

Analysis of the impact of the COVID-19 pandemic on the Manufacturing PMI

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ABSTRACT

This paper explores the impact of COVID-19 (deaths and cases) on the economies of seven countries (Brazil, China, Germany, India, Japan, the United Kingdom, and the United States of America) through the regression analysis. Using data on the monthly development of COVID-19 deaths and cases in the analyzed countries and the Manufacturing Purchasing Managers' Index between January 1st, 2020 and June 30th, 2021, we have discovered that the results document a higher correlation and dependence between the monthly percentage change in the Manufacturing PMI and monthly percentage change in the number of COVID-19 deaths (compared to cases); thus the number of COVID-19 deaths has a bigger impact on the economies than the number of COVID-19 cases.

Keywords: COVID-19, Purchasing Managers' Index (PMI), Manufacturing PMI, Regression analysis, COVID-19 cases, COVID-19 deaths.

JEL Codes: C1, F47, E32, I15, O11

1. Introduction

COVID-19 deaths are a key aspect the states seek to prevent in managing a COVID pandemic as we assume that the virus and the coronavirus disease itself (even in the case of a more complicated course of the disease) will not pose a substantial threat for the economies. The objective of our analysis is to determine the dependence and correlation between the number of COVID-19 deaths or cases and the gross domestic product (hereinafter GDP) in individual key global economies and to compare the impact of the number of COVID-19 deaths and cases on the economies. The dependence between these parameters will most likely be limited because states have been providing state aid massively during the pandemic in order to overcome the impending substantial economic damage, especially in relation to the impending wave of insolvencies and long-term high unemployment rate and, for example, as a result the US government debt to GDP ratio reached 100.1% in 2020, the highest level since 1946. (Bureau of the Fiscal Service, 2021) Tools called "The New Monetary Policy" (Bernake, 2020), in particular, quantitative easing, were fully utilized. The balance sheets of the key central banks reached the highest measured values ever on June 30th, 2021, namely 37.0% (Bloomberg, 2021a), 67.7% to GDP (Bloomberg, 2021b) and 131.6% to GDP (Bloomberg, 2021c), respectively. The interconnectedness of individual national economies with the global economy should be taken into consideration as well. In

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the case of strong open economies, the decline in economic activity may be forced upon the economy even when it has a low number of COVID-19 deaths or cases.

The impact of COVID-19 on the global economy is yet to be fully revealed, but the forward-looking nature of the financial market shows the market's anticipation of future economic growth (Nozawa and Qiu, 2021). Based on literature survey (Sun et al., 2021; Apergis, 2021; Vo et al., 2021; Ma, 2020), it has been discovered that many scholars, experts, and the broader public have been analyzing the development of the pandemic and its impacts on the economies of individual countries using various data sets, information, and indicators, however a deeper analysis of the impact of the number of COVID-19 deaths and cases on the economic activity is still missing.

The World Health Organization (hereinafter WHO) declared an outbreak of COVID-19 a public health emergency of international concern in January 2020 and a global pandemic in March 2020 (Zhang and Lange, 2021). COVID-19 is a viral respiratory disease caused by a fatal infection (SARS-CoV-2) which brought about the 2019 global pandemic (Aqeel et al., 2021). Since then, COVID-19 has been undoubtedly influencing the global economy. Altogether 181,961,401 people have been infected worldwide and 3,946,601 COVID-19 deaths were reported until July 1st, 2021. (WHO, 2021)

2. Data and Adjustments

The analysis of selected indicators covers seven countries, which make up the majority of the global GDP and their share in the global GDP is 59.5%. (Calculated by the authors based on data from the World Bank, 2021a) The analyzed countries were as follows: Brazil, China, Germany, India, Japan, the United Kingdom, and the United States of America. The choice of the analyzed countries is justified, as these countries represent 46.6% of the total population on Earth. (Calculated by the authors based on data from World Bank, 2021b)

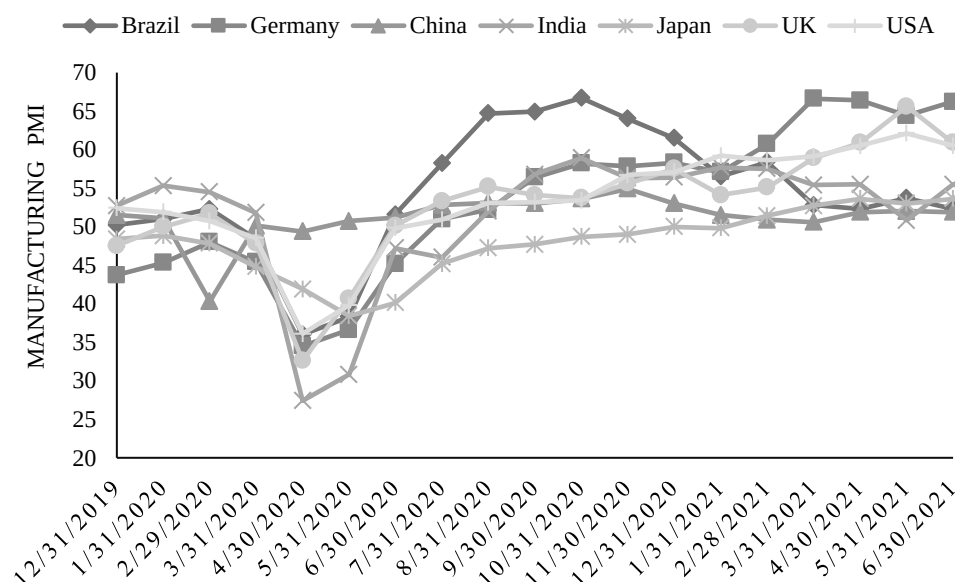
The preparatory phase of the research pointed out an important conclusion – the unsuitability of using the GDP as a basic variable. The inadequacy resulted from the number of the GDP datasets (period 2020 – first quarter of 2021; data about the GDP for the second quarter of 2021 will be published after the finalization of this article), as there are only five (in total 5 GDP data points x 7 countries = 35 GDP data points). This number is insufficient to conduct a regression analysis. Obtaining a proxy of the economic indicator for the GDP, which would provide a suitable possibility to monthly measure the economic activity, proved to be a fundamental problem. This proxy would allow us to obtain a set of 18 data points for each of the analyzed countries (in total 18 data points x 7 countries = 126 data points). Overall, we would get 3.6 times more data points.

