GLOBAL ECONOMIC GOVERNANCE INITIATIVE

Monitoring IMF Surveillance in the COVID-19 Era

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ABSTRACT

Surveillance efforts are a core component of the mandate of the International Monetary Fund (IMF). This paper establishes a methodology to measure the extent to which IMF country surveillance in the aftermath of the COVID-19 economic crisis has identified risks and mitigation measures to improve health outcomes during the crisis, protect vulnerable people and firms, and address climate change. To this end, we create an 'IMF COVID-19 Surveillance Monitor' that relies on textual analysis techniques applied to IMF Article IV consultations between 2019 and 2020. We find that these issues receive relatively small attention in Article IV consultations, with fiscal issues dominating the discussion. However, the consultations conducted in 2020 show significantly more attention toward the pandemic and protecting the vulnerable. While climate change and a green recovery have become a key part of senior IMF official narratives, they are yet to have a significant presence in bilateral surveillance activities. The techniques and indices developed here can help guide the IMF to improve its surveillance policy under the Comprehensive Surveillance Review currently underway.

Keywords: International Monetary Fund, Surveillance, Content analysis, Health, Protecting the vulnerable, Climate change

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INTRODUCTION

The International Monetary Fund (IMF) is the essential multilateral, rules-based institution founded in 1944 to ensure the stability of the international monetary system. To that end, the IMF (or Fund) performs three functions: "surveillance" that tracks stability and growth at the national, regional, and global level; "lending" activities to countries facing balance of payments difficulties, and "advice" through technical assistance and dialogue with its membership of 190 countries across the world.

The national (or bilateral) surveillance function is the subject of this paper and accompanying inter-active tracking tool entitled *The IMF COVID-19 Surveillance Monitor* (or Monitor). According to the IMF, which conducts surveillance at the global, regional, and country levels, "the IMF identifies potential risks to stability and recommends appropriate policy adjustments needed to sustain economic growth and promote financial and economic stability" (IMF, 2020a). The two key tools of bilateral surveillance efforts are Article IV consultations and Financial Sector Assessment Programs (FSAPs).

This paper focuses on Article IV consultations. Article IV consultations are conducted close to annually to examine financial risks, crossborder spillovers, and beyond. IMF staff visits member states and performs desk analyses in consultation with member country authorities. Upon completion, IMF staff prepare a report which makes recommendations on fiscal, monetary, exchange rate policy; health care and pensions; labor market policy, and numerous other policy issues with a core focus on macroeconomic stability. The report is discussed and approved by the IMF Executive Board and made public along with associated papers on the IMF web page (Fayad et al. 2020).

Over the course of its existence, the IMF has been criticized for the adequacy and relevance of its surveillance activities (Kring et al 2021). In the decades since the Mexican peso crisis and the 2007-8 great financial crisis, the IMF has sought to expand ""the coverage of financial sector issues in surveillance to [intensify] its focus on better integrating macreconomic and financial analysis"" (Takagi 2018, p. 22). Most notably, the expanded breadth of these surveillance activities has expanded in non-systemic countries (Takagi 2018). That said, surveillance coverage remains uneven and the Fund's Independent Evaluation Office (IEO) has criticized the lack of attention to capital flows and other external shocks; the spillover policies of advanced economies; and for misperceiving the build-up of instabilities that led to the financial crisis of 2008 (IEO 2019).

Further, the proliferation of international institutions with potentially overlapping surveillance functions can also lead to incoherence in surveillance guidance (Breen et al, 2018). Edwards (2019) finds that surveillance effectiveness, as measured through its impact on state policy choices, will have a diminished impact when there is competition from another international organization. That said, regional surveillance institutions have demonstrated that they can leverage their comparative advantages to provide more tailored surveillance guidance that complements the IMF surveillance (Kring et al, 2021). There is evidence that the IMF's surveillance activities have evolved over time to address new realities, although often with a temporal lag (Moschella 2015).

The IMF is presently undergoing a 'Comprehensive Surveillance Review (CSR) that will guide surveillance through 2030 with particular priorities of "(i) confronting risks and uncertainties; (ii) preempting and mitigating spillovers; (iii) fostering economic sustainability; and (iv) adopting a more unified approach to policy advice"." (IMF, 2020a) This paper develops and applies a methodology to preliminarily assess the extent to which Article IV consultations are calibrated towards the COVID-19 crisis. Our analysis cannot serve as a full assessment as the crisis is ongoing, and an entire cycle of Article IVs was not completed in 2020 due to the travel and work restrictions. Nevertheless, the Monitor provides a methodology to assess IMF performance in this area in real time.

The remainder of this paper is structured as follows. In the next section we describe the methodology behind the *IMF COVID-19 Surveillance Monitor* and provide preliminary results. Section 3 discusses our main results and section 4 compares the IMF Monitor with the Fiscal Adjustment Index. The paper concludes by highlighting some potential avenues for further research.

DATA AND METHODOLOGY

We conducted a textual analysis to create the *IMF COVID-19 Surveillance Monitor*. The Monitor gauges the relative amount of attention to addressing the pandemic, protecting the vulnerable, and addressing climate change in Article IV reports released between January 1, 2019, and February 1, 2021. During that period, the IMF issued[1] 175 Article IV documents of which we limited our sample to Article IV reports from 2019 and 2020. In total, our dataset includes 150 consultations (127 consultation from 2019 and 23 consultation from 2020) for 137 countries.

Once the crisis hit, the IMF Fiscal Affairs Department and leadership stressed the need to support health systems, protect vulnerable people and firms, and build a recovery that is resilient to climate change (IMF, 2020d). To create the index that goes into the monitor, we measure the attention paid in Article IV consultations to health services, protecting the vulnerable, and climate change, and then juxtapose those calculations with a gauge on fiscal policy to understand the relative importance of COVID-19 and climate-related concerns.

Our index is constructued through the coding of IMF documents using a textual analysis methodology that has been widely used in economic and political research, including studies of the IMF. To streamline our analysis and minimize coding errors, our metholodology relies on an open-source software phyton. While the creation of our index and analysis is novel, this relatively new technique has provided new research opportunities and facilitated the analysis of large corpus' of text across a variety of issues (Grimmer & Stewart 2013; Wilkerson & Casas 2017).

Mihalyi and Mate (2019 p.3) summarize some text analytics applications, including 'investigating central bank communications to predict changes in policy rates (Apel & Grimaldi, 2012), fluctuations in Treasury securities (Lucca &Trebbi, 2009), and identifying home bias by analyzing the tone of the speeches of the members of the Governing Council of the Eurozone (Bennani & Neuenkirch, 2017). Baker et al.(2016) forecast stock prices using the sentiment of newspaper articles relating to particular companies in Tetlock (2007)' Finally, IMF staff have deployed textual analysis methodologies to develop a 'sentiment' index to measure member countries' reception of Article IV Consultations, finding that member country authorities largely concur with Article IV advice (Fayad et al. 2020).

Historically, these types of methodological approaches have had limitations. As the nature of manual research by humans generating the algorithm is inherently subjective, 'a single missing or misplaced character—human error— can significantly alter the meaning of a computer command' (Lacy et.al 2015, p.18). Such approaches can also be reductive, as they often disregard the context that the text was produced and focus on words or phrases in isolation. So, there is risk of losing or altering the meaning of the content.

