

Stock Prices, Lockdowns, and Economic Activity in the Time of Coronavirus

by Steven J. Davis , Dingqian Liu, and Xuguang Simon Sheng

Stefano Giglio

November 4, 2020

Introduction and Context

- ▶ **What moves the stock market? What information do asset prices reflect?**
- ▶ Long literature points to **different sources**:
 - ▶ Exogenous fluctuations in economic activity (e.g., TFP shocks)
 - ▶ Government intervention in the economy (e.g., fiscal stimulus)
 - ▶ Government intervention in financial markets (e.g., QE)
 - ▶ “Discount rates” (time-varying risk premia, risk quantities, sentiment)
- ▶ How can we **distinguish** them?
- ▶ **COVID crash**:
 - ▶ Very special event, triggered by a **clear and large exogenous shock**

Results

- ▶ **This paper:** how did prices move around the crash, in the US and abroad?
 1. **Timing:** in the US and many other countries, prices **anticipate** reduction in mobility
 - ▶ Outliers: China and South Korea
 2. **Size:** stricter lockdowns correlate with larger price drops
 3. **Volatility:** financial market interventions raised volatility
- ▶ Nice evidence
 - ▶ Interpreting price movements is a **complex** question
 - ▶ This kind of analysis is important

Comments: 1. Timing of stock drop

- ▶ “It was reasonable, as of early and even mid-February 2020, for stock market investors to anticipate a modest economic impact of COVID-19 on economic activity and asset prices.”
 - ▶ Historically, pandemics didn't have huge economic effects
 - ▶ Historically, pandemics didn't have large 1-day stock market effects (textual analysis)

Comments: 1. Timing of stock drop

▶ So was it rational for markets not to react early on?

- ▶ Difficult question. Considerations:
- ▶ Are 1-day stock market drops the right metric to judge whether in the past markets reacted? (speed diffusion of information)
- ▶ **Asset pricing theory**: even small changes in probability of a large rare disaster (disaster) **should** have large effect on current prices (Wachter, Gabaix)
- ▶ Market actually kept increasing until late February

▶ Suggestions:

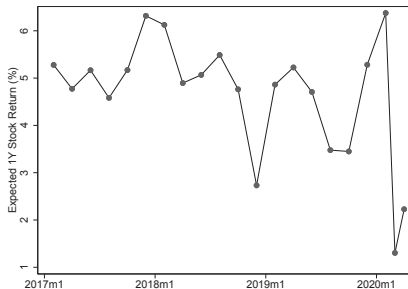
- ▶ Expand this analysis by looking at stock returns over longer horizons
- ▶ Calibrate response using a model

Comments: 2. Size of the price drop

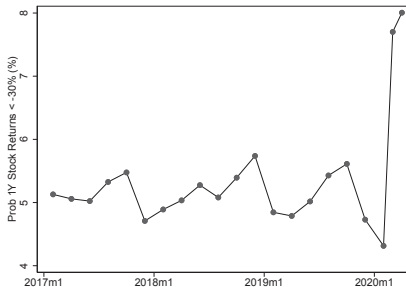
- ▶ Higher lockdowns correspond to larger stock drops, conditional on pandemic severity
 - ▶ Natural concern with potential omitted variable bias
 - ▶ How about the **absolute magnitude** of the drop?
 - ▶ Paper is silent as it looks at relation with a lockdown stringency index
 - ▶ How much of the price drop is just “sentiment”?
 - ▶ Back of the envelope calculations suggest a 15% drop was about right
 - ▶ Dividend strip data from Gormsen and Kojien
 - ▶ “Discount rate” news played a major role in the US
- ▶ **Suggestions:**
 - ▶ Does this change in sentiment vary across countries?
 - ▶ Can we use surveys/dividend strip data to try to tease it out?

Comments: 2. Size of the price drop

(A) 1-Year Expected Stock Returns



(E) Probability of Stock Market Disaster



Comments: 3. China

- ▶ Analysis of China very interesting
- ▶ Particularly interesting is the effect of **interventions** on **volatility**
- ▶ To interpret these patterns, and the differences between China and other countries, it would be useful to use a model
- ▶ Dividend strip data can give information about the timing of cash flow risks
- ▶ Options term structures can tell us about the expected path of volatility

Conclusion

- ▶ There is a lot to learn by comparing the differential response of stock markets across countries
- ▶ Especially so during the COVID-19 crash, given the heterogeneity in shock and response