CHAPTER I

THE COVID-19 HUMANITARIAN CRISIS AND ITS IMPLICATIONS FOR THE WORLD ECONOMY
Developments in the global economy in 2020 were dominated by the Covid-19 pandemic which had an extraordinary impact on health, humanity, the economy and financial system stability. Healthcare efforts to break the chain of Covid-19 transmission severely restricted public mobility and economic activity, thus elevating financial market uncertainty and prompting a wave of economic contraction around the world. The global economic contraction was deepest during the first semester of 2020, followed by gradual improvements in the latter half of the year due to successful Covid-19 containment measures, increasing mobility as well as an integrated and synergic global policy response. This experience with Covid-19 has provided three invaluable lessons for the global economy in terms of the international trade system, international monetary system and global financial system. These demand attention in order to bolster global economic resilience moving forward.
The spread of coronavirus disease 2019 (Covid-19) had an extraordinary global impact in 2020. First identified in Wuhan, China in December 2019, Covid-19 spread rapidly to 178 countries around the world, which accounted for 99.5% of global GDP. Due to the multinational scale and rapid spread of the disease, Covid-19 was declared a global pandemic by the World Health Organisation (WHO) in March 2020. In 2020, the pandemic infected more than 85 million people and left 1.8 million dead, thereby causing an extraordinary health and humanitarian crisis, with many more slipping into poverty. Consequently, this health and humanitarian crisis triggered a broad-based economic contraction in all corners of the world.

The application of stringent health protocols to break Covid-19 transmission sent shocks reverberating through financial markets and the global economy. Seeking to quickly and broadly reduce the deleterious impact of Covid-19, stringent health protocols and policies were introduced to restrict mobility between regions and countries. These policies curbed public mobility and thus severely undermined consumption, production and investment activities. In addition, world trade activity declined due to disruptions in global supply chains and closed borders, the latter decimating the tourism sector. Moreover, uncertainty in global financial markets rose sharply as consumer and business confidence in the economic outlook retreated. These pressures on the global economy and financial markets were most intense during the first half of the year, particularly during the second quarter of 2020. Furthermore, the resultant economic crisis stoked concerns regarding the knock-on effect on financial system stability as a corollary of deteriorating corporate and household performance.

"Covid-19 had an extraordinary global economic impact in 2020"

An integrated and extraordinary global policy response was mobilized at the international level. The multidimensional impact of Covid-19 spurred an immediate global response in order to avoid deeper crisis. The humanitarian and economic crisis called for an expansionary fiscal posture to provide economic stimulus, while simultaneously preventing a further health crisis. Many authorities around the world also implemented accommodative monetary policy to maintain financial market and banking industry performance through lower policy rates and liquidity injections. Interaction amongst policies became increasingly necessary as the economic impact of Covid-19 deepened. Fiscal-monetary policy coordination was tightened further in terms of the timing, type and magnitude of each policy stimulus. Policy coordination was also used to preserve financial system stability through MSME and corporate restructuring, as well as other initiatives to maintain the intermediation function. In support of economic recovery, various international initiatives were implemented to stimulate financing; to coordinate perspectives on how to overcome the...
latest economic issues, such as maintaining fiscal sustainability; and to relax international prudential standards for financial systems.

**Fiscal-monetary policy coordination increased in line with economic dynamics.** The need for extraordinary fiscal stimuli in the face of dramatically lower tax revenues created a challenge in terms of fiscal financing. Responses included wider sources of domestic and global financing as well as loans from international/multilateral institutions, such as the International Monetary Fund (IMF) and the World Bank. The multidimensional impact of Covid-19 has created a new paradigm in terms of the fiscal and monetary relationship. Such synergy is also based on confidence in the maintenance of macroeconomic stability, as indicated by low inflation and a manageable current account deficit. Seeking to precipitate economic recovery, several central banks, including Bank Indonesia, Bank of Thailand, Bangko Sentral ng Pilipinas and Banco Central do Brasil, contributed to funding the fiscal deficit by purchasing government bonds in the primary market. With recognition for the dire economic needs and prudential principles applied in implementation, markets responded positively to this synergy in fiscal and monetary policies.

