

How Monetary & Fiscal Policy Can Work Against Coronavirus Shock: Proposal for the Issue of Corona Bonds

By Naoyuki Yoshino, Hiroaki Miyamoto & Muhammad Zubair Mumtaz



Author
Naoyuki Yoshino



Author
Hiroaki Miyamoto



Author
Muhammad Zubair Mumtaz

This article discusses how monetary and fiscal policy can work during the coronavirus shock and how to deal with the structural problem of population aging in Japan. The sudden drop in stock prices in many countries reflects a decline in market sentiment. Money is shifting from riskier assets to safer assets which causes stock prices to drop further. Massive fiscal support by issuing government bonds (= Corona bonds) is needed to retain confidence in the market. At the same time, the structural problem of the aging population will not go away (“Decreased Effectiveness of Fiscal and Monetary Policies in Japan’s Aging Society” by Naoyuki Yoshino and Hiroaki Miyamoto, *Japan and the World Economy* 42, 2017). The article will propose how we can mitigate a possibly enormous increase in government debt due to huge temporary budget spending.

Introduction

There has been a huge drop in stock prices in many countries facing the coronavirus infection. In the United States, stock prices fell 25% in March 2020, while Japanese stock prices fell 21%. In such circumstances, governments and central banks are the only institutions which can calm pessimistic market sentiment in order to protect against a massive slowdown of the economy (*Chart 1*).

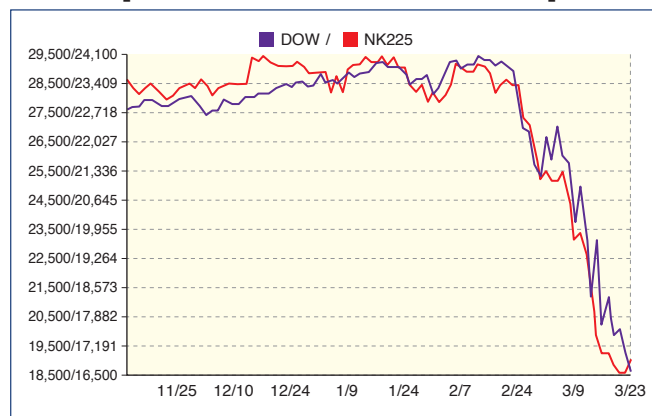
Effectiveness of Monetary & Fiscal Policy Against Coronavirus Impact

The decline in stock prices after the virus began to spread from China can be explained by a number of factors: (i) the uncertainty of the timeframe – nobody can predict when the spread will end and this has created uncertainty in the capital markets; (ii) the sharp decline in international travel together with postponement of various

activities where large gatherings occur has caused a huge decline in sales in the services sector; (iii) the disruption of supply chains has reduced the amount of production by the manufacturing sector; and (iv) the decline in sales in many sectors has led to a fall in income which has reduced general consumption and had a negative multiplier effect on the economy.

The coronavirus is different from earthquakes or floods or other natural disasters. Physical capital is not destroyed and production processes remain stable. The sudden negative effects on consumption and production which have led to falls in GDP should be addressed temporarily by government expenditure. This temporary drop in various economic activities will recover when the coronavirus spread ends and normal life resumes. Government is the only source which can compensate for the decline in private economic activities.

CHART 1
Stock price decline of US & Japan



Source: Nikkei

The temporary policy measures recommended are the following.

