Assessing the Countries' Responses to COVID mortality

202218050 :- Ashwath Pranjal
202218047 :- Kamal Yadav
202218048 :- Suvasis Das
202218009 :- Dhruvi Kotecha

Mentor's Name: Prof. Gaurav Kumar Singh
Dhirubhai Ambani Institute of ICT (DA-IICT)
Near Indroda Circle
Gandhinagar 382007, India
gauravkumar_singh [at] daiict.ac.in

I. Work: July,3 , 2023

A. Literature Review: for each member

- 5-7 papers each on Covid study - Mix of Economics, economic development, psychology, financial. Preferably on the country you are studying.
- Prepare Half page summary of each country:What problem they studied, Data set, Time of horizon, Findings/Implications/Contributions

So Total 20-25 papers summary.

B. Country Study:

- Plot the different indices. (Moving average 14)
- Plot each of them with daily death data (Moving average 14)
- Provide a detailed writeup of the pattern.

Dhruvi: USA, Australia

Kamal: Brazil, Japan

Ashwath: India, Germany

Suvasis: UK, Indonesia

Introduction Flow

- Background of Pandemic general sense, how/what the general impact.
- Then Covid effect: Economic/development
- Deaths due to covid
- Country's' responses measures
- Linkage between country response and death: why/what.
- Our context of G20: why G20
- What this study is all about

II. Introduction

A. Pandemic/Covid Generic

Coronavirus pandemic has badly affected the most of the countries in the world. However, the damage it has brought varied widely around the world. In this paper, we shall investigate how and why the pandemic induced macroeconomic consequences have differed (so far) across the world's leading economies, namely G-20 Countries. Particularly, we shall focus on variation in output and excess mortality across the G-20 economies and on completion of our study we would try to conclude the points at which nations recovered from the pandemic by reopening the economy as discussed in Nurunnabi and Almusharraf(2020).

B. Pandemic/Covid Costs/effect

Historically, the estimated costs of epidemics vary significantly, depending on their severity and how they were dealt with. For COVID-19 data, Semmler et al.(2023) estimate that the pandemic curtailed manufacturing activity by around 20%, while Barro et al.(2020) estimate the negative impact on GDP to be around 6–8% overall. The Global Preparedness Monitoring Board (2019), for example, estimates that the cost of such a pandemic could be close to 5% of global GDP. Data from a variety of sources reveal that the pandemic's cost in terms of lives and livelihoods was roughly U-shaped in national income, with emerging markets experiencing the worst public health and macroeconomic consequences. For instance, GDP per capita in emerging markets declined by 6.7 percent on average from 2019 to 2020, compared to 2.4 percent in advanced economies and 3.6 percent in low-income countries.These contractions are due to lockdown down policies.

C. Lockdown, restriction. what are they and how they impacted.

Alon et al.2023 model lockdown policy in a simple way that is consistent with policy variation observed during the pandemic. Specifically, we feed in time-varying lockdown measures that replicate the changing stringency of government policies over the course of the pandemic, as measured by the Oxford Coronavirus Government Response Tracker. In the model, lockdown policies confine individuals to their home, where they are less likely to become infected but incur income losses depending on their job type. More stringent lock-downs confine a larger share of the population

to their home. While we do not allow individuals to disobey lock-downs, households can voluntarily elect to work from home at any point in time. Social distancing measures were introduced to contain the 1918 pandemic, but these varied across jurisdictions and there was no synchronised stop in economic activity. Semmler et al.(2023) find that the US states that introduced containment measures earlier had relatively higher medium-term growth.

Ahmed et al.(2021) argues that due to lockdown measures several affects have been observed on various economic indicators.The outbreak of the infection, COVID-19 (COV), had brought a worldwide misfortune for different industrial and service sectors such as manufacturing, supply chain (SC) and logistics according to Chowdhury et al.(2021), automobile industry, hospitality industry, travel industry, oil industry, construction industry, telecom sector especially for telemedicine as per Bahl et al.(2020), food industry, and medical care industry 2021. However, as Hobbs(2020) suggests there has been seen an upward trend on e-commerce and digital technologies in few sectors such as buying groceries and medicines online, subscribing OTT (over-the-top) channels for latest movies or web series with an compliance of governmental rule for maintaining social distance and less use of cash payments in circulation. Many shopkeepers in order to make their cashless sales have adopted a means of digital payment which allowed them to accept and make various transactions through different applications.//

D. Other impacts/studies on Covid

In a similar way several studies like Singhal and Gupta(2021) have analysed the trends in Europe, achieving during the COVID-19 pandemic an increase in Internet use ending the year 2021 with 89% of the population accessing the Internet (this includes all 37 countries) but also in other contexts: for example,Jeelani et al.(2021) shows that trends in India were assessed in four blockchain phases with different trends in customer behaviour when buying online given by **?** (2020) and also in China by analysing behavioural changes observed on a large online shopping platform and identifying the product categories that faced the most extensive disruptions on Chinese e-commerce.

E. Linkage between country response and death: why/what

This paper is also going to study pandemic induced mortality rate of various countries. Studies suggest that excess mortality was 75 percent higher in emerging markets than in advanced economies. While credible excess mortality data for low-income countries are still largely unavailable, the few existing estimates similarly point to lower mortality rates than in emerging markets. This suggests that, at the time, the economic costs were due primarily to loss of lives, spread out over three years . Some studies like Basedau and Deitch(2021) and Pinckney and Rivers(2020) estimate the cost of a hypothetical 1918-type influenza pandemic in the modern era. Excess mortality has exhibited a similar pattern. According to estimates by The Economist, excess mortality was 75 percent higher in emerging markets than in advanced economies. While credible excess mortality data for low-income countries are still largely unavailable, the few existing estimates similarly point to lower mortality rates than in emerging markets.

Mortality varies from country to countries, as per Zhang and Schwartz(2020), due to health facilities overcrowding in least developed and under-develpoed countries.Health care facilities in LMICs(Least and middle income countries) were overwhelmed by patients with COVID-19. They are already overcrowded with those suffering from pneumonia, human immunodeficiency virus (HIV), tuberculosis (TB), and malaria, and patients in need of surgical treatment. The existing facilities were already overburdened . this caused disproportionate burden of deaths on poor countries.

F. Effects of covid on children and women

Covid caused disproportionate loss on school going children.The pandemic and its associated disruptions, such as school closures, social isolation, and changes in routines, had a significant impact on children's mental health and well-being. Some children experienced increased stress, anxiety, depression, or behavioral changes .

According to Nanthini and Nair(2020) Women suffered much in corona due to disproportionate burden of care giving as they do more work in house hold. They are first to loss their jobs as their presence is more in hospitality sector ,retail sector and other service sectors.Lockdown measures and social isolation have trapped some women in abusive environments, limiting their ability to seek help. Access to support services and resources for survivors has been strained during that time.Women have experienced increased levels of stress, anxiety, and depression due to the pandemic's impact on multiple fronts. The isolation, juggling multiple roles, and uncertainties surrounding health and the future have taken a toll on mental well-being.

G. G20: What, why and our problem context is important/relevant for G20

As per Taylan et al.(2022), G20 focuses in particular on variation in output and excess mortality across G-20 countries as previously data analysis have been done on low-income economies, emerging markets, and advanced economies. The COVID-19 pandemic has had significant effects on various macroeconomic parameters across the world. The correlation between human development indices and death rate with respect to stringency measures are to be found out. Here are some common findings - According to Nurunnabi et al.(2020)the pandemic has led to a sharp decline in economic output and gross domestic product (GDP) for many countries. Lockdown measures caused disruptions in supply chains, reduced consumer spending, and decreased business

activity contributed to this decline.

H. Our Study Problem, objective

I. Report Overview

III. Data and Patterns

A. Data Source, Time frame and what broadly they captures.

The datasets to be analyzed in our study have been obtained from ILOSTAT, World Bank Data, OECD Statistics, Policy Responses to the Coronavirus Pandemic - Our World in Data, Home Page for Aswath Damodaran

The time frame of the our dataset is 2020:Jan to 2022 December with a daily frequency.

B. G20 briefs

El Khoury et al.(2022) selects a group of 20 countries called G-20. The G20 comprises Argentina, Australia, Brazil, Canada, China, EU, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, UK and USA. According to Saputra and Ali(2021) The G20 Countries together represent around 90% of global GDP, 80% of global trade, and two thirds of the world's population.Non-vaccinated (eg. StringencyIndex Nonvax) constructs the index using policies that apply to non-vaccinated people (either non-vaccinated (NV) policies if present, or otherwise using everyone (E) policies).

C. Response Measurement and detail description of each response measure, what it intend to capture, what are its elements, and how it is related with covid/deaths/economy.

As a Country response to covid, we focus on 4 policy responses that are primarily captured on four dimensions - Stringency , Government response, Containment and health, Economic Support. The description of these follows.

Stringency Index: The index records the strictness of 'lockdown style' policies that primarily restrict people's behaviour. It is calculated using all ordinal containment and closure policy indicators, plus an indicator recording public information campaigns.

Government response index: The index records how the response of governments has varied over all indicators in the database, becoming stronger or weaker over the course of the outbreak. It is calculated using all ordinal indicators.

Containment and health index: The index combines 'lockdown' restrictions and closures with measures such as testing policy and contact tracing, short term investment in healthcare, as well investments in vaccines. It is calculated using all ordinal containment and closure policy indicators and health system policy indicators.

Economic support index The index records measures such as income support and debt relief. It is calculated using all ordinal economic policies indicators.

D. Discuss Covid deaths/mortality.

Further, we access the country response with respect to excess mortality. Excesss mortality is measured as the difference between the reported number of deaths in a given week or month (depending on the country) in 2020–2022 and an estimate of the expected deaths for that period had the COVID-19 pandemic not occurred.

Finally, we are interested in understanding how death rates are influenced by the contingency measures and development indicators and vice-versa.

E. Descriptive measures of Variables: Responses, deaths

IV. Patterns in Data

A quick visual of one of the stringency index on different countries is shown in figure 91 (source: Matteo(2021).

We have computed the country wise average of 3 years from 2020-2022 for the data of excess-mortality, life-expectancy, extreme-poverty, human-development-index and new-deaths. Then assigned a rank in descending order to all the countries based on the average that is computed. For example country with highest average excess-mortality is ranked 1 and so on.

V. Results

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VI. Appendix

Another visual (refer figure 5) is countries ranking based on Excess Mortality. Clearly the countries diverege on excess

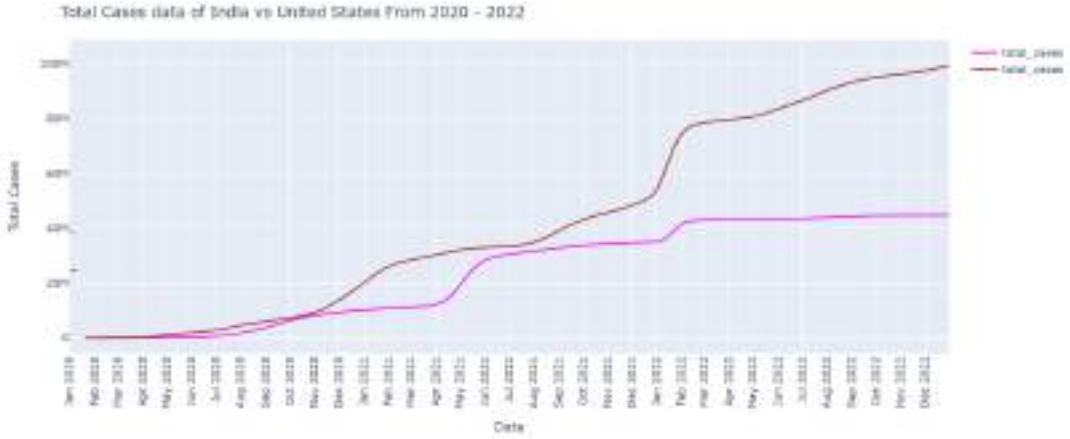

Fig. 1. Total cases data of India vs United states from 2020-2022

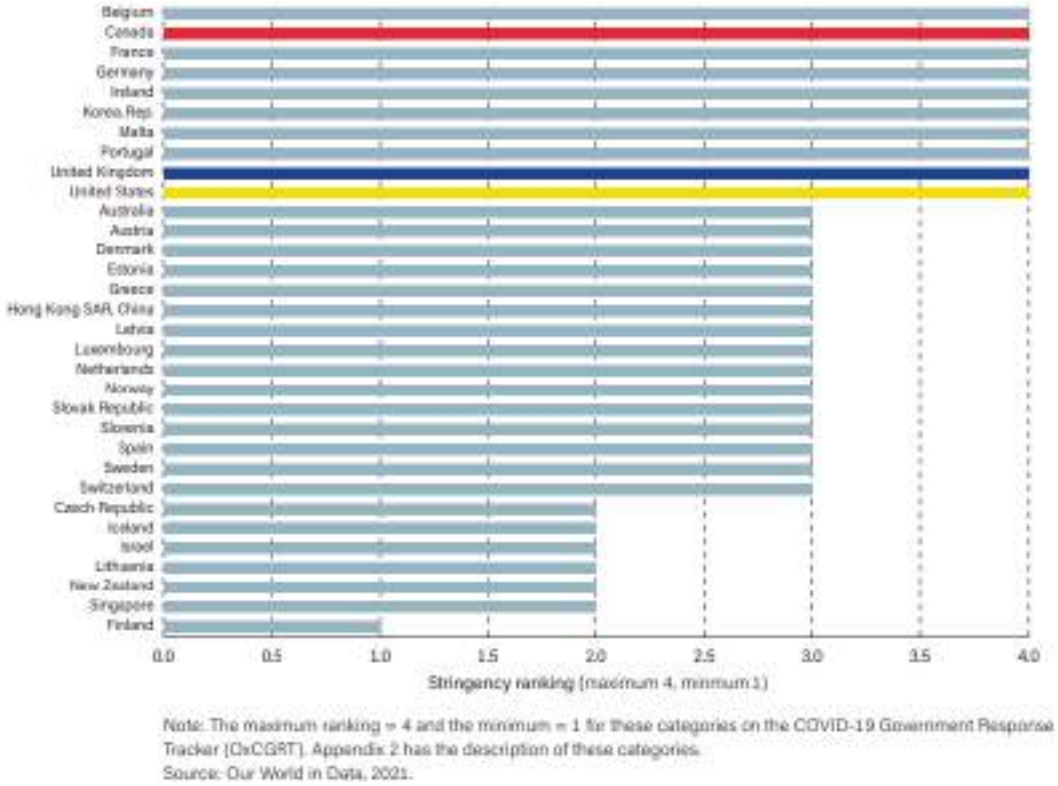

Fig. 2. Impact of Stringency on advanced Economies.

mortality.

