

Covid-19 SOFR LIBOR Visualizations

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February 1, 2021

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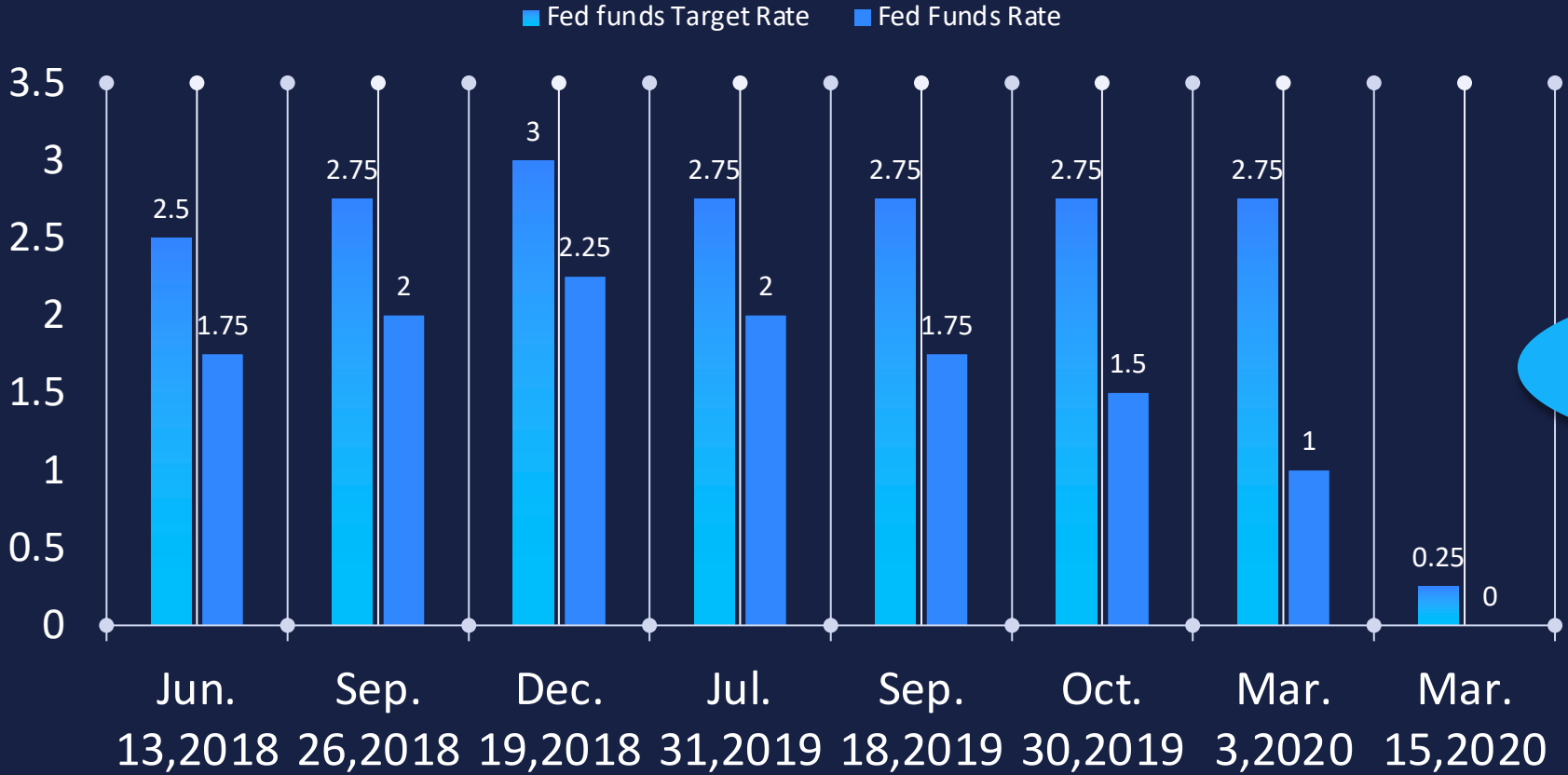
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Agenda

