Managing the COVID-19 crisis by fiscal strategies: Lessons from four countries

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Abstract
The COVID-19 Crisis is urgent, global in scale, and has generated a massive impact globally. During the outbreak of the crisis, well-designed fiscal strategies play a critical role in effective crisis management. This article uses an international and comparative perspective to find fiscal strategies used by four countries including China, South Korea, the United States, and Italy to manage the COVID-19 crisis for the period of April 2020 to December 2021. It examines key similarities and differences regarding to these major fiscal strategies adopted by the four countries. This article offers important lessons and summarizes effective practices for other countries that were considering fiscal strategies to manage and deal with the economic and fiscal impacts induced by the COVID-19 crisis.

Keywords
Comparative study, COVID-19, fiscal strategy

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Introduction
The world has just experienced the most severe pandemic since the early 20th century. The spread of COVID-19 has been rapid at a historic scale and with unprecedented impacts. As of June 9, 2020, the global cases of the novel coronavirus surpass seven million and the death toll is more than 408,000 (Johns Hopkins University, 2020). In many countries, the outbreak of COVID-19 has overwhelmed the health care system quickly, with an immediate impact on the efficiency and capacity of the public health-care system from COVID-19. Considering the very contagious nature of the virus, many governments have been implementing unprecedented public-health responses such as large-scale quarantines, international and domestic travel restrictions, and social-distancing measures. Consequently, social, financial, and economic challenges and impacts are unprecedented.

The outbreak of COVID-19 has been disrupting every sector of the society. It has forced businesses to close, halted international trade and travel, and devastated economies. Managing and coping with the COVID-19 pandemic requires more than the actions of medical workers; it requires a sound financial management during and after the COVID-19 crisis. Well-designed fiscal strategies have been playing a critical role in responding to the crisis, and eventually helped countries restore the preconditions for economic growth and social stability (OECD, 2020b).

This article takes an international and comparative approach to review government fiscal strategies to combat COVID-19 crisis. It aims to discuss how targeted fiscal strategies can aid governments in managing the COVID-19 global pandemic during its early stage. It highlights key similarities and differences among major fiscal strategies adopted by four countries in particular—China, South Korea, Italy, and the United States. Practical lessons learned from the four countries can help public officials in other countries understand what fiscal strategies to respond to the global pandemic could work well in their own contexts. Our findings indicate that the four countries have employed a distinct step-by-step approach in terms of fiscal policy adoption to increase health-care capacity and to provide financial assistances to businesses (especially, small businesses), unemployed workers, and individuals as well as...
households in a sequential pattern. The depth and duration of the COVID-19 crisis may depend on many factors, including each country’s health-care system capacity, virus control measures and behaviors, as well as government crisis management strategies (CDC, 2022). Even when this virus is eventually controlled or disappeared, the COVID-19 induced economic downturn is likely to be more severe than the Great Recession of 2008. Understanding how these four countries use fiscal strategies to manage economic problems and social issues induced by COVID-19 is, therefore, imperative for fiscal policy makers and organization leaders.

This study is organized as follows. In the next section, we review the existing literature of crisis and emergency management. The third section is a brief introduction of our methodology. It is followed by a discussion of the four countries’ major fiscal strategies to COVID-19. The next section is a discussion of management challenges and lessons learned from the four countries. We conclude this study with important policy implications.

Crisis and emergency management theoretical models

Crises and emergency management is an important and growing research area in the public administration, public management, and government financial management fields (Christensen et al., 2016; Comfort, 1988; Farazmand, 2001; Haddow & Bullock, 2006; Kacupu, 2008; McGuire & Silvia, 2010; Midriff, 2004; Moynihan, 2005; Perrow, 1984; Pinsdorf, 2004; Steinberg, 2000; Waugh, 2001; Wise, 2006). Public administration scholars view crises as unexpected and unpredictable events or situations which may disrupt the routine events of life and governance, disturb established structures and fundamental values or norms of systems, and provide dynamics that nobody can predict and control (Farazmand, 2007; Rosenthal et al., 1989). This definition covers most population revolutions, natural disasters, terrorist attacks, and it certainly fits the case—the COVID-19 global pandemic.

Public administration and finance scholars have offered rich knowledge about crisis and emergency management theories or models, ranging from integrated management, strategic management, surprise management, cutback management to collaborative management (e.g. Comfort, 1997; Farazmand, 2007; Kapucu, 2008; Levine, 1978; McGuire & Schneck, 2010). The traditional emergency management model has four important elements, including mitigation, preparedness, response, and recovery. Public administration scholars learned from past failures, such as Hurricane Katrina, that mitigation and preparedness are inevitable elements of a strategic management system (McGuire & Schneck, 2010).

Given that COVID-19 is a novel coronavirus; however, the urgency and unknown nature of this crisis directs most countries to a response stage and requires government intervention. Some scholars suggest that bureaucratic administration is an integral part of government decision-making in crises (U. Rosenthal et al., 1991; R. Rosenthal & Kouzman, 1997). For example, police and the military services play an important role in fighting against the COVID-19 crisis. Without proper government interventions, a comprehensive or integrated emergency management system is hard to achieve.