- (1) The government can provide loans to the services sector and manufacturing sector whose sales have fallen due to the coronavirus. It could be loans at a zero interest rate until the negative impact of the coronavirus disappears (say, for two years). Financing could come in the form of special government bonds which could be called Corona bonds. It is important to distinguish this special bond from ordinary government bonds. Japan has already issued two kinds of bonds, one through the Fiscal Investment and Loan Program (FILP) and the other through the ordinary budget. Both are issued and circulated in the financial market as a "JGB" (Japanese government bond). The same could be applied to Corona bonds which would become the third kind government bond, issued to cope with the virus spread.
- (2) Corona bonds could be purchased extensively by the Bank of Japan (BOJ). The financial market would receive this new bond issue to compensate for the temporary negative impact on various sectors as a positive signal for the future. The drop in stock prices caused by an unpredictable future could be mitigated.
- (3) Purchases of Corona bonds by the BOJ will be better than purchasing stocks through exchange-traded funds (ETFs) since the recovery of the stock market will come from the economic activities of Japan and expectations of the future recovery of the economy. If the BOJ buys stocks through ETFs, these purchases would be better terminated when the negative impact of the coronavirus on the stock market has ended.
- (4) Stock prices are affected by many factors in the market. Purchases of stocks by the BOJ will increase temporary demand and stock prices will recover in the short run. But the most important impact on the stock market should come from the real economy. The ultimate goal of the BOJ is not the recovery of stock prices but the recovery of the real economy, inducing higher sales, higher income and higher consumption etc.
- (5) The restructuring of the Japanese economy can be accelerated by emergency government loans as long as the loan officers in recipient companies have excellent vision. If a company is experiencing a temporary downturn caused by the coronavirus, it should receive zero interest rate loans until the negative shocks disappear. At the same time, there are many companies facing structural problems such as lower demand caused by the aging population and the decline in population in the regions. These firms should change their business strategy and should not be eligible for zero interest emergency loans. If all companies were assisted by zero interest rate loans, the Japanese economy would fall into a long-term recession.
- (6) Direct compensation should be made to workers in various companies who are forced to stay at home due to the coronavirus. Whether they are permanent employees or part-time employees, the government should support their salaries. It

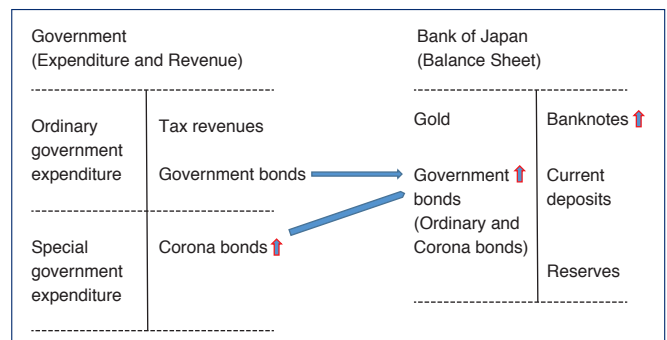
will be important for the government to keep records of the amount of income provided by support programs. The employees' income statements should clearly state how much comes from their real work and how much comes from government support.

- (7) Many companies have started letting their staff work from home since January 2020 due to the coronavirus problem. Commuting times in large cities are often very long. What kind of jobs are suitable for work from home? Would a company's productivity increase by the introduction of work from home? Would teleconferencing over the Internet work well? If companies can utilize this opportunity as a milestone and make drastic changes in the Japanese culture of work at the office, their productivity could be increased.
- (8) Education needs to be changed drastically. Some universities have started to hold online lectures without the need to attend classes. Can this be applied to many subjects at university? Education in primary schools is very different from university level since children have to be disciplined by teachers face to face. But if many classes in university and in high school can be provided by video or online lectures, traditional teaching could be changed. Subjects could be taught online that all students in Japan could access. Teachers at each school could provide additional comments for students or add their own lectures. Teachers at school could receive questions from students and provide answers to them.

Chart 2 illustrates the issue of Corona bonds to cope with emergency government spending. The left-hand balance sheet is the annual government spending and its sources of finance. Ordinary government expenditures are financed by tax revenues and the issue of government bonds. The proposed Corona bonds would be directed to special government expenditures to cope with sectors and businesses affected by the coronavirus. The bonds would be purchased by the BOJ (right-hand balance sheet).

CHART 2

Issue of Corona bonds to cope with emergency government spending



Source: Compiled by the authors

TABLE 1
Two assets

	(i) Rate of return	(ii) Risk ($=\sigma$)
Asset A (riskier asset)	1.1074	0.0621
Asset B (safer asset)	0.9067	0.0290

Source: Compiled by the authors based on Japanese data

Impact of Uncertainty on the Capital Market

When the economy is faced with big shocks, markets become very cautious about risks and investors lean toward safe assets. Traditionally, investors watch two factors: the rate of return, and the risks associated with holding each asset. Government bonds are a safe asset where principal and interest will be returned without any reduction (as long as the government stays stable). Bank deposits with a deposit insurance guarantee are another safe asset since the principal can be returned. On the other hand, stock prices fluctuate every day and dividends from stocks fluctuate based on the performance of the company. The fluctuations in stock prices and dividends are regarded as “risk” factors in investment.

