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TWO YEARS OF FIGHTING THE COVID-19 PANDEMIC: AN ANALYSIS OF THE POLICY PLURALITY AND RESPONSE PERFORMANCE OF EMERGING ECONOMIES

Suborna Barua[1]
Rubaiyat Shaimom Chowdhury[2+]
Sonia Rezina[3]

[1]*Department of International Business, University of Dhaka, Dhaka, Bangladesh.*
Email: sbarua@du.ac.bd
[2]*Faculty of Applied and Human Science, Universiti Malaysia Perlis, and Department of Business Administration Bangladesh University, Dhaka, Bangladesh.*
Email: rubaiyat.shaimom@gmail.com
[3]*Department of Business Administration, Uttara University, Dhaka, Bangladesh.*
Email: rezina.sonia@gmail.com

(+ Corresponding author)

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ABSTRACT

The COVID-19 pandemic has ruined the faster growth patterns of emerging economies. Emerging economies with their constrained of resource availability and resource allocation response to the epidemic differently based on the extent of damage and recovery required. While there is no 'one size fits for all' approach in policy responses, a combination of policy tools employed by rising nations may provide critical insights into their actual economic capabilities. In this paper, from January 2020 to December 2021, we examine and evaluate the policies adopted by emerging economies to combat the pandemic. IMF's Policy Tracker database is used to encode, analyze, and assess 25 selected emerging economies' policies at the global, regional, and income levels. Emerging economies use a wider portfolio of policy tools with better coverage, with budgetary biases. Findings could help understand the heterogeneity of policy responses across emerging economies during the pandemic's economic disaster.

Contribution/ Originality: Till now, different countries have taken different measures to fight against COVID-19. However, no comparison has been made among the emerging countries' policy evaluations. Also, in this paper, we have introduced Intensity-Coverage (IC) scoring framework to evaluate the policy response performance of the countries in terms of depth and breadth. This framework is the first time introduced which the authors prepared.

1. INTRODUCTION

The COVID-19 pandemic, caused by the novel coronavirus (SARS-CoV-2), had widespread and unprecedented health, economic and social impacts across the world (Baldwin & Di Mauro, 2020; Barua & Barua, 2021). Since the end of December 2019, the pandemic has become truly globalized, as the numbers of infection and death cases keep increasing globally. As of 26 December 2021, 278,714,484 COVID-19 cases were confirmed, including 5,393,950 deaths according to the World Health Organization. The pandemic has drastically brought down global demand, production, employment, and incomes (Barua, 2020a). A growing number of studies evidence the pandemic's severe

impacts on economic and financial systems, signaling a possible recession or a depression worldwide (Baldwin & Di Mauro, 2020; Barua, 2020a; Barua, 2020b; Barua, 2020c; Chen, Qian, & Wen, 2021; Coibion, Gorodnichenko, & Weber, 2020; ILO, 2020; OECD, 2020a; Park, Villafuerte, & Abiad, 2020; Sarker, 2020; World Bank, 2020a). Hafiz, Oei, Ring, and Shnitser (2020) identify the existence of a unique systematic risk during the COVID-19 pandemic that had never been seen before. To comprehend the repercussion of COVID-19, researchers advocate observing the historical implications of the various pandemic events or worldwide economic crises generating worldwide shocks; for example, the influenza outbreak or the global financial crisis (GFC) (Alvarez, Argente, & Lippi, 2020; Goodell, 2020; Wren-Lewis, 2020). Estrada, Koutronas, and Lee (2021) caution that the current health crisis can result in damages comparable to the 1929 crisis.

Several studies present evidence of emerging economies having the pandemic's most extreme impacts and likely to carry substantial aftershock effects in the long run (Lagoarde-Segot & Leoni, 2013; Ozili, 2020). In response to the pandemic, all countries worldwide have responded with a wide range of policy measures; however, the degree of financial and economic development would significantly determine the ability of the countries to produce effective responses (Rana & Barua, 2015). Undertaking and implementing the right policy tool at the right time and addressing the right aim is essential to prevent economies from dipping into recession and recovering quickly. It is perhaps more important for emerging economies, as these countries are usually on the path of faster economic growth while lifting millions out of poverty and serving as the engine of the world economy over the next two decades (Barua, 2021; Rahman, Rana, & Barua, 2019).

Concerning COVID-19, only a handful of studies have reviewed the emerging economic policy responses to the pandemic. (Ozili, 2020) outlines the policy responses and opportunities in Africa and signals about 'spillover' consequences on African industries due to the outbreak from China, being their prominent supplier. In the G-7 countries and 24 emerging market economies (EMEs), a wide range of fiscal, monetary, public health, and human control policy initiatives have been taken to recover from the losses caused by the pandemic (Sarker, 2020). However, policy responses seem to be difficult to implement due to the complex and overarching impact of the pandemic on the sensitive interconnectivity between the commodity and financial markets (Mann, 2020).

While the current literature analyzing the policy responses to COVID-19 remains very limited, it could be useful to analyze them in the light of learning from past global pandemics or economic shocks (Alvarez et al., 2020; Eichenbaum, Rebel, & Trabandt, 2020; Goodell, 2020; Wren-Lewis, 2020). Financial or economic pandemics are fairly common worldwide, and the literature provides essential insights into how countries respond to them. For example, the United States came up with large bailout packages and financial stabilization policies or the short-term support measures adopted by the member states of the European Union's Economic and Monetary Union covering labor markets, industry, business, and investment during 2009-10 to fight the GFC (Fischer & Justo, 2010). The GFC's effects rippled through the developing and emerging economies as well (IMF, 2020). The emerging economies had come up with specific initiatives, such as support for local and foreign currency financing, fiscal stimulus packages, and adjustment to monetary policies (Boorman, 2009; Moreno, Mihaljek, Villar, & Takáts, 2010). For example, the Reserve Bank of India took a contractionary monetary stance in 2008-2009, which was later found to be consistent with the country's liquidity requirement (Bajpai, 2011; Mohanty, 2009). Emerging Asia (including Indonesia, Malaysia, the Philippines, and Thailand) fought the GFC impacts primarily by monetary policy measures (Green, 2010). Furthermore, Thailand enforced strict governmental rules, transparency, human rights, and adequate legal infrastructure to bring the GFC policy responses to success (Nidhiprabha, 2010).

Among other major crises, regulatory and financial sector reforms and capital account liberalization were adopted by the Bank of Korea during the 1997 Asian financial crisis (Chung, 2010; Kihwan, 2006). In addition to the new economic policy, Malaysia implemented several policy measures such as supporting public and private sector investment projects, consumer spending, etc. to fight three economic recessions so far (Doraisami, 2012). Emerging economies show evidence of benefiting from adequate and timely policy adoptions; for example, Gurrib and Kamalov

(2019) find that trading strategies in emerging markets outperform developed economies, post the global financial crisis. In this pandemic also, emerging economies appear to come up with unique measures. For example, many emerging and developed economies adopted policies like a short-selling ban to mitigate COVID-19 impacts on their financial markets. (Gurrib, Kweh, Contu, and Kamalov (2021) find that a short-selling ban significantly affects equity markets, particularly energy stocks; however, it also spares others such as healthcare stocks. While scattered examples of policy responses are available in the literature, a comprehensive account and systematic analysis of the policy responses by emerging economies remains unavailable to date in the literature.

Given the scarce literature on the policy responses of emerging economies globally, in this paper, we thoroughly analyzed the policy tools implemented by emerging economies from January 2020 to December 2021 to fight the economic damages set in by the COVID-19 pandemic. To do so, we implement a two-level assessment: one, descriptive analysis of the policy data, and two, evaluation of the countries' policy response performance using a unique Intensity-Coverage (IC) framework. Alongside the assessments at the world level (all countries), we elaborately analyze and compare policy responses at the regional and income level by grouping the selected countries into five regions and three income groups. Considering the fact that policy responses in many emerging economies are restricted by their limited economic ability and a larger population to protect, we evaluate the relationship between the overall policy response performance of the economies with their economic growth performance and population size.

The paper contributes to the literature and offers policy implications in several ways. First, it informs about the policy plurality, i.e., diverse set of policy tools employed, and their economic coverage (e.g., individuals vs businesses) as undertaken by the emerging economies. Second, it employs a unique IC framework and measures the policy response performances of the selected economies. The IC framework itself is a unique proposition that scholars and policy-makers can use to evaluate the policy response performance of any economy. Furthermore, the performance measured through the IC framework offers unique insights into how (in terms of depth and breadth) emerging economies have fought back against the pandemic. Third, the paper's overall insights inform the countries' real economic ability to survive economic downturns, which could be considered a test for whether or to what extent the economies are sustainable and prepared to lead the world economy. Fourth, the paper offers unique information about how policy choices and response performance differ across regions and income levels of emerging economies. Last but not the least, the paper covers a period, which is more or less the first wave of the pandemic globally. The paper could serve as a reference for future policy actions during the next waves of the current pandemic and in fighting any future exogenous economic or financial shocks.

2. METHODOLOGY

To derive insights into the emerging economic policy responses, we select 25 countries that are cited by most of the emerging economy rankings such as the World Bank classification of emerging countries (World Bank, 2020b) and World Economic Outlook Reports (IMF, 2020). Table 1 shows the list of countries, their regions and income grouping, and their economic and population information. To capture the long-term growth behavior of each economy, a Five-year year-on-year growth average is considered. Among the economies, 13 are upper-middle-income and Six each in the lower-middle-income and high-income categories. Regionally, 11 countries represent Asia, Six from Europe, Four from Latin America, and Two each from Central America and Africa.

To analyze the policy response of the selected economies for the years of the pandemic (January 2020- December 2021), the International Monetary Fund's (IMF) Policy Tracker database is used. The database records COVID-19-related policy responses and their updates of 197 countries across the world since almost the beginning of the pandemic. IMF classifies the policy responses into three broad categories - Fiscal, Monetary, and macrofinancial, and Exchange rate and balance of payments. All records are descriptive, i.e., policy measures are described in as detail as possible.

We obtain the descriptive policy details of the 25 selected emerging economies under the three IMF categories from the database and use the same categories for our analysis for the period from January 2020 to December 2021. As a unique contribution, we generate sub-categories under each category and classify the response data under the sub-categories to have a clearer and focused understanding of the dynamics of the policy responses. Tables 2, 3, and 4 present the sub-categories under each of the three broad categories and explain their respective definitions. The right column of the tables shows the types of policy responses classified under each of the sub-categories. We analyze the policy data at two levels: (1) descriptive analysis of policy incidence and (2) evaluating the policy response performance in terms of depth and breadth using a unique Intensity-Coverage framework.

At level 1, we adopt a three-fold approach to analyze the policy data obtained from the IMF database for the selected emerging economies. First, we elaborately present a descriptive frequency analysis of all the policy measures undertaken by the selected economies at the world level (all countries). Second, in order to comprehend and compare regional variation in policy decisions, we broaden our research across regions by categorizing countries into five regions – Latin America, Central America, Asia, Africa, and Europe – and by country income group. Third, to explore the heterogeneity across the economic status of the countries, we analyze the policy responses across income groups by classifying the countries into three income groups – High-income countries, Upper middle-income Countries, and Lower middle-income Countries.

At level 2, We employ an Intensity-Coverage (IC) scoring framework to evaluate the policy response performance of the countries in terms of depth and breadth, where Intensity (I) is the number of policy measures undertaken in a specific policy category (i.e., Fiscal, Monetary and macrofinancial and Foreign exchange (FX) and Trade) and Coverage (C) implies the size or magnitude or outreach of a specific policy type (measured in either size of fund allocation or the number of people covered). We employ the following scoring method to evaluate the overall depth and breadth of the policy measure undertaken by an emerging economy:

$$\sum I_i C_i = I_{if} x C_{if} + I_{im} x C_{im} + I_{it} x C_{it} \quad (1)$$

Where policy type-specific IC score is obtained by employing:

$$\sum IC_{if} = I_{i,ind}\ x\ C_{i,ind} + I_{i,bus}\ x\ C_{i,bus} \quad (2)$$

$$\sum IC_{im} = I_{i,brate}\ x\ C_{i,brate} + I_{i,omkt}\ x\ C_{i,omkt} \quad (3)$$

$$\sum IC_{it} = I_{i,fxt}\ x\ C_{i,fxt} \quad (4)$$

Where, I indicates scores for Intensity (i.e., number of policy measures), C indicates score for Coverage (i.e., size, magnitude, or outreach) i indicates a specific country, f stands for Fiscal, m stands for Monetary and macrofinancial, and t indicates FX and trade policy types. To obtain the Fiscal policy specific IC score, we calculate sub-category IC scores for policies targeting Individuals (ind) and targeting Businesses (bus); for Monetary and macrofinancial policy-specific IC scores, we derive sub-category IC scores for Policy rate cuts ($brate$) and Other monetary interventions ($omkt$). We finally calculate a single IC score for FX and trade (fxt) policy measures.

