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Feverish Stock Price Reactions to COVID-19

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Comments welcome

Abstract

The 2019 novel Coronavirus disease (COVID-19) pandemic led to extremely negative and volatile aggregate market reactions. The cross-section of stock price reactions provides insights into how investors responded to the outbreak. Sophisticated investors appear to have started pricing in some effects of the virus already in the first part of January (the ''Incubation'' phase). Broad attention of analysts, investors, and managers grew swiftly after human-human transmission of the virus was confirmed on January 20, 2020. The ''Outbreak'' phase followed, during which China-oriented stocks and internationally-oriented stocks more generally underperformed even as the aggregate market remained fairly stable. From the last week of February onwards, the ''Fever'' phase began. The aggregate market fell strongly in a whipsaw pattern. But behind these feverish price moves, the cross-section of returns reveals clear patterns. In particular, investors (and analysts) became increasingly worried about corporate debt and liquidity. Overall, the results suggest that the health crisis morphed into an economic crisis amplified through financial channels.

Keywords: Behavioral finance, Conference calls, Corporate debt, Coronavirus, COVID-19, Event study, Financial crisis, Global Value Chains, Neglected risks, Pandemic, SARS-CoV-2, Supply Chains

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1 Introduction

The outbreak of COVID-19 took the world economy by surprise.[1] Of the 5 risks listed as being most likely to materialize in the World Economic Forum's Global Risk Report 2020, published on January 15, 2020, all five concern environmental issues.[2] The topic ''infectious diseases'' was ranked number 10 in terms of impact, but quite unlikely.[3] Most corporate decision-makers and politicians were focusing their attention on traditional sources of business risks or at most on the (still) pressing issue of climate change.

Only a few weeks later, attention shifted dramatically. On March 11, the World Health Organization characterized COVID-19 as a pandemic.[4] Massive disruptions in personal lives are taking place, with half of the world's population currently under curfew (or situations resembling curfew). Beyond the immediate tragedies of death and disease, fear (leading, for example, to panic buying of everyday goods) is widespread and uncertainty is extreme.

The future economic impact of COVID-19 is highly uncertain because the spread of the disease, its severity and mortality rate, the policy responses, and individual behavior are unknown.[5] In this situation, the cross-section of stock price reactions provides a valuable

[1] ''COVID-19'' stands for ''coronavirus disease 2019''. The virus that causes it has been named ''SARS-CoV-2'', though in line with common usage we refer simply to ''coronavirus'' in this paper.

[2] Available at: `https://www.weforum.org/reports/the-global-risks-report-2020`.

[3] The fact *that* a coronavirus of the present sort might cause an epidemic is not a complete surprise. For example, a study published in March 2019 by researchers at the Wuhan Institute of Technology concluded that ''future SARS- or MERS-like coronavirus outbreaks will originate from bats, and there is an increased probability that this will occur in China'' (Fan et al., 2019).

[4] A current situation overview, including numbers of confirmed cases and deaths in all countries can be found here: `https://experience.arcgis.com/experience/685d0ace521648f8a5beeeee1b9125cd`.

[5] See Baldwin and Weder di Mauro (2020) and OECD (2020). Atkeson (2020), Eichenbaum et al. (2020), and Stock (2020) apply the Susceptible-Infected-Recovered (SIR) epidemiological model to study economic effects of social distancing policies. McKibbin and Fernando (2020) simulate different scenarios for macroeconomic outcomes. Fornaro and Wolf (2020) investigate analytically various macroeconomic policy interventions. Insights can also be gleaned from prior viral diseases. For example, Adda (2016) assesses the effects of policies such as school closures and closure of public transportation networks. Barro Robert and Weng (2020) estimate mortality and GDP-contractions by analogy to the Spanish flu. The choices of *private* agents also play a major role; see Costello et al. (2017) for a theoretical model.

opportunity to observe which firms investors see as particularly affected by the direct and indirect effects of the virus outbreak, and which firms may even stand to benefit. The advantage of considering asset price changes is that they capture current expectations; the researcher need not trace all the future changes to cash flows and discount rates separately (Schwert, 1981). In this sense, the stock market provides a continuously-updated and incentivized summary of what investors believe the economic impacts of the virus may ultimately be. This setting also provides an unusually high-stakes opportunity to study information processing in markets, and how investors value various types of firm characteristics in a fast-evolving and highly-uncertain setting.

It is particularly interesting to study stock price reactions in the US, which initially was not directly affected by COVID-19. Understanding how the outbreak in China, the contagion to Europe, and the intense measures taken in these regions affected US firms can suggest some insights of how investors behaved in preparing for the economic consequences of a possible massive outbreak in the US. While discussions in the media have generally focused on raw returns, we also compute CAPM-adjusted returns, that is, returns adjusted for a firm's exposure to the overall market. This allows us to more clearly identify relative losers and relative winners.[6] We focus on the international (in particular China[7]) exposure of US firms as well as on the effects of corporate debt and cash holdings. The latter are of particular interest to examine when and to which extent the contagion of the disease was perceived by investors to also bring risks of financial contagion.

We organize our analysis along three periods, which we label *Incubation* (Thursday

[6]For simplicity, we refer to losers and winners, though obviously no one, including investors in firms whose stock prices soared, would reasonably declare themselves a winner in such a situation.

[7]See Baldwin and Tomiura (2020) for a macroeconomic discussion of China's role as the workshop of the world and a preview of possible consequences for trade.

January 2 through Friday, January 17), *Outbreak* (Monday/Tuesday, January 20/21 through Friday, February 21), and *Fever* (Monday, February 24 through Friday, March 20). We describe the timeline of events characterizing each of these periods in Section 2. Corporate managers and analysts clearly started paying attention to (or at least started openly talking about) the Coronavirus in the Outbreak period. The first US conference call in which the Coronavirus is discussed (the earnings call of United Airlines) occurred on January 22. By the second week of March almost all conference calls discussed the topic.[8]

We begin with an analysis of industry-level returns over all three periods combined. Telecom services, food and staples retailing, and utilities performed relatively well. Energy, consumer services, and transportation were among the biggest losers. As an ominous sign that the crisis is potentially wide-reaching, in the Fever period consumer services were the biggest losers, and food and staples retailers were the strongest winners.

Our main analysis focuses on within-industry differences. First, we consider international trade. More export or supply chain exposure to China (as measured by firm disclosures analyzed by Hoberg and Moon, 2017, 2019) resulted in substantially lower cumulative abnormal returns (CARs). A one standard deviation higher China exposure is associated with 2.1% lower CARs in the Incubation and Outbreak periods combined.[9]

Investors seem to have penalized not only firms trading with China, but also international exposure more generally. A one standard deviation increase in the share of foreign revenues is associated with 1.64% lower CARs, net of the effect of China exposure. This result indicates

[8]Google trends (which is frequently taken as a measure of retail investor attention) shows a similar pattern in searches for Coronavirus.

[9]Firms exporting to China would arguably have been favored with the "Phase 1" agreement regarding trade between the US and China which was signed on January 15 and which entered into force on February 14. Thus, they may have suffered more from the COVID-19 outbreak if it had not been for the arguably good news contained in the agreement.

a general pessimism of financial markets regarding the disruptive impact of COVID-19 on global trade.

Interestingly, both the industry effects and some of the international exposure effects started to be priced in already in the Incubation period. Thus, it is conceivable that sophisticated investors acted on news coming out of China during this period.

Second, in the Fever period investor (and analyst) worries turned to corporate debt and liquidity. Within the same industry and controlling for standard firm characteristics, more leveraged firms and those with little cash holdings suffered severely -- even those with little or no international activities. This finding suggests that investors perceived the real shock and business uncertainty caused by the outbreak of COVID-19 to be amplified by financial channels. Indeed, the sharp drop in share prices that occurred in mid-March appears hard to reconcile with merely cash flows being negatively affected; uncertainty (discount rates) must also have gone up.[10]

Overall, our analyses indicate that while the Incubation and Outbreak periods saw investors price in effects of the evolving health crisis on international trade, the Fever period brought about a switch in investor concerns to broader systemic issues, presumably also in light of pre-existing fragilities in the financial markets.[11]

The focus of this paper is diagnosing the impact of COVID-19 on financial markets. A detailed evaluation of treatments needs to await future analyses. However, ‘‘beyond-study-

[10]Gormsen and Koijen (2020) look at the aggregate equity market and dividend futures to quantify the shift in investors' expectations about economic growth in response to COVID-19. They conclude that the stock market fell well beyond changes in growth expectations due to changes in discount rates. This is consistent with the evidence in Shiller (1981) and Campbell and Shiller (1988) on the relative importance of revisions in expected returns in explaining aggregate market moves.

