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Global Economic and Financial Outlook

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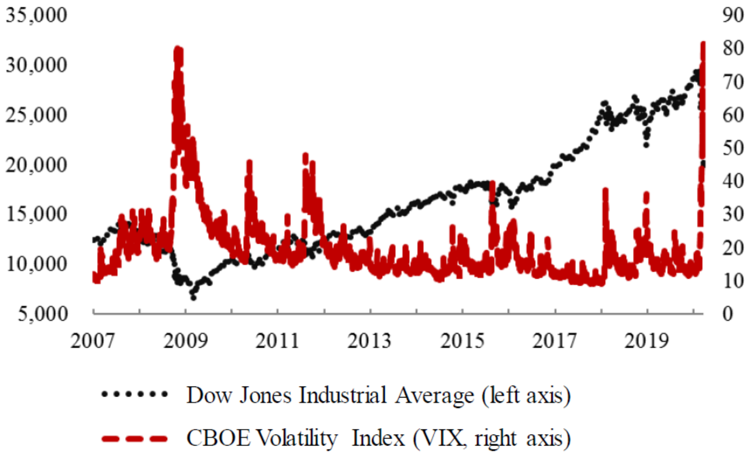
Highlights

● 2020 has begun with a drastic turbulence and liquidity crisis in global financial markets amid the COVID-19 pandemic, which has dealt an overwhelming blow to manufacturing, services, consumer sentiments and social governance.

● Whether the situation will evolve into financial and economic crises mainly depends on the pandemic developments and effectiveness of containment measures taken, whether the COVID-19 outbreak will give rise to defaults among businesses debt and sovereign debt, and whether the oil price slump or geopolitical conflicts will trigger fiscal and capital flow crisis across emerging markets.

● Generally, the more severe and the longer the pandemic is, the heavier the drag on macro-economic growth. The spread of the virus will inevitably send a ripple of shock to economic growth across regions. The world economy is very likely to sink into a recession in 2020.

Dow Jones Industrial Average and VIX Curves



Source: Wind, BOC Research Institute

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A Looming Global Recession: Watch Out for Financial and Economic Crises

-- Global Economic and Financial Outlook (2020Q2)

As COVID-19 is spreading to nearly every country in the world since the beginning of 2020, the global economic and financial systems have been hardest hit on both demand and supply sides since the 2008 financial crisis. The increasing panic across global financial markets has led to tumbling prices of equities, bonds, foreign exchanges and commodities and spurred a liquidity crisis. This report analyzes the COVID-19 impact on global economic and financial systems in terms of industry chain, financial market and key regions.

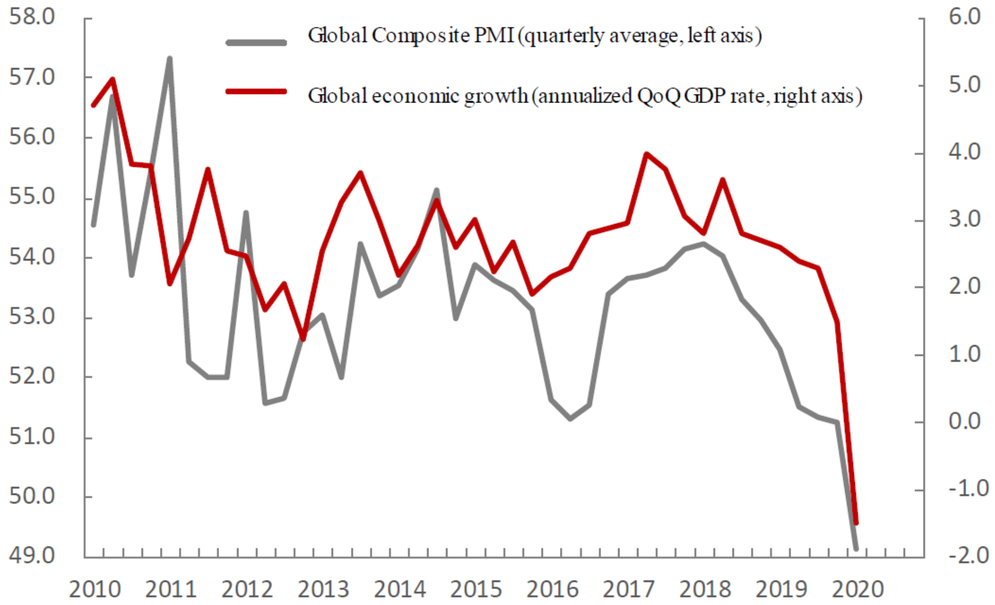
I. Global Economic Review and Outlook

I.1 A global recession is likely

The global economy slowed down from quarter to quarter in 2019 under mounting downside pressure. The COVID-19 pandemic has dealt an overwhelming blow to manufacturing, services, consumer sentiments and social governance and sent global financial markets into drastic turbulence, adding further strains to the already-weak global economy. JPMorgan Global Manufacturing PMI slumped to 47.2 in February, below the dividing line again. IMF, OECD and other international organizations have slashed their global growth forecasts for 2020.