To avoid such pitfalls, our methodological approach is anchored in the Mihalyi and Mate (2019) method, following the same data acquisition and processing. The authors explored how the frequency of certain keywords were be associated with different research agendas. To examine the incidence of IMF surveillance related to health, the poor, and climate change, we measure the count

[1] Through the following search from the IMF portal: https://www.imf.org/en/Publications/Search?series=IMF+Staff+Country+Reports&when=After&year=2018&title=article+iv+consultation&page=1

of keywords as a percent of the total word pool in each Article IV. The search terms were selected following The Corpus of Contemporary American English (COCA) of medium and lower-frequency words. For specific keywords to policy we drew from the IMF's Fiscal Affairs Department Special Series on COVID-19 documents: Expenditure Policies in Support of Firms and Households (Support for the Vulnerable), Managing the Impacts of the Coronavirus: Guidance on Health Spending Policies (Health), and Greening the recovery (Climate).

Nonetheless, search term frequency is a fairly limited way to gauge the attention of IMF reports. Rather than simply count the number of words throughout an Article IV report, we track the number of times particular terms are mentioned as a ratio of the total pool of words in a specific document, following the Mihalyi and Mate (2019) method. To do so, our algorithm filters all the Natural language toolkit (NLTK) stop words. The NTLK is the most popular library for natural language processing (NLP) written by the authors using Python. In this library, stop words are words that do not add meaning to a sentence. They can safely be ignored without sacrificing the meaning of the sentence. They include articles, prepositions, and pronouns. We filtered all of NLTK's stop words, page numbers, webpages, emails, to count the documents' total terms that form the denominator in our index.

The following section discusses the results.

RESULTS AND MAIN FINDINGS

The first step to build our index was selecting some keywords. Table 1 shows the search terms by area.

Table 1: Search Terms by Thematic Area

| Health	'health', 'medical supply', 'medical supplies', 'pandemic', 'Covid', 'coronavirus', 'outbreak', 'vaccine', 'infection', 'disease', 'personal protective equipment'
Support for the Vulnerable	'vulnerable', 'exposed', 'poor', 'social welfare', 'cash transfer', 'basic income', 'employment', 'protect employment', 'social protection', 'safety net', 'protect worker'
Climate	'climate change', 'climatic', 'climate risk', 'climate-related', 'green', 'energy efficiency', 'energy matrix', 'energy source', 'energy transition', 'fossil fuel', 'green energy', 'green technology', 'sustainable infrastructure', 'transition risk', 'emission', 'physical risk', 'climate smart', 'climate shock'
Fiscal Adjustment	'budget constraint', 'budget control', 'budget deficit', 'budget reform', 'debt sustainability', 'deregulation', 'fiscal consolidation', 'fiscal contraction', 'fiscal debt', 'fiscal policy', 'fiscal reform', 'fiscal rotation', 'fiscal rule', 'fiscal space', 'fiscal sustainability', 'flexibilization', 'government debt', 'government reform', 'labor market reform', 'pension reform', 'privatization', 'public debt', 'public deficit', 'public indebtedness', 'public spending', 'reduce debt', 'structural reform', 'tax expenditure', 'tax reform', 'wage restraint'

Source: Authors own elaboration.

The next phase was to determine the weight factor, the documents' terms. Figure 1 displays the distribution of the document pool of words that are used in this study. As shown, most of the reports contained between 14,000-19,000 terms.

Finally, we create index scores, which are the ratio between the sum of search terms per group and the inverse document frequency as a percentage.

Σ Search Terms / Document pool of words

Figure 1: Number of Reports in 2019 and 2020, Per Document Pool of Words

Document Pool of words
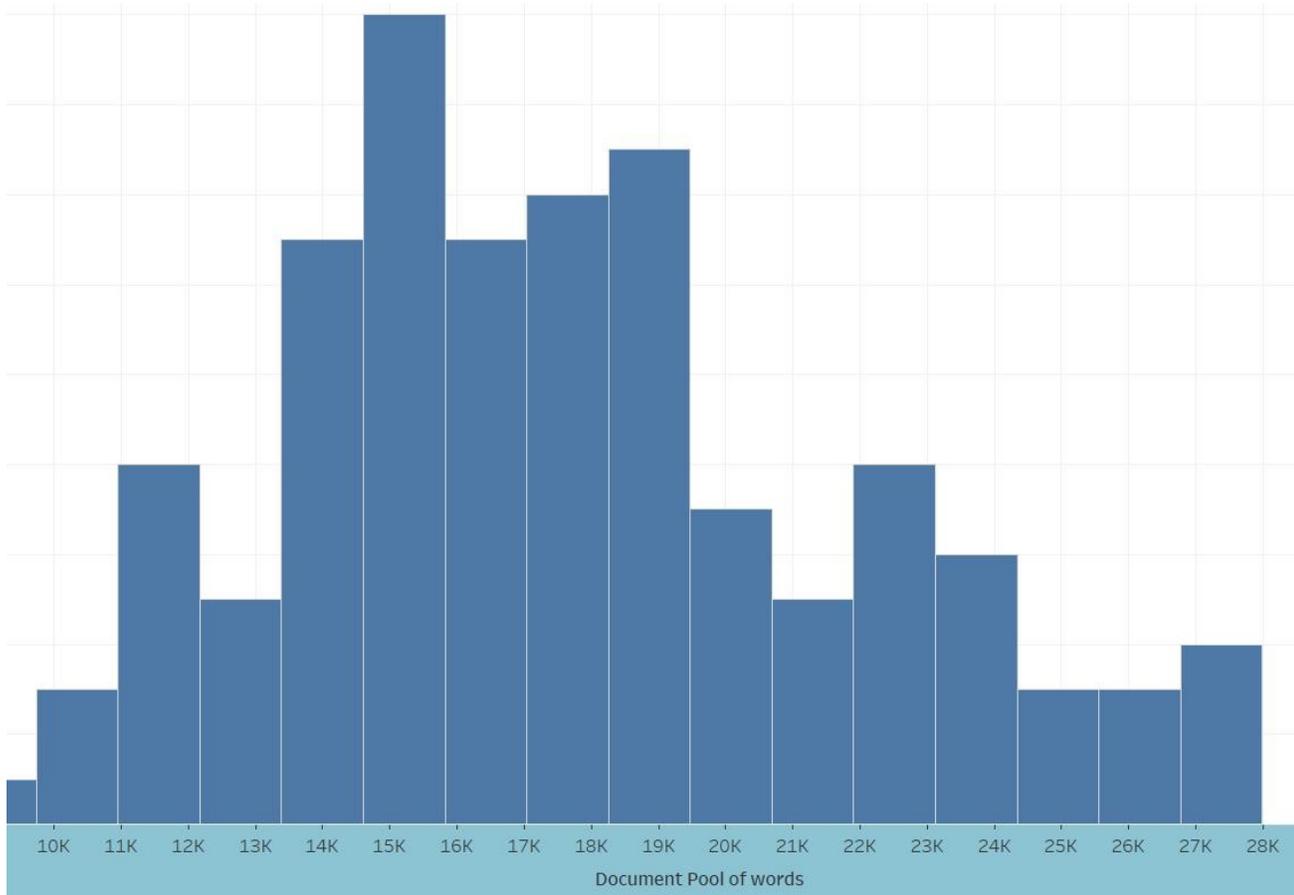
Source: Authors own elaboration.

