The COVID-19 Pandemic: Shocks, Global Transmission and Vulnerabilities

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Since the December 2019 outbreak in Wuhan, Hubei, COVID-19 has quickly become a global phenomenon, especially since late February 2020. This was in large part an unintended consequence of a successful globalization process that has lasted for decades, despite signs of a slowing or even reversing trends in recent years. The world is now at the crossroads, as many governments are making every effort in containing the virus contagion, while attempting to minimize the impact of the COVID-19 pandemic and the associated epidemic control measures on growth and on financial stability. A precondition for calibrating the right doses of monetary and fiscal stimuli consistent with the ongoing campaign of COVID-19 containment is a better understanding of the nature of COVID-19 pandemic and other shocks, as well as the channels through which such shocks propagate within and across the borders.

This article disentangles the major shocks during the COVID-19 crisis and examines the strengths of various cross-border transmission channels of the shocks and their real and financial consequences. I emphasize the main short-term challenges as well as longer-term vulnerabilities. The sudden outbreak of COVID-19 has thrown the world into the unknown, and policymakers face the greatest challenges seen since the Great Depression of the 1930s.

I. The Nature of the Shocks

What is most unsettling for investors and other market participants in this crisis has probably been a lack of understanding of, and hence the **heightened uncertainties** concerning the **nature and pathways of the shocks**. Simply, we still know relatively little about the COVID-19 shock, as well as the likely effects of the ensuing epidemic control measures. COVID-19 is new, so is the current lockdown and social distancing that have gone global. How would COVID-19 evolve and persist? Would the shock's magnitude, persistence and geographic concentration vary in different climate conditions, across distinct social interaction patterns, and according to various control measures? The

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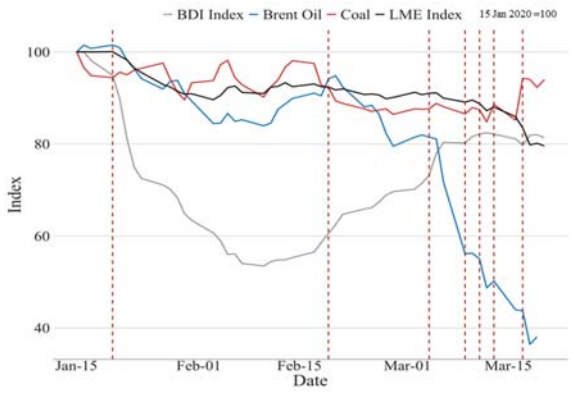
nature of the COVID-19 shock and its pattern of contagion are central to our understanding of how its economic impact of is transmitted across economies.

1.1. Two, Maybe Three Phases of COVID-19 Shocks

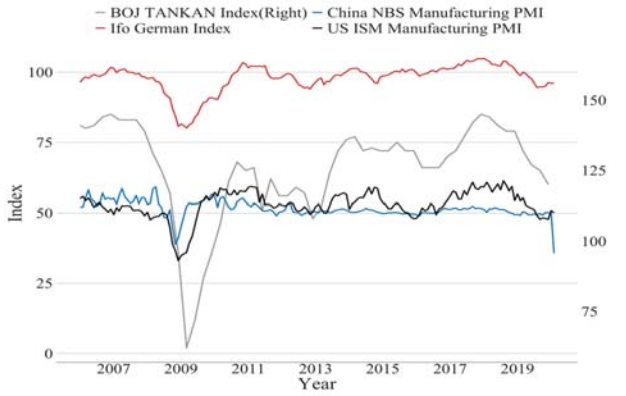
Economic analysis focuses on shocks or primitive exogenous forces that are economically meaningful and uncorrelated with each other. Typical shocks include those to technology or productivity, preferences, and monetary policy. In the COVID-19 crisis, there are essentially two types of shocks related to the COVID-19 pandemic, and two unrelated shocks. The first shock is the global COVID-19 public health shock, not seen since the 1918 influenza pandemic, or better known as the Spanish Flu. This is typically a supply-side shock that is not expected to be very persistent, i.e. it should come and go quickly, and its economic consequences tend to be transitory. But the COVID-19 pandemic turned out not to be our typical textbook health shock, it is more complex, simultaneously affecting both the supply and demand sides. The pandemic instills fears and reduces consumption and investment by keeping consumers and workers stranded at home, and by lowering consumer and investor confidences.

Figure 1: Commodity Prices Declined as Confidence Fell

Commodity Prices Dropped[1]



Confidence Declined[2]



Red vertical lines indicate relevant dates: January 20, 2020 (China's acknowledgement of Covid-19 human-to-human transmissibility; its classification as Class B infectious disease; and Dr. Lanjuan Li's proposal of Wuhan lockdown in the Executive Meeting of the State Council); February 19 (two COVID-19 deaths in Iran and Korea's acknowledgement of a super-spreader); March 3 (US Federal Reserve's emergency 50-basis-point cut in the Federal Funds rate due to COVID-19 risks); March 9 (Italy imposed a national quarantine); March 11 (WHO declared COVID-19 a pandemic; US President Trump announced travel restriction on 26 European countries); March 13 (US President Trump declared a national emergency); and March 17 (Canada decided to close borders to non-citizens).

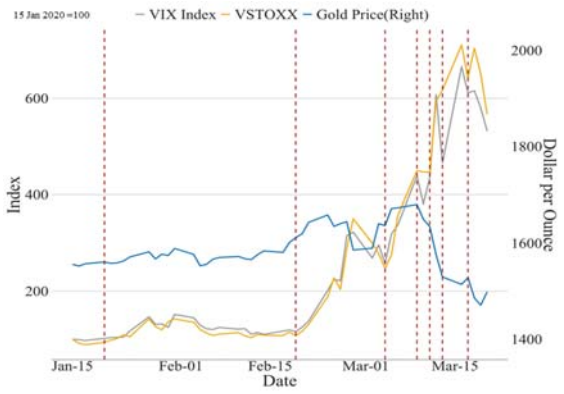
Note: 1. BDI Index is the Baltic Dry Index; Brent Oil is the price of UK Brent crude oil; LME Index is the London Metal Exchange Index; Coal is the ICE Rotterdam Coal price. All indices are rebased to January 15, 2020 level. 2. Ifo German Index rates the current German business climate; BOJ TANKAN Index measures the Japanese business confidence.

Source: Wind, Investing.com, Luohan Academy.

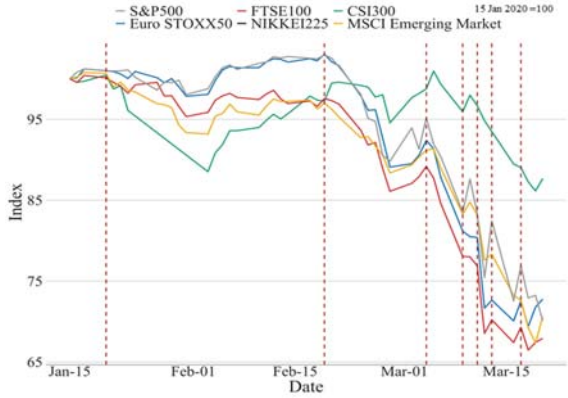
The second, COVID-19-related shock are the ensuing **epidemic control measures** that are exogenous to the economy, they directly reduce demand and disrupt supply.

Figure 2: Impact of COVID-19 Outbreak on Global Equities

Volatilities Rose Sharply[1,2]



Equity Prices Fell[2]



Red vertical lines indicate the same dates as in Figure 1.

Note: 1. VIX Index represents CBOE Volatility Index; VSTOXX represents Euro STOXX50 Volatility Index; Gold Price is the current London Metal Exchange (LME) gold price. 2. Rebased to January 15, 2020 level.

Source: Wind, Investing.com, Luohan Academy.

Despite some recent evidence that COVID-19 quickly spread around the world starting already late last year, figures 1-4 reveal two major phases that the COVID-19 related shocks have thus far experienced. The **first phase** was associated with a shock that was more **localized** in China and Asia, with relatively mild and short-lived reactions in equity and foreign exchange markets beyond Asia, and volatilities barely rose. The news of Wuhan Lockdown sounded the alarm worldwide, with immediate, sizeable, and continued market reactions to the COVID-19 outbreaks and the associated epidemic control measures and monetary and fiscal policy responses (Figure 1).