- Data sources are from FRED Economic Data and Federal Reserve Bank of New York
- Visualizations of different economic data related to the LIBOR transition
- Analysis covers mostly SOFR and LIBOR rates as well as some equity prices and their statistics

Federal Reserve's Rate Change

U.S. Federal Reserve cut the benchmark interest rate twice in March, after COVID-19, by a total of 150 bps



down to 0

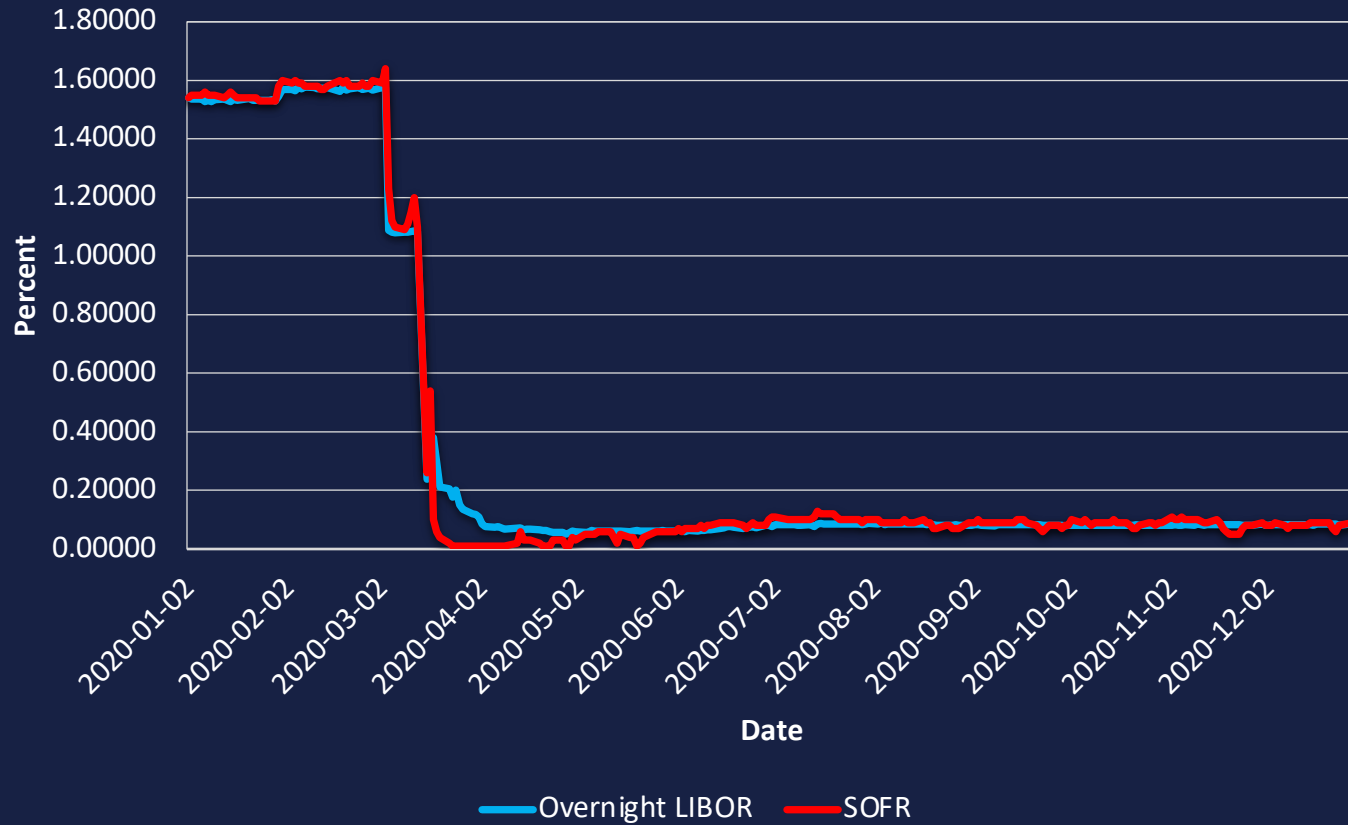