Producer and consumer activities in China are returning to normal in a faster pace as its COVID-19 situation has increasingly eased up. But the outbreak beyond China remains severe, with the number of infections still rising sharply. The future of global economy depends mainly on the pandemic developments and effectiveness of containment measures. The global growth is expected to find a bottom in H2 if outbreaks are contained in this summer. Otherwise, the world economy may slip into a protracted recession. According to preliminary estimates, a global recession is very likely in 2020. The global economy is projected to grow at an annualized quarter-on-quarter rate -1.5% in 2020Q1, down 3 percentage points from the previous quarter (Figure 1).

Figure 1: Global GDP Growth V.S. Global Composite PMI



Sources: Wind, BOC Research Institute

I.2 Growth status and policy trends in major economies

The world's economies slowed down sharply on the twin shocks of widespread demand and supply contractions and financial market upheavals spurred by COVID-19.

The US economy woes resonated with its financial turmoil. COVID-19 has spread to all states in the US. US stock plunges triggered the "circuit breaker" four times in March, rarely seen in history. They led to a pullback of nearly 30% from the 2020 peak, putting an end to the 11-year bull run. The stock market downturn will have an immediate impact on US consumption to soften corporate investment and household consumption. The market is still not sure about how well US government's containment measures will work. We expect the US GDP growth to slow to 0.5% in Q1, down 1.6 percentage points over the last quarter, and enter the negative territory in Q2.

European economy has sunk into recession. Europe has become the epicenter of COVID-19, which is rampant across Italy, Germany, France and Spain. Italy is set to have a recession, posing higher risk of sovereign debt crisis. German economy remains weak and France may slip into recession. We expect the euro area GDP to grow by -1.0% in Q1, down 2.1 percentage points from the previous quarter. In the UK where confirmed cases may be underestimated, services will be hit harder than manufacturing with GDP growth projected to be -0.3% in Q1.

Japan's economy will face a further downturn. The Japanese government's virus containment measures have paid off to some extent. Confirmed infections have peaked but remains in a plateau. Affected by the first wave of outbreak and deeply involved in Asian supply chains, Japan has had the hardest hit in manufacturing, tourism and domestic consumption. Japanese GDP is projected to further slip by 6% into a technical recession in Q1.

Emerging markets (EMs) face fiscal and capital outflow risks. EM economies are severely challenged by the interwoven commodity price decline, global financial panic, capital outflow and geopedological conflicts. Countries that rely heavily on commodity exports, such as Saudi Arabia, Brazil and Chile, may have difficulties meeting budget targets. The economies already with both current account and budget deficits and highly dependent on external financing, such as South Africa, Turkey and Argentina, are facing the risks of capital outflow and currency depreciation, expected to have a negative growth in Q1.

Main countries have launched relief policies one after another to cushion the COVID-19 impact on the economy and financial market. As for monetary policy, nearly 30 central banks reduced interest rates. The US Federal Reserve (the Fed) slashed rates by 50 bps and 100 bps on March 3 and March 15 at emergency meetings. Besides, central banks also introduced liquidity support policies. The Fed announced unlimited QE to meet the financial system's demand for USD liquidity. The European Central Bank added EUR120 billion and EUR750 billion successively to its existing asset-purchase program. Some central banks even announced short-sale ban and foreign exchange market interventions to prevent market stampede.

Regarding fiscal policy, as over 50 countries have declared a state of emergency, governments across the world have taken measures to support the households and businesses affected by COVID-19 outbreak. The US Senate has passed a bipartisan agreement on USD2 trillion of fiscal stimulus package in addition to the earlier USD8300 million emergency spending bill. Germany announced a rescue package of EUR750 billion. The Japanese government's stimulus package may reach JPY30 trillion. The UK government has decided to spend GBP330 billion in fighting the outbreak. Australia rolled out two stimulus packages totaling AUD189 billion. Overall, the fiscal stimulus accounts for about 10% of national GDP. International organizations including IMF and World Bank are providing funding to their member states.

Table 1: Forecasts for Key Indicators of Major Economies in 2020 (%)

