# Leaning Against the Data: Policymaker Communications under State-based Forward Guidance

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## Abstract

A purported benefit of state-based forward guidance is that the private sector adjusts the expected stance of policy without further policymaker communications. This assumes a shared understanding of how policymakers are interpreting the data and that policymakers are consistent in the assessment of the data. Using text analysis, we test whether the FOMC's introduction of state-based forward guidance in December 2012 changed the tone of policymaker communications. We find that policymakers tended to downplay positive data following the introduction of the guidance, in effect *leaning against the data* and reinforcing the dependence of policy expectations on policymaker communications.

## Introduction

-Policymakers change the way they talk about the economy when the explicit state-based forward guidance is introduced to reduce the chance of market overreaction to economic news (e.g., downplaying good economic news to lower the expectation of policy tightening).

-When the market takes signal about monetary policy stance from outlook speech, the market response to macroeconomic news surprises is attenuated.

-We test our hypothesis using the threshold-based forward guidance introduced in the December 2012 FOMC meeting (6.5% unemployment rate, 2.5% inflation).

-In particular, we look at the sensitivity of speech sentiment and asset prices to labor-market news.

## Speech Sentiment Regression

| Coefficient | Jan 2011-Dec 2012 | Dec 2012-Dec 2014 |
|---|---|---|
| Constant ($\alpha_0$) | -0.02 (0.002) | -0.011 (0.001) |
| Past Speech ($\alpha_1$) | 0.164 (0.054) | 0.11 (0.06) |
| GDP Growth ($\alpha_2$) | 0.055 (0.031) | 0.029 (0.04) |
| Unemployment ($\alpha_3$) | -0.019 (0.009) | -0.008 (0.008) |
| Inflation ($\alpha_4$) | -0.063 (0.035) | -0.029 (0.04) |
| Observations | 352 | 281 |
| $R^2$ | 0.05 | 0.02 |

Numbers in ( ) represent standard errors.

## Empirical Framework

-Speech sentiment ($S_{i,t}$) is measured by the relative frequency of positive words over negative words based on Loughran and McDonald (2011) dictionary.

-Regress speech sentiment onto revisions in survey forecasts for macroeconomic variables.

$$S_{\{i,t\}} = \alpha_0 + \alpha_1 S_{\{i,t\_\}} + \alpha_2 \Delta(y_t) + \alpha_3(u_t) + \alpha_4(\pi_t) + \epsilon_{\{i,t\}}$$

-Regress asset prices ($r_t$) onto macroeconomic news surprise on the unemployment rate, non-farm payroll, and inflation as well as speech sentiment measure.

$$r_t = a + b_{\{nf\}}x_{\{nf,t\}} + b_{\{u\}}x_{\{u,t\}} + b_{\{s\}}S_{\{t\_\}} + I_{2013}^{2014}\left(\gamma_{nf}x_{\{nf,t\}} + \gamma_u x_{\{u,t\}} + \gamma_s S_{\{t\_\}}\right) + \eta_t$$

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## Results

- The downward revision in the unemployment rate forecast led to positive speech sentiment in a statistically significant way before the introduction of the threshold-based forward guidance.
- However, it becomes insignificant after the forward guidance was put in place.
- At the same time, asset market responses to positive labor market news are attenuated for both stock returns (E-mini) and bond returns.
- Markets took policymaker communications leaning against the data on board.

## Asset Return Sensitivity

| | Stock Returns | | Bond returns | |
|---|---|---|---|---|
| $b_{\{nf\}}$ | 0.227 (0.069) | 0.470 (0.077) | -0.290 (0.041) | -0.275 (0.08) |
| $b_u$ | -0.013 (0.056) | -0.13 (0.071) | 0.011 (0.043) | 0.045 (0.06) |
| $b_s$ | 0.045 (0.06) | 0.115 (0.09) | 0.001 (0.036) | 0.005 (0.054) |
| $b_{\{nf\}}I_{2013}^{2014}$ | | -0.425 (0.096) | | -0.027 (0.092) |
| $b_u I_{2013}^{2014}$ | | 0.231 (0.085) | | -0.102 (0.084) |
| $b_{\{s\}}I_{2013}^{2014}$ | | -0.202 (0.103) | | -0.04 (0.082) |
| $R^2$ | 0.257 | 0.597 | 0.536 | 0.554 |

## Policy Implications

- Providing too much information may backfire in forward guidance.
- When the message sender(policymaker)'s objective (or prior belief of the state of the economy) is not fully aligned with the message receiver(financial market), it may be optimal not to fully reveal the signal (e.g., Cieslak and Schrimpf (2019), Kamenica and Gentzkow (2011)).
- Leaning against the data might have been ex-post (after providing the threshold-based forward guidance) optimal but ex-ante suboptimal because not providing a too precise information might have been ex-ante optimal.

## Conclusions

- State-based forward guidance providing "too precise" information might not achieve the purported benefit of letting the market adjust policy expectations without further policy communications.
- Empirical analysis of speech sentiment and asset price sensitivity before and after the December 2012 FOMC forward guidance illustrates this point.
- Recent forward guidance emphasizing more qualitative aspects and risk management considerations might be more effective in managing market expectations.

**References**

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