[11]Concerns about such fragilities have existed for a long time. See, for example, Kaplan (2019) or Bloomberg, ‘‘A $1 Trillion Powder Keg Threatens the Corporate Bond Market’’, October 11, 2018.

period'' events do suggest that some policy interventions helped in reassuring investors that the further propagation of financial stress would be softened. Specifically, on March 23 the Federal Reserve Board announced two new facilities to support credit to large corporations, and on March 27 the US government approved a US$ 2 trillion relief bill into law. Over that week, investor concerns about corporate debt and liquidity revealed by the cross-section of stock returns partially reversed. The concerns remain, however, at high levels.

2 Key event dates and empirical strategy

We investigate three periods, which we label *Incubation* (Thursday January 2 to Friday, January 17), *Outbreak* (Monday/Tuesday, January 20/21 to Friday, February 21), and *Fever* (Monday, February 24 through Friday, March 20).

First, on December 31, 2019, cases of pneumonia detected in Wuhan, China, were first reported to the WHO, and on January 1, 2020, Chinese health authorities closed the Huanan Seafood Wholesale Market after it was discovered that wild animals sold there may be the source of the virus.[12] The first trading day after these events was January 2, 2020. News continued to trickle out after this day. For example, Dr. Li Wenliang, an ophthalmologist at Wuhan Central Hospital warned alumni from his medical school class via WeChat about the emergence of SARS Coronavirus. (This turned out to be incorrect because the virus was, in fact, the novel Coronavirus.) Some events occurred outside mainland China. For example, as early as January 6, Hong Kong began screening passengers on trains that had stopped at

[12]The cases originally reported to the WHO occurred between December 12 and December 29, according to Wuhan Municipal Health. In the meantime, it has transpired that the first known patient started experiencing symptoms on December 1. He had not been to the Wuhan market.

Wuhan, and the US Center for Disease Control and Prevention issued an advice to avoid animals, animal markets, and contact with unwell people if travelling to Wuhan.

Second, on January 20, Chinese health authorities confirmed human-to-human transmission of the Coronavirus, and the WHO issued the first situation report on the outbreak. Monday, January 20 was Martin Luther King Day in the US. The first trading day in the US in this phase, therefore, was January 21.

Third, on Sunday February 23, Italy placed almost 50,000 people under strict lockdown (not far from the country's main economic center, Milan) in an attempt to control the outbreak after registering its first deaths from Coronavirus on Saturday February 22. The first trading day in this phase, therefore, was February 24. Extraordinary events followed, too numerous to list here. The President of the United States announced a travel ban on EU countries on March 11 and declared the COVID-19 outbreak a national emergency on March 13. The second-worst day ever of the Dow Jones Industrial Index happened on March 16; three of the 15 worst days ever occurred between March 9 and 16. But also one of the top 10 surges in the market ever took place in this time period. On March 16, the Chicago Board Option Exchange's Volatility Index, known as the VIX, surged past the prior all-time peak (reached in the financial crisis more than a decade ago). Our data ends on March 20.

We choose these three periods because they follow naturally from the timeline of events.[13] Also, it is clear that attention of market participants markedly changed around these dates. First, Figure 1 plots the number of conference calls on different dates.[14] It shows that corporate managers and analysts appear to start paying attention to the novel Coronavirus

[13]See `https://en.wikipedia.org/wiki/Timeline_of_the_2019-20_coronavirus_outbreak`.

[14]To obtain a broad picture of communicatin on the topic, we include both earnings conference calls and other calls, such as a roadshow presentations and investor conferences. Thus, some firms show up multiple times in this sample.

after January 20 only. The first conference call discussing either of the keywords ‘‘coronavirus’’, ‘‘covid-19”, ‘‘2019-ncov’’, or ‘‘sars-cov-2’’ took place on January 22. This was the earnings call of United Airlines. From that point onwards, the fraction of US firms discussing these topics increased markedly over time, to around 30% at the end of the Outbreak period. When the Fever period began, that fraction increased to around 50%. By the second week of March, almost all calls featured a discussion of COVID-19.

Figure 1 (Attention to Coronavirus in the US) about here

The intensity of search on Google is often taken as a measure of retail investor interest in a topic (Da et al., 2015). Therefore, we also consider search for ‘‘Coronavirus’’ on Google. Figure 1 shows (on the right y-axis) that search intensity increased after January 20.[15] Search intensity for ‘‘Coronavirus’’ then subsided somewhat after its interim peak at the end of January. But in the Fever period, the search intensity surged, suggesting that retail investors were highly attentive and presumably active in the market at that time. (As shown in Figure A1 in the Supplementary Appendix, similar patterns are visible when looking at global conference calls and global Google search.)

It is important to note that some other events also occurred in this period. For example, on the weekend of March 7/8, a price war erupted in the oil market. Moreover, the US Presidential Election Primaries were ongoing.[16] Finally, there were noticeable developments in the trade war between the US and China.[17]

[15] A minor uptick in search activity for ‘‘Wuhan’’ in Chinese search can be detected in early January already, but this is not visible in US searches.

[16] The relatively successful showing of Joe Biden on ‘‘Super Tuesday’’ on March 3, where presumably many investors had worried about a Bernie Sanders win, conceivably explains a positive market move that day.

[17] Seen overall, these events are likely to have helped US firms exporting to China, but they do not

Therefore, contrary to an event study where there is one clear event date, which is followed by price adjustment, the situation here is one of a series of a news. At any given point in time it is impossible to state whether a price move is the incorporation of new information on that day, or continuation of adjustment (or reversal of adjustment) on prior days. Our goal is to provide an overall assessment of the stock price development over time.

3 Industry-level results

We begin with an analysis of industry-level returns. Section 3.1 explains the data source. Section 3.2 discusses the results.

3.1 Data

We retrieve daily stock prices for common shares from December 31, 2018 through March 20, 2020 from the Compustat Capital IQ North America Daily database (retrieved from Wharton Research Data Services, WRDS). We adjust prices for dividends through the daily multiplication factor and the price adjustment factors provided by Compustat. In cases of dual listings, we keep only the firm's security with the highest market capitalization. Our main sample consists of Russell 3000 constituents.[18] For our firm-level analysis, we exclude

significantly improve the situation for US firms importing from China. First, on January 15, China and the US signed the so-called ''Phase 1'' trade deal. Under the agreement, China agreed to purchase the extraordinary amount of an additional US$ 200 billion worth of US exports. Most tariffs remained in effect, and China did not give in to US demands on subsidies or state-owned enterprises. Second, on January 24, President Trump imposed new tariffs on around US$ 450 million of steel and aluminium products. While small in magnitude, the signal was negative. On February 14, the ''Phase 1'' deal went into effect. The average US tariffs on imports from China remain elevated at 19.3 percent, more than six times higher than before the trade war began in 2018. Average Chinese tariffs on US goods are 20.3 percent, down only slightly from 20.9 percent when the deal was announced in December 2019. For details see `https://www.piie.com/blogs/trade-investment-policy-watch`.

[18]The Russell 3000 index includes the 3,000 largest publicly held companies incorporated in the US, and represents approximately 98% of the total US public equity market. We anyway ensure that no firm in our

financial companies (with GICS industry code equal to 40) because a key variable of interest in that analysis is leverage.[19]

To estimate each firm's alpha and market beta, we regress one year of daily excess returns (from January 2, 2019 through December 31, 2019) on a constant and the daily market factor. The market factor is the value-weighted portfolio return of all firms listed on NYSE, NYSE Arca, AMEX, or NASDAQ for which data is available (approximately 4,400 companies), in excess of the risk free rate (the US one month T-bill rate).[20] To ensure the precision of our estimates, we compute abnormal returns only for stocks with at least 127 daily observations in the estimation period. We compute CAPM-adjusted returns as the daily excess return on the stock minus the stock's alpha minus beta times the market excess return.

Table 1 contains descriptive statistics.

Table 1 (Descriptive statistics) about here

3.2 Results

Figure 2 plots the average cumulative abnormal returns over the full period and in each of the three phases.[21]

Figure 2 (Stock returns by industry) about here

sample has less than US$ 10 million of market equity capitalization as of end 2019.

[19]Leverage is hardly comparable between financial and non-financial firms (Fama and French, 1992). Our results hold even including financials.

[20]We do not use the Fama-French market factors available on Kenneth French's website because they are currently available only up to the end of February 2020. However, our computed market factor for the US and the Fama-French market factor in January and February 2020 have a correlation of 99.9%.

[21]All industries experienced negative *raw* returns, and the ordering is very similar. These results are available on request.

Over the whole period, the Telecom industry did very well, as the demand for services supporting work at home has skyrocketed. Food and Staples Retailing behaved more or less neutrally in the Incubation and Outbreak period, but surged in the Fever period, a striking indication that a broader crisis was anticipated by the market. Utilities gained strongly in Incubation and Outbreak, arguably because these firms, being overwhelmingly domestic, do not rely much on global markets, and the demand for their products was seen not be much affected by the virus. However, in the Fever period, as investors sold all stocks as the worry of a US recession grew bigger, these low-beta stocks underperformed.