Region	Quarter/Year Country	GDP growth			CPI growth			Unemployment rate		
		2018	2019	2020f	2018	2019	2020f	2018	2019	2020f
America	US	2.9	2.3	-0.8	2.5	1.8	3.0	3.9	3.7	20.0
	Canada	2.0	1.6	1.5	2.3	1.9	2.3	5.8	5.7	5.7
	Mexico	2.0	-0.1	0.0	4.9	3.6	3.7	3.3	3.5	3.6
	Brazil	1.3	1.1	-0.5	3.7	3.7	3.8	12.3	11.9	11.1
	Chile	4.0	2.3	1.5	2.4	2.6	3.1	7.0	7.0	9.1
	Argentina	-2.5	-3.0	-4.0	34.9	53.7	45.8	9.2	10.3	10.6
Asia Pacific	Japan	0.3	0.8	0.1	1.0	0.5	1.2	2.4	2.4	2.4
	Australia	2.8	1.8	1.5	1.9	1.6	2.0	5.3	5.2	5.2
	India	6.8	5.8	5.3	4.0	3.7	4.7	—	—	—
	South Korea	2.7	2.0	1.5	1.5	0.4	2.0	3.8	3.7	3.8
	Indonesia	5.2	5.0	4.8	3.2	3.0	3.3	—	—	5.2
Europe and Africa	Euro area	1.9	1.2	-3.5	1.8	1.2	2.0	8.2	7.6	15.0
	UK	1.3	1.4	-1.0	2.5	1.8	2.5	4.1	3.8	3.9
	Russia	2.3	1.1	0.5	2.9	4.5	3.1	4.8	4.6	4.6
	Turkey	2.8	0.3	-0.5	16.2	15.5	11.2	11.0	14.0	13.6
	Nigeria	1.9	2.3	2.0	12.1	11.4	12.0	23.1	—	—
	South Africa	0.7	0.5	0.3	4.6	4.1	4.6	27.1	28.7	29.1
Global		3.0	2.5	-0.2	3.6	3.4	3.7	—	—	—

Sources: BOC Research Institute. Note: “f” stands for forecast.

I.3 Preventing liquidity crisis from evolving into financial or even economic crisis

Currently global financial markets are highly volatile, as shown by the tumbling prices of equities, bonds, foreign exchanges and commodities and the soaring US Dollar Index. The widespread panic has spurred a liquidity crunch. To prevent the evolvement into a financial or economic crisis, it is urgent to take effective actions to contain the spread of virus, stabilize financial markets and avoid the formation of expectations of one-way fall in asset prices. In the short term, countries where the virus is spreading fast must strengthen testing and quarantine measures to prevent rush on hospitals and collapse of market confidence. As businesses and households may suffer disruption of cash flows, fiscal and monetary support must be stepped up to forestall bankruptcies of financially stressed enterprises and deterioration of bank asset quality. The negotiations between OPEC and Russia or the US should be accelerated to firm up the crude oil prices and put an end to the oil price plunge in lockstep with other financial assets. All countries should speed up cooperation to prevent the further deterioration of global economic and financial prospects amid the populism and de-globalization.

II. Review and Outlook for International Financial Markets

II.1 Uncertainty and risks build up in global financial markets as COVID-19 rages on and

energy prices fall with wide fluctuations

In the stock market, the March 6 collapse of OPEC-Russia talks on oil production cut ignited panic sell-off across the global financial markets. Stock markets in the US, Germany, France, Russia, the UK, Japan, South Korea, India and Australia have dropped into the bear territory. The stock market plunges in many countries have triggered circuit breakers, especially in the US where the most ever frequent triggers occurred.

In the bond market, the US treasury securities have become the first choice for risk-averse investors, with the ten-year bond yield falling sharply to an all-time low of 0.54%. Bank credit has started to shrink as corporate and household debts are expanding, pushing CDS spread up to an eight-year high.

In emerging markets, capital outflow and energy price decline are the top contributors to market turmoil. Energy prices in March fell to the lowest since 1986. Emerging markets showed capital outflow, with a bigger size than that when the 2008 international financial crisis peaked.

Looking ahead, whether the global financial markets will restore stability depends largely on the COVID-19 and energy market developments. Currently the number of infections has not yet peaked. The risk of global COVID-19 spread is still growing. VIX suggests that market volatility will remain as high as around 80 in the month ahead, a sign of “panic wave” hovering over the market.

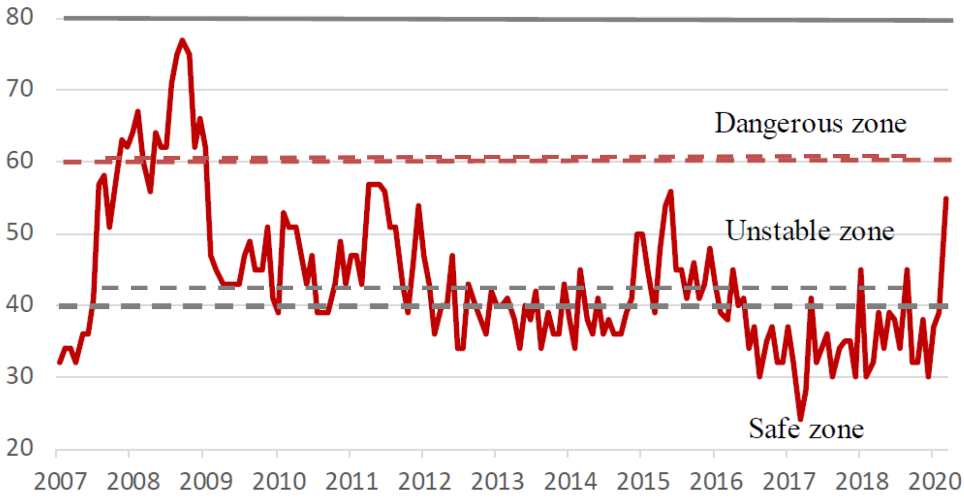
Non-resident fund outflows from EMs will remain serious. Energy price drops will worsen the current account and budget deficits, and perhaps fuel a government debt expansion. The debt risk of governments in Turkey and South Africa might rise amid exorbitant demand for foreign financing and falling international reserves. Chile and Columbia will face a more complicated situation of foreign financing due to commodity price decline.

