Index Insights

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An ESG analysis of the COVID-19 crisis

Is ESG resilience the key to a well-managed pandemic?

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Introduction

For almost two years, the COVID-19 pandemic has continually challenged economies worldwide. In response, governments have needed to adopt different policies.

In this study, we ask whether ESG resilience is the key to a well-managed pandemic such as COVID-19. Using our in-house model, ESG Factor-IN, we make the link between ESG performance and the human casualties of the pandemic.

Via a simple econometric framework applied to 41 selected economies, we exhibit the negative and significant relationship between the overall Social Performance and Political Effectiveness scores, and the mortality rate due to the COVID-19 pandemic.

The analysis shows that investing in ESG themes has overarching benefits, both for economies and investors. While it results in more preparedness and agility when addressing unpredictable events for economies, good ESG performance also provides security, stability and lower risk for investors.

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1. COVID-19 pandemic assessment: Are all economies in the same boat?

The COVID-19 pandemic, which emerged in the winter of 2019 and reached global scale in the early months of 2020, represents one of the major global challenges, with multiple effects lasting for years to come. It has wreaked havoc around the world (economic downturn and recession unknown since the great depression; temporary skyrocketing unemployment rate; high death toll; strain on health services; shaken geopolitics, etc.) and has thus global proportions and scale.

1.1. Differences in COVID-19 pandemic management

The differences in pandemic management and economic recovery between regions are stark. Much of the European continent, North America, and South America were slow to recover and, at the time of writing, are still in the process of containing the virus, while China, and some other countries of the Asia-Pacific region, overcame the crisis quicker after imposing prompt curbs on movement and activity. Nevertheless, the number of daily-recorded COVID-19 cases remains fluid, and any definitive conclusions are still premature.

The speed of recovery and the decline in cases were very dependent on the COVID strategy of each economy; the approaches can be classified into two categories: (i) the “zero COVID” strategy, and (ii) the “mitigation” strategy (*i.e.*, living with the virus).

Economies implementing the “zero COVID” strategy entered strict lockdowns, immediately on recording locally-spread cases, and eased restriction only after the number of infections had decreased to zero. As a result, South Korea, Singapore, Australia, Malaysia and Japan, not only returned to ‘normal’ faster, but also considerably reduced the number of COVID-19 casualties.

On the other hand, the “mitigation” strategy meant entering lockdowns only once the transmission was widespread, and easing restrictions while the infection is still circulating. For most of the European and North and South American countries, this strategy resulted in higher infection and mortality rates and prolonged periods of confinement for some.

1.2. The COVID-19 pandemic in figures

At the end of August 2021, nearly 220 million official cases of COVID-19 globally had been recorded, with more than 4.5 million casualties. Some of the most impacted regions, both in terms of cases and casualties, are the Americas, Europe, and South East Asia.

For the purpose of our analysis, we have reduced the sample of economies to make it more homogeneous, notably because of the standardized data available. We selected economies based on the following criteria:

First, we chose some economies from the FTSE World Government Bond Index universe (group of the largest debt-issuing countries in the world) which adopted a “mitigation strategy”, while the, so-called, “Zero COVID” economies were deliberately excluded.

Second, several economies were selected on the basis of their geographical position (*i.e.*, Americas, Europe, Asia, and Africa), heterogeneous economic development, and the seriousness of the pandemic (*i.e.*, total deaths per million inhabitants above 1,000).

This resulted in a final 41-economies-universe for this paper[1], encompassing more than 107 million cases and more than 2.3 million casualties officially reported as of August 31, 2021.

We then looked at the number of factors which contributed to some of the worst outbreaks, both from a view of recorded cases and casualties, and found that most of the countries are in Europe, and North and South America − three regions at the epicenters of the global COVID-19 pandemic.

Furthermore, among the selected economies in our universe are some of the most advanced and globalized economies. As a result, they could not abruptly halt the flow of people and goods, contributing, in part, to the acceleration in the number of cases and casualties.