To obtain IC scores for each policy sub-category, we assign scores (I) based on the number of measures classified under a specific sub-category and scores (C) based on the size or magnitude (i.e., in monetary terms or funds allocated) or public covered by those policy measures. While I is more definitive as the number of policy measures can be straightaway identified, classified, and calculated from the IMF database, C is assigned for each policy sub-category based on the authors' qualitative evaluation and the literature. To ensure C is reliable and as accurate as possible, a triangulation method is followed, where each author first assigned a C independently for a specific policy sub-category based on their independent evaluation and available literature, and then they were averaged across the three authors to determine the final value of C to be used in Equations 2, 3 and 4. The detailed calculation is presented in Appendix

Table A1 and uses the descriptive summary in the analysis section. We obtain IC scores for fiscal, monetary, and macro-financial policy categories and foreign exchange and trade using the policy sub-category-wise IC scores. Totaling the IC scores for three policy categories, we obtain the overall IC score for each country.

While we use the policy category-wise IC scores to measure the overall depth and breadth of the policies undertaken under the three categories, the overall IC score reflects the overall policy depth and breadth (including policy plurality) of a country. Two critical factors significantly restrict the emerging economies from responding to the pandemic with adequate and appropriate policy tools: limited economic ability and a larger population to serve and protect. To evaluate the countries' response performance in terms of depth (adequacy) and breadth (coverage), we explore the relationship between the policy IC scores and economic growth and population size of the countries.

Table 1. List of selected emerging economies.

Country	Region	Income group[Ψ] (2019)	GDP per capita in USD[ϒ] (2019)	5-year GDP growth[♣] (%)	Population size (2019)
Pakistan	Asia	Lower Middle	1185.50	5.26	216565.30
Bangladesh	Asia	Lower Middle	1287.80	6.98	163046.20
India	Asia	Lower Middle	2169.10	7.51	1366418.00
Egypt	Asia	Lower Middle	3008.80	4.23	100388.10
Philippines	Asia	Lower Middle	3337.70	6.40	108116.60
Morocco	Africa	Lower Middle	3396.10	3.10	36471.77
Belize	Central America	Upper Middle	4149.90	2.20	390.35
Indonesia	Asia	Upper Middle	4450.70	5.03	270625.60
Peru	Latin America	Upper Middle	6486.60	3.22	32510.45
Thailand	Asia	Upper Middle	6502.60	3.13	69625.58
South Africa	Africa	Upper Middle	7346.00	1.13	58558.27
Colombia	Latin America	Upper Middle	7842.90	2.74	50339.44
China	Asia	Upper Middle	8254.30	6.85	1397715.00
Argentina	Latin America	Upper Middle	9729.10	-0.33	44938.71
Mexico	Central America	Upper Middle	10275.60	2.65	127575.50
Russian Federation	Europe	Upper Middle	12011.50	0.52	144373.50
Romania	Europe	High	12131.40	4.63	19356.54
Malaysia	Asia	Upper Middle	12478.20	5.21	31949.78
Turkey	Asia	Upper Middle	14999.00	4.95	83429.62
Chile	Latin America	Upper Middle	15091.50	2.21	18952.04
Poland	Europe	High	17386.90	4.06	37970.87
Hungary	Europe	High	17466.00	3.93	9769.95
Czech Republic	Europe	High	23833.50	3.56	10669.71
Greece	Europe	High	24024.20	0.71	10716.32
United Arab Emirates	Asia	High	41420.50	2.93	9770.53

Note: [ϒ] per capita GDP is in constant US dollar;
[♣] 5-year growth rate is derived by averaging YoY growth from 2014 to 2018;
[Ψ] 2019 World Bank lending classification;
Source: World Development Indicators, World Bank.

Table 2. Types of fiscal policy responses across the selected economies.

Policy category	Policy sub-category	Definitions and coverage
Targeting Individuals	Employment-related	Support for both employed and unemployed people as per different needs
	Targeted general unemployment	Support for Unemployed people in different forms like Unemployment insurance benefits, Approving new job applications, an extension to migrant workers, an extension of unemployment benefits, etc.
	targeted govt. employment	Support government employees for continuing their services during the pandemic. Such as health insurance and bonus payment, extra pension, deferrals on rent payments, etc.
	Targeted cash support to people	Different types of cash support for poor/ underdeveloped people and affected sector private employees

Policy category	Policy sub-category	Definitions and coverage
	Cash Support for the poor/underdeveloped directly	Direct cash support to the poor/ undeveloped people in different means like raising minimum pension, cash assistance, cash transfer
	Cash support to affected sector employees	Cash support for the private employees like payments to minimum-wage workers, tourist sector workers, self-employed, and irregular workers.
	Targeted non-cash support	Different non-cash support for different people in need
	In-kind Support	Different in-kind support like food; cooking, gas, a shelter for the vulnerable people
	Open market operations	Different open market activities like the open market sale (OMS) program and district-level food supply are done by the government
	Indirect supports	Support in passive form
	Loan	Supports to make loan repayment easier like increasing the repayment time, no penalty for late installment payment, increasing credit card installment payment time
	Tax relief	Penalties are waived for failing to pay property tax and file tax returns on time, a reduction in up-front tax deductions for workers, postponed the deadline for personal income tax filing
	Utility Support	Continued provision of utility services, delayed utility payments for poor and middle-income households, electricity discounts
	Credit Guaranty	Some credits are granted for individual and business
	Housing/rent support	housing scheme for the homeless
	Parents, students, or children support	An allowance for parents of young children related to school closures, covering partially the wages of parents staying home, additional lump sum benefit for children,

Table 2. (continued): Types of fiscal policy responses across the selected economies.

Policy category	Policy sub-category	Definitions and examples
Targeting Businesses	Loans	Different supports like subsidized loans for construction-related activities, Subsidized interest payments, providing new credit lines
	Direct supports	Supports like payroll subsidy, income support for employees, per day lump sum amount support, investments in specific companies
	Bailouts	Bailout support like issuing the right to buy stakes in distressed firms
	Tax relief	Businesses to have tax deferrals, tax relief has been provided for a particular sector, value added tax (VAT) rate reductions
	Special provisions	Special steps like a stimulus package for particular industries, liquidity provision to small and medium enterprises (SMEs)
	Investor support	provision of interest-subsidized and guaranteed credit facilities, discount on foreign workers' fee
	Health care system	Increased health spending, new hiring of doctors and nurses, procurement of medical supplies.
	General stimulus	
	Emergency pandemic response	Different amount as per % of GDP is allocated for health care, emergency contingency fund
	Critical pandemic-related spending (Short Term)	Increases in Doctors' pay, ensuring a sufficient supply of medical equipment and materials, and quick disbursement of money in different sectors.
	Other measures	
	Increased public spending	Increased spending on public works, accelerated disbursements for public procurement contracts
	Targeted–specific field	Centralization of the sale of essential medical supplies expanded transfers for the vulnerable group
	Other (uncategorized)	Increasing the maturity of treasury notes, increasing the ceiling for special local government bonds

Table 3. Types of monetary policy responses across the selected economies.

Type of policy response	Definitions and examples
Bank rate cut/Policy rate cut	
Reducing CRR	Reduce CRR rates
Reducing SLR	Reduce SLR
Change repos rates/frequency	Reduce repo rates
Reducing Policy Rate	Reduced the policy rate by different %, e.g. Indonesia reduces by 50 bps cumulatively in February and March 2020
Overnight/ weekly Bank rate change	Reduced the Overnight policy rate by different %,
Other market interventions	
Money supply through the open market operation	liquidity injection, adjusted macroprudential regulation to ease liquidity conditions
Fund injection to FIs and markets	liquidity injection through banks, a collateral-free lending program, a partial credit guarantee scheme
Securities buyout	Central banks announced buying treasury bonds and bills from banks, purchasing securities issued by credit institutions
Bond Issue/ increase maturity	Increases in the regular forint-liquidity swap stock at regular auctions, the introduction of a long-term unlimited collateralized lending facility
Central bank's other steps	Delay non-performing loan classification, ensure access to financial services

Table 4. Types of Exchange rate and trade responses across the selected economies.

Type of policy response	Definitions and examples
Exchange rates	The exchange rate has been allowed to adjust flexibly
Trade-related measures	Surrender requirements on export proceeds, restrictions on imports of services, dividend payments abroad, and interest payments on foreign currency debt
Others of FX and Balance of Payment (BOP)	Foreign exchange rules eased, allow foreign-owned/controlled companies operating in Bangladesh to access short-term working capital loans from their parent companies/shareholders, the central bank has auctioned FX swaps (in US dollars), and the foreign direct investment policy has been adjusted

3. POLICY RESPONSES ACROSS FROM EMERGING ECONOMIES

Keeping the fear of possible economic recession in mind, the regulators of the emerging economy countries have come up with various policy responses. As mentioned above, we have demonstrated the various policy initiatives under three significant areas: Fiscal policy, Monetary and Macro-Financial Policy, and Exchange Rate and Balance of Payments Policy.

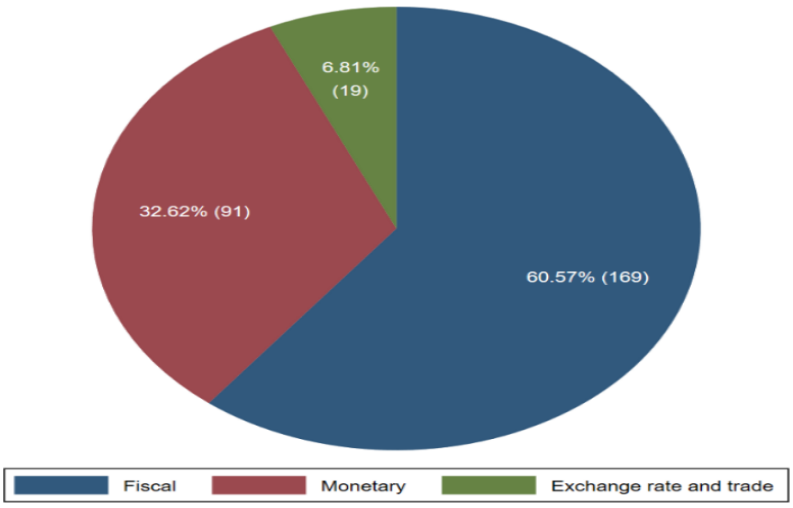


Figure 1. Distribution of policy measures by the emerging economies.

3.1. Policy Responses Across All Economies

Figure 1 shows the policy measures taken by the emerging economies according to the categories mentioned above. Here it is seen that Fiscal Policy measures have covered 60.57% area, which means Fiscal policy stances, with a wide range of variation in specific tools, are used as the main weapon by countries across the world to fight against the COVID-19 pandemic (Capano, Howlett, Jarvis, Ramesh, & Goyal, 2020). Previous studies, such as Arestis and Sawyer (2003); Fazzari (1994), and Davanzati, Pacella, and Realfonzo (2009), evidence a high level of effectiveness in the fight against financial and economic crises, such as the global financial crisis. Fair (2018) shows that the U.S. recovery from 2010 to 2017 was slow because of sluggish government spending, meaning inappropriate adoption of fiscal policy stances. Further to Fiscal stances, Figure 1 shows that Monetary Policy measures cover the following significant portion of the pie (36.62%%).

Figure 2 shows the concrete status of the country-wise adoption of policy measures, with India having taken the most and Greece having taken the least, as can be seen from the data.