Based on economic research published in 2016 by the Federal Reserve Bank of St. Louis (Chien and Morris, 2016), which analyzed the correlation between the quarterly development of the PMI Manufacturing Index (hereinafter “Manufacturing PMI”) and the GDP in the USA and China, we can state that the Manufacturing PMI can be used as the “proxy indicator” for the GDP. The correlation between the Manufacturing PMI and US GDP is 0.70. The correlation between the Manufacturing PMI

and Chinese GDP is 0.73. The chosen Manufacturing PMI is suitable for the implementation of the regression analysis as it is a good substitute for the standard GDP gauge, and it reaches a quality close to the originally intended indicator. (Zhang et al., 2015)

Table 1 shows the modified data.

The analysis was based on data from the Bloomberg Terminal in the context of the Manufacturing PMI. (Bloomberg, 2021d) The Manufacturing PMI data were used for the period of December 2019 to June 2021, and data for all analyzed countries were of the “SA” type (Seasonally Adjusted), (Bloomberg, 2021d). The data from December 2019 were used as a basis for the percentage calculation of January data. A graphical representation of the development of the Manufacturing PMI for the analyzed countries during the reported period is shown in Graph 1.



Graph 1: Development of the Manufacturing PMI for the analyzed countries (December 31st, 2019, to June 30th, 2021), source: authors (based on Bloomberg, 2021d)

A significant decline in the Manufacturing PMI was recorded in China already in the first quarter of 2020 which corresponds to the fact that the presence of COVID-19 was most likely detected there already in November 2019, the first case being identified presumably on November 17th, 2019. (Ma, 2020) At the same time, a significant increase in the Manufacturing PMI, which occurred in all countries after the significant decrease, was also first recorded in China. In the following quarters, the development trend of the Chinese GDP was similar to the GDP in the other analyzed countries. (OECD, 2021)

Our datasets also consist of the monthly development of COVID-19 deaths and cases in the analyzed countries between January 1st, 2020, and June 30th, 2021. Data on the number of COVID-19 deaths and cases was used from the GitHub (GitHub, 2021). It was necessary to set the maximum values

at the level of 1,000% for the maximum monthly percentage change in the number of deaths and new cases. The increase reached extreme values at the beginning of the pandemic, as the reference base was at very low levels, e.g., in March 2020, the percentage increase in the number of deaths in the USA was up to 536,800% (from one death in February 2020 to 5,369 deaths in March). (The data can be found in Table 1) The adjustment of extreme values does not have a fundamental influence on the results of the regression analysis. As regards percentage changes in the number of deaths, the adjustment was made once in the case of five countries. Of the total number of 126 original values (18 data points x 7 countries), we adjusted 3.97% of the data points (5/126) in this way. Regarding percentage changes in the number of cases, the adjustment was made altogether 11 times. Of the total number of 126 original values, we adjusted 8.73% of the data points (11/126) in this way.

We have also provided the quarterly development of the GDP for 2020 and the first quarter of 2021 for the analyzed countries. These results show an extreme impact of the COVID-19 pandemic on the GDP, especially in the second quarter of 2020. China's GDP is again evolving on the "FIFO" basis (First in – First out = the first strong decline in the GDP among the analyzed countries – first growth in the GDP among the analyzed countries), (OECD, 2021).

Quarter/Country	Brazil	Germany	China	India	Japan	UK	USA
2020 Q1	-1.4	-2.2	-6.8	3.2	-2.2	-2.2	0.3
2020 Q2	-10.9	-11.2	3.2	-24.2	-10.2	-21.4	-9.0
2020 Q3	-3.9	-3.8	4.9	-7.5	-5.5	-8.5	-2.8
2020 Q4	-1.2	-3.3	6.5	0.5	-1.0	-7.3	-2.4
2021 Q1	2.3	-3.1	18.3	1.8	-1.5	-6.1	0.4

Table 2: Percentage change of GDP growth rate (source: OECD, 2021)

GDP growth rate shown in Table 2 is based on seasonally adjusted volume data. Percentage change is compared to the same quarter of the previous year. As calculation method is used expenditure approach.

