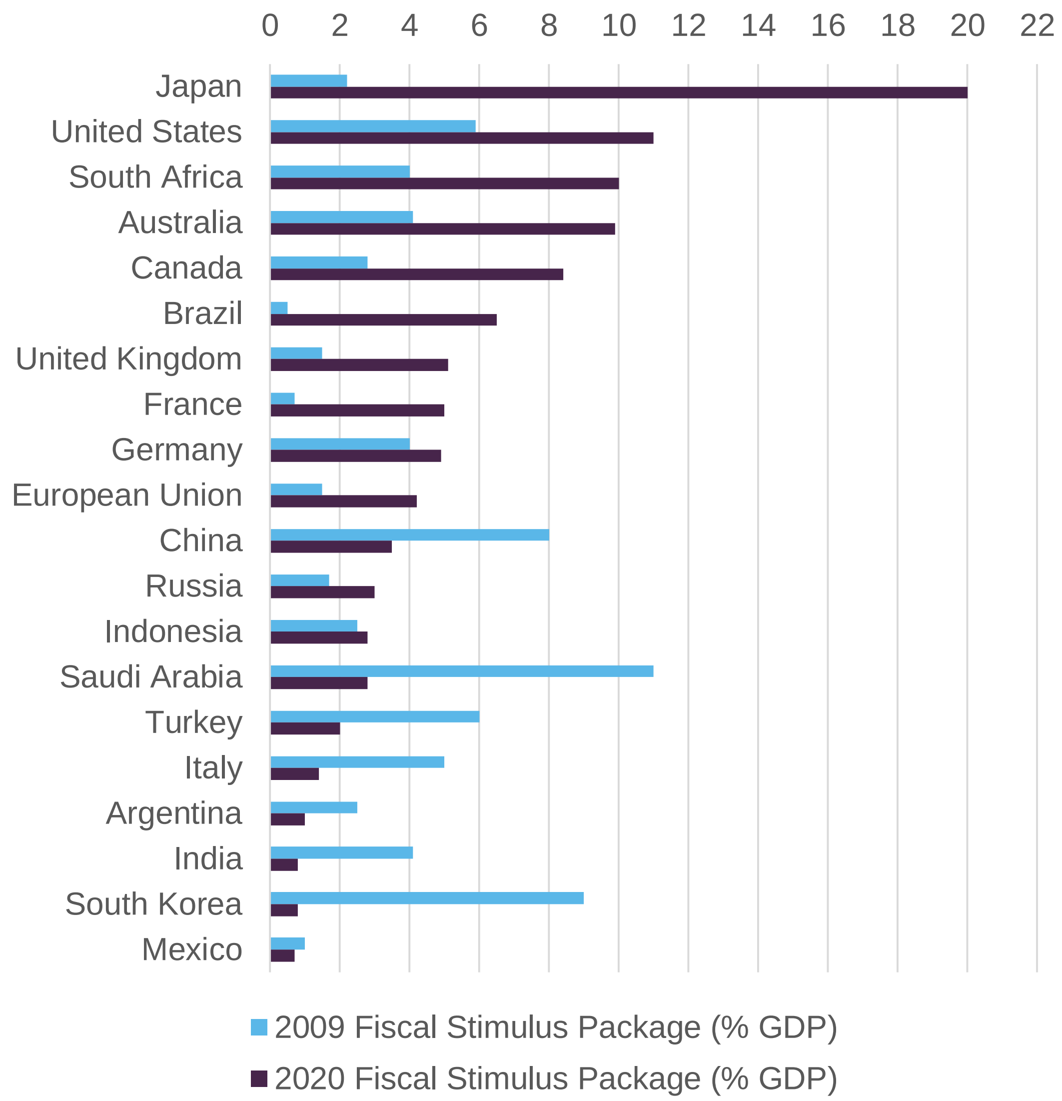


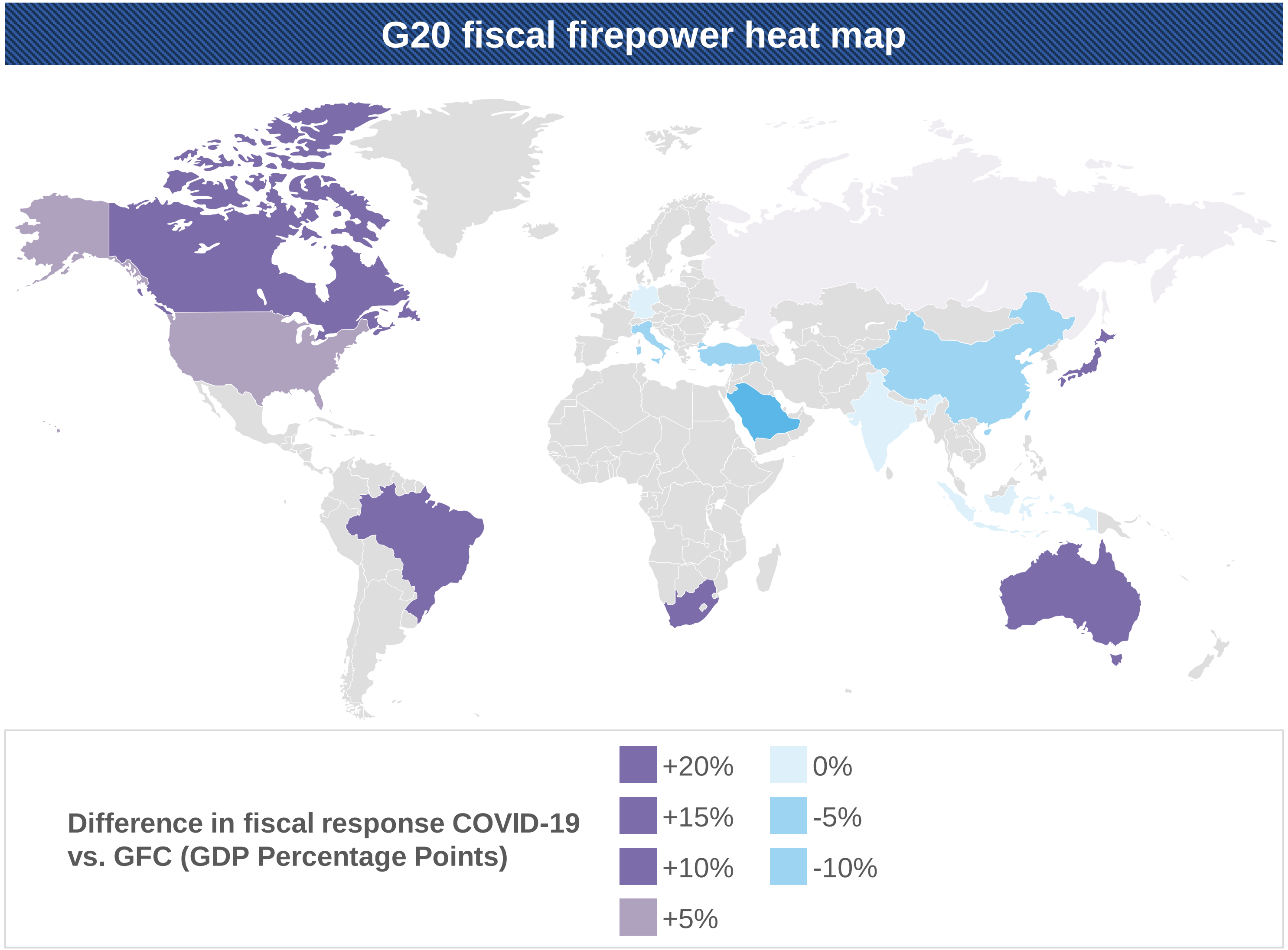


1. Stimulus amount for G20 countries only

Sources: IMF; 1. As of 15 April 2020

Fiscal Stimulus Packages by G20 Nations During COVID-19 vs. Measures Taken After Global Financial Crisis (GFC)





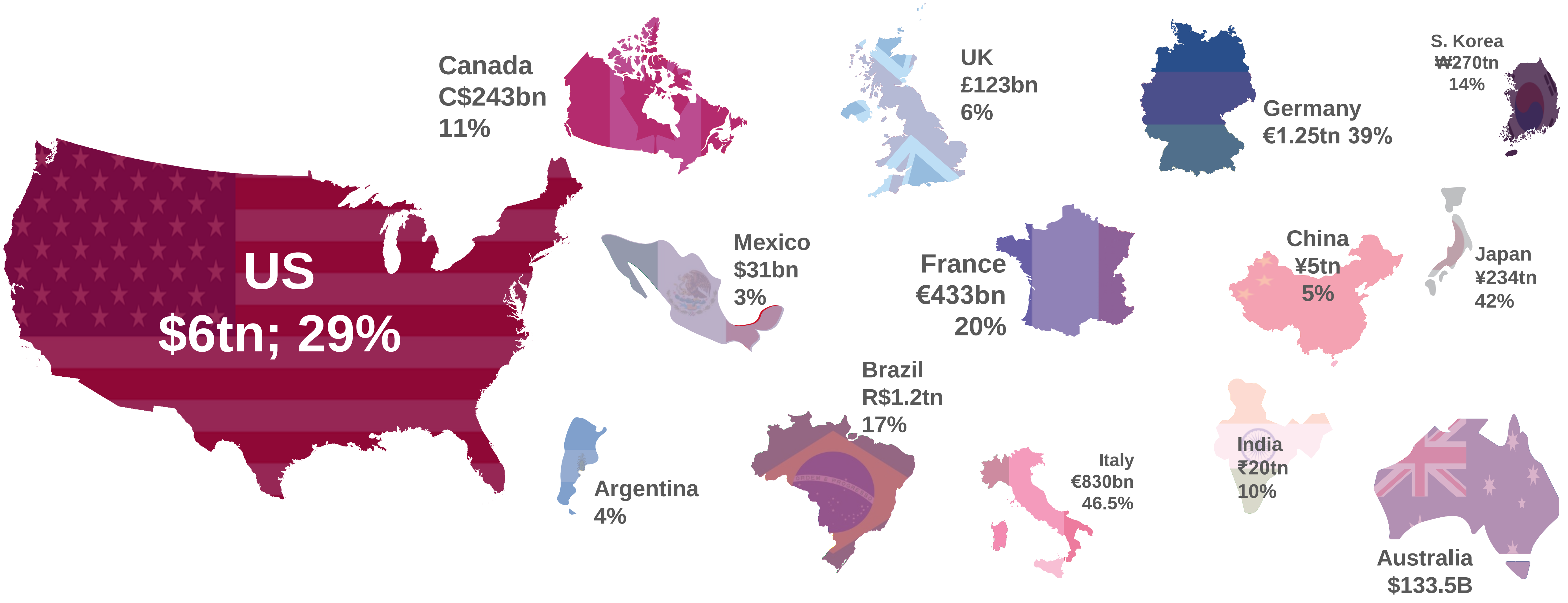
Source: IMF Policy Tracker, EC & ILLS, World Bank, IMF GDP Data
Map does not include additional European Union Fiscal Measures and includes Implemented and Announced Fiscal Measures as of April 17, 2020.

GFC vs COVID-19 Crisis: Comparing Global Fiscal and Monetary Measures

	Monetary Policy (Balance Sheet expansion, rate cuts)		Headline Fiscal Impulse (% of GDP)	
Country	**GFC (Dec 2007 -June 2009)**	**Current Crisis (2020- till now)**	**GFC (% 2008 GDP, as of March 2009)**	**Current Crisis (as % of 2019 GDP) ***
US	412.5bps (to 0.125%) B/S expansion : 9% of GDP	125bps (to 0.125%) B/S expansion : 14% of GDP	6.6%	9.7%
Euro Area	300bps B/S expansion : 7% of GDP	??? B/S expansion : 8% of GDP	4.1%	6.8%
UK	500bps to 0.5% B/S expansion : 9% of GDP	65bps to 0.1%	4.9%	6.2%
Japan	40bps	B/S expansion : 10% of GDP	5.7%	4.3%
China	-	7-day rate - 30bps	1.7%	4.9%
India	425bps	115bps	0.6%	-
Brazil	500bps	125bps	1.7%	3.3%
Russia	Increased by 150bps	50bps	10.4%	6.8%

Source: https://www.iif.com/Portals/0/Files/Databases/COVID-19_responses.pdf?ver=2020-06-12-173749-083, BIS, IMF Covid-19 Policy Tracker
*Numbers are IMF forecasts.