SOFR-LIBOR Basis Swap Spread

SOFR - LIBOR 3M Basis Spread 10Y



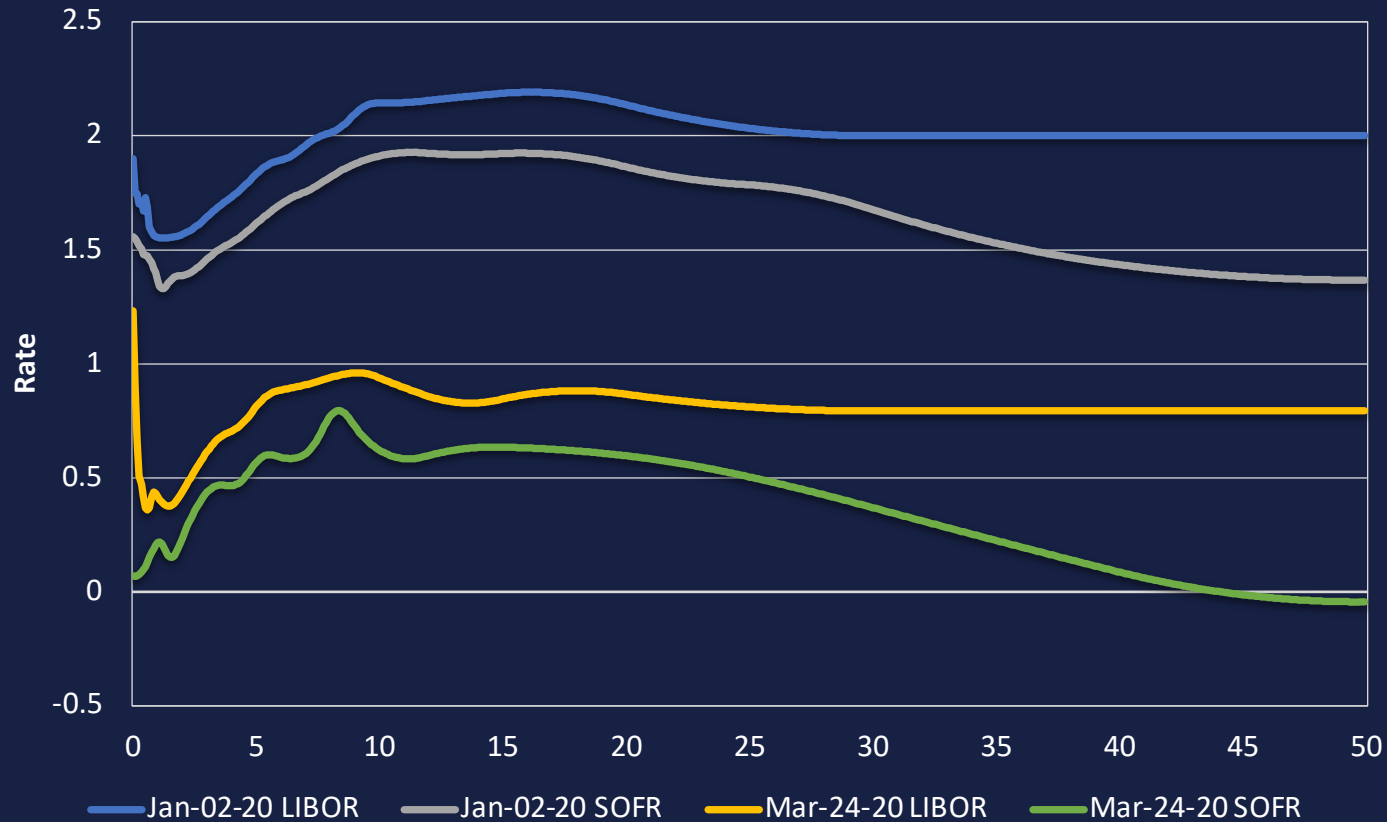
- Heavy impact of COVID-19 on financial market
- More than 180,000 people have died from COVID-19 in US at August 27, 2020
- LIBOR spike in April 2020

Overnight LIBOR vs SOFR



- The graph represents a comparison between overnight LIBOR and SOFR rates
- We can see that these two rates tend to track rather closely with largest deviation at around 20 basis points.