Over the whole period, Energy, Consumer Services, and Automobiles suffered particularly. Again, the time pattern is striking. Consumer Services performed neutrally in Incubation and Outbreak, but severely dropped in Fever as the crisis grew. The Energy sector consists of many oil companies, which would suffer in a recession. The oil price shock is likely to have additionally hurt these companies, but they already underperformed strongly in the Incubation and Outbreak periods, as well as in the first half of the Fever period.[22]

The Health Care industry was an obvious winner early on. Indeed, about one third of the total run-up (loss) that US firms in Health care experienced in these two periods, about one third occurred in the Incubation period.[23] However, its outperformance did not continue in the Fever period, indicating that investors shifted their attention from health to other topics.

[22] Although our focus in this paper is on the US market, it is noteworthy that similar findings hold in other countries. There were also a few instances of differences across countries. For example, the Semiconductor sector gained strongly in China (which is a net importer of semiconductors, especially from Taiwan), but lost in the US and in Asia ex-China. Results are available on request.

[23] Donadelli et al. (2017) document that pharmaceutical stocks respond positively to WHO warnings and other disease-related news. Huberman and Regev (2001) instead document that news related to possible medical breakthroughs is sometimes processed with very long delay.

4 Firm-level results

Within industries, there is wide variation in the potential exposure of firms to the effects of the Coronavirus. We focus on the role of international trade and corporate debt. First, a large literature documents the importance of trade and global value chains in today's economy.[24] The outbreak of COVID-19 provides an (unfortunate, but valuable) opportunity to examine the quantitative importance of trade for firm value.[25] Second, we analyze how investors perceived corporate debt and cash holdings as the COVID-19 crisis unfolded. This provides insights into the role of corporate capital structures in amplifying (or attenuating) shocks in expected cash flows and increased business risk.[26]

4.1 Data

4.1.1 International exposure

We employ two data sources for US firms' international exposure, (i) data from Hoberg and Moon (2017, 2019), relying on firms' disclosures regarding their international activities, and (ii) data from the Compustat Segments database.

First, Hoberg and Moon (2017, 2019) analyze 10-Ks for annually updated firm disclosures regarding their international activities. Effectively, their method counts the number of times each country is mentioned. Importantly, their method allows distinguishing between

[24] For an overview, see Antras (2016).

[25] Bernard et al. (2009) examine how US trade responded to the 1997 Asian financial crisis. A key difference of the current emergency with that specific macroeconomic shock is that the level of global interconnection of the economy and the size of Asian economies have increased significantly since the late 1990s.

[26] According to Modigliani and Miller (1958), financial leverage increases the impact of a firm's operating risk on the firm's expected return on equity. Gourio (2012) shows that leverage makes equity more exposed to disaster risk, amplifying the effects of uncertainty on expected returns.

input-offshoring (sourcing supplies from another country) and export-offshoring (exporting).[27] We define *China (1/0)* as a binary indicator variable equal to 1 for firms with disclosed activities with China, either exporting or importing or both. This variable captures the extensive margin. For the intensive margin, we define *China output (#)* and *China input (#)* as the number of times a firm mentions China in their 10-K in relation to importing or exporting activities. *China (#)* is the sum of the two.

The global value chain is an entanglement in which products travel different countries before reaching their final use. Many US firms directly import products from China. But also products imported from other countries may have been produced by using inputs from China. For example, a Mexican car parts manufacturer may source some elements from China, before they sell their product to a US car manufacturer. The Hoberg and Moon measure thus quantifies each firm's own perception of the extent to which it is exposed to China. We have data from 2017. It is conceivable that firms have since then adjusted their China exposure downwards (in light of the trade war). This would work against finding a negative effect of China exposure in our sample period.

To more generally analyze the effects of firms' international orientation, not only specifically with China, we also retrieve the percentage of foreign revenues from the Compustat Segments database. This measure is available for a somewhat smaller set of observations, 1,839 firms, in our sample. It refers to fiscal year 2017 for 153 firms and to fiscal year 2018 for the remaining 1,686.

[27]Hoberg and Moon (2017) validate their measures with foreign trade as reported by the US Census Bureau, the official source for nation-by-nation US exports and imports. For both exporting and importing, the correlation of their measures with the export and import value is above 0.85.

4.1.2 Capital structure

To capture heterogeneity in firms' financial strength, we compute two variables from accounting data from the latest available 2019 quarterly results. *Cash/assets* is cash and short-term investments, divided by total assets, in percentage points. *Leverage* is long-term debt plus debt in current liabilities, divided by total assets, in percentage points. *Market leverage* is long-term debt plus debt in current liabilities, divided by total assets minus book equity plus the market value of common equity, in percentage points.

4.1.3 Control variables

Finally, we use three standard control variables. *Book-to-market* is the book value of equity divided by market valuation. *Log market cap* is the logarithm of the equity market capitalization as of December 31, 2019. Finally, *Profitability* is the return on assets (in percentage points) computed as the quarterly income before extraordinary items over total assets.

4.2 Stock returns and international exposure

This subsection studies the time pattern in how investors priced international exposure of firms. Table 2 and Figure 3 summarize regressions of CAPM-adjusted returns in the three time periods on international exposure and control variables and industry fixed effects. All results also hold not controlling for industry fixed effects (not shown to conserve space). Moreover, as shown in Table A1 in the Supplementary Appendix, our findings hold also when looking at raw returns.

Table 2 (Timing in the pricing of international exposure and capital structure) and Figure 3 (Stock prices and international exposure) about here

Consider first the Incubation and Outbreak periods. As seen in columns (1) through (4) of Panel A, more mentions of exposure to China resulted in substantially lower cumulative abnormal returns (CARs) in these periods. The effects were strongest in Outbreak. For example, the results in Column (3) imply that a one standard deviation higher exposure to China (13.36) was associated with 1.68% (= 13.36 × 0.126) lower CARs in the Outbreak period. Taking into account the descriptive statistics from Table 1, this means that almost a fifth of the overall abnormal returns in this period are explained by exposure to China, a sizeable effect.[28]

Firms exposed to China suffered already showed a small, but statistically significant negative response in the Incubation period. These findings are interesting in light of the fact that firms exporting to China (and perhaps to a lesser extent those sourcing from China) would arguably have been favored with the "Phase 1" agreement regarding trade between the US and China which was signed on January 15, and which entered into force on February 14. Thus, it is conceivable that sophisticated investors started pricing-in the concerns about supply chain disruptions already in the Incubation period. As noted in Section 2, news on the Coronavirus were indeed coming out of China during this period. Concerns about the virus appear to have significantly outweighed the potential benefits of the trade deal.

By contrast, in the Fever period of February 24 through March 20 the level of exposure

[28] A separate calculation reveals that, in the first two periods combined, firms with any China exposure (that is firms for which either of the two China exposure variables is greater than zero) experienced 3.70% lower CAPM-adjusted returns than comparable firms in that time period. We have also analyzed export and supply chain exposure separately. When including both measures, only the output orientation measure is significant. The two measures are highly correlated.

to China does not explain the cross-section of stock returns; see columns (5) and (6). Indeed, China exposure is slightly (though not statistically significantly) positively associated with returns in this period. Two main factors arguably play a role here. On the one hand, the outlook for the situation in China brightened relatively to the US outlook, as confirmed cases and deaths fell in China but rose rapidly in Europe and the US. Second, investors appear to have effectively sold *all* stocks in that period. This led to an unusual underperformance of low-beta stocks in this down market. Conversely, since stocks with high China-exposure tend to be high-beta, these stocks did relatively better. Even controlling for beta as a characteristic, however, China-exposure does not relate to abnormal returns in that week.

The coefficients on the control variables are not shown to conserve space. They generally do not significantly explain returns when controlling for industry. Interestingly, when not controlling for industry, firms with high book-to-market (value firms) did poorly in the Fever period, as expected, because these firms derive most of their value from relatively near-term cash flows.

Finally, column (4) shows that investors penalized not only firms trading with China, but also internationally-oriented firms more generally. This result indicates a general pessimism of financial markets regarding the disruptive impact of COVID-19 on global trade. When accounting for the intensity of China exposure, a one standard deviation increase in the share of foreign revenues (29.04) is associated with 1.45% ($= 29.04 \times 0.05$) lower cumulative abnormal returns over the Outbreak period.

Overall, the main pattern that emerges is that China and international exposure are negatively associated with stock returns in the Incubation and Outbreak periods, but neutrally so in the Fever period. In other words, while the COVID-19 crisis initially seemed to primarily

affect international trade, as the crisis unfolded, this factor actually moved in the background.