COVID-19: World's Economic Programs Against The Coronavirus Pandemic



Data as on 6/4/20
Dollar amounts calculated by multiplying package in local currency as %of GDP by each country's 2019 GDP in USD

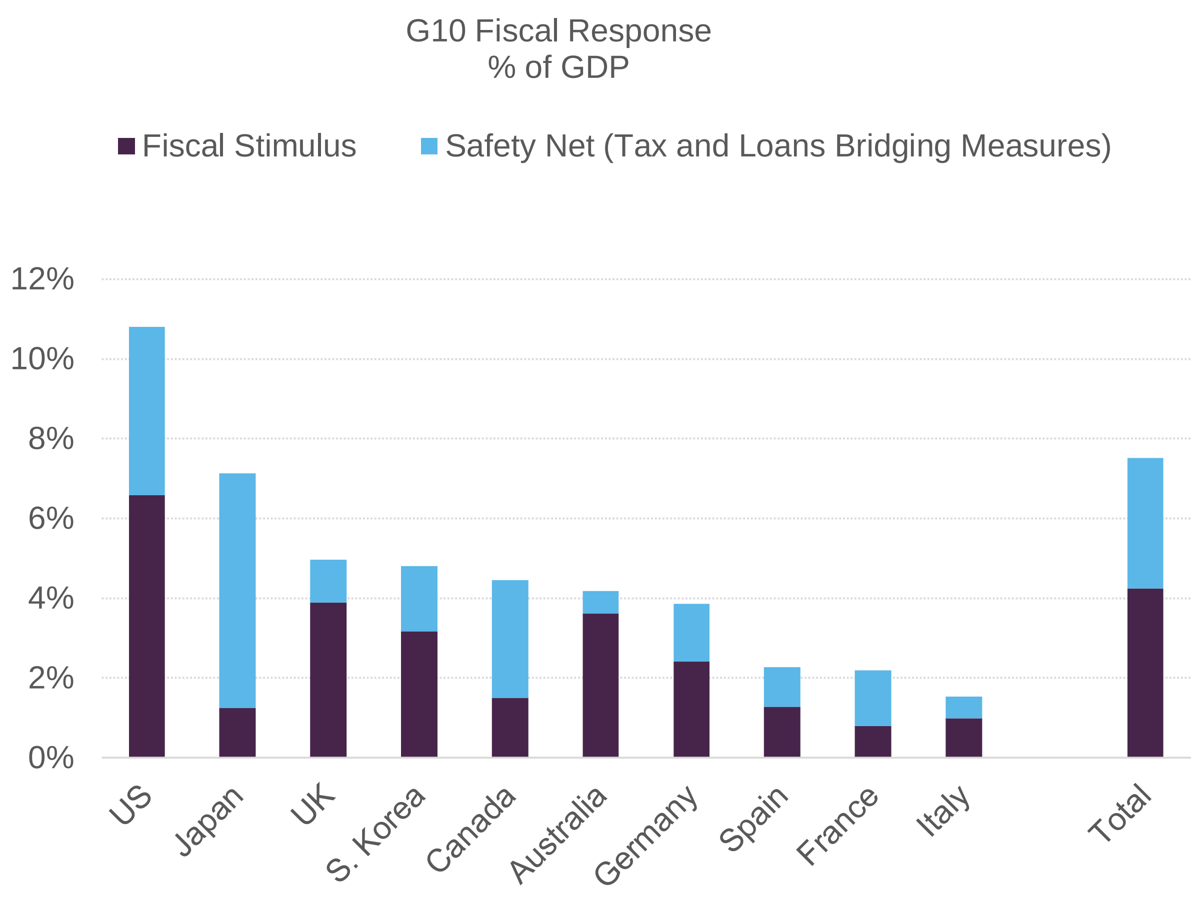
Source: government announcements and news articles

COVID-19 Economic Response: Can the World Afford these Measures?

Country	Sovereign Rating	Outlook	Actions	Date
US	AAA	Stable	Affirmed	3/26/2020
UK	AA-	Negative	Downgrade	3/27/2020
Germany	AAA	Stable	Affirmed	6/12/2020
Italy	BBB-	Stable	Downgraded	4/282020
Canada	AA+	Stable	Downgraded	6/24/2020
France	AA	Negative	Affirmed	5/15/2020
Japan	A	Stable	Affirmed	2/2/2020
Brazil	BB-	Negative	Affirmed	5/5/2020
Mexico	BBB-	Stable	Downgraded	4/15/2020
Argentina	RD		Downgraded	5/26/2020
India	BBB-	Negative	Affirmed	6/18/2020

*Safety net measures include tax deferrals& temp loan bridge programs
Source: Federal Reserve Bank Dallas, Bloomberg, World Bank, Reuters, Fitch Rating

Fiscal Safety Net* G10 Nations

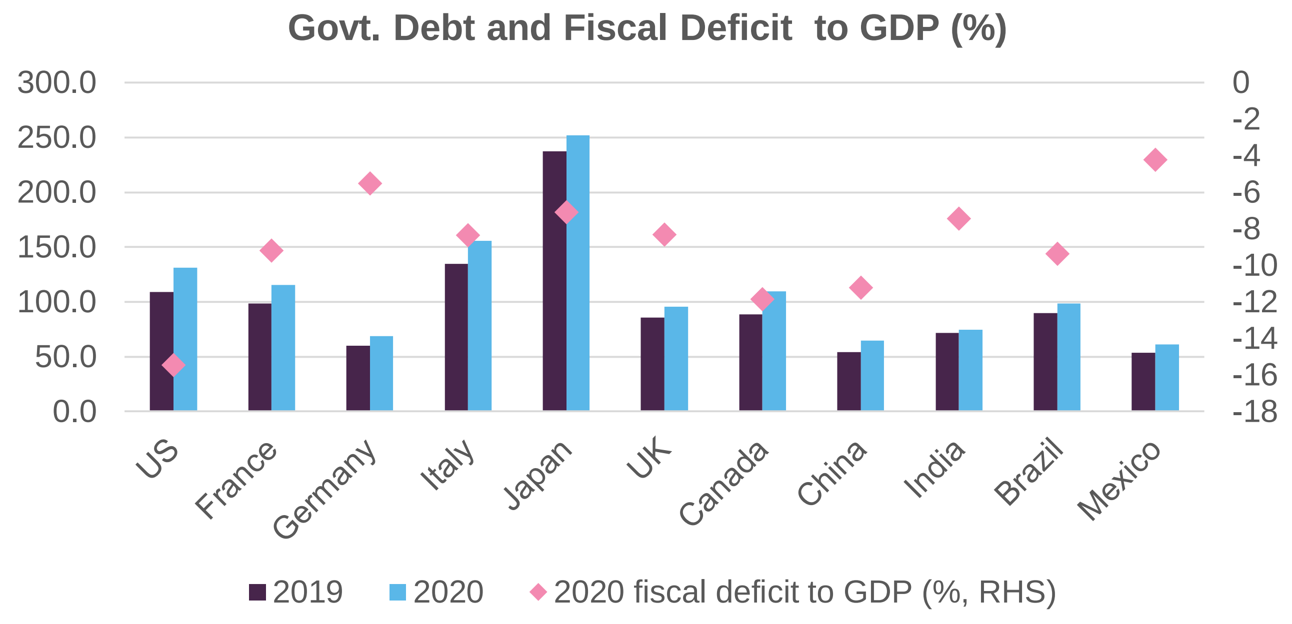


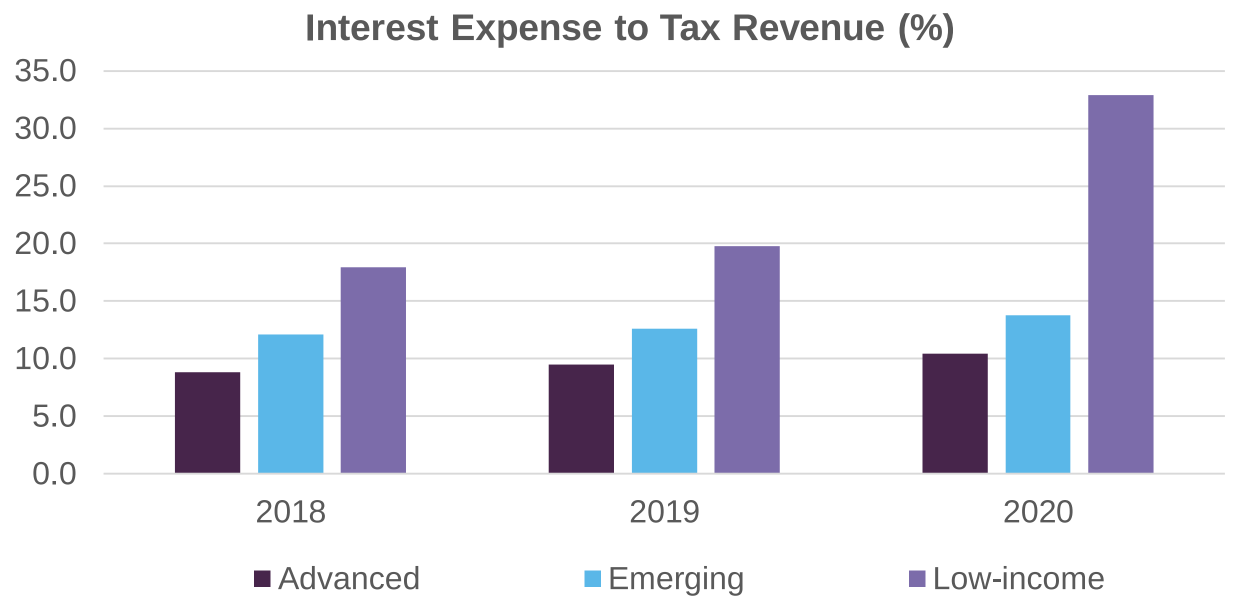
*Total of measures announced since the COVID-19 crisis started up to

EVALUESERVE

COVID-19 Economic Response: Advanced Economies to Fare Better Than EMs

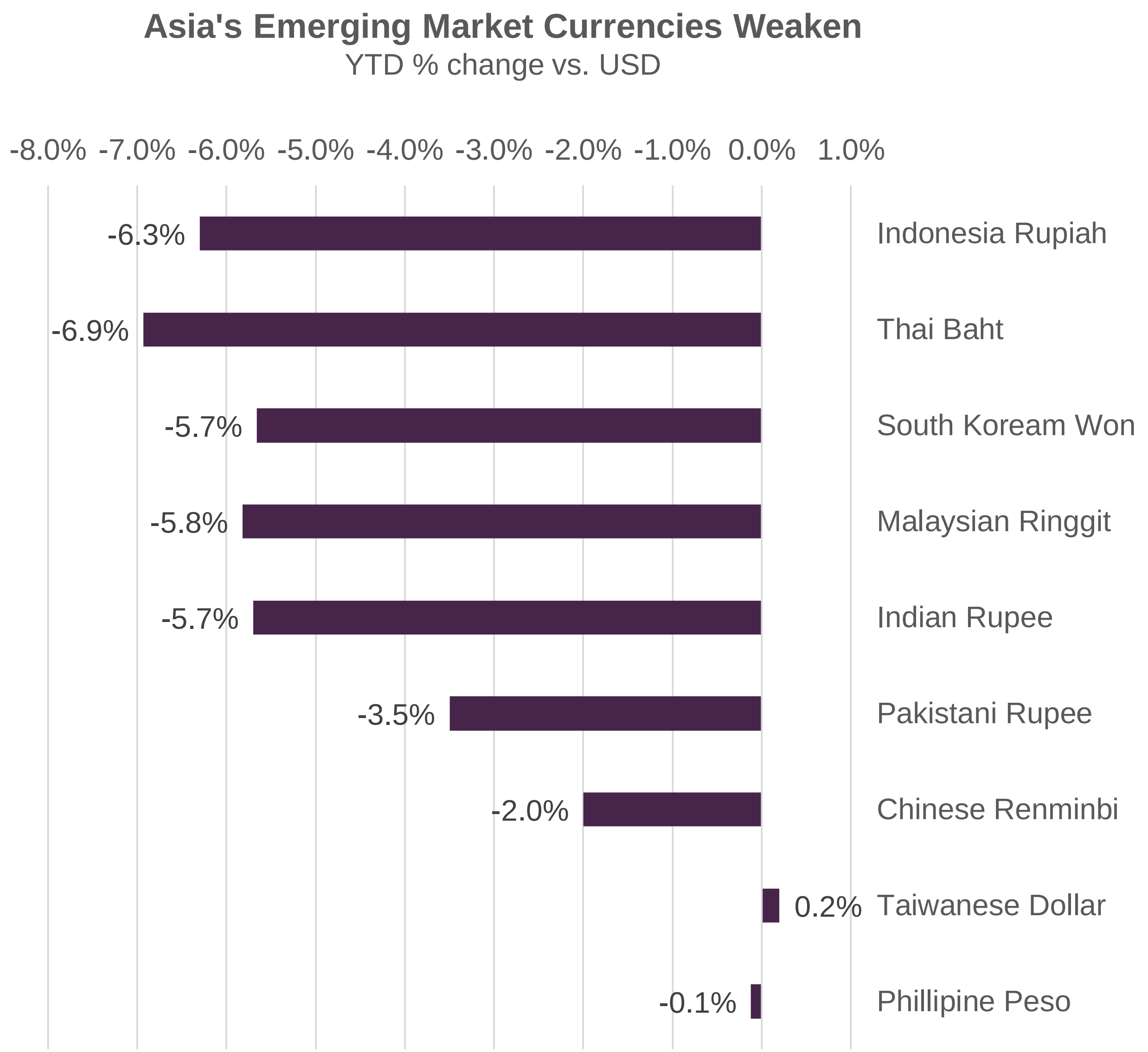
- In April 2020, **S&P affirmed its sovereign rating** for several developed countries, after these governments announced their fiscal policies.
- Economists believe that **developed countries are unlikely to face any downgrades** in their rating for now.
- **Developing economies have already seen downgrades** in their rating, implying their declining ability to meet the increasing fiscal burden of their COVID-19 response.
- A **combination of fiscal and monetary stimulus** will likely result in a **larger 'multiplier' effect** on economic activity.
- The ratio of government debt to GDP is expected to increase by 2–22 percentage points for key economies in 2020.
- Interest expenses to tax revenue are expected to show marginal increase for advance countries but a very large increase for Emerging and Low-Income Economies
- Higher deficits and government debts can create inflationary pressures, if the central banks resort to increasing the supply of currency (interest rates are already at historic lows in many countries).