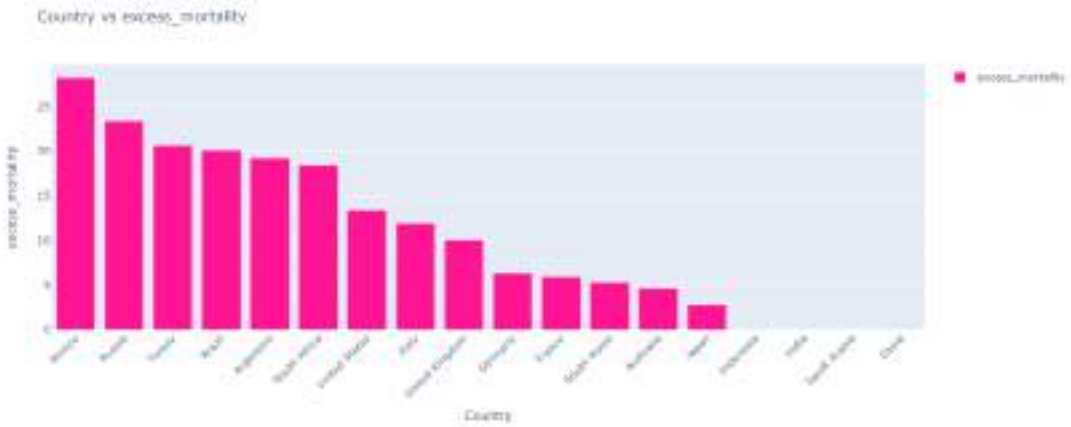

Fig. 3. Ranking based on Excess Mortality throughout the pandemic

VII. Country Study : USA

A. Literature Review

1. COVID-19 Impact on Public Health, Environment, Human Psychology, Global Socio-Economy and Education

- Abstract: The end of the year 2019 was marked by the introduction of a third highly pathogenic coronavirus, after SARS-CoV (2003) and MERS-CoV (2012), in the human population which was officially declared a global pandemic by the World Health Organization (WHO) on March 11, 2020.
- In this manuscript, they have provided an overview of the impact of COVID-19 on health, and have proposed different nutrients suitable for infected patients to boost their immune systems.
- However, the implementation of actions and decisions to control the virus has resulted in the reduction of economic activities following the shutdown of most businesses and consequently the reduced use of public transport and the overall decrease in consumption of electricity, thus implying a decline in the production of thermal and/or nuclear power stations and an increase in renewable energies in the electricity mix.
- According to Saqrane and El Mhammedi (2020), SARS-CoV-2, which is a virus belonging to the large coronavirus, is responsible for precise respiratory distress.
- In chronic inflammatory diseases, taking a high-concentration probiotic reduces the plasma levels of proinflammatory cytokines at the expense of those regulating inflammation.
- Impact of COVID-19 on Energy Consumption: All sectors of industry and transportation were closed during containment, resulting in a significant reduction in energy demand and consumption, enhancing the energy security that has been exploited by the medical industry for manufacturing the products, medical and personal protective equipment.

2. Epidemiological and economic impact of COVID-19 in the US

- This study estimates the epidemiological and economic impact of several counterfactual intervention scenarios to contain the spread of COVID-19.
- Results show that any intervention involving a stay-home order will result in significant economic losses.
- However, the epidemiological impact of these interventions is dramatic.
- They performed a sector level impact analysis and find that losses depend on the level of labor supply shock, the ability of employees to work from home, the productivity of workers who work from home and the dependency between sectors.
- Results also show trade-offs between the economic losses and the number of deaths and infections averted.
- A longer lockdown and/or a high compliance to NPIs result in higher economic losses but save lives and reduce the number of COVID-19 infections.

3. The Impact of the Coronavirus on the Economy of the United States

- In this study, they have used a state-of-the-art, static computable general equilibrium model to simulate three COVID-19 scenarios that range from a relatively moderate pandemic to an extensive pandemic.
- The net U.S. GDP losses from COVID-19 are estimated to range from $3.2 trillion (14.8%) to $4.8 trillion (23.0%) in a 2-year period for the three scenarios.
- The employment decline is estimated to range from 14.7% to 23.8%.
- The positive effects of the former increase as the Mandatory Closures and Partial Reopenings last longer.
- The Health Care expenditures only have a sizable positive stimulating effect in the second severe pandemic scenario (Scenario 2) because it is accompanied by a large increase in the utilization of excess capacity.

B. Graphical Study

Fig. 4. Deaths Data of USA from 2020-2022

Fig. 5. StringencyIndex of USA from 2020-2022

Fig. 6. GovernmentResponseIndex of USA from 2020-2022

Fig. 7. ContainmentHealthIndex of USA from 2020-2022

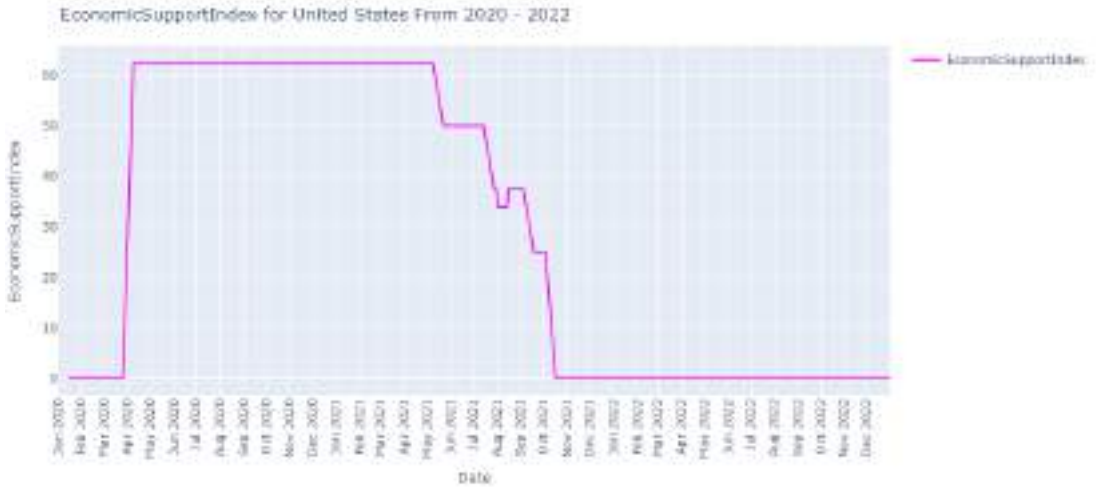

Fig. 8. EconomicSupportIndex of USA from 2020-2022

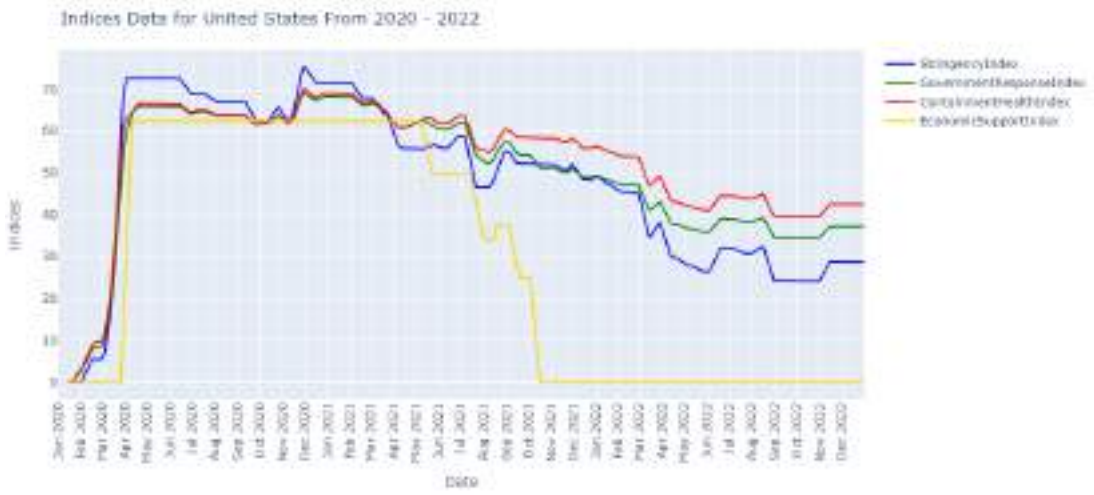

Fig. 9. Indices Data of USA from 2020-2022

Fig. 10. StringencyIndex vs Death Data of USA from 2020-2022

Fig. 11. GovernmentResponseIndex vs Death Data of USA from 2020-2022

Fig. 12. ContainmentHealthIndex vs Death Data of USA from 2020-2022

Fig. 13. EconomicSupportIndex vs Death Data of USA from 2020-2022

Fig. 14. Indices vs Death Data of USA from 2020-2022

VIII. Country Study : Australia

A. Literature Review

1.The impacts of COVID-19 containment on the Australian economy and its agricultural and mining industries

- Associated Data Supplementary Materials Appendix S1.
- Australia has had relatively low case numbers, so impacts on the economy derive not from direct health effects, but from the implementation of tight social distancing restrictions, and the strong fiscal supports that were put in place in tandem with these.
- Table and associated notes in Section 3.3 provide more detail on the model variables that are shocked, and what variables made endogenous to allow the exogenously imposed changes.
- The adjustment is larger for Agriculture and Manufacturing, as exports of Australian food products and pharmaceuticals are relatively expensive items and will be impacted by falls in discretionary spending in China and other trading countries.
- In the Most Likely case, production rises back to No-COVID levels by 2020Q1, while in the Pessimistic scenario production levels are largely restored one year later.
- Conclusions: In this paper, they use the VURM model to better understand the impact of COVID-19 and containment measures on the general economy and agricultural and mining industries.

2. The Impact and Implications of COVID-19: An Australian Perspective

- This article provide a comprehensive overview of the virus' impact and government responses to the time of writing.
- Inadequate material in languages other than English also compromised public communications.
- There is also a risk that complacency will heighten the possibility of a second outbreak of the virus.
- Polarising debates on the policy choices that Australia should take to rebuild its economy and society are also likely, though the prime minister's late attempt to manage differences in industrial relations may also moderate the scope and impact of policy change.
- Australia is well placed than almost any developed country to rebuild its society and economy.
- However, the social and economic consequences of the COVID-19 pandemic have still been extreme, and the policy choices that are made in coming months will have long-term impacts across all areas of social and economic life, including the wide-ranging aspects of social equality and cohesion that this article has discussed, particularly with reference to certain vulnerable groups.

3. COVID-19 and mental health in Australia – a scoping review - BMC Public Health

- General description of studies included The search and selection process is outlined in Fig.58 used data from the COVID-19.
- Overall study findings: The results of the four nationally representative studies.
- Most studies investigating specific populations were cross-sectional and compared current results with the results or statistics from pre-COVID studies that used similar samples (or comparable admissions/administrative data).
- Studies focusing on parents with young children identified a range of mental health challenges and risks during the COVID-19 period, and the three studies that included a pre-COVID comparison indicated that psychological distress increased.
- These studies provide insights into which population groups might be at greater risk of experiencing mental health problems, and what factors were protective during the pandemic.