The *IMF COVID-19 Surveillance Monitor* Total sums the three Index per strategic area, Health, and Support for the Vulnerable, and Climate[2]. Conducting such an exercise allows us to gauge the relative attention that health, the vulnerable, and climate change are paid relative to the entire pool of words in an Article IV report, but not the attention paid to such topics close to other core issues. To get a glimpse of these COVID-19 and climate issues' relative importance, we constructed a parallel index of IMF surveillance related to fiscal topics, referred to as the IMF Fiscal Adjustment Index.

In general, healthcare issues, support for the vulnerable, and climate change receive scant attention in IMF Article IV consultations during the first year studied here. However, due to the COVID-19 crisis in 2020, the IMF swiftly pivoted and placed COVID-19 and health at the center of discussion. According to our calculations, attention to health issues increased by a factor of nine between 2019 and 2020. Supporting the vulnerable and addressing climate change continued to receive relatively limited engagement concerning health and fiscal issues. Our general results are exhibited in Table 2, expressing scores for all reports in the sample for each year—the average score, the median, and standard deviation.

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[2] To more information about count of words see annex table 5.

Table 2 shows the search term frequency per year and publication (on average).

**Table 2: Search Terms Frequency, Per Group, Year, and Publication**

Search Term (group)	Frequency 2019	Frequency 2020	Average frequency publication 2019	Average frequency publication 2020
Health	1902	3288	14.97	142.95
Support for the Vulnerable	5440	1614	42.83	70.17
Climate	1085	429	8.54	18.65
Total	8427	5331	66.35	231.78
Fiscal Adjustment	*13,497*	*2536*	*106.27*	*110.26*

Source: Authors own elaboration.

On average, health, protecting the vulnerable, and climate change keywords were mentioned 66.35 times per publication in 2019, increasing by close to a factor of four in 2020, at 231.78 per report. In contrast, attention-related to fiscal policy stayed the same over the period with 106.27 mentions per publication in 2019 and 110.26 in 2020. Figure 2 shows the count term and data distribution in both years.

As exhibited in Figure 2, there was a count term jump from 2020 relative to 2019. The median in 2019 was 57.5, and jumped to 261 in 2020.

Figure 2: Count of Search Terms, Data Distribution, Per Year
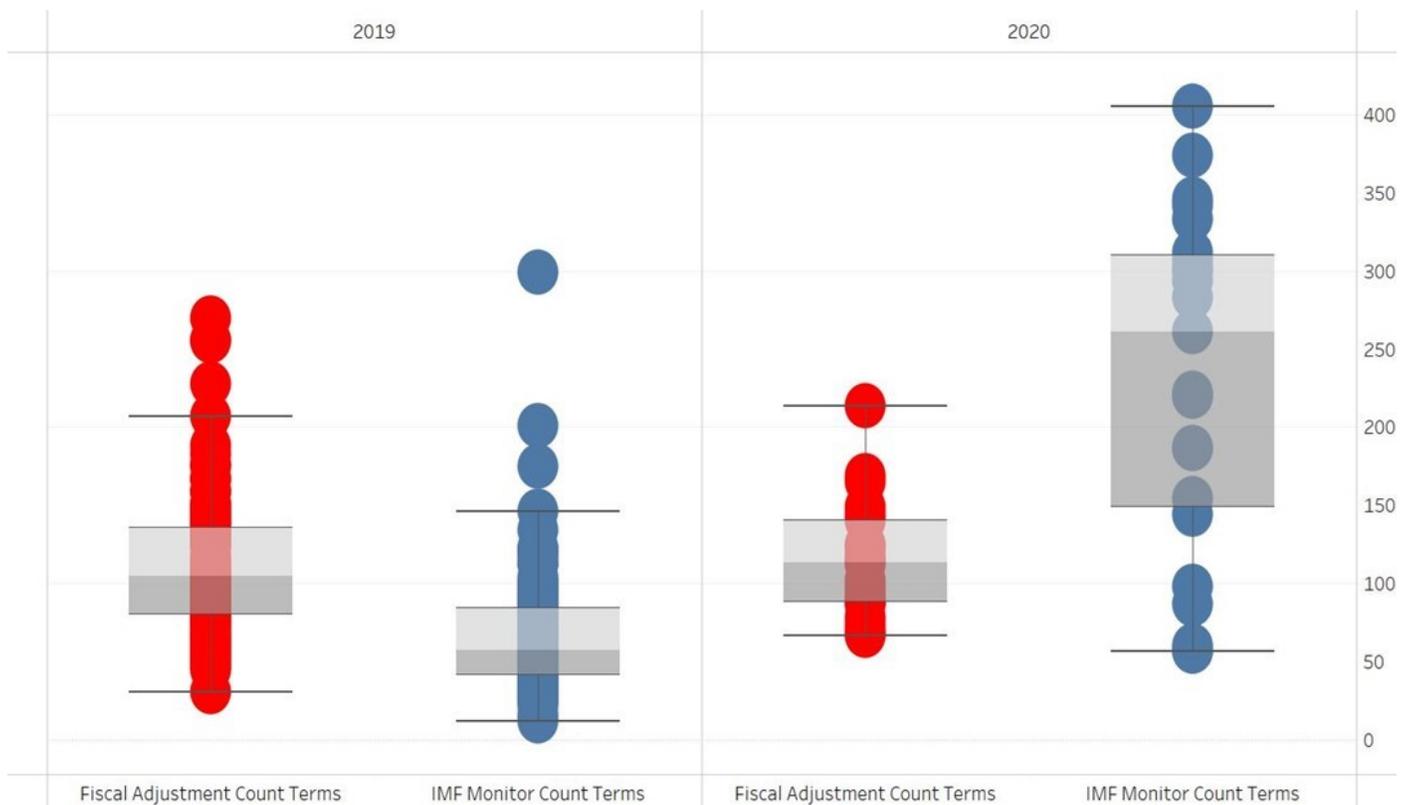
Source: Authors own elaboration.

Beyond frequency, Table 3 exhibits the index scores using the methodology described above. The results are for years 2019 and 2020, and by country. Higher scores mean the IMF's staff identified, recommended, and emphasized policy adjustments in Health, Support for the Vulnerable, and Climate are relevant to achieving economic and financial stability in that country. The lower the score, the less attention is paid to these issues.

Table 3: IMF COVID-19 Surveillance Monitor, Per Group and Total: Statistical Analysis

	Health		Support for the vulnerable		Climate		Total	
	2019	2020	2019	2020	2019	2020	2019	2020
Average	0.080%	0.758%	0.246%	0.375%	0.050%	0.096%	0.376%	1.229%
Median	0.061%	0.885%	0.206%	0.360%	0.023%	0.060%	0.330%	1.355%
St Deviation	0.078%	0.42%	0.171%	0.158%	0.065%	0.074%	0.210%	0.543%

Source: Authors own elaboration.

Table 3 shows that the IMF COVID-19 Surveillance Monitor results are relatively small and very asymmetrical. This evidence corroborates IEO (2019) arguments that the 'Fund's financial surveillance has been uneven. A close look at the Articles IV consultation reveals that the IMF staff treats macro linkages like Health, Support for the Vulnerable, and Climate differently between members. Besides, it is hard to argue any significant change or breakthrough over time, as the time series is short, and there are a few publications[3] in 2020.