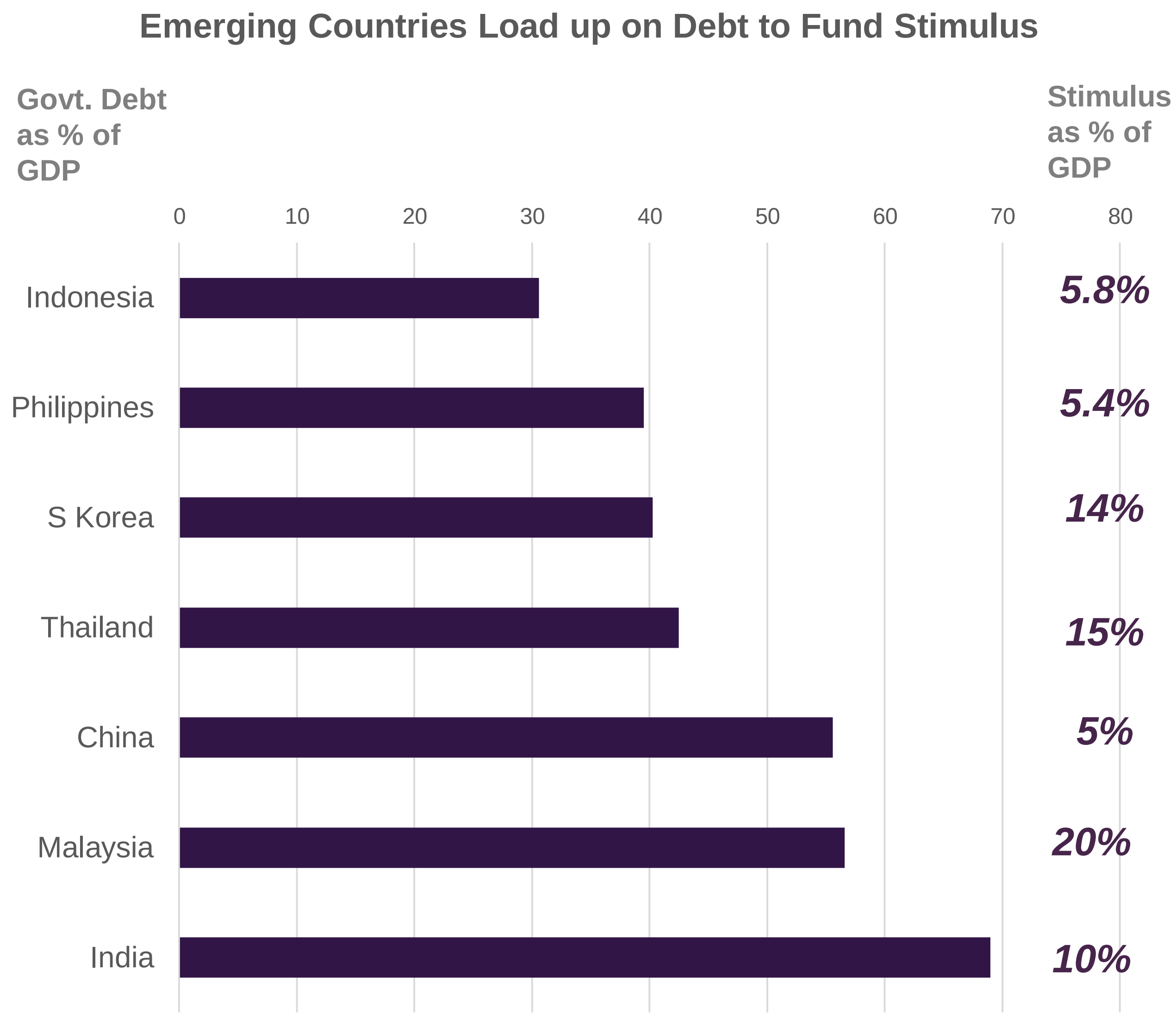




*Safety net measures include tax deferrals& temp loan bridge programs
Source: Federal Reserve Bank Dallas, Bloomberg, World Bank, Reuters, S&P

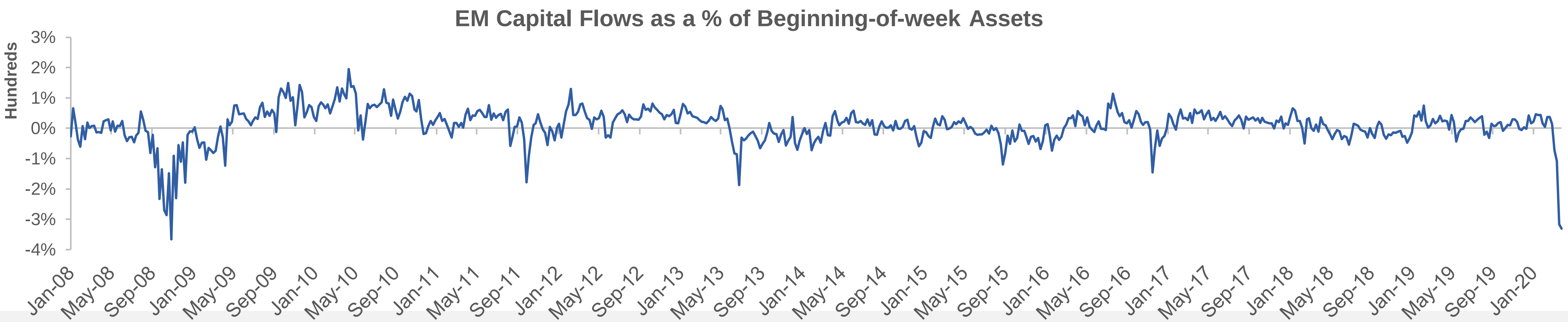
COVID-19: Limited Fiscal Headroom in Emerging Economies - Currencies already strained"





Source: Federal Reserve Bank Dallas, Bloomberg, World Bank . * Based on government announcement and data from ADB Database

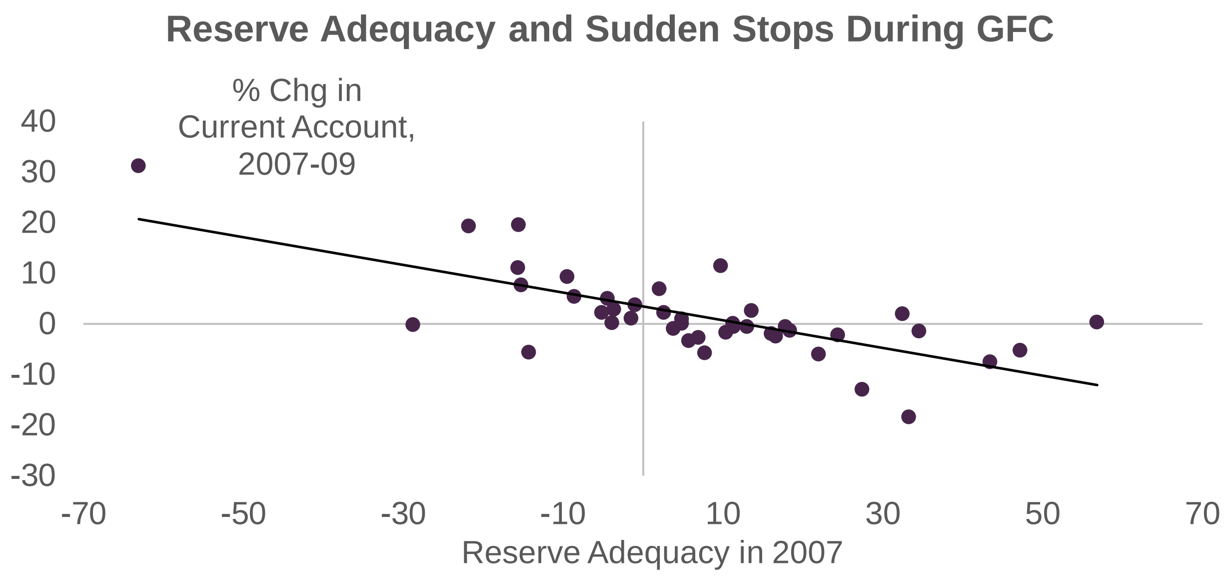
COVID-19: Emerging-Market Economies Face a 'Sudden Stop' in Capital Flows

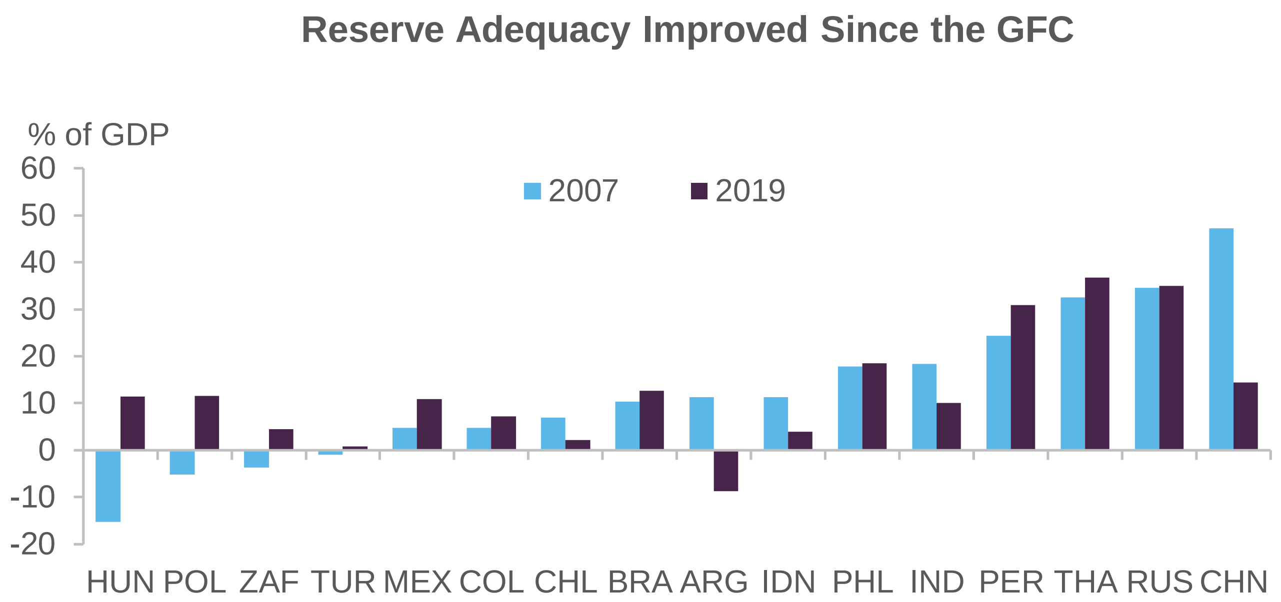


- Capital inflow in EM economies has plummeted due to the rapid spread of COVID-19. Collapsing growth and rising debt levels lead to higher interest rates and capital flight from emerging market assets. This creates a vicious cycle with increasing outflows.
- According to data from the IIF, EMs reported debt outflows of $31 billion in March 2020, the second-highest monthly outflow (the highest was in October 2008), and emerging equity fund outflows of $52.4 billion in May 2020
- While we saw some stability due to increasing QE by central banks, emerging markets with their shallow capital markets remain vulnerable to further currency shocks caused by sudden capital outflows.