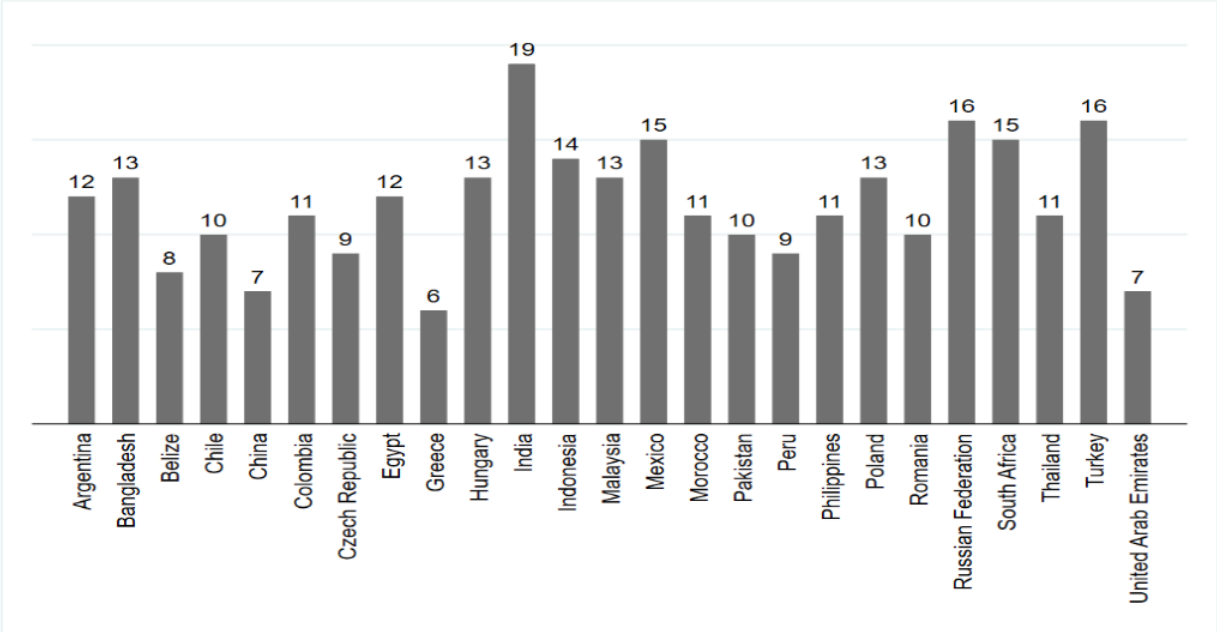


Figure 2. Country-wise total number of policy measures.

From Figure 3, it can easily be understood that countries with a bigger economic size have come up with lesser coverage of policy responses and vice versa. When we compare the number of policy responses with Gross Domestic Product (GDP) per capita, UAE, Greece, and the Czech Republic - top countries considering GDP per capita - have taken a moderate 7, 6, and 9 measures. On the other hand, India adopted the largest number of policy measures, one of the bottom countries in terms of GDP per capita. We observe similar patterns with the other low GDP per capita countries, such as Bangladesh, Pakistan, and Egypt. There could be at least three reasons why developed economies might not need to take up a larger number of policies. First, richer economies are likely to have a tested and better economic infrastructure and policy framework, which allows them to take fewer but more effective steps to fight any disaster. Second, people in richer economies have higher income levels and pre-existing and well-defined broader social security coverage such as unemployment benefits and Medicare, which make the people usually less vulnerable to exogenous shocks. Third, richer economies are likely to have a stronger healthcare system and infrastructure, which requires lesser immediate investment or intervention in the healthcare system. On the other hand, Poorer economies experience the opposite scenario, requiring them to undertake a larger and broader number of interventions to mitigate an exogenous shock.

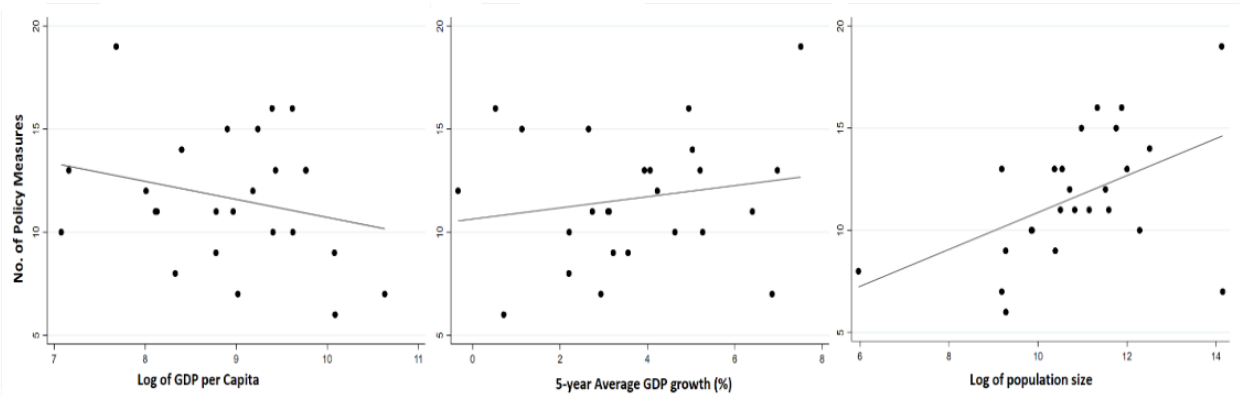


Figure 3. Total number of responses vs economy size.

However, countries having a higher GDP growth rate, on the other hand, are indifferent to the ones having a lesser growth rate in terms of adapting policy measures. This is significant because higher GDP growth nations have greater financial and policy flexibility than lower GDP growth economies, but both groups of countries are nearly identical in terms of policy deployment. The reason seems to be that both higher GDP growth countries and lower GDP growth countries face the same infrastructural inadequacy and lower shock-absorbing capabilities. Moreover, the number of policy responses does not seem to be associated with the population size.

3.1.1. Fiscal Measures

As most of the Policy responses are covered by the Fiscal measures, Figure 4 depicts the distribution of the measures across broad categories. Though it is a pandemic situation, in Fiscal policy distribution, the health system has got the third highest distribution right after putting Businesses and Individuals in first and second position. This is understandable because giving enterprises and individuals the highest share of the allocation, totaling 70.41 %, increases the likelihood of people's survival. Providing the businesses an extra lifeline and supporting the individuals with extra cash and kinds allow the people to expend more on their safety and health. Health sector disbursement is higher in developing countries to temporarily overcome their health system lacking, while the rest is covered by general stimulus and others. We have seen governments of different countries undertaking stimulus packages targeting households, health care, and manufacturing and servicing industries (Bayer, Born, Luetticke, & Müller, 2020; Cheng, Barceló, Hartnett, Kubinec, & Messerschmidt, 2020; Gourinchas, 2020).

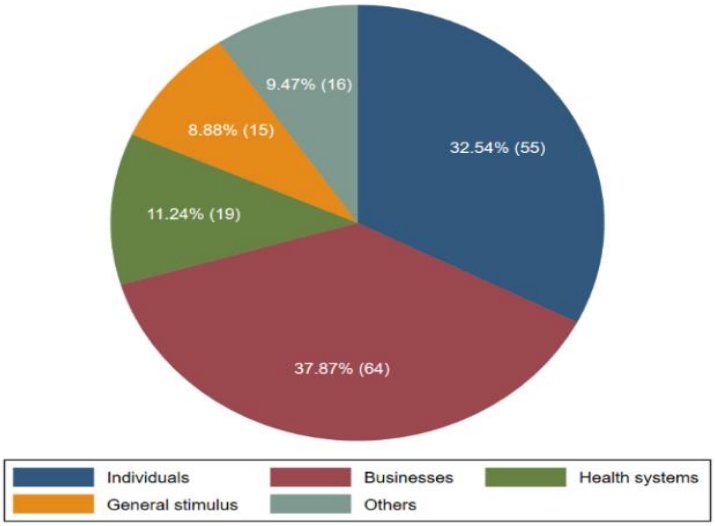


Figure 4. Distribution of fiscal policies across all countries.

These stimulations would have 'spending reversals' which means today's public spending would be reversed in the future and offset today's stimulation (Corsetti, Meier, & Mueller, 2009). Earlier studies also explain the use of fiscal stimulus by different governments to manage economic or financial shocks, such as the global financial crisis (Bajpai, 2011; Boorman, 2009; Doraisami, 2012; Fischer & Justo, 2010; Kihwan, 2006; Moreno et al., 2010).

Tables 5 and 6 present the critical fiscal measures announced and implemented by selected emerging economies targeting individuals and businesses. The fiscal measures targeting individuals were mainly aimed at unemployment relief, particularly among the poor and low-income households. However, the measures targeting businesses appear to receive a substantially larger volume of support, mainly in the form of stimulus and recovery packages through financial and non-financial measures. Figure 5 shows that China takes the largest of all stimulus packages with about USD 640 billion, followed by Greece (USD 7.3 billion), the Czech Republic (USD 4.7 billion), and Argentina (USD 3.5 billion). Surprisingly, major countries such as Russia and India continue to have the smallest stimulus packages of any country.

Table 5. Examples of fiscal responses targeting individuals.

Country	Policy response*
Belize	[1] Approved more than 40,000 applications for unemployment relief.
Chile	[1] US$2 billion was announced for the most vulnerable and independent workers.
Colombia	[1] 40% of the minimum wage per worker for business for three months was paid.
Czech Republic	[3] Self-employed to receive a lump sum of $24 per day for the period between March 12 and J 8, 2020.
Egypt	[3] $32 in monthly grants to irregular workers for 3 months.
Hungary	[1] $1.53 billion was announced for job creation.
India	[2] About 0.2% of India's GDP has been cash transferred to low-income households; [3] About 1.1% of GDP was allocated for expanding support to poor households, migrants, farmers.
Morocco	[1] $227 a month for temporarily unemployed and pension fund registered employees, an million workers to off debt payments until June 30; [2] Households with non-contributory health insurance will receive a payment of 800-1 Dirham (USD 80-120) in April.
Pakistan	[2] Both the governments of Punjab and Sindh announce a cash grants program of $9.3 million low-income households; [3] About 4470 million relief to about 6.2 million workers.
Peru	[2] About $940 million (0.4% of GDP) was approved for direct transfers to poor households.
Philippines	[2] About 1.1% of 2019 GDP was allocated for 18 million low-income households; [3] About 0.3% of 2019 GDP was allocated for vulnerable workers, including displaced overseas Filipino workers

Note: *Policy response categories are as follows:
[1] Targeted general unemployment, [2] Cash support to poor/underdeveloped directly, [3] Cash support to affected sector employees.

3.1.2. Monetary Measures

As the second major category, Monetary Policy measures have typically taken the form of crucial rate modifications Figure 6. Monetary policy interventions during a financial crisis can be effective as they can prevent adverse feedback loops between the financial sector and the real economy (Mishkin, 2009). Although from the 1990s to the early 2000s, it was a widespread belief that central banks have to adjust interest rates only when there is inflation or output pressure (Taylor, 1993). However, the slow recovery from the global financial crisis in 2007-2009 raises the question of central banks' role in fighting the crisis and calls for innovative and active monetary policy responses (Smets, 2014). Given the renewed understanding of central bank roles, we see more countries coming up with different monitory policy measures through central banks during this pandemic. Figure 6 shows that most of the countries considered in this study have changed key rate indicators (e.g., bank rates, reserve requirements such as cash or statutory reserve ratio, repo rates) to maintain an adequate level of liquidity both for businesses and individuals. Numerous nations have also contemplated securities buyouts (in addition to or in addition to ordinary money market operations) as a way to strengthen their financial sectors.

Table 6. Examples of fiscal responses targeting businesses.

