When and Where is the Next Financial Crisis?

Charles W. Calomiris and Harry Mamaysky

Financial crises are not a single phenomenon. They do not manifest themselves in only one way, and they do not result from a common underlying cause. Sovereign debt crises typically reflect unsustainable fiscal policies. Banking crises often reflect government policy incentives that encourage risk taking or overly optimistic credit risk pricing by markets. Exchange rate collapses usually result from unsustainable fiscal and monetary regimes. Stock market crashes can be precipitated by dramatic shifts in expected corporate performance. Sometimes these crises occur separately, and sometimes they overlap, producing "twin" or "triplet" crises. Although existing measures of fundamentals related to fiscal, monetary and banking policies have proved helpful in forecasting crises, those standard economic measures are not very useful in identifying the likelihood, magnitude or timing of the various types of crises.

Despite their differences, a common visible factor in all crises is a significant stock market decline. A sensible first step to forecasting financial crises as a general phenomenon, therefore, is to identify predictors of major equity market drawdowns, which we define as significant expected cumulative losses over the period of a year.

One way to do this is to use natural language processing of economic and political news stories to predict stock market declines. Calomiris and Mamaysky (How News and Its Context Drive Risk and Returns around the World, *Journal of Financial Economics*, 2019) perform that analysis separately for samples of developed and emerging economies, using a combination of standard data and a new approach to transforming the news flow from Thomson Reuters into quantitative measures that predict drawdowns. For each country in each month, we construct 12 measures. Using word co-occurrence algorithms to identify topical areas, we find that there are five different topical contexts for developed economies and five for emerging economies. Each month, in each country, we measure the total number of articles published, the relative frequencies of each of the five topics, the tone of articles for each topic type, and the degree to which word combinations are unusual in that month. For each economy, all twelve series prove to be useful for constructing forecasts of drawdowns. Using these monthly data, we construct forecasts of drawdowns (cumulative *dollar-denominated* returns for the worst forecasted loss) in equity markets over the next year for each country.

Using the Thomson Reuters news flow from May 2019 for our sample of 51 countries, we can ask which countries are most likely, according to our quantitative mapping of news, to experience a major drawdown between now and May 2020. We measure expected drawdown from news flow here as deviations from unconditional expected (average) drawdowns for each country, which we label "additional drawdowns." These forecasted additional drawdowns are the consequence of information related to economic, political and geopolitical news that is reported in May 2019 by Thomson Reuters.

The answers we obtained will not surprise forecasters that use other techniques to predict risk. Many of the biggest expected additional drawdowns are in Asia, specifically in Hong Kong (-12%), Singapore (-10%), China (-9%), and India (-8%). The United States, Japan, Netherlands, Poland, Slovakia, Thailand, Venezuela and Kenya are the next highest expected additional drawdown group, with values of about -5% for each. The other 39 countries show smaller expected drawdowns that are similar to, or below, their unconditional averages.

Overall, our model is telling us that danger spots for economic and political news that could lead to major losses in equity markets are especially high right now in Asia (especially East Asian countries with large China exposures), which makes sense in light of China's current slowdown and the uncertainties surrounding China-U.S. trade negotiations and Indian domestic politics. But there are other risky spots, including the United States (also affected by the same China trade risk), Netherlands, Poland, Slovakia, Venezuela and Kenya. Because of the importance of our list of at-risk countries for emerging markets as a whole, the overall additional expected drawdown for emerging market countries is roughly a cumulative loss of 10%.

To put these estimates into perspective, 2007-2008 additional drawdown forecasts from our model for the U.S. and other developed economies often exceeded cumulative forecasted losses of 10%, and exceeded 15% for the U.S., the U.K., Switzerland, Netherlands, Sweden, Finland, Australia and New Zealand. Thus, our model is not forecasting a repeat of the magnitude of losses that it forecasted (and which were experienced) in 2008-2009. For most countries in the world, news is actually quite favorable. Nevertheless, some of the most important countries, with potential to influence others, are showing significant downside risk.