B. Graphical Study

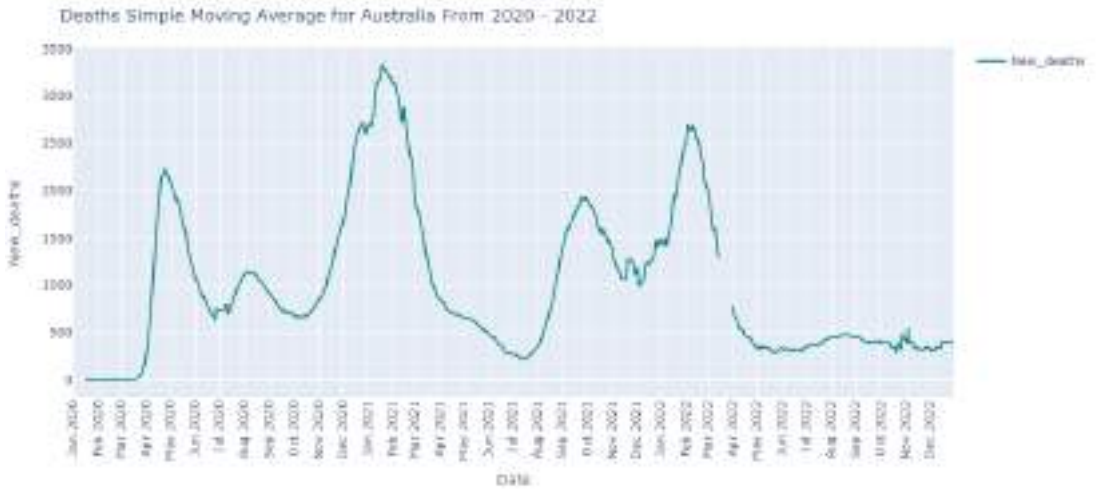

Fig. 15. Deaths Data of Australia from 2020-2022

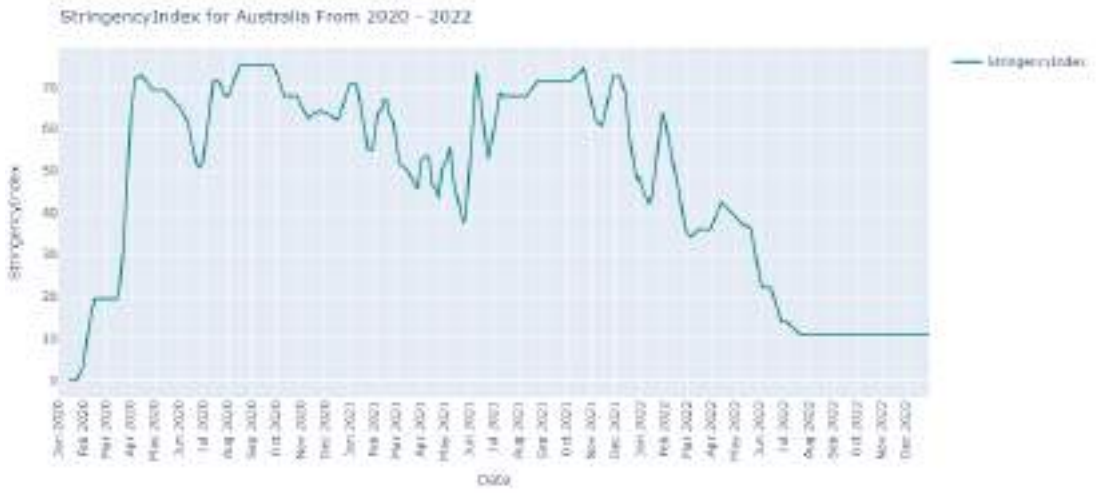

Fig. 16. StringencyIndex of Australia from 2020-2022

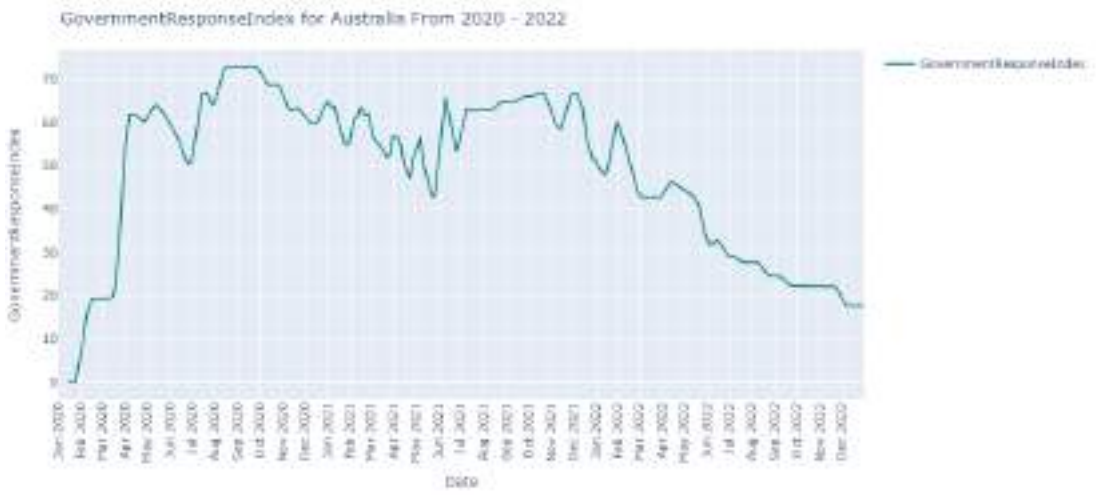

Fig. 17. GovernmentResponseIndex of Australia from 2020-2022

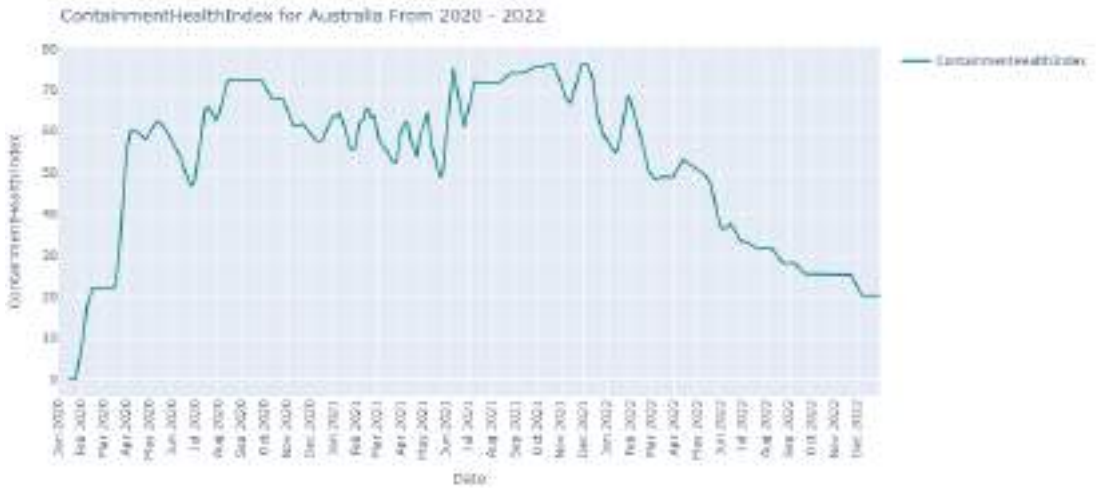

Fig. 18. ContainmentHealthIndex of Australia from 2020-2022

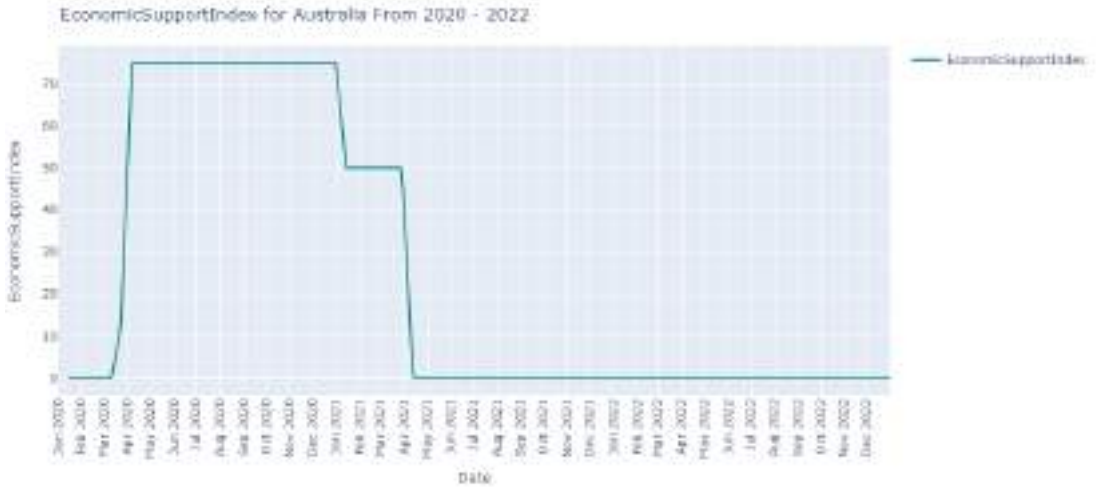

Fig. 19. EconomicIndex of Australia from 2020-2022

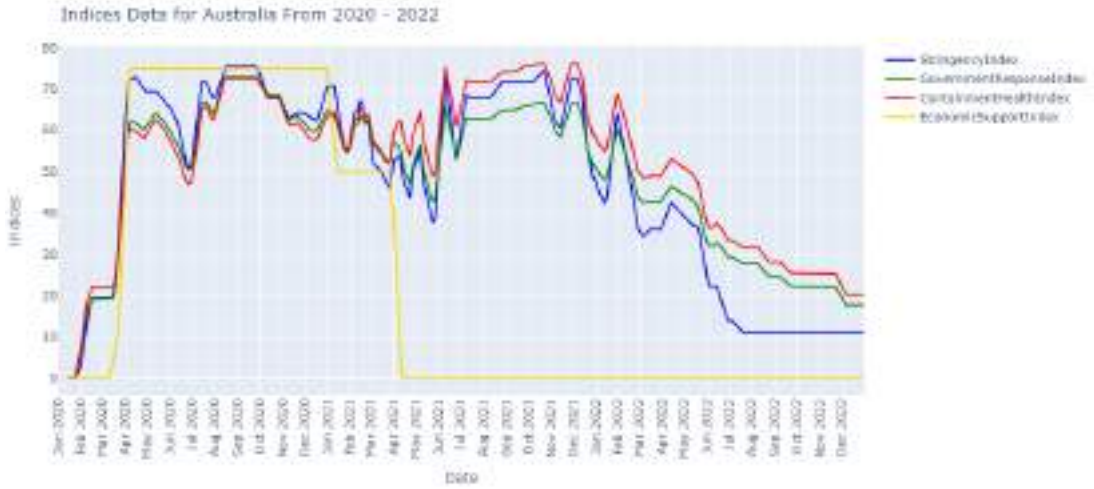

Fig. 20. Indices Data of Australia from 2020-2022

Fig. 21. StringencyIndex vs Death Data of Australia from 2020-2022

Fig. 22. GovernmentResponseIndex vs Death Data of Australia from 2020-2022

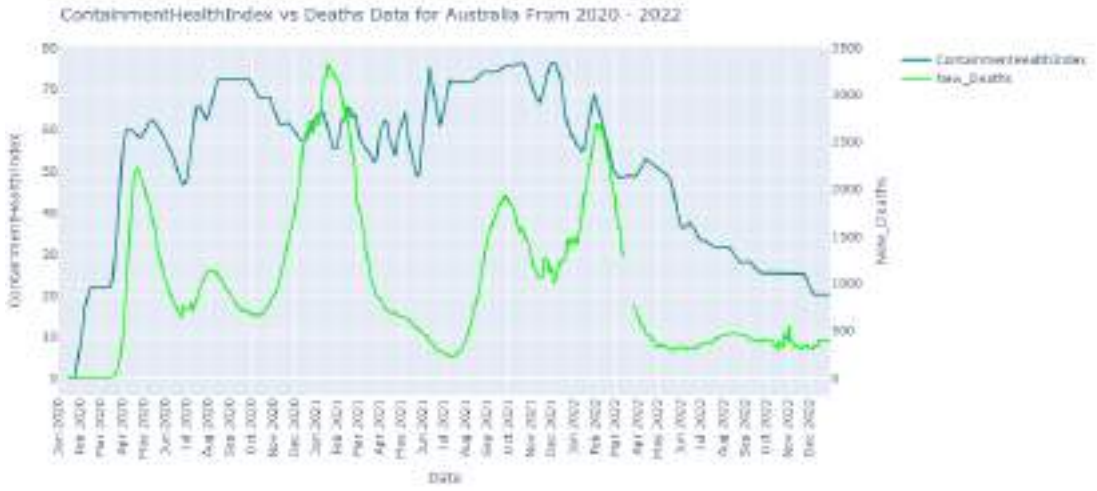

Fig. 23. ContainmentHealthIndex vs Death Data of Australia from 2020-2022

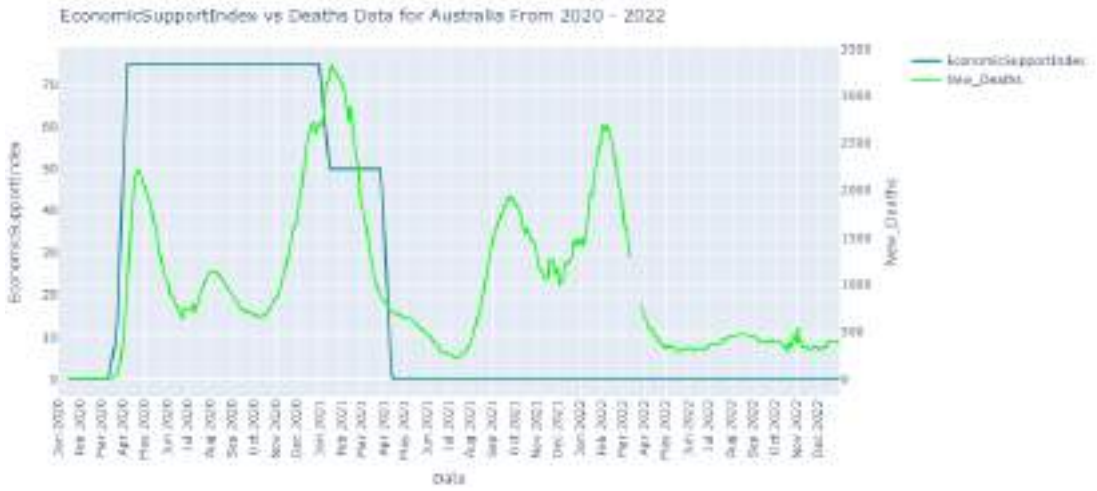

Fig. 24. EconomicSupportIndex vs Death Data of Australia from 2020-2022

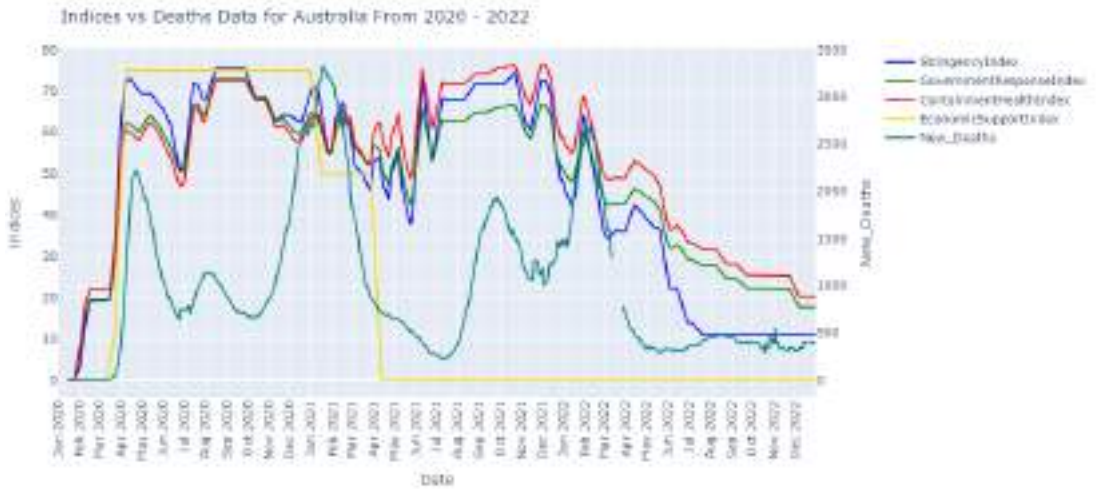

Fig. 25. Indices vs Death Data of Australia from 2020-2022

IX. Country Study : Brazil

A. Literature Review

1. Covid-19 Outbreak in Brazil: Health, Social, Political, and Economic Implications

- This article is made available via the PMC Open Access Subset for unrestricted re-use and analyses in any form or by any means with acknowledgement of the original source.
- Our results show that the COVID-19 outbreak deeply affects the country, worsening issues that were already serious.
- The first case reported in Brazil was on February 25, 2020.
- Finally, a total of 148 documents were fully read, and based on the previously mentioned eligibility criteria, 67 eligible studies were included in the qualitative analysis.
- Such disarray at the federal level is a deadly problem during a public health emergency.46 Going against WHO recommendations, Bolsonaro instigated economic activity, demonstrating "the contradictions of neoliberalism, which requires circulation even when it is proven to promote the illness and death of a significant percentage of the population".48 The (un)wiseness used in country management directly impacts the results of a health crisis.
- According to the Cadastro Único (CadÚnico), in the first quarter of 2020, there were 13.5 million people in extreme poverty (with monthly income per person of up to R$89, or approximately US$16).52,81 A year later, in March 2021, this number rose 5.8%, adding 784,000 people in this condition.

2. Brazil's health system functionality amidst of the COVID-19 pandemic: An analysis of resilience

- In 2020, the proportional increase in federal transfers to states was 5% higher than the increase in federal transfers to municipalities.
- Only the North region had states (Acre and Amapá) where the state administration received fewer funds than the municipal administration of the same state.
- State administrations received a total of 29·8 billion reais in 2020, a 38·6% increase from 2019.
- States increased at least 11% (Roraima), and the states where municipalities experienced the lowest proportional increase was Rio de Janeiro, with only a 19% increase.
- The cities on the State of Minas Gerais received nine times what was given to the state.

3. The impact of coronavirus in Brazil: Politics and the Pandemic

- Brazil has been severely affected by the novel coronavirus.
- At a time when the country needs to concentrate on controlling and fighting the virus, President Bolsonaro has minimized the importance of the pandemic and focused on political battles.
- Brazil has a population of 200 million and has run only 14,000 tests for every 1,000,000 people.
- While Brazil's mayors and state governors implemented measures to restrict the movement of people and combat the coronavirus, Bolsonaro appeared to focus on political battles.
- We have treated hundreds of patients but have not yet encountered a 'hurricane' and our ICU has enough beds and supplies. In the Brazilian case, a poor recovery from the 2015–16 economic crisis alongside the new coronavirus epidemic combined to create the worst economic crisis

  Brazil has been severely affected by the novel coronavirus. At a time when the country needs to concentrate on controlling and fighting the virus, President Bolsonaro has minimized the importance of the pandemic and focused on political battles.Since COVID-19 was first reported in Brazil in February 2020, the country has quickly become one of the worst affected globally. Brazil comprises many states with vulnerable communities, an emerging economy and a relatively weak social protection system. These issues make it difficult for local authorities to persuade people to stay at home. Moreover, President Bolsonaro has often minimized the severity of the pandemic, repeating mantras such as "just a little flu", "only the elderly are at risk", the "economy must come first" and "social isolation is an extreme measure". This contradiction between local leaders begging people to stay at home and the president telling them to return to work has fuelled widespread confusion. This caused widespread deaths and overburned the existing fragile health system.

  At the beginning of 2020, Brazil had 12.6 percent unemployment, 5 percent hidden unemployment due to discouragement, 40 percent informality, and rapidly rising inequality. For the bottom half of the social pyramid, the 2015 crisis never ended. Since then, the poorest population has experienced income losses every year. Targeted transfer programmes have had no countercyclical effect (Barbosa et al. 2020b). Systematic budget cuts in the Bolsa Família Programme have resulted in a drop in the number of beneficiaries as well as in the average amount transferred. This has led to an increase in the queue for entry to the programme (people who meet the eligibility criteria but are not incorporated). To a large extent, the persistence of poverty results from the dismantling of social policies after 2015 and this was worsened by corona impact.

  The official unemployment rate in May was 10.1percent, slightly smaller than in January and February. However, if we also take into account the contingent of people who could not search for a job specifically due to the pandemic (and the social distancing policies),2 that number rises to 25.4 percent. If there had not been any

government assistance whatsoever, household per capita income would have dropped by R”66 (5.0 percent) and the poverty rate would have risen from 18.7 to 21.9 percent of the population (Barbosa and Prates 2020).