The global economy succumbed to intense Covid-19 pressures during the first semester of 2020 before beginning to regain momentum entering the second half of the year. Deep economic contractions were felt in advanced and emerging economies, particularly during the first semester of 2020. These conditions reduced world trade volumes and international commodity prices. Concerns regarding the impact of Covid-19, particularly in the period just after the outbreak, triggered panic and elevated global financial market uncertainty. Consequently, global capital flows sought safe-havens, which exacerbated currency pressures in emerging economies. However, in line with Covid-19 containment measures, increasing mobility and the impact of policy stimuli, global economic performance began to rebound in the second semester of 2020. A number of countries reported shallower economic contractions, including the United States and the Euro Area, with China's economy even bouncing back into positive growth. Global financial market pressures also began to dissipate on the back of positive expectations concerning the promising economic outlook as vaccines became available amidst abundant global liquidity, low interest rates and broad-based US dollar depreciation. In such conditions, global capital flows returned to emerging
economies, leading to exchange rate appreciations among these countries. For 2020, global economic growth was projected to contract 3.8% (yoy), well below the 2.8% (yoy) expansion achieved in 2019. For its part, global inflation was low due to weak demand in many jurisdictions and sliding commodity prices. The economic outlook is currently supported by the approval and availability of several Covid-19 vaccines, with an extensive rollout planned for the middle of 2021.

Transmission of the Covid-19 pandemic in 2020 provided three important lessons concerning the global economic structure. First, Covid-19 occasioned several countries to adopt inward-looking policies by expanding domestic sources of growth and restricting trade with other countries. Such behaviour occurred within an international trading system that is skewed towards certain countries, thus increasing the vulnerabilities and fragilities of the global supply chain. Second, dependence on safe haven currencies underscored potential systemic risks in the global financial markets during periods of heightened pressure, such as the Covid-19 pandemic. A simultaneous global rebalancing of capital flows towards financial assets denominated in major currencies could increase the external vulnerability of emerging economies. Third, the growing influence of non-bank financial institutions (NBFIs) that use algorithmic trading, magnify global financial system vulnerabilities during periods of distress. To respond effectively, domestic, regional and global initiatives require constant reinforcement in order to maintain sustainable global economic growth moving forward. Such initiatives include efforts to establish a multipolar international supply chain; to expand the use of local currency settlement in international trade and investment; and to increase the regulation and supervision of NBFIs.
Global economic dynamics in 2020 faced an unprecedented crisis. The epicentre of this crisis was different from previous crises, such as the Great Depression of the 1930s, the Latin American Debt Crisis of the 1980s, Asian Crisis of 1997/98 and the Global Financial Crisis of 2008/09. The crisis in 2020 stemmed from the coronavirus disease Covid-19. The disease first appeared in Wuhan, China, in December 2019 and subsequently spread rapidly around the world due to the specific characteristics of Covid-19, which are different from previous pandemics, such as the Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS).\(^1\)

The high transmissibility of Covid-19 is reflected in a Basic Reproductive Ratio (R0) of 2-4, well above the R0 of other pandemics.\(^2\) In addition, the incubation period of Covid-19 is considerably longer than for other pandemics, thus hampering early detection and treatment, leading to complex health issues. In 2020, Covid-19 infected more than 85 million people and left more than 1.8 million dead (Table 1.1), far exceeding the impact of SARS and MERS, which infected 8,100 and 2,494 people respectively.

Rapid Covid-19 transmission to numerous countries triggered a health and humanitarian crisis. The Covid-19 outbreak occurred during the approach to the Lunar New Year in China, when public mobility is highest during the annual exodus of residents returning to their hometowns to celebrate the new year with family, thus increasing transmission. Cross-border interconnectedness also contributed to rapid Covid-19 transmission from China to various countries. From December 2019 until 11 March 2020, Covid-19 spread to 114 countries, with approximately 118 million positive infections and more than 4,000 fatalities. Therefore, the World Health Organisation (WHO) declared Covid-19 to be a global pandemic in March 2020. The epicentre of Covid-19 cases also tended to migrate, from China to Europe and then to the Americas and Asia outside China. The epicentre subsequently returned to Europe and America, along with several countries in Asia and other Latin American countries. At the end of 2020, global Covid-19 cases continued to climb with infections reported by 178 countries, accounting for 99.5% of global GDP. By contrast, SARS and MERS were contained to just a few countries.\(^3\) As a corollary of its massive scale and rapid transmission, the Covid-19 pandemic has triggered health and humanitarian issues.

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1. The Spanish flu of 1918 was a deadly pandemic triggered by the H1N1 virus, whereas SARS, which emerged in Guangdong, China, in November 2002 was caused by a coronavirus (SARS-CoV). Also attributable to a coronavirus (MERS-CoV), MERS was first identified in 2012 in Saudi Arabia.

2. Disease transmissibility is based on the Basic Reproductive Ratio (R0), or the average number of secondary infections arising from a single positive case. R0 for Covid-19 is 2-4, well above seasonal flu (1.2), Ebola (1.5) and Spanish flu (1.8).