II.2 The US Risk of Financial Crisis Index (ROFCI) has slipped into the unstable zone, indicating a surging risk of financial crisis.

ROFCI surged in Q1 on the fast-deteriorating stability of financial market, with all major indicators showing deterioration to different degrees. The monthly average ROFCI rose from 33.33 in 2019Q4 (safe zone) to 43.66 (unstable zone) in 2020Q1, and even reached 55 (near dangerous zone) in March (Figure 2). It is like the situation before the sub-prime mortgage crisis in summer 2007, when the stock market further deteriorated but the interbank market, the macro-economy and the Fed’s rate policy execution were relatively stable.

Looking into Q2, ROFCI may enter the dangerous zone if the financial market continues to deteriorate due to ineffective virus containment and policy intervention, pointing to a much higher risk of financial crisis.

Figure 2: US Risk of Financial Crisis Index



Source: BOC Research Institute

III. Special Research

III.1 Topic 1: COVID-19 impact on global economy from the perspective of industry chains

As COVID-19 rages across the globe, the future will be very complicated, difficult and uncertain. The global production division is becoming more and more complicated and the world's industry chains and supply chains are increasingly linked together. Against such a backdrop, the virus spread will not only affect an economy, but also have spillover effects on other economies and industries through industry chains. The ongoing COVID-19 pandemic has severely affected the global production and demand, sent global trade to a standstill, led to a plunge in global commodity demand and put the global supply chains on the brink of collapse in some industries.

1. COVID-19 impact on global production

Currently there are two global manufacturing hubs, i.e. Asia with East Asian "trade triangle" at the core and Europe with Germany at the core. By sector, China dominates the low-end labor-intensive industry chains including textiles, clothing, footwear and headwear. The "trade triangle" composed of China, Japan and South Korea is the main supplier of middleware. The Europe, especially Germany and Italy, are at the core of the global high-end manufacturing value chains in the fields of machinery, chemicals and equipment making. COVID-19 spread in China, Japan, South Korea, Italy and Germany will have a huge adverse impact on the world's various core industry chains.

COVID-19 has taken a big toll on the automobile industry. One the one hand, the global auto parts supplies have been frustrated. China is the largest auto-making base of the world. Among China's major automobile and auto parts manufacturing centers, Hubei Province contributes about 10% of the national output. Hubei is hardest hit by the COVID-19 outbreak in China. As the resumption of factory activity and workers' return to work have been postponed again and again, many carmakers including South Korea's Hyundai Motor and SsangYong Motor and Japan's Nissan Motor have suspended production at some of their assembly plants. **On the other hand,** the virus rampant in Europe has led to a major halt in automobile making. Europe has the largest number of automakers with the most intensive automotive supply chains. COVID-19 has forced European automakers to shut down factories extensively, plunging auto parts suppliers and vehicle makers into troubles.

In addition to automobile industry, the outbreak also has sent its ripple to global electronics supply chains, including the high-end core components. China, South Korea and Japan are the world's largest makers of electronic components, supplying over 60% of the world's electronic components. Given the normally low stock level in the electronics industry and lack of alternative suppliers in the short term, the disruption of the East Asian triangle trade has led to serious short supply of electronic components in the short run.

By country, Southeast Asian nations relying heavily on the Chinese mainland-based supply chains have felt a major impact of COVID-19. **First,** the short supply of electronic and auto parts has disrupted electronics manufacturing and assembly in Vietnam, whose supply chain is closely connected with China. Vietnam imports over 40% of core middleware from China. Vietnam's Ministry of Industry & Trade said that local manufacturers' supply chain was "in an emergency" due to short supply of China-made components caused by the virus outbreak, and Samsung Electronics would postpone the production of smartphones. **Second,** the shortage of textile materials has paused the making of clothing, footwear and headwear in Southeast Asia. Cambodia, Vietnam, India and Bangladesh depend much on China for textile supply. The outbreak has delayed the delivery of textile fabrics from China and further impeded the production of clothing, footwear and headwear in Southeast Asia.

