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Measuring the global economic impact of the coronavirus outbreak: Evidence from the main cluster countries

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ABSTRACT

This study measures the global economic impact of the coronavirus outbreak. This pandemic is characterized by demand and supply shocks, leading to restrictions on trade, product and service transactions, and capital flow mobility. We investigate its impact on currency markets, stock market performance, and investor fear sentiment. We employ an empirical, time-scale approach based on the continuous wavelet transform—appropriate for time-series characteristics during times of turmoil. Based on daily data for four main cluster countries (China, France, Italy, and the USA), our results show that the impact of the pandemic’s evolution on the main economic indicators in China exhibits a different pattern from France, Italy, and the USA. For China, our results show that the pandemic evolution co-moves with the main economic indicators only in the short term (one week). The effect is more persistent in other countries. We also show that the main economic indicators are more sensitive to pandemic evolution assessed by the number of deaths rather than number of cases, and that currency and financial markets are affected in different timescales. These findings might assist policymakers in addressing the feedback loop between currency markets and capital flows and help investors find alternative assets to hedge against health shocks.

1. Introduction

By October 2020, just a few months after the first cases linked to COVID-19 appeared in China, there have been more than 1.1 million deaths and more than 40 million infected patients. The epidemic has disrupted global supply channels, by closing stores or reducing open hours in affected areas. In addition, the lockdown measures have led to a demand shock due to restrictions in mobility, trade, and so forth. From an economic point of view, the worldwide economy has become anxious and uncertain. A global economic recession of around 8% is expected (June 2020 World Bank report). Many of the world’s financial markets have experienced record lows. March 2020 will remain a reference as the most violent fall ever experienced by financial markets. An unprecedented oil crash has been observed in which the oil price has collapsed to around 20 dollars per barrel during this period. In sum, for the world economy, the COVID-19 pandemic is an earthquake.

The main economic effect of the health crises caused by COVID-19 has been a demand shock. The containment effects initially affected household confidence in the short term, with a reduction in the consumption of products not essential to everyday life. Then, exports, tourism industry, restaurants, and entertainment venues were the first sectors to be affected. These conditions also have the direct effect of reducing investments due to a decrease in consumer and investor sentiment, resulting from high levels of uncertainty. Therefore, trade, product and service transactions, and capital flows will be subject to substantial restrictions, which would constitute a supply shock that could have an important impact on the currency market (Saunders and Cornett, 2011). Moreover, currency markets play a crucial role in international finance, as counterparts employ different strategies for hedging against economic exposure through currency derivatives. Therefore, it is worthwhile to understand the effect of COVID-19 on the currency market, especially as this market is the largest financial market in terms of average daily trading volume (Aslam et al., 2020).

In addition, another characteristic of the COVID-19 health crisis concerns the level of uncertainty. The severity of the situation will depend on the duration—and extent—of the spread of the coronavirus.

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More specifically, investors might have some abnormal reactions to the COVID-19 outbreak that will affect their expectations and consequently the economic dynamics. To understand the role of investor reaction to the COVID-19 health crisis on the economic and financial systems, we might refer to the theoretical background of behavior finance. Interestingly, this modern finance theory stipulates that investor behavior affects the dynamic of financial assets. Behavioral finance stipulates that irrational investors, who make decisions based on their emotions, might affect the arbitrage of rational investors. From a theoretical point of view, two biases might motivate the reaction of stock markets to investors’ emotions: conservatism and representativeness. Both phenomena have been developed in the psychological literature. Edwards (1968) is the pioneer in discussing conservatism behavior, that is, traducing a septic individual behavior to new evidence, such as COVID-19. The representativeness bias, discussed by Kahneman and Tversky (1979), traduces the similarity of an uncertain event with a past event. Therefore, it would be interesting to investigate the effect of COVID-19 on the performance of financial markets by taking into account investor fear sentiment.