Table 1 shows how risk aversion will affect the portfolio allocation of Japan. There are two financial assets: the oil & gas sector (Asset A) and the electronics sector (Asset B). It summarizes the rate of return and the risk (which is measured by standard deviation). The rate of return from Asset A (1.1074) is higher than Asset B (0.9067) and the risk which is measured by standard deviation of the asset is 0.0621 for Asset A and 0.0290 for Asset B, which denotes that A is riskier than B. If investors seek a higher rate of return, they will invest more in Asset A, but if they prefer to reduce the risk, they will invest more in Asset B.

Investors compare (i) the rate of return and (ii) the risk of the asset. In a boom period, investors tend to regard the risks of assets as lower, but in a recession or economic shock they regard them as higher since the economic downturn is severer. Table 2 measures the relative allocation of the safer asset (B) to the riskier asset (A) when investors change their preference to risks. When the economy faces a severe shock, investors prefer safer assets and reduce their risk appetite. Three cases of risk appetite are compared.

- (i) Investors favor a higher rate of return more than the risk factor (return seeking)
- (ii) Investors weigh the rate of return and the risk factor equally (neutral investment)
- (iii) Investors regard the risk factor as higher than the rate of return (risk avoidance).

The simulation results are summarized in Chart 3 as “the case of seeking returns” in which the rate of returns is regarded as twice as much as the risks, “the medium case” where both the rate of returns and risks are the same, and the “risk avoidance case” in which the risks are twice as much as the rate of returns in the utility function

TABLE 2
Relative allocation of safer asset (B) compared to riskier asset (A) when investors change their preference to risks

	Seeking returns	Medium case	Risk avoidance
Asset A (riskier asset)	55.7%	33.7%	11.8%
Asset B (safer asset)	44.3%	66.3%	88.2%

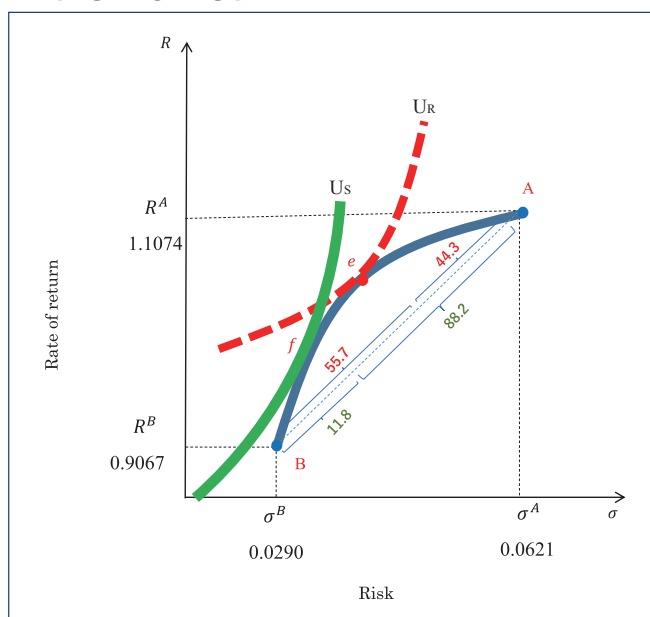
Source: Compiled by the authors based on Japanese data

shown as U_s and U_R in Chart 3.

This chart denotes the portfolio frontier curve of two assets (A and B). When investors are placing more emphasis on the rate of return without so much concern about risks, the utility curve of investors look like U_R (dotted upward red curve). When investors prefer to avoid risk, the utility curve moves to U_s , as shown in the solid upward green curve. The optimal asset allocation between safer asset (B) and riskier asset (A) will move from point “e” to point “f”. At point “e”, the allocation to the riskier asset rises to 55.7%. At point “f” where investors are risk averse, the allocation to the riskier asset drops to 11.8% and the share of the safer asset rises to 88.2%.

Point “f” will be the current situation in many countries where investors prefer safer assets by reducing their risks rather than seeking higher rates of return. If the coronavirus epidemic continues for a longer period of time without a specific policy action by the government, the share of riskier assets will drop further than 11.8% compared to the total asset allocation.