B. Graphical Study

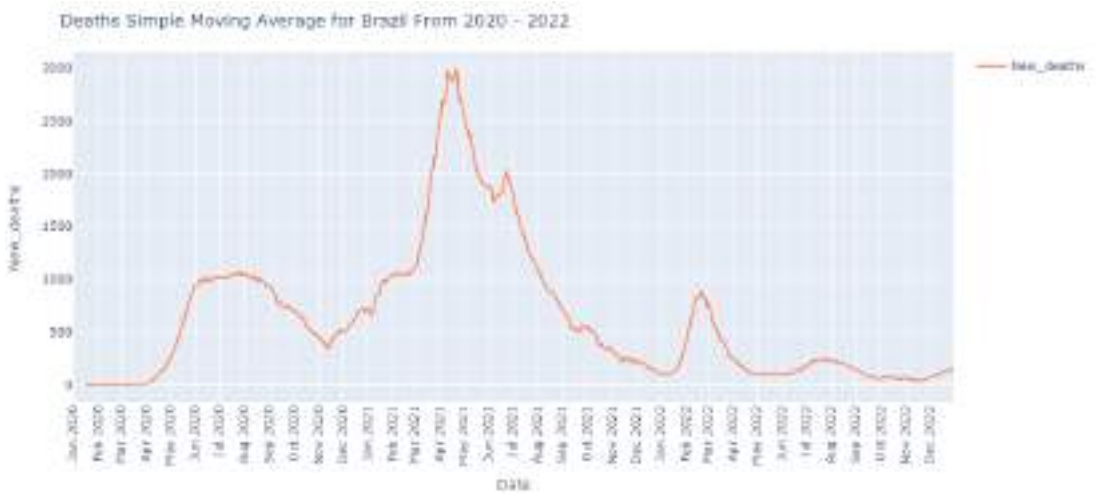

Fig. 26. Deaths Data of Brazil from 2020-2022

Fig. 27. StringencyIndex of Brazil from 2020-2022

Fig. 28. GovernmentResponseIndex of Brazil from 2020-2022

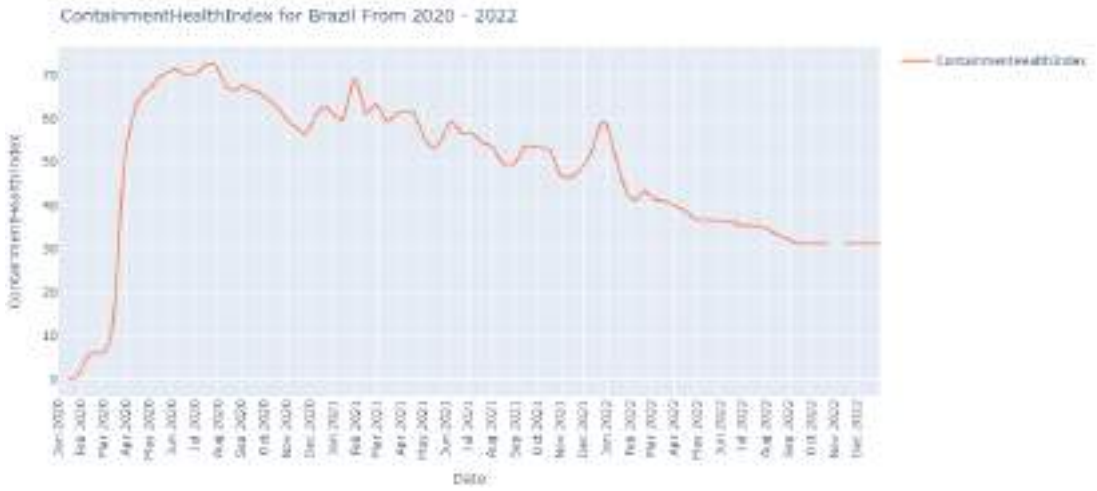

Fig. 29. ContainmentHealthIndex of Brazil from 2020-2022

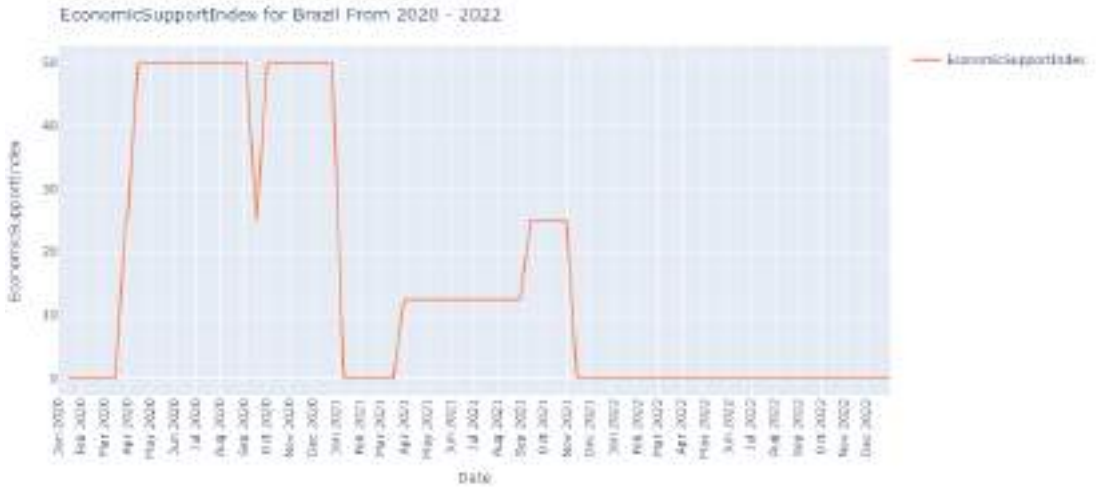

Fig. 30. EconomicIndex of Brazil from 2020-2022

Fig. 31. Indices Data of Brazil from 2020-2022

Fig. 32. StringencyIndex vs Death Data of Brazil from 2020-2022

Fig. 33. GovernmentResponseIndex vs Death Data of Brazil from 2020-2022

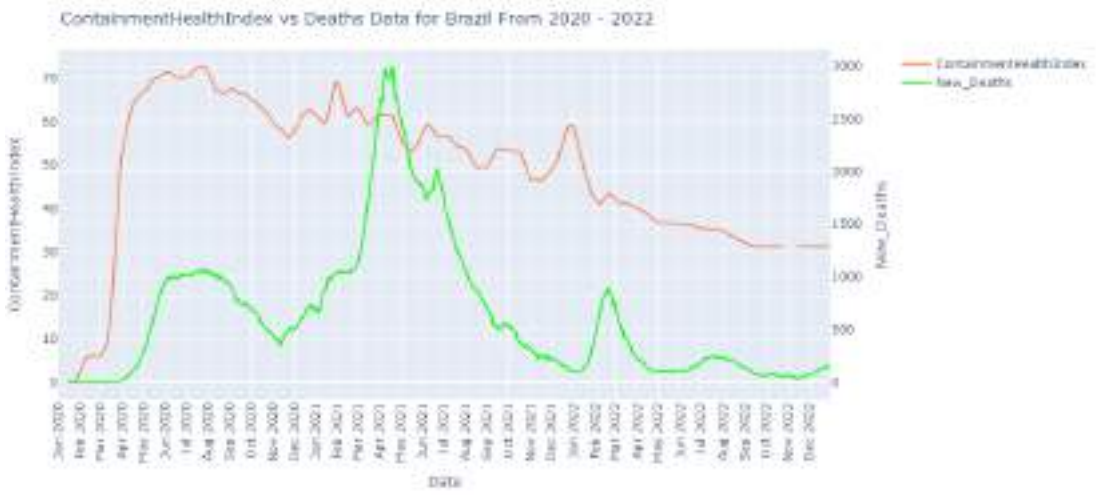

Fig. 34. ContainmentHealthIndex vs Death Data of Brazil from 2020-2022

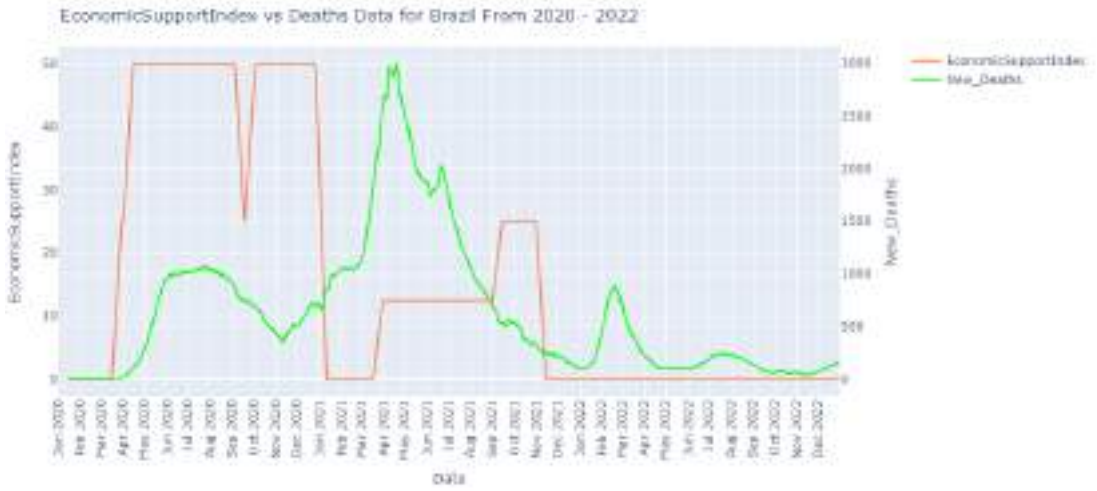

Fig. 35. EconomicSupportIndex vs Death Data of Brazil from 2020-2022

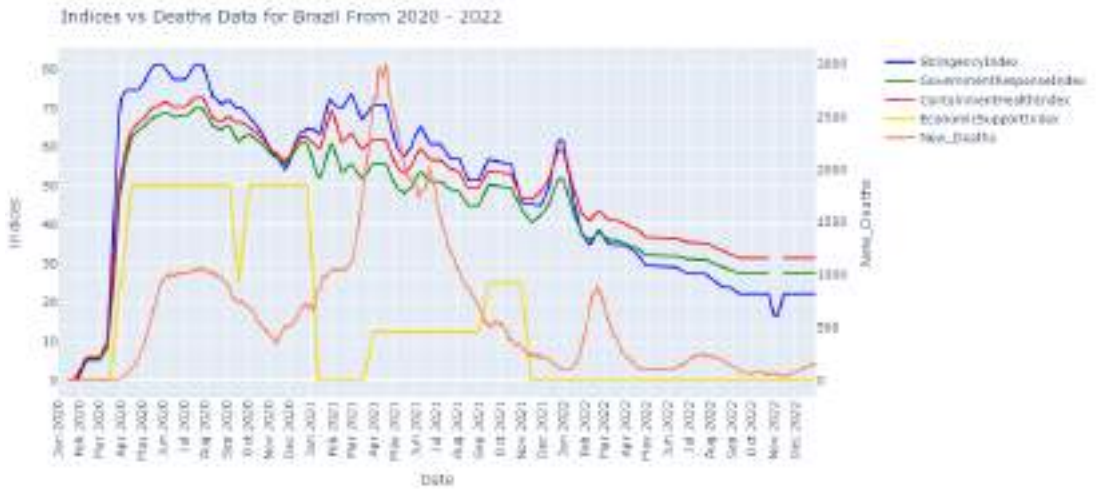

Fig. 36. Indices vs Death Data of Brazil from 2020-2022

X. Country Study : Japan

A. Literature Review

1. Impact of the COVID-19 pandemic on suicide rates in Japan through December 2021: An interrupted time series analysis

- The COVID-19 pandemic is negatively impacting mental health globally. While increased social cohesion may have initially decreased suicide risk, there are few reports on the long-term impact. We examined the impact of the pandemic on suicide by gender and age through December 2021 in Japan.

2. When the Japanese stock market meets COVID-19: Impact of ownership, China and US exposure, and ESG channels

- This paper examines the stock price reactions of Japanese firms during the COVID-19 outbreak.
- They find that the BOJ's indirect ownership, cross-shareholdings, and bank ownership, which are the proxies for long-term stockholders, are positively associated with abnormal returns during the COVID-19 crisis.
- Moreover, the negative abnormal returns of the China-exposed firms are observed earlier in the virus's spread around the globe than those of the U.S.-exposed firms, and the negative abnormal returns of the U.S.-exposed firms were more pronounced than those of the China-exposed firms.
- However, they find that among the firms invested in ESG funds, high ESG fund ownership is negatively associated with abnormal returns.
- Although academic literature on this topic has emerged, the evaluation of ESG (or especially ES) is still not settled: While there is a reputation of ESG being beneficial in times of crisis .
- They need to extend the period of analysis to examine the factors that separate these companies.

3. Assessing the impact of COVID-19 on major industries in Japan: A dynamic conditional correlation approach

- This study contributed to analyzing the dynamic conditional correlations of COVID-19 cases on the Japanese stock market.
- First, they developed stock index by prefecture and sector using the data for all domestic common stocks listed in the First Section of the Tokyo Stock Exchange.
- This stock index represents the regional economic circumstances by sector.
- The financial related data for this study are limited to those of the daily stock market, because it hasn't been long since the outbreak of COVID-19.
- Thus, for future studies, the use of corporate financial data, macroeconomic data, and other market data such as credit default swaps is recommended.

The new coronavirus disease (COVID-19) emerged in December 2019 and became a global pandemic in March 2020. The unprecedented speed of SARS-CoV2 spread, the high infection rate among the aged population, and the collapse of healthcare systems in several countries have made COVID-19 the worst "modern" pandemic. Despite its proximity to China, a large aged population, and a high urban density, Japan has mitigated successfully the initial catastrophic impacts of COVID-19.

4. Education and Later-life Mortality: Evidence from a School Reform in Japan

Economists Masuda and Shigeoka2023 argue that educated individuals live longer than uneducated people, because education expands access to resources, increases health investment, and improves health production efficiency through better knowledge and information gathering (Grossman 1972; Cutler and Lleras-Muney 2008). Consistent with this argument, a positive association between educational attainment and health status has been observed across time and space.

