

# Story2\_Data608

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# Visualizing FED's Mandate Fulfillment

- The Federal Reserve (FED) has a dual mandate from Congress which according to economist is:
- Stable Prices (Low Inflation) when Inflation rate is around 2% and maximum  
Employment (Low Unemployment) when low unemployment is below 5% - 6%

# Feature Engineering Criteria for inflation

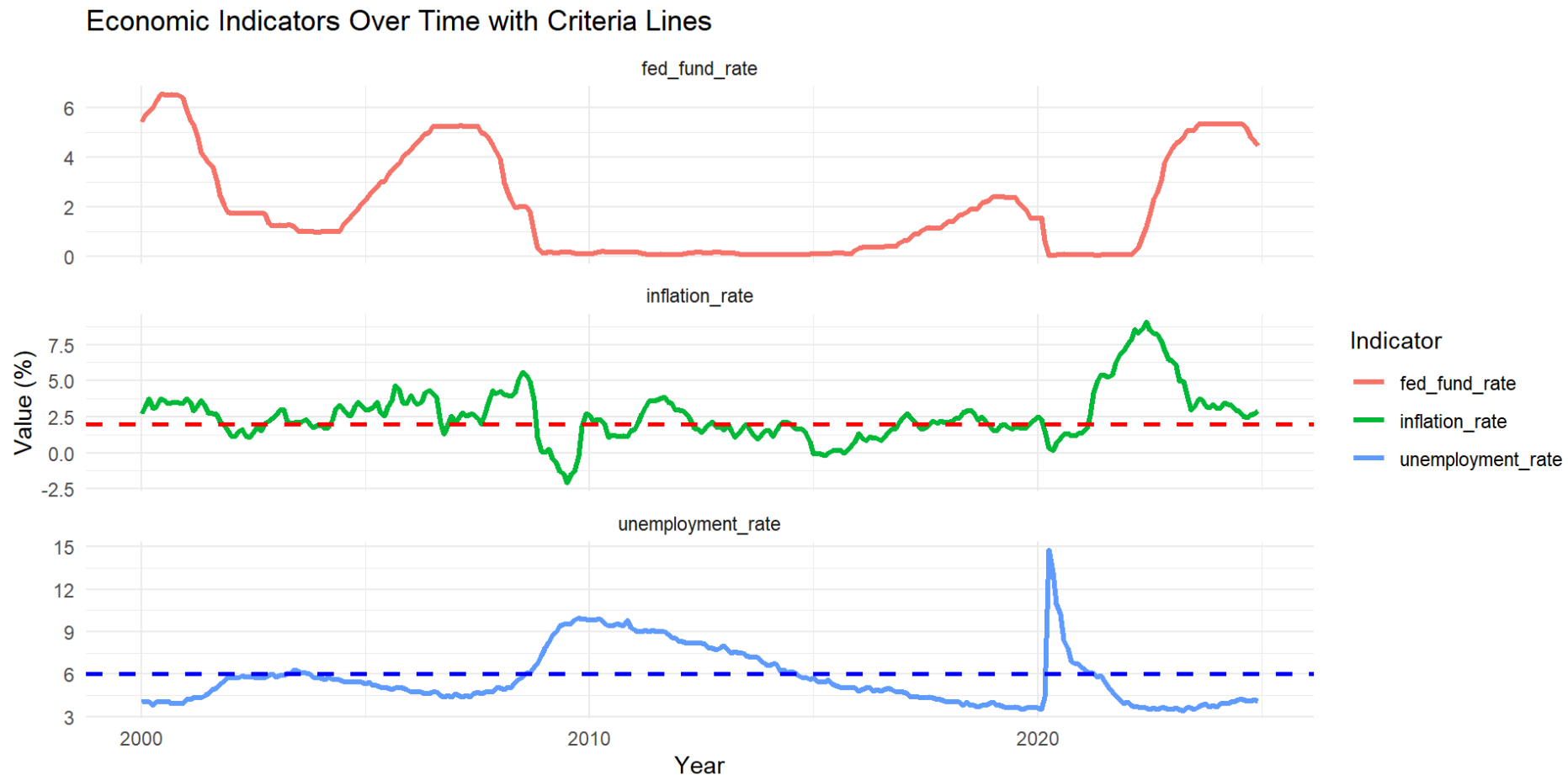
- If `inflation_rate` > (~2%), it is classified as “Not Achieved” (inflation is too high).
- Otherwise, it is classified as “Achieved” (inflation is at or below the target).
- This new column `inflation_criteria` indicates whether the inflation target was met for that period.