Source: Federal Reserve Bank Dallas, Bloomberg, World Bank

COVID-19: Reserve Adequacy for EMs Has Improved Since GFC





During the GFC, countries with lower reserve adequacy witnessed a higher increase in the value of current accounts. Consequently, they observed a larger dip in net capital inflows (see scatter plot regression of 42 EMs). The trend line, in the scatter plot, implies that a fall in reserve adequacy, equivalent to 10% of the GDP in 2007, translates to a decline in net capital inflows equating to 2.7% of the GDP during 2007–09.

Evidently (see chart on RHS), reserve adequacy in EM economies has improved since 2007. Four of the 16 countries in the graph had negative reserve adequacy in 2007, implying that the central banks of these countries did not have enough reserve and required additional foreign borrowing to sustain for a year. Of those 16, only one country had negative reserve adequacy in 2007. Notable improvement has been observed in the Eastern European countries, such as Hungary and Poland, followed by Latin American countries, such as Mexico, and to a certain extent Colombia and Brazil. Reserve adequacy in South Africa, Turkey, and Indonesia is in low single digits.

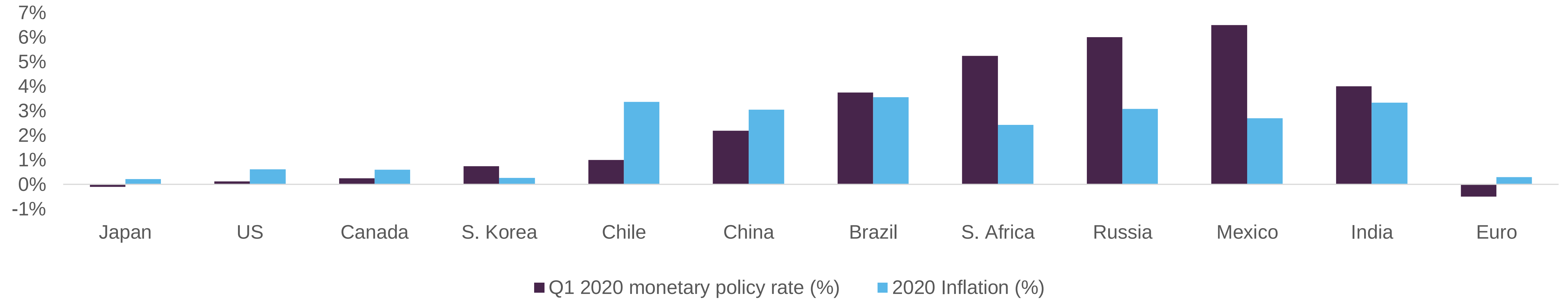
In general, emerging markets seem better positioned and have higher reserve adequacy now than that during the GFC.

Source: Federal Reserve Bank Dallas,, World Bank, Moody’s

COVID-19: Limited Space for Additional Economic Stimulus

- Central banks with the least monetary space are characterized by combination of low interest rates and high inflation, that makes it difficult to frame further accommodative policy provisions.
- High budget deficits and public debt make it difficult for banks with lower fiscal space to get further borrowing.
- The central banks across developed economies have **little wiggle room for additional monetary policy actions**, as policy rates are at historical lows (<1% and negative in some cases).
- Considering the high interest rates, emerging economies can definitely accommodate more interest rate cuts. However, a wider inflation in consumer prices (vs. developed economies) will certainly make them more cautious.
- Even though the central banks are not able to further cut interest rates in countries such as the US and Canada, they can still use some innovative measures to inject liquidity in the market. For example, the US Federal Reserve provided guidance on interest rates, in addition to purchasing government securities. The Central Bank of Japan has been purchasing REITs to inject liquidity in the system.

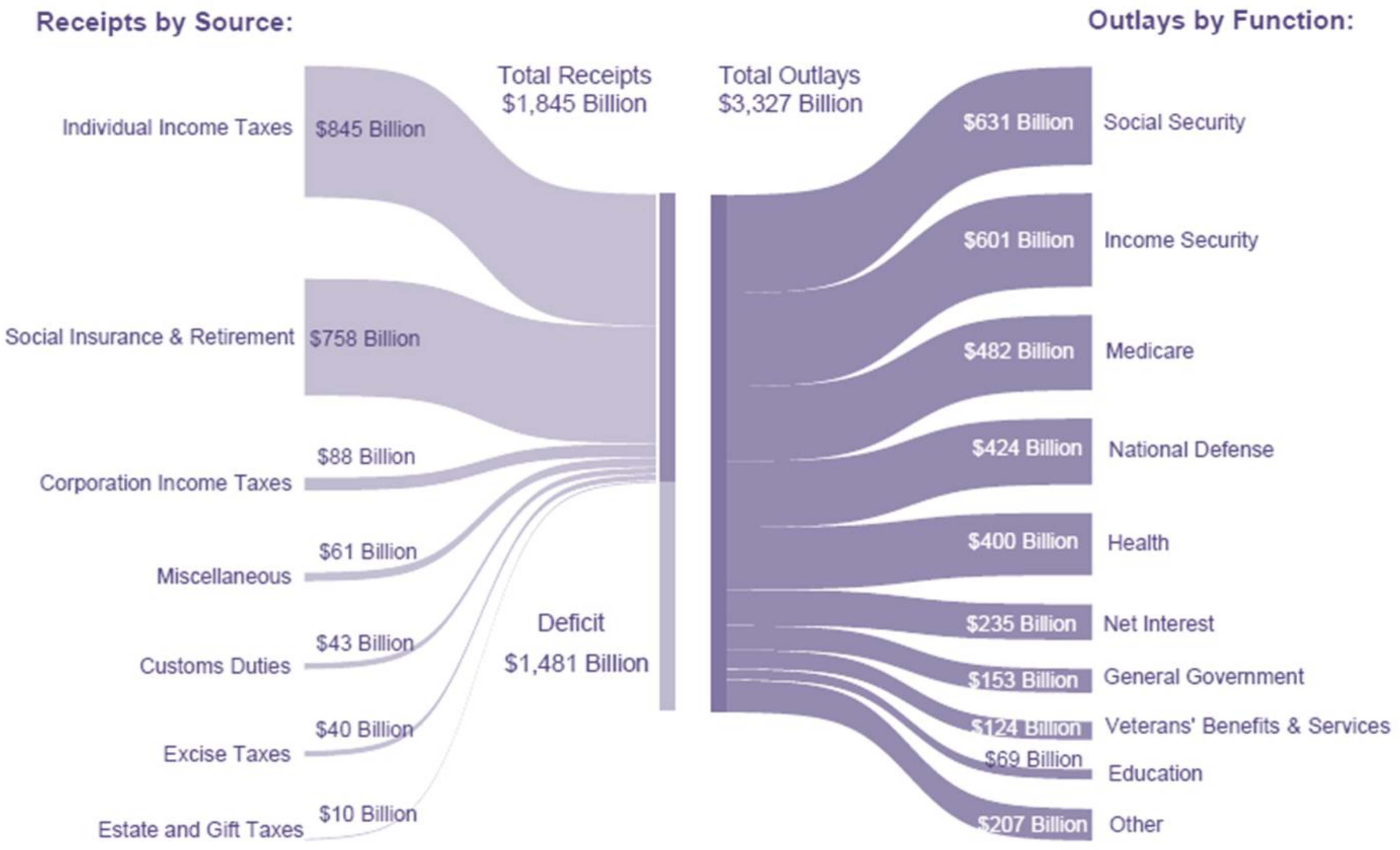
Room for Stimulus in Monetary Policy



Source: WEO Outlook April 2020, International Financial Statistics, Eurostat, BIS

COVID-19 Stimulus: How is US Funding the Stimulus?

Summary of Receipts by Source, and Outlays by Function of the U.S. Government, Fiscal YTD April 2020 [$ millions]



Source: U.S. Treasury, NPR and CBO
CBO estimates as on 4/29

COVID-19 Stimulus: How is the US Funding the Stimulus? (contd.)

- **The U.S. Treasury announced plans to issue a significant amount of debt** to fund the requirements of the CARES Act, to cover delayed tax revenues and increased end-of-June Treasury cash balance (assumed).
- **The Treasury has plans to borrow ~$3tn between April and June this year and another $677bn between July and September**; historically low interest rates have made it cheaper for the government to borrow money; 10-year Treasury notes are currently yielding about 0.6% (as on 05/04/2020).
- The Congressional Budget Office (CBO) expects the **federal budget deficit to hit $3.7tn by the end of fiscal year 2020, more than 18% of GDP** —the highest level seen since World War II. YTD April 2020 deficit stands at ~$1.4tn.
- The CBO estimates that federal government debt will be 101% of the GDP by the end of 2020 and ~108% by the end of 2021. The total public debt is expected to exceed the size of the economy for the first time since the 1940s.

Where is the money coming from?

Savings:

Interest rates on U.S. Treasury debt and that of many foreign governments were low even before the pandemic. This was because of the sheer volume of savings with individual and institutional investors, implying that there is ample room to increase borrowing at a relatively low cost

Portfolio shifts into U.S. Treasury debt:

In times of crisis, investors often prefer safe-haven assets such as Treasury securities and government debt, especially during periods of low inflation. Thus, its is likely that interest rates will remain low and that the government will be able to fund the huge deficit without facing any negative consequences.

Central banks:

The Fed is buying Treasury bonds from private investors and foreign governments. This has helped lower interest rates on additional new borrowings.

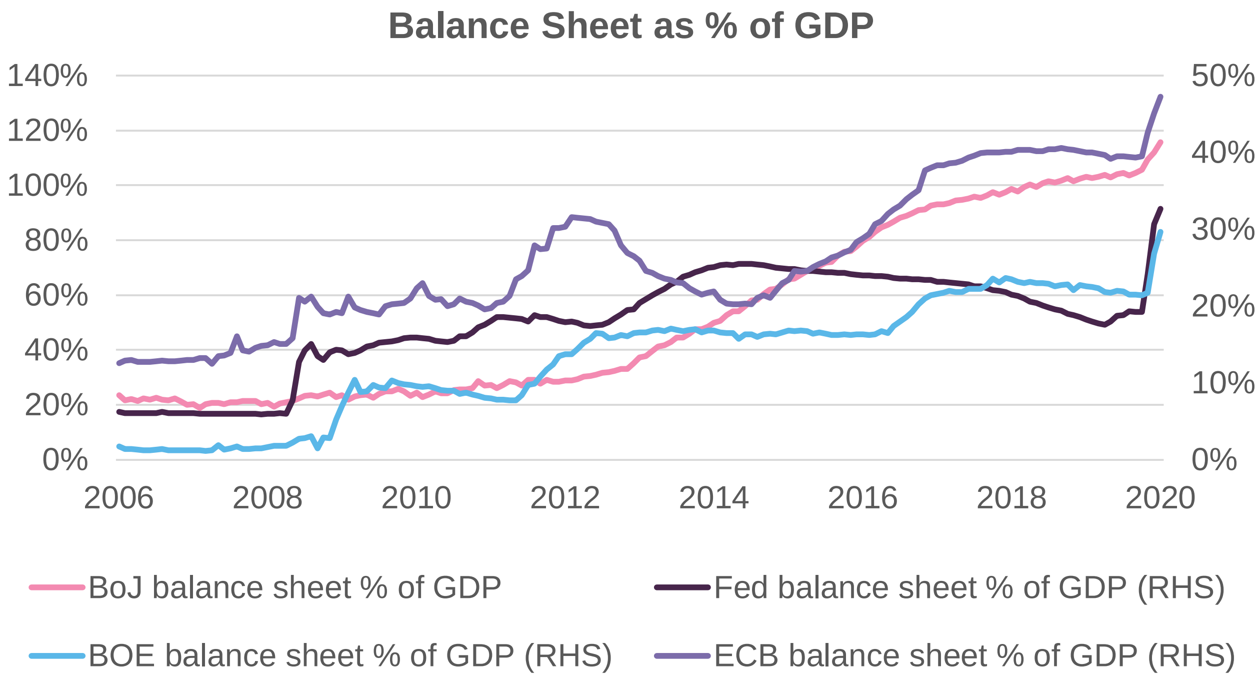
Even if interest rates were to rise in response to the huge increase in borrowing by governments around the world, they are likely to remain quite low by historic standards.