Country	Policy response*
Bangladesh	[4] USD 88 million to provide health insurance for government employees, and USD 12 million bonus payment for government doctors and health workers.
China	[1] US$ 3 billion credit guarantee, which could apply to credit up to US$24 billion for firms.
Czech Republic	[1] Credit line for businesses of Czech Koruna (CZKZ) 20 billion and further pledged indirect support of up to CZK 900 billion (EURO 33.3 billion, 16.5% of GDP).
Egypt	[2] USD 3.18 billion was announced for the tourism sector; [3] Fuel price support for the aviation sector as part of the $6.37 billion stimulus; [4] USD 64 million to support the healthcare sector.
Hungary	[1] US$ 5.08 billion package of financial support instruments for companies (three loan products, two guarantee instruments, and four capital programs); [2] USD 0.97 million grant for investment by export-oriented companies; [4] USD 830 million (0.6% of GDP) was allocated to the healthcare sector.
India	[4] USD 2.04 billion (about 0.1% of GDP) will be devoted to health infrastructure.
Indonesia	[3] USD $18 billion (1.6% of GDP) in additional spending and tax relief
Malaysia	[1] US$ 12.38 billion funds to support working capital loan guarantees
Mexico	[4] Setting-up of Health Emergency Fund that could reach up to USD 9 billion (0.7% of 2019 GDP)
Pakistan	[3] USD 0.62 billion accelerated tax refunds to the export-oriented industries; [4] USD 93 million support for health and food supplies
Peru	[3] Around 1.4% of GDP was allocated for tax relief; [4] USD 300 million (0.14% of GDP) to support the health emergency.
Philippines	[4] About $1.12 billion for COVID-19-related medical response (0.3% of 2019 GDP)
Poland	[2] The Polish Development Fund to finance USD 27.13 billion (4.5% of GDP) liquidity program for businesses.
Romania	[1] USD 3.77 billion (1.5% of 2019 GDP) for loan guarantees; [3] Key tax and spending measures equivalent to 2% of 2019 GDP
Russian Federation	[1] USD 6.2 billion facilities for small and medium enterprise (SME) lending and USD 2.02 billion for SME loans to support and maintain employment.
United Arab Emirates	[2]16 billion United Arab Emirates dirham ($4.4 billion) to support the private sector by reducing various government fees and accelerating existing infrastructure projects.

Note: *policy response categories are as follows:
[1] Loans, [2] Direct support, [3] Tax relief, [4] Health care system

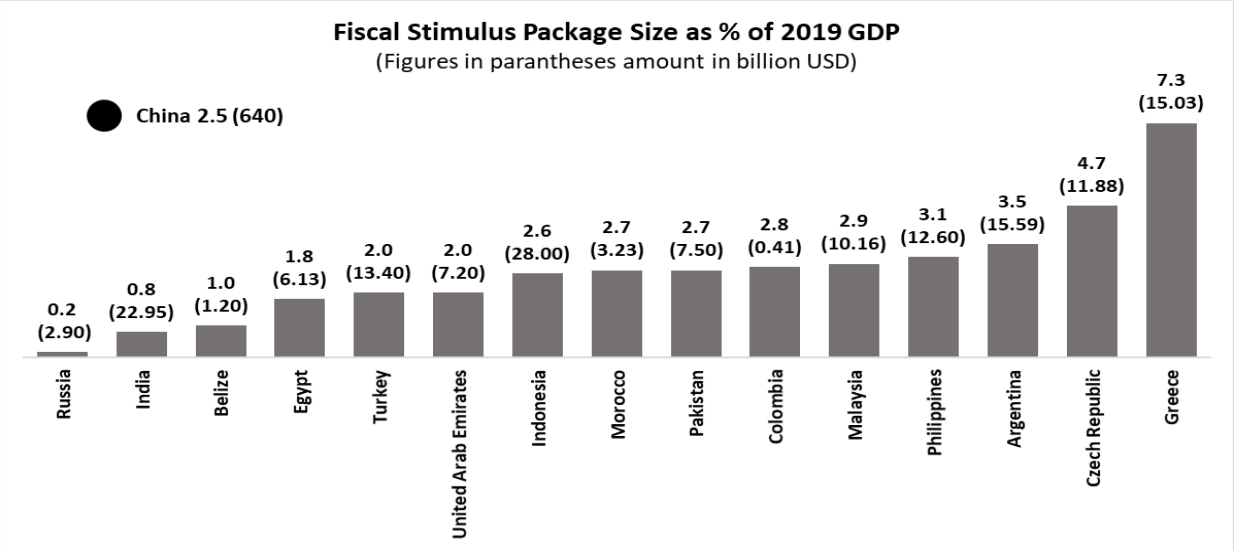


Figure 5. Fiscal stimulus size across countries.

Note: Stimulus figures are estimates only based on the data defined as a stimulus or have stimulus features available with IMF Policy Tracker.

On the other hand, authorities discovered that open market operations and fund injection via financial institutions received the least attention. These measures could increase the confidence level of financial intermediaries and send positive signals about the future economic condition (Barsky & Eric, 2012). Overall, given the monetary policy

responses adopted, they are expected to increase the economic agents' ability to assess and act on the future of the economy while reducing the probability of the worst-case outcome (Ilut & Schneider, 2014).

Using whatever data is available, Table 7 shows the key monetary policy measures adopted by the selected emerging economies. In line with Figure 6, most measures pertain to reductions in bank rates and reserve requirements. There is well-established literature suggesting that the reduction of key rates significantly boosts economic growth (see, for example, (Breeden, 1979; Breeden, 1986; Cochrane, 1991; Harvey, 1988; Kamara, 1997)). Figure 7 shows the relative key rate changes implemented by the selected economies. The largest reductions of Bank rates appear in Asian economies such as Pakistan (5.25 %), Egypt (3.0 %), and Turkey (2.5 %), while the smallest changes have happened in Morocco (0.25 %, Chile (0.5 %), and Indonesia (0.5 %). Overall, out of the 16 economies, 8 economies applied a reduction of 1 % or less in bank rates. Figure 8 shows comparative changes in bank rates and repo rates of seven economies, depending on the data available in the IMF Policy Tracker database. China and Colombia bring the largest changes in the statutory and cash reserve requirements, respectively. Available data show that China, Bangladesh, and India adopt a two-way monetary stance by reducing both cash research requirements and repo rates.

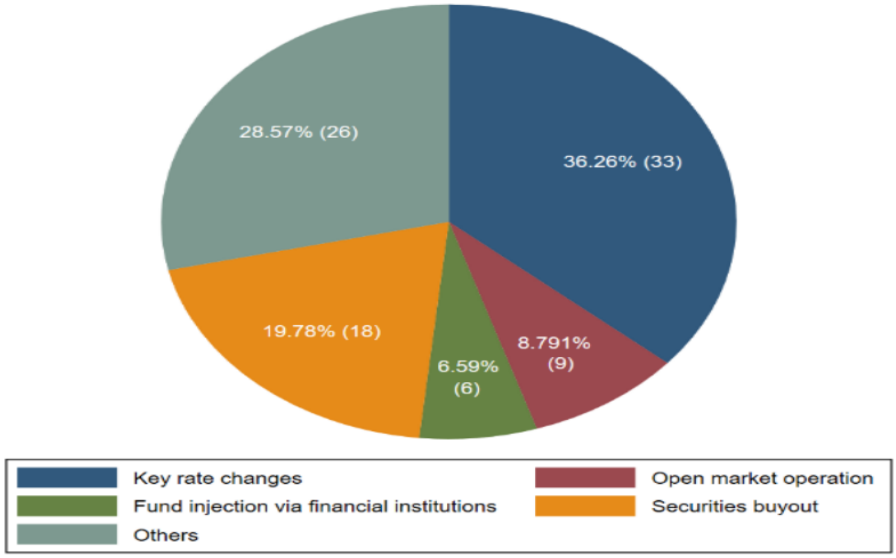


Figure 6. Distribution of monetary and macro-financial policies across all countries.

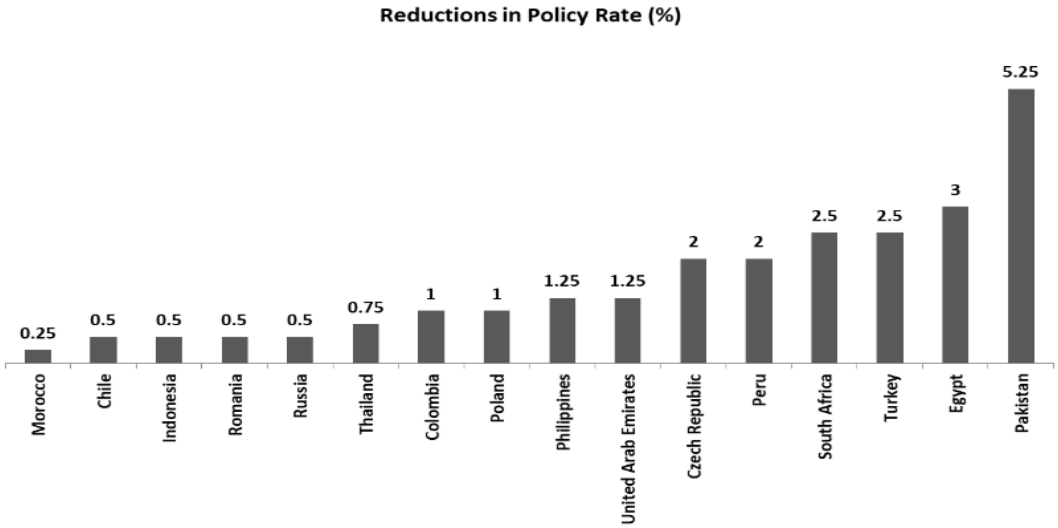


Figure 7. Relaxation of central bank policy rates.

Table 7. Examples of monetary policy responses.

Country	Policy Response*
Bangladesh	[1] Reduction of Cash Reserve Ratio (CRR) by 1.5% on both a daily and bi-weekly basis; [1] Repo rate lowered by 0.75%
Chili	[3] Purchase of bank bonds (up to US$8 billion)
China	[1] CRR cuts by 50-100 bps for large and medium-sized banks, an additional 100 bps for small and medium-sized banks; [1] Reduction of the 7-day and 14-day reverse repo rates by 30 and 10 bps, respectively, and 1-year medium-term lending facility rates by 30 and 20 bps, respectively; [1] liquidity injection of Renminbi (RMB) 3.33 trillion; [5] Reduction of the interest on excess reserves by 37 bps
Colombia	[1] Lowered the reserve requirement applicable to savings and checking accounts by 3% and to fixed-term savings accounts by 1%; [3] A 10 trillion Colombian peso program to purchase securities issued by credit institutions
Czech Republic	[1] Increased frequency of repo operations from one to three times a week; [5] The maximum recommended Loan-to-Value (LTV) ratio raised from 80 to 90%, the Debt Service-To-Income (DSTI) ratio was from 45 to 50% and removing the Debt-To-Income (DTI) ratio from the list
Egypt	[3] Launching of a 20 billion Egyptian pound stock-purchase program by the central banks.
India	[1] CRR cut by 100 bps; [1] Reduced Marginal standing facility (MSF) to 3% of the Statutory Liquidity Reserve (SLR) and the Liquidity Coverage Ratio (LCR) from 100 to 80%; [1] Reduced the repo and reverse repo rates by 75 and 90 bps; [4] Special refinance facilities of around 0.2% of GDP for rural banks, housing finance companies & SMEs.
Indonesia	[1] Raising the maximum duration for repo and reverse repo operations
Malaysia	[1] Lowering the Statutory Reserve Requirement (SRR) by 100 basis points
Mexico	[1] Lowering the central bank's mandatory regulatory deposit by 50 billion pesos or about 15% of the current stock; [4] The central bank has opened financing facilities for commercial and development banks of about 350 billion pesos)
Morocco	[1] Banks are authorized to go below the 100% Liquidity Coverage Ratio (LCR) until end-June 2019
Pakistan	[5] Raising the regulatory limit on the extension of credit to SMEs by 44% to PRs 180 million;
Peru	[4] Launched a package of 60 billion Soles (over 8% of GDP) in liquidity assistance (backed by government guarantees) to support lending and the payments chain.
Philippines	[1] Lowering the reserve requirement ratio (RRR) for commercial banks by 200 bps to 12%; [3] Purchased 300 billion Philippine pesos worth of government securities (about 1.5% of 2019 GDP)
Poland	[1] Reducing the RRR by 2% to 0.5%; [2] Central bank purchase of 1 billion (3.2% of GDP) Polish złoty in Treasury and government-guaranteed securities in the secondary market
South Africa	[1] Increasing repo auctions frequency to two to provide intraday liquidity support; reducing the upper and lower limits by 200 bps of the standing facility to lend and borrow at repo rate.
Thailand	[3] A Corporate Bond Stabilization Fund (BSF) was established for the BOT to provide bridge financing of up to THB 400 billion to high-quality firms with bonds maturing during 2020-2021. [2] The Bank of Thailand (BOT) purchased government bonds in excess of 100 billion Thai Baht in March to ensure the normal functioning of the government bond market