3. SARS spread to China and Singapore; MERS spread in the Middle East.
Covid-19 has had a fatality rate lower than previous pandemics due to sound containment measures. At the beginning of the outbreak, the global fatality rate peaked at around 9% (Chart 1.1), primarily as a result of higher fatality rates in Europe and America. Seeking to mitigate the Covid-19 impact, governments around the world introduced stringent health protocols through the application of the 3T model, namely Tracing, Testing and Treatment. Meanwhile, public participation was also active through the 3M strategy, *Memakai Masker, Menjaga Jarak and Mencuci Tangan*, or mask wearing, social distancing and hand washing. In addition, restrictions on public mobility between regions and across borders were introduced in many jurisdictions to slow Covid-19 transmission. Nevertheless, social restrictions and lockdown measures were applied differently in different countries based on the intensity of Covid-19 transmission. In parallel with robust containment measures in various regions, the global fatality rate continued to decline. By the end of December 2020, the global fatality rate was down to approximately 2.2% (Chart 1.1).

Covid-19 has not spread around the world in just one wave. Covid-19 cases declined in mid-2020 in line with the enforcement of strict public mobility restrictions. However, after the initial restrictions were relaxed, second and third waves of Covid-19 cases swept across Europe, Japan and the United States (Chart 1.2). The second wave hit several countries in Europe as public mobility increased during the summer holidays. In Japan, the second spike of Covid-19 cases followed the lifting of mobility restrictions, national holiday celebrations and a government-subsidised, domestic tourism campaign. Meanwhile, second and third waves of Covid-19 cases spread across the United States as restrictions on public mobility were relaxed at the state level and recreational facilities reopened. In response to such conditions, authorities in several countries reintroduced stringent curbs on public mobility to further reduce Covid-19 transmission based on the specific conditions found in respective jurisdictions.

Various policies to overcome Covid-19 have been implemented, including efforts to develop a vaccine. The availability of effective vaccines will ultimately determine Covid-19 transmission as well as the economic recovery process in most countries. By the end of 2020, candidate vaccine trials in various countries had demonstrated efficacy. Currently, eight different candidate vaccines are at the final stages of testing, including Sinovac and Cansino developed in

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Various Covid-19 vaccines are expected to become widely available in the first half of 2021.

China, AstraZeneca in UK, Moderna/NIAID in US and BioNTech/Pfizer through collaboration between the US and Germany. The vaccines are expected to be ready for large-scale rollout in the first half of 2021, meeting the requirements of around 68% of the global population (Table 1.2). Furthermore, members of the public in most countries have responded positively to the planned vaccination programs. Survey results indicate that more than 60% of the global population are in favour of receiving a vaccine within the next year (Chart 1.3).

### Table 1.2. Potential Availability of Various Vaccines

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>2020 Dose (million)</th>
<th>2020 Covered Population (%)</th>
<th>2021 Dose (million)</th>
<th>2021 Covered Population (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AstraZeneca</td>
<td>104</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>Pfizer/BioNTech</td>
<td>50</td>
<td>0.03</td>
<td>1.3</td>
<td>8</td>
</tr>
<tr>
<td>Johnson &amp; Johnson</td>
<td>NA</td>
<td>NA</td>
<td>&gt;1</td>
<td>&gt;6</td>
</tr>
<tr>
<td>Sinovac</td>
<td>15</td>
<td>0.01</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Sinopharm</td>
<td>15</td>
<td>0.01</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Bharat Biotech</td>
<td>NA</td>
<td>NA</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Moderna</td>
<td>20</td>
<td>0.01</td>
<td>0.5-1</td>
<td>3-6</td>
</tr>
<tr>
<td>Sputnik V</td>
<td>NA</td>
<td>NA</td>
<td>0.3-0.5</td>
<td>2-3</td>
</tr>
<tr>
<td>Cansion</td>
<td>NA</td>
<td>NA</td>
<td>0.1-0.2</td>
<td>1</td>
</tr>
<tr>
<td>Aggregate</td>
<td>204-304</td>
<td>0.13-0.26</td>
<td>8-9</td>
<td>57-68</td>
</tr>
</tbody>
</table>

**Note:** Coverage of the AstraZeneca population in 2021 reaches 26% if the efficacy rate is 90% and 19% if the efficacy rate is 62%.

**Source:** OECD, Various Companies and Organizations, and Media, calculated
1.2. Extraordinary Policies to Overcome Covid-19 Impact

Efforts to break the domestic chain of Covid-19 transmission involved mobility restrictions. In addition to the 3T and 3M policies, authorities in some countries also introduced lockdown policies and restricted mobility of the public in order to quickly reduce the spread of Covid-19. Such policies were enforced in various ways, including zoning based on infection levels, lockdowns, as well as restrictions on public gatherings and on travel between regions or across borders. Lockdown policy was first introduced in Wuhan, China, and subsequently extended to other regions. In response, other countries introduced restrictions on travel to and from China. However, as Covid-19 continued to spread and as the lockdown policy in China was demonstrated to be effective, various other countries began to adopt mobility restrictions within and between countries, beginning in March 2020. Cross-border mobility restrictions between advanced and emerging economies were enforced dynamically, as reflected by movements in the Effective Lockdown Index (ELI). Such conditions were consistent with the dynamics of Covid-19 transmission in each respective country (Chart 1.4 and 1.5).