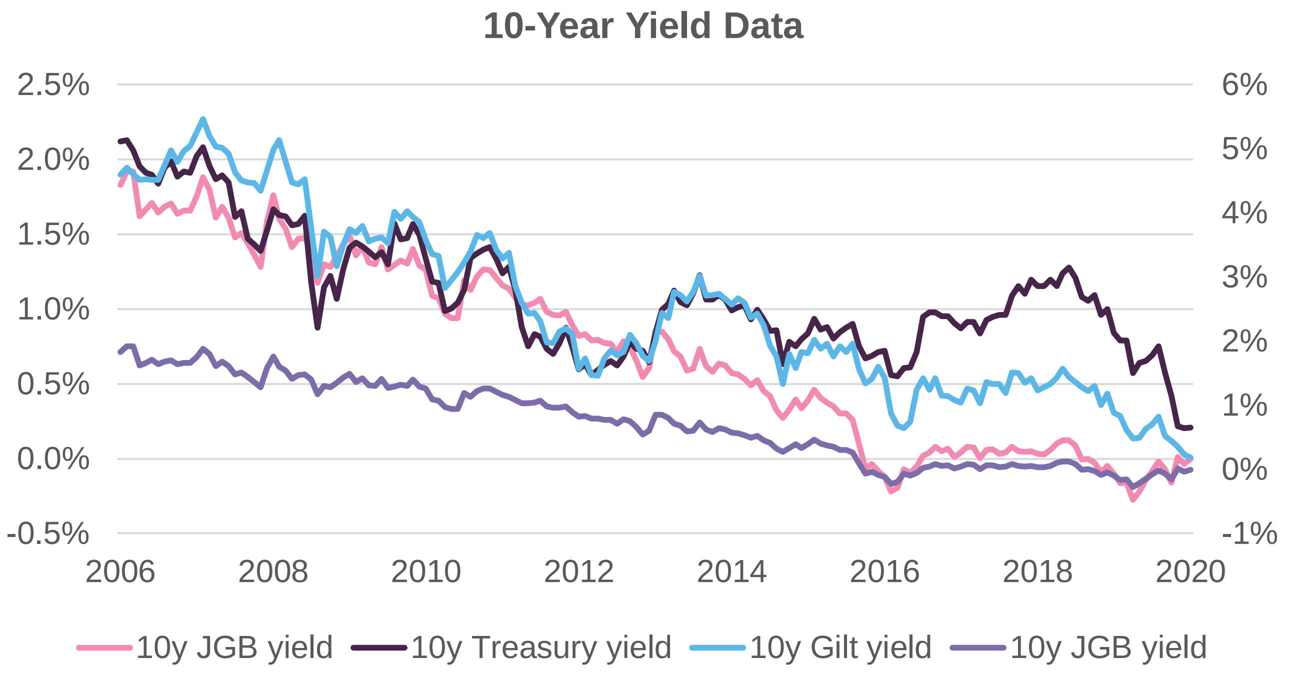
Source: U.S. Treasury, NPR and CBO
CBO estimates as on 4/29

EVALUESERVE

Why is the US able to Raise Debt Without Worrying About Interest Rates?

- The Federal Reserve has been absorbing the increased debt issuance and expanding its balance sheet via **quantitative easing** (QE).
- Although other developed economies have been following a similar path, the **magnitude of the Fed's balance sheet expansion is higher**.
- This unprecedented QE by the US Fed prevents any increase in long-term treasury bond yields despite a massive stimulus.
- **US 10yr treasury yields have dropped the most since the beginning of this year**.
- The US Federal Reserve has hinted at keeping interest rates close to zero, as long as until 2022, to sustain the economy, and provide relief and stability.





Source : World Bank

EVALUESERVE

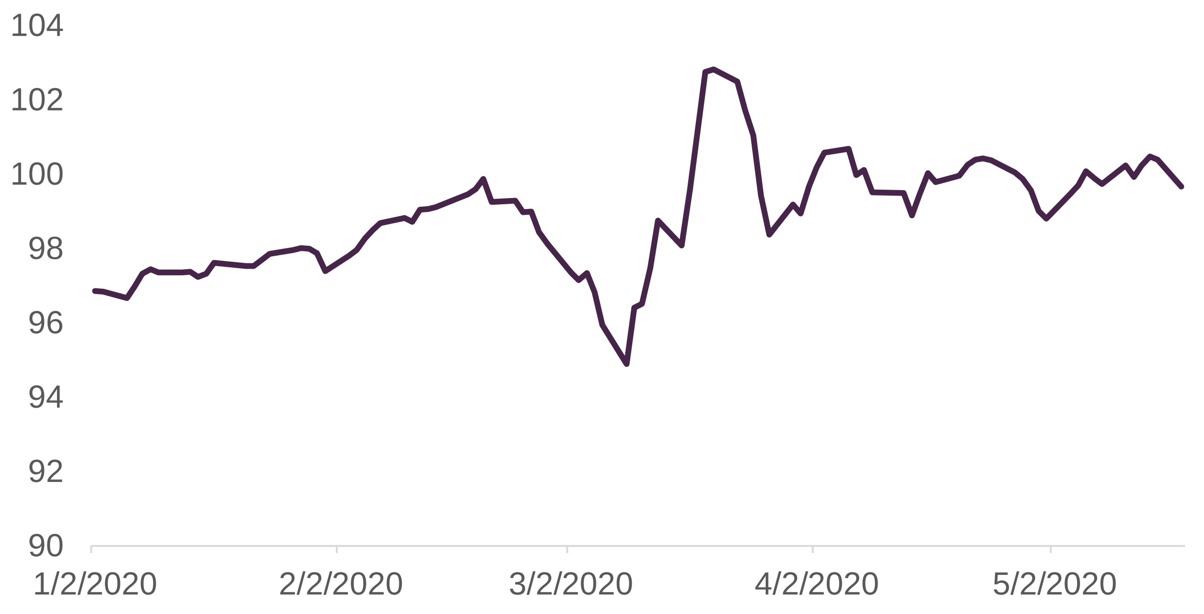
US Dollar Hegemony in Coronavirus Pandemic

Cash is King: The pandemic has led investors to sell their assets and holding them in US dollars. The demand has come not only from investors but also from the government, especially Emerging Markets where the currency has dropped significantly. The US Fed has recently opened 14 currency swap lines and has even allowed foreign central banks to exchange US treasury debt for dollars under the FIMA Repo facility. Reliance on dollar as the base for global trade transaction makes it a safe haven asset for investors.

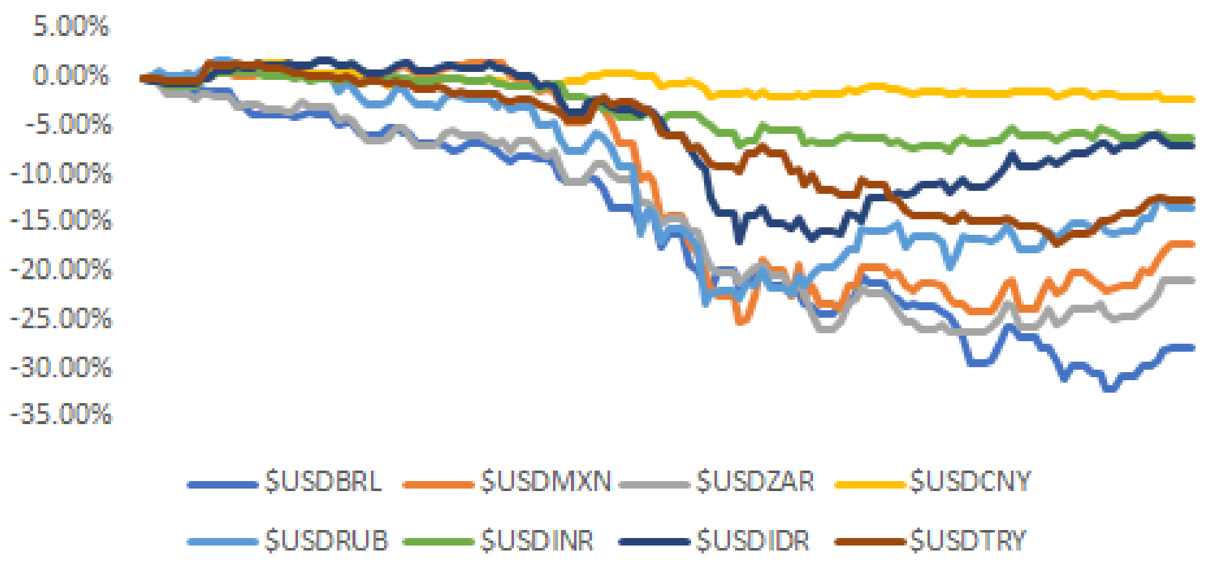
The US dollar has stayed relatively stable versus other major currencies (GBP, EUR, JPY, CHF, SEK, CAD), despite huge fiscal debt, low interests, and rising Fed balance sheet. This reflects the currency's stability and dominance.

Chinese Yuan has been the most resilient currency and has retained its value in comparison to the dollar, while all the other major BRICS economies and emerging market countries have depreciated drastically.

US Dollar Index



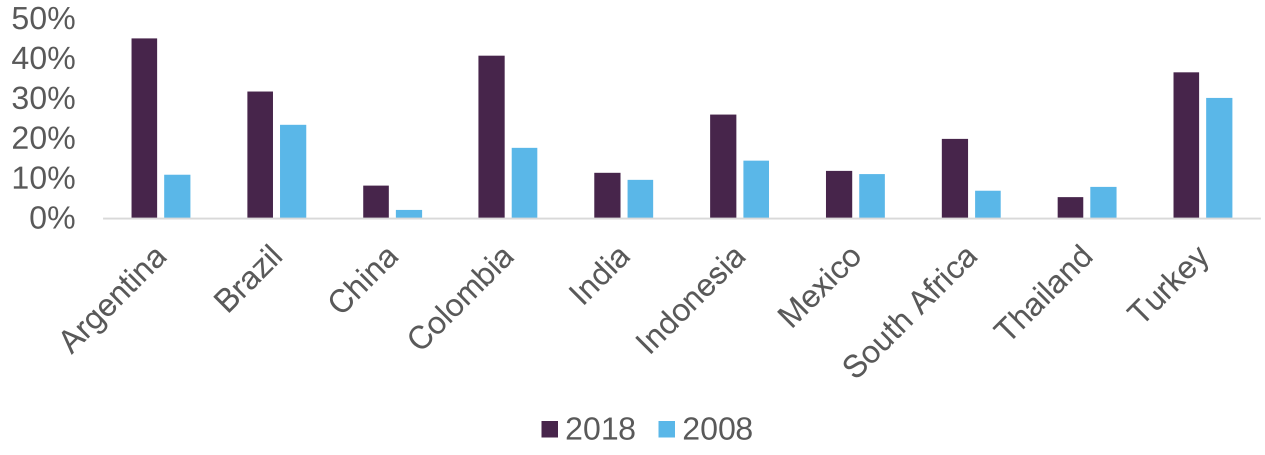
Emerging Market Currencies (YTD comparison with USD)



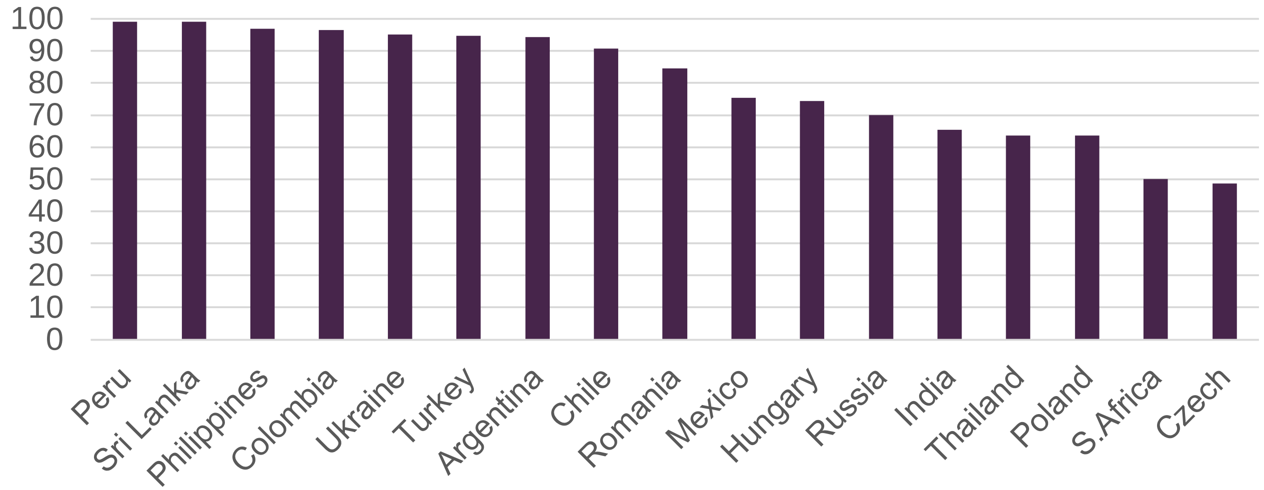
Sources: Federal Reserve, NPR

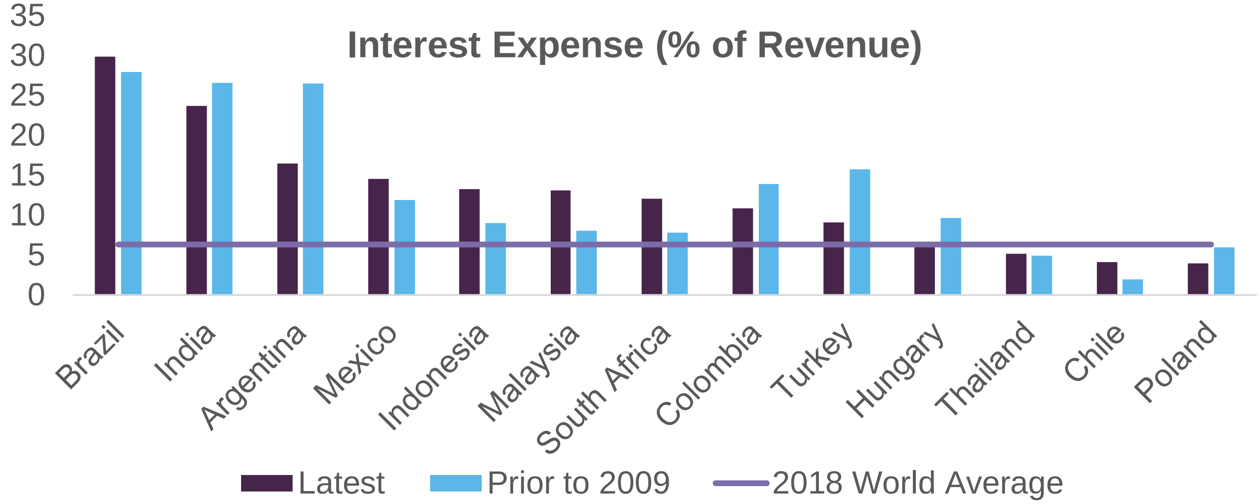
Why are EMs Spending Less During COVID-19 than During the GFC?