We measured the level to which individual economies are open based on the ratio of the total foreign trade turnover (exports + imports) to the GDP. The German economy is the most open, followed by the UK. On the contrary, the USA and Brazil are the relatively least open economies (World Bank, 2021c). All data are for 2019.

Indicator/Country	Brazil	Germany	China	India	Japan	UK	USA
GDP (in current USD, billions)	1,840	3,861	14,280	2,869	5,082	2,829	21,433
Total trade – Exports + Imports (in current USD, billions)	435	2,689	4,615	801	1,463	1,136	4,094
Openness of the economy (in %)	24	70	32	28	29	40	19

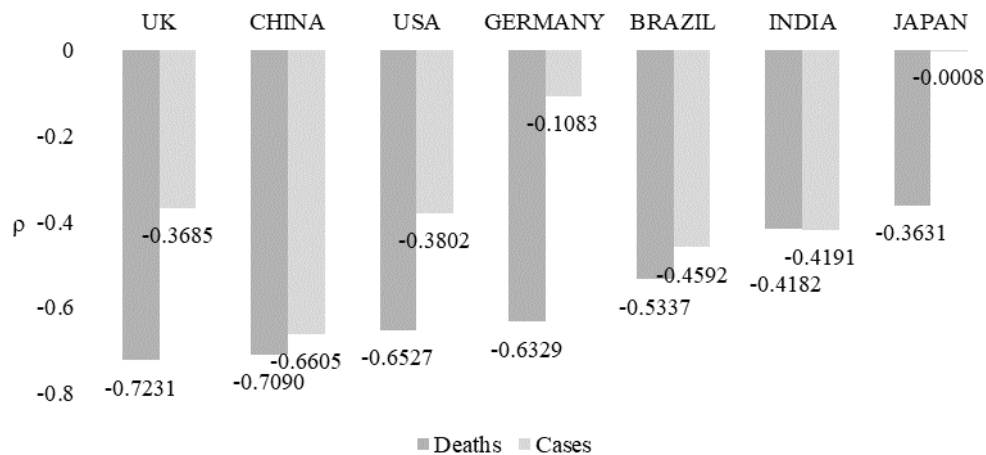
Table 3: Openness of the analyzed economies measured as a ratio of the sum of exports and imports to the GDP. (source: authors based on World Bank, 2021a, World Bank, 2021c)

3. Model Specification

The analysis was conducted using the regression analysis of the monthly percentage change in the Manufacturing PMI and the percentage change in monthly data on COVID-19 deaths and new cases. The regression analysis is used to determine the relationship between the individual variables. The dependence between the Manufacturing PMI and number of COVID-19 deaths (cases) was calculated using the linear regression. The explanatory variable x was defined as the monthly percentage change in COVID-19 deaths (cases) and the explained variable y was defined as the monthly percentage change in the Manufacturing PMI. (Hendl, 2015; Brzeziński et al., 2021). For the purpose of regression analysis, the data was adjusted to represent the monthly percentage change in the Manufacturing PMI as well as in the number of COVID-19 deaths and cases instead of the absolute numbers of these indicators. All calculations were performed in standard MS Excel.

4. Results and Discussion

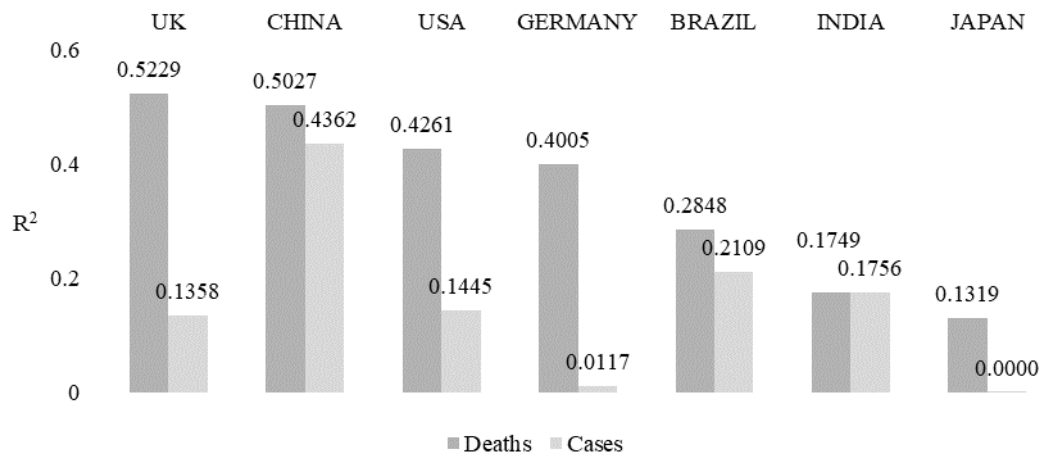
Graph 2 shows the correlation between the monthly percentage change in the Manufacturing PMI and monthly percentage change in the number of COVID-19 deaths which ranged from -0.36 (Japan) to -0.72 (UK). The average correlation was -0.58. Graph 2 also shows the correlation between the monthly percentage change in the Manufacturing PMI and monthly percentage change in the number of COVID-19 cases which was negative and ranged from 0.00 (Japan) to -0.66 (China). The average correlation was -0.34 (Table 4). Apart from the results for China, the negative correlation between the Manufacturing PMI and COVID-19 cases was relatively weak, which only slightly confirms the expectations about the negative effect of the number of COVID-19 cases on economic activity. Apart from the results for Japan, the correlation between the Manufacturing PMI and COVID-19 deaths is strong and negative which confirms the expectation about the negative effect of the COVID-19 deaths on Manufacturing PMI (the standard deviation is also lower for the correlation between the Manufacturing PMI and COVID-19 deaths than for correlation between the Manufacturing PMI and COVID-19 cases).