4.3 Stock returns and capital structure

We now turn to how investors perceived corporate debt (leverage) and cash holdings over the three phases under review. Columns (1), (3), and (5) in Panel B of Table 2 show that during the Incubation and Outbreak periods, corporate leverage itself does not explain much of the cross-section of stock returns. However, in the Fever phase concerns about corporate debt started playing a prominent role. In this phase, a one standard deviation increase in leverage (22.69%) is associated with 4.08% (= 22.69 × 0.180) lower cumulative abnormal returns. In other words, almost one seventh of the standard deviation of CARs is explained by leverage. As Figure 4 shows, the effect started to be particularly pronounced with the extreme financial turmoil of the week of March 9 and beyond.[29]

Figure 4 (Stock prices, leverage, and cash holdings) about here

Columns (2), (4), and (6) consider the relevance of corporate cash holdings. Again, this variable explains the cross-section of returns in the Fever period, but not before. In the Fever period, a one standard deviation higher cash (25.80%) is associated with approximately 3.28% (=25.80 × 0.127) higher cumulative abnormal returns.

The surge of the value of cash over the Fever period suggests that investors are increasingly concerned about a potential tightening of financial constraints. Indeed, one of the main functions of corporate cash holdings is to provide managers with a precautionary buffer of liquidity (e.g., Almeida et al., 2004, Bates et al., 2009, Harford et al., 2014). Our results

[29]Similar results are obtained when using market leverage.

are in line with anecdotal evidence of major credit drawdown and rush for liquidity by US companies as the Coronavirus-driven market fever started to soar.

In Panel C we show that our findings on leverage and cash holdings are robust to simultaneously testing the significance of the two variables in the same regression, and to accounting for firms' level of international exposure. While in the Outbreak period investors appear to have priced in the cash-flow effects of the disruption in international trade, in the Fever period their attention turned to corporate debt and liquidity.

Panels B and C of Table A1 in the Supplementary Appendix confirm the importance of leverage and cash in the Fever period also when looking at raw returns. In this setting, the coefficient on cash holdings turns out to be statistically significant already in the Outbreak phase. This result reflects the high correlation in our sample between corporate cash holdings and loading on the market factor (0.22), confirming the appropriateness of using CAPM-adjusted returns in our main specifications.

Overall, the timing in the pricing of corporate leverage and liquidity suggests that in the Fever period investors started looking at COVID-19 as a catalyst for a recession potentially amplified by financial channels.

4.4 Manager and analyst communication about COVID-19

The relevance of international exposure and capital structure in the Outbreak and Fever periods are visible not only on stock returns, but also in managerial and analyst communication on corporate conference calls.

On average, as one would expect, firms on whose calls Coronavirus was not discussed

have higher average cumulative abnormal returns over the whole period, as seen in Figure A2 in the Supplementary Appendix.[30] However, consistent with the fact that some firms are more negatively affected than others, the distributions of cumulative abnormal returns over the whole period for firms discussing the Coronavirus on a conference call and for firms not discussing it overlap.

Panel A of Table 3 analyzes which companies are more likely to talk about COVID-19 during a conference call.[31] Columns (1), (3), and (5) present results of logit regressions showing that a call is more likely to discuss this topic when a firm has more international exposure. In results available on request we find that these results (and those that follow) also hold when using *China (#)* as the explanatory variable of interest.

Next, columns (2), (4), and (6) show that similar results hold on the intensive margin: Coronavirus and related issues occur more frequently on calls in firms with stronger international exposure. Similarly, conference calls of firms with a potentially higher liquidity concern (that is, lower cash holdings) are more likely to feature a discussion of COVID-19.

Panel B shows variation, over time, of factors explaining the number of mentions of COVID-19-related terms in analyst questions. While overall and in the Outbreak period, analysts' concerns were mostly focused on international exposure (columns (1) and (3)), this variable was somewhat less important in the Fever period (column (5)); by contrast, the liquidity position of the firm only drove analyst questions about COVID-19 in the Fever period, not before.

[30]Results available on request show that all findings developed in the prior sections hold controlling for whether a firm held a conference call that included a discussion of COVID-19.

[31]Such conference calls are identified as in Section 2. The analysis in this subsection considers only the Outbreak and Fever period, because no conference call in the Incubation period discussed Coronavirus. Summary statistics of the conference call variables used in this section are reported in Table A2.

Finally, columns (2), (4), and (6) consider negativity of calls featuring a discussion of Coronavirus.[32] Over the Outbreak and Fever period combined (column 2), negativity is higher in firms with stronger international orientation and higher leverage. However, international orientation only drove up negativity in the Outbreak phase (column (4), whereas leverage only explains negativity in the Fever phase (column (6)). These results align well with the pattern observed above for the drivers of the cross-section of stock returns.

Table 3 (Talking about COVID-19 and firm characteristics) about here

Overall, these results confirm that international exposure and the financial position of companies were of significant concern to managers and analysts, providing further support for the result that these factors play an important role in explaining the cross-section of stock price reactions.

5 Policy interventions

The aim of this paper is to diagnose the financial impact of COVID-19. A detailed evaluation of policy interventions has to be the subject of future studies. However, the interventions deployed in the week of March 23 provide an early opportunity for an out-of-sample test of our main results. Specifically, on Monday, March 23 the Federal Reserve Board announced two new facilities to support credit to large corporations at least up to the end of Q3 2020,

[32]We pre-processed the conference call transcripts for natural language processing (NLP) by performing standard clean-up tasks: remove special characters and punctuation; eliminate stop words; lemmatization. Negativity is the frequency of negative words on the Loughran and McDonald (2011) word list in the conference call. Table A3 in the Supplementary Appendix shows the average negativity of calls that mentioned Coronavirus by industries. Interestingly, the figure displays a pattern of ''winning'' and ''losing'' industries generally in line with the one observed in Figure 2 with respect to cumulative abnormal returns.

and on March 27 the US government approved a US$ 2 trillion relief bill into law.[33]

The Fed announcement to purchase newly issued bonds and loans on the primary market can be expected to support firms running low on cash because it means that they can effectively raise funds immediately from the Fed. The announcement to purchase outstanding corporate bonds and exchange-traded funds (ETFs) on the secondary market can be expected to support firms with high leverage. Consistent with these expectations, we see a partial reversal of the cross-sectional stock price reactions that had taken place in the Fever period. Specifically, regressions of cumulative abnormal returns from March 23 through March 27 on *Leverage* and *Cash/assets*, with standard controls, yield coefficients of 0.027 and -0.030, respectively. These coefficients can be compared to the effects observed in the Fever period, namely, the coefficients of -0.180 and +0.127 in columns (5) and (6) of Panel B of Table 2. Thus, a quarter of the effect of cash holdings and a sixth of the effect of leverage was reversed.

Thus, the unprecedented liquidity programs implemented by the Fed in late March 2020 may have temporarily mitigated the symptoms of the crisis, but investors did not immediately perceive them as a cure. Our cross-sectional analysis of stock prices indicates that the concerns regarding corporate leverage and liquidity remain high.

6 Conclusion

COVID-19 represents a fearsome and novel risk, posing a great challenge for individuals, policy-makers and investors. This paper presents the first analysis of how investors assessed the consequences for the overall economy and specific companies.

[33]Support for this bill grew over the course of a longer time period, and in the morning hours of March 25 it became clear that there was bipartisan agreement.

The market initially responded in a relatively orderly fashion by weighing the economic consequences of the evolving outbreak. We find strong support for the role of international trade and global value chains for corporate value. In the Fever period, by contrast, investors (and analysts) started to become concerned about high corporate debt and about the survival chances of firms with little cash.

Overall, the findings suggest that, from the perspective of stock market participants, the COVID-19 health crisis morphed into a broader economic and financial crisis.

The analysis of this paper provides a starting point for many further inquiries. Different firm characteristics can be analyzed; credit and derivatives markets may have anticipated what was to come earlier; banks may experience stress due to firms drawing on their credit lines, raising the question which policies effectively ameliorate that stress; and differences across countries will also reveal the effectiveness and market perception of different policies.

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Figure 1: Attention to Coronavirus in the US

This chart shows the total number of US firms' conference calls held on each day from January 2 through March 20, for a total of 4,260 individual calls. The orange bars indicate the number of calls at least mentioning one of these terms: ''coronavirus'', ''covid-19'', ''2019-ncov'', ''sars-cov-2''. The chart also shows (right y-axis) the daily US-specific Google Trends search value index for the term ''Coronavirus'' from January 1, 2020 through March 20, 2020. The index varies from 0 to 100 and represents search interest relative to the highest point in the period.