One of the crucial lessons learned from previous disasters is the importance of having a flexible and “strategic” public management systems and strong organizational capacity (Christensen et al., 2016; Farazmand, 2007; McGuire & Schneck, 2010; McGuire & Silvia, 2010). Like the comprehensive management system, strategic emergency management emphasizes the proactive effort made by governments to create an efficient bureaucracy and administration in order to deal with different types of disasters and crises (Cook, 1993; Farazmand, 2001). McGuire and Schneck (2010) also argue that strategic management requires sufficient leadership capacity and a well-established intergovernmental system which consists of all levels of governments, nongovernmental organizations, and the general public. Kapuca (2008) supports a collaborative emergency management which requires community coordination and interactions with multiple actors and argues that governments will always take the responsibility first for crisis. Farazmand (2007) uses an international perspective to explain that today’s strategic emergency management is a global issue. Here, it means “today’s crisis is everywhere with us, . . .and they have become part of our lives” (Farazmand, 2007; p. 152). Thus, globalization may speed up the process of how a crisis will eventually affect everyone in every corner of the world. Such a global perspective of emergency management fits the current experience of the COVID-19 pandemic.

Moreover, there is an extensive literature on government cutback management strategies; that is, how governments act to deal with fiscal crises and economic recessions. For example, Levine et al. (1981) and Hendrick (2011) argue that governments’ administrative responses to fiscal stress have followed a hierarchical model, meaning that governments follow a step-by-step approach to different levels of fiscal threat and make changes when fiscal and external condition alter. Some empirical studies show that governments choose policy options in a rough order which reflects their preferences, and they adjust the strategic policy choices according to their financial conditions and political realities (Hawkins, 1989; Wolman, 1980).

Nevertheless, Nelson (2012) argues that the bounded rationality model of decision-making from Simon (1957) can be better used to explain unstructured policy choices of governments in response to fiscal stress. From this perspective, public officials and administrators may lack the ability and resources to arrive at the optimal solution, so that become satisfiers who apply their rationalities after having available options and choices simplified enough. Public
administration and finance scholars have discussed failures and lessons learned from previous disasters (such as Hurricane Katrina) and fiscal crisis (such as the Great Recession of 2008). Nevertheless, each crisis has its unique feature; thus, it will be important to investigate fiscal strategies used by different governments and to see if there is a pattern across countries to deal with COVID-19 and possibly COVID-19 induced economic crises.

Most prior emergency management studies discussed lessons from natural disasters or fiscal crises and had few studies to take fiscal capacity building and policymaking as an integral part of emergency management especially for natural disasters. This study provides an international and comparative approach to understand different countries’ fiscal strategies to the COVID-19 crisis. It can fill in the gap in the literature by offering some important lessons and policy implications from organizational decision-making and global financial management perspectives during the global pandemic.

**Methodology**

Although countries are in different geographic areas, with different fiscal and institutional structures, and are in different stages of the pandemic, we select four countries that are good representative cases of strategies for combating the COVID-19 pandemic. China was the first country to manage the COVID-19 crisis. South Korea’s model of handling the outbreak has been lauded internationally for early action, comprehensive testing, and, as a result, a low fatality rate. Italy was the initial epicenter of the coronavirus outbreak in Europe. The United States has been the global epicenter for COVID-19 since March 2020. Table 1 shows each country’s profile and their COVID-19 related information, including the number of positive cases. The four countries also show large variations in terms of GDP, population size, and government expenditures towards the pandemic. Among the four countries, China and South Korea did not declare national emergency while Italy and the United States have declared national emergency during the crisis.

**Four countries’ fiscal strategies to the COVID-19 pandemic**

To understand the four countries’ fiscal responses, we first split the last two years of combating the COVID-19 pandemic into two phases: an early phase from the beginning of the crisis to April 15, 2020, and a later phase from April 16, 2020 to December 13, 2021. Table 2 presents each country’s early fiscal strategies as of April 15, 2020. Table 3 summarizes the four countries’ fiscal policy strategies used during the later phase between April 16, 2020 and December 31, 2021.

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**Table 1. Four countries’ profile and other COVID-19 related information.**

| Country profile (2020) | China          | South Korea    | United States | Italy          |
|-----------------------|----------------|----------------|---------------|----------------|
| GDP: $14.3 trillion   | GDP: $1.63 trillion | GDP: $20.94 trillion | GDP: $2.00 trillion |
| GDP per capita: $9,771 | GDP per capita: $31,812 | GDP per capita: $63,550 | GDP per capita: $33,156 |
| Total government    | Population: 1.435 billion | Population: 51.27 million | Population: 60.36 million |
| expenditures: $4.17 trillion | (29.16% of GDP) | (44.4% of GDP) | (43.6% of GDP) |

**Date of the first reported case**

- China: December 27, 2019 (Wuhan City, Hubei Province)
- South Korea: January 20, 2020 (Incheon Metropolitan City)
- United States: January 20, 2020 (Snohomish County, Washington)
- Italy: January 31, 2020 (Rome)

**Total reported cases and death**

- China: As of April 15, 2020 (3,346 deaths, 83,352 positive cases)
- South Korea: As of December 31, 2021 (30,844 deaths, 56.4 million positive cases)
- United States: As of December 31, 2021 (632,548 positive cases, 162,488 positive cases)
- Italy: As of April 15, 2020 (5,563 deaths, 102,083 positive cases)

**National emergency declaration**

- China: No declaration
- South Korea: No declaration
- United States: Declared under the Stafford Act and the National Emergencies Act on March 13, 2020
- Italy: Declared by the意大利 Ministry of Health (a state of health emergency) on January 31, 2020