Graph 2: Correlation between the Manufacturing PMI and COVID-19 deaths or cases, source: authors

	P	
	Deaths	Cases
MAX	-0.3631	-0.0008
MIN	-0.7231	-0.6605
STDEV	0.1417	0.2215
MED	-0.6329	-0.3802
AVG	-0.5761	-0.3423

Table 4: Chosen statistical indicators for correlation, source: authors



Graph 3: Coefficients of determination (R^2), source: authors

Graph 3 shows the coefficients of determination R^2 for COVID-19 deaths and COVID-19 cases.

	R^2	
	Deaths	Cases
MAX	0.5229	0.4362
MIN	0.1319	0.0000
STDEV	0.1549	0.1458
MED	0.4005	0.1445
AVG	0.3491	0.1592

Table 5: Chosen statistical indicators for coefficients of determination (R^2), source: authors

Later in our analysis, we used only the data on the Manufacturing PMI and percentage monthly change in the number of COVID-19 deaths as Table 5 clearly shows significantly higher coefficients of determination for COVID-19 deaths compared to COVID-19 cases.

Based on the regression model of for example the USA, we can state that if the number of COVID-19 deaths increases by 1%, then we expect a decrease in the Manufacturing PMI by 0.0186% on the average. That means that a monthly increase in the number of COVID-19 deaths in the USA by 53.76% decreases the monthly value of the Manufacturing PMI by 1 point and vice versa (Figure 1).

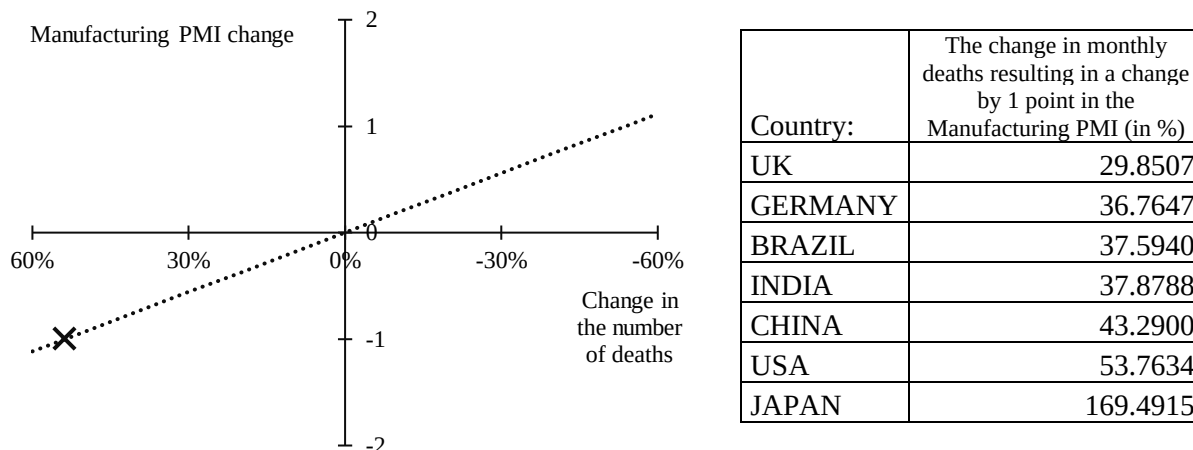


Figure1: Manufacturing PMI change, source: authors.

The cross in the graph shows the impact of a 53.76% increase in COVID-19 deaths on the Manufacturing PMI during one month in the USA; the line represents the effect of the change in the number of COVID-19 deaths from 60% to -60% on the Manufacturing PMI during one month in the USA. The table within Figure 1 shows the percentage increase in monthly deaths that will cause the Manufacturing PMI to drop by one point for the selected country.

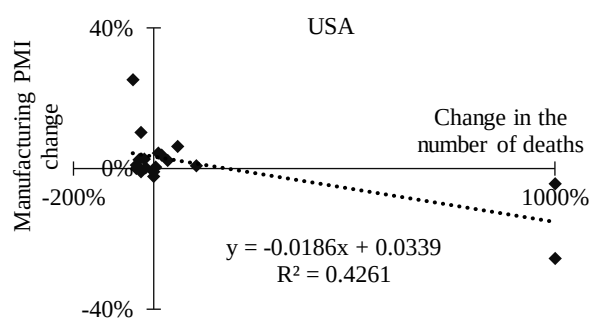


Figure 2: The linear relationship between the two analyzed variables for the USA shown by the regression line (calculated by the regression line equation), source: authors.

The relationship between the variables x and y for the USA represented by the regression line is shown in Figure 2. The relationship between the variables x and y represented by the regression line for every analyzed country is shown in Figure 3.