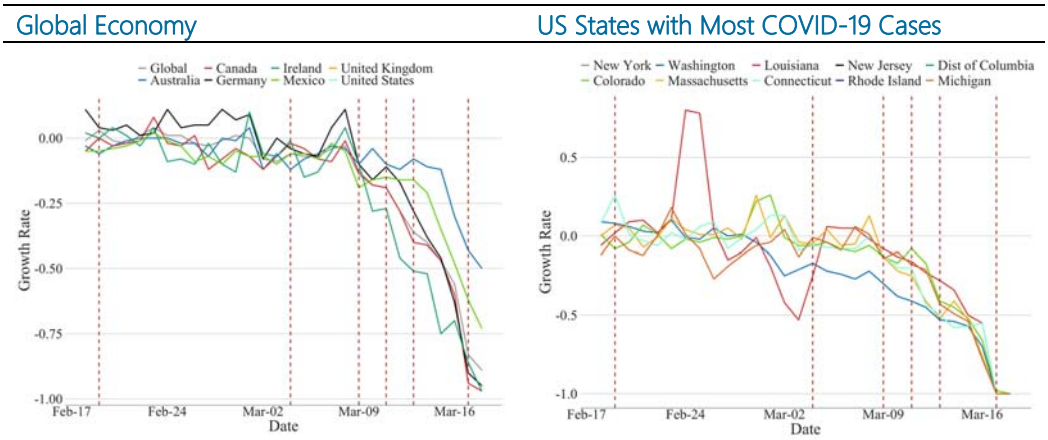
The **second phase** was characterized by the shocks going truly **global**, hitting hard the advanced economies, starting around February 19. Market responses turned wild from March 3 onwards, affecting all major financial markets and all asset classes. A **third phase** may be unfolding, with COVID-19 ravaging emerging economies. While the first COVID-19 cases were diagnosed in China in later 2019, there was insufficient attention and few actions were taken by policymakers and investors beyond Asia. The market was affected relatively little even in China. Market dynamics changed abruptly as soon as COVID-19 surged in Europe and the United States.

1.2. COVID-19 Shocks: Size and Persistence

Elevated VIX readings and **heightened uncertainties** reflect our limited understanding of the nature of the COVID-19 shock. First, unlike other shocks seen in most previous

recessions, the COVID-19 shock has **directly impacted real economic activity**, rather than emanating from a failure in the financial or real estate or technology sector. The ensuing epidemic control measures are themselves an exogenous shock to the global economy, with significant economic consequences, e.g. the impact of Phase-2 COVID-19 shock on global and US restaurants and food services (Figure 3). In comparison, the main shock that precipitated the 2008-2009 global financial crisis (GFC) originated in the financial and real estate sectors. The dynamics are clearly different now, and our past understanding of how shocks work and how to deal with them might not be sufficient this time.

Figure 3: COVID-19 Impact on Restaurants and Food Services



Red vertical lines indicate relevant dates, March 3; March 9; March 13; and March 17. See Figure 1 for further details.

Note: Year-over-year changes in the number of seated diners at restaurants listed on the OpenTable network across all channels: online reservations, phone reservations, and walk-ins. Comparisons are made with respect to the same day of the same week in the previous year.

Source: OpenTable.com.

Second, what are the true **extent and magnitude** of the COVID-19 shock in major economies? How does COVID-19 propagate across borders? The pandemic's scale continues to grow, now covering 212 countries, areas or territories. As the numbers of infected and deceased continue to rise, we are uncertain about the exact peaks or **turning points**, and the likelihood of a second or further waves of contagion. Recent surveys indicate that firms have widely varying beliefs about the likely duration of COVID-related disruptions. But the immediate economic consequences are dire. The International Monetary Fund's (IMF) April World Economic Outlook projects a global contraction of 3% y/y in 2020, compared to a 0.1% contraction in 2009. The April 1-23 Reuters poll on global GDP growth outlook for 2020 suggests a contraction of 2%, instead of the 1.6% expansion predicted in March. Risks are tilted to the downside, much depends on the **duration of epidemic control measures and medical progress**.

Third, the exogenous COVID-19 health shock should be **transitory**, with little impact on potential output, unless it permanently cripples employment or investment.

According to a recent Blackrock Investment Institute report, current median estimates suggest a shortfall, relative to the pre-shock 2019 trend, of about 5% in the third quarter of 2020, twice as large the GFC shock in the same timeframe.[2] The permanent output loss due to COVID-19 might still be limited. Should the pandemic be of short duration, the median estimate of a cumulative impact of 15% shortfall relative to 2019 GDP appears reasonable. This would only be a fraction of the 50% cumulative impact from the GFC shock that lasted for years, damaging the global financial system. Yet with the exception of the oil shock, none of the current disturbances are expected to peter out very soon. This rosy scenario may be predicated on successful COVID-19 containment in the second quarter, yet the pandemic can be far more persistent than expected. Even if it can be contained by the summer, further waves of infections, e.g. in the winter, are likely, as past pandemics suggest. Successive COVID-19 outbreaks rotating in the major economies could have a severe impact on the global economy.

Already, the latest forecasts of a sharp global contraction (e.g. 2.8% IIF; 3% IMF) in 2020, indicate an initial COVID-19 crisis much worse than the 2008–09 GFC, which lasted almost a decade. I expect the COVID-19 shock to be much less enduring. The nature of the shocks, temporary or persistent, is important to economic activity, with serious policy and welfare implications. To deal with a transitory shock, automatic stabilizers, temporary tax reliefs, consumption stimulus, improved liquidity access and debt reliefs might suffice. A more persistent shock may cause structural problems, e.g. dislocations in global value chains, substantial shifts in consumption patterns and in employment conditions, and mass defaults that wreck financial institutions. Permanent shocks are much harder to absorb and to tackle with, they require more structured, longer-term solutions and continued, strenuous policy efforts.

The global COVID-19 crisis has been compounded by two non-COVID-19-related, more conventional shocks. First, a major oil supply shock with a price war between Saudi Arabia and Russia erupting on March 8, driving UK Brent crude oil price down by 31% to USD 31 a barrel from USD 45 on March 9, one of the biggest one-day drops in history (Figure 1). In normal circumstances, abundant oil supply at much low prices should stimulate global economic growth. But the collapse of oil prices dented market confidence and acted as a catalyst for further market turmoils. Despite a multilateral deal reached on April 10, between OPEC and Russia, to lower global supply by 10 million barrels a day (about 10% of production), prices continued to fall. The cut, though the biggest in OPEC's history, might not be enough as the world spiraled into a global recession. In addition, the International Energy Agency's (IEA) earlier estimate indicated 50%-85% drops in net income for some oil producer countries in 2020, compared with 2019.

[2] BlackRock Investment Institute (2020): "How large is the coronavirus the coronavirus macro shock? Putting the near-term record -breaking shock in the long-term context," *BII Macro and Market Perspectives*, April.

A second, non-COVID-19 shock, is the looming **political uncertainties** that may well last into end 2020. These include the health of leaders in several major economies infected with COVID-19 and their ability to deal with the pandemic; the upcoming US presidential elections that may largely be determined by the country's overall responses to COVID-19. Rising uncertainties in the coming months could further depress market confidence and have a negative impact on economic activity.

II. Global Transmission of the COVID-19 Shocks

A global recession is already in full swing. Besides the size and persistence of the global COVID-19 shock, a major factor that determines the severity of the pandemic's global economic impact is the **strength of its cross-border transmissions**. We examine four major channels, namely the confidence channel, the financial or credit market channel, the external demand or trade channel, and the supply channel.

2.1. Confidence Channel

In a globalized world, the confidence channel plays an important role in driving a global synchronized cycle. Pigou (1927) stresses that varying expectations of businessmen constitute "the immediate cause and direct causes or antecedents of industrial fluctuations".[3] In a global market with instant information flows, a **confidence channel** has significantly accelerated the transmission and amplified the size of the COVID-19 shock across borders, exerting a large and immediate impact on global asset prices and demand. The COVID-19 shock became truly global when volatilities rose sharply in US and European markets around February 19, 2020, when two COVID-19 deaths were reported in Iran and Korea acknowledged a super-spreader who might have infected at least 11 people. This was accompanied by a major selloff that lowered global **equity prices** significantly in the following week (Figure 2).