**Primary fiscal institutions**

- China: Chinese Ministry of Finance
- South Korea: Ministry of Economy and Finance
- United States: Department of the Treasury
- Italy: Italian Ministry of Economy and Finance

Source: Congressional Budget Office (2020; 2021), CDC (2022), IMF (2022), KCDC (2020), MOHW (2022), Statistics Korea (2020), World Bank (2020), National Bureau of Statistics of China (2020), Yale School of Management (2022), and Blavatnik School of Government, University of Oxford (2022).
Table 2. Early fiscal strategies to COVID-19: As of April 15, 2020.

| Countries | China | South Korea | United States | Italy |
|-----------|-------|-------------|---------------|-------|
| **Overall fiscal strategies (in dollars)** | Total $181 billion (1.3% of GDP) | Total $26 billion (1.6% of 2020 GDP) | Total $2.4 trillion (11.5% of 2020 GDP) | Total $452 billion (22.66% of GDP) |
| - | Direct provisions: $18 billion | Direct provisions: $22 billion | Direct provisions: $1.9 trillion | Direct provisions: $15 billion |
| - | Tax relief: $163 billion | Tax relief: $4 billion | Tax relief: $537 billion | Credit enhancement: $430 billion |
| **Health sector** | $15.58 billion to prevent coronavirus | $0.2 billion to support preventive and medical services (including testing, masks, and vaccines) | $561.7 billion to support for health agencies | $3.47 billion to hire medical and nursing personnel |
| - | Tax exemption for medical supplies and equipment (domestic and import taxes) | $0.7 billion to support health-care facilities | $1.2 billion for testing support | |
| - | Fee exemption for medical device product and drugs and treatment | $1.1 billion in assigned fund reserves for future support for health-care facilities | $3.4 billion for medical support (including developing countermeasures and vaccines) | |
| - | Personal income tax exemption on temporary work subsidies and bonuses for medical workers | | | |
| **Private businesses** | - Value-Added Tax (VAT) exemption for firms in accommodation/catering and personal services | - $16.8 billion for special loan and guarantee programs for small merchants and SMEs | - $908.9 billion to offer loan-related support for businesses (including emergency relief loans, loan guarantees, and investments) | - $5.53 billion to provide up to 350 billion of liquidity to help businesses and households (SMEs) |
| - | Firms in transport, catering, accommodation tourism carries forward their 2020 losses for up to 8 years | - $1.0 billion to support for landlords who reduce rental fees for commercial tenants | - $79.5 billion for other business support (airline companies, agricultural industry, etc.) | - $1.73 billion Suspending tax payments and providing tax incentives for workers and businesses |
| - | SMEs in accommodation and catering exempt from social security contributions | - $0.8 billion to waive fees and VAT for small merchants and SMEs | | |
| - | Large firms pay half of social security contributions | | | |
| **Individuals/households** | - $0.08 billion to support for individuals quarantined/self-quarantined | - $3.6 billion to stimulate consumption (consumption vouchers and local gift certificates) | - $300.0 billion for direct payments to individuals | - $5.53 billion to provide up to 350 billion euro of liquidity to help businesses and households (SMEs) |
| - | - $0.3 billion to exempt health insurance premiums for low-income individuals | - $0.8 billion to address unemployment issues (part-time workers, youth, low-income individuals, vocational trainings, and wage support for small merchant and SME employers) | - $33.0 billion for food and nutrition support | - $1.73 billion Suspending tax payments and providing tax incentives for workers and businesses |
| **Income support and unemployment benefits** | | - $261.0 billion for Unemployment Insurance | - $4.0 billion for homeless support | - $11.16 billion to strengthen social safety net and temporary unemployment benefits |
| - | Extend social welfare subsidies to people who are affected by the outbreak | - Support for the Paid Sick Leave Act and the Family and Medical Leave Act | | |
| - | Guarantee temporary living allowance for migrant workers | | | |
| **Subnational governments/International Assistance/Others** | Subsidy funds of $0.14 billion to support Hubei Province | - $0.08 billion in aid to local governments (earmarked for unemployment support) | - $150 billion in general aid to state, local, and tribal governments | - $10.29 million to the regions of Umbria, Friuli Venezia, Giulia, Abruzzo, and Basilicata |
| - | VAT tax reduction for small-scale taxpayers in Hubei Province (March 1–May 31, 2020) | Direct provision aid for local, private head-start programs/kindergarten, and colleges | - $115 billion in disaster relief grants to state, local, tribal, and | |
| - | | | $1.6 billion to support international responses | |

Source. IMF (2022), Institute of International Finance (2020), Kaiser Family Foundation (2020a, 2020b, 2020c), and MOEF (2020a, 2020b).
Note. Currency exchange rates applied: 1$ equals to W1,200, ¥6.50, and €0.92.
Table 3. Fiscal strategies to COVID-19 crisis from April 16, 2020 to December 31, 2021.