Mobility restrictions to break Covid-19 transmission triggered an economic and financial crisis. Public mobility restrictions in various countries prompted a dramatic global economic decline in terms of consumption, production and investment, as confirmed by deep contractions affecting retail sales, industrial production and the Purchasing Managers Index (PMI; Chart 1.6). Moreover, international trade activity and global supply chains were impeded as production froze and the distribution of goods was disrupted. Covid-19 also decimated the services sector, particularly sectors reliant on public mobility, such as tourism, as borders remained closed. Consumer and business confidence retreated in various countries in line with compressed demand and lower production. Global financial market uncertainty was elevated as economic expectations plummeted. The risk appetite of investors decreased, favouring safe haven assets and triggering capital outflows from emerging economies. Uncertainty indicators, including the Volatility (VIX) Index and Economic Policy Uncertainty (EPU) Index, increased sharply. Intense economic pressures stoked concerns regarding financial system stability in line with deteriorating corporate and household performance.

The impact of Covid-19 prompted an immediate and extraordinary policy stimulus response by authorities around the world. The multidimensional impact of Covid-19 could not be overcome by a single policy instrument, instead it required an integrated policy response to the health and humanitarian aspects as well as to the flagging economy. Against a backdrop of health and humanitarian issues, deteriorating economic performance demanded an immediate fiscal stimulus response to maintain public purchasing power and production. Nevertheless, the need for fiscal stimuli faced financing challenges as government revenues dropped. Low inflation, reflecting compressed demand, called for

**Chart 1.4. Mobility Restrictions in Advanced Economies**

Source: Goldman Sachs Research
expansionary monetary policy in various countries. To address the issue, synergies were built between fiscal and monetary policies in terms of coordinating the timing, types and magnitude of the stimuli, as well as fiscal financing from central banks. In seeking to maintain financial system stability, the authorities also relaxed international prudential standards governing the financial system. Furthermore, international cooperation was forthcoming through various forums to support Covid-19 containment measures by the authorities in each respective country and to maintain global stability as a whole.

On the fiscal side, authorities adopted an expansionary policy through the provision of immediate and extraordinary stimuli. Fiscal stimuli were intended to contain the health impact of Covid-19 and maintain public purchasing power, including through social aid program disbursements. Fiscal stimuli were also introduced to maintain economic production, such as through incentives targeting the business community, MSMEs in particular, while providing corporate tax relief. In total, fiscal stimuli in 2020 reached approximately USD11.7 trillion, approaching 12% of global GDP, with larger stimuli implemented in advanced, versus emerging economies. Massive fiscal stimuli, in the face of significantly lower tax revenues due to the economic contraction caused by Covid-19, widened fiscal deficits in many countries. In advanced countries, fiscal deficits exceeded 8% of GDP, except in South Korea. Meanwhile, fiscal deficits in emerging economies did not increase to the same degree, owing to relatively limited funding space (Chart 1.7). Larger fiscal deficits were funded using various domestic and global sources as well as loans from international/multilateral organisations, such as the International Monetary Fund (IMF) and World Bank. On the monetary side, central banks in various countries adopted an accommodative monetary policy stance through lower interest rates and large-scale liquidity injections. The choice of instrument, as between lower interest rates or liquidity injections, was influenced by the availability of policy space in each respective country. In advanced economies with a policy rate approaching 0%, monetary stimuli were primarily implemented by central banks through liquidity injections (or
quantitative easing, QE) into the financial sector, the banking industry in particular. This was achieved through asset purchase programs targeting government bonds, private bonds and securities. In terms of quantitative easing, the largest program was implemented by the European Central Bank (ECB), followed by the Bank of Japan (BoJ), Bank of England (BoE) and US Federal Reserve (Chart 1.8). As for interest rates, since the beginning of 2020, the US Federal Reserve and Bank of Canada (BoC) have implemented the largest policy rate reductions, totalling 150 basis points, followed by the Reserve Bank of New Zealand (RBNZ) and Bank of Korea (BoK) at 75 bps respectively (Chart 1.9).

