

Measuring Fed Fund Rate Expectation

Odds of 2019 Fed Rate Cut Are Increasing

(benzinga.com May 31, 2019)

- **According to the CME Group FedWatch tool**, the bond market is pricing in an **89.6-percent chance of at least one rate cut in 2019**, and a **57.9-percent chance rates will be at least 0.5 percent lower by the end of the year**. Just one month ago, the FedWatch tool indicated a 34-percent chance of no rate cut and a 41 percent chance of a single 0.25 percent cut in 2019.
- **The FedWatch tool is based on the pricing of 30-day Federal Funds Futures**, which incorporate market expectations of average daily Federal Funds Effective Rate levels during futures contract months.

美联储利率观测器 - 美联储加息降息概率预测



美国利率决议 2019年9月19日 02:00



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分钟

我们的美联储利率观测器是基于30天联邦基金期货价格，也就是用于表示市场对美联储货币政策中的利率变化可能性的预期。该观测器可让用户计算下一次会议美联储加息的概率。

2019年9月19日



会议时间: 2019年9月19日 02:00

期货价格: 97.995



2.00 - 2.25 21.5%

1.75 - 2.00 78.5%

目标利率		目前	上一日	上一周
1.75 - 2.00		78.5%	90.0%	90.0%
2.00 - 2.25		21.5%	10.0%	10.0%

更新: 2019年9月14日 12:39 CST

<https://cn.investing.com/central-banks/fed-rate-monitor>

<https://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html/>

Fed Fund Futures

- Fed fund futures serve as a tool for hedging the 30-day deposit rate in fed funds.
- The final settlement price is $100 - (100 \times \text{the average of daily effective fed funds rate over the month})$
- A net lender of funds can protect its return by buying futures contracts if she expects the effective fed funds rate to be lower.

Hedging Example

- As of May 28, we can observe the following futures prices

Ticker	Month	Price	Rate
FFM0	June	99.780	.220
FFN0	July	99.770	.230
FFQ0	August	99.760	.240
FFU0	September	99.750	.250
FFV0	October	99.735	.265
FFX0	November	99.705	.295

Hedging Example

- Suppose the average effective fed fund rate at the end of June was 0.177%, so that the final settlement price is 99.823.
- Purchase one lot of June contract at the end of May would earn

$$(99.823 - 99.78) \times \frac{30}{360} \times \$5 \text{ million}$$

Measuring market expectation of fed fund rate

- Today: December 4, 2001.
- The fed funds target rate is 2%
- The average effective rate from Dec 1 to Dec 4 was 2.025%
- The December fed funds contract closed at an implied rate of 1.845%.
- From Dec 11, a new target rate will be set after the FOMC meeting

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- From Dec 11, a new target rate will be set after the FOMC meeting.
- The implied expectation of the new target rate is measured by solving

$$\frac{4 \times 2.025\% + 6 \times 2\% + 21 \times r}{31} = 1.845\%$$

Measuring the probability of rate cut/hike

- $r = 1.766\%$ based on the above solution.
- The market expects the Fed would cut the target rate to 1.75% .
- The **expected target rate** equals 1.766% implies that

$$p \times 2\% + (1 - p) \times 1.75\% = 1.766\%$$

- Solving for p , the implied probability of 25 basis point rate cut is 93.6% .