Note: *Policy response categories are as follows:
[1] Key rate changes, [2] Money supply through open market operation, [3] Securities buyout, [4] Fund injection via financial institutions, [5] Other measures

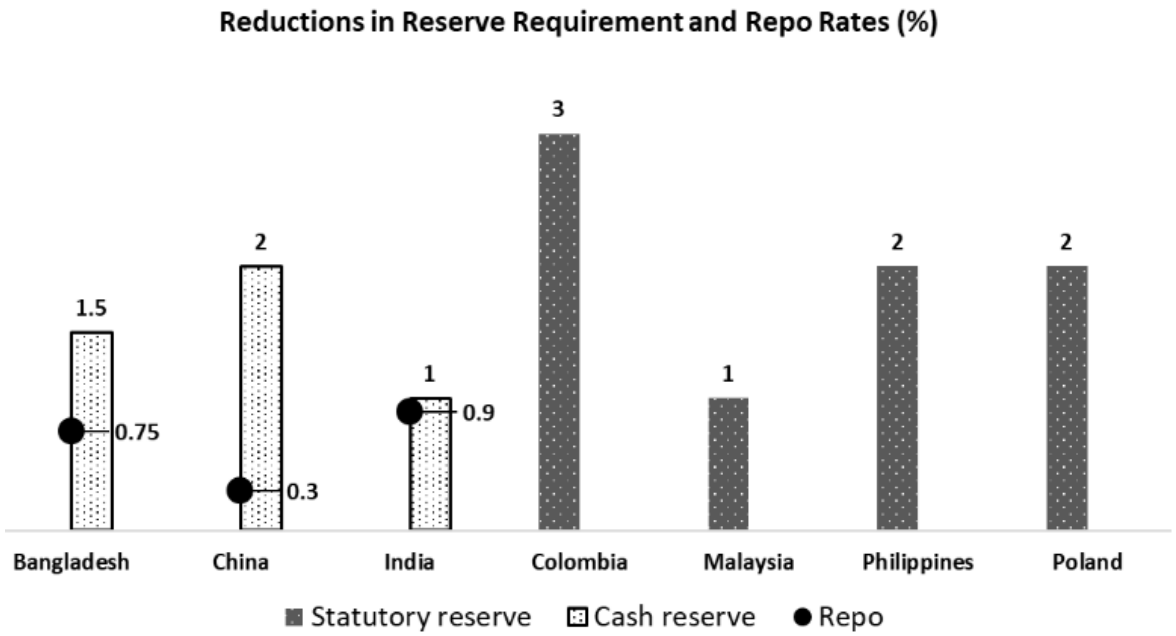


Figure 8. Relaxation of repo rates.

3.1.3. Exchange Rates and Trade Measures

Among the Exchange rates and trade policy measures taken by the emerging economies, adjustment of the exchange rates is the most popular tool, whereas trade restrictions or other measures have very little implication, according to Figure 9. Exchange rates are hugely adjusted to fight the lockdown conditions, which have hit hard to export-import conditions in almost every country of the world. The same features are often used to fight economic damages; for example, India strengthens its Rupee from Rs. 46.54 per USD in 2006 to 39.67 in 2008 by increasing the foreign currency supply in the local market to fight the global financial crisis impacts (Bajpai, 2011; Moreno et al., 2010).

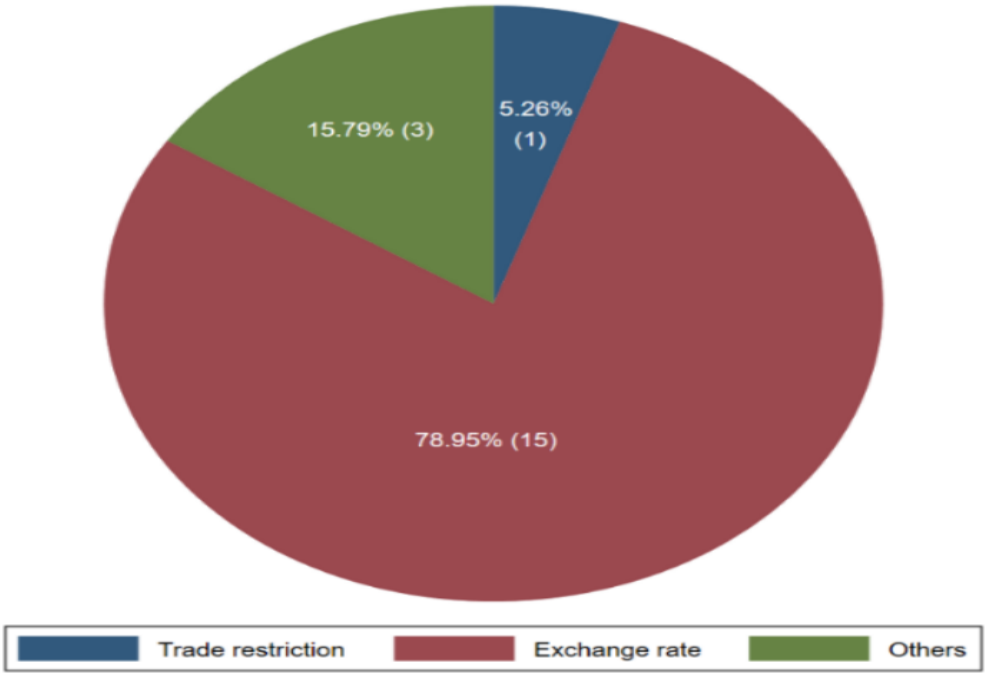


Figure 9. Distribution of exchange rates and trade policies across all countries.

3.2. Policy Responses by Region

The 25 emerging economies selected for this study come under five specific regions: Latin America, Asia, Europe, Central America, and Africa. Among the five regions identified above, Asian economies have adopted the largest number of policy responses. Most economies in Asia are developing in nature, which forces them to take an all-out measures to save their citizens' lives with limited resources. On the contrary, Africa has the least number of policy measures, as shown in Figure 10, reflecting the vulnerable economic strength of most African nations.

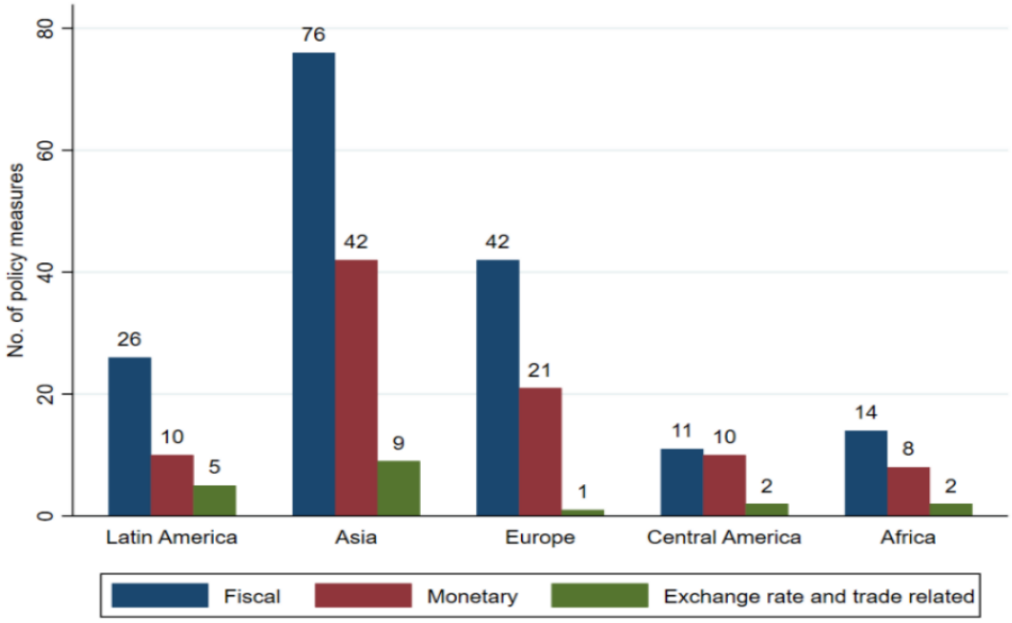


Figure 10. Distribution of all policy responses by region.

Figure 11 reports that support for business and industries has got the highest priority in Latin America, Asia, and Europe among the various Fiscal policy responses. The second major priority is put upon individuals and workers. Surprisingly, despite being pandemic-centric initiatives, the least attention has been put upon the health care systems across all the regions.

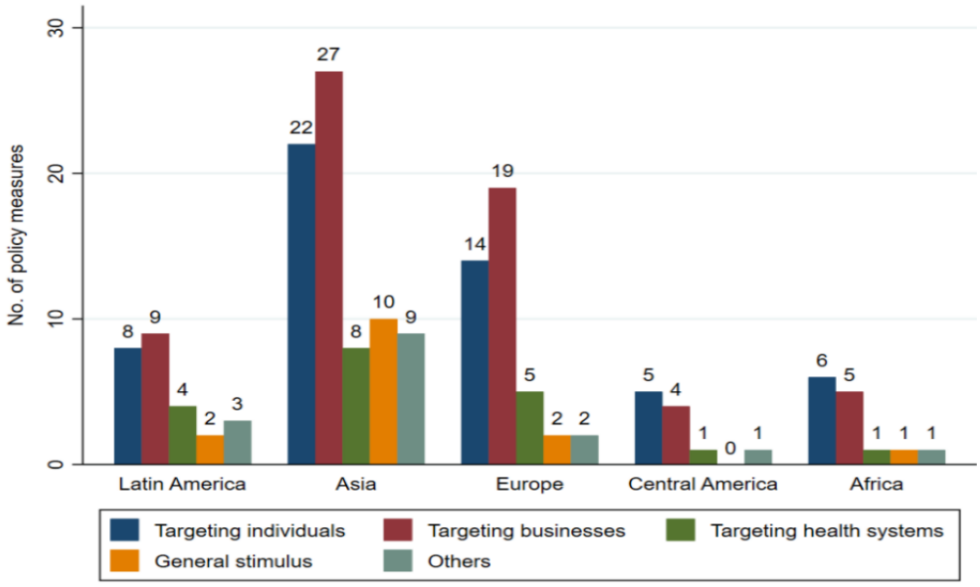


Figure 11. Distribution of fiscal responses by region.

According to Figure 12, changes in the vital policy rates have been considered the key monetary policy response by the regulators of Asian and European regions, with the second most importance put upon other initiatives, such as an extension of existing credit facilities.

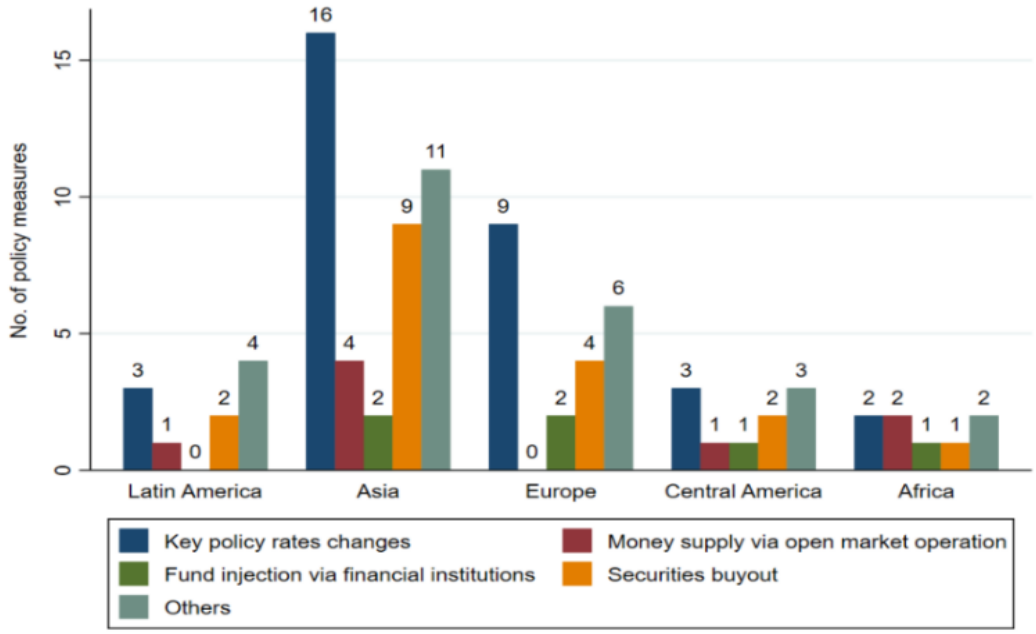


Figure 12. Distribution of monetary responses by region.