2. COVID-19 impact on global demand

Compared with the production side, COVID-19 has a greater impact on global demand. In terms of duration, severity and time needed for recovery, the virus has taken a bigger toll on global demand when compared with the impact on supply side cuased by supply chain disruptions. The recent crude oil plunge not only reflects the price war, but also has priced in the market concerns over global demand contraction. The latest OPEC Monthly Oil Market Report (MOMR) lowered its forecast for global oil demand growth in 2020 from 990,000 barrels a day to 60,000 barrels a day, a decrease of 93%.

By economic structure of major economies, developed economies are mainly driven by consumption. As the virus spreads, consumption (except for necessities and healthcare products) will weaken throughout Q1 and Q2. Tourism, shopping, catering and other entertainment and recreational services will suffer a slump in demand.

The strict border closures, travel amd entry ban and social distancing will take a huge toll on airlines, tourism and other related industries. According to the International Air Transport Association (IATA), 98% of airlines suffer a revenue loss. If the full lockdown continues for three months, the loss will reach USD252 billion and earnings will fall by 38% from 2019. The World Travel and Tourism Council (WTTC) predicted that in 2020, the virus would bring the global tourism revenue down by 25%, and 12% to 14% of jobs would be lost across the industry.

III.2 Topic 2: will COVID-19 trigger an international financial crisis?

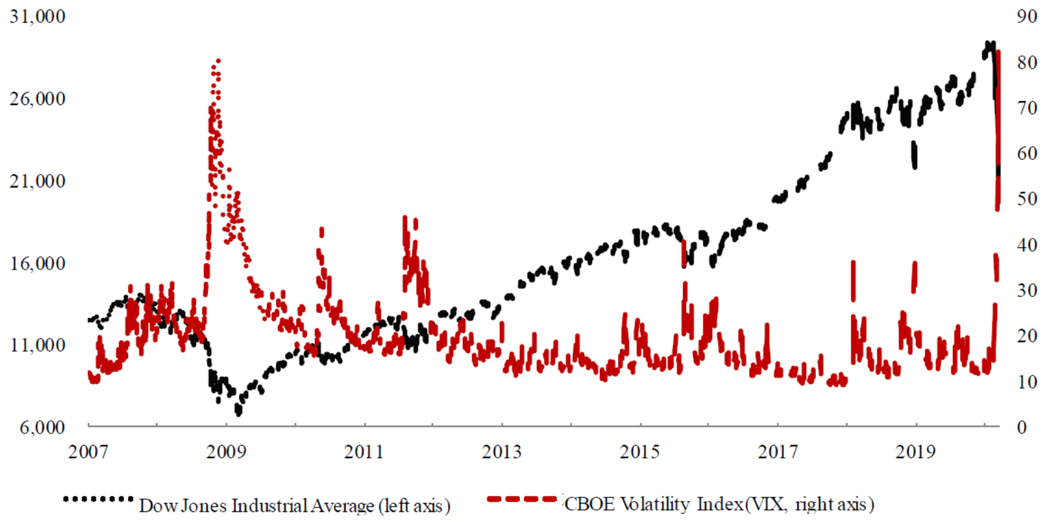
1. Volatile global financial markets

Market panic is escalating on the global COVID-19 spread and geopolitical risks. Asset prices plunged universally and sent the global financial markets into drastic turbulence, the worst moment after the 2008 financial crisis.

First, crude oil pulled the first trigger of the financial turmoil. Global oil prices tumbled on expected demand contraction and Saudi Ariba-Russia price war. Brent crude price tumbled 60%, the first time to fall through USD30 per barrel after 2016. The oil price collapse brought the Bloomberg Commodity Total Return Index down by 25%.

Second, the stock market plunge has gone so far and fast that it was rarely seen in history, with market panic close to the crisis level. US stocks suffered the worst drop of global stock plunges. By March 18, the three major US stock indexes Dow Jones Industrial Average, S&P 500 and Nasdaq were down 30.3%, 25.8% and 22.1% respectively from the beginning of the year. The US S&P 500 Index triggered the circuit breaker for four times in March. In addition, the stock market circuit breaker was also triggered or trade suspended in more than ten other countries, including Canada, Brazil, Sri Lanka, Thailand, South Korea, Indonesia and the Philippines. Global market turbulence worsened market panic and bearish sentiments. VIX soared to 82.69 on March 16, up 563% from the year beginning and closing at an all-time high (Figure 3).