| Countries | China | South Korea | United States | Italy |
|-----------|-------|-------------|---------------|-------|
| Overall fiscal strategies (in dollars) | Overall $ 550 billion (4% of 2020 GDP) | Total $98 billion (6.0% of 2020 GDP) | Total $5.3 trillion (25.3% of 2020 GDP) | Total $106 billion (5.3% of 2020 GDP) |
| - Direct provisions: $545 billion | - Direct provisions: $97.2 billion | - Direct provisions: $5.1 trillion | - Direct provisions: $82 billion |
| - Tax relief: $5 billion | - Tax relief: $0.8 billion | - Tax relief: $153.6 billion | - Credit enhancement: $24 billion |
| Health sector | $15 billion of special treasury bonds increasing epidemic prevention spending | $80 billion for disease prevention and control (including vaccines and support for healthcare providers) | $274.0 billion for medical support (including developing countermeasures, testing, and vaccines) | $3.4 billion for the health care system |
| - $15 billion of special treasury bonds increasing epidemic prevention spending | $20 billion for other purposes including the advancement, industrialization, and globalization of Korea’s COVID-19 response model and reinforcement of disaster preparedness. | $162.8 billion for grants for healthcare providers | $2.1 billion to accelerate its COVID-19 vaccine roll-out |
| - $12.2 billion for welfare support for vulnerable groups and childcare | - $2.0 billion for the paycheck protection program | - $88.0 billion for health centers | |
| Private businesses | - $3.4 billion for the health care system | - $2.0 billion for the paycheck protection program | - $52.5 billion for disaster/emergency relief and FEMA operation |
| - $756 million for reducing VAT tax rates and extending social security tax relief and business tax cut to businesses | - $4.0 billion for the Korean New Deal project, which aims to establish digital and green infrastructure | - $35.8 billion for Medicare change support | - $31.3 billion to support health agencies |
| - $4.5 billion subsidies to businesses who support production of medical equipment | - $2.7 billion to support the national and local economies including vouchers for use, virtual consulting for exports, and subsidies for companies returning to South Korea from overseas. | - $9.1 billion for health care workforce (e.g. Medical Reserve Corps) | - $9.1 billion for health care workforce (e.g. Medical Reserve Corps) |
| Individuals/households | - $18.8 billion to compensate for the loss of household income due to COVID-19 (i.e. Emergency Relief Payment) | - $36.8 billion for emergency assistance for educational agencies | - $4.22 billion in regional business tax cuts |
| - unknown amounts of consumption vouchers to individuals (participating dining, shopping, travel, cultural, and recreational enterprises) | - $8.9 billion for an additional economic stimulus package | - $1.123 billion to offer households child tax credits | - $16 billion in loan guarantees for bonds to support banks to support financial stability |
| Income support and unemployment benefits | - $4.6 billion to offer additional support for families and low-income households | - $110.2 billion for housing assistance (e.g. rental assistance) | - $2.5 billion in one-time payments to businesses |
| - $0.9 billion to stimulate consumption | - $107.1 billion for child and family support (assistance and grants) | - $59.9 billion for grants for restaurants and shuttered venues | - $9.5 billion credit and liquidity for struggling businesses |
| - $14.7 billion for employment stability including public sector job creation programs, employment retention subsidies, support for paid leave programs, youth employment support, and expanded unemployment benefits. | - $13.4 billion to support minority and aging groups | - $13.1 billion for paid leave tax credits and other subsidies for small companies | - $1.3 billion for the food and agricultural sector |
| Subnational governments/International assistance/Others | - $10.2 billion in aid to local governments (earmarked for unemployment support) | - $88.8 billion for education funding for disability groups | - a $527 billion holiday grant and subsidies for childcare |
| - $242 billion increase in the quota for local government special bonds and raise capital financing sources for building new types of infrastructure and developing next generation information infrastructure network. | - $4.0 billion for the Korean New Deal project, which aims to establish digital and green infrastructure | - $54.0 billion for providing income tax credits and other disability groups | - extends emergency income, boosts cash contributions for seasonal and tourism sector workers |
| - $4.5 billion subsidies to businesses who support production of medical equipment | - $14.7 billion for family violence protection | - $0.4 billion for family violence protection | - cuts taxes for young people buying their first home |
| - $182.0 billion for higher education funding | - $57.1 billion for individual stimulus checks | - $22.6 billion for employee retention payroll tax credit | - $27 billion in benefits for employees and the self-employed (wage support and payments of €400 to €800 a month for those with no income and otherwise not covered by social welfare programs) |
| - $60.0 billion for other services | - $495.8 billion for unemployment benefits and unemployment insurance tax credit | - $31.4 billion for nutrition support | - $1.5 billion for schools, universities, and research |
| - $38.7 billion for state capital/transportation projects | - $0.7 billion for federal employees’ compensation and leave fund | - $0.7 billion for federal employees’ compensation and leave fund | - $53 million a special fund to support scientific research |
| - $9.0 billion for foreign affairs | - $705.8 billion for state and local funding (including Medicaid matching increases, small business credit initiatives) | - $705.8 billion for state and local funding (including Medicaid matching increases, small business credit initiatives) | |
| - $3.7 billion for other tax cuts (e.g. tax-free student loan payments by employer) | - $182.0 billion for higher education funding | - $1.82 billion for higher education funding | |
| - $0.9 billion for environmental protection | - $117.2 for local transit support | - $117.2 for local transit support | |
| Source. Committee for a Responsible Federal Budget (2022), Fonte and Balmer (2020), Fonte and Jones (2020, 2021), IMF (2022), MOE (2021a, 2021b, 2021c), and Tang (2020). |
| Note. Currency exchange rates applied: 1$ equals to W1,200, ¥650, and €0.92. |
measures to control and contain the coronavirus including strict social distancing, closures of schools and universities, mandatory quarantine of Hubei Province, and extensive public monitoring of citizens. By early March, the number of new reported cases and new deaths of COVID-19 had dropped dramatically. As of April 15, 2020, China was the first country to reopen its economy and move to the recovery stage after a more than 70-day lockdown. China responded efficiently in the early stage of the crisis before April 15, 2020 and conducted zero COVID-19 cases policy.