# Feature Engineering Criteria for Unemployment

- The unemp\_criteria field is based on a threshold that determines whether the unemployment rate is at an acceptable level or too high. The criteria for assigning values to this field are as follows:
- Achieved → If the unemployment rate is at or below (~6%), it is considered within the acceptable range, meaning the economic goal for employment is met.
- Not Achieved → If the unemployment rate is above (~6%), it indicates high unemployment, meaning the target for employment has not been met.

# Has the FED fulfilled its mandate?

- This line chart below shows how the unemployment rate, inflation rate, and Fed Funds rate have changed over time.



# Fed Funds Rate (Red Line)

- The Fed Funds Rate represents the interest rate set by the Federal Reserve, influencing borrowing costs and monetary policy.

**Peaks (~2000, 2006, 2019, 2023),**  
**Drops (~2003, 2009, 2015, 2020)**

# Inflation Rate (Green Line)

- The Inflation Rate measures the rise in prices over time, typically influenced by demand, supply shocks, and monetary policy.



# Peaks (~2008, 2022), Drops (~2009, 2015, 2020)

- 2008: Inflation rose above 5% due to high oil prices before collapsing during the financial crisis.
- 2022: Inflation spiked above 8%, driven by supply chain disruptions, post-COVID stimulus, and high consumer demand.
- 2009: Inflation briefly turned negative (~-1%), indicating deflation after the financial crisis recession.
- 2015: Inflation stayed low (~0%), reflecting slow economic recovery and low energy prices.
- 2020: Inflation dipped as the economy shut down due to COVID-19, before rebounding sharply in 2021-2022.