In 2019, the IMF COVID-19 Surveillance Monitor group's highest average was Support for the Vulnerable; 0.246 percent, and in 2020, Health, 0.758 percent. Climate change received the least amount of IMF attention in both years, and in 2019, there were 20 reports having no climate mention at all. The Fund staff had a low engagement or identified minor instability threats coming from climate hazards. According to Volz (2020) and Volz and Ahmed (2020), the IMF has only recently recognized that climate change might be a "macro-critical" factor, crucial to macroeconomic and financial stability. In October 2019, new Managing Director Kristalina Georgieva made clear right at the start of her tenure that she considers climate change a key responsibility for the IMF. Since then, she has made numerous statements stressing the importance of climate change for the IMF. The analysis in this paper indicates that such forward-thinking has not permeated the Article IV process. Figure 3 details the top ten, total average, and bottom ten IMF COVID-19 Surveillance Monitor Total per group in 2019.

Figure 3 exhibits that the IMF COVID-19 Surveillance Monitor scores in 2019 were very uneven and heterogeneous. The top ten scores were significantly above average, and the bottom ten significantly below average. Singapore's Article IV had the highest score, 1.382 percent, and the lowest was South Sudan at 0.084 percent.

The highest score in 2019, Singapore's 2019 Article IV, had group scores above average in each category. The publication reveals the Fund staff is very optimistic about the macroeconomic performance and social achievements. Singaporean authorities are noted for implementing measures to turn the country into a global innovation hub, redoubling efforts to boost labor productivity through investment in human, physical and organizational capital, and digitalization. Meanwhile, social policies are being updated to raise wages and standards of living for lower-skilled citizens of the country.

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[3] Recognizing the constraints of the pandemic, and to ensure no adverse implications for members' compliance with their obligations to consult with the Fund, on April 22, 2020, the Board extended by six months the expected consultation deadlines for upcoming Article IV consultations (IMF 2020).

Figure 3: IMF COVID-19 Surveillance Monitor Per Group and Total: 2019 Top 10, Total Average, and Bottom 10
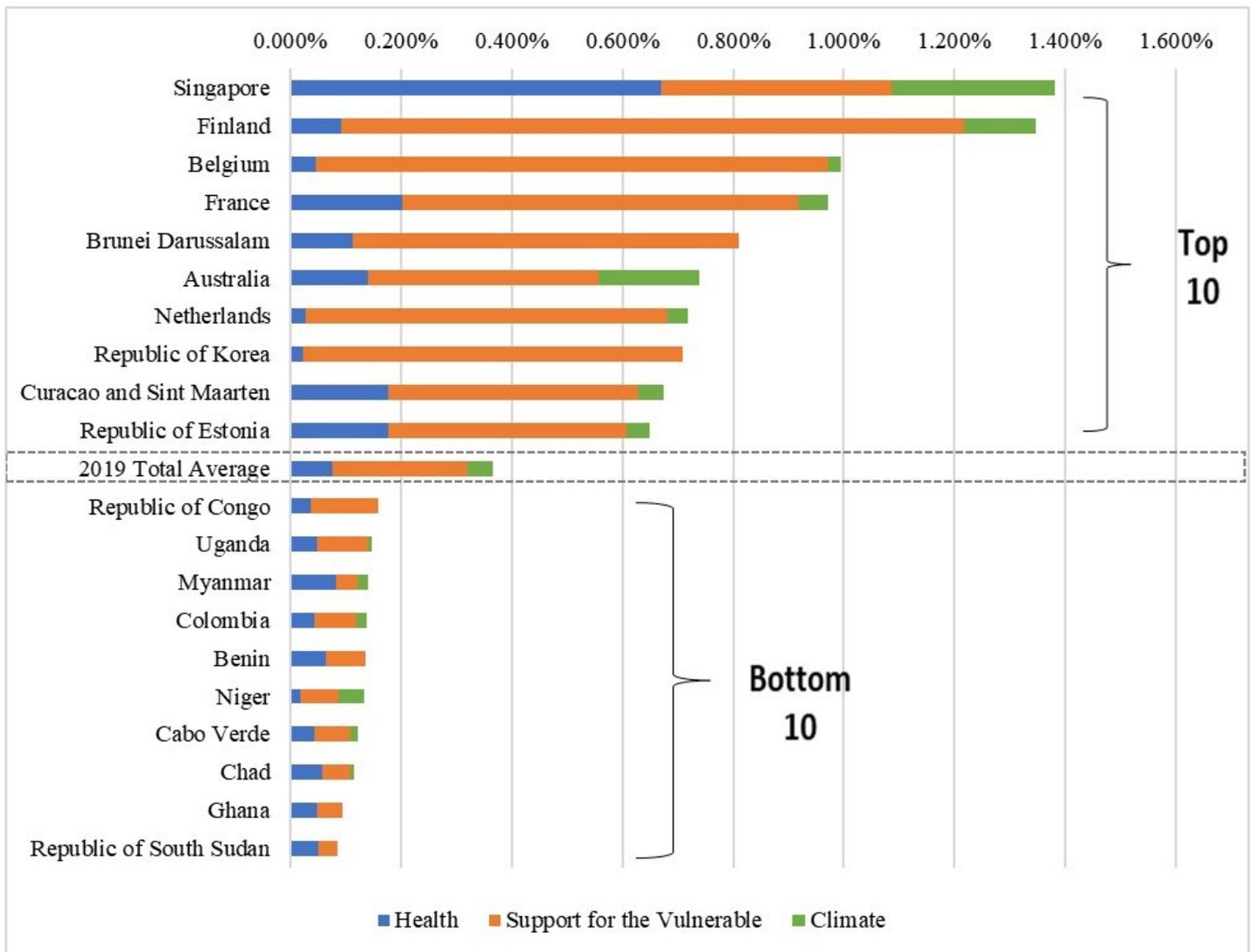
Source: Authors own elaboration.

According to the IMF (2019b, p.20), 'Singapore's social policy targets were performing well in reducing inequality and fostering social mobility'. They stressed initiatives like the "Progressive Wage Model" program, which provides career ladders with clear progression pathways for low-wage resident workers to progress in their jobs and earn higher wages, and provided more employment support for the older workers. Additionally, seeking social mobility, the Singaporean government has increased investment in education, especially early childhood.

The Singapore's 2019 Article IV consultation also had one of the highest Climate scores, explained by the fact that IMF Executives "welcomed the authorities' efforts to reduce Singapore's carbon emissions" (2019b, p.3). Singapore switched electricity generation from fuel oil to natural gas, representing over 95 percent of the energy mix. In 2019, the country implemented measures to increase the cost of carbon emissions. A carbon tax at S$5 per ton of greenhouse gas emissions went into effect in January 2019, targeting direct emissions from large emitters, without an exemption for

any sector. The IMF also underscores that "Singapore imposed excise duties on petrol, diesel, and compressed natural gas, and has a monitoring system to measure whether these policies lead to improved health and environmental outcomes" (2019b, p.14).

There was also a significant discussion of Singapore's national healthcare system, which was captured by the health score in our calculations (see Figure 3). Seeking to support health care costs, Singapore introduced universal basic medical insurance coverage and a national insurance scheme for long-term care costs. The IMF referred to these developments as "achieving strong health outcomes at a fraction of the cost paid by peers, with a lower share of public spending" (2019b, p. 53).