B. Graphical Study

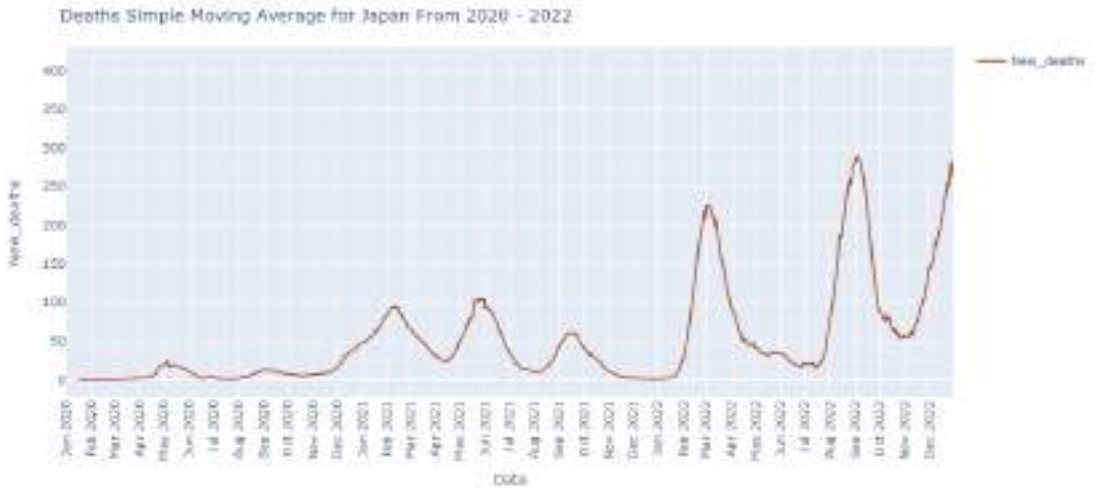

Fig. 37. Deaths Data of Japan from 2020-2022

Fig. 38. StringencyIndex of Japan from 2020-2022

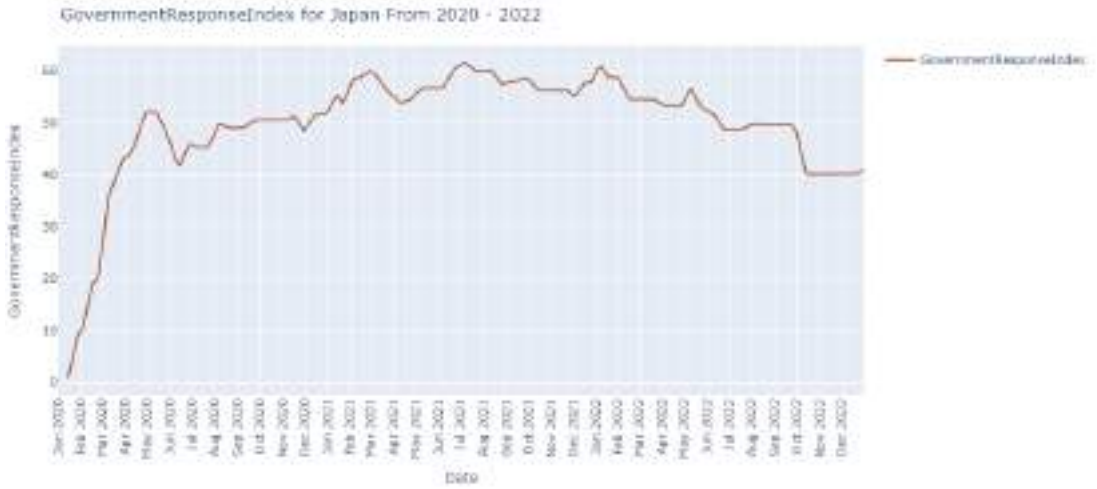

Fig. 39. GovernmentResponseIndex of Japan from 2020-2022

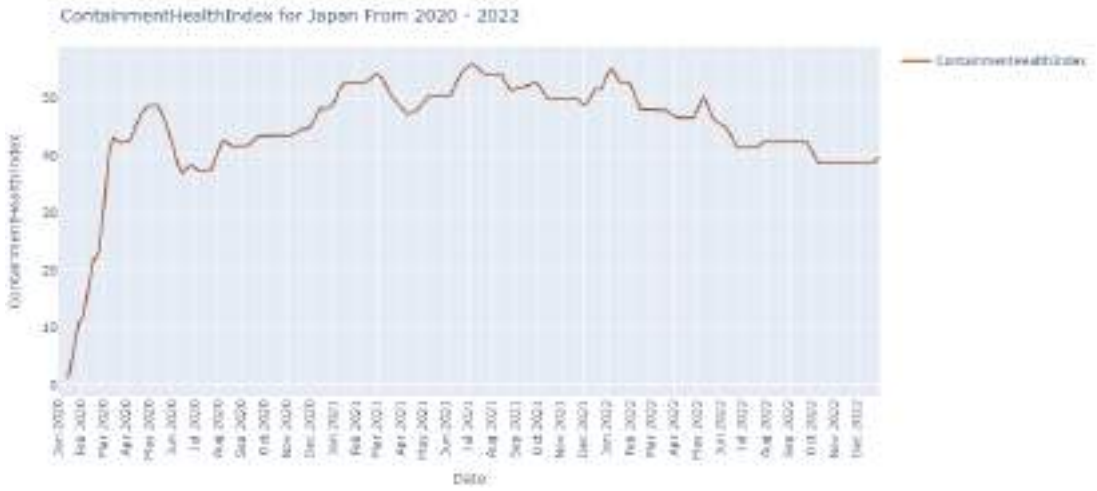

Fig. 40. ContainmentHealthIndex of Japan from 2020-2022

Fig. 41. EconomicIndex of Japan from 2020-2022

Fig. 42. Indices Data of Japan from 2020-2022

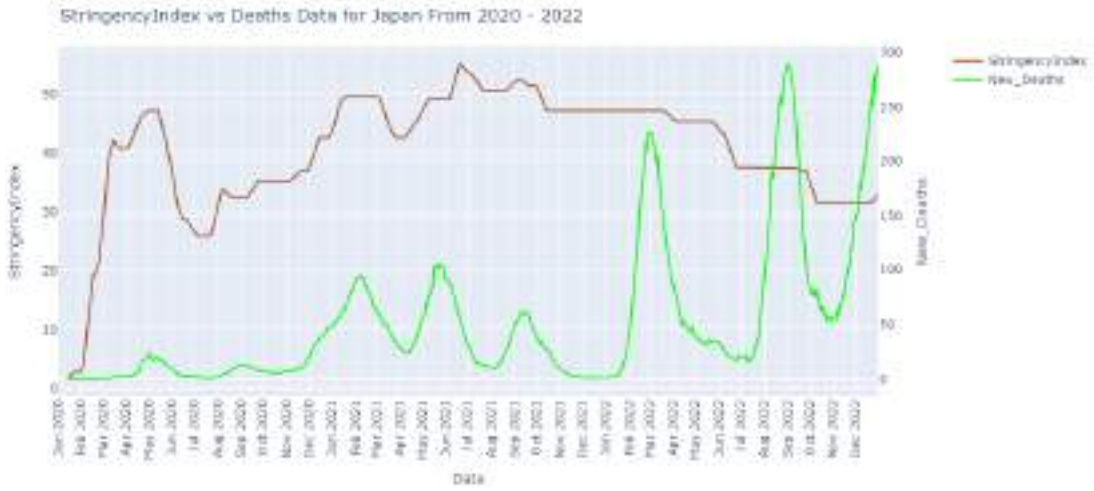

Fig. 43. StringencyIndex vs Death Data of Japan from 2020-2022

Fig. 44. GovernmentResponseIndex vs Death Data of Japan from 2020-2022

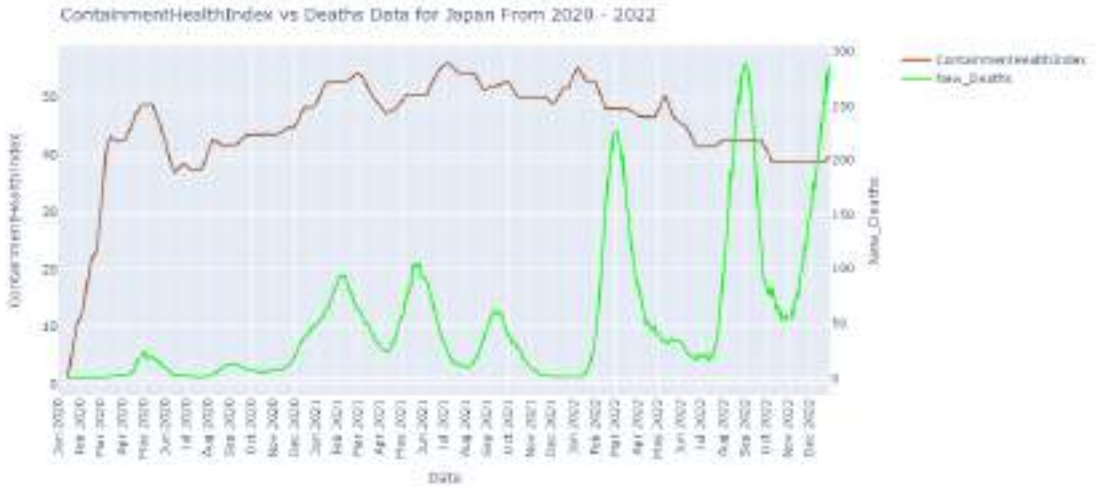

Fig. 45. ContainmentHealthIndex vs Death Data of Japan from 2020-2022

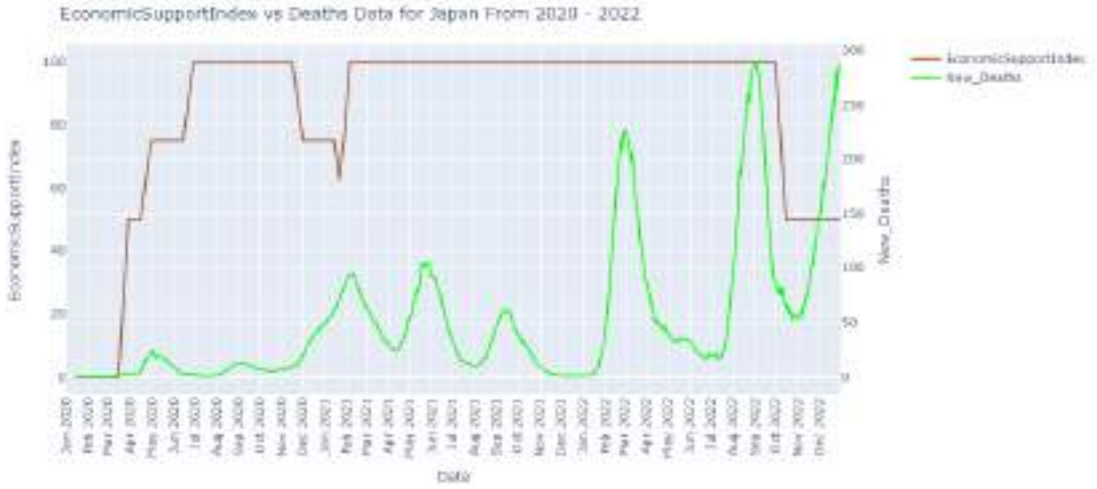

Fig. 46. EconomicSupportIndex vs Death Data of Japan from 2020-2022

Fig. 47. Indices vs Death Data of Japan from 2020-2022

XI. Country Study : India

A. Literature Review

1. India's Economic Slowdown and Why the IBC Matters

- India's gross domestic product (GDP) recorded a contraction of 23.9 percent in the first quarter of 2021 due to the economic shock of the COVID-19-induced lockdown.
- One of these is the problem of resolving failed firms and the consequent rise in NPAs in the financial sector.
- While this is a decade-old problem, the economic lockdown has exacerbated it.
- India's banking regulator, the RBI, estimates that gross NPAs of banks might increase to 13.5 percent by September 2021.4 Solving the NPA problem is key to unlocking credit growth in the economy.
- Policy Measures After the Lockdown In March 2020 the Indian government suspended certain provisions of the IBC in order to prevent firms from being forced into bankruptcies due to the economic shock of the lockdown.27 Specifically, the government suspended sections 7 and 9 (insolvency initiation by financial and operational creditors, respectively) and section 10 (debtor's initiation of insolvency proceedings).
- This meant that no IBC proceeding could be brought against a business for any default during this period.

2. IMPACT OF COVID-19 PANDEMIC ON THE INDIAN ECONOMY

- This paper is an analysis of the economic impact of the Covid-19 pandemic in India.
- In industry, micro and small enterprises were the most acutely affected.
- The crisis led to a loss of employment to the tune of at least 15 million.
- We estimate that India's GDP growth rate in 2020-2021 may range from -4.3% to -15%.
- The government's economic response till October 2020 was seriously deficient on demand side interventions.

3. COVID-19 and uncertainty spillovers in Indian stock market

- In this paper, we have examined the impact of COVID-19 on the volatility spillovers among ten major sector indices listed in BSE India.
- Increasing COVID-19 cases created liquidity crunch in the emerging markets .
- And, such a relationship is more pronounced for Singapore.
- COVID-19 severely affected aviation, tourism, and other service sectors in China, however, sectors like new infrastructure, Chinese patent medicine, and internet industries scaled new heights.
- COVID-19 showed better predictive power over exchange rate volatility and returns for one and five day ahead forecast horizon, respectively.
- Also, we find that energy followed by the oil & gas sectors were largest net transmitters of volatility to others while FMCG followed by telecom sectors were largest net recipient of volatility shocks from others.