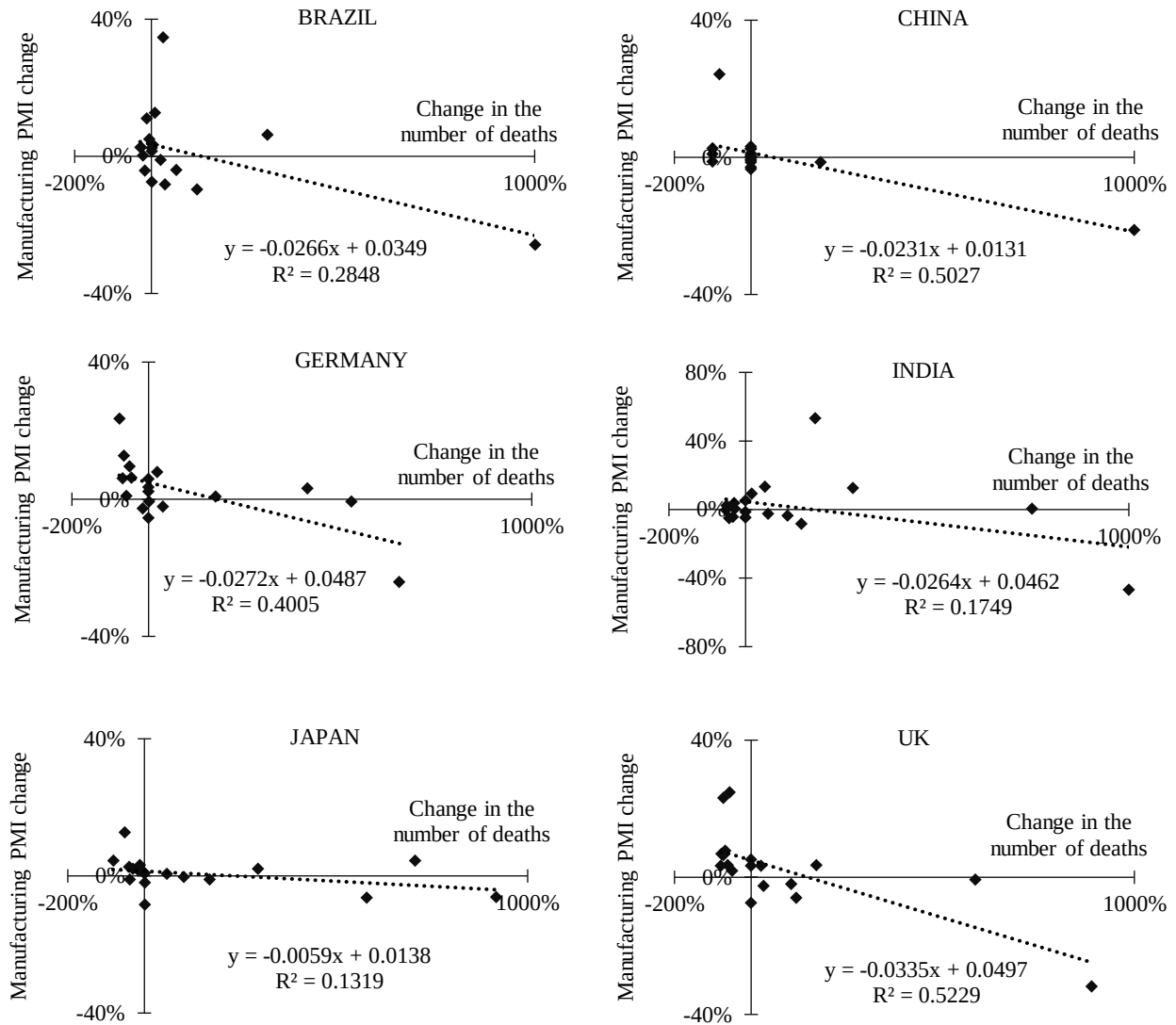


Figure 3: Linear relationship between the two specified variables for the analyzed countries, source: authors

Figure 3 shows a linear relationship between two analyzed variables in the shape of a regression line for 6 of the analyzed countries.

We interpret the value of the coefficient of determination R^2 for the USA as follows: approximately only 43% of the variability of the explanatory variable, i.e., the monthly percentage change in the Manufacturing PMI is explained by the variability of the monthly percentage change in COVID-19 deaths. The remaining 57% of the variability is affected by the variability of other factors, which are not included in the regression model. We suppose that in these “other factors” we can include massive governmental expenditures, which were used to stabilize economies, and record fast scientific progress achieved in the invention of effective vaccines and especially the mass vaccination. Therefore, we anticipate that the mentioned factors contributed to the so-called “flattening of economic curves” and to a reduction in the dependence between the Manufacturing PMI and COVID-19 deaths (this is valid not only for the USA but for every analyzed country). The drop in the GDP has not been permanent

and, after the initial steep increase, the unemployment rate generally returned to the more usual values, which in return has affected the economic sentiment and the Manufacturing PMI very positively, and that despite the continuing high number of COVID-19 cases. After the initial shock, the economic activity has been strongly revived.

5. Conclusion

The highest levels ever of the most important stock indices which were recorded in June 2021 are another proof of a quick change and expectations of further positive development. The wide-spectrum US stock index S&P 500 (Bloomberg, 2021e) reached its highest value on record on June 30th, 2021, i. e. 4,297.50 points which is a 33.02% increase since January 1st, 2020. The openness of economies and their marked interconnectedness with the global economy also contributed to a lower dependence between the Manufacturing PMI and COVID-19 deaths. For example, as already mentioned, the German economy has the highest interconnectedness among the analyzed countries (World Bank, 2021c) and, at the same time, it managed the pandemic relatively well, however the German GDP decreased relatively rapidly. It is also necessary to mention the limitation of the analyzed data. The data represents the year 2020 and the first six months of 2021. Therefore, the research should continue when data for whole of 2021 is available.