The consultations among the bottom ten Article IV consultations are also revealing. South Sudan's Article IV had the lowest score, 0.084 percent. In the consultation the IMF staff described South Sudan as 'fragile state' and a concerning oil-dependent economy; and focused most of the IMF attention on the need to restore macroeconomic stability and rebuild economic buffers (2019c, p.4). According to the IMF, addressing the macroeconomic imbalance, supported by improvements in oil management and public financial management were of immediate concern. The Fund went on to recommend that South Sudan strengthen oil management and transparency by immediately suspending any new oil-backed advances on future supply, restoring fiscal discipline, and refraining from central bank financing of public deficits. There was no discussion of climate change in this highly fossil fuel dependent country. The Fund Directors' main statement was that the "[South Sudan authorities] concurred on the need to restore fiscal discipline and strengthen oil revenue and public financial management" (2019c, p.3). As the country has experienced a humanitarian crisis due to civil war for more than five years, healthcare was mentioned, explaining the 0.049 percent Health score in our calculations, however, it is still low.

Nevertheless, the bottom ten scores of consultations had the same pattern: few Health, Support for the Vulnerable, and Climate evaluations and recommendations, as reported by IMF COVID-19 Surveillance Monitor. In 2020, there was an increase in the IMF COVID-19 Surveillance Monitor scores with 1.229 percent against 0.371 percent in 2019. Health dominated the discussion and the reports profile between countries continued heterogeneous and score highly disperse. As exhibited in Figure 2, there were slightly more climate discussions in 2020 related to 2019. Germany's Article IV had the highest score, 1.96 percent, and Moldova's the lowest, 0.236 percent. Figure 4 details the top ten, total average, and bottom ten IMF COVID-19 Surveillance Monitor scores per group in 2020.

In second place, the United States' 2020 Article IV consultation was released in August 2020, the IMF's directors and staff expressed concern about the COVID-19 outbreak and its potential impact on the economy. The IMF COVID-19 Surveillance Monitor captures those sentiments, with scores of 1.271percent engagement in health and 0.580 percent Support for the vulnerable, significantly higher than the previous year (0.204 percent and 0.240 percent, respectively). They underscored the economic policy in action seeking to protect the economy's livelihoods and vulnerable sectors.

They recommended "guaranteeing adequate health supplies globally and working with other countries to develop a strategy for production, purchase, and distribution of therapeutics and vaccines" (IMFc 2020, p.31). Besides, to improve future responses to pandemics, they suggest:

> [T]he U.S. (preferably multilaterally) to establish a "standing army" for public health. This would encompass significant idle capacity in testing and medical supplies as well as a rapid-response unit that could be deployed for testing, tracking and treatment of viruses. Building such a capability would be a multi-year endeavor and require permanent and stable funding that is potentially outside the usual, annual discretionary appropriations process (IMFc 2020, p.31).

Figure 4: IMF COVID-19 Surveillance Monitor Per Group and Total: 2020 Top 10, Total Average, and Bottom 10
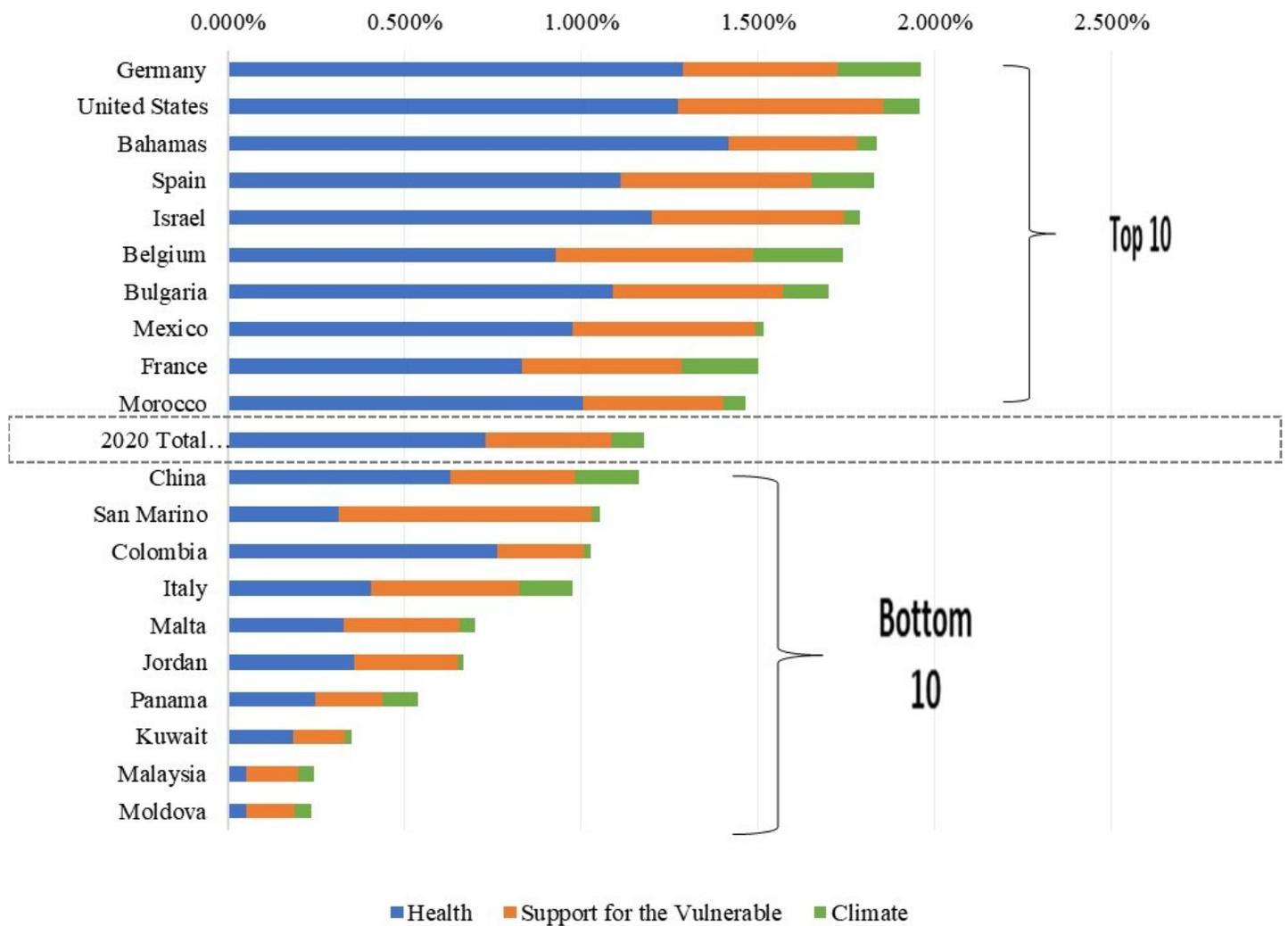
Source: Authors own elaboration.

The U.S. consultation pointed out that the poorest households face a particularly critical situation. The crisis's economic costs hit disproportionately in the poorer and more vulnerable, which may increase inequities. The pandemic has also revealed "some of its health system's structural shortcomings with the provision of healthcare fragmented, decentralized, predominantly employer-based, at a high cost, and with a significant share of low-income households lacking coverage" (IMFc 2020, p. 1 of 5).