In emerging economies, monetary stimuli were introduced through a combination of lower policy rates and liquidity injections into the banking industry and financial markets. The magnitude of policy rate reductions was determined based on low inflation and the need to maintain exchange rate stability (Chart 1.9). Meanwhile, liquidity was primarily injected (QE) through monetary operations considering the underdeveloped secondary markets for financial assets in emerging economies. Amongst certain emerging economies, Bank Indonesia introduced the largest quantitative easing effort, followed by central banks in Mexico, Chile and the Philippines (Chart 1.10). A number of central banks also committed to funding the fiscal deficit through liquidity injections to the government, including Bank Indonesia, Bank of Thailand, Bangko Sentral ng Pilipinas and Banco Central do Brasil as well as other central banks. Such commitments were realised through purchases of government debt securities in the primary market as a form of special fiscal-monetary policy coordination to contain Covid-19. Markets generally responded positively.

**Striving to mitigate the impact of Covid-19 on financial system stability, authorities in various countries eased other policies, too.** Economic contractions had severely undermined corporate and household performance and disrupted the bank intermediation function. In response, MSME support was prioritised in many countries due to the significant pandemic impact compared with other business sectors. To mitigate risk stemming from lower repayment capacity, stimuli in the form of loan restructuring schemes and interest rate subsidies were introduced by most authorities, including China, India, Hong Kong and Indonesia. The Hong Kong Monetary Authority (HKMA) decided to extend principal repayment graces period until April 2021 and offered lower interest rates for MSMEs. Meanwhile, the Reserve Bank of India (RBI) suspended instalment payments, adjusted the calculation for reserves and asset classifications and provided guarantees to stimulate demand for financing. The guarantee programs implemented in Hong Kong and India have had a success rate of more than 50% of target. The scope of the guarantees is 80-100% for MSMEs in Hong Kong and 100% for corporate and MSME loans in India.
In addition, the resilience of financial institutions was bolstered by the relaxation of prudential ratios in the banking industry. In various countries, capital requirements were lowered using the Countercyclical Capital Buffer (CCB) and Conservation Buffer, along with liquidity ratios such as the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR). Authorities in several jurisdictions also temporarily deactivated such ratios. In addition to maintaining the resilience of financial institutions, looser capital and liquidity ratios also increased the space and capacity for intermediation. The Hong Kong Monetary Authority and the Bank of England loosened their respective CCB requirements. Meanwhile, the authorities in South Korea relaxed LCR policy, specifically for foreign currencies, to contain risks caused by exchange rate volatility and to strengthen liquidity management amidst heightened pressures. Bank Indonesia implemented similar policies by adjusting the lower bounds of the LCR and NSFR from 100% to 85%, effective through end-March 2022. In addition, banks were exempt from fulfilling the capital conservation buffer requirements of 2.5%.

Several coordinated international policy measures were also introduced to support the global economic recovery. Several important agenda discussions and initiatives were raised at international forums and organisations, including at the Group of Twenty (G20), the Financial Stability Board (FSB) and the International Monetary Fund (IMF). At the G20 forum, discussions focused on various efforts to overcome the health, economic and financial impacts of Covid-19 as well as post-pandemic policy to support sustainable, balanced and inclusive global economic growth. Health policy was oriented towards the provision of resources to global health organisations, support for Covid-19 containment measures and vaccine availability. Economic and financial policies were directed towards minimising the near-term disruptions caused by Covid-19 containment policy. Central banks were expected to continue facilitating the flow of liquidity between economies, the flow of international trade and the flow of global investment. The G20 forum also lent its support to Covid-19 containment programs in developing economies and to financing for sustainable development, while increasing the capacity of human resources to mitigate and contain Covid-19. In seeking to strengthen global resilience, the G20 forum also established the Debt Service Suspension Initiative (DSSI) to help meet the need for financing and defer debt repayments for developing economies. Since implementation began in May 2020, more than 40 countries have participated and derived benefits from debt payment deferments with a total value of USD5 billion. The policy was subsequently extended for one year to help with economic recovery in 2021.

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5 The Debt Service Suspension Initiative (DSSI) provides relief for low-income countries active in the International Development Association (IDA) during FY20 and the United Nations Least Developed Countries (UN LDC).
For its part, the Financial Stability Board (FSB) focused its discussions on the immediate and coordinated policy response required to support economic recovery and maintain financial stability. FSB strengthened cooperation and coordination through regular information sharing amongst authorities, concerning: the challenges and policies for overcoming Covid-19; the factors that could increase financial system vulnerability due to the pandemic; and the requisite policy response. FSB also strengthened policy coordination to maintain credit supply to the real sector, support financial intermediation and global financial system resilience. At the corporate level, policy was oriented towards strengthening resilience and maintaining the sustainability of financial services and critical financial market infrastructure. At the system level, various central banks loosened monetary policy and injected liquidity into the markets. Governments in many countries also introduced large-scale stimuli for the corporate and household sectors. Meanwhile, the FSB and other standard-setting bodies extended the deadline for meeting international standards, such as Basel III, for an additional year.