IR Market Under COVID-19 & Rate Cuts



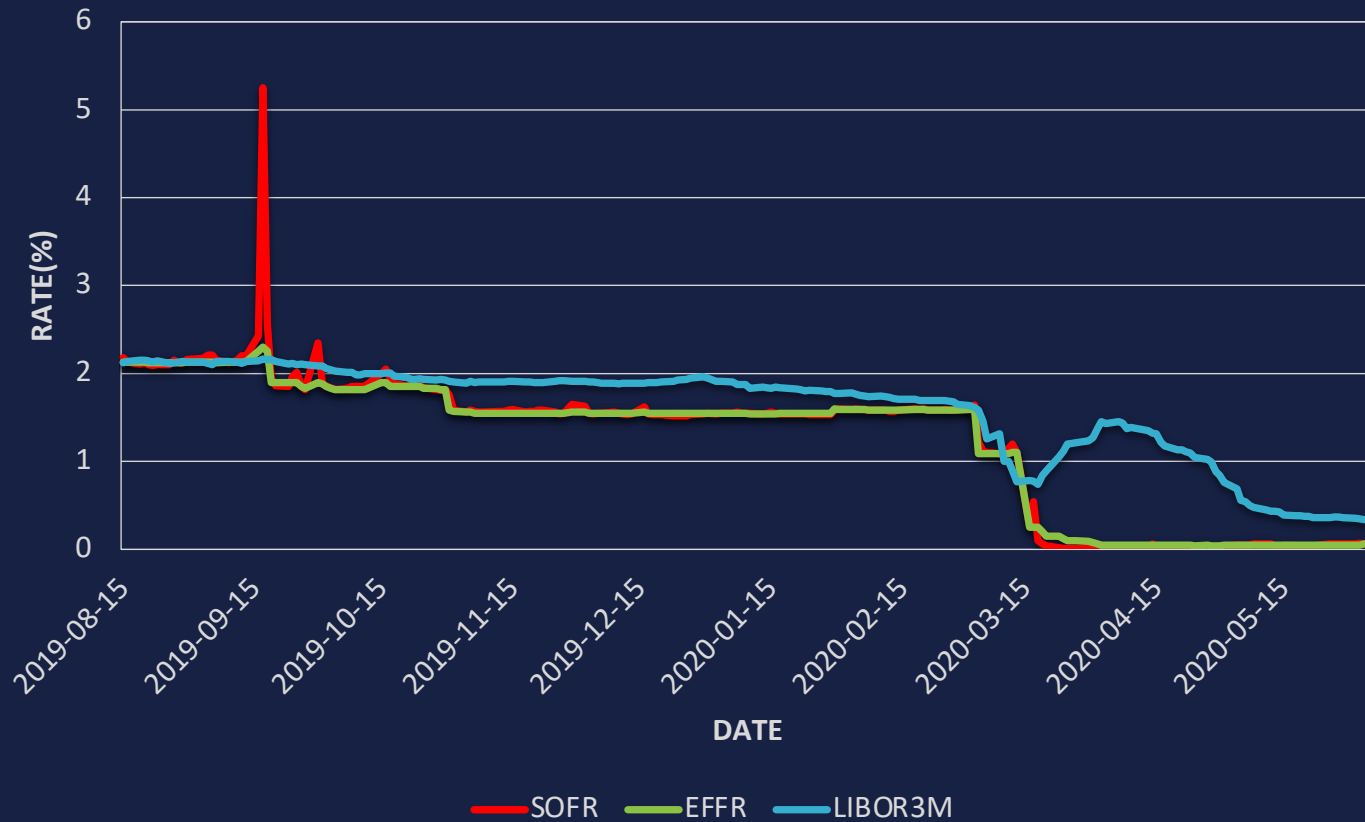
- Two curves representing LIBOR and SOFR for two dates before and after COVID-19 crisis
- We can clearly see the impact of COVID on the rates