From Figure 13, it is clearly seen that all the regions consider adjustments to foreign exchange rates as the utmost measure for exchange and trade response. It is also expected because lockdowns have affected all countries' imports, exports, or both.

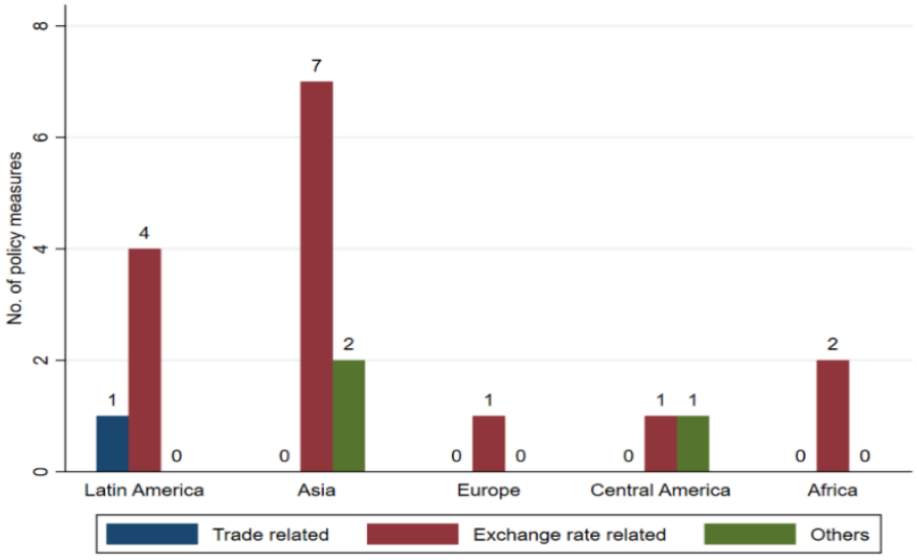


Figure 13. Distribution of exchange and trade responses by region.

3.3. Policy Responses Across Income Groups

To understand the nature of policy responses in terms of the income groups, we classify the selected economies into three groups: High-income, Upper middle-income, and Lower middle-income. From Figure 14, it is shown that all types of policy measures have been mostly initiated by Upper middle-income countries. It could be because high-income countries are already developed with their economic abilities while lower-middle-income countries have relatively fewer financial resources to come up with a diversified policy bucket.

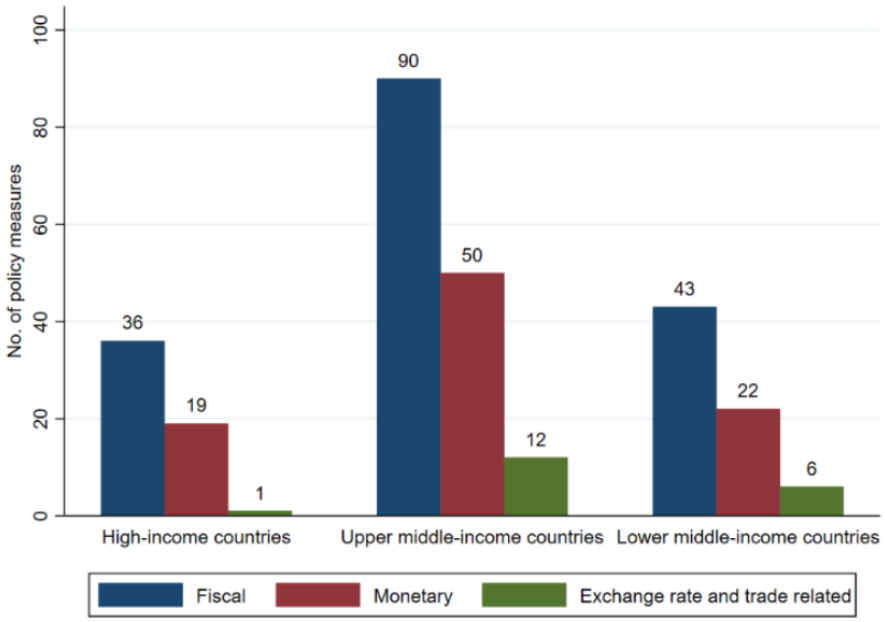


Figure 14. Distribution of all policy responses by income group.

Economies, except for the Lower middle-income countries, tend to focus on business and individuals. For the Lower middle-income ones, Individuals get the highest priority, as shown in Figure 15. It could mean that in lower-middle-income countries, the government needs to take the primary responsibility to support people directly at the individual level. As shown in Figure 16, irrespective of the income group, adjustments to the key policy rates and exchange rates seem to be the most preferred policy tools as the measure of monetary and trade responses.

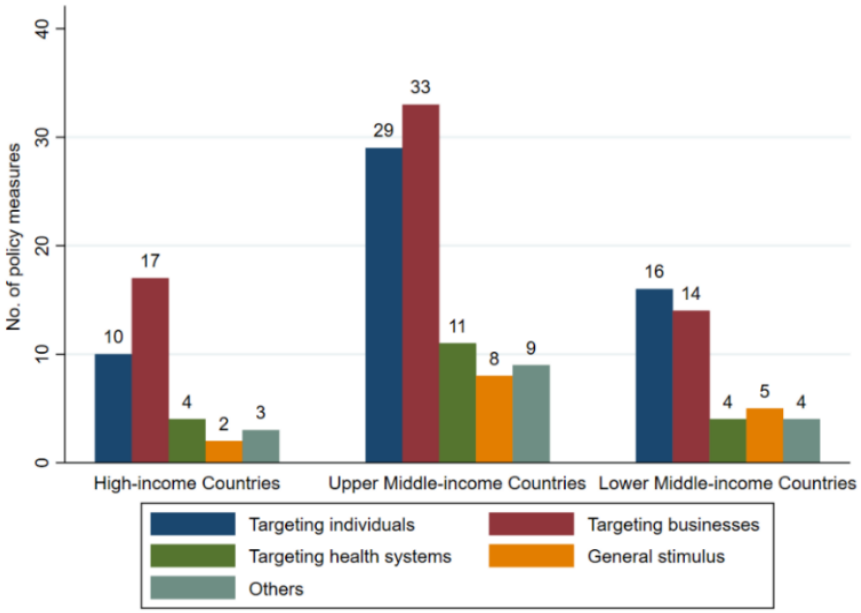


Figure 15. Distribution of fiscal responses by income group.

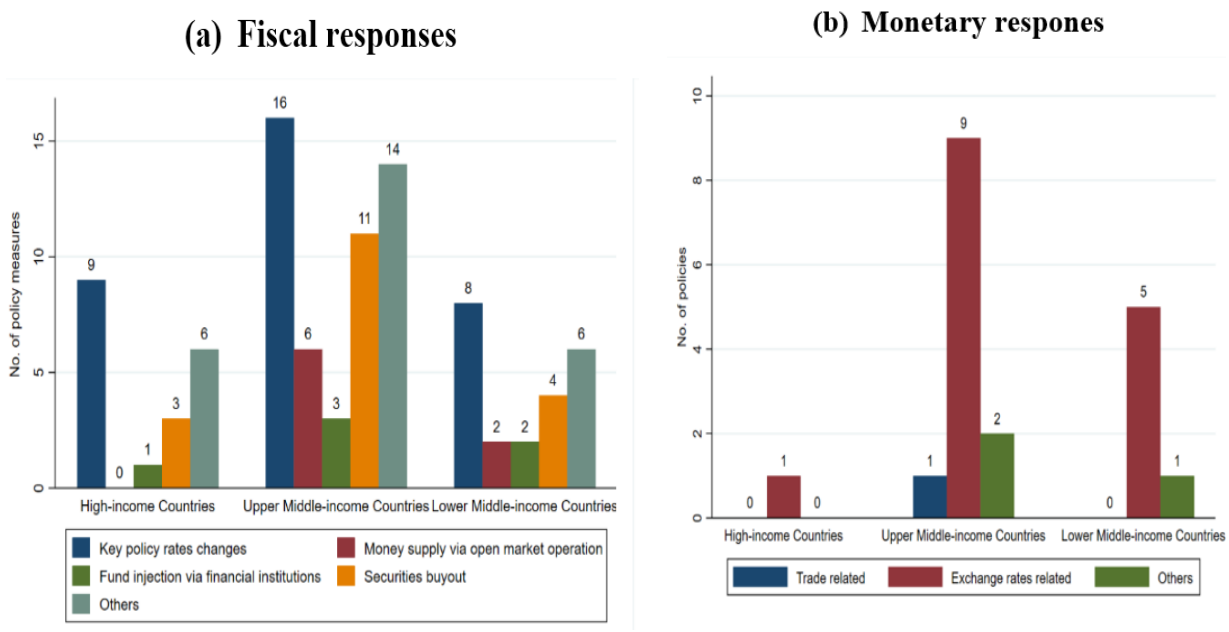


Figure 16. Distribution of exchange rate and trade responses by income group.

4. MEASURING THE OVERALL POLICY RESPONSE PERFORMANCE OF THE ECONOMIES

Table 8 reports the evaluation score for all policy measures using the IC framework outlined in section 3. Fiscal measures earned an average IC score of 18.8 across all countries. The emerging economies have used Monetary and macro-financial policy measures with relatively lesser importance, as reflected by the one-third average score (7.7) compared to the fiscal measures. Regionally, African economies achieved the highest score for fiscal measures, whereas Asian countries were ahead in using Monetary and macro-financial measures. Most regions, such as Latin America, Central America, and Africa, rely less on foreign exchange and trade-related policies.

We find that most countries use fiscal policy as their primary tool to fight against COVID-19-induced economic damage. The pandemic's driven exogenous shock is not new, as it is comparable to global-scale shocks, such as the great depression 1932, the 2008-09 global financial crisis, or the 1997 Asian financial crisis. The use of fiscal policy in fighting against financial or economic crises is not uncommon. The great depression of 1932 is a particularly remarkable event, as it gave birth the modern economics or Keynesian economics and changed the focus of economics toward the necessity of government interventions when the market fails, and systemic economic emergencies arise. John Maynard Keynes, the savior of the great depression, in his 1936 book 'The General Theory of Employment, Interest and Money' advocates for increasing expenses in 'public work' to fight the depression, which was fundamentally a fiscal stance.

Keynes (1936) provides a solid and well-accepted theoretical foundation for government spending to recover from crises and put economic growth on track. It is because expansionary fiscal policies positively affect aggregate demand and boost up production, employment, and incomes (Blinder & Solow, 1973; Patinkin, 1964). The modern world appears to benefit from Keynes (1936) theory, as governments spontaneously and readily react with large fiscal stimulus packages in response to economic or financial crises or shocks (Freedman, Kumhof, Laxton, Muir, & Mursula, 2010). For sure, governments design their fiscal response packages given the need and characteristics of their respective economies.

Across income groups, Lower middle-income countries have the highest average score with 21 for Fiscal measures, followed by Upper-middle-income countries and High-income countries. It suggests that countries with lesser economic strength relied heavier on fiscal measures, i.e., poorer economies adopt fiscal measures with greater policy coverage and portfolio. It indicates that in poor economies government's direct and indirect policy actions are considered the primary avenue to protect the economy and the lives of the people, unlike in advanced economies where the financial sector is well developed and can impact the economy through monetary measures. The IC scores

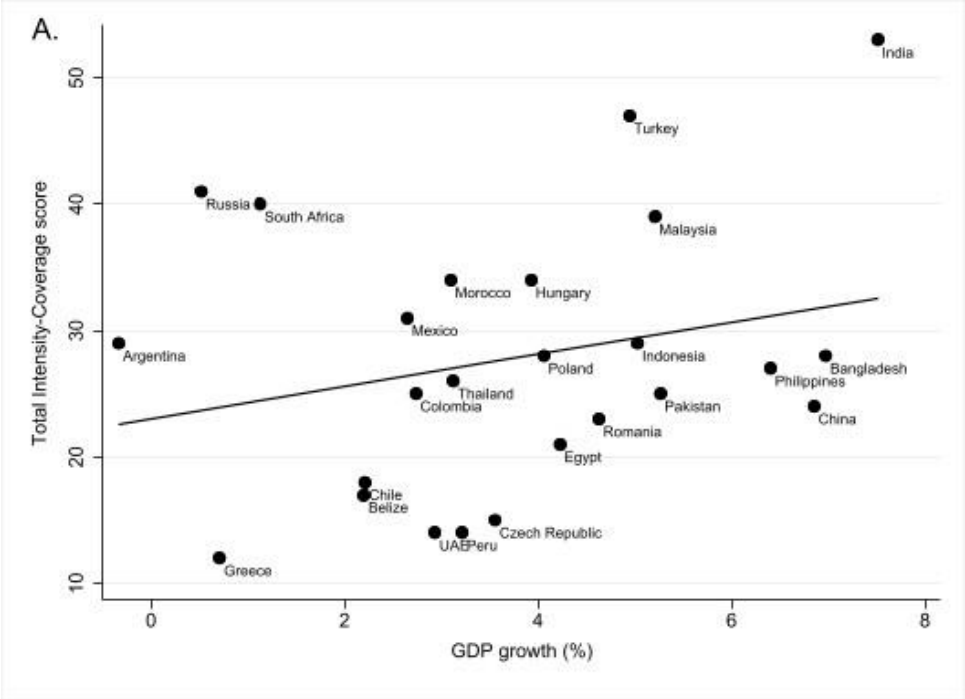
reveal a noticeably lower reliance of the countries on foreign exchange and trade-related policy measures, particularly in high-income countries.