The IMF provided several new liquidity assistance programs to overcome financing constraints in member countries for Covid-19 containment. The programs included financial assistance through various lending facilities and debt service relief from the Catastrophe Containment and Relief Trust (CCRT). In total, 83 member countries have utilised the financial assistance programs with a value of SDR74.5 billion. Meanwhile, the debt service relief of the Catastrophe Containment and Relief Trust (CCRT) has been utilised by 29 member countries experiencing financing constraints, totalling SDR351.53 million.
Covid-19 and the subsequent mobility-containment policies elevated global financial market uncertainty in the first semester of 2020. Public mobility decreased dramatically in the first half of 2020, peaking in March-May of that year, as reflected by a precipitous decline in the Effective Lockdown Index – ELI (Chart 1.11). Curbs on public mobility undermined performance in the manufacturing and services sectors of many countries. At the same time, global financial market uncertainty increased significantly, as confirmed by the Economic Policy Uncertainty (EPU) Index and Volatility (VIX) Index, which both deteriorated in a major way (from 122.2 and 18.8 to 557.2 and 53.5, respectively). This was accompanied by higher risk in emerging economies, as signalled by soaring EMBI and CDS indicators (from 291.5 and 63.8 to peak at 661.8 and 292.2, respectively; Chart 1.12).

The uncertain economic outlook intensified global financial market pressures and triggered a wait-and-see attitude amongst investors. Consequently, the demand for safe haven assets increased, such as for government debt securities in US and Japan and for gold. This rebalancing of global investor behaviour triggered significant capital outflows, particularly from emerging economies (Chart 1.13), which exacerbated currency pressures in such countries, including Indonesia. Towards the end of the first semester of 2020, global financial market uncertainty began to dissipate as Covid-19 containment measures and stimulus policies became more effective. In response, capital inflows to emerging economies gradually returned, which alleviated currency pressures in those countries.

Global economic performance declined during the same period, particularly in the second quarter of 2020. Compressed consumer demand and falling production, disrupted by mobility restrictions on people and goods, undermined global manufacturing. The Manufacturing PMI in United States, Europe, Japan, China and India plummeted deep into negative territory. Service sector performance, especially sectors dependent upon public mobility, experienced even deeper contractions than manufacturing. Consumer and business confidence retreated in various countries, in line with significantly lower demand and disruptions in the production process. Meanwhile, sectors associated with Covid-19 containment measures thrived, including: foodstuffs; healthcare equipment and medicaments; and sectors

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**Chart 1.11.** Stringency Index, Google Mobility and World Effective Lockdown Index

**Chart 1.12.** Risk Indicators, Emerging Market Economies

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Source: University of Oxford, GS ELI, Google Mobility Report

Source: Bloomberg, calculated
utilising technology to support remote working activities following the implementation of work-from-home, home-based learning and social distancing protocols. On balance, such conditions precipitated economic contractions in advanced and emerging countries in the first semester of 2020, particularly in the second quarter (Chart 1.14).

**Global economic moderation led to lower world trade activity and international commodity prices.** Global demand, compressed by the Covid-19 pandemic and global supply chain disruptions, reduced demand for international exports and imports, thus squeezing world trade volume (Chart 1.15). In the first quarter of 2020, world trade volume contracted by 3.1%, predominantly trade with China, but also due to the impact of pandemic transmission on other countries. Demand for US and European exports fell due to lower demand from their main trading partners, primarily China. In line with weak global demand, the world trade volume contraction deepened in the second quarter of 2020 to 14%, thereby exceeding the contraction caused by the Global Financial Crisis. The flagging global economy, including weak international trade, eroded commodity prices (Chart 1.15). In general, the prices of Indonesian exports experienced a deep contraction. Nonetheless, the prices of some commodities, including crude palm oil (CPO) and coffee, continued to climb on limited supply and disruptions caused by inclement weather. Covid-19 hampered investment activity, leading to lower
international metal prices. Furthermore, the global oil price experienced a sharp correction on weak global demand that could not be offset by supply cuts amongst OPEC member countries (Chart 1.16).

During the second semester of 2020, global economic performance slowly improved. Several early indicators were sending positive signals during the second half of 2020, reflecting increasing mobility. These indicators included the Manufacturing and Services PMI for the United States and China (Chart 1.17 and 1.18). As a measure of public mobility, the Google Mobility Index deteriorated much less rapidly; it declined by 15.5% versus the preceding, steep drop of 56.7%. ELI also improved, from its tightest reading of 56.3 to a less restrictive 25.9. In many countries, the Manufacturing and Services PMI improved from a contractionary phase in July 2020. The pace of global economic gains was supported by a combination of established Covid-19 containment measures, economic reopening and effective policy stimuli. The speed and progress with Covid-19 containment measures, such as public mobility, largely determined the pace of economic recovery in some countries, for example China. In other countries, the size of policy stimuli and resolution of structural issues helped push the economy back towards pre-pandemic levels. Countries with existing structural issues, such as an ageing population or a high propensity to save, will require more time to recover to pre-pandemic levels. Meanwhile, domestic financial system instability issues, such as those which occurred in India, will also influence the pace of economic recovery from Covid-19.