Debt Service Coverage Ratio (Lower the Better)



Foreign Currency-denominated Debt (% of Total External Debt)





Higher interest expense, along with lower GDP growth, reduces the capacity of EM governments to raise debt, domestically.

Growth in FX-denominated debt, coupled with higher debt service ratios, reduces an EM's scope for approaching foreign investors.

Source : World Bank

EVALUESERVE

COVID-19 Recession: Future Impact on Key Economies: Our View

Depreciation in EM currencies

COVID-19 has **increased the tendency of buying the US dollar for investors across the globe**. This growth in demand has been propelled by both investors and governments. Thus, the US Fed has opened more than 14 currency swap facilities on the dollar. Stimulus measures announced by developed economies have negatively affected the developing economies, widening the spreads across sovereign or corporate debts of EM bonds. **An uncertain investment climate has decreased capital inflows into emerging economies – an important source of demand for EM currencies.**

Weaker global fiscals

To date, the value of the global COVID-19 fiscal stimulus packages stands at $8 trillion (vs $2 trillion during the GFC). These packages have been partially financed through the issuance of fresh government debt, resulting in a rise in the government debt to GDP ratios. For example, US government debt is forecast to increase from 109% of its GDP in 2019 to >130% of the GDP in 2020. As part of their stimulus packages, multiple countries have announced deferral tax payments, relaxation in value-added taxes, etc. These measures have cut out an important revenue source that could have helped in paying the increased interest taxes. Thus, we believe that countries will emerge from this crises on a weaker fiscal footing.

Inflation

Uncertainty regarding inflation: Inflation across the globe is expected to increase in the post-COVID-19 world due to expansionist measures taken by central banks and higher fiscal deficit. However, an overall decline in household income due to loss in wages and unemployment can suppress demand, leading to a deflationary impact on consumer discretionary goods

EVALUESERVE

Summary of Fiscal and Monetary Measures Announced by Global Economies

US Govt. Response to the COVID-19 Crisis

The US Congress has passed 3 major legislations to revive the economy and is currently discerning if a Phase 4 legislation should be announced sooner to avoid the country plunging into great depression from the current recessionary stage.

Phase I

- The Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020: It is aimed at providing a $8.3bn funding for developing vaccine and assisting local and state governments respond to the pandemic

Phase II

- The Families First Coronavirus Response Act: The $100bn package aims to provide paid sick leave, tax credits, and free COVID-19 testing. Focused on expanding food assistance and unemployment benefits, and increasing Medicaid funding.

Phase III

- The Coronavirus Aid, Relief, and Economic Security (CARES) Act: It is a ~$2tn rescue package.

What's in the package

Individuals – $603.7B, includes cash disbursements, additional unemployment payments, student loans, etc.

Large Corporations – $500.0B, includes loans for corporations and stimulus for the airline industry.

Small Businesses – $377.0B, includes loans and grants

State and Local Governments – $339.8B, includes spending on COVID-19 response measures.

Public Services – $179.5B, primarily for healthcare facilities.

"Government is trying to infuse liquidity to keep the economy afloat amid lockdowns and closed businesses"

HEROES ACT: Proposed Additional $3 trillion Coronavirus Relief Bill

Health and Economic Recovery Omnibus Emergency Solutions Act – The House of Representatives has passed a new $3tn bill to provide additional stimulus, as part of the US government's coronavirus relief package. The bill was introduced and backed by House Democrats. It will now be up for discussion in the Senate. Since the White House and Senate Republicans have already stated their intention to reject the proposal, the fate of the bill is uncertain. The bill seeks to address the economic stress on an average American household, based on more than 36 million jobless claims filed (since mid-March) and an unemployment rate of near 14.7%.

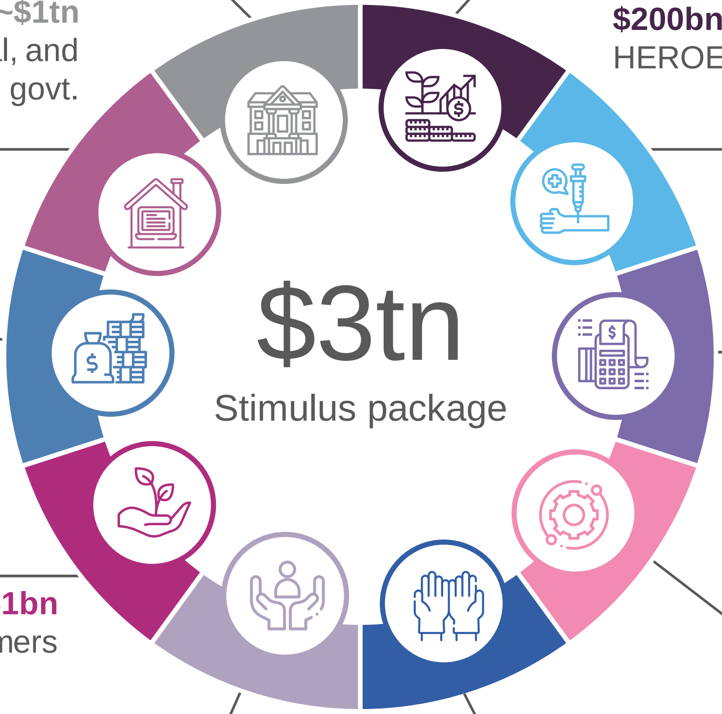
~$1tn
State, local, territorial, and tribal govt.

$175bn
Housing assistance

$10,000
Student loan debt relief for each individual

~51bn
Assistance to farmers

$25bn
Assistance to the US Postal Services



$200bn
HEROES fund for essential workers

$75bn
Coronavirus testing, tracing, and treatment

Direct payment to households and unemployment benefits
$1200 per family member up to $6,000 per household; $600 pay check through next January

$10bn
Support to small business and non-profits

$3.6bn
Safeguarding democracy, election security

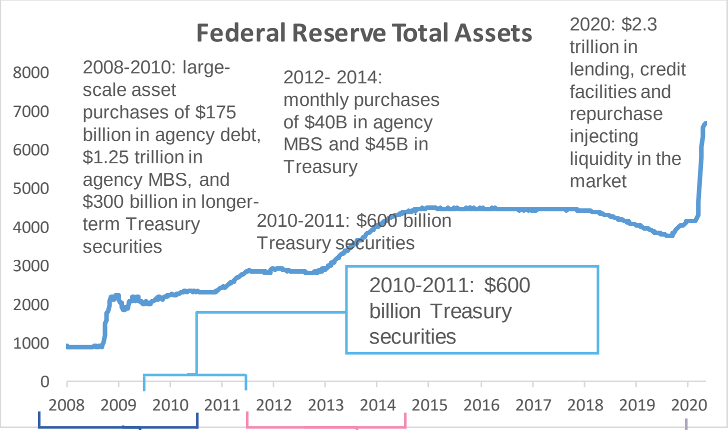
Sources: house.gov and CBS

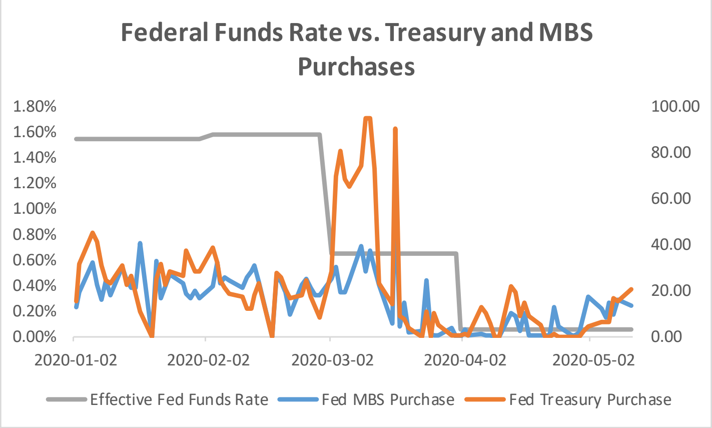
Federal Reserve Response to the COVID-19 Crisis

Open Market Operations

- Announced $2.3tn in loans to support the economy, which includes:
- Offering credit to Paycheck Protection Program (PPP) participants
- $600bn in SMB lending
- $850bn in credit to household and businesses through Primary and Secondary Market Corporate Credit Facilities (PMCCF and SMCCF) and Term Asset-Backed Securities Loan Facility (TALF)
- $500bn Municipal Liquidity Facility lending to states and municipalities
- Reduced reserve requirement ratios to zero percent for thousands of depository institutions to support lending to households and businesses
- Federal funds target rate reduced to 0–0.25% to support credit flow, revive economic activity, create jobs, and stabilize inflation
- FOMC will increase its holdings of Treasury securities by at least $500bn and of agency mortgage-backed securities by at least $200bn

Monetary Measures





2008-2010: large-scale asset purchases of $175 billion in agency debt, $1.25 trillion in agency MBS, and $300 billion in longer-term Treasury securities

2012- 2014: monthly purchases of $40B in agency MBS and $45B in Treasury

2020: $2.3 trillion in lending, credit facilities and repurchase injecting liquidity in the market

Fed is cutting interest rates to inject liquidity. The target rate of federal funds is 0–0.25% and is expected to stay at that level until the economy is back on track. This would reduce cost and spur borrowing. Fed is also stepping up treasury and MBS purchases to inject liquidity

Fed's balance sheet is becoming larger as it has increased its spending. Besides lending, it has pledged to purchase treasury securities and mortgage-backed securities through open market operations to increase money supply and put upward pressure on asset pricing. Quantitative easing is expected to rise beyond the current level

Sources : Federal Reserve

EVALUESERVE

ECB Measures

€750bn
PEPP size, new

€20bn
monthly asset purchases, unchanged

€3tn
TLTRO size

As Eurozone is a monetary union, the European Central Bank (ECB) has announced monetary stimulus packages at the union level, while member countries have taken welfare and fiscal measures at the country level. Some member countries such as Germany are taking additional measures, such as purchase of corporate equities through the budget.

Open market operations

- Under the Pandemic Emergency Purchase Program (PEPP), the bank will purchase eligible securities, ranging from 70 days to ~31 years for €750bn.
- It will also redirect funds to purchase eligible private securities, including corporate bonds.

Interest Rate Cuts

- The ECB reduced targeted longer-term refinancing operations III (TLTRO) rates by 25 basis points in March 2020, in addition to easing certain other restrictions.
- It also deepened interest rate cuts to 50 basis points in April 2020, lowering interest rates to -0.50%
- No changes were made to headline deposit facility rates (-0.50%) and the marginal lending facility rates (0.25%)

New programs

- On 30 April 2020, the bank introduced a new lending program, Pandemic longer-term refinancing operations (PELTRO), to improve liquidity in Eurozone.
- The ECB set interest rates 25 basis points lower than the average rates in TLTROs.

Impact: According to ECB calculations, Eurozone's GDP is expected to decline by 5%, 8%, and 12% in mild, medium, and severe scenarios in 2020. The second quarter is expected to be the worst – a 15% decline, followed by recovery in Q3. In 2021, GDP can recover by 6%, 5%, and 4% under the three scenarios laid out by the bank.