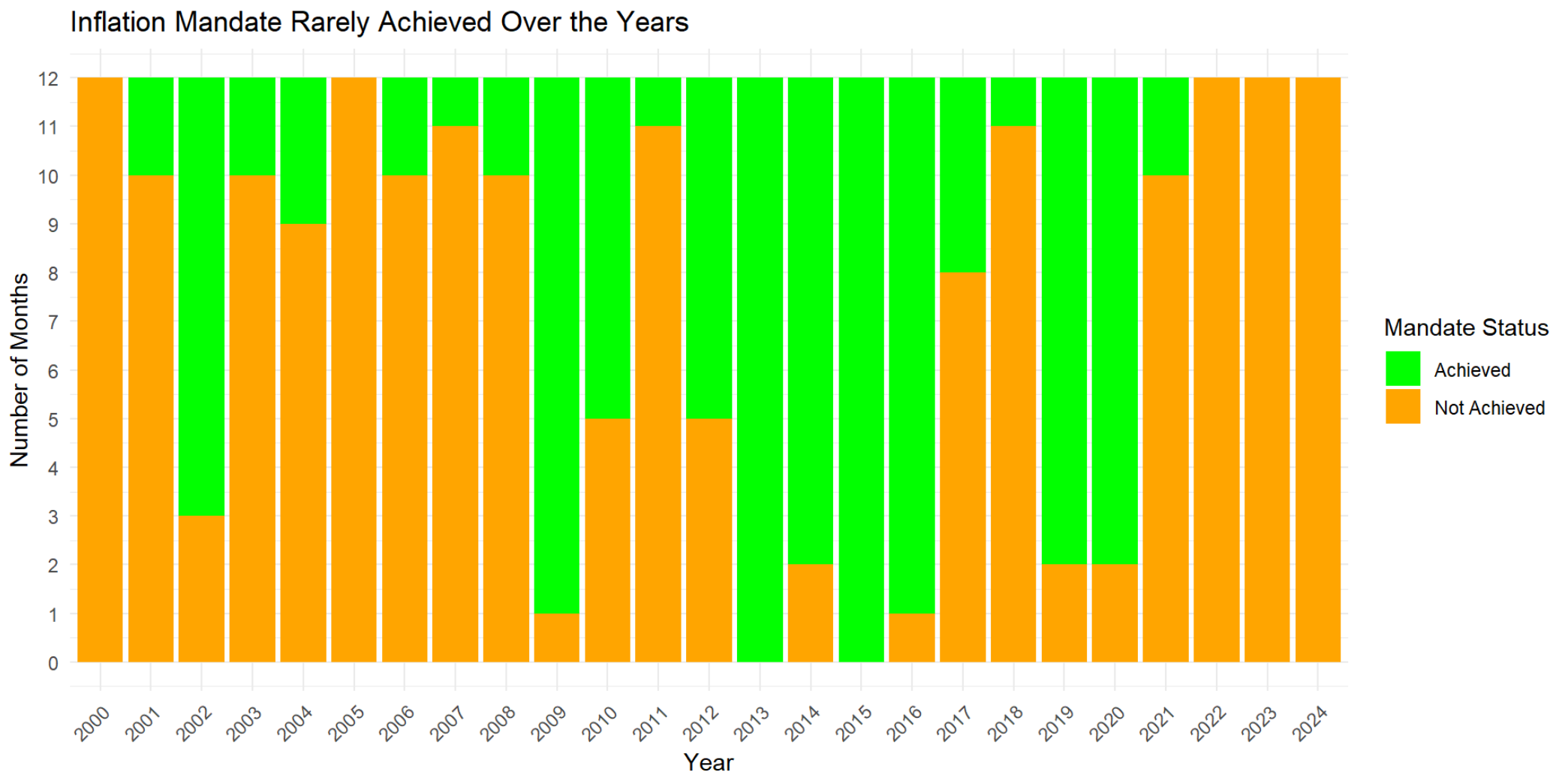
# Unemployment Rate (Blue Line)

- The Unemployment Rate measures the percentage of people actively seeking jobs, reflecting labor market strength.

# Peaks (~2010, 2020), Drops (~2007, 2019, 2022)

- 2010: Unemployment spiked to ~10% after the 2008 financial crisis, as companies cut jobs during the Great Recession.
- 2020: Massive peak (~15%) due to the COVID-19 pandemic lockdowns, which led to millions losing jobs almost overnight.
- 2007: Unemployment was low (~4%) before the financial crisis.
- 2019: Unemployment fell to ~3.5%, the lowest in decades, signaling a strong labor market before COVID-19.
- 2022: After the pandemic shock, the labor market recovered rapidly, bringing unemployment back to ~3.5%.