Market sentiment deteriorated further in March as the epidemic ravaged Europe and the United States, and the US market reacted with sharp declines, triggering its market-wide circuit breaker on March 9, 12, 16 and 18. The circuit-breaker, mandated by US Securities and Exchange Commission after the October 19, 1987 market crash, was only triggered once in 1997 before. The cross-border spillover through the confidence channel was instantaneous and sizeable, with global selloffs that affected all major equity markets and almost all types of firms. The **Diebold-Yilmaz (2014) global stock markets volatility connectedness index** rose sharply from 56.70 on February 21, to 83.67 on March 13, and stayed around that level ever since.[4]

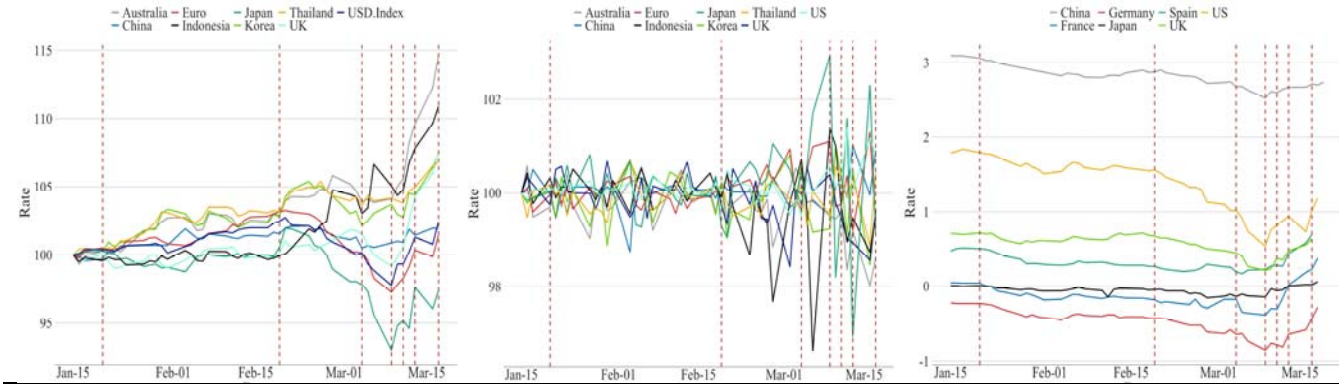
[3] Pigou, Arthur C. (1927): *Industrial Fluctuations*, Macmillan & Co., Ltd.

[4] Diebold, F. X. and K. Yilmaz (2014), "On the Network Topology of Variance Decompositions: Measuring the Connectedness of Financial Firms," *Journal of Econometrics*, vol. 182, pp. 119-134.

The COVID-19 outbreak, initially localized mainly in China, the world's top trader, led to a sharp decline in NBS manufacturing PMI (from 50 in January 2020 to 37.5 in February). The Baltic Dry Index, a measure of the dry bulk shipping cost for various raw materials, collapsed in January, the worst month in the last eight years, and **oil prices** recorded a sizeable drop in January (Figure 1). As COVID-19 went global in early March, **confidence** collapsed in major advanced economies. US manufacturing ISM PMI fell sharply to 41.5% in April (lowest level since 2009), the New Orders Index to 27.1%, and the Production Index to 27.5% A reading below 50% indicates general contraction in manufacturing. The Bank of Japan's Tankan Survey indicates a plunge in the sentiment of large and medium-sized manufacturers to −8 in the first quarter, the lowest reading since 2013. The reading for small enterprises was merely −15. The German ifo Business Climate Index crashed to 74.3 sa in April from 85.9 in March.

The sharp decline in oil prices also reflected mostly the waning confidence and collapsing demand. According to the IEA, global oil demand might have fallen by 20% due to COVID-19, and 2020 demand is expected to contract for the first time since the global recession of 2009. As the COVID-19 crisis deepened, **non-oil commodity prices** also fell, a continued sharp decline of which reflects a broad global cyclical downturn.

Figure 4: Exchange Rates and Long-term Bond Yields



Red vertical lines indicate the same dates as in Figure 1.

Note: 1. Bilateral exchange rates against the US dollar. 2. Rebased to January 15, 2020 level. 3. Indices based on a trade-weighted average of nominal bilateral exchange rates.

Source: Wind, BIS, Luohan Academy.

Foreign exchange markets followed a similar pattern. Notably, both bilateral and nominal effective exchange rates reacted strongly to news of the covid-19 pandemic, especially after February 19. **All major currencies depreciated against the US dollar**, except in the days following the March 3 US Federal Reserve announcement of an emergency 50-basis-point cut in the Federal Funds rate due to COVID-19 risks (Figure 4). Australian dollar, Indonesian Rupiah, British Pound, Korean Won and Thai Baht were among the currencies that depreciated most against the US dollar. In addition,

exchange rates movements became highly volatile after February 19. Exchange rates play an important role in portfolio adjustment decisions of global investors, through which they affect investment.

Government bonds are "safe" assets serving as a benchmark for many other assets. At a time of elevated market turbulences, sovereign bond prices are often negatively correlated with equity prices, providing a valuable hedge for investors. Following the COVID-19 outbreak, yield curves in the major economies started to flatten around December 13, and both US and UK term spreads went negative around February 19. An inverted yield curve often signaled an impending recession in the United States. As investors retreat into sovereign bonds in their flight to safety, yields of major 10-year sovereign bonds fell through much of the first two months of the year (Figure 4). The Covid-19 shock then intensified and entered a second phase in early March, hitting hard Europe and the United States. Nowhere was safe anymore, and **bond markets experienced atypical episodes of sharp selloffs**, with yields rising after March 9.

The price of gold, which normally attracts safe haven flows, experienced similar dynamics (Figure 2), highlighting the severity of the **sudden collapse of global confidence** in March, especially confidence in the ability of public authorities in containing the virus spread and restoring growth. Market events will further shape the public's expectations and drive global consumer and investor confidences, eventually affecting their consumption and investment decisions. In a globalized world, the confidence channel plays an important role in driving a global synchronized cycle.

2.2. Financial Channel

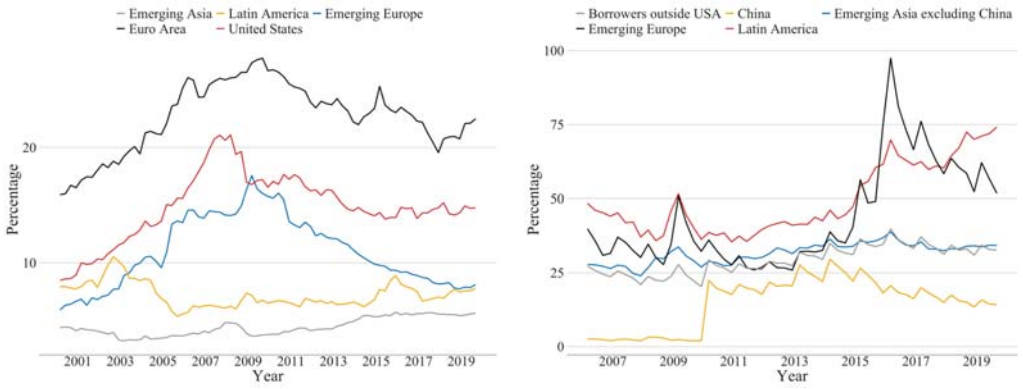
To a large extent, whether the COVID-19 crisis would lead to a deep and long-lasting recession depends on how the shocks transmit globally and affect the global economy through various **financial mechanisms**. One such mechanism is the **liquidity channel**. The COVID-19 crisis raises the possibility of defaults and tightens banks' funding constraints, reducing their ability to lend. Credit rationing leads to a rise in the external finance premium and weakens banks' balance sheets, limiting their access to wholesale funding, hence firms and households' access to external financing. In a global market, liquidity crunch in one economy may lead to financial institutions' dash for liquidity elsewhere, as seen in the GFC. To prevent a global market seizure, a timely supply of global liquidity is crucial.

Second, cross-economy interest rate differentials vary according to policy rate changes, relative growth prospects, risks, and other factors, especially distinct COVID-19 incidences. These drive a dynamic **global portfolio rebalancing** process in recent months, with unprecedented changes in portfolio allocation and capital flow reversals, especially in emerging economies. Investors' shift from years of hunt for yields to flight to safety drove a sudden stop in emerging economies with dire financial and real

consequences. As the COVID-19 crisis deepens, banks rebalance their international portfolios, cross-border banking flows, though relatively low relative to GDP in emerging economies, could suffer (Figure 5).

Figure 5: Debt

Cross-border banking flows[1] | US dollar debt[2]



Note: 1. Banking flows (cross-border claims on private non-bank financial institutions) as percentage of GDP. Emerging Asia: China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, Singapore, Thailand; Latin America: Argentina, Brazil, Chile, Mexico; Emerging Europe: Czech Republic, Hungary, Poland; Euro area: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Greece. 2. Total credit to non-bank borrowers denominated in US dollars as percentage of GDP. Emerging Asia excluding China: Chinese Taipei, India, Indonesia, Korea, Malaysia; Emerging Europe: Russia, Turkey; Latin America: Argentina, Brazil, Chile, Mexico. Borrowers outside USA include the economies above and Saudi Arabia, South Africa.