Based on the above-mentioned analysis of the higher correlation, as well as the dependence between the monthly percentage change in the Manufacturing PMI and monthly percentage change in the number of COVID-19 deaths (compared to cases), we can conclude that COVID-19 deaths have a bigger impact on the economies than the number of COVID-19 cases.

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Table 1: Manufacturing PMI data, monthly percentage change in the Manufacturing PMI, number of COVID-19 cases and deaths, percentage change in monthly COVID-19 cases and deaths, adjusted percentage change in monthly COVID-19 cases and deaths in all analyzed countries, source: authors, GitHub, Bloomberg.

	Date	Manufacturing PMI	Manufacturing PMI (%)	Cases	Cases (%)	Cases (% adjusted)	Deaths	Deaths (%)	Deaths (% adjusted)
Brazil	30.6.2021	56.4	5.03%	2,011,587	6.63%	6.63%	55,275	-6.33%	-6.33%
	31.5.2021	53.7	2.68%	1,886,543	-1.24%	-1.24%	59,010	-28.27%	-28.27%
	30.4.2021	52.3	-0.95%	1,910,264	-13.07%	-13.07%	82,266	23.57%	23.57%
	31.3.2021	52.8	-9.59%	2,197,488	63.20%	63.20%	66,573	118.72%	118.72%
	28.2.2021	58.4	3.36%	1,346,528	-11.92%	-11.92%	30,438	2.99%	2.99%
	31.1.2021	56.5	-8.13%	1,528,758	14.08%	14.08%	29,555	35.39%	35.39%
	31.12.2020	61.5	-3.91%	1,340,095	67.45%	67.45%	21,829	64.92%	64.92%
	30.11.2020	64.0	-4.05%	800,273	10.43%	10.43%	13,236	-16.92%	-16.92%
	31.10.2020	66.7	2.77%	724,670	-19.72%	-19.72%	15,932	-29.41%	-29.41%
	30.9.2020	64.9	0.31%	902,663	-27.54%	-27.54%	22,571	-21.92%	-21.92%
	31.8.2020	64.7	11.17%	1,245,787	-1.16%	-1.16%	28,906	-12.09%	-12.09%
	31.7.2020	58.2	12.79%	1,260,444	42.07%	42.07%	32,881	8.59%	8.59%
	30.6.2020	51.6	34.73%	887,192	107.45%	107.45%	30,280	29.91%	29.91%
	31.5.2020	38.3	6.39%	427,662	424.93%	424.93%	23,308	301.52%	301.52%
	30.4.2020	36.0	-25.62%	81,470	1,325.55%	1,000.00%	5,805	2,788.06%	1,000.00%
	31.3.2020	48.4	-7.46%	5,715	285,650.00%	1,000.00%	201	0.00%	0.00%
	29.2.2020	52.3	2.55%	2	0.00%	0.00%	0	0.00%	0.00%
	31.1.2020	51.0	1.59%	0	0.00%	0.00%	0	0.00%	0.00%
China	30.6.2021	51.3	-1.35%	673	48.57%	48.57%	0	0.00%	0.00%
	31.5.2021	52.0	0.19%	453	-0.44%	-0.44%	0	0.00%	0.00%
	30.4.2021	51.9	2.57%	455	49.18%	49.18%	0	0.00%	0.00%
	31.3.2021	50.6	-0.59%	305	-12.61%	-12.61%	0	0.00%	0.00%
	28.2.2021	50.9	-1.17%	349	-86.01%	-86.01%	0	-100.00%	-100.00%
	31.1.2021	51.5	-2.83%	2,494	371.46%	371.46%	2	0.00%	0.00%
	31.12.2020	53.0	-3.46%	529	-2.94%	-2.94%	0	0.00%	0.00%
	30.11.2020	54.9	2.43%	545	-6.84%	-6.84%	0	0.00%	0.00%
	31.10.2020	53.6	1.13%	585	65.25%	65.25%	0	0.00%	0.00%
	30.9.2020	53.0	-0.19%	354	-50.90%	-50.90%	0	0.00%	0.00%
	31.8.2020	53.1	0.57%	721	-10.21%	-10.21%	0	0.00%	0.00%
	31.7.2020	52.8	3.12%	803	55.02%	55.02%	0	0.00%	0.00%
	30.6.2020	51.2	0.99%	518	262.24%	262.24%	0	-100.00%	-100.00%