The nation’s crisis and fiscal emergency management system is centralized. The Chinese Ministry of Finance has been responsible for making fiscal policies in response to COVID-19. By March 2020, the central government allocated a total of $15.58 billion to support the public health sector (CFRTV, 2020). In addition to direct expenditure on the health care sector, the government adopted tax policies to financially support frontline doctors and nurses and to aid private enterprises to produce medical supplies and equipment for the purpose of building a sustainable health care system. As of April 15 (see Table 2), the overall size of fiscal measures by the Chinese central government stood at $181 billion, accounting for 1.3% of its GDP, including $18 billion of direct spending and $163 billion of tax and fee relief.

For the period of April 2020 to December 2021, the Chinese government announced a $550 billion fiscal stimulus package (i.e. 4% of China’s 2020 GDP) to offset the economic shock caused by the pandemic with a total $5 billion tax relief as of December 31, 2021. Fiscal strategies used by China during this period consists of four core elements (Tang, 2020). The first key element is the issuance of $151 billion of special treasury bonds for the first time since 2007. The bond proceeds are transferred to local governments and used for the purpose of supporting local infrastructure projects and increasing epidemic prevention spending. Second, the quota for local government special bonds has been increased by $242 billion and capital financing sources have been raised for building new types of infrastructure and developing next generation information infrastructure network. Third, it authorized an increase of the budget fiscal deficit to a record high of 3.6% of GDP, up from 2.8% in 2019 (adding an extra $151 billion to the budget to bolster the economy). Private business sector could benefit from reduced VAT tax rates and extended social security tax relief and business tax cut to businesses (i.e. $756 million). On July 1, 2021, the Chinese Central Government announced $4.5 billion subsidies to businesses who support production of medical equipment.

Overall, China has implemented a wide range of fiscal strategies to manage the COVID-19 pandemic. On the one hand, fiscal measures have been taken to support the public health sector in fight against the spread of the COVID-19 during the early stage as shown in Table 2. On the other hand, the focus of China’s fiscal strategies in light of zero COVID-19 case policy was to promote infrastructure investment and stimulate economic recovery for the period of April 2020 to December 2021 as shown in Table 3.

The Republic of Korea (South Korea)

The first case of COVID-19 was reported on January 20, 2020 (MOHW, 2022). The number of positive cases grew remarkably slowly until early December 2021, which called global attention to South Korea as a model to flatten the curve of the coronavirus pandemic (Son, Lee and Hwang, 2020). Since December 2021 when the Omicron variant first appeared, however, the number of positive cases has risen at a faster rate. As of December 31, 2021, South Korea had a total of 630,838 positive cases (5,563 deaths). South Korea’s response to COVID-19 has been centralized while local governments have been responsible for mitigating the impact of COVID-19 at the frontline. Particularly, the executive branch of South Korean national government, including Korea Ministry of Health and Welfare (MOHW), and Korea Center for Disease Control and Prevention (KCDC), has been the principle entity steering nation-wide responses to COVID-19, including social distancing, stay at home orders, and wearing masks. South Korea’s efforts are widely considered successful in flattening the curve of the coronavirus pandemic (Son et al., 2020).

In designing and implementing fiscal strategies, public officials in South Korea gave early priority to preventive and medical services. As of April 15, the South Korean national government allotted $163.9 million for the health-care system, including staff and supply support (e.g. masks) and inspection and testing support. It also supported health care facilities financially by providing direct fiscal provisions of $625 million for healthcare facilities and transferred $1.1. The national government has also provided financial support to the private sector, including $16.8 billion for special loan and guarantee programs for small merchants and businesses, a $1.0 billion tax credit to support for landlords who reduce rental fees for commercial tenants, and at least $727.4 million allocated to waive fees and VAT for small merchants and small and mid-size enterprises (SMEs). These measures are also aimed to support individuals and households. While some fiscal assistance is only for individuals quarantined/self-quarantined, additional stimulus actions were taken (such as consumption vouchers and local gift certificates with a value of $3.6 billion) for consumption incentives.

The outbreak of COVID-19 led to unemployment issues. The national government created different subsidies and loan programs (a value of $733 million) to support unemployed part-time workers, youth, and low-income individuals, vocational trainings, and small merchant and SME employers (MOEF, 2020b). The national government allocated $83.3 million in financial aid to local governments, which was earmarked for unemployment support.

In a form of educational aid, the national government has allocated $269.2 million for local governments, private head-start programs/kindergarten, and colleges. As of April 15, 2020, South Korea has proposed and executed fiscal measures with a value of $26 billion, accounting for 1.6 percent of GDP (MOEF, 2020a).
In the later phase of responding to the pandemic, the national government implemented several additional fiscal measures through five different supplementary budgets (three in 2020 and two in 2021) and one additional customized relief package legislation (MOEF, 2021b). The focus in the later phase was clearly on economic issues, while keeping resources allocated for health services. The national government allotted $8 billion for disease prevention and control purposes (including testing and vaccination). It set $2 billion for some other health purposes, such as reinforcing disaster preparedness.