Last, most of these economies had not dealt with a significant health crisis within the past century and were, therefore, ill prepared for the huge strain on services and emergencies that came with it. Asia was the exception, where the previous H1N1 influenza virus had resulted in more than 300,000 confirmed cases and consequently made that continent better prepared than the others.

1.3. The COVID-19 pandemic in charts

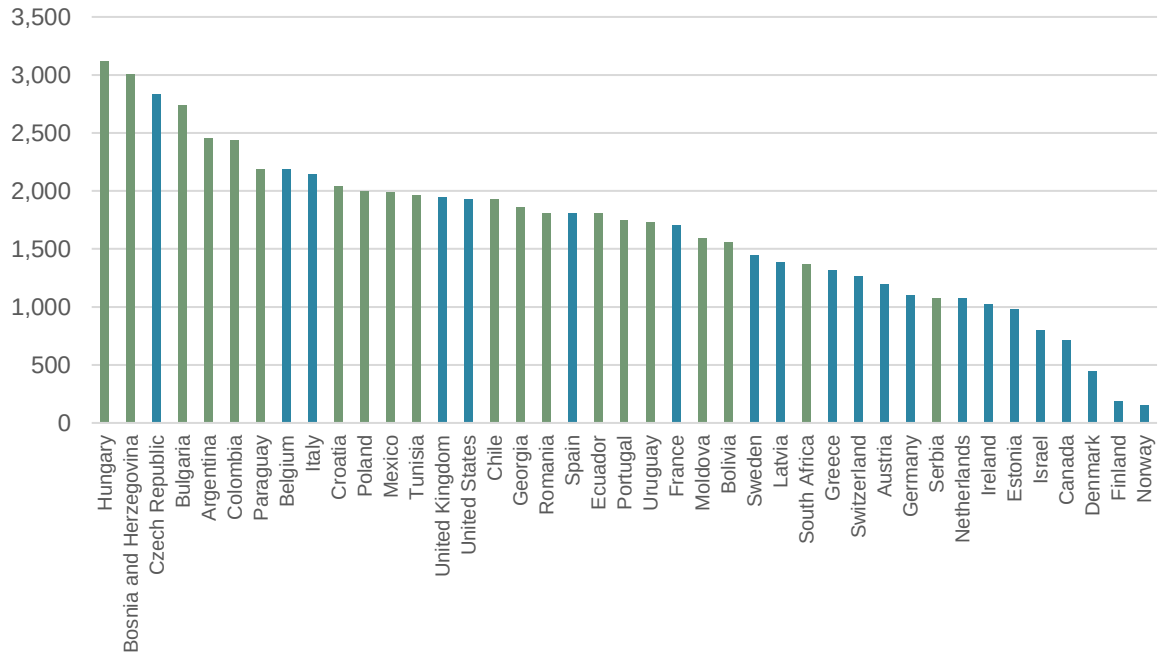
To illustrate the differences in management of the COVID-19 epidemic within our universe, we compare these economies in terms of the number of deaths per million inhabitants as at August 31, 2021. Data used for the COVID-19 pandemic are obtained from *Our World in Data*[2]. The deaths figures for each economy represent the official count, as reported by governments or relevant authorities in each country. This data is then aggregated in *Our World in Data*.

Figure 1 reports the number of deaths per million inhabitants related to COVID-19. We can see that the economies that have paid the highest price for the pandemic are predominantly emerging markets and developing economies (EMDEs). This contrasts with most of the advanced economies (AEs), which have suffered relatively fewer casualties. The most affected economies are in Central and Eastern Europe (*e.g.*, Hungary with 3,120 deaths per million inhabitants, Bosnia and Herzegovina with 3,004 and the Czech Republic with 2,835) and in Latin America (*e.g.*, Argentina with 2,452 and Colombia with 2,437).