Source: BIS, IFS, WIND.

Third, a **risk taking channel** operates in two ways. Monetary policy affects banks' risk perceptions and attitude, the new COVID-19-related cuts in already very low interest rates and further expansion in quantitative easing in some economies may lead to a rise in banks' risk-taking elsewhere. As global real interest rates further decline and global liquidity rises, increased excessive risk-taking reduces investment efficiency. Moreover, the Covid-19 crisis was accompanied by a sharp rise in US dollar funding costs in foreign exchange markets. Changes in US dollar exchange rates can affect the risk-taking behavior through a financial channel of exchange rates. When banks and non-banks have US dollar liabilities, a US dollar appreciation has valuation effects that can lead to a tightening in domestic financial conditions. For global banks which lend to borrowers with currency mismatches, it increases the credit risk of its loan portfolio and limits its ability to lend.

Fourth, the COVID-19 shock drastically reduces banks' expected profits from lending and the supply of available loanable funds, while many assets that borrowers use as collaterals quickly lose value. This reduces banks' willingness and ability to lend. In addition, near zero or negative interest rates lose information content and stop serving as an efficient mechanism for international credit allocation. Through an

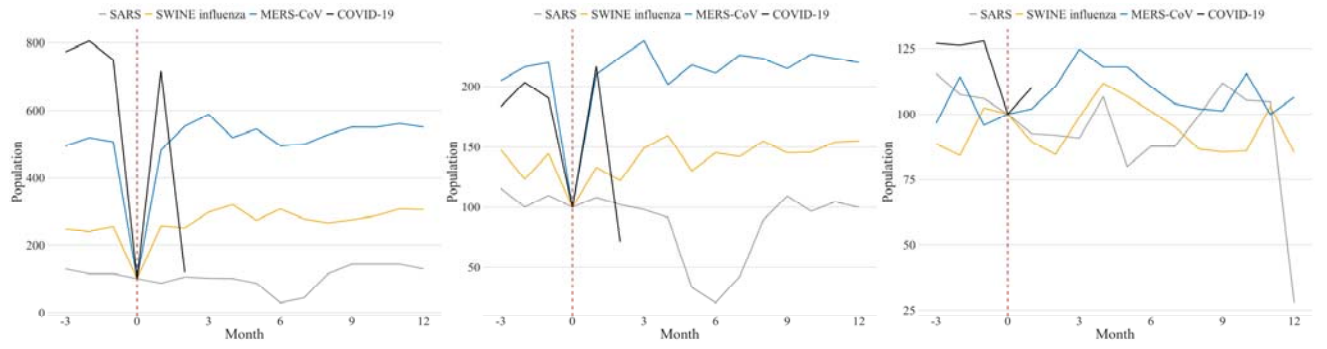
international **credit** or **bank lending channel**, the COVID-19 shock hinders investment and consumption.

2.3. External Demand Channel

The expansion of international trade has been a critical factor driving post-World War II growth. A key factor behind the GFC recession was the "great trade collapse": international trade plunged 29% in 2008-2009, and global trade fell 20% relative to global GDP. **As the COVID-19 crisis set in, external trade is again in great difficulties.** Latest forecasts by the World Trade Organization (WTO) suggest that the volume of global merchandise trade would fall by 13% in 2020 in an optimistic scenario, and 32% or more if the COVID 19 pandemic is not brought under control, and governments fail to implement and coordinate effective policy responses. Nearly all regions are expected to suffer double-digit declines in trade volumes in 2020, with exports from North America and Asia hit hardest. Trade might experience steeper declines in sectors with complex value chains, particularly electronics and automotive products. Trade in services will most directly affected by COVID-19 through transport and travel restrictions. The March JP Morgan global PMI indicates export orders in manufacturing falling to 43.3 relative to a baseline value of 50, and new services exports dropping to 35.5, suggesting a severe downturn. A major trade slump could lead to a sharp global recession in the coming quarters.

Figure 6: Epidemic Impacts on Aviation

China | Hong Kong SAR | Japan



Time 0: November, 2002, SARS; April, 2009, Swine Influenza; May, 2015, MERS-CoV; December, 2019, COVID-19.

Note: Number of airline passengers, monthly, are rebased to 100 at time 0, the beginning month of each epidemic.

Source: CEIC, Civil Aviation Department of Hong Kong, Luohan Academy.

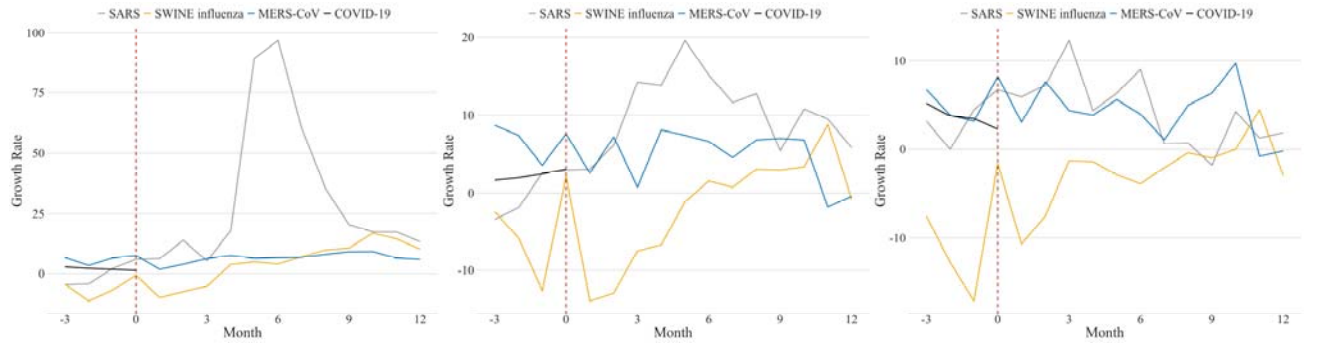
Global trade in services took a first, direct hit from the COVID-19 contagion and the corresponding, often drastic epidemic control measures. Travel and tourism, which depend on external visitors, were most affected. Following Wuhan lockdown on

January 23, travel restrictions were imposed in many areas in China, both production and consumption plummeted, so did the demand for imports. From January to February, total retail sales of consumer goods fell by 20.5% y/y. Travel-related retails declined significantly, auto and fuel fell by 37% and 26.2%, respectively; the catering and hotel accommodation revenues plunged by 43.1% and nearly 50% respectively. The sizeable decline in consumer demand implies **a significant drop in China's demand for imports**. While China's exports contracted sharply by 17.2% y/y in January-February, imports sank 4% following a 16.5% jump in December.

One of the first industries that experienced heavy losses was aviation, in part due to reduced willingness to travel in confined spaces; and outright travel restrictions, e.g. President Trump's February 1 executive order banning all foreign nationals who had been in China from US entry. According to the International Air Transport Association (IATA), the impact of COVID-19 on aviation industry was devastating: global demand fell by 70% compared to last year, and by 90% in Europe. Global airline passenger revenues drop by USD 314 billion (55% y/y) in 2020. About 25 million jobs (11.2 million in Asia-Pacific and 5.6 million in Europe) could be lost before recovery. Airlines' passenger revenues are expected to drop by USD 252 billion (−44% y/y) in 2020.

Figure 7: Epidemic Impacts on Tourism

Asia and the Pacific | Americas | Europe



Time 0: November, 2002 (2003 SARS); April, 2009 (2009 Swine Influenza); May, 2015 (2015 MERS-CoV); December, 2019 (COVID-19).

Time 0: November, 2002, SARS; April, 2009, Swine Influenza; May, 2015, MERS-CoV; December, 2019, COVID-19.

Note: Monthly growth rates of tourists in Asia and the Pacific, Americas and Europe.

Source: UNWTO.

Figure 6 compares the number of airline passengers from three months before to 12 months after the COVID-19 outbreak, to the numbers during other major epidemics: SARS in 2003; Swine Influenza in 2009; and MERS-CoV in 2015. Swine Influenza and MERS-CoV did not appear to have a substantial and lasting impact on aviation in China, Hong Kong SAR and Japan. In contrast, SARS had a significant impact on all three economies, the effect peaked in around six months after the initial outbreak. The

impact was particularly severe in China and Hong Kong SAR. Compared to the SARS episode, existing data indicate that COVID-19 had an immediate and deep impact on aviation. Demand, measured in total revenue passenger kilometers fell 14.1% y/y in February 2020 (Asia Pacific: −41.3%), the steepest decline since September 11, 2001. This mainly reflected the collapse of domestic travel in China and a sharp drop in travels to/from and within the Asia Pacific. The numbers are expected to deteriorate significantly as the second phase of COVID-19 shock set in.