B. Graphical Study

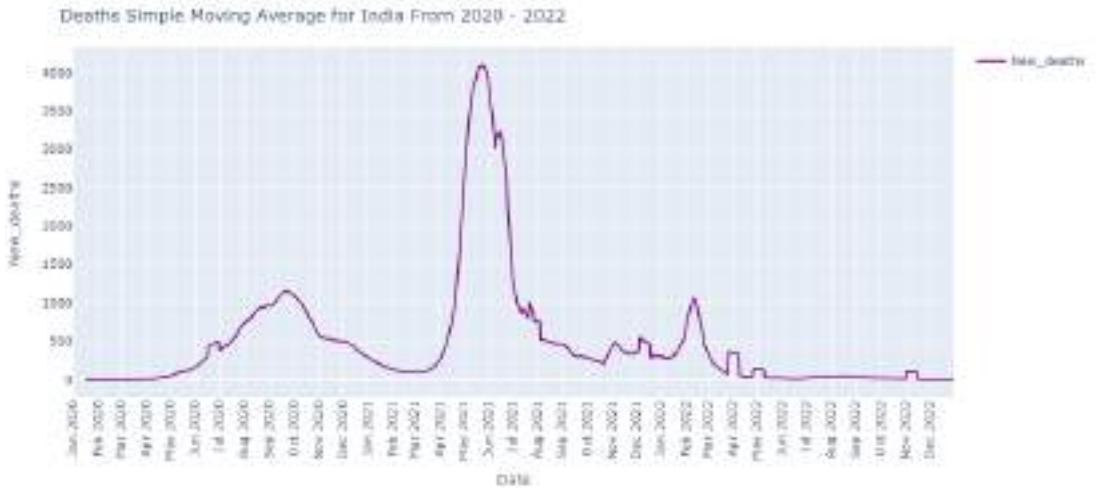

Fig. 48. Deaths Data of India from 2020-2022

Fig. 49. StringencyIndex of India from 2020-2022

Fig. 50. GovernmentResponseIndex of India from 2020-2022

Fig. 51. ContainmentHealthIndex of India from 2020-2022

Fig. 52. EconomicIndex of India from 2020-2022

Fig. 53. Indices Data of India from 2020-2022

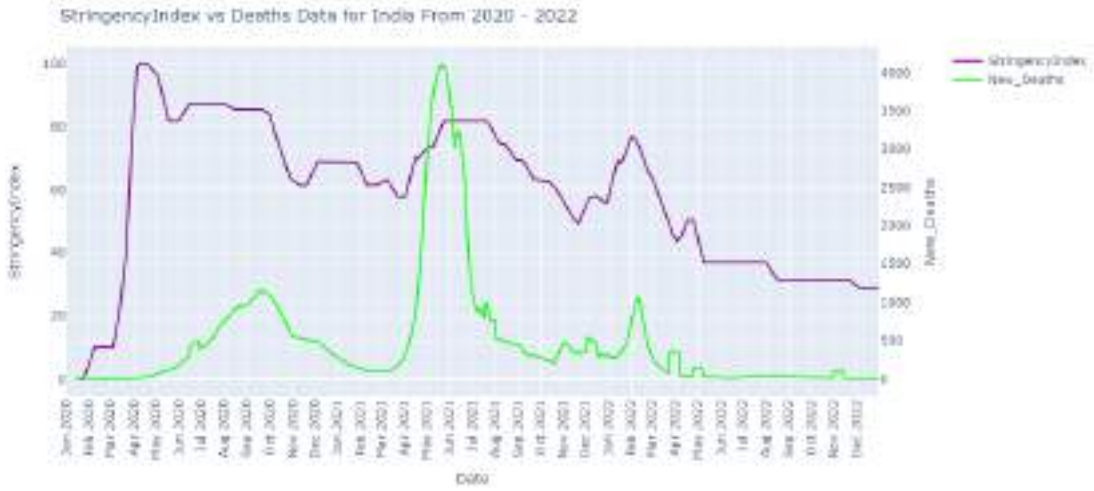

Fig. 54. StringencyIndex vs Death Data of India from 2020-2022

Fig. 55. GovernmentResponseIndex vs Death Data of India from 2020-2022

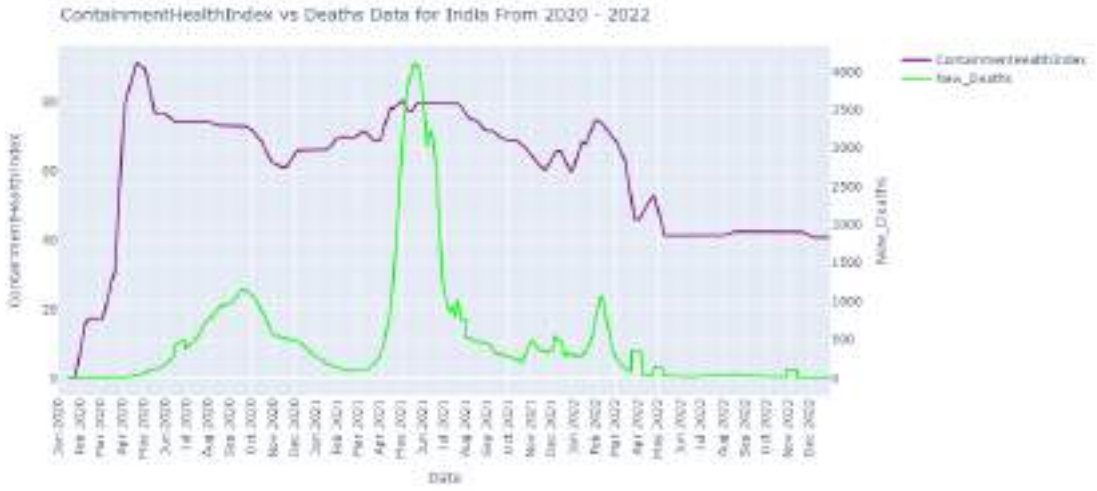

Fig. 56. ContainmentHealthIndex vs Death Data of India from 2020-2022

Fig. 57. EconomicSupportIndex vs Death Data of India from 2020-2022

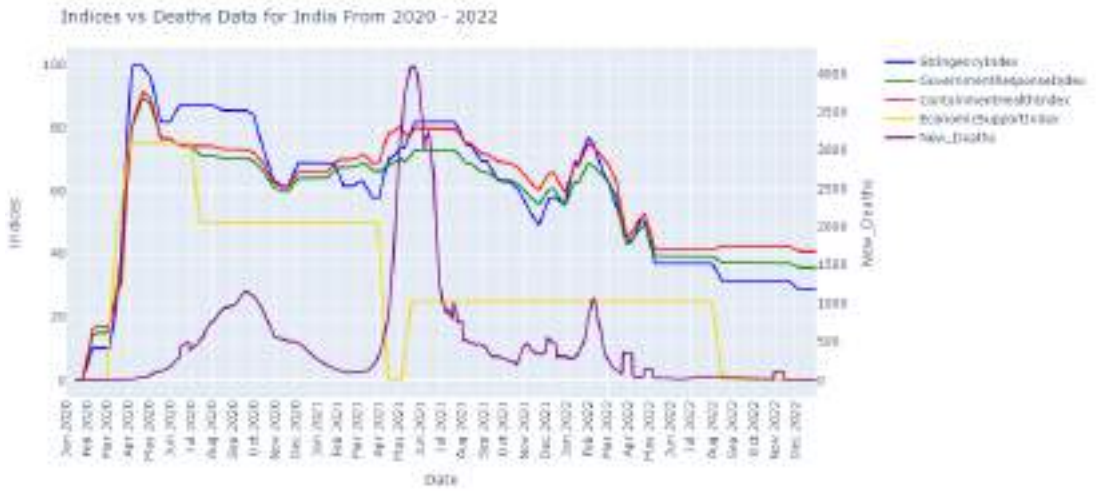

Fig. 58. Indices vs Death Data of India from 2020-2022

XII. Country Study : Germany

A. Literature Review

1. Impact of COVID-19 lockdown on mental health in Germany: longitudinal observation of different mental health trajectories and protective factors

- In this study they explored the temporal dynamics of the lockdown measures with regard to perceived stress and strains, as well as mental health outcomes.
- As a possible result of the different restrictions and direct economic effects, the majority of German studies, including the present one, did not find a general decrease in mental health during the first German lockdown.
- The delayed dysfunction and recovered groups found in the present study are of particular interest, as they possibly entail susceptible people, who may need special support during a pandemic to prevent deleterious mental health outcomes.
- Apart from the commonality of poor mental health values before the COVID-19 pandemic in both groups, they showed distinct trajectories for perceived stress, COVID-19-specific positive appraisal, and straining from COVID-19-related events.
- The resilient group, on the other hand, was constantly able to positively appraise the COVID-19-specific events and shows a reduction of straining due to them over time.
- The same may hold true for perceived social support and emotion regulation, for which we also found no significant differences in the trajectories between the three latent classes.

2. Consequences of the COVID-19 Lockdown in Germany: Effects of Changes in Daily Life on Musical Engagement and Functions of Music

- The current study investigated how music has been used during the COVID-19 pandemic and how personal factors have affected music-listening behavior.
- Parties and (sporting, music) events had to be cancelled, and schools and universities had to change to online lessons and homeschooling.
- These functions of music listening seem to come into play particularly when people want to change a negative mood or stress , because then, mood regulation is more important .
- People from mainly three (Western) countries and found that music listening was the major coping strategy for regulating distress during the pandemic, and depression symptoms (The Depression Anxiety Stress Scale;) decreased with the amount of music listening.
- Investigating Spanish citizens in their musical behavior during the lockdown , another study observed a perceived increase in time spent on musical activities (making and listening) and how music was perceived to help coping for confinement: that is, to relax, escape, raise their mood, or keep them company.
- Since a comparison between both time points is not possible (unless data were collected right before the lockdown), the only other possibility is to query the behavior from before the lockdown retrospectively and then compare the ratings to the same questions asked about the situation during the lockdown.

3. Germany and the United States in coronavirus distress: internal versus external labour market flexibility

- To gain a better understanding of the impact of the different policy strategies in Germany and the United States on the labour market, we conduct a business-cycle analysis comparing, on the one hand, the Coronavirus Recession with the Great Recession in both countries and contrasting the German experience with that of the United States on the other hand.
- From peak to trough, the cyclical reduction in the average number of hours worked per employee was twice as high as in the Great Recession (– 8.8 vs. – 3.4%).
- Even though speed and intensity of job losses were more pronounced in the Coronavirus Recession, in both economic recessions cyclical employment continued to decline, even after the trough of the business cycle.
- The overall change in employment, measured by the sum of employees subject to social security contributions and workers only marginal employed, was only about – 1% on average.
- Overall, this observation might be explained by the dominance of STW, which made further adjustments to working time unnecessary.
- Sources: Institute for Employment Research (IAB) working time calculations; own calculations Full size image In the Great Recession, STW and WTA contributed equally to the cyclical reduction in working time from peak to trough (– 3.3 h each).

B. Graphical Study

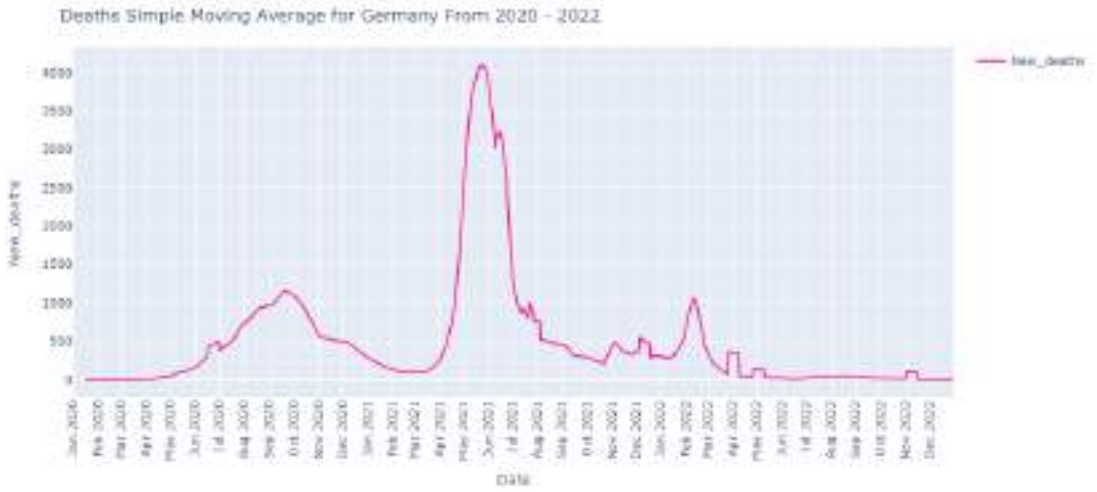

Fig. 59. Deaths Data of Germany from 2020-2022

Fig. 60. StringencyIndex of Germany from 2020-2022

Fig. 61. GovernmentResponseIndex of Germany from 2020-2022

Fig. 62. ContainmentHealthIndex of Germany from 2020-2022

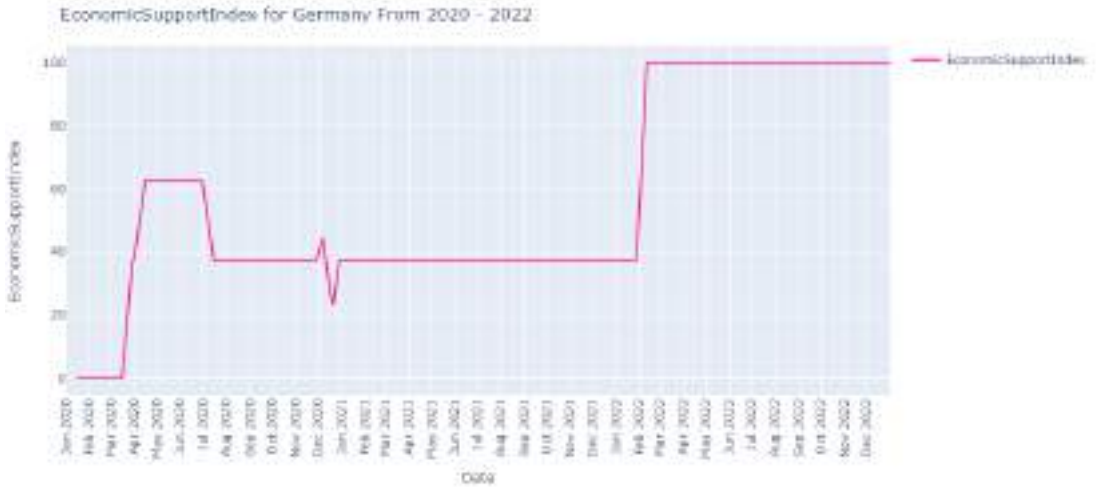

Fig. 63. EconomicIndex of Germany from 2020-2022

Fig. 64. Indices Data of Germany from 2020-2022

Fig. 65. StringencyIndex vs Death Data of Germany from 2020-2022

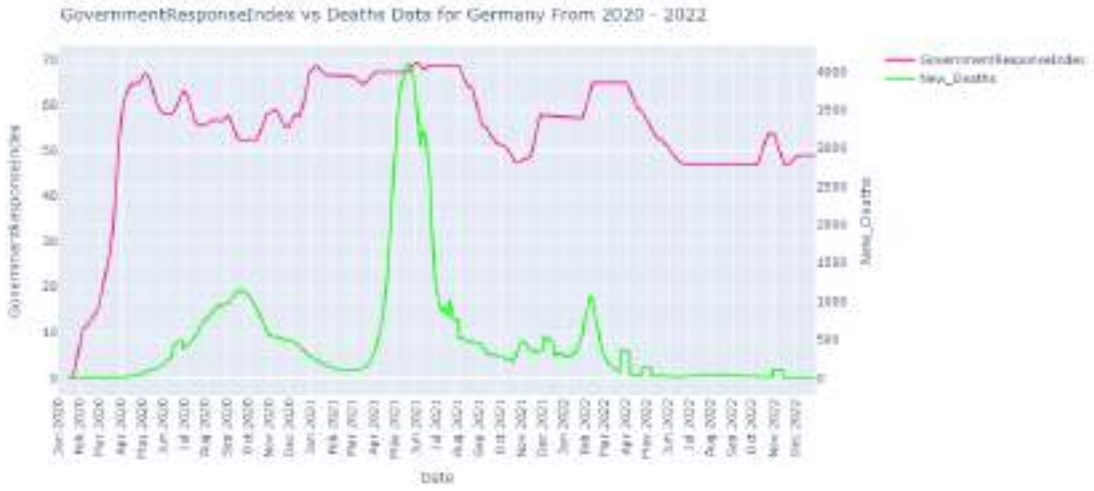

Fig. 66. GovernmentResponseIndex vs Death Data of Germany from 2020-2022

Fig. 67. ContainmentHealthIndex vs Death Data of Germany from 2020-2022

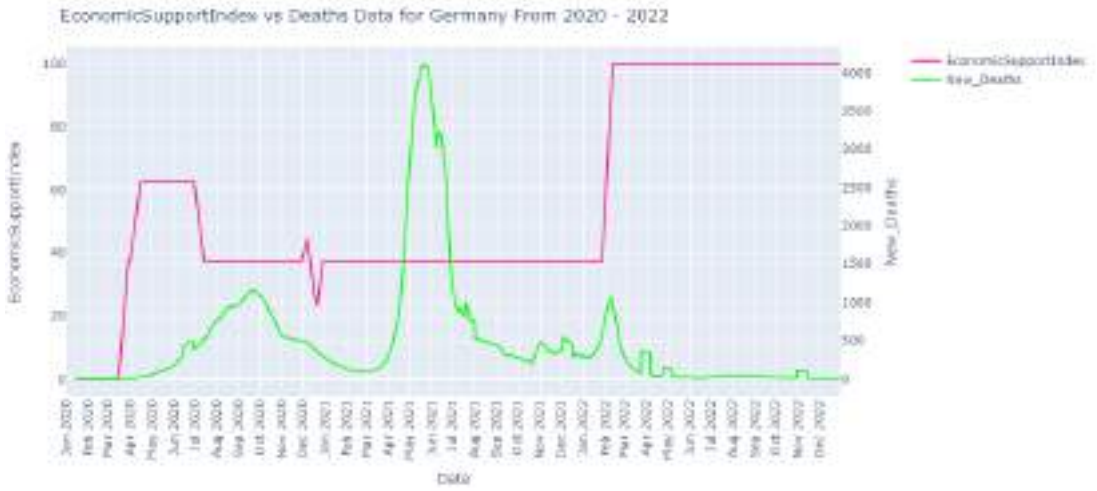

Fig. 68. EconomicSupportIndex vs Death Data of Germany from 2020-2022

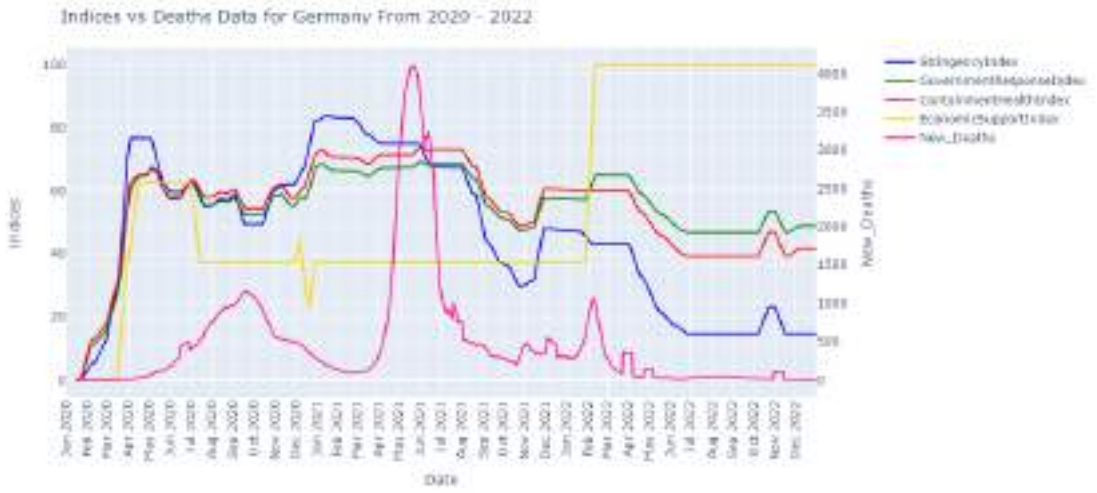

Fig. 69. Indices vs Death Data of Germany from 2020-2022

XIII. Country Study : United Kingdom

A. Literature Review

1. The Impact of COVID-19 on Share Prices in the UK

- In this paper, they describe how the impact of COVID-19 has varied across industries, using data on share prices of firms listed on the London Stock Exchange, and how well targeted government support for workers and companies is in light of this.
- Importantly, the value that shares are trading for in the stock market tells us not only about how well a company is doing today but also about how well it is expected to do in the future.
- This is because the price of a share reflects not only the dividends a company currently pays, but also investors' expectations of the dividends it will pay in future years.
- They do have a few limitations, however, when it comes to measuring the impact of the crisis.
- For example, many public sector services have seen an increase in demand during the crisis.