[1] Argentina, Austria, Belgium, Bolivia, Bosnia and Herzegovina, Bulgaria, Canada, Chile, Colombia, Croatia, Czech Republic, Denmark, Ecuador, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Israel, Italy, Latvia , Mexico, Moldova, Netherlands, Norway, Paraguay, Poland, Portugal, Romania, Serbia, South Africa, Spain, Sweden, Switzerland, Tunisia, United Kingdom, United States and Uruguay. We selected those 41 economies on the basis of data availability and transparency.

[2] *Our World in Data* is an online publication that focuses on large global issues and among others gathered extensive data pertaining to the Covid-19 pandemic. As such, *Our World In Data* is not the primary source of the information, but merely a platform where the data is collected and interpreted (*e.g.*, the data on daily cases and deaths is sourced from Johns Hopkins University, which in turn collects data from governments, national and subnational agencies across the world).

Figure 1: Total Deaths per Million Inhabitants (as of August 31, 2021)



Source: Our World in Data, Beyond Ratings.

Notes: The green bars denote the number of deaths per million inhabitants in EMDEs from the beginning of the COVID-19 pandemic (February 2020) to August 31, 2021, while the blue bars reflect the same number in AEs.

Beyond the fact that the economic level of development seems to explain, in part, the disparities in the management of the COVID-19 pandemic, we can ask to what extent the ESG performance of economies could be key in the management of the COVID-19 pandemic in these 41 economies.

2. How did ESG performance affect the management of the COVID-19 pandemic?

2.1. ESG Factor-IN in a nutshell

We use the ESG Factor-IN[3] model to evaluate the ESG performance of each economy. This in-house model links country economic and ESG performance, but also identifies the ESG indicators that matter, depending on the economic level of development. ESG Factor-IN takes an agnostic approach to ESG and can be leveraged to measure countries' Sustainable Development Goals progress.

ESG Factor-IN covers 175 economies and has more than 2,000 historical data available over the past 20 years. In analyzing each of the E, S and G pillars, the model uses more than 80 Environmental indicators, 110+ Social indicators, and 20+ Governance indicators, divided into a number of themes (see Table 1). It is important to note that each indicator carries its own weight,

[3] For more information on ESG Factor-IN, please see Factor-In Technical Specifications (sharepoint.com).

underpinned by the economy's level of development. The level of development is divided into five categories: low income, lower middle income, upper middle income, high income non-OECD countries, and finally high income OECD countries.

Table 1: ESG Factor-IN Outputs Overview

Environment (88)	Social (116)	Governance (25)
Climate Change	Demographics – Life Conditions	Business Rights
Energy Efficiency	Demographics – Dynamic	Corruption
Energy Security	Economic Inequality	Democratic Life
Energy Infrastructures	Gender Inequality	Political Effectiveness
Pollution	Employment	Political Stability
Biodiversity	Labour & Social Protection	Rent Dependency
Resource & Depletion	Education	Security
Water Scarcity	Innovation & Human Capital	
Water Infrastructures	Health Issues	
Land Resources	Vulnerability	
Agriculture & Food	Lifestyle Risks	
Transport Infrastructures		

Source: Beyond Ratings.

The aim of the analysis is to test the assumption that Social and Governance performance could have significant effects on the number of cases and deaths due to the COVID-19 pandemic. Such an assumption is based on the fact that indicators in these two pillars provide an overview of how, and to what extent, an economy is performing from the S and G standpoints. Indeed, indicators from the social pillar, for example, such as health issues, life conditions and lifestyle risks, vulnerability, *etc.* constitute important parameters of how each economy fared during the COVID-19 pandemic. From a G perspective, we can easily understand that political effectiveness and stability can be primary factors to explain the good management of the COVID-19 pandemic.