Consistent with progress in Covid-19 containment, increasing mobility and ongoing policy stimuli, economic gains became apparent in several jurisdictions late in 2020. China achieved a rapid economic recovery, with positive economic growth recorded in the third quarter of 2020 and projections of activity rebounding to pre-pandemic levels by the fourth quarter of 2020. The economic gains were supported by large fiscal stimuli and effective Covid-19 containment measures, which helped to drive investment in manufacturing. Large stimulius also supported the US economic recovery, especially private consumption, with the contraction improving to -2.8% (yoy) in the third quarter of 2020 from -9% (yoy) in the previous period, despite rising Covid-19 cases (Chart 1.14). In Europe, the economy contracted...
by 4.3% (yoy) on the back of fiscal stimuli and higher exports in line with stronger demand in major trading partners, namely the United States and China. Meanwhile, more restrained economic improvements were reported in India and Latin America.

The global economic recovery continued in the fourth quarter of 2020. Several indicators in December 2020 confirmed that the global economic gains have continued. The Manufacturing and Services PMI continued to climb in the United States and China. Furthermore, unemployment began to fall in several regions, albeit gradually, including in the United States, Europe and China. Consumer and business confidence began to return, particularly in Europe, stoked by a promising economic outlook and the planned Covid-19 vaccination program rollout. The testing of several Covid-19 candidate vaccines made progress, with the Sinovac, Moderna and Pfizer vaccines expected to be available in the first half of 2021, which will boost global economic mobility and activity. For the year as a whole, global economic growth is projected to contract 3.8% (yoy) in 2020, down sharply from a 2.8% (yoy) expansion in the previous year (Table 1.3).

In global financial markets, uncertainty eased in the second semester of 2020 yet remained elevated. In line with established Covid-19 containment measures and improving economic performance, global financial market uncertainty began to ease after mid-2020. It accelerated in November 2020 following the presidential election in the United States, although volatility continued to demand vigilance amidst concerns regarding pandemic waves in various parts of the world. Moreover, positive expectations of the global economic outlook in line with the availability of vaccines and abundant global liquidity further

**Table 1.3. Projections of Global Economic Growth**

<table>
<thead>
<tr>
<th>Region</th>
<th>2018</th>
<th>2019</th>
<th>WEO (IMF)</th>
<th>OECD</th>
<th>Consensus Forecast (CF)</th>
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<tr>
<td>World</td>
<td>3.6</td>
<td>2.8</td>
<td>-5.2</td>
<td>5.4</td>
<td>-4.4</td>
</tr>
<tr>
<td>Advanced Countries</td>
<td>2.2</td>
<td>1.6</td>
<td>-8.1</td>
<td>4.8</td>
<td>3.9</td>
</tr>
<tr>
<td>US</td>
<td>2.9</td>
<td>2.2</td>
<td>-8.0</td>
<td>4.5</td>
<td>3.1</td>
</tr>
<tr>
<td>European Area</td>
<td>1.9</td>
<td>1.3</td>
<td>-10.2</td>
<td>6.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Japan</td>
<td>0.3</td>
<td>0.7</td>
<td>-5.8</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Emerging Countries</td>
<td>4.5</td>
<td>3.7</td>
<td>-3.1</td>
<td>5.8</td>
<td>6.0</td>
</tr>
<tr>
<td>China</td>
<td>6.7</td>
<td>6.1</td>
<td>1.0</td>
<td>8.2</td>
<td>8.2</td>
</tr>
<tr>
<td>India</td>
<td>6.1</td>
<td>4.2</td>
<td>-4.9</td>
<td>5.8</td>
<td>10.7</td>
</tr>
<tr>
<td>ASEAN-5</td>
<td>5.3</td>
<td>4.9</td>
<td>-2.0</td>
<td>6.2</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Source: IMF, OECD, and Consensus Forecast.
dissipated global financial market uncertainty (Chart 1.19). Such conditions gradually attracted global capital flows back into emerging economies, thereby strengthening currencies in Asia against the US dollar, including the Indonesian rupiah (Chart 1.20).