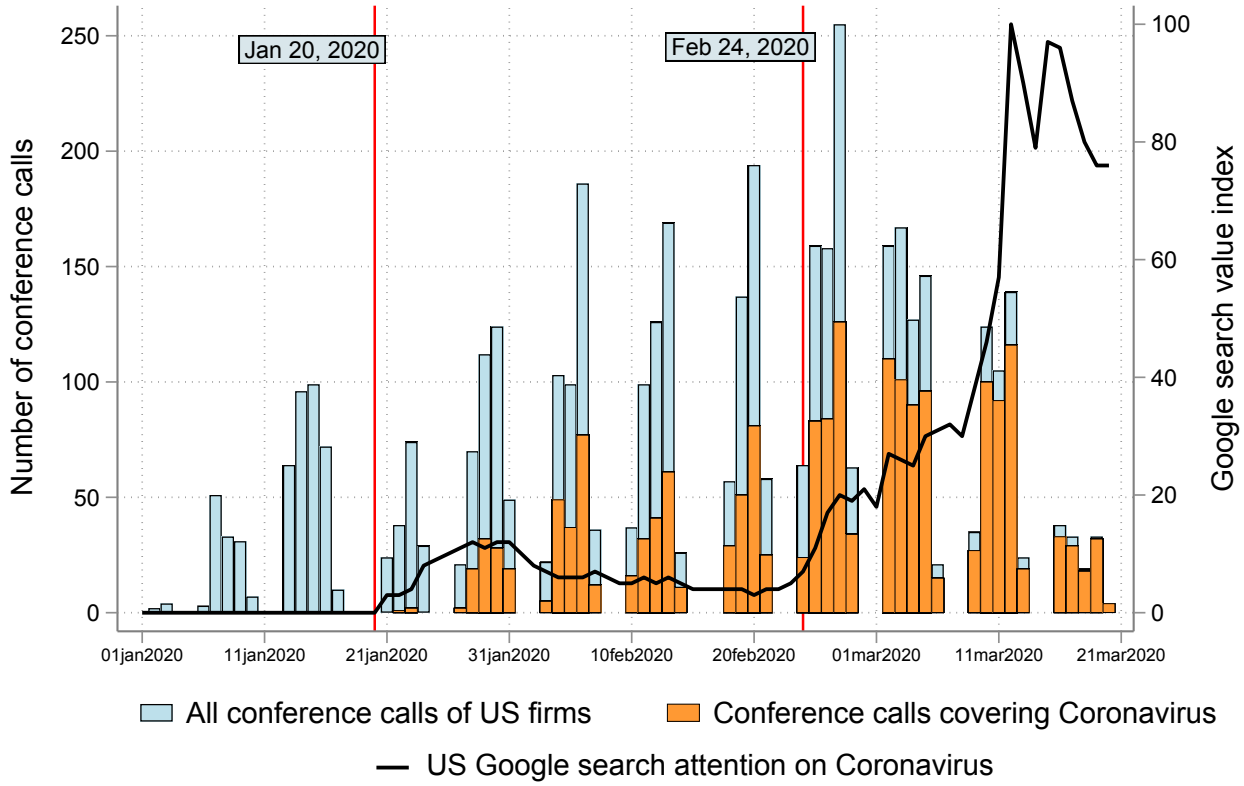

Figure 2: Stock returns by industry

This figure shows the average equally-weighted cumulative abnormal returns by GICS industry from January 2 through March 20, 2020 (blue bars) and the cumulative abnormal returns over the three sub-periods: Incubation (from January 2 through January 17, 2020), Outbreak (from January 20 (effectively January 21 as January 20 was a holiday) through February 21, 2020) and Fever (from February 24 through March 20, 2020). The sample consists of 2019 Russell 3000 constituents. To compute CAPM-adjusted returns, we estimate each stock's alpha and market beta by regressing its daily excess returns from January 2, 2019 through December 31, 2019 on a constant and the daily value-weighted market return (in excess of the US one month T-bill rate). CAPM-adjusted returns are the daily excess returns on the stock minus alpha, minus beta times the market excess return.

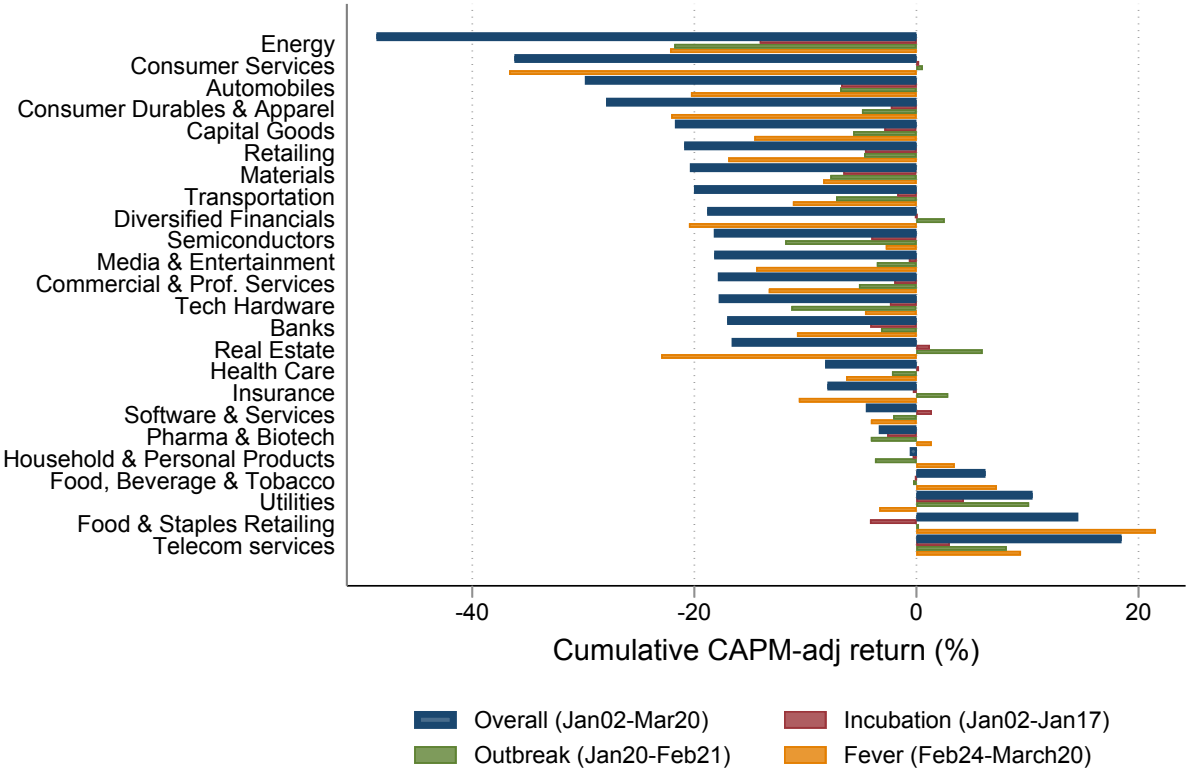

Figure 3: Stock prices and international exposure
This graph shows the evolution of the coefficients on *China (#)* and *Foreign revenues* in regressions with the CAPM-adjusted cumulative abnormal returns of US stocks from January 2, 2020 each day through March 20, 2020 as the dependent variable. The regressions control for GICS industry indicators and firm characteristics (log market cap, profitability, and market-to-book). *China (#)* is the number of times a firms mentions China in relation to importing or exporting activities in their 2017 10-K. These data are from Hoberg and Moon (2017); **?**. *Foreign revenues* is the percentage of non-US revenues. The sample consists of Russell 3000 non-financial constituents with available data. The red lines mark the beginning of the *Outbreak* and *Fever* periods, respectively.