Sources: IMF, ECB, media reports

EVALUESERVE

COVID-19: Global Fiscal Measures

Germany

- The country has announced a €600bn fund, which will provide €400bn to secure corporate debt at risk of default; €100bn to acquire equity stakes; and €100bn to provide loans to struggling businesses.
- For example, a €9bn equity purchase in Lufthansa.
- It has also announced a €156bn (4.6% of GDP) supplementary budget to fund fiscal measures (to be financed by debt).

Italy

- Italy has announced a state aid package of €750bn:
- €200bn will be directed to provide liquidity and loans to affected companies through Italy's state lender Cassa Depositi e Prestiti (CDP) and export agency Sace.
- €200bn will be provided to protect banks from losses on 90% of loans to companies of all size.

France

- France has announced a €315bn package of bank loan guarantees and credit reinsurance schemes.
- The country has also increased its initial aid package of €45–110bn to support welfare and social benefits, including health insurance, wage support, postpone of rent, and utility expenses for MSMEs

United Kingdom

- Fiscal measures include additional funding for National Health Service, public services and charities.

Canada

- Current fiscal measures are estimated at 8.4% of the GDP (CAD193bn):
- CAD105bn in direct aid to households and firms in the form of wage subsidies and access to unemployment benefits
- CAD85bn in liquidity support through tax deferrals

India

- Est. spending: 10% of the GDP
- Measures include spending on healthcare sector, cash transfer to low-income households, support to low-wage workers, and insurance coverage

€1.25tn
Germany stimulus

€830bn
Italy stimulus

€433bn
France stimulus

13%
Canada's projected fiscal deficit

14%
UK's projected fiscal deficit

Interest rates in UK and Canada cut to record levels

EVALUESERVE

Sources: IMF, media reports and government websites

COVID-19: Global Fiscal Measures (contd.)

South Korea

- Passed multiple supplementary budgets for cash transfers to households (KRW14.3tn), wage support, and unemployment assistance (KRW10.1tn),
- Deferrals of payments to electric utilities (KRW1.3tn)
- Deferrals of payments to social security reliefs (KRW7.5tn)

Brazil

- Measures include providing income and wage support
- Reduced taxes and import levies on essential medical supplies

Mexico

- Increased spending on healthcare industry
- Announced advance pension payments, frontloading of social pension and disability payments by four months
- Liquidity support by development banks
- Announced an austerity program that includes restrictions on wages and recruitment to finance future priority investment

Argentina

- Estimated spending: 3.5% of the GDP
- Increased spending on healthcare, including virus diagnostics
- Wage and unemployment support, social security benefits to households
- Continued provision of utility services for households with accumulated bills
- Price controls imposed by governments for food and medical supplies
- Imposed a stay on closing bank accounts of individuals whose check has bounced
- Considering a one-off tax on the wealthiest and big corporations to raise funds for sanitary/health spending

Chile

- Estimated spending: ~6.7% of GDP
- Fiscal measures include spending on healthcare sector, subsidies and unemployment benefits, accelerated payments for public procurement contracts

China

- Est. spending: RMB2.6tn
- Measures include spending on healthcare sector
- Tax relief; social security contributions waived off
- Increased ceiling for special government bonds for 1.3% of the GDP

Japan

- Fiscal measures include spending on healthcare sector, cash transfers to affected individuals and firms, deferral of taxes and social security contributions
- Increased concessional loans to public and private financial institutions

Sources: IMF, media reports and government websites

COVID-19 Response: Global Monetary Measures

	Interest and policy rates	Open market operations
UK	• Bank rates reduced from 0.75% in Feb 2020 to initially 0.25% in March 2020 and then to 0.10%. Also launched a Term Funding Scheme with additional incentives for SMEs (TFSME) that will provide four-year funding at close to bank rates • The Finance Ministry and Bank of England launched a £330bn scheme to give loans and guarantees available to businesses	• Expanded Bank of England's holding of sovereign and non-financial corporate bonds by £200bn. Activated a Contingent Term Repo Facility
Canada	• Targeted overnight rates reduced to 1.25%, then to 0.75% and finally to 0.25% in March 2020	• Canada's central bank will purchase at least $5bn of Canadian sovereign bonds every week, purchase a total of $50bn provincial bonds, up to $10bn of corporate bonds, commercial papers apart from its ongoing repo and purchase of Mortgage Bonds programs
Mexico	• Reduced policy rates by 1%. Reduced required regulatory deposits with Banxico by MXN50bn (~15% of current levels) • Reduced cost of repos by 50% . Conducted several bond exchanges to shorten maturities of government bonds	• Announced formation of a $60bn swap line with US Federal Reserve • Extended non-deliverable forward hedging program (in domestic currency) by $10bn to $30bn
Argentina	• Reduced reserve requirement on banks lending to retail and SME sectors	• Announced formation of a $60bn swap line with US Federal Reserve • Extended non-deliverable forward hedging program (in domestic currency) by $10bn to $30bn
Chile	• Reduced policy rates twice by a combined 1.25% to 0.5% • Expanded number of currencies eligible for meeting the reserves requirements in foreign currencies	• Expanded duration of 30 and 90 days repo program to January and expanded coverage to include 7 and 180 days securities • Expanded duration of the FX Swap program; added 90 and 180 days securities in the list of eligible securities • Expanded types of collateral used for liquidity operations by Banco Central de Chile to include high-rated commercial bonds • Started a program to purchase $8bn in bank bonds

COVID-19 Response: Global Monetary Measures (contd.)

	Interest and policy rates	Open market operations
Brazil	• Reduced policy rates by 0.5% • Cut term-deposits reserves requirement rates from 31% to 25%, and then to 17%	• Started repo purchase in foreign currency with a discount of 10% on market value of bonds submitted as collateral • To start repo operations with up to 1-year term backed by federal government bonds • Increased the upper limit of repurchase of Financial Letters issued by the same institute from 5% to 20%
China	• Reduced 7, 14 day reverse repo rates • Reduced 1-year medium-term lending facility rates • Reduced interest on excess reserves • Reduced RRR for eligible banks:	• Introduced RMB3.33tn of reverse repo and medium-term lending facilities
India	• Reduced repo and reverse repo • Reduced Liquidity Coverage Ratio • Injected liquidity of INR3.7tn through: – Reducing cash reserve ratio for banks by 1 – Increasing marginal lending facility	• Introduced another Targeted Long Term Repo Operations (TLTRO 2.0) • Introduced special refinance facilities for rural banks, housing finance committees, and SMEs. Introduced a special liquidity facility for mutual funds of INR500bn and a fixed-rate 90day repo operations to banks for liquidity requirements of mutual funds
Japan		• Increased size and frequency of purchases of Japanese government bonds, ETFs and Japanese REITs • To increase purchase of commercial papers and corporate bonds JPY20tn • Expanded coverage of eligible counterparties and collaterals to private debt
S. Korea	• Reduced base rate • Reduced Bank Intermediated Lending Support Facility Rate from 0.5-0.75% to 0.25%	• Expanded covered securities to include selected NBFCs • Expanded collaterals to include bank bonds, eligible bonds of public companies and agencies and government backed MBS Purchasing Korean Treasury bonds (KRW3tn) • Created a KRW135tn financial stabilization plan to purchase bonds and equities, funds for SME lending, money market financing through stock finance loans

The GFC Story- Comparing Global Response to the Current Crisis Versus The Great Financial Crisis

Global Financial Crisis (GFC) – Overview of G20 Countries' Fiscal and Monetary Measures

$2tn[1]

Total global fiscal spending
1.4% of 2008 world GDP

- **Asia Pacific (excluding Japan and Korea) spent 9.1% of 2008 GDP on stimulus efforts (wtd. avg. by country size).**
- **China was the main driver of the stimulus spending in Asia. Its stimulus package was 12.7% of its 2008 GDP.**
- **Meanwhile, advanced economies spent 3.4% of their 2008 GDP on stimulus**

1. Stimulus amount for G20 countries only

Monetary policy refers to central bank activities that seek to influence the quantity of money and credit in an economy. Fiscal policy, on the other hand, refers to the government's decisions about taxation and spending.

Both monetary and fiscal policies are used to regulate economic activity, to accelerate growth (during an economic downturn) and to moderate growth and activity when an economy starts to overheat. In addition, fiscal policy is also sometimes used to redistribute income and wealth.

During the GFC, the three regions – US, EU, and UK – adopted a coordinated approach. The monetary policy measures employed by them led to discount rates falling near zero. Additionally, central banks boosted money supply via open market purchases and "quantitative easing" and governments issued guarantees for savings and loans. Money supply increased by 17% between 3Q-08 and 3Q-09 in the US and by 8% in the EU.

Countries employed intensive fiscal policy measures to mitigate the impact of GFC by :

(i) recapitalizing banks and providing guarantees for banks and firms and

(ii) providing stimulus packages.

The efficacy of specific stimulus packages is rather difficult to assess and ascertain. It is likely that they amounted to at least one percentage of GDP, both in 2009 and 2010, with **higher stimulus levels in the US and China**, and relatively **low levels in the EU**. Within the EU, Ireland, Hungary, and Iceland could not afford an expansionary policy due to budget or currency problems.

Sources: ILO, IILS, EU , IMF, CIA World Factbook, OECD, EU Commission

Global Financial Crisis (GFC) – Overview of G20 Countries' Planned Stimulus Measures

The G-20 Economic Stimulus Plans (March 2009)					
	Initial Conditions		Total size of stimulus		
	Gross Public Debt (% of 2008 GDP)	Fiscal balance (% of 2008 GDP)	USD (amount in bn)	% of 2008 GDP	Tax cut share
Argentina	51.0%	1.7%	$4.4	1.3%	0.0%
Australia	15.4%	0.3%	$19.3	1.8%	41.2%
Brazil	40.7%	N/A	$8.6	0.5%	100.0%
Canada	62.3%	0.1%	$43.6	2.8%	45.4%
China	15.7%	0.4%	$204.3	4.8%	0.0%
France	64.4%	-2.9%	$20.5	0.7%	6.5%
Germany	62.6%	0.9%	$130.4	3.4%	68.0%
India	59.0%	-4.2%	$6.5	0.5%	0.0%
Indonesia	30.1%	-1.3%	$12.5	2.5%	79.0%
Italy	103.7%	-2.7%	$7.0	0.3%	0.0%
Japan	170.4%	-3.1%	$104.4	2.2%	30.0%
Korea	27.2%	0.9%	$26.1	2.7%	17.0%
Mexico	20.3%	0.0%	$11.4	1.0%	0.0%
Russia	6.8%	6.2%	$30.0	1.7%	100.0%
Saudi Arabia	17.7%	11.2%	$49.6	9.4%	0.0%
South Africa	29.9%	0.2%	$7.9	2.6%	0.0%
Spain	38.5%	-2.4%	$75.3	4.5%	36.7%
Turkey	37.1%	-1.5%	$0.0	0.0%	N/A
UK	47.2%	-4.8%	$40.8	1.5%	73.0%
US	60.8%	-3.2%	$841.2	5.9%	34.8%

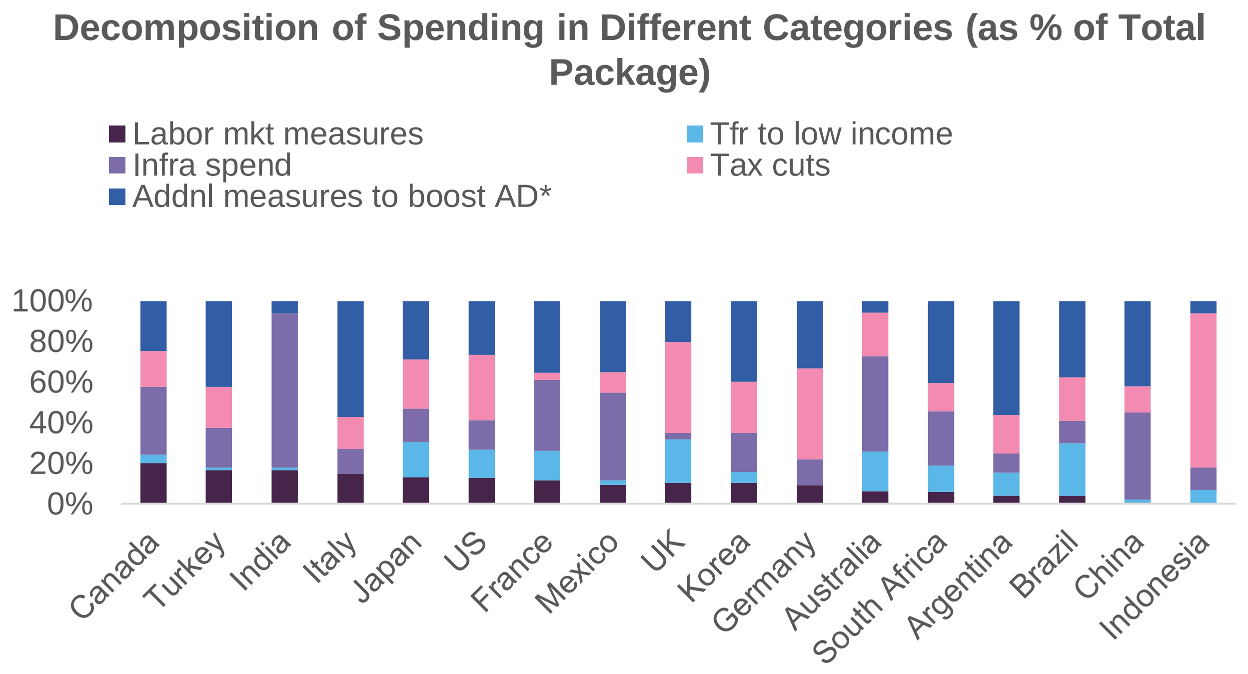
Sources: ILO, IMF, CIA World Factbook, OECD, EU Commission
Note : Data based on initial stimulus announcements as of November 2008 during G-20 Summit and compiled by IMF Actual data might be different .

