FRONT-RUNNING THE FED

USING NLP TO PREDICT FX VOLATILITY FROM FOMC STATEMENTS

BEN ROUNDS

"BUYTHE RUMOR, SELLTHE NEWS"

THE QUESTION

Can natural language processing on Fed policy statements reveal insights

Process

- Seek to distill individual statements (8/year) into sentiment indicators
- Assess returns to US dollar versus other currencies

THE WALL STREET JOURNAL.

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Fed Interest-Rate Decision and Janet Yellen's Press Conference—Recap

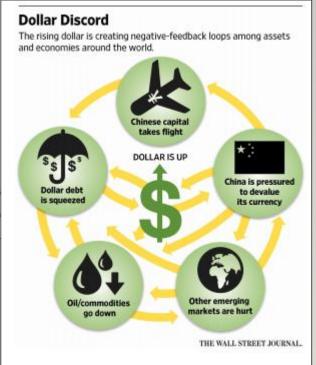
BySudeep Reddy, Josh Zumbrun and Jeffrey Sparshott



Fed Chairwoman Janet Yellen announces that the Fed will raise its benchmark interest rate for the first time since 2008 on Wednesday in Washington, D.C.

CHIP SOMODEVILLA/GETTY IMAGES

The Federal Reserve decided Wednesday to <u>lift its interest-rate target</u> from near zero, sev years after it pushed its benchmark rate to the floor during the financial crisis. In a press conference after a two-day meeting, Fed Chairwoman Janet Yellen said the central bank we move gradually in raising rates further in coming years.



THE DATA

Two data sets – both public:

- Federal Open Market Committee (FOMC) press releases
- USD currency pairs for non-pegged currencies

Cleaning?

- Intend to use spacy to clean text data
- Currency exchange rates clean with the exception of a single data point



THE DATA EXPLORATION

Completed

- Preliminary exploration and cleaning for outliers and dirty data
- Currency moves appear to follow meaningful trends

Further Exploration

 While analysis hopes to use FOMC statements to assess sentiment and tests converse reaction, analysis could be expanded by incorporating Twitter data

THE MODEL

Plans

- Clean and vectorize text data using spacy
- Utilize public financial NLP library to assess sentiment of individual statements
- Assess volatility and returns of currencies against the dollar following announcement

Potential Expansion/Questions:

- Use Twitter data to test sentiment leading up to announcement data
- Suggestions...