In this consultation, the Monitor revealed an improvement in climate assessment compared to the previous year; in 2019, the US climate score was 0.014 percent, in 2020, this score jumped to 0.105 percent. This higher climate engagement was observed in several parts of the consultation. A couple of times, the staff recommended policies that seek lower emissions, such as there is also an urgent need to address climate mitigation and adaption. This confluence of events provides a historic opportunity to adopt fiscal policies that will facilitate a shift toward more environmentally-sustainable economic growth model (IMFc 2020, p.35) and COVID-19 has the potential to trigger an accelerated shift to a lower carbon economy (IMFc 2020, p13).

Nonetheless, regarding the bottom ten scores, they were considerably higher than 2019, almost three times the previous year, meaning more attention in these sectors in 2020. Moldova's 2020 had the lowest Total score in the year, 0.236 percent. It was discussed on February/March 2020; and pointed out that the recent global outbreak of the coronavirus disease (COVID-19) could further slow economic growth in 2020.

The report centered after the three-year Extended Credit Facility (ECF) and Extended Fund Facility (EFF) arrangements, which have been evaluated as successfully in rehabilitating Moldova's financial sector and restoring the financial sector stability by IMF Directors (2020b, p.7). However, they also noted that 'the country still faces structural weaknesses, and growth remains insufficient to boost income levels' (2021b, p.4).

In the IMF Monitor, Support for the Vulnerable had the highest group engagement, scoring 0.137 percent. The unemployment rate was projected to remain low at 3.0 percent over the forecast horizon and, as noted by IMF (2020b, p.115), "Moldavian authorities want to strengthen the social safety net through enhanced targeting and effective coverage of social assistance programs, including by updating eligibility and benefit parameters, and by implementing active labor market policies."

Surprisingly, the highest IMF monitor scores in 2019 were exclusively from high-income countries; similarly, in 2020, seven out of ten were high-income countries, with three upper-middle-income countries featured in the list. Conversely, the bottom ten IMF COVID-19 Surveillance Monitor Total comprises low-middle and low-income countries in 2019. In 2020, however, there was not any consultation from low-income countries to establish comparisons. In 2019, high-income countries had Health, Support for the Vulnerable, and Climate scores, 0.092 percent; 0.351 percent; 0.055 percent, respectively; in contrast low-income countries had 0.083 percent; 0.153 percent; and 0.037 percent scores.

Figure 5 displays the main pattern in the distribution of data by year and income level.

Figure 5 shows the IMF COVID-19 Surveillance Monitor Total results are asymmetrical and uneven, and there is an extensive index dispersion between high and low-income countries. Higher consultation scores are related to high-income countries, and the contrary is valid. This evidence means that, in wealthier countries, the IMF's staff worried, identified, and emphasized policy adjustments in Health, Support for the Vulnerable, and Climate areas. However, in poor countries, there was fewer recommendations and assessment in these themes.

Comparing to attention to fiscal policy

As the saying goes for the IMF, "it is mostly fiscal." Indeed, relative to fiscal issues, attention to health, the vulnerable, and climate change are generally not on the radar screen. That changed in 2020 with a rapid attention to health issues in the wake of the COVID-19 crisis. As discussed in the methods section, we also scale the number of words on fiscal policy and adjustment for each document, selecting keywords, and calculating an index based on a ratio between the sum of search terms and the document count of words as a percentage.

The IMF Fiscal Adjustment Index underscores how the public account discipline stands to the Fund's assessments and recommendations. According to the IMF framework, fiscal adjustment and financial security are at the core of financial stability. Reducing the government's primary budget deficit is attained from a reduction in government expenditures, an increase in tax revenues, or a combination of both. The goals of fiscal adjustment identified by the IMF were fiscal sustainability, credibility, and reducing uncertainty.

Figure 5: IMF COVID-19 Surveillance Monitor Total: Distribution of Data, in 2019 and 2020, by Income Level
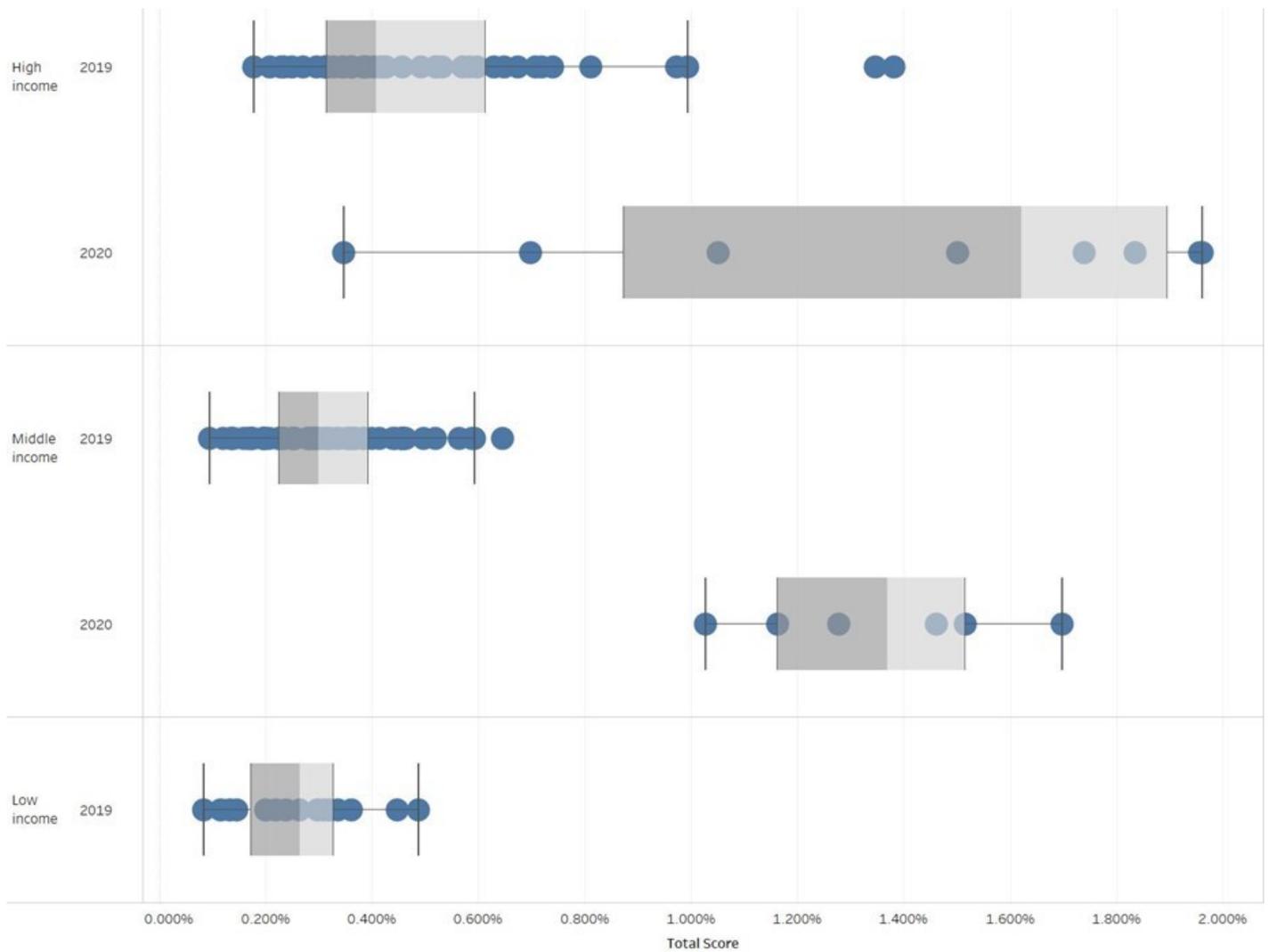
Source: Authors own elaboration.