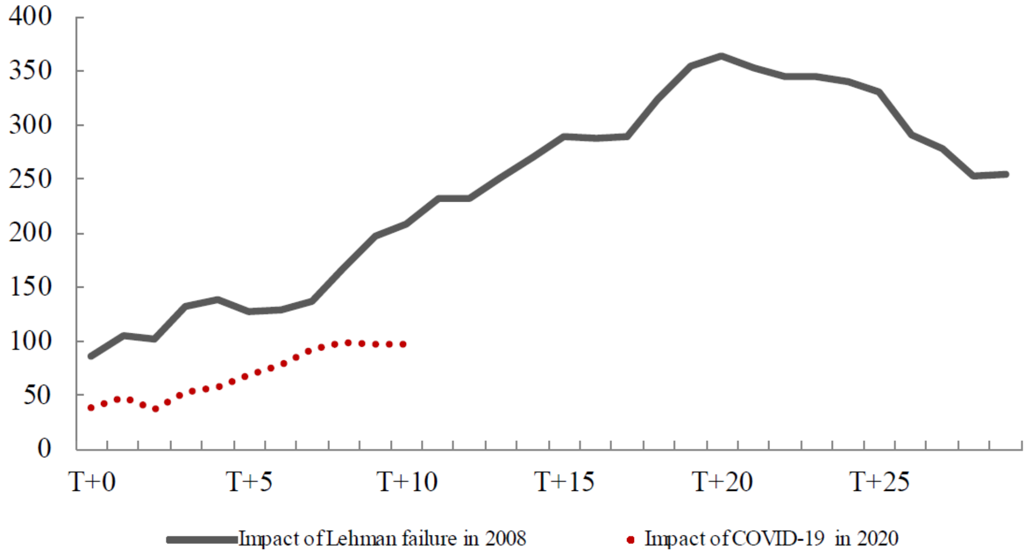
Figure 3: Dow Jones Industrial Average and VIX Developments



Source: Wind, BOC Research Institute

Third, conventional safe haven assets tumbled on USD liquidity crunch. US Treasury securities, gold and other traditional safe heavens were sold off amid tight USD liquidity. The 10-year US Treasury yield rebounded to 1.12% on March 19 from an all-time low of 0.54% in March 9, and gold price also plunged, down 11.2% from peak. US Dollar Index surged to 102.7 on March 19 from 95.1 on March 9, with global USD liquidity tightening up in the meantime.

Figure 4: Libor-OIS Spread Curves during Recent Market Turmoil V.S. 2008 Financial Crisis



Note: The two curves show the Libor-OIS spread movements in the 30 trading days following September 15, 2008 when Lehman Brothers was declared bankrupt and following March 9, 2020 when the US stock market plunged, respectively.

Source: Bloomberg, BOC Research Institute.

2. Main causes for extremely volatile global financial markets

First, COVID-19 has worsened the world economy. The ongoing global COVID-19 pandemic has added further strains to the already-weak world economy. In particular, overseas outbreaks are escalating, with a "low visibility" of successful containment that casts additional shadow over the long-term economic outlook.

Second, overvalued financial markets were set to pull back. QE, negative interest rates and other unconventional monetary policy measures launched after the international financial crisis injected massive liquidity into the market. With subdued demand of the real economy, however, money was diverted to capital markets pushing the world's main stock indices up to a string of new highs. As credit risk and liquidity pressure escalated and corporations started to pile up cash, a market pullback was inevitable.

Third, the market trading structure amplified the herd effect. Financial market trading experienced some structural changes in the past few years that further exacerbated panic sell-off and market plunge. First, passive trading triggered stampede. Second, VIX options and futures trading expanded excessively. Third, risk parity funds conducted indiscriminate sell-offs.

Fourth, the monetary policy had fewer options and was less effective. Dow Jones Industrial Average further lost 12.9% on the first trading day after the Fed slashed rates to zero, the biggest one-day loss in 33 years. Unlike the situation in 2008 when the financial crisis occurred, the world's monetary policy makers have fewer options today given the debt-ridden governments, businesses and households. The aggressive rate cuts by the Fed and other central banks fueled the downbeat expectations and market panic, quite apart from easing the liquidity crunch.

3. The alarm bell still rings over a looming financial crisis

Financial crisis means a situation where all or most financial indicators, including interest rate, exchange rate, asset price and company solvency and financial institution failures, deteriorate to an extent that investing and financing activities cannot continue as usual. The current global market upheaval is not a financial crisis in strict sense. However, it is unlikely to turn off the alarm until the COVID-19 spread is well contained.

The US may be further hit by a debt crisis. Now the US high-yield corporate bond market is still at a high level of risk. The COVID-19 outbreak adds to the risk of corporate debt defaults. The oil price drop may become the trigger of a debt market crisis. As high-yield corporate bonds are held by many banks and non-bank financial institutions, the risk will spread fast once substantial defaults occur.

Italy's sovereign credit risk and external vulnerability of EMs are on the rise. The 10-year Italian government bond yield jumped 67 bps from the beginning of March amid the virus outbreak, putting the government under significantly higher pressure. EMs, as US dollars go strong fast, come under rising pressure of capital outflow and currency depreciation. The Institute of International Finance (IIF) noted in a report that the COVID-19 impact on EM capital flows has exceeded that of the 2008 financial crisis.

III.3 Topic 3: economic growth in regions hit hard by COVID-19

Currently the pandemic has eased in Asia, while European and American regions with initially poor containment measures are undergoing rapid spread of the virus that tends to last long. Regional economic growth will inevitably be affected.