2.2. ESG performance versus COVID-19 outcome

2.2.1. From descriptive statistics…

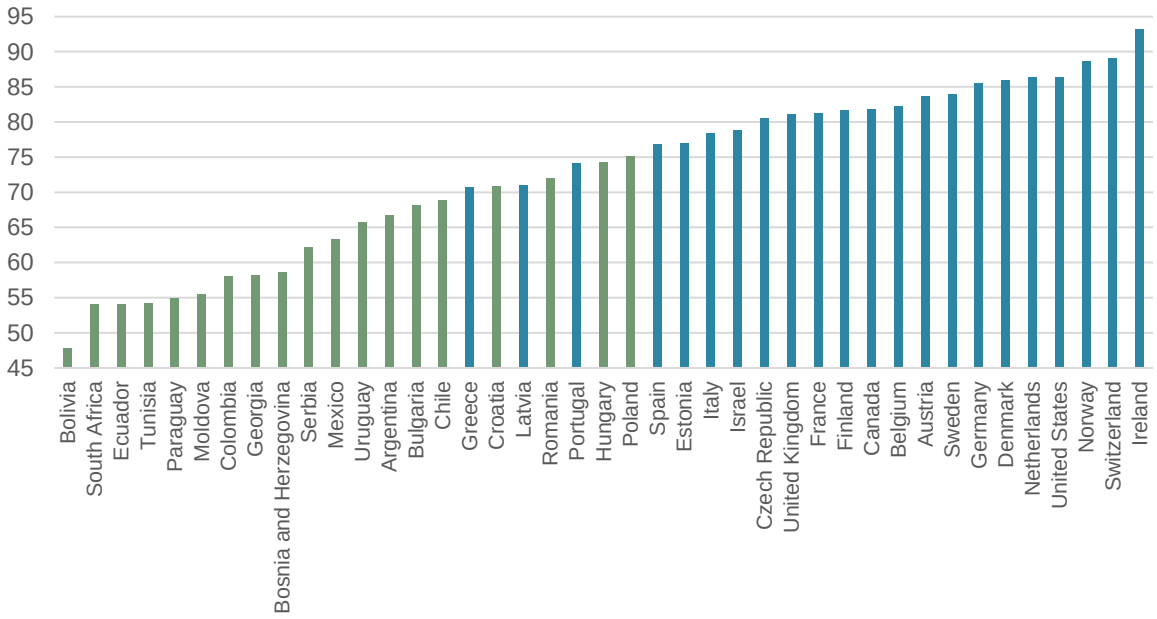
Despite a large number of cases and casualties, some of the selected economies are now on an improving trajectory, mostly as a result of successful vaccination campaigns – they are predominantly from advanced economies, and mainly in Europe and North America. Significant

immunization push is in part due to the jabs being developed in these economies, the result of a strong investment in the social pillar, more specifically in research and development (R&D), human capital, health infrastructures and resources, *etc.*

Since the E, S and G score of our model is compiled using a number of indicators and pillars, it can help investors to understand what will be the likely effect of similar future events. These indicators have the ability to show the Big Picture, but also the extent to which economies are prepared to deal with unexpected events. In this regard, S and G have a greater capacity (compared to traditional indicators) to assess the current situation and future implications. During the COVID-19 crisis, we saw that some S and G indicators, like the number of hospital beds and physicians, R&D and government effectiveness, are important in how each economy was impacted by the crisis. Therefore, economies which invest in and pay attention to ESG performance should be more stable, effective, and, to an extent, likely to better manage unexpected and disruptive events.

Upon selecting 41 economies and gathering the relevant data, regression models were established to test the relationship between ESG Factor-IN indicators and data pertaining to the COVID-19 pandemic. The most important correlations between the number of deaths per million inhabitants and the various ESG scores in the ESG-Factor-IN model are: (i) the overall Social Performance score and (ii) the Political Effectiveness score. Figures 2 and 3 show the scores distribution of these two dimensions.