Several studies have been conducted on the economic impact of the COVID-19 pandemic. This literature can be organized into three strands. Some studies investigate firm reactions to the pandemic and its economic consequences (Gharehgolzi et al., 2020; Gu et al., 2020; Mandel and Vipin, 2020; Martin et al., 2020; Nakamura and Managi, 2020). Other studies deal with the impact of COVID-19 on the commodity and energy markets by investigating the effect on oil prices and their volatility (e.g., Apergis and Apergis, 2020; Devpura and Narayanan, 2020; Mensi et al., 2020; Sharif et al., 2020) or by investigating the stock returns of energy firms and energy firm performance (e.g., Iyke, 2020; Kanda and Kivimaa, 2020; Vaka et al., 2020; Yoo and Managi, 2020). The third strand focuses on the impact on financial and economic systems. Some studies investigate the impact of COVID-19 on different financial markets (e.g., Albulescu, 2020; Baker et al., 2020; Czech et al., 2020; Zhang et al., 2020). Some others focus on the efficiency of the currency market and the predictability of its volatility (Aslam et al., 2020; Iyke, 2020). Another corpus of work investigates the role of cryptocurrencies in terms of safe havens or hedging during the time of COVID (e.g., Chen et al., 2020; Conlon and McGee, 2020; Corbet et al., 2020; Mnif et al., 2020). Other studies investigate the environmental impact during the COVID-19 outbreak (Lian et al., 2020; Lokhandwala and Gautam, 2020; Rizou et al., 2020; Zambrano-Monserrate et al., 2020).

Our study is related to this last strand of literature, as we aim to analyze the effect of COVID-19 on the economic environment in the main cluster countries: China, France, Italy, and the US. We believe that our study completes this literature by analyzing the economic environment by focusing on the main economic indicators: financial market performance, exchange rate dynamics, and investor sentiment. Jointly analyzing the financial and currency markets is justified through various theoretical models. For example, the model of Dornbusch and Fischer (1980), called the “flow-oriented” exchange rate model, stipulates that exchange rates are one of the main determinants of international competitiveness as they influence current accounts, which in turn affect real output and incomes. Branson (1983) and Frankel (1983) present the stock-oriented models of exchange rates, stipulating that the rates equate to supply and demand for assets. Therefore, in addition to the direct stock-price reaction to COVID-19 shocks, a potential indirect stock-price reaction to exchange rate markets might exist based on the above-cited models. As exchange rates represent the present values of firms’ future cash flows, firms’ future income, current investment, and consumption might be affected, which influence the stock market’s performance. To consider this potential indirect reaction, which is based on the expectation of economic agents regarding the future dynamics of the economy, it would be interesting to investigate the dynamic of investor fear sentiment.

From an econometric point of view, we contribute to the emerging empirical literature related to COVID-19 by analyzing the main economic indicators during this health crisis based on a time-scale approach. Formally, we follow a continuous wavelet approach, procuring several advantages in modeling time-series relationships. This approach is useful for capturing the interaction between time-series analyses without loss of information as it is valid for non-stationary time-series. Second, this approach allows us to investigate the dynamic of the co-movement between time-series through different timescales, which is useful in periods of turmoil, helping to understand whether a shock is permanent or transitory. Moreover, our approach has the advantage of considering the heterogeneity of investors. In our study, we focus on the four main cluster countries China, France, Italy, and the US. Our objective is to assess whether the pandemic evolution has affected the economic systems by analyzing the interaction of the main economic indicators (investor reactions as well as the currency and financial markets) with the pandemic evolution. The pandemic level is assessed by new infected patients and new deaths. Based on daily data ranging from December 31, 2019, to July 31, 2020, we find three interesting results. First, the impact of the pandemic evolution on the main economic indicators exhibits a different pattern in China than in France, Italy, and the USA. In the case of China, our results show that the pandemic evolution co-moves with the main economic indicators only in the short term (one week). However, for the other countries, the effect is more persistent. Second, we show that the main economic indicators are more sensitive to pandemic evolution assessed by the number of deaths rather than the number of cases. Third, we show that currency and financial markets are affected by pandemic evolution in different timescales. These findings can assist policymakers in adjusting their policies to address the feedback loop between currency markets and capital flows; they could also help investors find alternative assets to hedge against health shocks.

The remainder of this paper is organized as follows. Section 2 provides the methodology and data. Section 3 presents the empirical analysis and discusses the main empirical results and policy implications, and Section 4 concludes.

2. Methodology and data

2.1. Methodology

Over the last two decades, the economic indicators have been subject to various shocks. Some of them have had transitory effects, while others persistent. Disentangling these effects is of great importance for policymakers and investors, as permanent effects imply that the shock has affected the fundamentals of the economy. Hence, in order to appropriately assess the global economic impact of the outbreak of COVID-19, we propose an approach that takes into account these two main characteristics: the time-varying behavior of time-series and the distinction between short- and long-term effects.