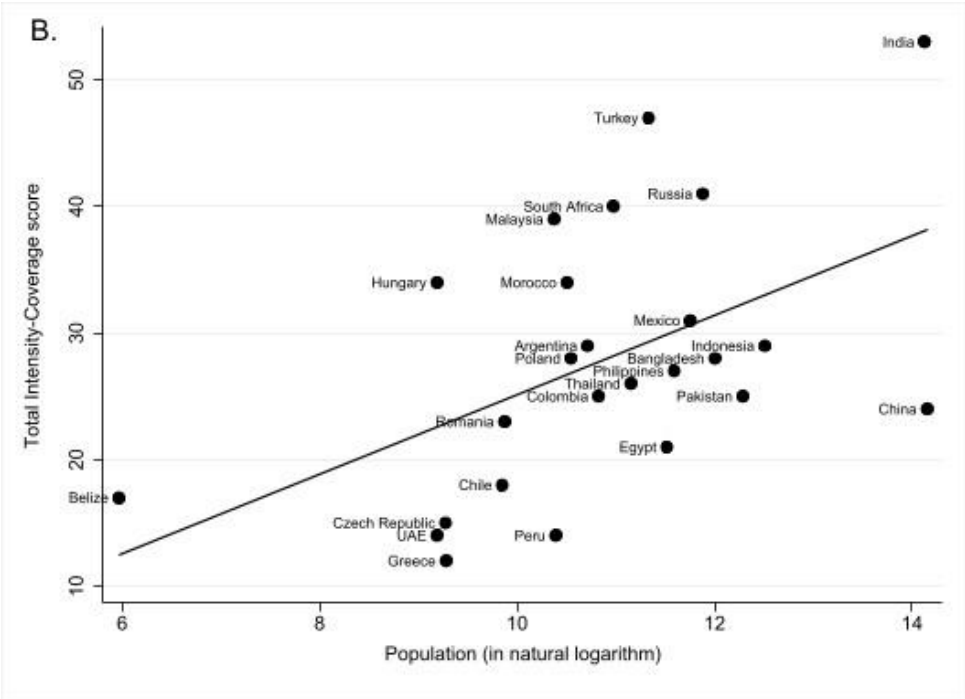
Table 8. Intensity-coverage scores across country groups.

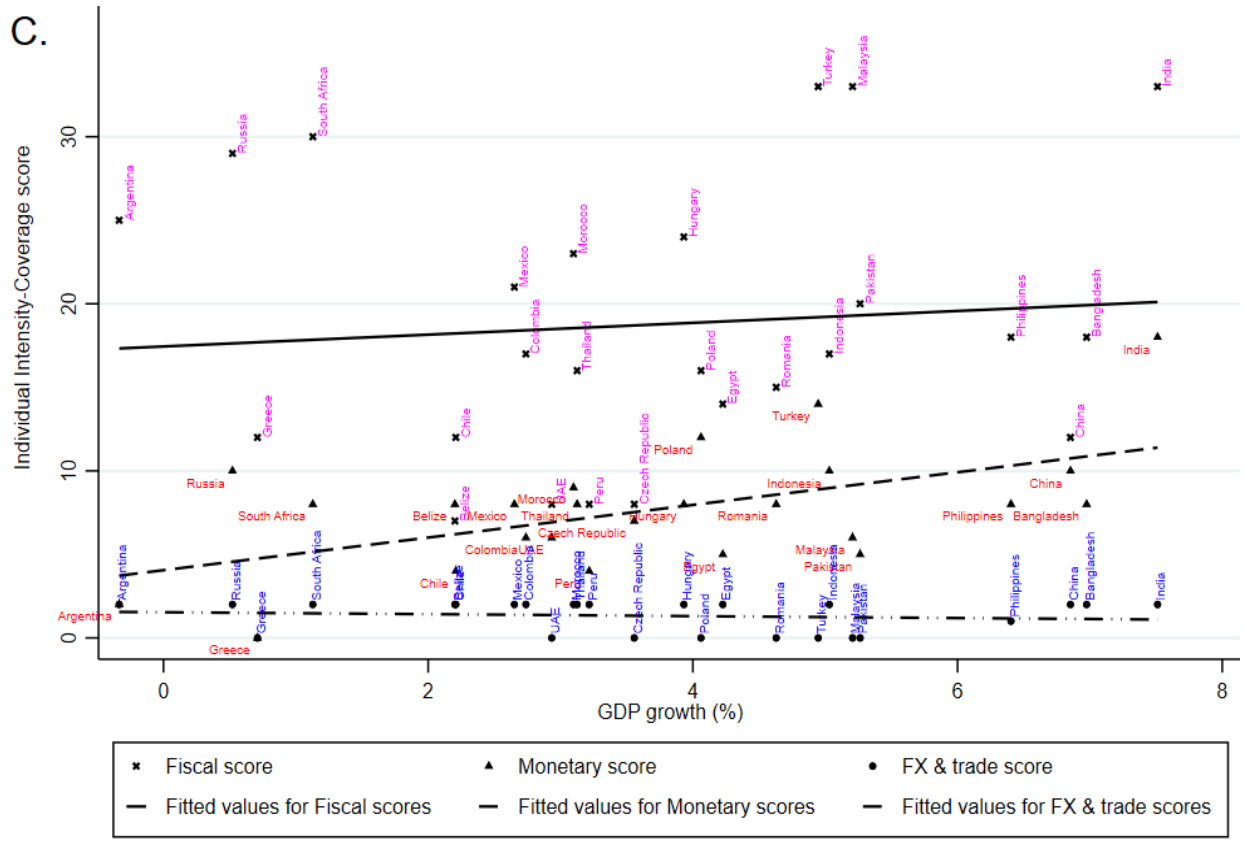
Country group	No. of countries	Mean	Minimum	Maximum	Standard Deviation	Coefficient of variation (%)
All policy measures						
All countries	25	27.8	12	53	10.5	37.9
High-income countries	6	21.0	12	34	8.8	41.9
Upper middle-income counties	13	29.2	14	47	10.1	34.7
Lower middle-income countries	6	31.3	21	53	11.4	36.5
Latin America	4	21.5	14	29	6.8	31.4
Asia	11	30.3	14	53	11.5	38.0
Europe	6	25.5	12	41	11.1	43.6
Central America	2	24.0	17	31	9.9	41.2
Africa	2	37.0	34	40	4.2	11.5
Fiscal						
All countries	25	18.8	7	33	8.2	43.7
High-income countries	6	13.8	8	24	6.0	43.5
Upper middle-income counties	13	20.0	7	33	9.2	46.1
Lower middle-income countries	6	21.0	14	33	6.6	31.3
Latin America	4	15.5	8	25	7.3	47.3
Asia	11	20.2	8	33	8.9	43.9
Europe	6	17.3	8	29	7.8	44.9
Central America	2	14.0	7	21	9.9	70.7
Africa	2	26.5	23	30	4.9	18.7
Monetary and macro-financial						
All countries	25	7.7	0	18	3.7	47.9
High-income countries	6	6.8	0	12	3.9	57.4
Upper middle-income counties	13	7.5	2	14	3.2	42.2
Lower middle-income countries	6	8.8	5	18	4.8	54.3
Latin America	4	4.0	2	6	1.6	40.8
Asia	11	8.9	5	18	4.0	45.0
Europe	6	7.5	0	12	4.1	54.5
Central America	2	8.0	8	8	0.0	0.0
Africa	2	8.5	8	9	0.7	8.3
Foreign exchange and trade						
All countries	25	1.3	0	2	0.9	71.6
High-income countries	6	0.3	0	2	0.8	244.9
Upper middle-income counties	13	1.7	0	2	0.8	44.4
Lower middle-income countries	6	1.5	0	2	0.8	55.8
Latin America	4	2.0	2	2	0.0	0.0
Asia	11	1.2	0	2	1.0	83.1
Europe	6	0.7	0	2	1.0	154.9
Central America	2	2.0	2	2	0.0	0.0
Africa	2	2.0	2	2	0.0	0.0

Figures 17(A) and 17(B) show a clear positive relationship between IC scores, economic growth, and population size. Countries with higher growth rates and population size have taken policy measures with greater intensity and

coverage. This is expected since countries with faster growth are likely to have greater financial ability, while those with a larger population size are likely to take greater policy measures to protect the lives and economy of a greater mass. Figures 17(C) and 17(D) support the observations with a breakdown of the relationships. In line with earlier findings, a more noticeable and steeper positive relationship is seen for fiscal and monetary measures, as most economies rely on them compared to exchange rates and trade measures.







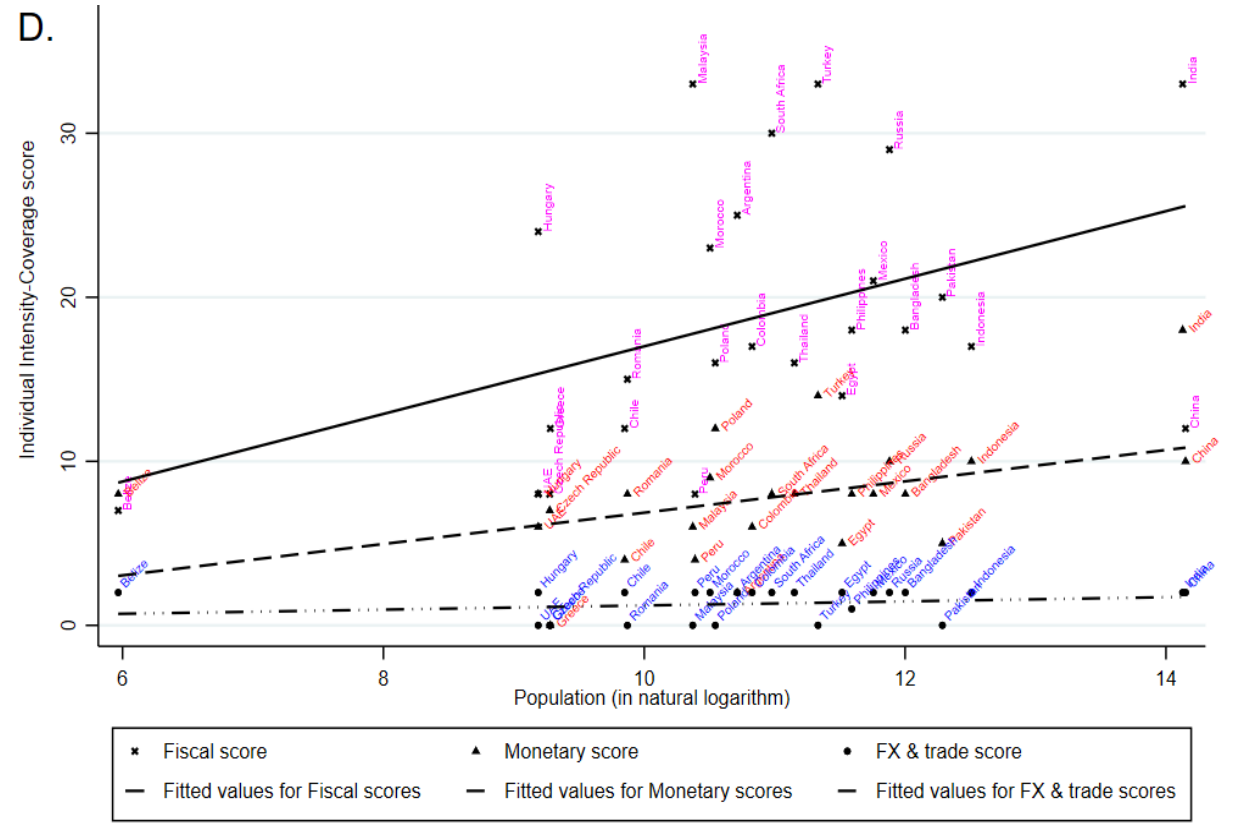


Figure 17 – A, B, C, D. IC scores, economic growth, and population size.