The national government decided to offer a total of $28.7 billion for the purpose of supporting private businesses, including $22.0 billion to support small merchants, SMEs and key industries (e.g., aviation, shipping, ship-building, automobiles, and general machinery), and $2.7 billion for virtual consulting for exports, and subsidies for companies returning to South Korea from overseas. Some portion of this $28.7 billion support was allocated to the Korean New Deal project ($4 billion). The project has aimed to boost the national and local economies by establishing digital and green infrastructure across the country (MOEF, 2021b).

In addition to the support for private businesses, the national government also provided large support for individuals and households. More than $27 billion was allocated for the direct economic support for individuals and households through relief payment programs and economic stimulus packages. For needy families and households, the national government allotted additional $4.6 billion. A total of $1.2 billion was allocated to the programs that particularly aimed to support vulnerable groups and childcare services. To address on-going employment issues, a total of $14.7 billion was budgeted for several employment stability programs, including creating more than 550,000 jobs in the public sector and employment retention subsidies. The national government also set $10.2 billion in aid to local governments. In this later phase from April 16, 2020 to December 31, 2021, South Korea has adopted and implemented fiscal measures with a value of $98 billion, accounting for 6 percent of GDP (MOEF, 2020a).

Italy

The first case of COVID-19 reported in Italy was on January 31, 2020. On the same day, the Italian Ministry of Health declared a state of emergency. As of April 15, the total reported case of COVID-19 in Italy was 162,488. Italy’s coronavirus epidemic was among the world’s deadliest, with a death toll of 21,069 (OxCGRT, 2020). At the beginning of the COVID-19 pandemic in Italy, the Italian Government implemented several restrictive measures to contain the spread of COVID-19 such as a national quarantine, travel restrictions, and closure of schools and universities. On March 9, 2020, Italy expanded its lockdown to the entire country, affecting about 60 million people. On April 10, 2020, the lockdown was extended until May 3, 2020 (OECD, 2020a).

The executive branch of the Council of Ministers which includes the Ministry of Economy and Finance and is led by Prime Minister Giuseppe Conte has actively implemented fiscal strategies to address COVID-19 crisis for the early stage of crisis. On March 11, 2020, the Italian government released a $27.12 billion value of stimulus package (accounting for 0.13% of its GDP) as the initial response to the outbreak of COVID-19. It took 40 days to implement this fiscal policy response followed by the first reported case in Italy. This fiscal stimulus plan provided financial support to medical and nursing personnel, to the businesses, workers, and households (SMEs), and was used to strengthen social safety net and unemployment benefits (IMF, 2022). On April 9, 2020, the Italian government approved another fiscal strategic response which offered over $432 billion worth of liquidity and bank loans to companies hit by the COVID-19 crisis (Fonte & Balmer, 2020). As of April 15, 2020 (Table 2), the overall size of fiscal measures is worth of $452 billion, accounting for 2.26% of GDP. Among them, the direct government spending is $15 billion. Tax and fee relief is $7 billion. The largest component of these fiscal measures is credit enhancement $430 billion (i.e. loans, loan guarantees, and lines of credit).

As indicated in Table 3, during the period of April 16, 2020 to December 31, 2021, the Italy government had implemented fiscal strategies with the value of $106 billion (accounting for 5.3% of 2020 Italy GDP) including $24 billion of credit enhancement. First, on May 13, 2020, a $59.6 billion economic stimulus package was approved to help Italy’s battered businesses and struggling families survive the coronavirus crisis (Fonte & Balmer, 2020). The main components in this stimulus package included $27 billion in benefits for employees and the self-employed (wage support and payments of €400 to €800 a month for those with no income and otherwise not covered by social welfare programs), $16 billion in loan guarantees to support business financial stability, and $3.4 billion for the health care system.

Italy passed a stimulus package worth $5.7 billion on October 26, 2020 (Fonte & Jones, 2020). It included $2.6 billion in one-time payments to business and subsidies and tax cuts for household rent and housing. Later, on May 20, 2021, a new economic stimulus of $43 billion was enacted (Fonte & Jones, 2021). The main purpose of this stimulus was to create jobs and bolster economic recovery with a measure of providing $18 billion grants to companies to maintain employment.

The United States

The first COVID-19 case was reported in Snohomish County, Washington on January 20, 2020 (Holshue et al., 2020). Since then, the number of positive cases constantly increased at a significant rate until early December 2021. The Omicron variant made the growth even faster than before. As of December 31, 2021, the country had about 56 million
positive cases (848,284 deaths). Over the entire period of combating COVID-19, therefore, the United States has been the center of this global pandemic with the highest confirmed cases and number of deaths. The Department of Health and Human Services and Centers for Disease Control and Prevention at the federal level have been primary agencies responding to COVID-19.

While state and local governments remain responsible for the frontline management of this COVID-19 crisis, Congress and the White House (including the Department of the Treasury) have been taking the lead in proposing and implementing major fiscal policies amid the pandemic. As of April 15, 2020, the Coronavirus Preparedness and Response Supplemental Appropriations Act, the Families First Coronavirus Response Act, and the Coronavirus Aid, Relief, and Economic Security (CARES) Act were three specific fiscal policy responses at the federal level (IMF, 2022). These early responses as a whole provided extensive support for health and medical services, including $561.7 billion allocated to support for health agencies, $1.2 billion for testing support, and $3.4 billion for medical support (including developing countermeasures and vaccines).