In our analysis, we aim to measure the global economic impact of the coronavirus outbreak by investigating the reaction of the main economic indicators to the pandemic level. Therefore, we propose a frequency approach, which allows us to disentangle the short- and long-term effects. The empirical literature proposes various approaches to this. However, to take into account the time-varying behavior of the economic indicators during this period of turmoil, we adopt the continuous wavelet transform (CWT). This approach allows us, contrary to other frequency methods (e.g., Fourier transform (FT) and spectral analysis),
to consider nonstationary time-series models through its continuously resized window properties. More specifically, CWT has several advantages compared to other wavelet approaches; in particular, CWT can avoid the data length restriction imposed by discrete wavelet approach. This CWT method allows us to estimate the reaction of the main economic indicators to the health shock of the coronavirus. In other words, we aim to assess whether the coronavirus health shock has affected the fundamental drivers of the economic system. Therefore, investigating the reaction of the main economic indicators to coronavirus shocks through a nonlinear relationship, and distinguishing between short- and long-term dependence, might be an interesting study for economic interpretations and policy implications.

We then aim to understand the nature of the causality between themes, which allows us to test whether the health shock has caused dynamic changes in the economic system. Formally, we adopt the Morlet wavelet family, introduced by (Goupillaud et al., 1984), which allows for an appropriate balance between time and scale resolutions. The Morlet wavelet, respectively. From an economic perspective, the phase difference depicts the relative position of the pseudo-cycle economic and health indicators. The phase function is ranged \([-\pi, \pi]\). If \(\varphi_{xy}(s) = 0\), the health and economic system move together, a phase analogous to positive covariance. When \(\varphi_{xy}(s) \in [\pi, 2\pi]\), the economic and health indicators are in phase, and the economic indicator is leading. When \(\varphi_{xy}(s) \in [0, \pi]\), the economic and health indicators are in anti-phase, and the economic indicator is leading. For \(\varphi_{xy}(s) \in [-\pi, -\pi/2]\), the economic and health indicators are in anti-phase, and the health indicator is leading.\(^5\)

2.2. Data

In this study, we aim to measure the global economic impact of COVID-19 on the main cluster economies. The outbreak of COVID-19 began at the end of 2019 in China and later spread to other countries, such as the USA, beginning March 2020. Therefore, assessing the impact of this crisis on the economic system imposes a restriction on the data frequency used. In other words, we are constrained by the daily frequency of the main economic indicators. Interestingly, we analyze the stock market’s performance, measured by stock market returns, and we investigate investor fear sentiment dynamics based on implicit volatility, meaning the investor market’s expectation of 30-day forward-looking volatility. The currency market is a macroeconomic indicator of the behavior of the economy as a consequence of the constraints on trade, product and service transactions, and the mobility of capital flows.

In our analysis, we select four countries: China, France, Italy, and the USA. The selection of these countries is motivated based on several reasons. First, they saw the first main clusters of the 2019 coronavirus in the world. Second, these countries are among the G7 countries, implying that their financial as well as economic indicators might reflect what has happened in other economies.

Our economic indicators are based on the following series: the closed stock market index for market \(k\) at time \(t\). Therefore, we collect the SSE50, the CAC40, the FTSEIB, and S&P500 for the Chinese, French, Italian, and American stock markets, respectively. The investor fear sentiment is assessed in our analysis through the implicit volatility measure. More specifically, we collected the VCA40, CHX, IVI, and VIX to measure the implicit volatility for the French, Chinese, Italian, and American stock markets, respectively. Our analysis of currency markets is based on the closed prices of USD/EUR for France and

\(^1\) For more details, please see (Ftiti et al., 2015, p. 585).

\(^2\) Based on (Ftiti et al., 2015), “[…] the Discrete wavelet transform (DWT) requests that data to be of the power 2 and has other limitations that are overcome in the maximal overlap discrete wavelet transformations (MODWT). For the MODWT, most software allows the decomposition of data at max up to level 12.”

\(^3\) Specifically, the cross-wavelet power between economic indicators and pandemic intensity measures the similarity of the powers in these series. The statistical significance level of the cross-wavelet power was defined by Torrence and Compo (1998).

\(^4\) For more details, see Torrence and Webster (1999).