2. The impact of Covid-19, associated behaviours and policies on the UK economy: A computable general equilibrium model

- We estimate the potential impact of COVID-19 on the United Kingdom economy, including direct disease effects, preventive public actions and associated policies.
- A sectoral, whole-economy macroeconomic model was linked to a population-wide epidemiological demographic model to assess the potential macroeconomic impact of COVID-19, together with policies to mitigate or suppress the pandemic by means of home quarantine, school closures, social distancing and accompanying business closures.
- Our simulations indicate that, assuming a clinical attack rate of 48% and a case fatality ratio of 1.5%, COVID-19 alone would impose a direct health-related economic burden of £39.6bn (1.73% of GDP) on the UK economy.
- Mitigation strategies imposed for 12 weeks reduce case fatalities by 29%, but the total cost to the economy is £308bn (13.5% of GDP); £66bn (2.9% of GDP) of which is attributable to labour lost from working parents during school closures, and £201bn (8.8% of GDP) of which is attributable to business closures.
- Their analyses suggest Covid-19 has the potential to impose unprecedented economic costs on the UK economy, and whilst public actions are necessary to minimise mortality, the duration of school and business closures are key to determining the economic cost.

3. The psychological impact of the COVID-19 pandemic on adults and children in the United Arab Emirates: a nationwide cross-sectional study - BMC Psychiatry

- In total, 2200 people completed the online participant sheet and consent form.
- Complete data were analyzed for 1469 participants (68
- Seventy five percent of participants were married and had children (75.6%), with the majority having 1–2 children (35.2%).
- Table 5 Worry about COVID-19 by GAD-7 score ≥ 8 and reported Child SDQ score ≥ 5 (N = 1469) Full size table Among participants with children, most were utilizing effective coping strategies; however, higher anxiety was reported among participants who always openly discussed COVID-19 with their family (51.4%), compared to those who never did (33.3%).
- Hosmer and Lemeshow test results confirmed the model was a good fit for the data X^2(8, N = 1469) = 7.16, p = 0.519 (Table 7).
- The odds of higher anxiety were larger among participants who smoked, took vitamin C for symptoms and reported sore throat (Table 7).

B. Graphical Study

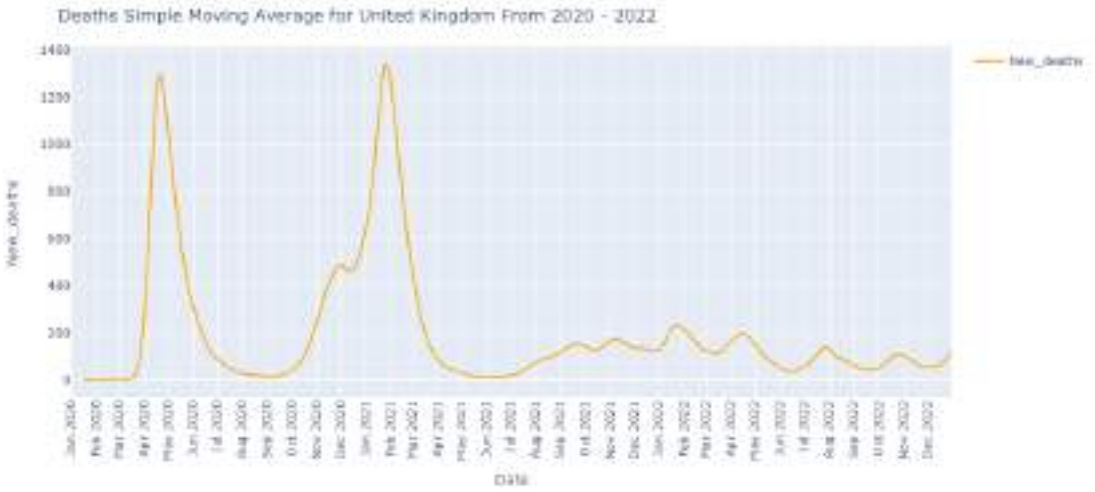

Fig. 70. Deaths Data of United Kingdom from 2020-2022

Fig. 71. StringencyIndex of United Kingdom from 2020-2022

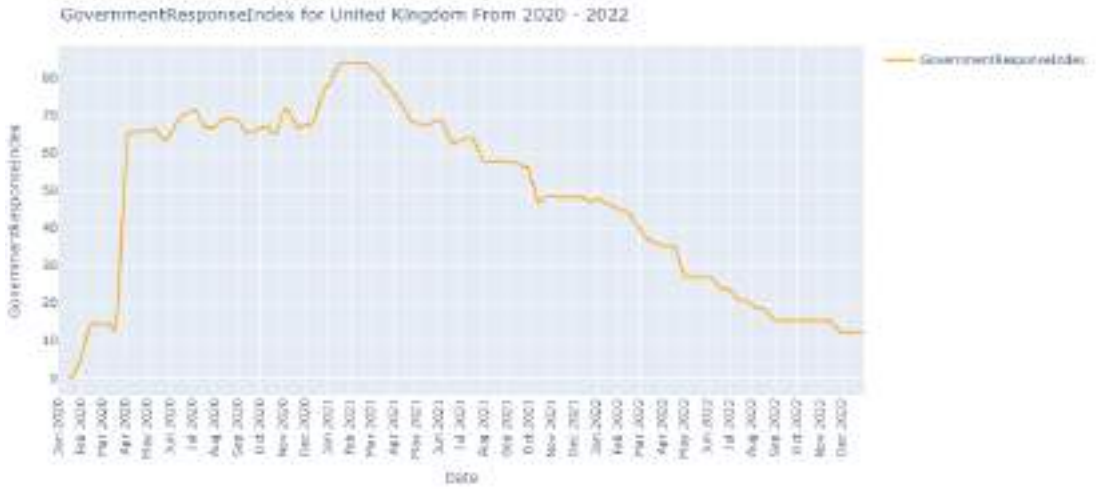

Fig. 72. GovernmentResponseIndex of United Kingdom from 2020-2022

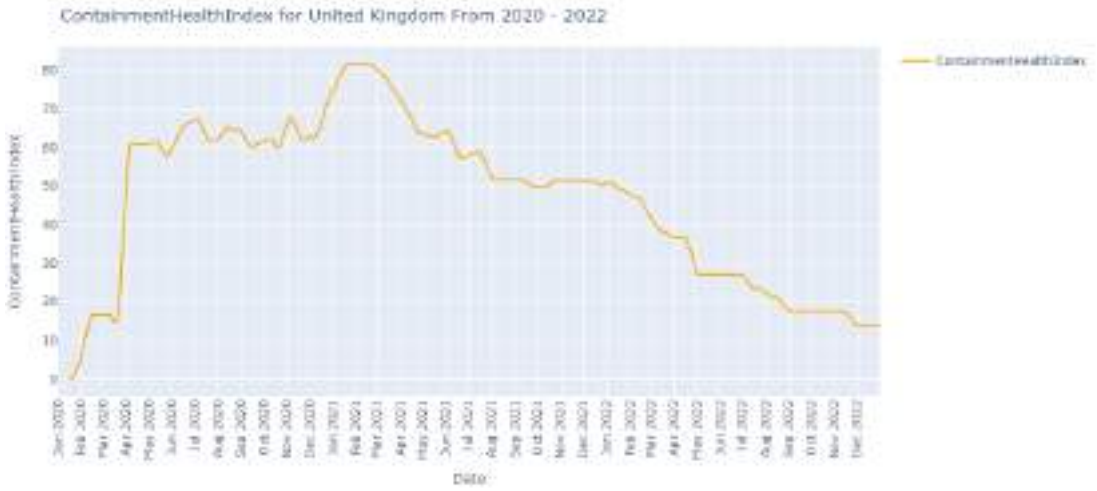

Fig. 73. ContainmentHealthIndex of United Kingdom from 2020-2022

Fig. 74. EconomicIndex of United Kingdom from 2020-2022

Fig. 75. Indices Data of United Kingdom from 2020-2022

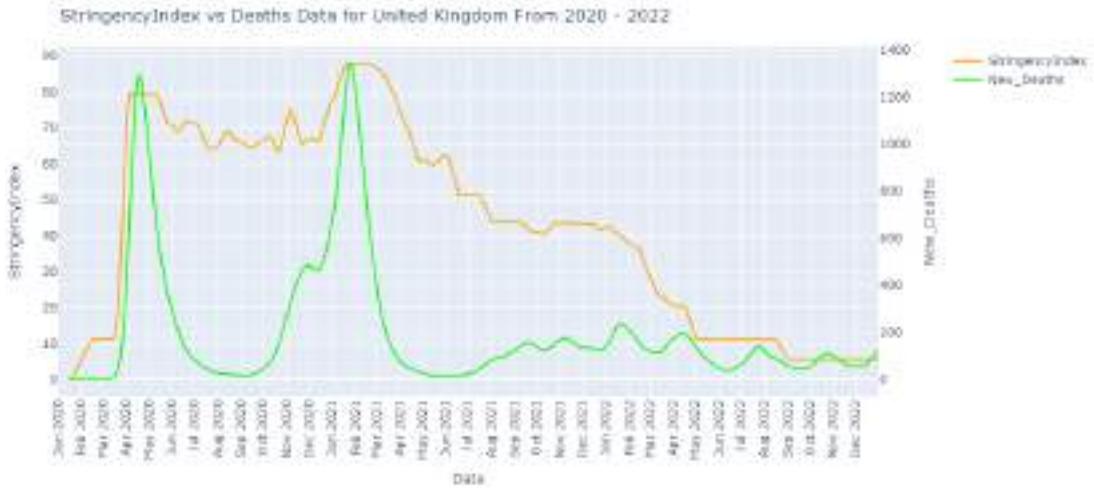

Fig. 76. StringencyIndex vs Death Data of United Kingdom from 2020-2022

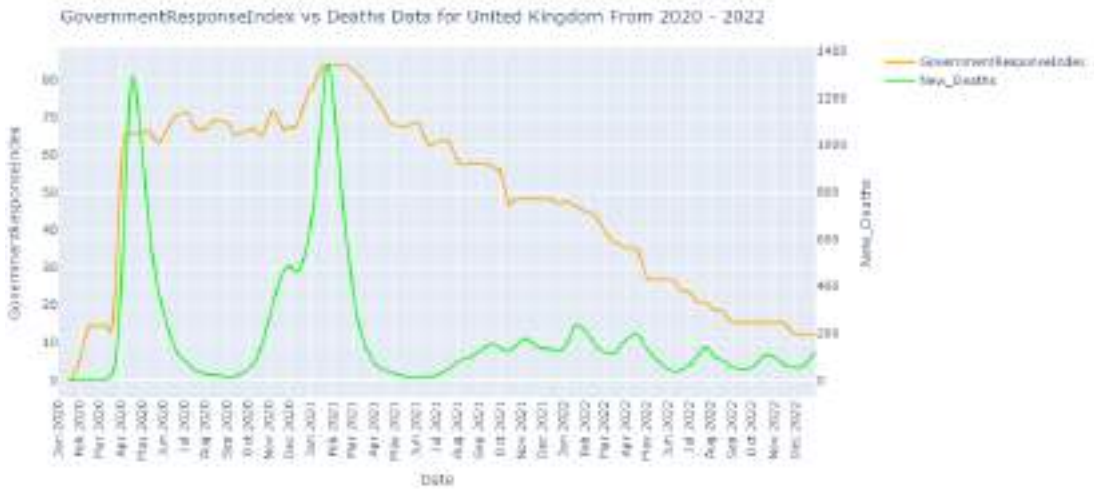

Fig. 77. GovernmentResponseIndex vs Death Data of United Kingdom from 2020-2022

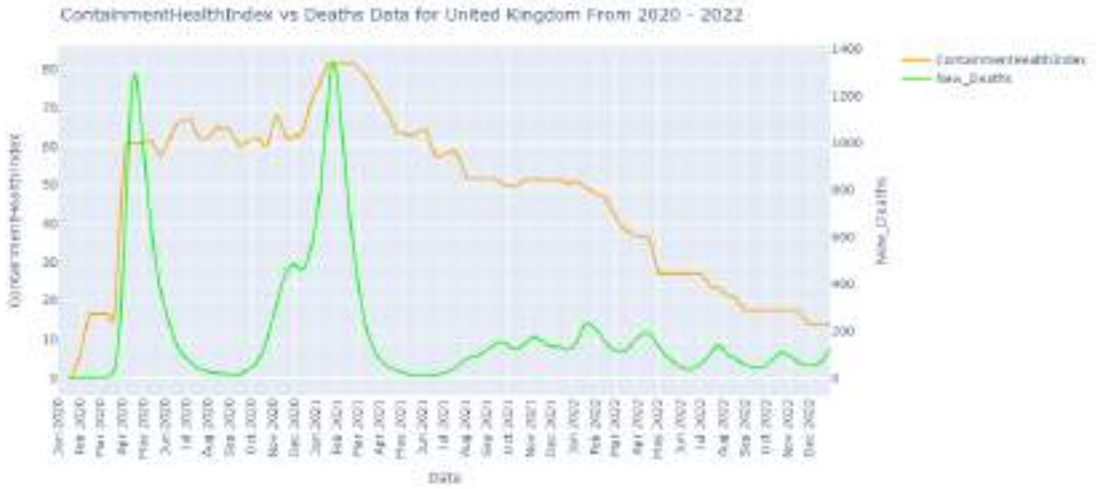

Fig. 78. ContainmentHealthIndex vs Death Data of United Kingdom from 2020-2022

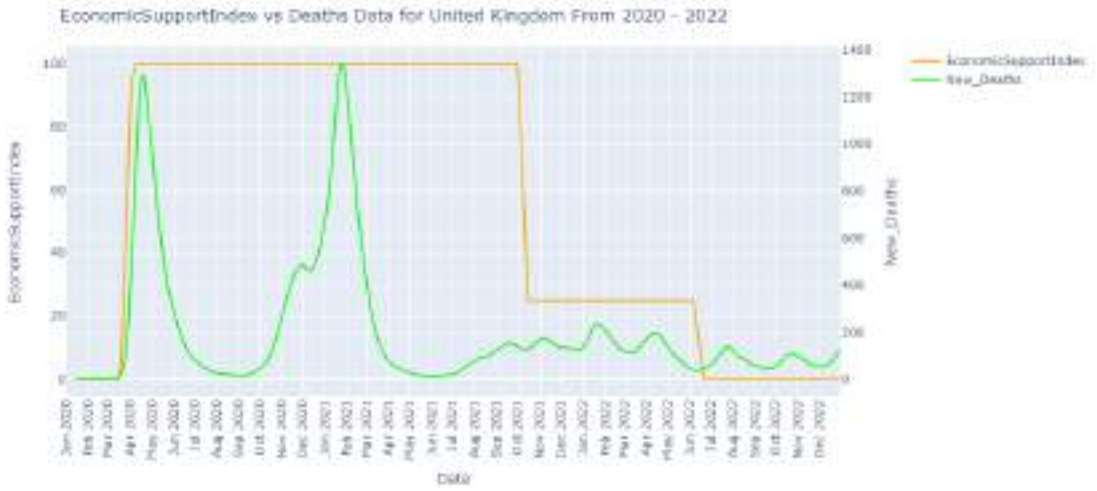

Fig. 79. EconomicSupportIndex vs Death Data of United Kingdom from 2020-2022

Fig. 80. Indices vs Death Data of United Kingdom from 2020-2022

XIV. Country Study : Indonesia

A. Literature Review

1. The Cost of COVID-19 on the Indonesian Economy

- Indonesia's economy has enjoyed a period of long steady growth over the past decades coupled with declines in poverty.
- With a long-term vision of being Sustained economic growth and a declining trend in poverty over the years in Indonesia potentially will come to a halt this year.
- The short-run analysis period assumes that technical input-output relationships, the output choices of producers, and the consumption patterns of households do not (yet) change in response to the simulated shock.
- Figure 5 provides a breakdown of the contribution of different impact channels to AFS GDP losses.
- The largest impact is felt in the second quarter (Q2) during the PSBB lockdown period, with an average loss of between -13.2 and -16.2 percent in quarterly GDP.
- The sectoral interlinkages that characterize Indonesia's agri-food system also creates sizable GDP losses within the agriculture sector, even though farming activities are largely excluded from restrictions under PSBB policy.