	31.5.2020	50.7	2.63%	143	-89.44%	-89.44%	1	-99.92%	-99.92%
	30.4.2020	49.4	-1.40%	1,354	-41.23%	-41.23%	1,328	182.55%	182.55%
	31.3.2020	50.1	24.32%	2,304	-96.68%	-96.68%	470	-82.07%	-82.07%
	29.2.2020	40.3	-21.14%	69,471	651.69%	651.69%	2,622	1,237.76%	1,000.00%
	31.1.2020	51.1	-0.78%	9,242	0.00%	0.00%	196	0.00%	0.00%
Germany	30.6.2021	65.1	1.09%	46,284	-83.73%	-83.73%	2,344	-57.41%	-57.41%
	31.5.2021	64.4	-2.72%	284,556	-49.34%	-49.34%	5,504	-15.43%	-15.43%
	30.4.2021	66.2	-0.60%	561,721	42.80%	42.80%	6,508	1.10%	1.10%
	31.3.2021	66.6	9.72%	393,349	75.11%	75.11%	6,437	-50.44%	-50.44%
	28.2.2021	60.7	6.30%	224,636	-51.71%	-51.71%	12,989	-44.42%	-44.42%
	31.1.2021	57.1	-2.06%	465,139	-32.65%	-32.65%	23,372	36.70%	36.70%
	31.12.2020	58.3	0.87%	690,608	28.34%	28.34%	17,097	175.27%	175.27%
	30.11.2020	57.8	-0.69%	538,122	125.27%	125.27%	6,211	528.64%	528.64%
	31.10.2020	58.2	3.19%	238,877	396.51%	396.51%	988	414.58%	414.58%
	30.9.2020	56.4	8.05%	48,111	39.85%	39.85%	192	23.08%	23.08%
	31.8.2020	52.2	2.35%	34,403	129.64%	129.64%	156	-0.64%	-0.64%
	31.7.2020	51.0	12.83%	14,981	24.76%	24.76%	157	-65.11%	-65.11%
	30.6.2020	45.2	23.50%	12,008	-41.14%	-41.14%	450	-76.53%	-76.53%
	31.5.2020	36.6	6.09%	20,401	-77.63%	-77.63%	1,917	-67.22%	-67.22%
	30.4.2020	34.5	-24.01%	91,201	27.15%	27.15%	5,848	654.58%	654.58%
	31.3.2020	45.4	-5.42%	71,729	96,831.08%	1,000.00%	775	0.00%	0.00%
	29.2.2020	48.0	5.96%	74	1,380.00%	1,000.00%	0	0.00%	0.00%
	31.1.2020	45.3	3.66%	5	0.00%	0.00%	0	0.00%	0.00%
India	30.6.2021	48.1	-5.31%	2,236,590	-75.18%	-75.18%	67,564	-43.72%	-43.72%
	31.5.2021	50.8	-8.47%	9,010,075	29.77%	29.77%	120,042	145.35%	145.35%
	30.4.2021	55.5	0.18%	6,943,304	525.85%	525.85%	48,926	747.94%	747.94%
	31.3.2021	55.4	-3.65%	1,109,424	212.84%	212.84%	5,770	108.68%	108.68%
	28.2.2021	57.5	-0.35%	354,631	-27.76%	-27.76%	2,765	-51.10%	-51.10%
	31.1.2021	57.7	2.30%	490,936	-38.93%	-38.93%	5,654	-49.14%	-49.14%
	31.12.2020	56.4	0.18%	803,865	-37.14%	-37.14%	11,117	-28.32%	-28.32%
	30.11.2020	56.3	-4.41%	1,278,727	-31.67%	-31.67%	15,510	-33.81%	-33.81%
	31.10.2020	58.9	3.70%	1,871,498	-28.61%	-28.61%	23,433	-29.82%	-29.82%
	30.9.2020	56.8	9.23%	2,621,418	31.39%	31.39%	33,390	16.03%	16.03%
	31.8.2020	52.0	13.04%	1,995,178	79.66%	79.66%	28,777	50.58%	50.58%
	31.7.2020	46.0	-2.54%	1,110,507	181.23%	181.23%	19,111	59.36%	59.36%
	30.6.2020	47.2	53.25%	394,872	153.54%	153.54%	11,992	181.90%	181.90%
	31.5.2020	30.8	12.41%	155,746	365.39%	365.39%	4,254	280.16%	280.16%
	30.4.2020	27.4	-47.10%	33,466	2,300.72%	1,000.00%	1,119	3,097.14%	1,000.00%
	31.3.2020	51.8	-4.95%	1,394	69,600.00%	1,000.00%	35	0.00%	0.00%
	29.2.2020	54.5	-1.45%	2	100.00%	100.00%	0	0.00%	0.00%
	31.1.2020	55.3	4.93%	1	0.00%	0.00%	0	0.00%	0.00%