\(^5\) We note that, in the coherence or cross-wavelet spectrum graphics, it is not easy to obtain a phase according to these different ranges. Therefore, the lead-lag relationship is reproduced through arrows pointing in different directions in the circular mean. This circular mean provides the significance of the phase lead–lag relationship. To determine the phase between the two series, we must estimate the mean and confidence interval of the phase difference in line with Grinsted et al. (2004, pp. 4–5), who used the circular mean defined by Zar (1999).
Note: $r_{stock}$, $IV_{stock}$, $r_{currency}$, and $r_{sentiment}$ denote the stock market return, the implied volatility measure, the currency market return, and the CESI return. GC and GD denote the proxies of pandemic evolution. Med., Max., Min., S.D, Skew., and Kurt denote median, maximum, minimum, standard deviation, skewness, and kurtosis values, respectively. P (J-B) and OBS denote the p-value of the Jarque-Bera test, respectively.

Table 1
Descriptive statistics.

|       | Mean   | Med.   | Max.   | Min.   | S. D   | Skew.  | Kurt.  | P. (J-B) | OBS. |
|-------|--------|--------|--------|--------|--------|--------|--------|----------|------|
| China | 0.0008 | 0.0005 | 0.0555 | -0.0804 | 0.0140 | -1.2493 | 12.0985 | 0.0000   | 154  |
| $r_{stock}$ | 0.0043 | -0.0076 | 0.3489 | -0.2878 | 0.1011 | 0.6578 | 4.0404 | 0.0003   | 154  |
| $IV_{stock}$ | 2.14*10^{-5} | 0.0000 | 0.0159 | -0.0066 | 0.0030 | 1.4992 | 8.6126 | 0.0000   | 154  |
| $r_{currency}$ | 0.0430 | 0.0004 | 0.6426 | 0.0000 | 0.1212 | 3.4360 | 14.9438 | 0.0000   | 154  |
| GC    | 0.0600 | 0.0000 | 1.8333 | 0.0000 | 0.2108 | 5.8802 | 43.3128 | 0.0000   | 154  |
| GD    | 0.0703 | 0.0019 | 1.0000 | 0.0000 | 0.1677 | 3.3622 | 15.3210 | 0.0000   | 154  |

Table 2
Correlation matrix between the studied variables.

|       | GC | GD |
|-------|----|----|
| China | -0.121 | 0.132 |
| France | -0.275 | 0.270 |
| Italy  | -0.295 | 0.318 |
| USA    | -0.151 | 0.181 |

Note: $r_{stock}$, $IV_{stock}$, $r_{currency}$, and $r_{sentiment}$ denote the stock market return, the implied volatility measure, the currency market return, and the CESI return.

Italian market exhibits more variability, as the stock market performance ranged from -18.54% to 8.55%, and the US market performance ranged from -12.77% to 8.97%. This pattern is confirmed by the increased variability in the implied volatility of the four markets, although, on average, it is still low. Regarding the currency market, it exhibits a poor performance as it is negative, on average, for France, Italy, and the USA, and close to zero for China. More specifically, the currency markets exhibit a low volatility during the study period, which might be explained by the fall in economic activity, particularly the foreign trade.

Regarding the pandemic evolution measures, we observe a high variability for both proxies. The growth in death evolved from 183.3% to 0%. For the case of France, the death growth evolved from 0.19% to 100%. For Italy, it ranged from 0.23% to 200%, and for the USA, it ranged from 0.82% to 200%.

All variables presented in Table 1 show further evidence of asymmetrical distribution, confirmed by the Jarque-Bera statistics, rejecting the normality of their distribution. All this evidence of non-normality in the excess variability observed during COVID-19 motivates our choice of a time-varying and time-scale approach to investigate the relationship between the pandemic evolution and main economic variables.

Table 2 shows some aspects of note related to the effect of the coronavirus evolution on the global economic. First, we note the higher

Italy, USD/CNY for China, and the DXY index for the USA. All variables are expressed in terms of returns, calculated as the difference of the logarithm prices between the date $t$ and $(t-1)$. All these data are extracted from the Bloomberg database from December 31, 2020, to assess the effect of the first wave of COVID-19.