Following this guideline, the IMF Fiscal Adjustment Index identified a recurring theme once discussed in all Articles IV selected. Table 4 summarizes some statistical metrics.

Table 4: IMF Fiscal Adjustment Index: Statistical Analysis

	2019	2020
Average	0.61%	0.60%
Median	0.60%	0.56%
St. Deviation	0.22%	0.15%

Source: Authors own elaboration.

Table 4 is very elucidative. The IMF Fiscal Adjustment Index had a similar trend in these years, despite the sanitary crisis in 2020. Just the dispersion was higher in 2019, likely due to more publication in this year.

Figure 6 advances and compares the IMF COVID-19 Surveillance Monitor Total and the Fiscal Adjustment results.

On average, the fiscal adjustment topic was more relevant than Health, Support for the Vulnerable, and Climate subjects together, in 2019, it was 0.61 percent against 0.37 percent; and maintained the pattern, with 0.6 percent in 2020; however, the Total score grew significantly to 1.22 percent. The IMF's Surveillance Fiscal Adjustment Index was more stable during this period.

Interestingly, in 2020, Germany had the lowest IMF's Fiscal Adjustment Index and the highest IMF Total score; 0.38 percent and 1.96 percent, respectively. Released in January 2021, the Fund's Directors commended the German authorities for effectively handling the COVID-19 crisis and containing its economic impact. They welcomed the large policy support package enacted in 2020 and the intention to maintain considerable fiscal support in 2021, including the suspension of the debt break rule. IMF (2021) encouraged the German authorities to "stand ready to deploy additional measures should the recovery faster, given ample fiscal space" (p.2).

In this report, there was a high discussion in Health, Supporting the Vulnerable, climate issues, and a low engagement in fiscal discipline. The IMF Directors highlighted the need to "build better for the future by supporting the structural transformation toward a smarter, greener economy" (2021, p.2), and "prioritizing investment in infrastructure, climate mitigation, digitalization, and human capital in this context" (2021, p.2).

This exercise allows us to gauge the relative importance of COVID-19 and climate change in surveillance activities: i) fiscal discipline topics are a regular and more stable theme since they are widely discussed in all Articles IV selected and without correlation with income level; ii) despite the COVID-19 crisis, in 2020 the IMF Fiscal Adjustment Surveillance Monitor had the same pattern and behavior.

Figure 6: IMF COVID-19 Surveillance Monitor Total and Fiscal Adjustment, in 2019 and 2020
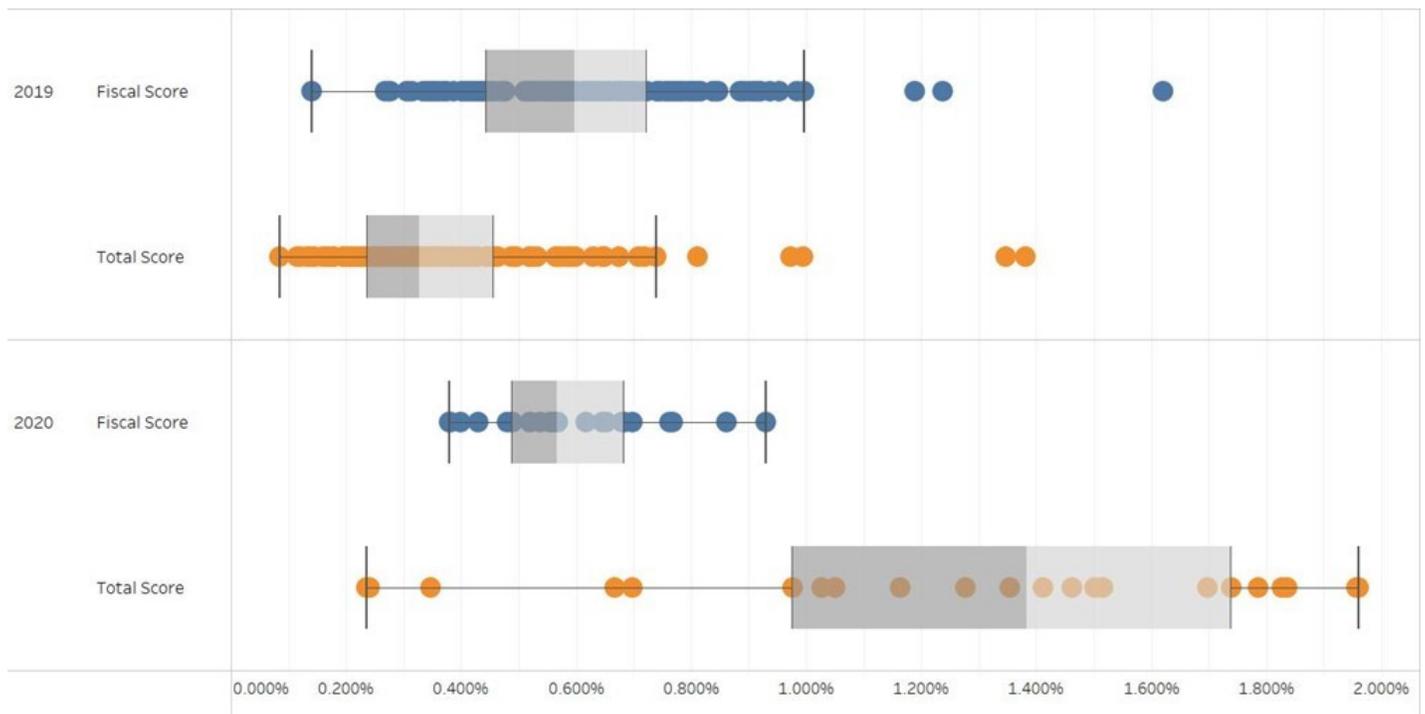
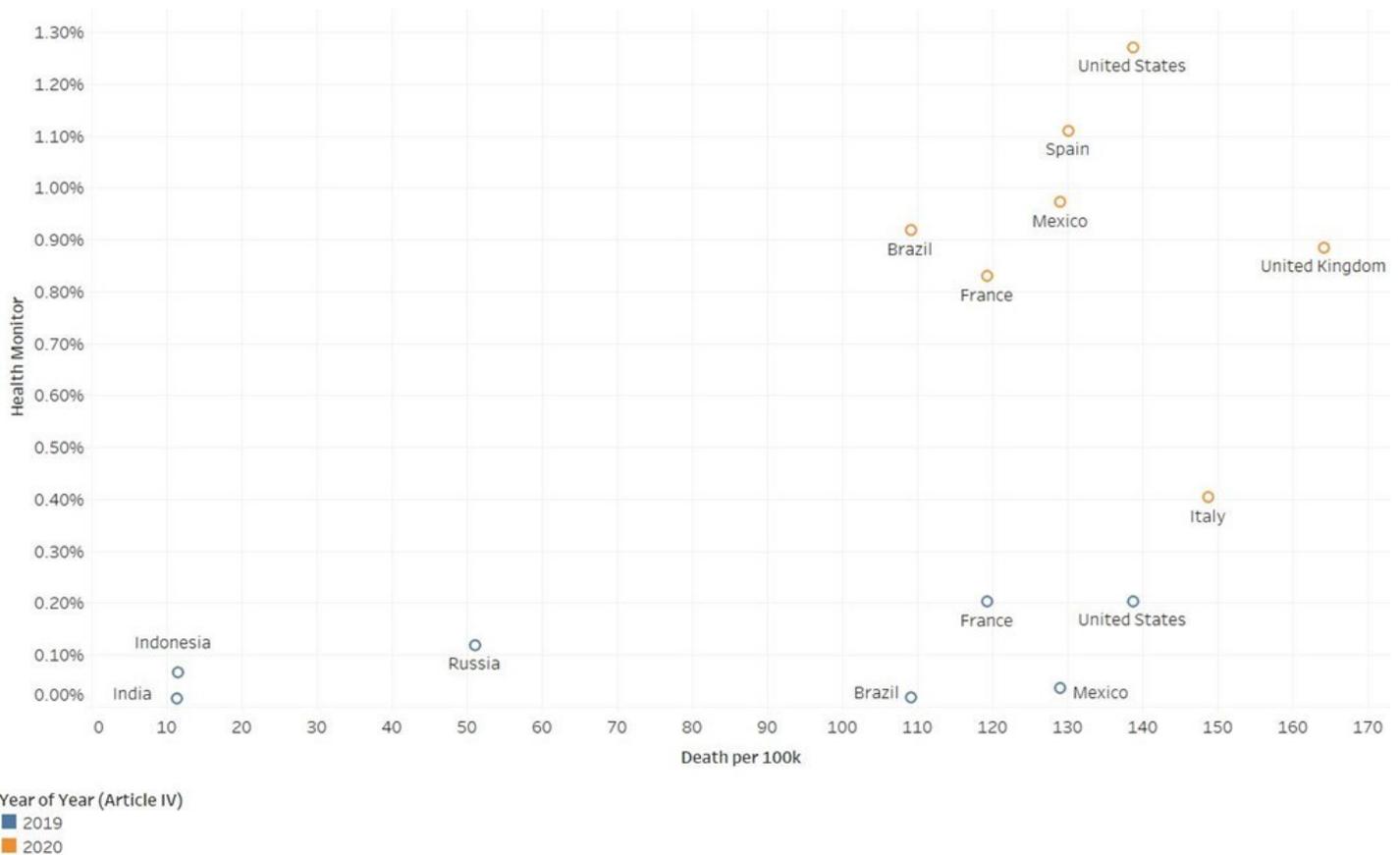
Source: Authors own elaboration.