Figure 2: Overall Social Performance Score Distribution (2017-2019 Average)

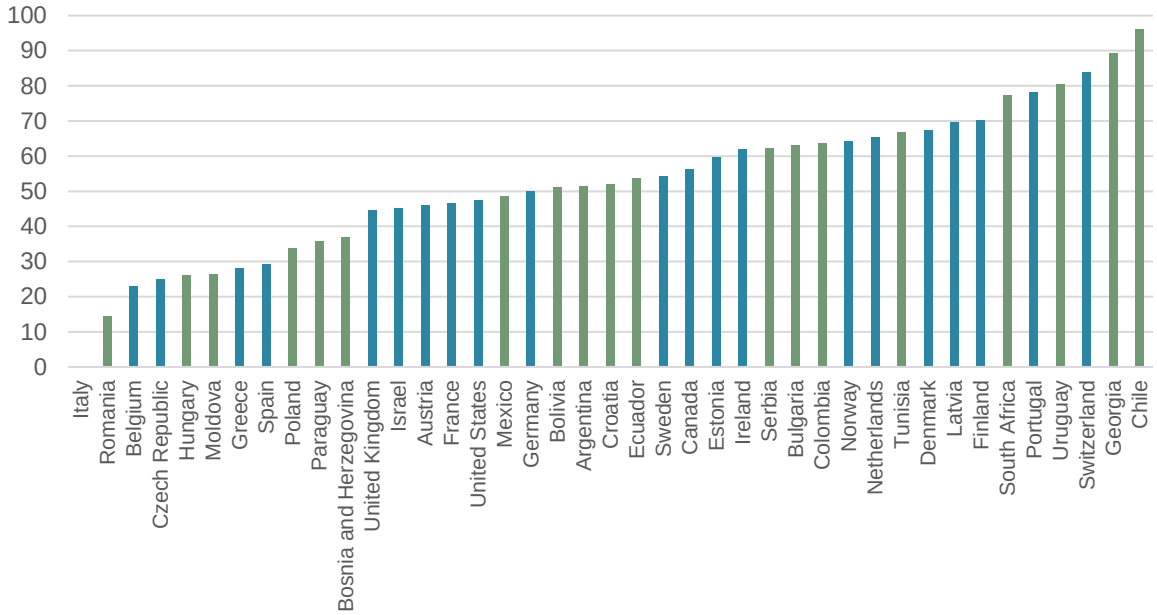


Source: Beyond Ratings.

Notes: The green bars denote the scores for EMDEs, while the blue bars reflect the same score for AEs. The scores are calculated as an average over the last three available years, *i.e.*, from 2017 to 2019.

As mentioned earlier, the overall Social Performance score is strongly correlated with the economies' level of development (see Figure 2). The ingrained income bias[4] is almost inherent in Social Performance scores. On the one hand, the best performing economies are systematically high-income economies, while middle-income economies rank at the bottom of our universe. In the middle of the ranking are some Central and Eastern European economies (some EMDEs such as Croatia, Romania, Hungary and Poland) and peripheral economies of the euro area (some AEs such as Greece, Portugal and Spain).

Figure 3: Political Effectiveness Score Distribution (2017-2019 Average)