Lessons from past epidemics also suggest tourism is bound to be greatly impacted. Interestingly, growth in the number of tourists did not suffer from the SARS outbreak, but tourism decelerated following the Swine Influenza and MERS-CoV outbreaks, and it took three to six months for tourism to recover to pre-outbreak paces (Figure 7). The Swine Influenza proved to be more damaging to tourism, but this could be partly attributed to the ongoing GFC which might exert a negative impact on demand: the Americas and Europe, epicenters of the GFC, recorded the biggest declines. The COVID-19 pandemic is much more extensive and enduring than any of these recent epidemic episodes, the eventual damage to the tourism industry is expected to far exceed the outcomes seen in these cases. Tourism Economics forecasts indicate that all regions will endure a large decline in travel in 2020, with global inbound arrivals expected to decline 39%, with a loss of 577 million visitors compared to 2019.

Table 1: Import Dependence

Economies	U.S.	China	Japan	Korea	Germany	U.K.	Italy	France	Spain	Brazil	Mexico	Southeast Asia
United States		7.31	11.17	11.04	6.06	9.42	3.75	6.31	4.12	16.19	46.59	7.58
China	21.57		23.2	19.9	9.8	9.44	7.25	8.95	8.44	19.16	17.99	20.07
Japan	5.59	8.45		10.2	2.27	1.92	0.88	1.8	1.3	2.4	3.92	8.81
Korea	2.92	9.58	4.29		1.12	0.77	0.95	0.68	0.98	2.97	3.60	7.3
Germany	4.91	4.98	3.47	3.90		13.71	16.48	15.51	12.57	5.83	3.83	2.45
United Kingdom	2.36	1.12	1.1	1.27	3.37		2.64	3.68	3.59	1.23	0.52	1.11
Italy	2.15	0.99	1.52	1.18	5.51	3.98		7.65	6.61	2.49	1.42	0.9
France	2.05	1.51	1.48	1.1	5.98	5.64	8.60		10.81	2.18	0.95	1.74
Spain	0.68	0.41	0.45	0.47	2.97	3.14	4.87	6.51		1.62	1.19	0.33
Brazil	1.24	3.61	0.54	0.73	0.68	0.45	0.79	0.54	1.52		1.40	0.76
Mexico	13.37	0.66	0.85	0.95	0.73	0.42	0.22	0.42	1.5	2.71		0.36
Southeast Asia	7.13	12.21	14.28	10.86	3.58	2.47	1.80	2.86	2.45	4.28	5.65	

Note: Each entry denotes the ratio of the value of exports of the exporting economy on the left column to the value of total imports of the importing economy on the top row. Southeast Asia: Indonesia, Malaysia, Philippines, Singapore, Vietnam and Thailand. In per cent. The numbers in red correspond to values exceeding 5%.

Source: WITS, Trade Map.

To assess the exposure and vulnerability of the major economies to the **external demand or trade channel** of the COVID-19 shock, we compute the ratios of the value of exports (imports) of the exporting (importing) economy to the value of total imports (exports) of the importing (exporting) economy. Tables 1 and 2 depict the degrees of import and export dependence of the economies listed in the top row, on those listed in the left-hand column. Several observations stand out. First, **almost all economies heavily depend on the major trading powers for trade, and more on China than on the United States**, for both imports and exports, with the exception of the more integrated European economies and Mexico, which is heavily dependent on the US economy. The fact that China and the United States have suffered heavy output and job losses during the COVID-19 crisis does not bode well for cross-border demand.

Table 2: Export Dependence

Economies	U.S.	China	Japan	Korea	Germany	U.K.	Italy	France	Spain	Brazil	Mexico	Southeast Asia
United States		19.23	19.05	12.08	8.6	13.44	9.11	7.97	4.56	12.16	76.49	13.78
China	7.21		19.51	26.81	7.07	5.64	2.82	4.33	2.25	26.76	1.6	16.63
Japan	4.52	5.90		5.05	1.55	1.71	1.39	1.37	0.9	1.81	0.73	9.51
Korea	3.39	4.37	7.11		1.31	1.59	0.98	0.90	0.72	1.43	0.51	5.12
Germany	3.44	3.12	2.83	1.55		9.68	12.5	14.64	11.04	2.17	1.57	2.68
United Kingdom	3.98	2.28	1.88	1.05	6.19		5.11	6.75	6.79	1.25	0.49	1.62
Italy	1.37	1.33	0.64	0.74	5.27	2.85		7.52	8.15	1.48	0.40	0.78
France	2.26	1.25	0.99	0.6	7.96	6.54	10.46		15.42	1.1	0.39	1.24
Spain	0.79	1.00	0.46	0.50	3.34	2.85	5.20	7.80		2.15	0.38	0.65
Brazil	2.38	1.35	0.92	0.81	0.72	0.52	0.83	0.94	0.85		0.98	0.60
Mexico	15.94	1.77	1.57	1.89	1.05	0.41	0.92	0.68	1.63	1.88		0.85
Southeast Asia	5.09	12.07	15.32	16.33	2.11	2.67	1.68	3.26	1.26	4.82	0.50	

Note: Each entry denotes the ratio of the value of imports of the importing economy on the left column to the value of total exports of the exporting economy on the top row. Southeast Asia: Indonesia, Malaysia, Philippines, Singapore, Vietnam and Thailand. In per cent. The numbers in red correspond to values exceeding 5%.

Source: WITS, Trade Map.

Second, **economies within a region heavily depend on trade partners in the same region**, besides their dependence on China and the United States. Germany, for instance, depends far more on the other European economies for both its exports and imports. There are two main regional trade blocs of high interdependence within the sample: the Asian bloc that includes China, Japan, Korea, and the Southeast Asia; and the European bloc that includes Germany, Italy, France and Spain. While Mexico is highly dependent on the United States, Brazil's exports depend far more on the Chinese than on the US market. Third, the imports and exports (except for Europe and

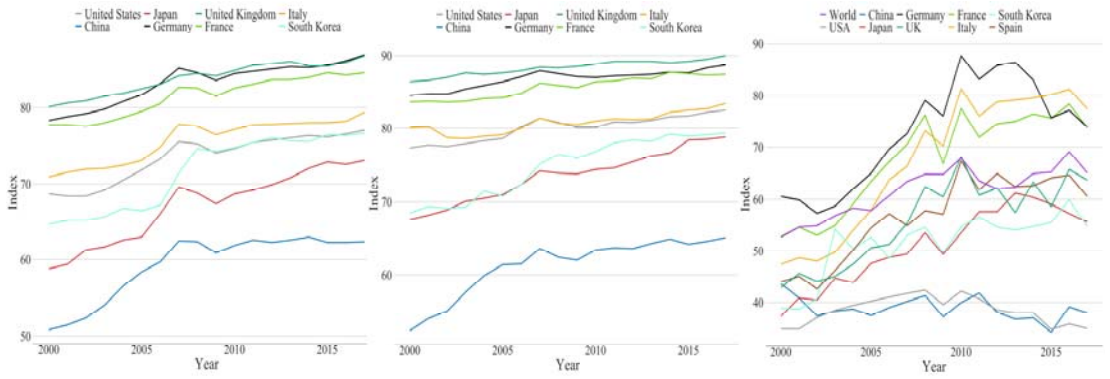
Mexico) of most economies **depend more on China than on the United States**. Clearly, **a COVID-19 meltdown in any of the two biggest economies in the world would leave the other economies highly exposed to a possible trade slump**, and **the economies are most vulnerable to the external demand of trading partners within the region**.

2.4. Supply Channel

The COVID-19 Pandemic has caused **major supply disruptions**, as fears of contagion led to closures of restaurants, cinemas, shopping malls, factories and offices across the world. The ensuing epidemic control measures, e.g. lockdowns, stay-at-home orders, social distancing, travel restrictions, road closures, have **drastically curtailed both the domestic and cross-border movements of people, goods and services**. The impact is twofold. First, COVID-19 causes drastic, but likely **transitory interruptions** in production and local retails, for both factory and office workers, especially businesses that rely on onsite operations. Second, unlike any other shock, the COVID-19 and many epidemic control measures has a major impact on **logistics and distribution**, severely disrupting international trade.

Figure 8: Slowing Globalization Trend and Global Value Chain (GVC)

Slowing Globalization[1] | Economic Globalization[2] | Falling GVC Participation[3]



Note: 1. The KOF Globalisation Index (*de facto*) measures actual international flows and activities. 2. The KOF Economic Globalisation Index measures the economic dimension of globalization. 3. An economy's Global Value Chain (GVC) Participation Index is calculated as its global value chain divided by its exports, it provides an indication of how much an economy is connected to the GVC.