Business support was one of the major focuses among the three measures. For example, the first measure authorized $1 billion in small business disaster loans. In the CARES Act, a total of $908 billion was designated for business and labor support, including emergency relief loans and guarantees (at least $850 billion), and for airline-related business and agricultural industry ($77 billion). The second and third legislations included strong financial support for individuals/households and unemployment. $300 billion were allocated to direct payments to individuals (as known as economic impact payment), $33.0 billion were used to support food and nutrition and tax credit. In particular, the CARES Act was unique given that it included a total of $150 billion to state, local, and tribal governments through a form of general aid and disaster relief grants.

The three major fiscal strategies led by the federal government generated a total of $2.4 trillion fiscal responses to COVID-19. The total amount was corresponding to almost 56 percent of total federal expenditures in FY2019 (CBO, 2020). Also, it was exceedingly larger than the average dollar amount of the bills that have enacted in 37 states to respond to COVID-19, which was approximately $74 million (National Conference of State Legislatures, 2020). This indicates that the United States federal authority played a larger fiscal role in responding to the pandemic in this early phase.

In the later phase from April 16, 2020 to December 31, 2021, the United States federal government offered several additional fiscal measures through six different legislations (e.g., the Paycheck Protection Program and Health Care Enhancement Act enacted on April 24, 2020 and the American Rescue Plan Act enacted on March 11, 2021) and two continuing resolutions (2020 and 2021). These measures as a whole offered more than $645 billion support for health service purposes, including $275.2 billion for medical support (including testing and vaccination), $162.8 billion for grants for healthcare providers, and $52.9 billion for disaster/emergency relief and FEMA operation.

As did in the early phase, the federal government also had a particular focus on offering support for private businesses in this later phase. A total of $1.2 trillion was allocated in order to increase commitments and appropriations for the paycheck protection program, which was initially initiated by the CARES Act. The federal government also made a total of $386.8 billion available for economic

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**Figure 1. A chart of fiscal strategies to the COVID-19 pandemic**

- **Disruption from COVID-19**
  - **Immediate strategy:** Health-Care System Development
    - **Short-term objective:** reducing the number of cases and deaths
    - **Long-term objective:** establish a robust foundation for future similar crises and to make a smooth transition to economic reopening and recovery
  - **Private Businesses**
  - **Individuals and households**
  - **Income support and unemployment protection**
  - **Subnational governments**
support through loan programs. More than $180 billion was allocated for business support purposes, including $63.8 billion to support the aviation industry, $59.9 billion for restaurants and shuttered venues, $35.9 billion for agricultural industry and arts and humanities, $13.1 billion for small companies, and $6.0 billion for charitable organizations. The fiscal measures in this later phase also provided large direct support for individuals and households in several different ways, including a total of $113.2 billion allotted to offer households child tax credits and $110.2 billion allocated for housing assistance. More than $107 billion was budgeted for assistance and grant programs for child and family support, while additional $22.2 billion was set to support minority, disability and aging groups. To help individual income and employment issues, the federal government also provided individual stimulus checks ($571.2 billion total) and unemployment benefits and insurance tax credits ($495.8 billion total). Additionally, the federal government also allocated $22.2 billion for employee retention payroll tax credits.

In addition to the $265 billion support that the federal government provided with state and local governments in the early phase, it also allotted $705.8 billion for state and local funding. State and local government agencies also received federal support for different service areas, including $368.6 billion for emergency assistance for educational agencies, $182.0 billion for higher education funding, $117.2 for local transit support, and $38.7 billion for state capital/transportation projects. To support foreign affairs, the federal government allotted $9 billion, which was significantly larger than the amount that the federal government allocated in the early phase ($1.6 billion). Overall, in this later phase from April 16, 2020 to December 31, 2021, the United States has adopted and implemented fiscal measures with a value of $2.4 trillion, accounting for 11.5 percent of GDP (Committee for a Responsible Federal Budget 2022).

Lessons learned from the four countries’ fiscal strategies

The COVID-19 crisis has posed a serious public health risk, public organization management issues, and policy challenge, and affecting hundreds of thousands of people globally. Almost all countries and territories have reported cases of COVID-19 and responded to it. Beginning March 1, 2020, the United States proclaimed that the COVID-19 crisis constitutes a national emergency. Once this crisis elevated to a national level, a “strategic emergency management” which addresses the primary concerns of organizations should be developed to cope with and manage the situation (Cook, 1993; Farazmand, 2001; McGuire & Schneck, 2010; Olmstead, 1948). Timely and effective responding to crises would be critical to control, mitigate the scale of such events and their impacts. Therefore, we examined four countries’ fiscal strategies and found several important lessons.

The four countries’ fiscal stimulus strategies follow a broad approach and are designed to align with short-term and long-term policy objectives

Fiscal strategies among the four countries have been created to support healthcare and business sectors as well as individuals and households. This means that a broad size of firms and diverse groups of population in the countries receive financial support. It is thus learned from these countries that their fiscal strategies are closely aligned with their policy objectives. Figure 1 presents a pattern with regards to fiscal strategies as a response to the disruptions from the COVID-19 crisis, aligned with short-term and long-term objectives. The short-term objective for the healthcare sector is to reduce the number of cases and deaths, thereby reducing pressure on the healthcare system. This required medical protective equipment production. The long-term objective is to establish a robust foundation for future similar crises and to make a smooth transition to economic reopening and recovery. For the business sector, fiscal policies in the short-term are aimed at helping private companies retain workers and to support cash flow as well as promote long-term financial health and economic sustainability. Temporary short-term fiscal strategies for individuals and households are used to protect citizens and families as well as to play the basic function of governments role in meeting the basic needs of residents. In the long-term, these strategies are needed to build citizens’ confidence in the national and local governments and to maintain social stability.