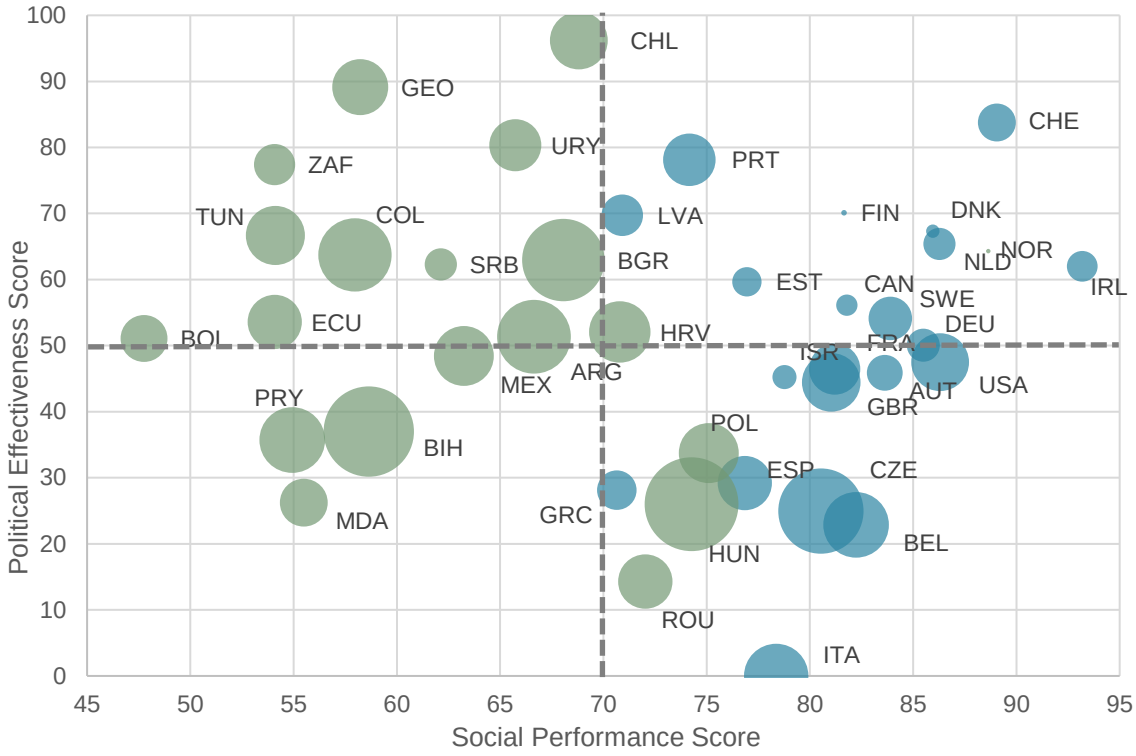
Source: Beyond Ratings.

Notes: The green bars denote the scores for EMDEs, while the blue bars reflect the same score for AEs. The scores are calculated as an average over the last three available years, *i.e.*, from 2017 to 2019.

Turning to Political Effectiveness scores, it appears that the income bias is less deeply rooted as the level of development of the economies is not the most significant factor in the distribution of scores (see Figure 3). Indeed, economies such as Italy and Belgium suffer from marked political instability (structural in the case of Italy) and, therefore, show a low score for their political effectiveness.

[4] For more details on the ingrained income bias, please see Gratcheva E. M., O'Reilly Gurhy B., Emery T., Wang D., Oganes L. E., Linzie J. K., Harvey L., Marney K., Murray J., and Rink R., ***A New Dawn – Rethinking Sovereign ESG***, 2021. Washington, D.C.: World Bank Group.

Figure 4: On the Link Between S and G Performance and COVID-19 Pandemic Management



Source: Beyond Ratings.

Notes: The x-axis represents the Social Performance score while the y-axis denotes the Political Effectiveness scores. These scores are calculated as an average over the last three available years, *i.e.*, from 2017 to 2019. The size of the bubbles indicates the number of deaths per million inhabitants due to the COVID-19 pandemic from the beginning of the COVID-19 pandemic (February 2020) to August 31, 2021. The green bubbles denote the number of deaths per million inhabitants for EMDEs, while the blue bubbles reflect the same number for AEs.

Figure 4 links four different dimensions:

1. The Social Performance score on x-axis;
2. The Political Effectiveness scores on y-axis;
3. The number of deaths per million inhabitants due to the COVID-19 pandemic represented by the size of the bubbles;
4. The dichotomy between AEs and EMDEs is represented by the color of the bubbles, blue for AEs and green for EMDEs.

Some stylized facts are shown in Figures 2, 3 and 4. First, it appears that AEs have better relative scores on Social Performance than EMDEs with an average score of 81.7 for AEs *vs.* 62.2 for EMDEs. Second, the scores on Political Effectiveness are more balanced with similar averages, *i.e.*, 50.7 for AEs *vs.* 54.1 for EMDEs. Third, the average number of deaths per million inhabitants is more than a third smaller in AEs than in EMDEs with 1,333 deaths per million inhabitants for AEs *vs.* 2,034 for EMDEs. Lastly, within the AEs, the further North the economies are located, the less they were affected by the COVID-19 pandemic.