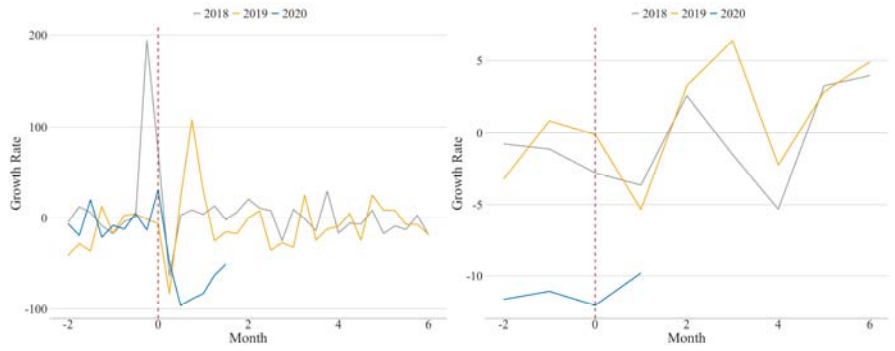
Source: Gygli, S., F. Haelg, N. Potrafke and J. Sturm (2019): "The KOF Globalisation Index – Revisited," *Review of International Organizations*, vol. 14:3, pp. 543-574. UNCTAD-Eora Global Value Chain Database, UN Comtrade.

More importantly, a more persistent, extensive COVID-19 shock kills jobs, decimates MSMEs, and breaks global supply chains (GVC) already under stress from escalating trade tensions among the major economies, yielding lasting damage to

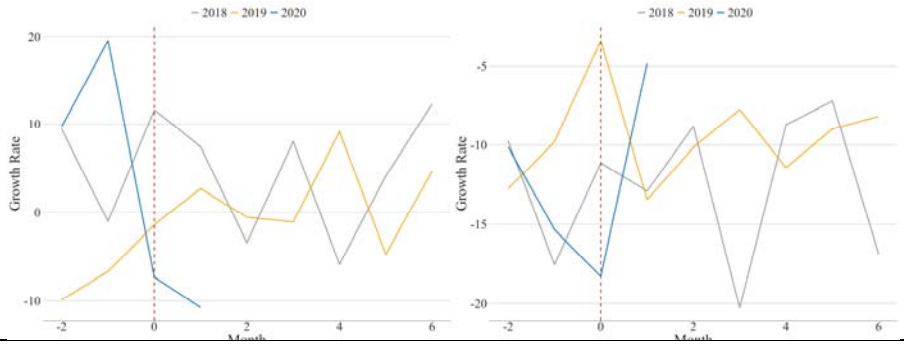
some more vulnerable local economies. A major concern has been a possible **reversal of globalization**. While remaining on an upward trend, the overall *de facto* and economic globalization process began to lose steam since the GFC (Figure 8). The tendency is more apparent for China, Japan, Korea and the United Sates, which made great strides before the GFC but were still some distance away from the European economies. The **participation of the major economies in GVCs** also reached a peak during the GFC and started to ebb ever since, the decline being most accentuated in the world's four largest traders: China, the United States, Japan and Germany. China and the United States had the lowest levels of GVC participation, while Germany and Japan suffered the largest declines in GVC participation.

Figure 9: COVID-19 Impact on Passenger Car Sales

China[1] Japan[1]



Germany[2] United States[2]



Year-on-year growth rate of passenger car sales. China, weekly data; Japan, Germany, United States, monthly data.

Note: 1. Time 0: month of Chinese New Year. 2. Time 0: January 2018, 2019 and 2020.

Source: Wind, Luohan Academy.

As economies grew more intertwined and interdependent in the last few decades due to a strong-paced globalization process, shocks in one economy transmits more rapidly to another. **COVID-19 supply disruptions have been a key driver of the global recession**, with debilitated international trade. Some industries, e.g. automobile and electronics, are more prone to GVC disruptions, with exposures concentrated in a small number of individual economies. For example, the Chinese, US, German,

Japanese and Korean producers command global electronics production (30%), with China well ahead of other (15%).

Having already experienced a sharp downturn in production and sales through 2018-2019, the automotive industry is particularly vulnerable to the COVID-19 shock. Stricter pollution laws in Europe and China, higher US-China tariffs, growing rideshare services and car-sharing options in densely populated areas have driven a prolonged contraction. The COVID-19 shock rubbed salt in a wound through its impact on both car demand and GVC. China, the largest passenger car manufacturer and for years the major growth market for global car producers was the first to suffer a notable decline in sales from COVID-19 (Figure 9). The country produced over 21.3 million cars, i.e. almost one third of global production in 2019. Weakening car demand and production in China have significant implications for the global car industry and the respective GVC in the coming quarters or years.

III. Looming Vulnerabilities and Longer-term Challenges

With about 3.6 million confirmed cases and 250,000 deaths in 215 countries, areas or territories, a sharp global recession is already under way. While the evolution and persistence of the global COVID-19 shock remain highly uncertain, its magnitude has become increasingly clear. Already, many comparisons are made between the "Great Lockdown" and the Great Recession, or even the Great Depression. While an episode like the Great Depression is less likely, given the lessons we have learned in the past and reflected in monetary and fiscal policy responses; and almost a decade of rebuilding financial sector resilience since the GFC. Many experts expect the COVID-19 shock, in its most vehement form, to be short-lived, without a significant dent on the longer-term demand and global production capacity. The hope is that investors are going to splash out, consumers are going to spend big, and the temporarily unemployed will rush back to posts as soon as the virus gets under control. Then we will see a strong V-shaped global recovery.

Yet, facts are evolving in a way that is far more disheartening. While a V-shaped recovery may still be in sight, my view is that there are obvious signs of serious economic, financial and policy vulnerabilities, which, through cross-border channels of transmission I discussed in the last section, can drag the global economy into a major recession and financial crisis of massive proportions. Were this scenario to materialize, we will end up in a situation that is far less palatable than a V-shaped recovery envisioned by many. At best, the recovery is more likely to be swoosh-shaped.

3.1. MSME Survival and the Employment Crisis

The global COVID-19 crisis has turned out to be both a major job recession and a micro, small and medium-sized enterprises' (MSME) survival crisis, which might be the

defining features of the Great Lockdown. The COVID-19 shock has hit MSMEs hardest. MSMEs are among the most important drivers of real GDP growth, employment, productivity growth and innovations. A World Bank's Enterprise Survey (99 countries, 2006-2010) estimated that SMEs employed 66% of total workers. In China, over 90% of firms are MSMEs, which provide over 50% of fiscal revenues, over 60% of GDP, over 70% of technological innovations, over 80% of urban employment.

MSMEs across the world have suffered greatly from the COVID-19 shock, their survival is crucial for global growth and employment. The first phase of the shock, more limited to **China** and its close neighbors, had a substantial impact on MSMEs. Estimates based on the Daokou SME Economic Recovery Index, compiled by Tsinghua University's PBC School of Finance and Beijing Daokoujinke using data on about one million Chinese MSMEs in 31 provinces and cities and 19 sectors, show that by the end of March, the COVID-19 shock would have reduced the income of small and medium-sized enterprises (SME) by 69.5%. Area-wise, the impact on SMEs in Hubei and Hunan was the greatest; Industry-wise, SMEs in accommodation and catering, construction, education, real estate, manufacturing, and leasing were most affected.

The second, global phase of COVID-19 shock, has affected MSMEs in **other major economies**. A recent Alignable survey of more than 5,800 US-based small businesses suggests mass layoffs and closures, with 43% temporarily closed, and head counts reduced, on average, by 40% relative to January.[5] Many small businesses are financially fragile, with the median business having over USD 10,000 in monthly expenses but less than one month of cash on hand. The end April Alignable poll on US and Canadian small business owners show that the overall impact remained high at around 85%, and 34% of small businesses can't pay May rent.

Nevertheless, the extent to which MSMEs have gone bust and jobs lost is still not known. **Once MSMEs are shocked out of existence, it would be very hard to get them, and their jobs back**. Already, fiscal stimulus in several major economies targeted MSMEs. In the United States, the Paycheck Protection Program was allocated USD 350 billion to help small businesses keep workers employed, it provides 100% federally guaranteed loans to small businesses, which may be forgiven if borrowers maintain their payrolls during the crisis or restore their payrolls afterwards. But according to the Alignable poll, so far only 11.6% of the surveyed had their applications approved and received cash. In the United Kingdom, firms can claim 80% of employees' wages and employer National Insurance and pension contributions, if the employees are put on furlough due to COVID-19.