1. COVID-19 impact on American economic growth

Market concerns over US economic slowdown has surged on the growing infections worldwide since late February, especially in the US. **The pandemic has substantially reshaped the US growth prospects and financial market in Q1.**

First, consumer spending will be hurt. Consumer spending comprises 70% of the US GDP. How resilient the US economy will be in the coming months depends on consumer activity. The financial market faces a deflationary risk with seriously frustrated expectations of medium- and long-term inflation. Both 5-year and 10-year break-even inflation rates of the US have fallen below 1%.

Consumer spending is driven by a strong labor market and sound household balance sheets. The subdued business confidence and corporate investment may bring the labor market to a tipping point, while the wealth effect will increasingly show its negative side. According to estimates, consumer spending will drop by 0.13 percentage point for every 1% decline in asset price (Table 2). US stocks triggered the circuit breaker four times in the past month, pulling back from the year-to-date high by around 30% (up to March 20). It will have an immediate impact on the US consumption.

Table 2: Elasticity of Wealth Effects of Financial Assets on Consumer Spending[1]

	Elasticity of Wealth Effects of Financial Assets
Consumer Spending	0.133
Air travel	0.267
Hotel spending	0.095
Home furniture and appliances expenditure	0.2

[1] Elasticity of wealth effects of financial assets on consumer spending means the change in consumer spending resulting from every 1% change in the price of financial asset through the wealth effects.

Clothing expenditure	0.194
Catering expenditure	0.05
Supermarket purchases	0.053
Gasoline spending	0.026

Source: Moody's Analytics, Visa Retail Spending Monitor, Equifax, BEA, BLS, US Census Bureau, BOC Research Institute

Second, corporate investment is severely challenged. First, business confidence will be frustrated. The US is still in the midst of fast virus spread, making businessowners and financial markets unconfident about how well the government response measures will work. **Second,** the virus-induced global supply chain disruptions are gradually coming into sight. US companies usually keep two-to-five-week supply in stock and the ocean shipping to the US takes 30 days on average. That means the shutdowns of assembly and manufacturing facilities will surge in late March.

Third, the financial market is deteriorating drastically. Compared with the US Treasury yield, corporate bond markets see a hike in financing costs. US_listed companies bought back their own shares massively via bond financing to harness the low interest rates continuing for many years, increasing the exposure of bond and stock markets to each other. A sharp fall in stock prices will put bond issuers under higher repayment pressure and at bigger risk of default.

Fourth, the monetary policy toolkit is dwindling to an all-time low with doubtful effectiveness. Following its emergency interest rate cut of 50 bps on March 3, the Fed announced another rate cut taking the federal funds rate to zero on March 15 and meantime announced a USD700 billion QE program. In addition, the Fed also re-activated a series of policy tools used in the 2008 crisis to stabilize the credit market. As shown by financial market performance, however, the short-term liquidity crunch has not been effectively eased off.

Given the above factors, 2020 will probably become the worst year for the US economy in a decade, which will likely fall into a recession in H1. On March 15, Goldman Sachs lowered its forecast for US economic growth in Q1 and Q2 to zero and -5.0% respectively. On March 17, Standard Chartered Bank revised its US growth projection for 2020 downward to -0.3% from the previous 1.7%.

Latin American countries, though not hit hard by the virus for the time being, will face a huge crisis once the virus rages across the region. **First,** Latin American nations rely heavily on the US economy. The likelihood of a technical recession in the US this year will affect the exports and growth of Latin American economies. **Second,** subdued demand and global asset sell-offs have pushed the world's main commodities into a price plunge. As the Latin American economies rely heavily on raw material exports, the commodity price falls will lead to a major decline in the revenues of Brazil, Argentina, Chile and other commodity exporters in the region. **Third**, the Latin American currency crisis reappeared with growing cross-border capital outflows. Recently Latin American currencies, including Brazilian real and Argentine peso, depreciated sharply again to batter the faltering Latin American economies. The combination of these factors will probably plunge Latin American economies into another recession in 2020.

2. COVID-19 impact on European economic growth

The worst-affected four economies in Europe are exactly the largest four economies in the EU. Now Germany, France, Italy and Spain, comprising 64% of GDP and 58% of the population in the EU, account for over 85% of infections and more than 95% of deaths in the bloc. No doubt that the efforts of Germany, France, Spain and the UK, as the most densely populated and most developed nations in Europe, will largely determine when the virus threat will clear on the continent.

The current pandemic situation shows at least three signs.

First, Germany and France will see their economies subdued throughout H1. COVID-19 further weighs on European industry chains and service sector. Short of supply are threatening the industrial activity in both countries, where automakers are forced to close factories. OECD lowered its March forecast for France's and Germany's economic growth from 1.3% and 0.4% to 0.9% and 0.3%, respectively.