5. EVALUATING THE POLICY RESPONSES OF EMERGING ECONOMIES

Fiscal and monetary policy are the two tools governments resort to enhance economic recovery during adversities. These two tools are interrelated and complementary to each other. However, some believe that monetary

policy has a greater impact on economic activities, while Keynesians believe the opposite (Khosravi & Karimi, 2010). Fiscal policies are demand-side policies used to attain macroeconomic objectives like economic growth, reduction in unemployment, and balance of payments equilibrium by the government (Kibiwot & Chernuyot, 2012). This is why, in a pandemic situation such as the current COVID-19 outbreak, governments rely largely on fiscal policies while maintaining monetary postures. A large volume of literature consistently shows that expansionary fiscal policies help encourage and stabilize economic growth (Benos, 2009; Enache, 2009; Ghali & Al-Shamsi, 1997).

After analyzing the policy responses of 25 emerging economies, fiscal policy appears to be the preferable option for combating the economic disruptions produced by COVID-19. Fiscal policies work mainly in two ways; one, increasing or decreasing taxation, and two, increasing or decreasing government spending. During the COVID-19 pandemic, governments adopt extensive expansionary fiscal tools, as this paper shows. Almost all emerging economies studied have gone for a tax cut and increased public spending on different fronts to boost or keep economic growth stable. These measures allow more cash to be available to the general public through government mechanisms. According to the consumer preference theory, people decide to spend their money based on their individual preferences and budget constraints. In the time of pandemics, people use their best judgment. Any extra cash received will enable people to survive the economic downturn helping the economy bounce back.

Given the limited economic resources and a large population to feed, most emerging economies try to balance their policies between saving lives and enabling people to remain economically active. Almost all emerging economies studied have adopted policy measures addressing both businesses and individuals, and Asian economies have taken the lead in terms of the number of policy measures and their coverage. As a noticeable outcome, most Asian economies have fared better in fighting against the COVID-19-led economic downturn than others, including many developed economies. Most Asian countries have also managed the COVID-19 spread better than developed economies such as the US and the UK. One of the key reasons is that most Asian countries have had the experience of facing and managing pandemics before, such as Severe acute respiratory syndrome (SARS), but most developed nations lack that experience. It enables the governments and the public in Asian countries can use their experience and learn in managing both the pandemic and the economy better than in most developed countries. Asian countries with experience of facing epidemics before (e.g., Severe acute respiratory syndrome in 2003 and the Middle East respiratory syndrome in 2015) have forced them to develop a strong public health system, while the public with experience shows better voluntary cooperation with public health advisories (Han et al., 2020).

Given the findings of this paper, neither it is possible to define the single best policy to fight COVID-19 economic impact. However, the assessments offer a base to evaluate and compare in relation to other major economic downturns and recissions the world has seen. During a recession, lowering the real short-term interest rates has a disproportionately larger positive impact on business recovery, especially for businesses with a liquidity shortage (Aghion, Farhi, & Kharroubi, 2012). Our findings suggest that most countries have applied this strategy to fight the downfall of the economy over the first year of the pandemic. However, this policy has significant limitations. During a financial crisis (whatever the reason is) and its aftermath, often "ever-greening policies" are seen in different counties. In the 1990s, borrows in Japan were allowed to pay near-zero interest rates and no principal payment; a similar ever-greening policy was used during the Italian crises (Albertazzi & Marchetti, 2010; Caballero, Hoshi, & Kashyap, 2008). Unfortunately, such a policy cannot be continued for a long time as it runs the risk of becoming ineffective in the long run. Since COVID-19 seems to be with us for a long time and its eradication is too far to imagine, lowering the policy rates is perhaps not the best tool to fight the COVID-19 pandemic (Alain & Christian, 2020).

On the other hand, Keynesian economics, which offers modern economics to manage economic systems, strongly advocates for adopting fiscal stances, such as increased government spending, during any economic emergencies and market failure (Keynes, 1936). The pandemic has already produced substantial economic downturns and market failures by pushing demand, production, employment, and earnings to fall drastically in just a year after starting as a

COVID-19 health issue. In line with Keynes (1936) theory, fiscal intervention is the fundamental way to recover from such damage. Furthermore, a large body of literature applauds the use of fiscal policy to fight economic downturns (see, for example, (Blanchard, 2008; Krugman, 2005)); although it cannot be conclusively accepted. While some argue that increasing government consumption has no effect because it will be completely offset by a reduction in private consumption (Baxter & King, 1993; Fatás & Mihov, 2001), others argue that increasing government consumption will increase private consumption, resulting in a faster economic recovery (Baxter & King, 1993; Fatás & Mihov, 2001).

All considered, our paper offers detailed insights into the types and characteristics of the policy responses undertaken by emerging economies across the world. As is not the aim of this research, our assessments can neither conclude about the best policy(ies) of all nor show the impact of the policies on the countries' economic recovery. However, we can definitively identify a mixed approach of the two policies implemented by the economies, which have helped many of them to survive and ramp up their economic recovery process in the last year. Our assessments demonstrate a few important findings, which indicate their growing ability to sustain economic progress and become the real leaders of the world economy. First, many emerging economies have adopted a wide range of policy options like a developed economy. Second, many of the economies have taken 'bold' and large-magnitude efforts (e.g., reducing policy rates heavily or announcing billion-dollar stimulus packages), which are rarely seen being considered by developing economies due to economic inability. Third, emerging economies have adopted an all-inclusive approach, where roll out measures that cover almost all economic factors, including individuals, businesses, the health sector, and investors. A wider coverage like this is rarely seen before as most of these economies are forced to divert resources to the sectors of top-most priority, faced with a critical shortage of economic resources. Fourth, economies with higher growth and population size appear to have more policies with wider coverage (reflected by the IC scores shown in the previous section). Overall, the ability and diversity of 'policy plurality' of many emerging economies offer lessons for the others, particularly the ones looking for better policy alternatives to fight the pandemic.

5. CONCLUSION

Emerging economies are the engine of future global growth. The COVID-19 pandemic has put the global economy at risk, as emerging economies struggle and stumble to prevent economic downturns and recessions. Many emerging economies with significantly limited resources are particularly in distress as they face a dilemma of a trade-off between life and the economy. Despite limited resources, many economies have come up with all-out measures in the first year of the pandemic from January – to December 2020 to continue their economic growth patterns and prevent a downturn. This paper shows that emerging economies have adopted a mix of fiscal and monetary measures, with almost all countries relying heavily on fiscal measures targeting both individuals and businesses. Monetary measures mostly include changes in bank rates and reserve requirements. While the fiscal measures address long and short-run recovery almost equally, monetary measures are useful mainly for short-run support. A key trait is that many economies have adopted significantly large fiscal stimulus packages. It indicates the economic strength that many emerging economies have gained over time and perhaps makes justice to the 'emerging' status assigned to them. However, within the emerging economies studied, developing countries have taken more number and various measures compared to the developed economies. In particular, the upper-middle-income countries stand out, indicating the degree of ability to fight economic downturns. In general, the article gives a thorough grasp of the nature of emerging economies' policy responses and their overall response performance (in terms of depth and breadth). The findings indicate that many emerging economies have a broad range of policy alternatives comparable to mature nations, indicating their growing capacity to sustain economic growth and become true global leaders. Economies with faster growth and larger population size adopt a larger portfolio of measures with greater coverage. The policy plurality of many emerging economies could offer lessons for the other ones, particularly those looking for better policy alternatives.

The paper offers several policy implications. First, it could provide governments a basis for reflecting on how they have responded so far to the emerging economic damages of COVID-19, which to devise future policies. Second, the nature of the policy plurality and performance send valuable information about the economic strength of the emerging economies that are expected to drive global economic growth in the near future. The findings inform about their true economic ability to survive and mitigate large-scale shocks and strongly fight back and grow. This information offers insights to the emerging economies and the global community to realize their true potential. Third, the paper's coverage of analysis offers essential information about the seriousness and ability of the governments to 'manage' a large-scale and unexpected exogenous economic shock. As so, the report sends a signal to the world about the emerging economy governments' capacity for 'crisis management' and seriousness. Fourth, the findings could be used as a reference in responding to future crises, as the learning from the great depression or the global financial crisis or the Asian financial crisis still serves as a reference point for governments to fight exogenous shocks. The paper could be a referral point to understanding policy plurality and performance specific to the COVID-19 pandemic. Finally, the paper considers data from January to December 2020, which captures more or less the first wave of the shock. The findings could aid in evaluating the impact of measures implemented during the pandemic period or beyond – and respond to the pandemic's second and third waves. While the paper could be considered a reference for further studies on the impacts of the policies, the Intensity-Coverage framework could be used to track the performance of future policy responses.

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Appendix Table A1. Calculation of intensity-coverage score for the selected economies.

Country	Targeting individuals		Targeting business		Total Fiscal score	Policy rate cut		Other market interventions		Total monetary score*	Foreign exchange and trade		Total FX and trade score	Overall IC Score
	Score assigned	No. of measures	Score assigned	No. of measures		Score assigned	No. of measures	Score assigned	No. of measures		Score assigned	No. of measures		
Column	*(1)*	*(2)*	*(3)*	*(4)*	*(5) = (1)x(2)+(3)x(4)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10) = (6)x(7) + (8)x(9)*	*(11)*	*(12)*	*(13) = (11) x (12)*	*(14)*
Argentina	3	5	2	2	19	0	0	0	0	0	2	1	2	21
Bangladesh	2	8	2	2	20	2	1	3	2	8	2	1	2	30
Belize	2	5	1	1	11	2	1	2	2	6	2	1	2	19
Chile	2	3	2	2	10	2	1	1	2	4	2	1	2	16
China	4	2	2	4	16	2	1	4	2	10	2	1	2	28
Colombia	2	4	3	3	17	2	1	2	2	6	2	1	2	25
Czech Republic	1	3	2	2	7	2	2	3	1	7	0	0	0	14
Egypt	1	5	3	3	14	3	1	1	2	5	2	1	2	21
Greece	2	5	2	2	14	0	0	0	0	0	0	0	0	14
Hungary	2	3	4	3	18	2	1	2	1	4	2	1	2	24
India	3	8	3	3	33	3	2	3	4	18	2	1	2	53
Indonesia	3	5	1	2	17	2	2	2	3	10	2	1	2	29
Malaysia	5	5	2	3	31	2	2	1	2	6	0	0	0	37
Mexico	3	4	3	3	21	2	2	1	5	9	2	1	2	32
Morocco	4	5	3	1	23	3	1	2	3	9	2	1	2	34
Pakistan	3	6	1	2	20	4	1	1	1	5	0	0	0	25
Peru	2	4	1	2	10	2	1	1	2	4	2	1	2	16
Philippines	3	4	3	2	18	3	2	1	2	8	1	1	1	27
Poland	2	4	2	4	16	2	3	3	2	12	0	0	0	28
Romania	2	3	3	3	15	2	1	2	3	8	0	0	0	23
Russian Federation	3	7	2	4	29	2	2	2	3	10	2	0	0	39
South Africa	3	6	3	4	30	2	1	2	3	8	2	1	2	40
Thailand	3	3	2	3	15	2	1	2	3	8	2	1	2	25
Turkey	3	8	3	4	36	2	1	3	3	11	0	0	0	47
United Arab Emirates	2	2	2	2	8	2	2	2	1	6	0	0	0	14

Note: *monetary includes Monetary and macrofinancial measures.