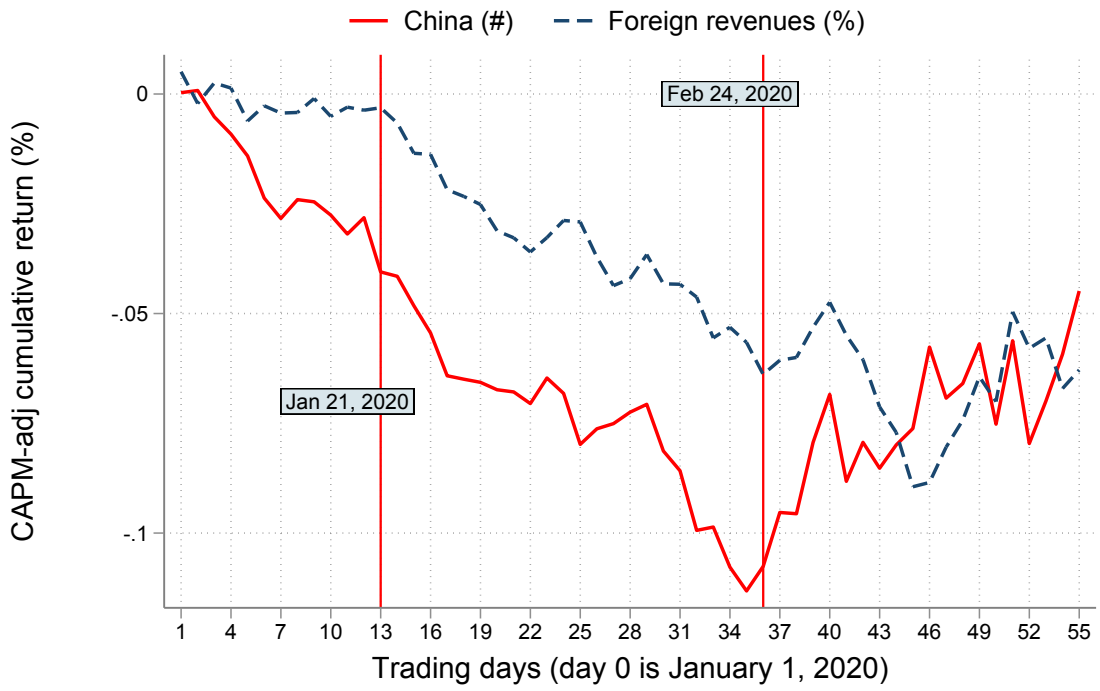

Figure 4: Stock prices, leverage, and cash holdings
This graph shows the evolution of the coefficients on *Leverage* and *Cash/assets* in regressions with the CAPM-adjusted cumulative abnormal returns of US stocks from January 2, 2020 each day through March 19, 2020 as the dependent variable. The regressions control for GICS industry indicators and firm characteristics (log market cap, profitability, and market-to-book). Leverage is the percentage of long-term debt plus debt in current liabilities over total assets ((dltt + dlc)*100/at). *Cash/assets* is the percentage of cash and short-term investments over total assets (che*100/at). The sample consists of Russell 3000 non-financial constituents with available data. The red lines mark the beginning of the *Outbreak* and *Fever* periods, respectively.

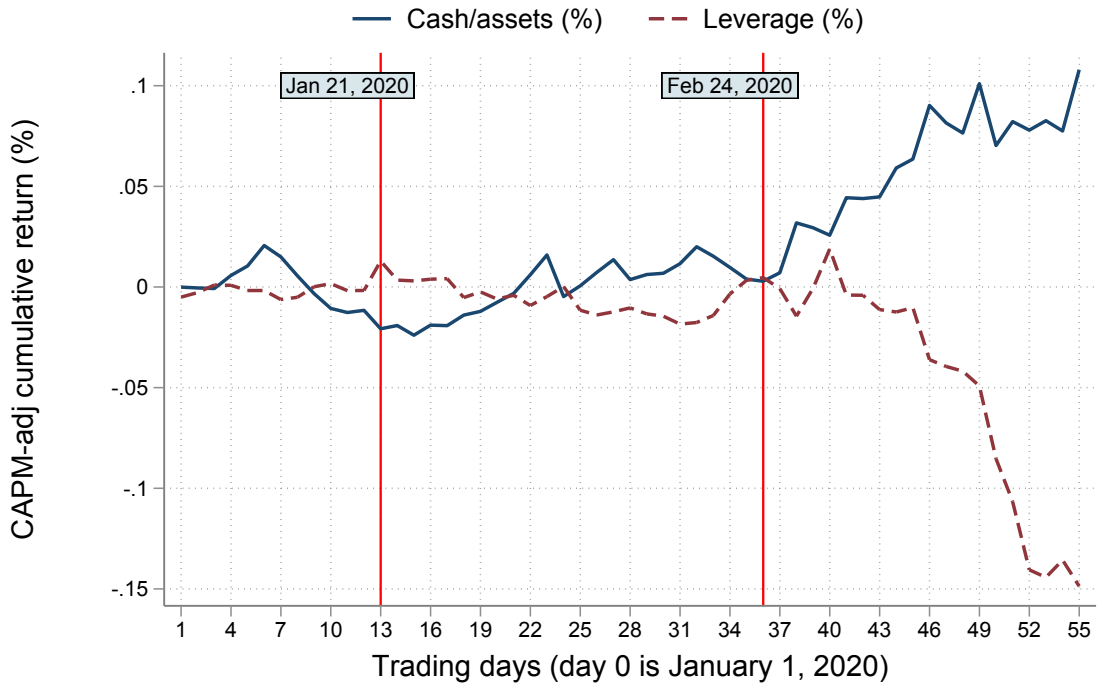

Table 1: Descriptive statistics

This table shows descriptive statistics of the variables used in the analyses. The sample for the US consists of Russell 3000 non-financial constituents with available data. Returns (adjusted for stock splits and dividends) are computed based on stock prices retrieved from the Compustat North-America database. To compute CAPM-adjusted returns, we first estimate each stock's alpha and market beta by regressing its daily excess returns from January 2, 2019 through December 31, 2019 on a constant and the daily value-weighted market return (in excess of the US one month T-bill rate). CAPM-adjusted returns are the daily excess returns on the stock minus alpha, minus beta times the market excess return. China off-shoring data are obtained from Hoberg and Moon (2017); **?** and refer to 2017 (the latest available year). *China (1/0)* is a dummy variable equal to 1 for firms with activities with China. *China (#)* is the number of times a firm mentions China in their 10-K in relation to importing or exporting activities. *Foreign revenues* is obtained from the Compustat Segments database and is the percentage (truncated at 100) of non-US revenues in 2017 (153 firms) or 2018 (1,686 firms). Accounting data is computed based on the latest available 2019 quarterly results retrieved from Compustat (mostly Q3 2019). Leverage is the percentage of long-term debt plus debt in current liabilities over total assets ((dltt + dlc)*100/at), truncated at 100. *Market leverage* is long term debt plus debt in current liabilities, divided by total assets minus book equity plus the market value of common equity, in percentage points ((dltt+dlc)*100/(at -ceq +csho*prcc). *Cash/assets* is cash and cash equivalents over total assets, in percentage points (che*100/at). *Book-to-market* is the book value of equity divided by market valuation as of 2019 Q2 or Q3. *Log market cap* is the logarithm of the equity market capitalization as of December 31, 2019. *Profitability* is the return on assets (in percentage) computed as the quarterly income before extraordinary items over total assets.

	N	min	p25	mean	p50	p75	max	sd
Raw returns								
Jan02-Mar20	2,349	-93.43	-53.17	-38.81	-39.65	-25.72	278.88	24.07
Jan02-Jan17 (Incubation)	2,350	-48.67	-2.46	2.02	1.81	5.79	96.69	9.99
Jan20-Feb21 (Outbreak)	2,346	-60.05	-9.79	-2.04	-2.17	5.08	215.04	16.01
Feb24-Mar20 (Fever)	2,348	-88.03	-50.79	-39.06	-38.50	-27.71	209.57	19.71
CAPM-adjusted returns								
Jan02-Mar20	2,349	-92.22	-36.56	-15.66	-17.71	1.94	824.88	37.46
Jan02-Jan17 (Incubation)	2,350	-49.89	-7.61	-2.37	-1.82	3.11	89.64	10.67
Jan20-Feb21 (Outbreak)	2,346	-62.60	-13.50	-4.35	-4.23	4.45	238.23	17.19
Feb24-Mar20 (Fever)	2,348	-85.08	-26.94	-10.48	-10.26	4.46	433.57	28.16
Firm characteristics								
China (1/0)	2,078	0.00	0.00	0.42	0.00	1.00	1.00	0.49
China (#)	2,078	0.00	0.00	5.25	0.00	4.00	161.00	13.36
Foreign revenues	1,839	0.00	0.00	27.08	18.66	46.80	100.00	29.04
Leverage	2,339	0.00	14.22	32.69	32.13	46.83	100.00	22.69
Market leverage	2,339	0.00	5.80	21.34	17.63	32.18	87.76	18.57
Cash/assets	2,350	0.00	2.61	20.32	8.47	26.48	99.42	25.80
Book-to-market	2,350	-44.91	0.17	0.49	0.35	0.63	15.20	1.26
Log market cap	2,350	16.35	20.14	21.46	21.35	22.57	27.92	1.76
Profitability	2,350	-30.46	-0.88	-0.98	0.69	1.71	7.85	5.98