Besides COVID-19's direct impact on **consumption, employment and industrial production**, the drastic reduction in trade and GVC dislocations have contributed to a

[5] Bartik, A., M. Bertrand, Z. Cullen, E. Glaeser, M. Luca, C. Stanton (2020): "How Are Small Businesses Adjusting to COVID-19? Early Evidence from a Survey," NBER Working Paper No. 26989.

global job crisis. In China, urban unemployment rate rose sharply from 5.3% in January to 6.2% in February, with heavy job losses in the service industries (e.g. wholesale and retail, accommodation and catering, transportation, culture, sports and entertainment). In the United States, initial jobless claims in the 6-week period ending April 25 totaled above 30 million, bringing the US unemployment rate to about 20%, the highest level since 1934, despite serious fiscal efforts to shore up employment. US Manufacturing ISM Employment Index fell sharply to 27.5, the index's lowest reading since June 1949 and largest one-month decrease since records began in January 1948. In India, according to the Centre for Monitoring the Indian Economy, unemployment rate reached a record high of 27.1%, with 122 million Indians losing their jobs in April alone, due to the lockdown which brought most economic activity to a standstill. to the International Labour Organization, globally, the COVID-19 crisis is expected to wipe out 6.7% of working hours in the second quarter of 2020, i.e. 195 million full-time workers. As the crisis drags on, a good part of the massive temporary unemployment could morph into lasting, structural employment, leading to a serious job recession.

Table 3: Intra-industry Trade in Key Industries

Economy / Industry	Clothing	Nuclear reactors, boilers, machinery	Electrical machinery	Vehicles
ASEAN	0.17	0.91	0.92	0.97
Brazil	0.18	0.87	0.27	0.95
China	0.09	0.64	0.88	0.96
EU-28	0.38	0.82	0.8	0.62
France	0.62	0.89	0.87	0.87
Germany	0.72	0.76	0.99	0.67
Italy	0.94	0.63	0.94	0.94
Japan	0.03	0.66	0.96	0.28
Mexico	0.92	0.99	0.93	0.54
Korea	0.39	0.87	0.63	0.43
Spain	0.81	0.81	0.79	0.90
Switzerland	0.45	0.89	0.92	0.30
United Kingdom	0.46	0.91	0.62	0.84
United States	0.11	0.71	0.65	0.60

Note: The Grubel-Llyod Index is calculated as $1-\frac{|X_i-M_i|}{X_i+M_i}$, where X_i and M_i denote exports and imports of product i, respectively. It measures intra-industry trade of a particular product and ranges between 0 and 1: at 1, an economy is highly engaged in intra-industry trade, exporting and importing the same amount of product i; at 0, the economy is not involved in intra-industry trade at all. Product categories are classified according to HS2. 2018 data. The numbers in red correspond to values exceeding 0.80.

Source: UN Comtrade.

3.2. Dislocations in Global Value Chains

About 70% of international trade now involves global value chains (GVC), with services, raw materials, parts, and components moving multiple time across national borders. Trade frictions among the major economies have already caused significant strains on GVCs in the past two years. According to Kearney US Reshoring Index, US firms in 2019 sourced 7.2% y/y less manufactured goods from 14 traditional low-cost Asian trading partners including China, India, Indonesia, Malaysia, Thailand and Vietnam, while US domestic manufacturing output was virtually unchanged from 2018. Much of the drop was due to a 17% decline in US imports from China, long the leading choice for offshore production. Manufactured imports from Vietnam and Mexico rose, suggesting US firms adopting new sourcing strategies. the COVID-19 crisis began disrupting global supply chains early in 2020.

The process could significantly quicken with the unfolding of the COVID-19 crisis in 2020. To better assess the exposure to GVC disruptions, we compute the Grubel-Llyod Index for 14 major economies, for four major industries: clothing, nuclear reactors, boilers and machinery, electrical machinery, and vehicles (Table 3). The disruptions rotated from China to Europe and the United States, sending shockwaves around, they hurt more the "smaller" open economies that greatly relied on trade and GVCs for growth, e.g. France, Germany, Italy, Japan, Korea, Mexico, Spain, the United Kingdom and ASEAN economies, which heavily rely on intra-industry trade. Machineries and vehicles are expected to be among the most affected industries.

As the COVID-19 crisis becomes more enduring, some industries in the economies most affected by supply disruptions are likely to suffer from a possibly fatal break from the chains. On April 9, as part of its record economic stimulus, Japan earmarked JPY 220 billion to help its manufacturers shift production out of China back to Japan, and JPY 23.5 billion for companies seeking to move production elsewhere. Larry Kudlow, US National Economic Council Director, said the United States should "pay the moving costs" of every US company moving out of China. The COVID-19 shock could lead to a massive shuffling of the existing GVCs, as countries and companies began to reexamine their exposure and heavy reliance on a limited number of trading partners.

3.3. Debt Crisis

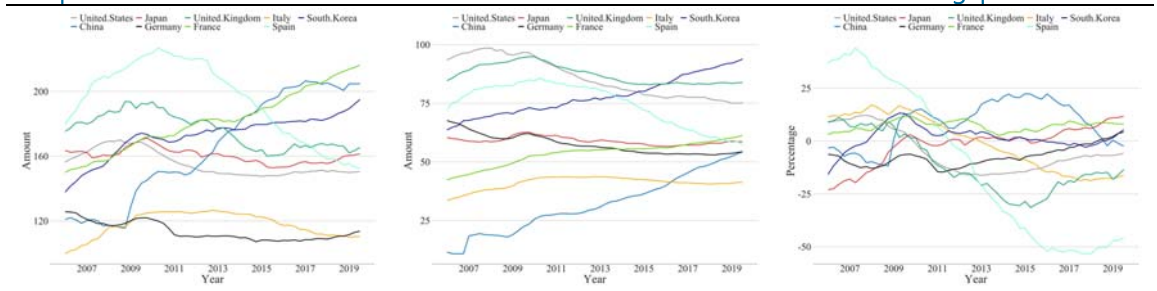
The highly globalized financial system provides fertile grounds for financial channels to operate across borders, and the COVID-19 shock can have dire consequences for global finance. My greatest concerns are with a major global financial crisis provoked by COVID-19 difficulties. First, a major liquidity crunch could transmit through financial channels. Despite the limited room for both monetary and fiscal policy manoeuvre,

most affected economies acted rapidly and boldly in due responses to the COVID-19 shock. **Global liquidity**, especially central bank liquidity, remains abundant. Following the Federal Reserve's two emergency rate cuts on March 3 and 15, and the relaunch of its asset purchase program at USD 700 billion, other central banks took actions. Nevertheless, a big issue may be the **rising specter of a major global debt crisis**, especially as the pandemic drags on and liquidity problems evolve into a solvency crisis for financial institutions and corporates. If a large number of firms and households eventually become insolvent, and defaults and bankruptcies mount, liquidity may be in short supply and concerns with banks' solvency will rise.

The prospects of a major financial crisis are rising. Vulnerabilities abound. Global debt in the public, corporate and household sectors rose by nearly USD 11 trillion in 2019 to reach USD 255.3 trillion, leading to an **unprecedented surge in debt-to-GDP ratio to over 322%**, about 40 percentage points higher compared to the onset of the GFC. The credit-to-GDP gap remains elevated in France and Japan (Figure 10). Over USD 20 trillion of debt is expected to come due through end-2020.

Figure 10: Debt Vulnerability

Corporate debt[1] | Household debt[2] | Credit-to-GDP gap[3]



Note: 1. Ratio of private non-financial sector debt to GDP. 2. Ratio of household debt to GDP. 3. Difference between the credit-to-GDP ratio and its long-term trend. In percentage points.

Source: BIS.

The household sector is in relatively better shape (Figure 10). Household debt tops USD 48 trillion, up from USD 35 trillion in 2007, the build-up being fastest in China (35 ppts) and Norway (30 ppts). Households in Switzerland, Denmark, Norway, Canada and Netherland are among the most indebted. **Non-financial corporate debt** surged by over 70% since 2007 to USD 74 trillion, or near 92% of GDP, its ratio to GDP has risen to alarming levels in some economies, e.g. Canada, Chile, France, the Philippines, Singapore, South Africa, Switzerland and the United States. IIF estimates suggest that China's total debt-to-GDP ratio exceeded 303% in mid-2019, making up about 15% of global debt. In particular, corporate debt rose to over 200% of GDP from below 120% in 2009. Besides China, France and Korea have elevated corporate debt, while Italian and Spanish firms consolidated following the GFC.

