

Policy Analysis Focus 20-1
Overview of the Economic Effects of COVID-19¹

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I. Introduction

On March 11, 2020, the World Health Organization (WHO) announced that it had “made the assessment that COVID-19 can be characterized as a pandemic.”² By the beginning of July 2020, according to WHO, confirmed cases of COVID-19 (coronavirus disease 2019) had exceeded 10 million and confirmed deaths had exceeded 500 thousand in more than 200 countries, areas and territories of the world.

Most countries have taken policy measures, including lockdown and social distancing, to prevent and overcome COVID-19 infection, but those measures have had adverse economic effects. This article surveys the effects of COVID-19 on the world economy and considers the developments in the Japanese economy.

II. Outlook for the world economy

There is concern that the global recession associated with COVID-19 might become the deepest since that of the Great Depression in the 1930s. Major international public organizations have revised their economic outlook downward, most recently (at the time of writing) in June 2020, as summarized in Table 1. The world real GDP is forecast to contract by 4.9 to 7.6 per cent in 2020. Current expectation is that it would return to growth in 2021, although there are indications that it would not necessarily return to the pre-COVID-19 level of historical trends. Alternative scenarios assuming earlier or later recovery are also presented due to uncertainty regarding the manner in which COVID-19 will unfold.

¹ The views expressed in this article are the author’s own and do not represent those of GRIPS Alliance or other organizations to which the author belongs.

² <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>

Table 1 Real GDP changes, 2020

	World*	Japan	US	Euro Area	China	(%)
IMF	-4.9	-5.8	-8.0	-10.2	1.0	
OECD Single-hit scenario	-6.0	-6.0	-7.3	-9.1	-2.6	
OECD Double-hit scenario	-7.6	-7.3	-8.5	-11.5	-3.7	
World Bank	-5.2	-6.1	-6.1	-9.1	1.0	

* PPP weights in IMF and OECD. Market exchange rate weight in World Bank.

Sources: Based on IMF (2020), OECD (2020) and World Bank (2020)

Several studies have estimated the economic effects of COVID-19 using economic model simulations, analyzing the effects of both demand and supply shocks. The main demand side shocks are a fall in demand for tourism, recreation and other services requiring human contact. Supply side shocks include a fall in labour and employment due to working at home and increases in trade costs. Meanwhile, commodity prices have declined, though those effects are not necessarily included in the shocks of current economic modeling exercises.

Some of those outcomes estimated by studies of alternative COVID-19 scenarios are summarized in Table 2. The magnitudes of estimated economic effects were somewhat smaller in earlier studies based on earlier assessment of the COVID-19 situation. That said, all in all those magnitudes are shown to be in line with the economic outlook discussed above. It appears that the economic effects of COVID-19 would vary by sector, and in turn by country, dependent on the ratios of affected sectors of the economy, including tourism and the energy industries, and on the relative significance of COVID-19 infections.

The main types of economic models used in the analysis of economic effects are macro econometric model, Vector Auto Regressive (VAR) model, Computable General equilibrium (CGE) model and Dynamic Stochastic General Equilibrium (DSGE) model. Among those with comparative advantage, a CGE model of global trade has the

Table 2 Effects of COVID-19 on real GDP

	World	Japan	US	EU	China	(%)
ADB	-6.4/-9.7	-5.9/-8.9	-7.1/-10.7	-7.7/-11.7	-7.5/-11.2	
Maliszewska et al.	-2.09/-3.86	-2.23/-4.57	-1.67/-3.40	-1.85/-3.85*	-3.69/-4.31	
WTO	-4.8/-11.1	-4.4/-9.5	-5.0/-10.8	-5.2/-12.1	-4.0/-9.9	

* For Europe.

Sources: Based on ADB (2020), Maliszewska, M. et al. (2020) and WTO (2020)

advantages that: 1) it analyzes economic effects at both the sector level and the macro level; 2) it incorporates the input-output structures of industries; and 3) it considers the spillover effects arising as a result of linkage of international trade. That said, fundamentally a CGE model would be a suitable tool for analysis of changes in general equilibrium states of demand and supply in response to changes in relative prices. The magnitude of macroeconomic impact generated by independent demand and supply shocks would be included in the model simulations as exogenous shocks calculated outside of the model. The calculation of those COVID-19-induced demand and supply shocks would be an essential element of any robust quantitative study.

III. Developments in the Japanese economy

The Japanese government declared a state of emergency related to COVID-19 on April 7, 2020 and lifted the declaration on May 25, 2020 monitoring the situation. Meanwhile, the government decided “Emergency Economic Measures to Cope with COVID-19,” followed by additional spending of JPY 25.7 trillion from the FY2020 supplementary budget and 31.9 JPY trillion from the second supplementary budget for FY2020, which in total accounts for around 10 per cent of GDP in 2019.

Recent trends in the main economic indicators of the Japanese economy are shown in Table 3. It would be instructive to examine high frequency data to identify the state of the economy in a timely manner. Monthly data would still be more informative than quarterly GDP estimates in this regard, though there is a delay of around one month

Table 3 Trends in main economic indicators of Japan

	(y-o-y, %)		
	March	April	May
Real consumption expenditures	-6.0	-11.1	-16.2
New construction starts of dwellings	-7.6	-12.9	-12.3
Machinery orders (private sector exc. volatile orders)	-0.7	-17.7	-16.3
Export volume	-11.2	-21.3	-27.3
Import volume	-2.5	1.5	-14.5
Indices of Industrial Production (IIP)	-5.2	-15.0	-26.3
Employed person	0.2	-1.2	-1.1
Total cash earnings	0.1	-0.7	-2.1 p

p stands for preliminary.

Sources: Based on Family Income and Expenditure Survey (Statistics Bureau of Japan), Building Starts (Ministry of Land, Infrastructure, Transport and Tourism), Machinery Orders (Cabinet Office), Trade Statistics (Ministry of Finance), Indices of Industrial Production (Ministry of Economy, Trade and Industry), Labour Force Survey (Statistics Bureau of Japan), Monthly Labour Survey (Ministry of Health, Labour and Welfare)

between economic activities and the release of the relevant data.

Adverse demand shocks have widely been observed in Japanese consumption, investment, exports and imports. Real consumption expenditures of households had decreased by 11.1 per cent year-on-year for April and by 16.2 per cent for May. Dramatic falls were particularly observed in recreation services, eating out, transportation and other sectors affected by voluntary staying home. Major consumption items including food, residences and utilities were not seen to be so adversely affected to date, but the impact would be dependent on future developments regarding factors such as household income. Housing starts and machinery orders—leading indicators of investment—fell by around 12 to 13 per cent and 16 to 18 per cent, respectively, during April and May. Export volumes fell by around 21 per cent in April and 27 per cent in May, larger than the fall in import volumes of around 15 per cent in May.

Industrial production has decreased in line with exports and other expenditures. On the other hand, the labour market and incomes have not yet shown deterioration to the degree seen for expenditures and production. That said, it should be noted that those labour market effects would lag other economic activity indicators. Moreover, sector-specific effects would be much more serious than those at the macro level.

IV. Concluding remarks

The serious economic effects of COVID-19 have been worrying for some time, and much remains to be seen at the time of writing. It is increasingly important to continue cautious monitoring of the COVID-19 situation and of economic developments, all based on sound analysis of the data.

References

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