Table 2: Timing in the pricing of international exposure and capital structure
This table shows results of OLS regressions of CAPM-adjusted returns in three time periods (indicated in the column headers), on variables measuring international exposure and capital structure. Panel A focuses on the pricing of international exposure, Panel B on the pricing of capital structure, and Panel C on the combined effects of both dimensions. *China (#)* is the number of times a firm mentions China in their 10-K in relation to importing or exporting activities. *Foreign revenues* is the percentage of non-US revenues. *Cash/assets* is the percentage of cash and cash equivalents, divided by total assets. Leverage is the percentage of long-term debt plus debt in current liabilities over total assets. All models also control for GICS industry fixed effect indicators and standard firm characteristics (size, profitability, and book-to-market) and include a constant, but the coefficients on these controls and the constant are not shown to conserve space. The sample consists of non-financial Russell 3000 constituents with available data. t-statistics based on robust standard errors in parentheses. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. variable:	CAPM-adj CAR					
	I. Incubation Jan02-Jan17		II. Outbreak Jan20-Feb21		III. Fever Feb24-Mar20	
Panel A: International exposure						
China (#)	-0.034**	-0.028*	-0.126***	-0.092***	0.048	0.063
	(-2.35)	(-1.69)	(-4.43)	(-2.98)	(1.18)	(1.43)
Foreign revenues		-0.004		-0.049***		-0.018
		(-0.29)		(-2.95)		(-0.70)
Observations	2,078	1,701	2,074	1,698	2,076	1,699
R-squared	0.153	0.183	0.167	0.189	0.181	0.195
Panel B: Capital structure						
Leverage	-0.002		-0.006		-0.180***	
	(-0.12)		(-0.33)		(-6.37)	
Cash/assets		-0.012		0.013		0.127***
		(-0.80)		(0.60)		(3.63)
Observations	2,339	2,350	2,335	2,346	2,337	2,348
R-squared	0.146	0.146	0.153	0.156	0.162	0.151
Panel C: Capital structure and international exposure						
Leverage	-0.006	-0.006	-0.002	-0.019	-0.165***	-0.201***
	(-0.38)	(-0.40)	(-0.12)	(-0.84)	(-5.59)	(-6.78)
Cash/asset	-0.014	0.009	0.014	0.026	0.054	0.123***
	(-0.90)	(0.56)	(0.60)	(0.98)	(1.47)	(3.34)
Foreign revenues		-0.015		-0.070***		0.007
		(-1.33)		(-4.77)		(0.32)
Observations	2,339	1,829	2,335	1,826	2,337	1,827
R-squared	0.146	0.185	0.154	0.187	0.163	0.234
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes

Table 3: Talking about COVID-19 and firm characteristics

This table shows results of analyses of the relation between firms' characteristics and coverage of COVID-19 in conference calls during the Outbreak and Fever periods. In Panel A, columns (1), (3), and (5) show logit regressions of an indicator equal to 1 for Coronavirus-covering conference calls on variables measuring capital structure and international exposure. Columns (2), (4), and (6) show results of OLS regressions of the number of Coronavirus-related mentions on firm characteristics. In Panel B, for Coronavirus-covering calls, columns (1), (3), and (5) show OLS regression results of the number of Coronavirus-related analyst questions on firm characteristics. Columns (2), (4), and (6) show results of OLS regressions of call negativity on firm characteristics, for Coronavirus-covering calls. Negativity is defined according to Loughran and McDonald (2011). All models control for GICS industry fixed effect indicators and standard firm characteristics (size, profitability, and book-to-market). The sample includes conference calls of non-financial Russell 3000 constituents held between January 20 and March 20, 2020. t-statistics based on robust standard errors clustered at the firm level in parentheses. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Outbreak + Fever Jan20-Mar20		Outbreak Jan20-Feb21		Fever Feb24-Mar20	
Panel A: Talking about COVID-19						
Dep. variable:	COVID-19 (0/1)	COVID-19 (#)	COVID-19 (0/1)	COVID-19 (#)	COVID-19 (0/1)	COVID-19 (#)
Foreign revenues	0.024***	0.035***	0.031***	0.036***	0.020***	0.034***
	(9.44)	(8.79)	(8.61)	(7.79)	(5.22)	(5.30)
Leverage	0.002	0.004	-0.002	-0.004	-0.004	0.001
	(0.82)	(0.91)	(-0.49)	(-1.00)	(-1.02)	(0.10)
Cash/assets	-0.007**	-0.011**	-0.013**	-0.009*	-0.008*	-0.015**
	(-2.26)	(-2.31)	(-2.38)	(-1.78)	(-1.70)	(-2.22)
Observations	2,242	2,242	1,176	1,176	1,032	1,066
Pseudo R-squared	0.093		0.159		0.089	
R-squared		0.104		0.177		0.128
Panel B: Analyst questions and linguistic tone of call content						
Dep. variable:	COVID-19 questions	Call negativity	COVID-19 questions	Call negativity	COVID-19 questions	Call negativity
Foreign revenues	0.007***	0.002***	0.010***	0.004***	0.005**	0.002
	(5.57)	(3.17)	(5.96)	(3.63)	(2.36)	(1.58)
Leverage	0.001	0.002*	-0.000	-0.001	-0.001	0.003**
	(0.46)	(1.77)	(-0.19)	(-0.47)	(-0.61)	(2.53)
Cash/assets	-0.002	-0.000	-0.000	-0.002	-0.005*	-0.000
	(-1.11)	(-0.34)	(-0.16)	(-0.77)	(-1.87)	(-0.33)
Observations	2,545	1,216	1,176	488	1,066	726
R-squared	0.044	0.152	0.139	0.195	0.075	0.179
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes

Supplementary Appendix

Figure A1: Global attention to Coronavirus
This chart shows the total number of international firms' conference calls held on each day from January 2 through March 20, for a total of 7,698 individual calls. The orange bars indicate the number of calls at least mentioning one of these terms: ''coronavirus'', ''covid-19'', ''2019-ncov'', ''sars-cov-2''. The chart also shows (right y-axis) the daily worldwide Google Trends search value index for the term ''Coronavirus'' from January 1, 2020 through March 20, 2020. The index varies from 0 to 100 and represents search interest relative to the highest point in the period.

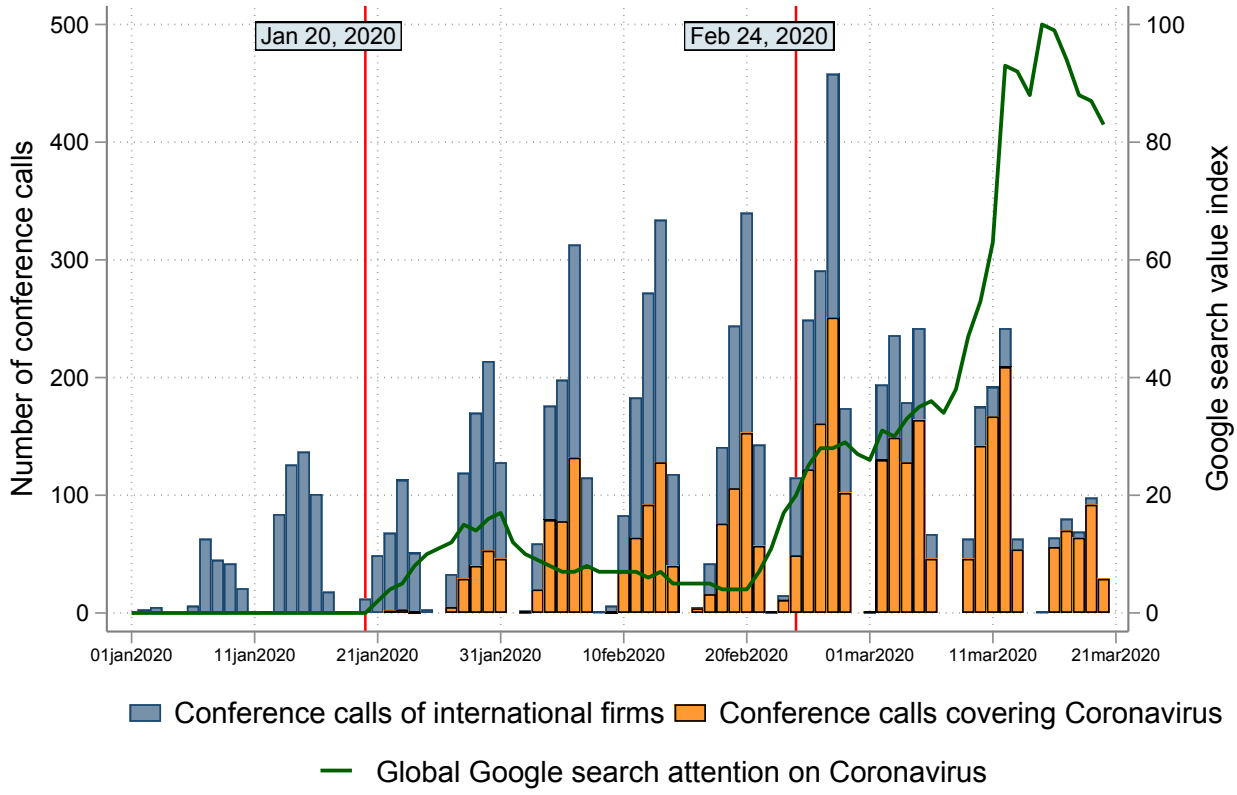

Figure A2: Conference calls and stock price performance
This figure shows histograms of cumulative abnormal returns for the period January 2, 2020 through March 20, 2020 for US firms that had a conference call after January 20 not mentioning Coronavirus (green) and for firms that had a conference call covering it (transparent). We define calls mentioning Coronavirus as calls at least mentioning one of these terms: ‘‘coronavirus’’, ‘‘covid-19”, ‘‘2019-ncov’’, ‘‘sars-cov-2’’.