The COVID-19 crisis is certain to aggravate both public and corporate finances. The global economy is in distress, **mass corporate failures** may be imminent, **defaults**

and non-performing loans can surge, damaging banks' balance sheets and prompting a major banking crisis. In the first quarter, the Chinese economy shrank by 6.8% y/y, and industrial capacity utilization rate fell to 67.3% from 77.5% in the previous quarter. Industrial production, investment, retail sales and fell 1.1% y/y, 16.1% and 19% respectively, imports and exports by 6.4%. Those firms with limited cash reserves are most vulnerable to a prolonged crisis, especially MSMEs. But large firms also face growing financial difficulties: industrial profits of larger firms declined by 38.3% y/y in January-February and 34.9% in March, their value added and revenues fell 13.5% and 17.7%., respectively.

US real GDP fell at an annual rate of 4.8% q/q in the first quarter, the worst contraction since 2008. The Conference Board forecasted a US contraction between 3.6% and 7.4% in 2020. The European Commission projected that the European Union (EU) would contract 7.5%, the worst outcome since the Great Depression. Globally, the COVID-19 crisis has already prompted sharp downgrades to corporate earnings estimates and fears of fire sales, with growing signs of stress in corporate funding markets. Corporate defaults are expected to rise sharply as economic activity contracts and unemployment jumps. According to Moody's, North American corporates saw a very steep credit quality decline in March, a significant rise in defaults is expected in the second half of 2020. S&P Global Ratings sharply increased its baseline default rate forecast for US speculative-grade corporates following the global COVID-19 slowdown to 10% within the next 12 months, up from 3.1% as projected in December 2019. One country of concern is Korea, of which both corporate and household debt rose to very high levels relative to GDP, and has a high credit-to-GDP gap.

The COVID-19 crisis places heavy strains on sovereign debt, which more than doubled to USD 70 trillion in 2019 from less than USD 35 trillion in 2007. The United States and China, two of the economies most affected by the COVID-19, both with massive fiscal responses, accounted for over half of the increase. While the COVID-19 crisis was met with immediate and powerful stimuli, including both generous fiscal packages and large-scale central bank asset purchases, public debt is expected to rise rapidly to unprecedented levels. Already in March, gross government debt issuance soared to a record high of over USD 2.1 trillion. US fiscal deficits can push its public debt-to-GDP ratio up from 80% to 110%. In Europe, finance ministers agreed on a "general escape clause" to suspend the EU's deficit limits to boost spending.

Were a V-shaped strong recovery not to materialize and tax revenues fail to grow, the specter of a major sovereign debt crisis looms. While the major advanced economies have consolidated their public finances since the GFC, and many still enjoy privileged access to very low-cost financing, emerging economies are particularly vulnerable with the ongoing sudden stop in capital flows. Fitch Ratings expects multi-notch sovereign downgrades in 2020, in those advanced economies amid large and

sudden increases in public debt, and in many emerging economies facing COVID-19 shocks that cause abrupt changes in external financing conditions.

3.4. Risk-taking and Financial Instability

Global risk-taking could lead to significant financial instability in the near future. There are two major risks, the first, more immediate peril, relates to the malfunctioning of US dollar funding markets. The demand for US dollar funding has risen in recent years, mainly due to currency hedging needs of many firms and investors outside the United States. As a percentage of GDP, US-dollar-denominated debt rose since 2010, and remained high in Latin America and emerging Europe (Figure 5). The steep rise in US dollar funding costs in March came as its supply by financial intermediaries became more limited. Foreign exchange (FX) swap bases against the US dollar widened markedly since the Covid-19 outbreak, with the three-month basis rising to –144 basis points (bps) for JPY, –107 bps for CHF, –85 bps for EUR and –62 bps for GBP. The safe-haven rush to US dollar has been a major refinancing risk for emerging economies (EME) and their firms that rely heavily on external funding. Nevertheless, central banks acted swiftly, announcing, on March 15, the enhancement of swap lines between the Federal Reserve and five central banks. On March 17, central banks of Japan, euro area, Switzerland and the United Kingdom started US dollar liquidity operations, this helped reduce US dollar costs and calm surging market anxieties.

Second, the recent rise of the US dollar index, extraordinary depreciations in some currencies and sudden, unprecedented capital outflows from EMEs since March 2020 suggests the possibility of an imminent currency and debt crisis. In recent weeks, there was an unprecedented rebalancing in global portfolio allocation and capital flows. While the COVID-19 impact was initially confined to China, the contagion created a huge shock from March onwards. According to the Institute of International Finance (IIF) estimates, EMEs suffered a broad outflow of USD 83.3 billion in March, which was significantly greater than seen during the GFC or the 2014 Taper Tantrum. About USD 31.0 billion were debt outflows, a monthly rate only second to that of October 2008. Equity outflows reached USD 12.3 billion from China and USD 40.1 billion from other EMEs. Emerging Asia suffered most, especially in terms of equity flows, but large foreign reserves accumulated in many EMEs following the GFC, especially in Asia, helped them resist currency depreciation and alleviate financial stress, somewhat cushioning the immediate impact from the Covid-19 shock.

A systemic sudden stop in capital inflows of this magnitude, if it continues, could cause broad failures with dire financial and real consequences, especially in economies with twin deficits (current account deficit and budget deficit) and an elevated level of external debt, usually denominated in US dollar. EME FX debt now exceeds USD 5.3 trillion, and EMEs will need to refinance USD 730 billion in FX debt through end-2020.

Excluding China, it makes up 20% of EME non-financial-sector debt, and Argentina, Turkey, Chile and Colombia had the sharpest build-up since 2009. Heavy reliance on FX debt presents a significant liquidity and solvency risk for both firms and governments, leaving them exposed to sudden shifts in global risk appetite. The risk is even greater as the COVID-19 shock enters a third phase where the EMEs become more heavily infected. Already, Capital Economics projected a 1.5% EME output contraction this year, the first since reliable records began in 1951.

Going forward, there are significant risks that the expanding fiscal and monetary accommodation might not be promptly withdrawn. On top of unprecedented fiscal largesse, global interest rates, already low for over a decade since the GFC, fell further in both advanced and emerging economies. This may encourage investors' risk-taking and bury the seeds of the next global financial crisis. If COVID-19 continues to spread, fragilities in the financial system will grow further, triggering a new crisis.

IV. Global shock and International Policy Coordination

Compared to other recent epidemics, the COVID-19 pandemic is extraordinary in its scale and speed of contagion, with unprecedented global economic consequences. The COVID-19 crisis has evolved in different phases. The **first phase** saw a **localized recession** arising from a COVID-19 shock that ran amok in Asia, mainly China, A **second phase** has been characterized by COVID-19 rampaging through the major advanced economies. The danger is that COVID-19 shock could be entering a **third phase** when the virus storms EMEs, with further waves of COVID-19 reemergence in the major economies. The second and third phases are marked by a **deep global recession** with an initial impact on retails, travel, tourism and entertainment industries, but followed by heavy and broad job and output losses, much due to harshly restricted movements of people and merchandise.

Nevertheless, a far more perilous scenario is that rising defaults and bankruptcies, especially of MSMEs, heavy job losses and a sharp rise in public and corporate debts, including those denominated in US dollar, lead to a **major global financial crisis** that lasts far more than just a few months or quarters. Policymakers have the responsibility for attenuating the negative economic and social effects of COVID-19 and preventing the global economy from sliding into a 1930s-style depression. They have **two goals that are not consistent but mutually reinforcing**: containing the virus and ensuring public safety; and providing appropriate stimulus to support the economy and help MSMEs and the less privileged. To achieve **COVID-19 containment**, strict measures might be in order for an extended period, which can be devastating to the economy and to the livelihood of many; engineering a **timely economic recovery** could risk a resurgence of COVID-19. But a solid recovery depends on the successful arrest of COVID-19, while a vigorous economy will furnish the authorities and health workers with abundant resources and confidence to deal with the COVID-19 contagion.

As COVID-19 turned global, despite heightened uncertainties, it requires **global responses,** taking full account of the shocks' international transmission mechanisms, namely the confidence, financial, trade, and supply channels. To achieve either or both of the policy goals, **international coordination is essential** in breaking undesired global linkages and dynamics of the COVID-19 shock. So far, the IMF has allocated SDR 9.15 billion of financing to 35 countries; and G20 urged private creditors to participate in a plan to provide temporary debt relief to low-income countries until end 2020. More needs to be done, and the key to avert a global financial crisis and forestall another Great Depression is not deglobalization, but rather joint efforts to preclude all sorts of **beggar-thy-neighbor policies** in epidemic control, trade and finance.