On the one hand, the top right-hand corner of Figure 4 offers the best-case scenario, *i.e.,* the highest scores on both overall Social Performance and Political Effectiveness. In this best-case scenario, we find only AEs that managed the COVID-19 pandemic well, with a relatively low mortality rate (*e.g.*, Norway, Finland and Denmark).

On the other hand, the bottom left-hand corner of the Figure 4 represents the worst-case scenario, i.e., the lowest scores on both overall Social Performance and Political Effectiveness. In this worst-case scenario, only EMDEs that poorly managed the COVID-19 pandemic are present, such as Moldova, Paraguay and Bosnia and Herzegovina.

The two other quadrants are more balanced, even though the top left-hand corner is only composed of EMDEs. These economies managed relatively better the COVID-19 pandemic than the economies in the bottom right-hand corner.

2.2.1. ...to the econometric model

To better understand the magnitude of the stylized facts discussed above, we set up a basic econometric framework that links the Social Performance (*i.e.*, $SocialPerf$) and Political Effectiveness (*i.e.*, $PolEffectiveness$) scores with the number of deaths per million inhabitants due to the COVID-19 pandemic (*i.e.*, $Covid19Casualties$). We have iteratively estimated two linear regressions with the Social Performance scores only and then with the two above-mentioned scores. The index i refers to each of the 41 economies in our universe.

$$Covid19Casualties_i = \alpha + \beta_1 SocialPerf_i + \beta_2 PolEffectiveness_i + \varepsilon_i$$

Table 2: Linear Regression Estimates

Variable	Univariate	Bivariate
Intercept	3380.59*** (630.06)	4151.49*** (639.74)
Social Performance	-23.71*** (8.56)	-25.13*** (7.89)
Political Effectiveness		-12.77*** (4.49)
Number of Observations	41	41
R-Squared	0.16	0.31

Source: Beyond Ratings.

Notes: The table presents the coefficient of the OLS $Covid19Casualties_i = \alpha + \beta_1 SocialPerf_i + \beta_2 PolEffectiveness_i + \varepsilon_i$. Standard errors are in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% level of confidence, respectively.

The econometric analysis shows that both overall Social Performance and Political Effectiveness scores are, as expected, negatively correlated with the deaths per million inhabitants due to the COVID-19 pandemic. Moreover, the two coefficients associated with the independent variables are statistically significant. These results illustrate that, *ceteris paribus*, the higher are the scores on the overall Social Performance and Political Effectiveness, the lower the mortality rate due to the COVID-19 pandemic and *vice versa*.

3. Conclusion

Through this study, we set up a framework in which we highlight that Social and Governance performance have a close correlation with the outcome of the COVID-19 pandemic in the various economies of our selected universe. Indeed, both the overall Social Performance and Political Effectiveness scores are negatively and significantly correlated with the number of deaths per million inhabitants due to the COVID-19 pandemic. Subject to further research, this would indicate that countries with higher Social Performance and Political Effectiveness scores performed better overall with their management of the pandemic.

Moreover, the level of development is intrinsically linked to the Social performance of an economy, which is itself strongly linked to the management of the COVID-19 pandemic. As for the Governance performance, it appears to be a key variable in pandemic management in so far as the income bias ingrained in ESG scores is much less prevalent here.

AEs, with high relative scores in S and G performance, hold therefore a better record, having fewer human casualties from the current pandemic. This contrasts with the EMDEs, which have relatively low scores and high losses.

In conclusion, this study could serve as an ex-post case for continuous investment in a sustainable and responsible array of public policies. Countries that suffered the most from the COVID-19 pandemic were also those whose sovereign spreads widened during the pandemic, putting further financial pressure on their economies.

Therefore, the study also shows that good ESG performance provides a solid basis for financial stability and reduced risk.

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