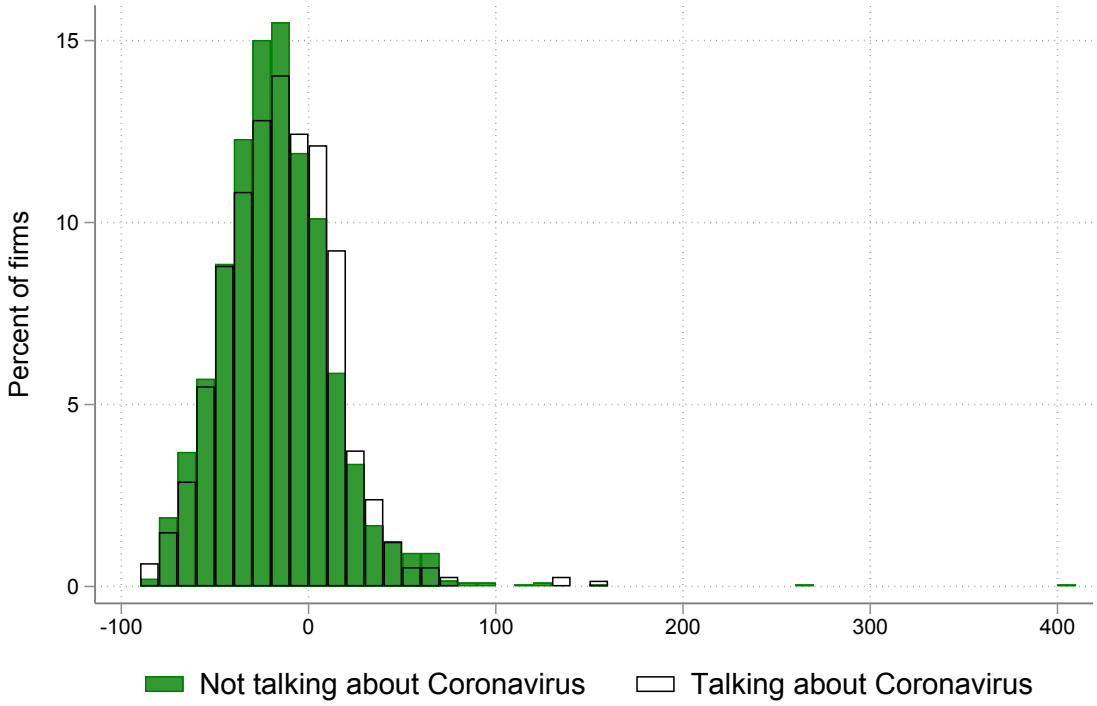

Figure A3: Coronavirus and conference call negativity by industry
This figure shows the average equally-weighted negativity of conference calls mentioning Coronavirus by GICS industry. Negativity is the frequency of negative words based on the Loughran and McDonald (2011) dictionary, expressed in percentage points. The sample consists of conference calls of Russell 3000 constituents held between January 20 and March 20, 2020, mentioning at least one of these terms: ‘‘coronavirus’’, ‘‘covid-19”, ‘‘2019-ncov’’, ‘‘sars-cov-2’’.

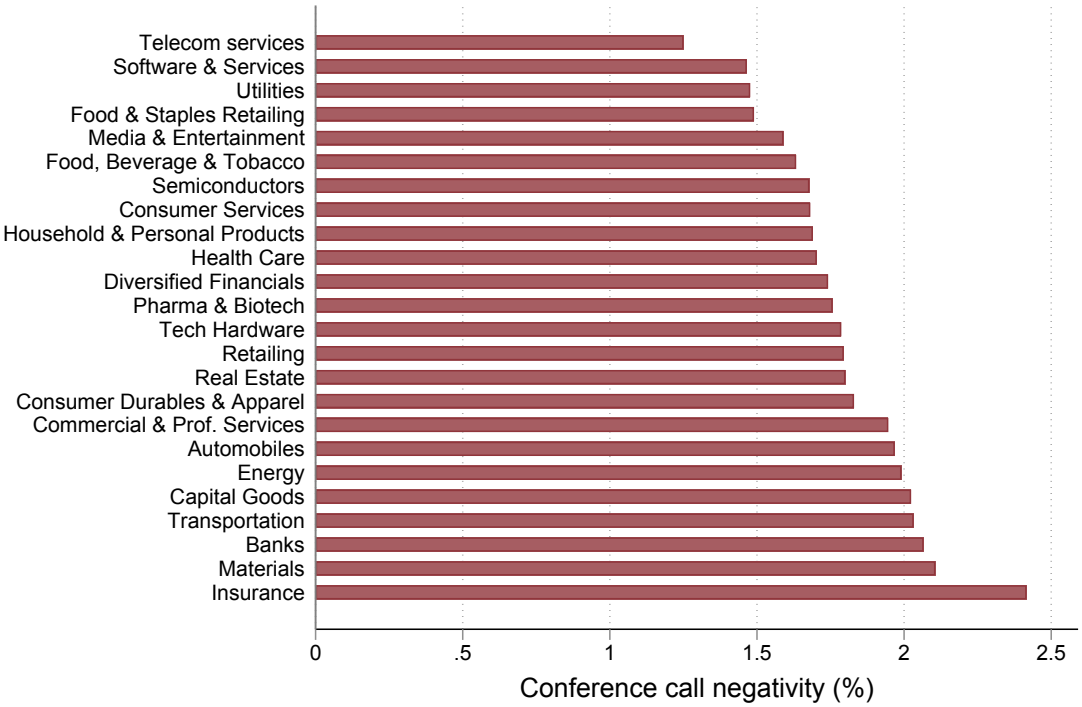

Table A1: Raw returns and timing in the pricing of international exposure and capital structure

This table shows results of OLS regressions of cumulated (raw) returns in three time periods (indicated in the column headers), on variables measuring international exposure and capital structure. Panel A focuses on the pricing of international exposure, Panel B on the pricing of capital structure, and Panel C on the combined effects of both dimensions. All models also control for GICS industry fixed effect indicators and standard firm characteristics (size, profitability, and book-to-market). The sample consists of non-financial Russell 3000 constituents with available data. t-statistics based on robust standard errors in parentheses. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. variable:	Cumulative raw returns					
	I. Incubation Jan02-Jan17		II. Outbreak Jan20-Feb21		III. Fever Feb24-Mar20	
Panel A: International exposure						
China (#)	-0.015	-0.013	-0.112***	-0.083***	0.014	0.032
	(-1.22)	(-0.93)	(-4.41)	(-3.02)	(0.47)	(0.99)
Foreign revenues		0.000		-0.048***		-0.023
		(0.04)		(-3.14)		(-1.29)
Observations	2,078	1,701	2,074	1,698	2,076	1,699
R-squared	0.132	0.164	0.113	0.135	0.203	0.225
Panel B: Capital structure						
Leverage	0.008		0.001		-0.146***	
	(0.62)		(0.03)		(-7.41)	
Cash/assets		0.010		0.051**		0.109***
		(0.74)		(2.44)		(4.73)
Observations	2,339	2,350	2,335	2,346	2,337	2,348
R-squared	0.131	0.131	0.114	0.118	0.194	0.180
Panel C: Capital structure and international exposure						
Leverage	0.013	0.010	0.018	-0.003	-0.131***	-0.154***
	(0.88)	(0.63)	(0.92)	(-0.13)	(-6.37)	(-7.16)
Cash/assets	0.015	0.042**	0.061***	0.074***	0.051**	0.088***
	(1.02)	(2.58)	(2.76)	(2.87)	(2.10)	(3.38)
Foreign revenues		-0.009		-0.069***		-0.009
		(-0.83)		(-5.02)		(-0.59)
Observations	2,339	1,829	2,335	1,826	2,337	1,827
R-squared	0.132	0.174	0.117	0.144	0.196	0.268
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes

Table A2: Descriptive statistics of conference calls

This table shows descriptive statistics of the conference call variables used in regressions in Table 3. The sample consists of 2,736 conference calls of 1,945 non-financial Russell 3000 constituents held between January 20 and March 20, 2020. *COVID-19 (0/1)* is a dummy variable equal to 1 for calls mentioning Coronavirus-related terms (''coronavirus'', ''covid-19", ''2019-ncov'', ''sars-cov-2''). *COVID-19 (#)* is the number of Coronavirus-related mentions in the call. *COVID-19 questions* is the number of Coronavirus-related mentions by financial analysts. *Call negativity* is the relative frequency of negative words based on the Loughran and McDonald (2011) dictionary covering Coronavirus, expressed in percentage points.

	N	min	p25	mean	p50	p75	max	sd
COVID-19 (0/1)	2,736	0.00	0.00	0.53	1.00	1.00	1.00	0.50
COVID-19 (#)	2,736	0.00	0.00	2.19	1.00	3.00	52.00	3.61
COVID-19 questions	2,736	0.00	0.00	0.61	0.00	1.00	19.00	1.18
Call negativity	1,456	0.41	1.37	1.79	1.71	2.14	4.47	0.60