Second, Italy is set to have a recession. Italy is already on the verge of negative growth, with a 136% debt-to-GDP ratio. Unfortunately becoming Europe's epicenter, Italy will suffer lockdown-induced heavy losses to its tourism, services, high-end manufacturing and exports. The Italian government announced to issue EUR25 billion of government bonds to fund the subsidies to affected households and businesses, further worsening its debt problems and likely to ignite a sovereign debt crisis.

Third, the UK economy has started to feel the pain from the virus. The services-led UK economy has sustained a heavy loss in tourism, aviation, catering services from the virus. If the virus outbreak does not recede, its services, manufacturing and exports will be further hampered. OECD reduced its March projection for UK growth by 0.2 percentage point to 0.8%.

The COVID-19 impact on European economy will depend on the scale and duration of the outbreak. The virus will have the bulk of its impact on the European economy in H1 as long as the government and the people respond properly to the outbreak. If the virus is still not contained in H2, most European economies will probably slip into a recession. According to the worst-case scenario analysis of Brookings Institution, Italy's GDP will lose USD214 billion and the broader Europe will suffer a GDP loss of nearly USD1.5 trillion in 2020.

3. COVID-19 impact on Asia-Pacific economic growth

Japan is among the harder hit countries in Asia, receiving a significant shock to its tourism, retail and manufacturing sectors. First, manufacturing supply chains are affected. Manufacturing comprises over 25% of Japan's GDP, having a large exposure to overseas supply chains centered on China and ASEAN. China is the largest exporter to Japan. China's production, logistics and material supply disruptions will deal a heavy blow to the manufacturing activity in Japan.

Second, the subdued domestic demand in China affects Japan's exports. China is Japan's second largest export destination. According to statistics, Japan's exports fell by 1% YoY in February, with its exports to China down 0.4%. Manufacturing-related exports dropped markedly, down 29% and 22% in terms of organic compounds and semiconductor devices respectively.

Third, Tourism-related industries are immediately affected. In recent years, Japan has upheld "Tourism-based Country" as one of its major economic development policies. According to estimates of Nomura Research Institute, by reference to the SARS data, a one-year COVID-19 threat will result a 34% loss of visitors to Japan and a GDP loss of JPY2.4 trillion, or 0.45%.

Fourth, Japan's domestic consumption softens. The Japanese government has not yet declared a state of national emergency taking into account its local epidemic situation. But the closure of all elementary and middle schools and cancellation of large-scale sports, cultural and business events are having a growing impact on the economy. Retail, catering and other consumer-related industries come under great pressure.

Fifth, Olympics delay dents Japan's economy. The global COVID-19 pandemic has forced the International Olympic Committee (IOC) into a decision to delay the 2020 Tokyo Olympics to avoid the risks posed by flows of people, holding of events and large crowds of tourists during the global party. The Olympics delay will immediately turn into losses in transport, hotels and catering industries and add to the difficulty of recovering investments in venue and infrastructure construction.

Now the Japanese government is launching fiscal and monetary measures to cushion against the impact, with a focus on protecting SMEs from cash flow disruptions. If the outbreak escalates in Japan, the local consumption, investment and employment will be further battered.

ii. ASEAN faces a downside economic pressure. As China's largest trade partner, ASEAN maintains close economic and trade ties to the world's second largest economy. ASEAN members, all hit by the virus, have generally taken border control measures that have thwarted the intra-regional tourism, goods trade and supply chain activities. The ASEAN economy faces downside pressure.

First, the virus will damage tourism in the ASEAN. Duty-free stores, hotels and airlines in the region will be affected. Thailand, Vietnam and Cambodia rely over 11% of their respective GDP on tourism. Visitors to Thailand fell by 44% YoY in February, with the annual number of inbound tourists estimated to fall by 10 million, down 25% YoY. Visitors to Vietnam dropped by 22% YoY in February, with a 62% loss in tourists from China. As the virus rages across the globe, ASEAN countries are imposing additional entry restrictions, which will further hurt tourism.

Second, ASEAN manufacturing and exports are softened. ASEAN-based exporters and manufacturers have suffered from supply chain disruptions caused by China's slowing economy and halted production and shipping activities. ASEAN's electronics industry is in the downstream of the value chain and supplied mainly by China. It will be seriously affected by suspended activity of the Chinese mainland-based suppliers. By country, Thailand, Malaysia and Vietnam face worsening performance of manufacturers. Thailand's PMI stayed below 50 for two consecutive months. Vietnam recorded 49 in PMI in February, the first time below 50 since late 2015. Malaysia's PMI fell to 48.5.

Outlook for ASEAN members' fiscal and monetary policies. ASEAN countries have launched a proactive fiscal policy and an easy monetary policy to tackle the virus threat. ASEAN issued a fiscal policy to support industries related to tourism and trade. If the current epidemic will not further escalate, the proactive fiscal policy and monetary policy stimulus will assure ASEAN less impact from the virus than other major economies.

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