The four countries have responded quickly and adopted fiscal strategies with a sequenced approach

All four countries prioritized their emergency responses starting from the health care sector and followed a general step-by-step approach to financial support for individuals and the business sector. The immediate fiscal strategies for the health care system are appropriate to reduce the scale of the COVID-19 health crisis. These initial emergency strategies are of the first order importance because these are used to protect people, save life, and bring the health crisis under control. To support these health-related objectives the national government of each country made direct investment in health care infrastructure such as ventilators and provided financial assistance to medical firms and public health research institutions for developing protective equipment, tests, medical treatments, and vaccine research. We also found the four countries, especially the United States used
billions of financial resources to support vaccinations and treatment.

Followed by the fiscal responses to the healthcare sectors, multiple fiscal stimulus packages and tax-related policies have been adopted to support private businesses and individuals/households. Among the four counties, the United States has provided a huge number of financial assistances in all aspects to assist the health care (like vaccination), the households (e.g. child tax credit and rental assistance), the unemployment or underemployed population (e.g. payroll tax credit), and subnational governments in terms of intergovernmental grants.

We recognized that most of these financial aid packages are temporary and have been directed toward healthcare, the businesses, and households. Additional fiscal strategies were implemented by governments to provide financial relief to those made temporarily unemployed by stay-at-home orders so that they can comply with government directives without excessive financial hardships.

Large variation exists in the size and the timing of fiscal stimulus package and financial assistance to all sectors offered by the four countries

The United States took unprecedented fiscal strategies, including the largest fiscal stimulus package (i.e. the CARES Act), to increase the business sector’s liquidity by offering low-interest loans and to support individuals and household’s cash flow by offering tax credit, payroll tax, and rental assistance. The United States also invested heavily to medical care support, and vaccination. In particular, the United States have allocated enormous resources for economic support through loans and loan advance, and $1.2 trillion for the paycheck protection program. The United States is also the only country in the four sample countries to provide households with child tax credits and rental assistance.

China and South Korea prioritized financial assistance to ensure enough medical supplies, testing, patient-care personnel, and health facilities. They are also similar in taking fiscal actions to support individuals and households by introducing fiscal tools such as consumption vouchers when the health crisis is under control. China reopened the economy with strict mitigation measures in place and has provided citizens financial incentives to stimulate consumption. But China’s financial support to consumption vouchers was uncertain from the study.

South Korea has made cautious steps to reopen the economy but has also made significant fiscal efforts to aid local governments, education sectors, and the private sector. Italy’s fiscal stimulus package was late to arrive mainly because the National Healthcare Service was close to collapse in some regions and its domestic health system is fragmented and decentralized, with local authority responsible for the delivery of health-care services (Armocida et al., 2020). The Italian government had to give priority to financially support the capacity-building of its health care system before taking fiscal strategies to support private businesses, individuals, and households.

Conclusion

The COVID-19 crisis has posed a serious and immediate public health risk and has generated an economic challenge due to the extensive containment and mitigation measures. This study finds that the national governments in four countries have taken consistent types of fiscal strategies to control and contain the spread of COVID-19 and these measures have been used to limit the adverse impacts of a health-related pandemic on their citizens and national economies. One more pattern is that a combination of various fiscal strategy tools has been utilized such as tax deductions, tax exemption, direct benefits, and loan guarantees. Drawing on the observations from the four countries from April of 2020 to December of 2021, this article provides the following best practices for other countries that are proposing and adopting fiscal strategies in responding to the COVID-19 pandemic or other crises.

- Rapid and extensive fiscal strategies should be an integral part of the COVID-19 crisis and emergency planning and management.
- To provide the most effective crisis management strategies, countries should consider their own management capacities and utilize the broad range of fiscal strategies (e.g. tax relief, benefits, loan guarantees, and consumption vouchers) appropriate to them.
- There is no one-size-fits-all for fiscal strategies.
- The decision-making process of fiscal policies is dynamic and rational.

Fiscal strategies are needed to adapt to the evolving health and economic conditions.

Organizational decision-makers should take each country’s specific circumstances (political, economic, fiscal, and health) into consideration when adopting fiscal policies in responses to the COVID-19 crisis. As the United States has announced the country has been out of the pandemic and is in the transitional period of the crisis, South Korea and Italy have removed the quarantine policies, and China has insisted on the zero-COVID policy and has strict lockdown policies in major metropolitan cities, it is critical that other countries can learn from the successes and failures of these countries which were impacted early in the global pandemic. In the short term, the top priority for governments is to prevent people from contracting the disease and to help those affected to recover. Governments prioritize healthcare related fiscal policies by spending money to
prevent, detect, control, treat, and contain COVID-19. It is very important for countries to invest in vaccination and medical treatment for the nature of this crisis. As containment and mitigation persist, broader and more systematic fiscal strategies are needed to limit the adverse effects from containment and mitigation measures on businesses and households. In the long-run, extensive fiscal stimulus plans are required for crisis economic recovery and strengthen the resilience of economic and health systems.

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