2. An assessment of the short-term impact of COVID-19 on economics and the environment: A case study of Indonesia

- The COVID-19 pandemic has already made a significant impact on various sectors.
- No country was fully prepared to face this global pandemic, and Indonesia is no exception.
- During this stagnation, the agricultural sector is a potential sector for accommodating workers who have been laid off.
- As for emissions, our calculations show that the potential for emission reductions will be up to 8% by 2021, compared to the BAU level.
- Thus, it is feared that there will be a very high spike in emissions when the pandemic ends, making the situation more challenging for Indonesia to achieve its emission mitigation targets.

3. The psychological impact of the COVID-19 pandemic on adults and children in the United Arab Emirates: a nationwide cross-sectional study - BMC Psychiatry

- In total, 2200 people completed the online participant sheet and consent form.
- Complete data were analyzed for 1469 participants (68%).
- Seventy five percent of participants were married and had children (75.6%), with the majority having 1–2 children (35.2%).
- Table 5 Worry about COVID-19 by GAD-7 score ≥ 8 and reported Child SDQ score ≥ 5 (N = 1469) Full size table Among participants with children, most were utilizing effective coping strategies; however, higher anxiety was reported among participants who always openly discussed COVID-19 with their family (51.4%), compared to those who never did (33.3%).
- Hosmer and Lemeshow test results confirmed the model was a good fit for the data X^2(8, N = 1469) = 7.16, p = 0.519 (Table 7).
- The odds of higher anxiety were larger among participants who smoked, took vitamin C for symptoms and reported sore throat (Table 7).

B. Graphical Study

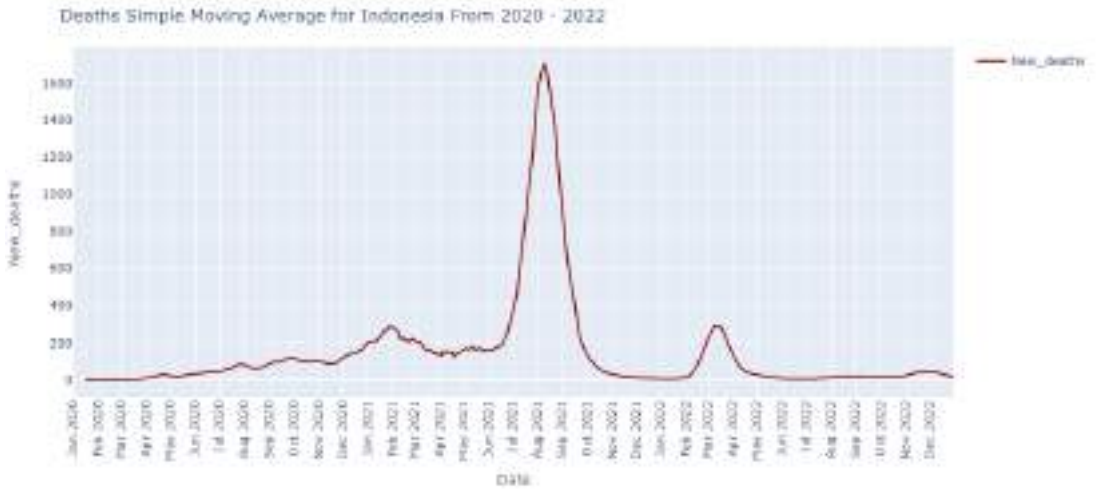

Fig. 81. Deaths Data of Indonesia from 2020-2022

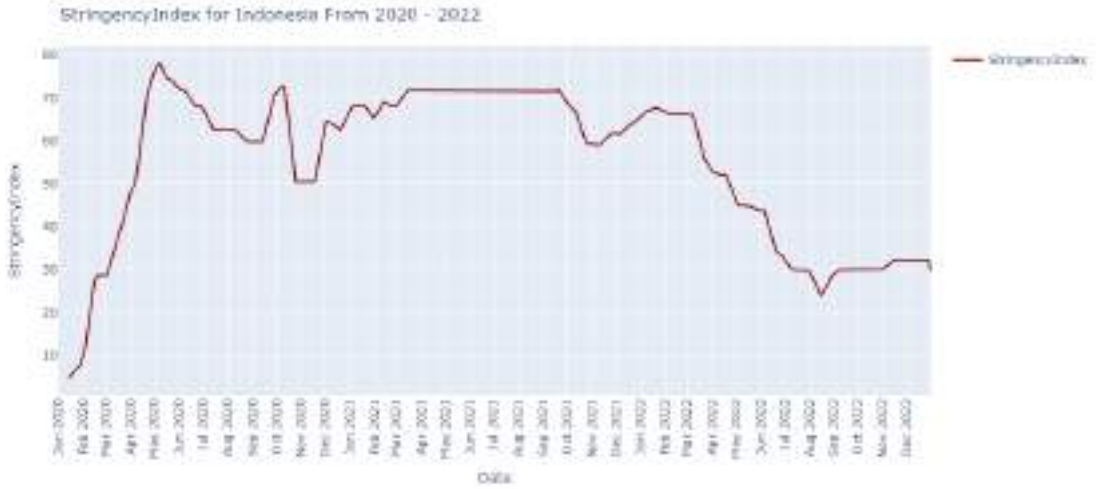

Fig. 82. StringencyIndex of Indonesia from 2020-2022

Fig. 83. GovernmentResponseIndex of Indonesia from 2020-2022

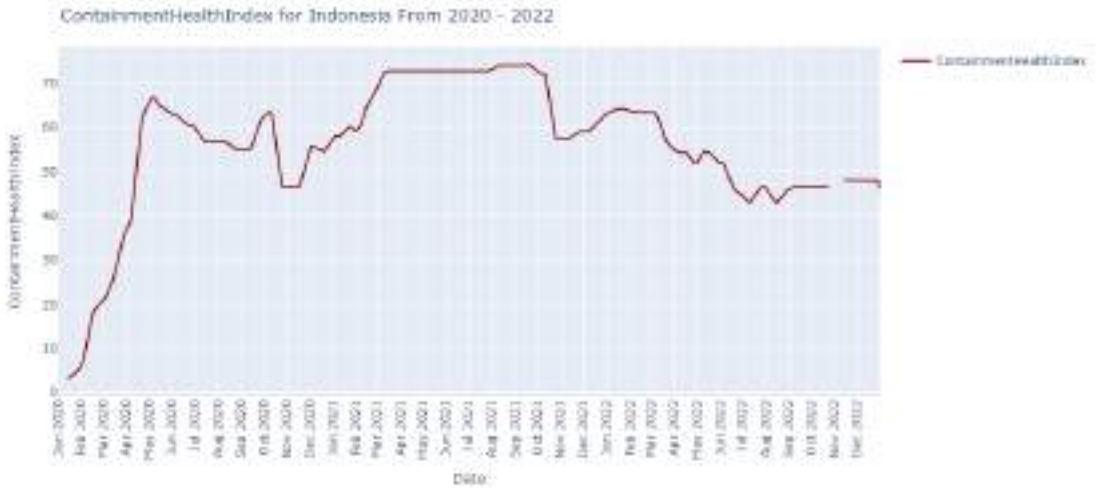

Fig. 84. ContainmentHealthIndex of Indonesia from 2020-2022

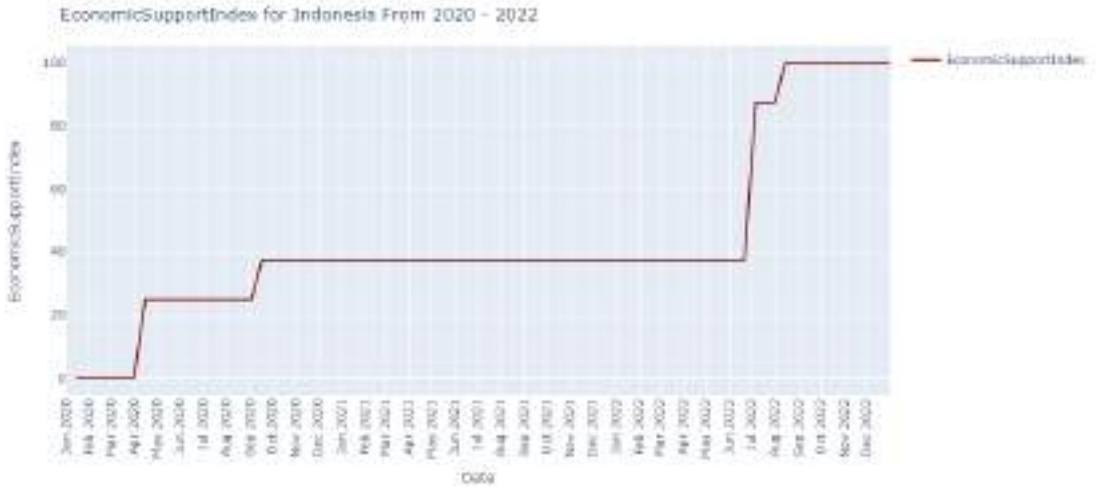

Fig. 85. EconomicIndex of Indonesia from 2020-2022

Fig. 86. Indices Data of Indonesia from 2020-2022

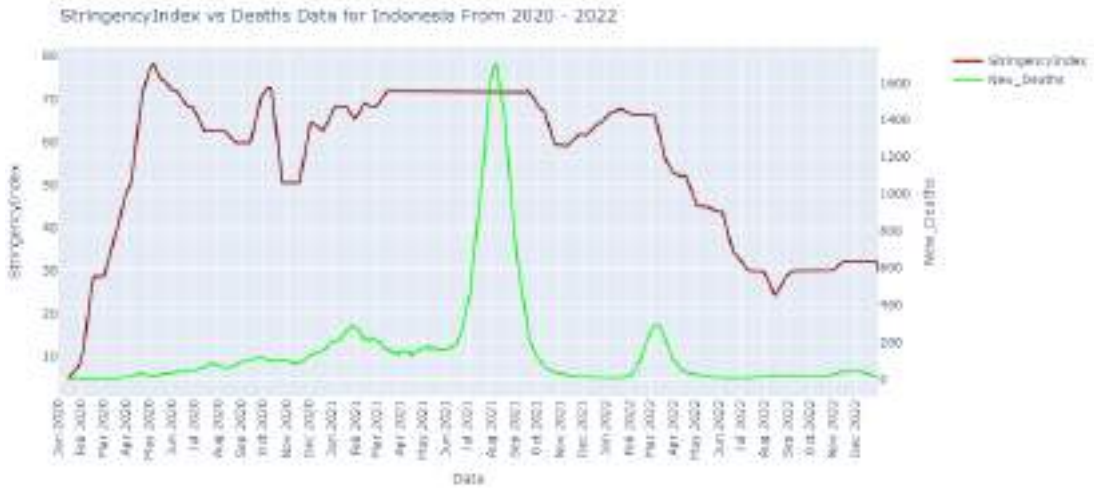

Fig. 87. StringencyIndex vs Death Data of Indonesia from 2020-2022

Fig. 88. GovernmentResponseIndex vs Death Data of Indonesia from 2020-2022

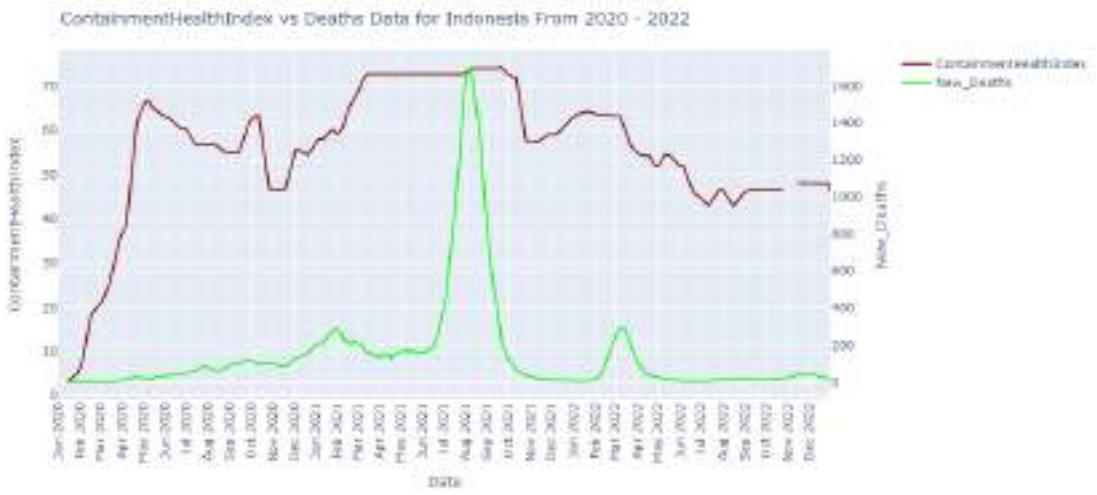

Fig. 89. ContainmentHealthIndex vs Death Data of Indonesia from 2020-2022

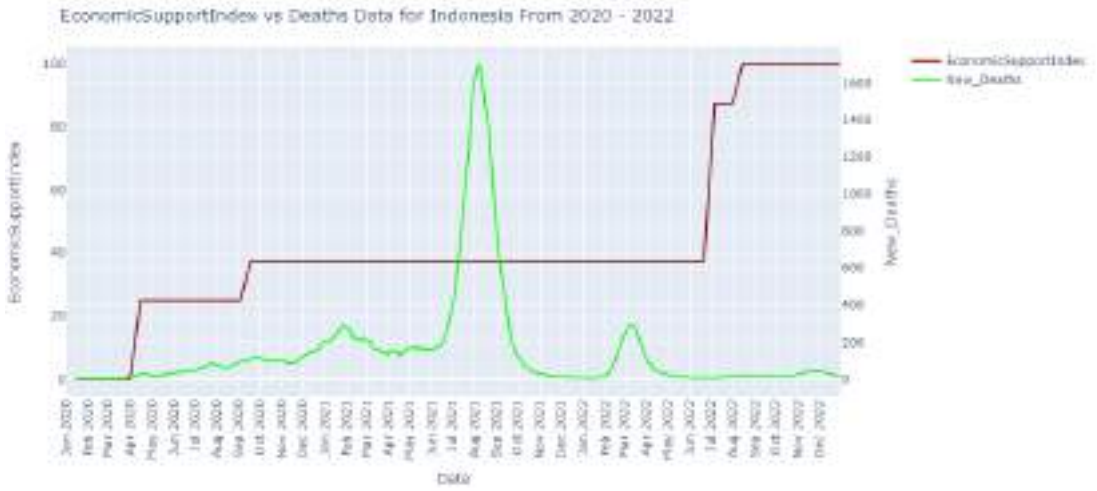

Fig. 90. EconomicSupportIndex vs Death Data of Indonesia from 2020-2022

Fig. 91. Indices vs Death Data of Indonesia from 2020-2022