SOFR & LIB3M



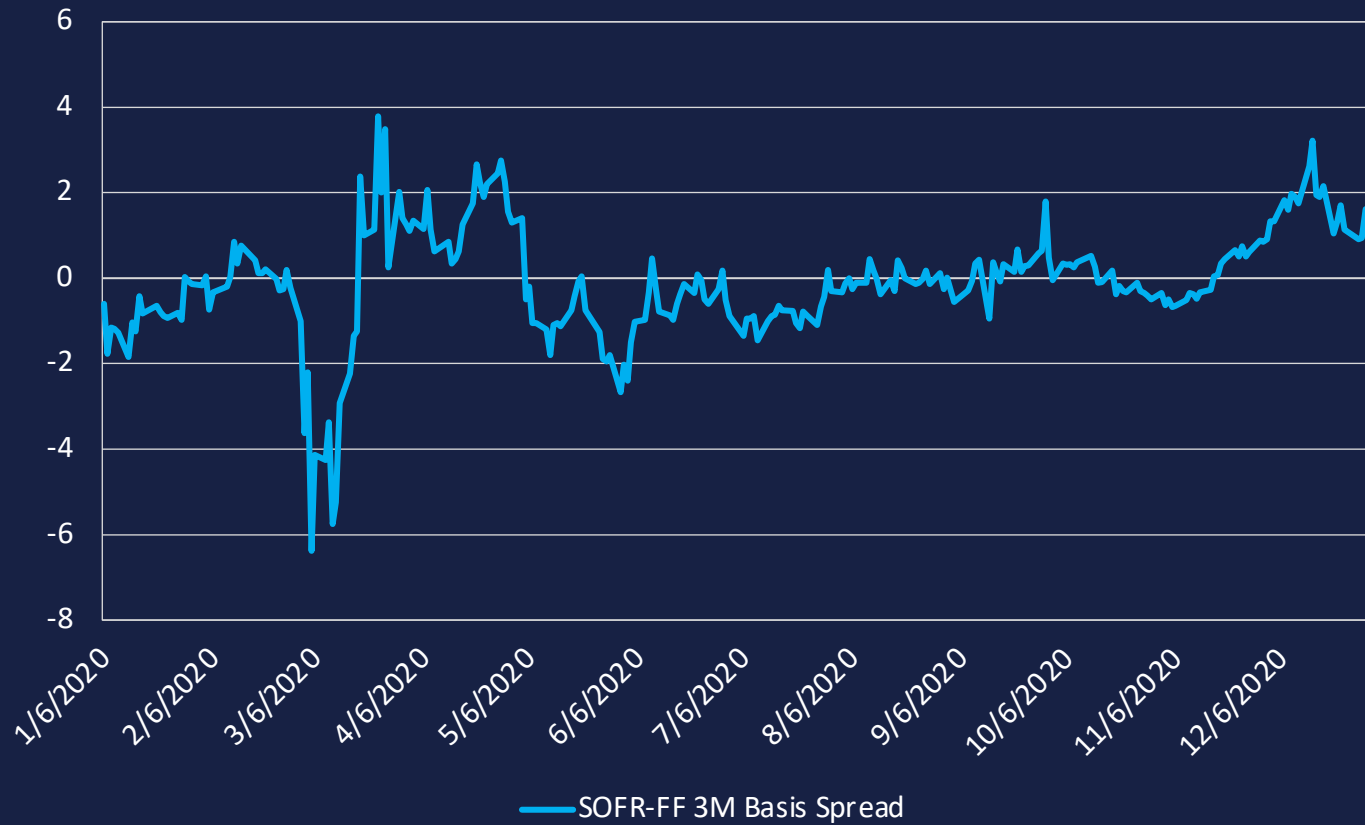
- Starting from the earliest data published by FED on SOFR
- SOFR fixing is much more volatile than 3-Month LIBOR
- Spread shot up as March 2020 approached
- Large spike of SOFR on September 17, 2019

SOFR, EFFR & LIBOR3M



- **3-month LIBOR is now higher than SOFR & EFFR combined, which is not a good sign since the same situation happened during the last financial crisis 10 years ago since LIBOR carries risk component. When the market is in a stressed condition, the spread will grow big**

SOFR-FF 3M Basis Spread



- The basis spread has shown a gradual upward sloping sign over the past year