In line with global economic moderation and sliding international commodity prices, low inflation was recorded in most jurisdictions. Low inflation was recorded in both advanced and developing economies. In advanced economies, accommodative monetary policy and fiscal stimuli to catalyse consumption were insufficient to intensify pressures on inflation (Chart 1.21). In the United States, inflation is projected low at approximately 1% (yoy), below the 2% target. Europe experienced deflation in 2020 in line with weak demand and the impact of policy stimuli that eliminated Value Added Tax (VAT). Inflation in developing economies was mixed, influenced by local conditions in each respective country (Chart 1.21). Inflation in China fell sharply, particularly during the second semester of 2020, after peaking in January 2020 due to an outbreak of swine fever that caused pork prices to soar. In India, inflation increased as a result of tax hikes prior to Covid-19 and weather disruptions that pushed up horticultural prices.

**Chart 1.19. Uncertainty on Global Financial Markets**

**Chart 1.20. US Dollar Exchange Rates Against Major and Asian Currencies**

**Chart 1.21. World Inflation**
Covid-19 Revealed Three Important Lessons in Global Economy

The Covid-19 pandemic has provided three important lessons concerning the structure of the global economy and they demand attention. The lessons concern issues surrounding international trade, monetary and financial institutions, which have influenced global economic dynamics in recent years, increasingly during the pandemic. The purview of the three lessons, discussed below, cover: i) inward-looking policies that have plagued the international trade system; ii) dominance of the US dollar in the global monetary system; and iii) the role played by non-bank financial institutions (NBFIs) that use algorithmic trading in global financial markets. Such issues have exacerbated vulnerabilities in the international trade system, the monetary system and the financial system, particularly during periods of distress like the Covid-19 episode. Consequently, to enhance the resilience of the international trade system, the monetary system and the financial system, various domestic initiatives are required along with stronger bilateral, regional and global cooperation to mitigate the risks to sustainability of global economic growth moving forward.

In terms of the international trade system, inward-looking policies have been pursued in numerous countries. This is characterised by efforts in several countries to increase domestic sources of growth and restrict trade with other countries. Such behaviour has occurred despite the international trade system being reliant on certain countries in the global supply chain. Developments in 2020 pointed to the suspension of production activity in China as a large contributor to declines in international trade. These stemmed from mobility restrictions to contain Covid-19, which triggered significant disruptions in the global supply chain. Such conditions expose potential vulnerabilities in the international trade system, particularly during periods of distress. In response, initiatives to develop local supply chains are required, along with other efforts to establish multipolar supply chains. In support, international cooperation through bilateral and regional free-trade agreements must be increased.

Regarding the international monetary system, global financial market dependence upon the US dollar could trigger systemic risk. Broad-based use of the US dollar for international financial transactions has continued to increase since the global financial crisis (Chart 1.22 and 1.23). Such US dollar dominance has only increased during periods of panic and elevated uncertainty in the global financial markets, such as the pressures that emerged after the Covid-19 outbreak. Such conditions cause global investors to withdraw their funds from emerging economies, instead seeking safe haven financial assets, such as the US dollar. Simultaneous large-scale capital outflows from emerging economies

![Chart 1.22. US Dollar Role on Global Financial Markets](chart)

**Source:** BIS Committee on the Global Financial System, June 2020

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6 China’s share of global trade increased from 4.8% in 2000 to 15.6% in 2019. In contrast, the US has seen its share of global trade shrink from 15.8% to 13.8% over the same period. The contributions of other countries, such as Germany, Japan and France, have also declined to 9.1%, 4.9% and 4.2%, respectively, in 2019.
led to sharp currency depreciations. In response, several existing initiatives to increase local currency settlement bilaterally and regionally must receive further attention. Similarly, measures in several countries to promote their own currency as an international currency should be encouraged in order to diversify currency use in various international trade and financial transactions, thereby unwinding potential vulnerabilities in the international monetary system moving forward.

In the financial system, the growth of hedge funds using machine learning-based trading could also increase global financial system vulnerabilities during periods of distress. The results of a BarclayHedge survey showed that at the end of 2019, 56% of hedge funds used machine learning for investment decision-making. Machine learning analyses of historical data concerning currency or asset movements—without due consideration for fundamental conditions—is considered a source of financial market shocks, particularly during periods of financial market distress. In addition, the ability of machine learning to create various new types of hedge fund transactions could increase global financial market volatility. Considering the massive potential of machine learning technology in the global financial markets moving forward, several initiatives have been initiated to regulate and supervise non-bank financial institutions (NBFIs), including hedge funds, in order to strengthen international financial system resilience. Furthermore, synergy between authorities must be strengthened in terms of regulating and supervising NBFIs to ensure that the use of technology, such as machine learning, in the financial system remains safe and secure, while supporting global monetary system stability.

7 The Hedge Fund Sentiment Survey is an annual survey conducted by BarclayHedge targeting hedge fund investment managers and commodity trading advisors (CTA) concerning their insights and experience dealing with artificial intelligence and machine learning.