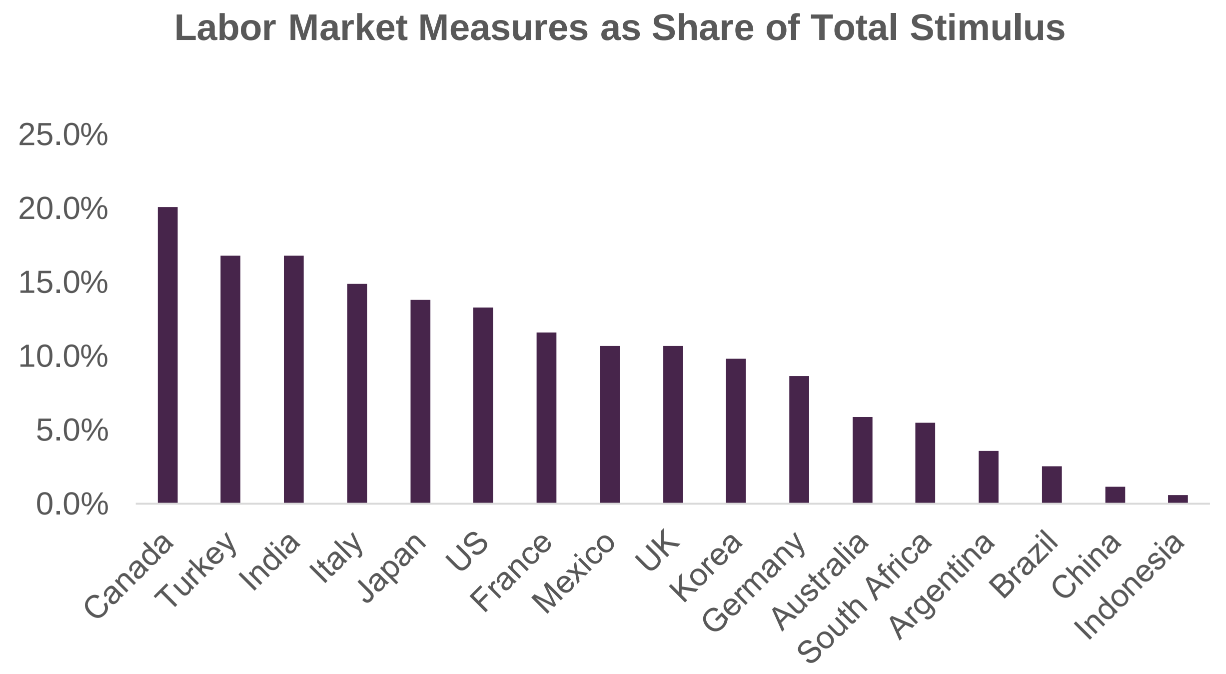
Global Financial Crisis – How was the Stimulus Package Spent?

In order to counter the impact from the global financial crisis, economies world over announced several fiscal and monetary measures.

While the advanced economies in the G20 focused on tax cuts, developing and emerging economies focused on infrastructure spending. Several advanced economies spent additional, considerable resources on infrastructure upkeep/development, but the share of the total spending was relatively small versus that of developing and emerging economies. On another plane, advanced economies also spent considerably more on labor market measures than the developing and emerging economies.

Decomposition of spending chart reflects the diverse priorities that each country's government needed to support, signifying that there was a targeted approach to the stimulus spending.





Sources: ILO * *The category titled 'additional measures to boost the AD (aggregate demand)' includes miscellaneous spending measures not classified into the other four categories.

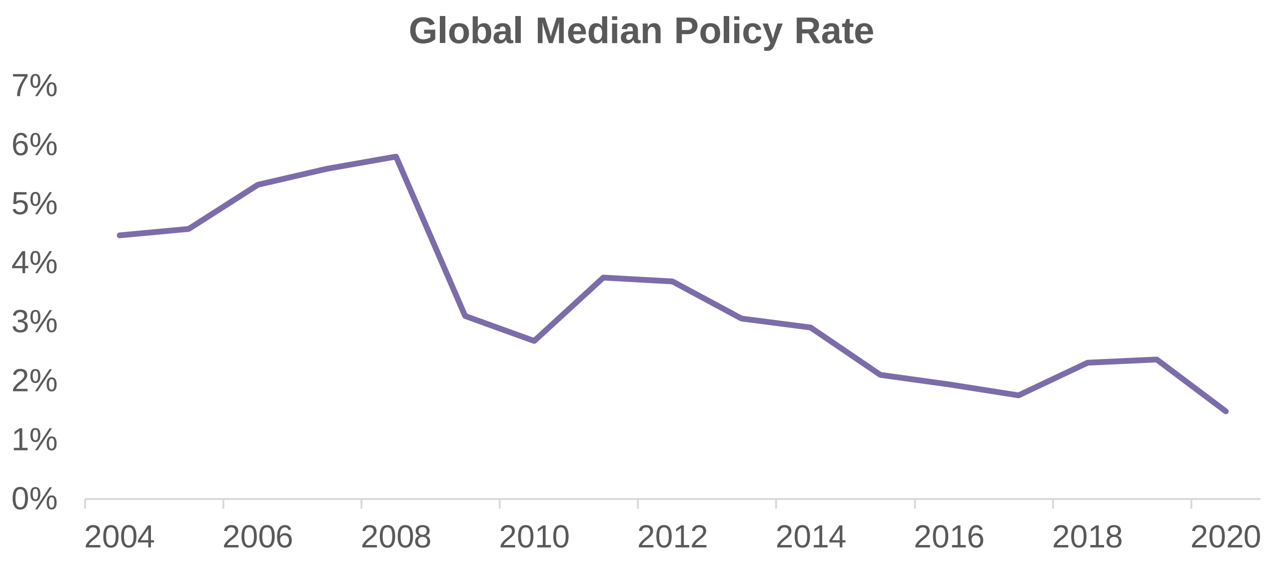
The Emerging Market Story- Fiscal Space Post-GFC

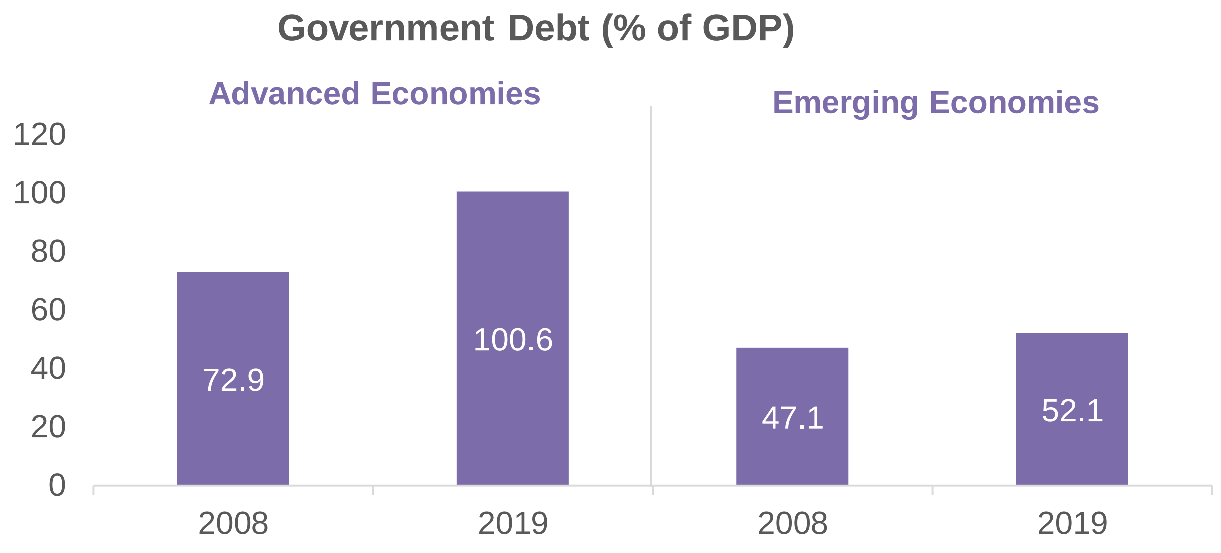
Fiscal Space Status (December 2011)					
	Fiscal Space	Survival 10-Yr Yield		Fiscal Space	Survival 10-Yr Yield
	Increase in debt-to-GDP ratio, ppts	Upper limit on 10-yr bonds, %		Increase in debt-to-GDP ratio, ppts	Upper limit on 10-yr bonds, %
South Korea	243	>10	**Netherlands**	163	6.7
Australia	232	>10	**Canada**	155	8.5
Taiwan	228	8.0	**Germany**	149	6.5
Luxembourg	226	8.2	**U.K.**	142	7.1
New Zealand	221	>10	**Austria**	139	5.4
Hong Kong	219	10.0	**France**	127	5.5
Singapore	217	7.9	**Belgium**	120	7.2
Sweden	213	7.4	**Iceland**	117	>10
Norway	207	>10	**Spain**	98	6.1
Denmark	194	8.3	**Ireland**	No Space	6.3
Israel	189	>10	**Italy**	No Space	4.3
Switzerland	189	6.6	**Portugal**	No Space	4.2
Finland	178	7.4	**Greece**	No Space	1.6
U.S.	171	8.7	**Japan**	No Space	Negative Interest

Source: Federal Reserve Bank Dallas,, World Bank, Moody's

What is More Effective: Monetary, Fiscal or a Co-ordinated Policy Approach?

Historical data shows that aggressive monetary and fiscal policies can mitigate the severity of a recession and support aggregate demand in the short term. Suck measures must also be balanced to preserve public debt sustainability over the medium run. Although monetary policies play a pivotal role in managing a recession, their effectiveness lost traction after the GFC. A fiscal stimulus can be effective during recessions and can propel stronger recoveries. However, **fiscal policy-based recovery is usually weaker for economies with high public debt**.





Coordinated and extensive monetary and fiscal policies were effective in reducing the timeframe of the GFC. Similarly, we believe that the policies announced by governments during the current pandemic are also likely to support rapid recovery. The nature of the current crisis has caused supply disruptions and weighed on demand. Although in other economic downturns, a fiscal policy normally helps stimulate demand, the current pandemic is causing global supply disruptions on an unprecedented scale and the social distancing efforts, necessary to contain the spread of the virus, have shrunk demand to a great extent. In the early stages of this crisis, the primary objective of all announced measures, is to boost resources for health care and to provide emergency lifelines to people and firms.

Disclaimer: Project Background, Scope and Limitations

As we continue to witness a global crisis of unprecedented scale, professional advice, expertise, and active support are more critical than ever for business leaders across the globe. The COVID-19 pandemic not only ends an uninterrupted bull-run since the global financial crisis of 2007–08, but also stress tests business models, global supply chains, and the war chests of companies globally. In this report, we have attempted to provide a global update on the impact of the COVID-19 outbreak. We applied our critical thinking abilities and domain expertise to provide a macro eye view of the crisis.

Scope

- To provide a high-level global economic outlook, critical updates on high-impact regions, near-term risk assessment, and long-term implications.
- To facilitate decision-making for the executive teams by maintaining a fine balance between brevity and too-much detail.

Limitations

- The study is limited by the scope that includes providing a global outlook for economies in an updatable format.

***Notes**:*

- *Given the rapidly evolving global scenario, near-term interpretations and critical updates are subject to frequent changes. Each slide can be expanded into a full-blown white paper or research. For further analysis on one sub-sector/region, deals analysis as well as different format, data, and time may be required. The outlook provided for each sector is based on the analyst's opinion and understanding.*

EVALUESERVE