# Unemployment Figure



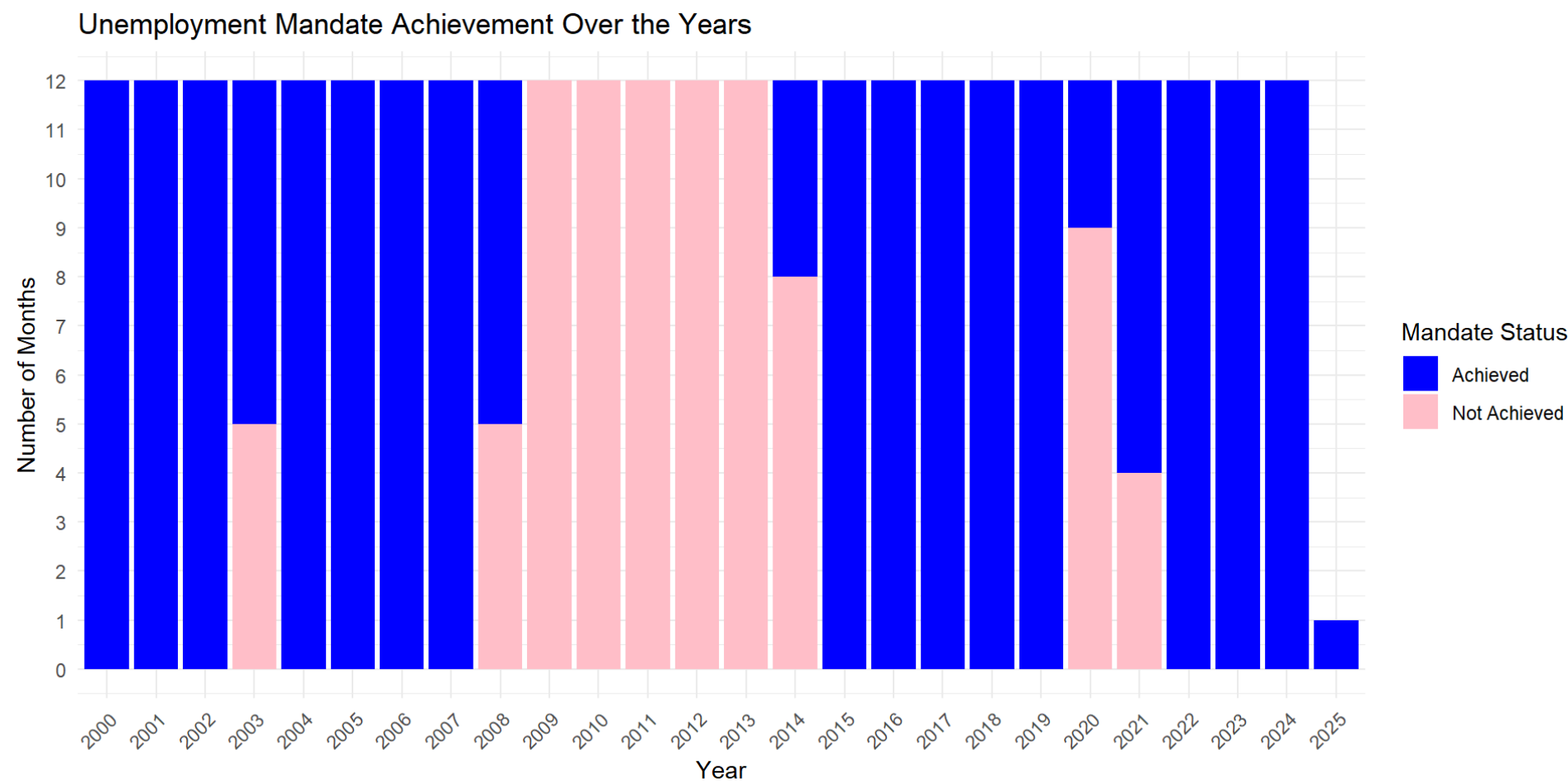
# Key Takeaways from “Inflation Mandate Rarely Achieved Over the Years” Chart

- Inflation was rarely within target levels for sustained periods (mostly orange bars).
- Post-crisis years (2009-2015) saw temporary improvements but lacked consistency.
- Only 2016-2019 showed a relatively stable period of inflation control.
- Recent years (2020-2024) have seen inflation mandate failures due to extreme economic shocks.
- This highlights the Federal Reserve’s ongoing struggle to maintain inflation within target levels, showing that inflation control is highly sensitive to external crises and policy shifts.

# Unemployment Mandate Achievement Over the Years

- Each bar represents a full year (12 months), with colors indicating whether unemployment was within the target range for that month.
- Blue (Achieved): Indicates months where unemployment was at or below the target.
- Pink (Not Achieved): Represents months where unemployment exceeded the target, signaling economic distress.

# Unemployment Mandate Achievement Over the Years



# Key Takeaways

- Unemployment spikes during major economic downturns (2008-2014, 2020-2021) and takes years to recover.
- Strong job markets (2000-2007, 2016-2019) show prolonged mandate achievement.
- Crisis periods are clearly reflected in the extended pink bars, showing the challenge of labor market recovery.



# Conclusion:

- The Federal Reserve's employment mandate has historically been met during stable economic periods but fails significantly during recessions, requiring years of recovery.