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COVID Uncertainty: A Tale of Two Tails

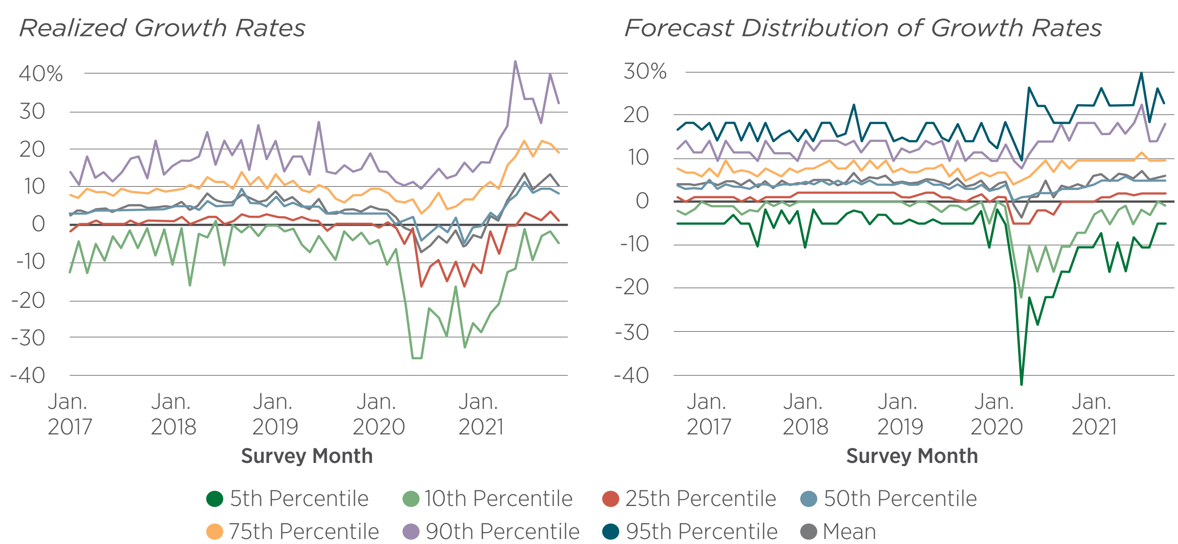
Based on BFI Working Paper 2021-135, "COVID Uncertainty: A Tale of Two Tails," by Philip Bunn, Bank of England; David Altig, Atlanta Fed; Lena Anayi, Bank of England; Jose Maria Barrero, ITAM; Nicholas Bloom, Stanford; Steven J. Davis, University of Chicago; Brent Meyer, Atlanta Fed; Emil Mihaylov, Atlanta Fed; Paul Mizen, Nottingham; and Greg Thwaites, Nottingham

The nature of firm-level uncertainty about future growth rates has shifted greatly since the pandemic struck: Initially, business executives perceived an enormous increase in downside uncertainty, but as of October 2021, almost all the extra firm-level uncertainty is to the upside.

The authors employ two monthly panel surveys of business executives in the US (about 500 monthly responses) and UK (roughly 3,000) to ask about sales growth at their firms over the past year and for sales forecasts over the next year. Importantly, the forecast questions elicit data for five scenarios—a growth rate in each of the lowest, low, medium, high, and highest sales growth scenarios and the probabilities of each scenario. Thus, the surveys yield a 5-point subjective forecast distribution over one-year-ahead sales growth rates for each firm.

The surveys reveal that the COVID shock pushed average uncertainty among US firms from about 3% before the pandemic to 6.4% in May 2021. Uncertainty fell back to about 4.5% in October 2021. Data for UK firms tell a similar story: Firm-level uncertainty rose from about 4.9% before the pandemic to 8.5% in April 2021 and has since declined to about 6.8%. [The remainder of this Finding is concerned with US survey results; the UK results are very similar, as described in the full paper.]

Figure 1 • US Distributions of Past and Future Firm-Level Sales Growth Rates



Notes: Calculated using monthly data through October 2021. The left panel of this figure is a plot of the activity-weighted distribution of firm-level sales growth rates over the past year. The right panel of this figure is a plot of the subjective distribution for the representative firm's future sales growth rates over a 4-quarter look-ahead horizon. To calculate this distribution, we pool over all firm-level subjective forecast distributions in the indicated month and weight each firm by its activity level. Then we use the probabilities assigned to each possible future sales growth rate to obtain activity-weighted quantiles of the future sales growth rate distribution.

Source: Survey of Business Uncertainty: atlantafed.org/research/surveys/business-uncertainty

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The US distribution of realized growth rates widened greatly in the wake of the pandemic, as shown in the left panel of the accompanying Figure. Initially, the widening occurred mostly in the lower half of the distribution. For example, the 10th percentile of realized growth rates fell from about -5% in late 2019 to a trough of -35% in May 2020. The 25th percentile shows the same pattern in somewhat muted form. In contrast, growth rates at the 75th and 90th percentiles fell by about 3 percentage points from late 2019 to May 2020. By the summer of 2021, though, the lower tail of the realized growth rate distribution had recovered to pre-pandemic values, while growth rates at the 75th and 90th percentiles had greatly surpassed their pre-pandemic values.

The average subjective forecast distribution over firm-level growth rates in the year ahead shows a similar pattern, as seen in the right panel of the Figure, which captures both average uncertainty in sales growth rate forecasts at the firm level and whether that uncertainty is mainly to the upside, mainly to the downside, or evenly balanced between the two.

When the pandemic took hold in March 2020, firms perceived a large increase in downside uncertainty, placing much greater weight on the possibility of highly negative growth rates. While the 90th and 75th percentiles of the forecast distribution changed little, the median fell by about 5 percentage points and the 25th and 10th percentiles fell by 20 and 40 percentage points, respectively. In short, the average firm saw dramatically more downside risk in year-ahead sales growth rates during the early months of the pandemic.

As the pandemic continued, downside risks abated greatly. By early 2021, the forecast distribution remained highly dispersed (i.e., subjective uncertainty remained high), but it increasingly reflected upside rather than downside risk. In recent months, firm-level subjective uncertainty is mainly about prospects for rapid sales growth over the coming year and only secondarily about the possibility of sharp contractions.

In broad summary: The early months of the pandemic involved a negative first-moment shock, a positive second-moment shock, and a negative third-moment or skewness shock; that is, the pandemic drove a large drop in the first moment of the economic outlook and much higher uncertainty in the form of highly elevated downside risks.

Looking ahead, the authors suggest that uncertainty may revert to pre-pandemic levels as COVID case numbers and deaths fall, social distancing subsides, and policy stimulus fades out. Indeed, many firms see tantalizing possibilities to the upside. Nevertheless, there are significant risks to recovery from ongoing supply-chain disruptions, inflationary pressures, low vaccination rates in many countries, and the potential for new SARS-CoV-2 variants.

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