The literature on the measures of the pandemic’s evolution presents some consensual proxies, namely mortality (Zeylke and Bauchner, 2020), newly confirmed cases (Ashraf, 2020; Zhang et al., 2020), and excess deaths (Woolf et al., 2020). This latter proxy has been criticized as it might be a biased estimation. Therefore, we retain, in our analysis, two proxies to measure the pandemic’s evolution: the daily growth in deaths related to COVID-19 (hereafter, GD), and the daily growth in confirmed cases (GC), measured as the relative growth rate of the cumulative sum of deaths and cases between day $t$ and day $(t-1)$, respectively. These data were obtained from the Johns Hopkins Coronavirus Resource Center.

3. Empirical analysis

3.1. Preliminary analysis

The first step of our empirical analysis discusses the statistical properties of our data, presented in Table 1. We observe that during the study period (time of COVID-19), all studied stock markets exhibit a negative performance except for China. This observation might be an indication of China’s economic recovery from the health crisis, as it was the first country to experience the COVID-19 crisis. Interestingly, the spread-out stock market performance shows there is high volatility during the study period. For China, the stock market performance has moved from -8.04% to 5.55%. The French market exhibits higher volatility than China, as it has evolved from -13.10% to 8.06%. The

\[ r_{stock} \] denotes the proxies of pandemic evolution. Med., Max., Min., S.D, Skew., and Kurt denote median, maximum, minimum, standard deviation, skewness, and kurtosis values, respectively. P (J-B) and OBS denote the p-value of the Jarque-Bera test, respectively.
sensitivity of the main economic indicators to the growth in the number of infected patients than to the growth in the rate of death. In other words, the intensity of the outbreak is perceived as higher based on the growth in the number of cases rather than the number of deaths. Second, Table 2 shows that the more sensitive indicators to the number of cases are stock market performance and investor fear sentiment. The Italian stock market performance exhibits the highest negative sensitivity, followed by France, then the USA, and finally China. The Italian investor fear sentiment exhibits the highest positive sensitivity, followed by France, then the USA, and finally China. The correlation with the currency market is around 10%. These preliminary results demonstrate a potential negative relationship between the Chinese stock market quality and the health news releases about the increase in the pandemic level.

3.2. Sensitivity of the reaction of the main economic indicators to the pandemic level

Figs. 1-3 display the time-scale relationship between the three studied economic indicators with the proxies of pandemic evolution for China, France, Italy, and the USA. Fig. 1 shows the interaction between pandemic level and the stock market performance for all studied countries. The results show some interesting findings. First, we observe that a lower effect of pandemic evolution on the stock market performance is observed in China. However, Fig. 1 highlights different episodes of high interdependence between pandemic intensity and the stock market across time and horizons for France, Italy, and the USA. This first finding might be explained by the closing of the Chinese stock market on January 23, 2020, for 10 days (it opened again on February 3).
Interestingly, to cushion the outbreak’s effect, the Chinese central bank injected $173 billion on Monday, February 3. This intervention by the central bank was meant to maintain reasonable and abundant liquidity in the banking system.

Contrary to China, we observe different episodes of high interaction between the dynamic of the financial market performances of the other countries (France, Italy, and the USA) and the dynamic of the pandemic evolution, measured by the number of cases (Fig. 1c, e, and g). For the case of France (Fig. 1c), we observe three periods of high short-run co-movement: from the end of January to mid-February (the beginning of the worldwide spread of the coronavirus). The second period is between mid-march and the end of March (the beginning of the lockdown in France and Black Monday on March 16 when the main financial market fell by more than 10%). The third episode occurs mid-May (announcement of end of lockdown). Similarly, for the case of Italy (Fig. 1e), we observe three episodes of short-run effect: from January 23 to February 10, 2020 (lockdown of China and close of its financial markets), from February 24 to the end of February (the first cases and deaths observed in Italy), and the beginning of June (the circulation of the virus still important in some regions after the end of lockdowns in May). A similar pattern is observed in the USA (Fig. 1g). The first period of high interaction between the dynamic of stock market performance and the dynamic of pandemic evolution is observed from February 21 to the end of February for a horizon of one week (date of first cases in the USA), and then around March 10 (an upward trend in the number of deaths). The third episode is around April 6 (the number of deaths increases more than 100% per day). The fourth is around the end of April (a downward trend in the number of deaths per day). The fifth period occurs mid-May.