CHART 3
Changes in preference to avoid risk in the market



Source: Compiled by the authors

Reducing Budget Deficit Created by Corona Bonds After Coronavirus Ends

If massive government spending to rescue sectors and individuals affected by the coronavirus infection were provided, the budget deficit of Japan will rise much further than 220% of GDP. It is quite important to avoid a debt explosion in the budgets of Japan and several other countries that may undertake huge government spending by issuing Corona bonds.

Receivers of such government support should also realize that their receipts are financed by Corona bonds and that they are temporary issues. Both the government and the recipients have to understand that they are financed by special issues of Corona bonds. In other words, those who have provided temporary loans or subsidies should keep in mind the amount they are receiving both from the central government, local government and government financial institutions. These have to be returned by future tax revenues contributed by business tax, income tax, property tax and sales tax revenues when the economy recovers from the coronavirus shock.

Budget sustainability can be maintained by the simultaneous determination of both spending and tax revenues. Evsey David Domar, a Russian-American economist and co-creator of the Harrod-Domar economic growth model, came up with a theorem in the 1940s about fiscal sustainability. Domar's theorem proposes comparing the interest rate and the growth rate of the economy as follows:

Interest rate > growth rate of the economy → Budget deficits will explode

Interest rate < growth rate of the economy → Budget deficit will converge.

Domar's theorem shows how a nominal interest rate would explode budget deficits, while a high growth rate would result in a reduction of budget deficits.

The Domar condition does not take into account the demand for government bonds. The Greek budget deficit to GDP ratio was smaller than that of Japan in 2019 when the Greek economic crisis happened. However, Greece went bankrupt and Japan is still sustained. It relies on the demand structure for government bonds. In the case of Japan, about 90% of the debt is owned by domestic investors. On the other hand, 70% of government debt in Greece was held by overseas investors. Overseas investors quickly sell Greek bonds and leave. On the other hand, domestic investors tend to hang on to their domestic bonds. Demand for government bonds has to be taken into account to achieve stability in the government budget (Table 3).

When both supply and demand for government bonds are taken into account, the stability of the government budget relies on how well government spending and tax revenues are simultaneously

TABLE 3

Holders of Japanese & Greek government bonds

Holders of Japanese government bonds	% of total	Holders of Greek government bonds	% of total
Bank and postal savings	45	Overseas investors	33
Life and non-life insurance	20	Domestic investors	21
Public pension funds	10	European Central Bank	18
Private pension funds	4	Bilateral loans	14
Bank of Japan	8	Social pension funds	6
Overseas investors	5	International Monetary Fund	5
Households	5	Greek domestic funds	3
Others	3		

Note: In Greece, 70% of debt is held by overseas investors, compared with 5% for Japan. Data are for 2011. Source: "Optimal fiscal policy rule for achieving fiscal sustainability: the Japanese case" by Naoyuki Yoshino, Tetsuro Mizoguchi and Farhad Taghizadeh-Hesary, *Global Business and Economic Review*, Vol.21, No.2 (2019)

controlled by observing three factors: (i) debt/GDP ratio, (ii) deficit/GDP ratio, and (iii) GDP recovery. This paper has assumed that monetary policy is used to focus on price stability and fiscal policy is assumed to promote economic recovery as its primary objective. What kind of weights these three components should be given will depend on macroeconomic factors such as consumption, investment, deposit behavior, capital market investment, etc. But unless these three components of the economy are simultaneously considered both through government spending and tax revenues, budget stability will not be achieved and the economy will dip into a fiscal explosion.

Conclusion

The coronavirus is an unexpected chance for Japan and other countries to change their living and business practices to more efficient and productive ones. If the private sector can introduce various ways to cope with unprecedented circumstances, the productivity of companies will improve. Society as a whole will move toward a better way of life if this shock can improve various structural issues. Urgent government emergency spending is necessary through the issuing of special Corona bonds. After recovering from the coronavirus pandemic, simultaneous decisions have to be made in the budget process by monitoring spending and revenues at the same time, with a special focus on debt/GDP, deficit/GDP and GDP recovery. **JS**

Dr. Naoyuki Yoshino is professor emeritus of Keio University in Tokyo and former dean of ADB Institute. Dr. Hiroaki Miyamoto is professor of Tokyo Metropolitan University and a former economist in the International Monetary Fund. Dr. Muhammad Zubair Mumtaz is associate professor of finance in the School of Social Sciences & Humanities, National University of Sciences & Technology in Islamabad.