CONCLUSIONS

IMF leadership has repeatedly stated that it aims to help countries attack the COVID-19 virus, protect the vulnerable, and address climate change. In this paper, we sought to address the degree to which these issues have been addressed in Article IV consultations. Drawing on methods in previous work in the literature, we created an index that may help If 2019 reflects past performance, we find that the Fund has given relatively little attention to health, supporting the vulnerable, and especially climate change in the past. Instead, the focus has been on fiscal discipline. That changed in 2020 when the IMF pivoted significantly and was focused on health care in Article IV consultation. Supporting the vulnerable and climate change, however, remain as secondary issues at best.

The IMF's pivot to addressing COVID-19 should be underscored, as shown in Figure 7. According to Johns Hopkins University data, the current[4] ten most affected countries, in the number of cases and deaths per 100k population, were United States, Brazil, France, Spain, Russia, United Kingdom, India, Italy, Indonesia, and Mexico.

This figure shows that in these selected countries, there was appropriately a significant increase in attention to health in 2020, compared to 2019. Our health scores for these were mostly above 0.80 percent in 2020, as such issues were not discussed in 2019. Contrary to the IMF rhetoric on

Figure 7: IMF COVID-19 Health Surveillance Monitor in 2019 and 2020 and Death per 100k Population, Selected Countries

Year of Year (Article IV)
■ 2019
■ 2020

Source: Authors own elaboration.

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[4] Considering February 8, 2021 data.

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the COVID-19 recovery, our preliminary analysis shows that the IMF still lacks sufficient attention to protecting the vulnerable and tackling climate change in Article IV consultations. Perhaps the more lasting contribution of this ongoing effort will be the ability to use these indices as independent variables to examine the extent to which IMF advice led to better post COVID-19 outcomes.

Our measure and preliminary results reveal that the IMF can respond quickly to new macro-critical concerns. As the Fund engages in the Comprehensive Surveillance Review, the IMF should be sure to maintain these flexibilities and also be sure to incorporate the physical and transition risks from climate change, which are emerging as some of the largest macro-critical issues of our time.

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ANNEX

Table 5: Search Terms Per Group, Count of Search Terms by Year, and Total

Group	Search Term	2019	2020	Total
Health	coronavirus	17	96	113
	covid	70	957	1027
	disease	40	26	66
	health	1680	708	2388
	infection	5	97	102
	medical supplies	1	13	14
	medical supply	0	1	1
	outbreak	48	215	263
	pandemic	38	1051	1089
	personal protective equipment	0	4	4
	vaccine	3	120	123
Support for the Vulnerable	basic income	7	1	8
	cash transfer	114	29	143
	employment	3109	1017	4126
	exposed	216	38	254
	poor	610	91	701
	protect employment	0	1	1
	safety net	373	122	495
	social protection	199	87	286
	social welfare	36	2	38
	vulnerable	776	226	1002
Climate	climate change	427	67	494
	climate risk	15	2	17
	climate shock	32	0	32
	climate smart	2	0	2
	climate-related	27	6	33
	climatic	8	1	9
	emission	159	79	238
	energy efficiency	17	13	30
	energy matrix	4	0	4
	energy source	14	7	21
	energy transition	20	5	25
	fossil fuel	21	5	26
	green	336	233	569
	green energy	1	5	6
	green technology	0	3	3
	sustainable infrastructure	0	3	3
	physical risk	0	0	0
	transition risk	2	0	2

Source: Authors own elaboration.

Table 6: Fiscal Discipline Terms, Count of Search Terms by Year, and Total

Search Term	2019	2020
budget constraint	19	3
budget control	10	2
budget deficit	103	16
budget reform	2	
debt sustainability	1537	274
deregulation	21	
fiscal consolidation	976	178
fiscal contraction	7	5
fiscal debt	5	
fiscal policy	1188	259
fiscal reform	125	29
fiscal rotation		1
fiscal rule	446	80
fiscal space	589	116
fiscal sustainability	389	52
flexibilization	1	3
government debt	645	163
government reform	10	2
labor market reform	89	22
pension reform	213	33
privatization	436	43
public debt	4338	825
public deficit	4	12
public indebtedness	3	1
public spending	248	43
reduce debt	61	7
structural reform	1547	255
tax expenditure	171	50
tax reform	300	60
wage restraint	14	2
Total	13497	2536

Source: Authors own elaboration.

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