Moreover, for the cases of France, Italy, and the USA, we observe a long-term (more than one month) high dynamic interaction between the pandemic level, measured by the number of new cases, and the stock market performances. Another interesting result from Fig. 1 is the heterogeneity in the relationship between the pandemic and the main economic indicators across the measures of the pandemic evolution. The number of new cases affect the main economic indicators in a short-run horizon (less than one week). However, based on Fig. 1b, d, f, h, the
pandemic evolution measured through the number of deaths affect the stock market performance in a horizon of two-three weeks. This result might be interpreted as the number of news cases is perceived by investors as the spread of the virus, which negatively affects their actions, but the number of deaths is interpreted as the severity of pandemic and has a more persistent effect on investors.

The reaction of the financial markets has been aggressive and violent, with movements observed to be stronger than during the 2008/09 global financial crisis. Equity markets were the most affected by the selloffs, with investors fleeing the market completely. In line with the stock market performance, the co-movement of the investor fear sentiment, assessed by the implicit volatility with the pandemic evolution, exhibits a different pattern in China than in France, Italy, and the USA. In the case of China, our results show that the pandemic evolution co-moves with the stock market volatility only in the short term (one week) during some periods: around mid-January (the People’s Republic of China’s announcement of possible human to human transmission of the 41 confirmed cases), January 23 (announcement of stock market close), and mid-march (the WHO announces on 11 March that the COVID-19 is characterized as a pandemic). In the case of France, Italy, and the USA, we observe a similar trend in the dynamic interaction between pandemic evolution and investor fear sentiment but with more periods of interaction. More interestingly, in terms of stock market performance, the pandemic evolution measured by the number of new deaths has a more important effect on investor fear sentiment than the number of new cases.

Regarding the currency market, falls in activity and trade due to government measures to stop the spread of the coronavirus increased currency volatility. In particular, we observe a few periods in which the pandemic level affects the currency market in the short run (one week). However, except for China, we observe a persistent effect in the long-run horizon (more than one month). Similarly, we note that the pandemic evolution measured through the number of new deaths has more impact than the new number of cases. At the beginning of February, China was the country most affected by COVID-19; the CNY reached its lowest level in seven weeks against the USD with an increased risk of a further decline in China’s GDP growth rate. Uncertainty has increased regarding the impact of the virus on the global economy. China is the world’s factory with a quarter of the world’s manufacturing value added. In addition, most of its GDP depends on exports, which explains the CNY exchange rate disruptions.

This study has several economic implications for policymakers and investors. Regarding policymakers, our findings demonstrate the sensitivity of economic and financial sectors to health systems. In other
words, public policy leading to reducing the investment in public health through reduction of resuscitation beds and the absence of strategies to tackle the pandemic had dramatic economic and financial consequences, which deepened the severity of the crisis beyond the health system. Therefore, we suggest that policymakers take into account health risks when developing and planning public policies and develop strategies to manage potential health crises and/or disaster phenomena. Regarding investors, our study demonstrates certain aspects across the time-scale analysis. We show that while China only showed a short-term impact, other countries such as France, Italy, and USA face long-term effects. These findings will be useful for investors to diversify their portfolio.

4. Conclusion

The aim of this paper is to examine the impact of COVID-19 on the world’s economic and financial systems. The intuition of our analysis is inspired by the features of the COVID-19 shocks as we experienced double shocks during this crisis: supply and demand shocks. These shocks have affected demand and constrained trade, transactions, and capital flows. These restrictions theoretically affect the currency and financial markets, as highlighted by different theoretical models (Branson, 1983; Dornbusch and Fischer, 1980; Frankel, 1983), and have a particularly important impact on the expectations of economic agents. Therefore, we aim to measure these areas of impact in our analysis.

To do that, we employ a time scale approach based on a continuous wavelet approach applied to the four main cluster countries: China, France, Italy, and the USA. Based on daily data ranged from December 2019 to July 2020, we measure the dependence between the pandemic evolution and the main economic indicators: financial markets performance, investor fear sentiment, and the currency markets. The results show that the impact of the pandemic’s evolution on the main economic indicators exhibit a different pattern in China than in France, Italy, and the USA. For China, our results show that the pandemic evolution co-moves with the main economic indicators only in the short term (one week). However, for the other countries, the effect is more persistent.
Second, we show that the main economic indicators are more sensitive to pandemic evolution when it is assessed by the number of deaths rather than the number of cases. Third, we show that currency and financial markets are affected by the pandemic evolution in different timescales.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.
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