Japan	30.6.2021	52.4	-1.13%	53,117	-65.49%	-65.49%	1,724	-38.58%	-38.58%
	31.5.2021	53.0	-1.12%	153,924	29.76%	29.76%	2,807	168.87%	168.87%
	30.4.2021	53.6	1.71%	118,623	178.78%	178.78%	1,044	-17.54%	-17.54%
	31.3.2021	52.7	2.53%	42,551	1.50%	1.50%	1,266	-40.73%	-40.73%
	28.2.2021	51.4	3.21%	41,924	-72.84%	-72.84%	2,136	-13.21%	-13.21%
	31.1.2021	49.8	-0.40%	154,355	77.73%	77.73%	2,461	102.38%	102.38%
	31.12.2020	50.0	2.04%	86,849	82.32%	82.32%	1,216	296.09%	296.09%
	30.11.2020	49.0	0.62%	47,635	168.58%	168.58%	307	58.25%	58.25%
	31.10.2020	48.7	2.10%	17,736	16.72%	16.72%	194	-29.96%	-29.96%
	30.9.2020	47.7	1.06%	15,195	-52.75%	-52.75%	277	-4.48%	-4.48%
	31.8.2020	47.2	4.42%	32,162	82.54%	82.54%	290	705.56%	705.56%
	31.7.2020	45.2	12.72%	17,619	845.23%	845.23%	36	-51.35%	-51.35%
	30.6.2020	40.1	4.43%	1,864	-24.44%	-24.44%	74	-82.25%	-82.25%
	31.5.2020	38.4	-8.35%	2,467	-79.49%	-79.49%	417	0.72%	0.72%
	30.4.2020	41.9	-6.47%	12,029	498.46%	498.46%	414	578.69%	578.69%
	31.3.2020	44.8	-6.28%	2,010	773.91%	773.91%	61	916.67%	916.67%
	29.2.2020	47.8	-2.05%	230	1,669.23%	1,000.00%	6	0.00%	0.00%
	31.1.2020	48.8	0.83%	13	0.00%	0.00%	0	0.00%	0.00%
UK	30.6.2021	63.9	-2.59%	314,067	342.44%	342.44%	359	32.96%	32.96%
	31.5.2021	65.6	7.72%	70,985	-1.77%	-1.77%	270	-67.07%	-67.07%
	30.4.2021	60.9	3.40%	72,264	-57.78%	-57.78%	820	-78.82%	-78.82%
	31.3.2021	58.9	6.90%	171,155	-52.54%	-52.54%	3,872	-76.84%	-76.84%
	28.2.2021	55.1	1.85%	360,640	-72.92%	-72.92%	16,716	-48.95%	-48.95%
	31.1.2021	54.1	-5.91%	1,331,952	54.43%	54.43%	32,745	117.19%	117.19%
	31.12.2020	57.5	3.42%	862,499	39.35%	39.35%	15,077	26.70%	26.70%
	30.11.2020	55.6	3.54%	618,941	10.73%	10.73%	11,900	169.72%	169.72%
	31.10.2020	53.7	-0.74%	558,947	374.63%	374.63%	4,412	585.09%	585.09%
	30.9.2020	54.1	-1.99%	117,765	253.75%	253.75%	644	104.44%	104.44%
	31.8.2020	55.2	3.56%	33,290	70.05%	70.05%	315	-60.38%	-60.38%
	31.7.2020	53.3	6.39%	19,577	-29.27%	-29.27%	795	-73.07%	-73.07%
	30.6.2020	50.1	23.10%	27,677	-64.86%	-64.86%	2,952	-72.60%	-72.60%
	31.5.2020	40.7	24.85%	78,768	-43.72%	-43.72%	10,773	-55.66%	-55.66%
	30.4.2020	32.6	-31.80%	139,956	261.14%	261.14%	24,297	888.89%	888.89%
	31.3.2020	47.8	-7.54%	38,754	65,584.75%	1,000.00%	2,457	0.00%	0.00%
	29.2.2020	51.7	3.40%	59	2,850.00%	1,000.00%	0	0.00%	0.00%
	31.1.2020	50.0	5.26%	2	0.00%	0.00%	0	0.00%	0.00%
USA	30.6.2021	62.1	0.00%	397,378	-56.65%	-56.65%	10,259	-43.50%	-43.50%
	31.5.2021	62.1	2.64%	916,731	-51.39%	-51.39%	18,156	-23.65%	-23.65%
	30.4.2021	60.5	2.37%	1,885,745	3.97%	3.97%	23,781	-36.59%	-36.59%
	31.3.2021	59.1	0.85%	1,813,678	-24.50%	-24.50%	37,506	-42.85%	-42.85%
	28.2.2021	58.6	-1.01%	2,402,096	-60.94%	-60.94%	65,629	-32.46%	-32.46%
	31.1.2021	59.2	3.68%	6,149,098	-4.36%	-4.36%	97,177	19.70%	19.70%
	31.12.2020	57.1	0.71%	6,429,546	42.72%	42.72%	81,186	106.59%	106.59%
	30.11.2020	56.7	6.18%	4,504,912	133.38%	133.38%	39,298	60.37%	60.37%
	31.10.2020	53.4	0.38%	1,930,288	59.72%	59.72%	24,505	4.73%	4.73%
	30.9.2020	53.2	0.19%	1,208,552	-17.19%	-17.19%	23,399	-21.02%	-21.02%
	31.8.2020	53.1	4.32%	1,459,482	-24.19%	-24.19%	29,627	11.70%	11.70%
	31.7.2020	50.9	2.21%	1,925,231	128.26%	128.26%	26,524	34.22%	34.22%
	30.6.2020	49.8	25.13%	843,440	17.52%	17.52%	19,762	-52.46%	-52.46%
	31.5.2020	39.8	10.25%	717,688	-19.25%	-19.25%	41,573	-31.76%	-31.76%
	30.4.2020	36.1	-25.57%	888,804	362.25%	362.25%	60,922	1,034.70%	1,000.00%
	31.3.2020	48.5	-4.34%	192,276	1,130,935.29%	1,000.00%	5369	536,800.00%	1,000.00%
	29.2.2020	50.7	-2.31%	17	142.86%	142.86%	1	0.00%	0.00%
	31.1.2020	51.9	-0.95%	7	0.00%	0.00%	0	0.00%	0.00%