

Do Deficits Cause Inflation? A High Frequency Narrative Approach

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SUMMARY

- ▶ Runoff elections for Georgia Senate seats in January 2021
- ▶ **Narrative:** win by both Democrat candidates $\approx$ news about higher future deficits
- ▶ **High-frequency:** asset price change in narrow window around election outcome
- ▶ Use reports of investment banks to determine size of deficit impact
- ▶ 450bn USD (2.1% of GDP) deficit $\Rightarrow$ 0.22%-0.38% higher price level

HIGHLIGHTS OF THIS PAPER

- ▶ BIG question
- ▶ Extremely creative idea
 - ▶ Makes the paper fun to read
- ▶ Skillful execution
 - ▶ Much more than “comparing before vs. after”
 - ▶ Measuring the size of the shock
 - ▶ Selecting appropriate outcome variables
 - ▶ Interpreting the results
 - ▶ ...

PLAN FOR MY DISCUSSION

1. The role of monetary policy
 2. The role of other news shocks: organizing thoughts
 3. The role of other news shocks: oil supply
- I will use a toy model to motivate these points

TOY MODEL - SETUP

- ▶ Two periods $t = 1, 2$; real endowment flows Y_1, Y_2 ; no uncertainty
- ▶ Household maximizes $U = \ln C_1 + \beta \ln C_2$
- ▶ One-period risk-free nominal bonds available; quantity B , gross nominal rate R
- ▶ Government has spending need G in period $t = 1$
- ▶ Government can borrow in period $t = 1$ and tax amount T in period $t = 2$
- ▶ Prices P_1 and P_2 , with $\Pi \equiv P_2/P_1$

TOY MODEL - CHARACTERIZATION

- ▶ Period by period government budget constraints

$$P_1 G = B$$

$$RB = P_2 T$$

- ▶ Consolidated government budget constraint implies

$$\Pi = \frac{G}{T} R$$

- ▶ Household optimization and market clearing implies

$$\frac{1}{Y_1 - G} = \beta \frac{R}{\Pi} \frac{1}{Y_2}$$

TOY MODEL - *do deficits cause inflation?*

- ▶ In the model: *does Π go up if G goes up?*
- ▶ Answer depends on the behavior of R and T

TOY MODEL - *do deficits cause inflation?*

- ▶ In the model: *does Π go up if G goes up?*
- ▶ Answer depends on the behavior of R and T
- ▶ Case 1: “fiscal dominance”
 - ▶ T is fixed, R reacts “passively”
 - ▶ For simplicity, suppose R is pegged
 - ▶ Government budget constraint implies

$$\Pi \uparrow = \frac{G \uparrow}{T} R$$

⇒ **Yes, deficits cause inflation**

TOY MODEL - *do deficits cause inflation?*

- ▶ Case 2: “monetary dominance”

- ▶ T adjusts “passively”, R is set “actively”
- ▶ Euler equation implies an increase in the real interest rate

$$\left(\frac{R}{\Pi}\right) \uparrow = \frac{1}{\beta} \frac{Y_2}{Y_1 - G \uparrow}$$

- ▶ T adjusts such that budget constraint is fulfilled

$$1 = \frac{G \uparrow}{T \uparrow \uparrow} \left(\frac{R}{\Pi}\right) \uparrow$$

- ▶ Central bank can “pick” favorite combination of R and Π , including Π unchanged

⇒ **Deficits cause inflation if the central bank allows it**

TOY MODEL - *other causes of inflation?*

- ▶ Suppose instead that Y_2 goes down; focus on monetary dominance case

$$\begin{aligned}\left(\frac{R}{\Pi}\right) \downarrow &= \frac{1}{\beta} \frac{Y_2 \downarrow}{Y_1 - G} \\ 1 &= \frac{G}{T \downarrow} \left(\frac{R}{\Pi}\right) \downarrow\end{aligned}$$

- ▶ Again, central bank's behavior can generate different responses of Π

⇒ **Other shocks might generate inflation too**

TOY MODEL - LESSONS

1. Deficits cause inflation

- ▶ under fiscal dominance
- ▶ under monetary dominance + central bank accommodation

2. Other shocks cause inflation

→ How do these lessons feature in the paper?

MONETARY POLICY ACCOMMODATION - EMPIRICS

- ▶ Empirically, the paper studies short-term interest rates
 - ▶ Suggests monetary policy was accommodative
 - ▶ Important result that in my view can be emphasized more
- ▶ Ways to unpack this result further
 - ▶ Do the investment bank reports discuss expectations of monetary policy?
 - ▶ How did the Fed talk about fiscal policy in 2021?
 - ▶ E.g. do speeches of FOMC members suggest lack inflationary concern?

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Powell in Jackson Hole 2021: *"The rapid reopening of the economy has brought a sharp run-up in inflation. (...) Inflation at these levels is, of course, a cause for concern. But that concern is tempered by a number of factors that suggest that these elevated readings are likely to prove temporary."*

MONETARY POLICY ACCOMMODATION - MODELS

- ▶ Paper builds HANK model and FTPL model to interpret results
 - ▶ Impressive!
- ▶ Models useful because
 - ▶ Quantitative experiments that match e.g. mix of transfers and spending
 - ▶ Can examine monetary accommodation
 - * HANK with $i_t = i_{t-1} + 1.5\pi_t$ matches results
 - * $i_t = 0.8\pi_t$ (FTPL) matches results
- ▶ I found this extremely interesting and would like to learn more
 - ▶ Monetary rules in simpler model?
 - ▶ Can we discriminate between alternative models?
 - ▶ Connection to empirics (see previous slide)

THE ROLE OF OTHER NEWS SHOCKS: ORGANIZING THOUGHTS

1. Other news outside of the event window
 - ▶ Taken care of by high-frequency approach
 - 2.(A) Other news inside of the event window; related to Senate majority
 - ▶ Need 60 senate votes for legislation that is not fiscal
 - ▶ Paper argues that investment banks primarily discussed deficit spending
 - 2.(B) Other news inside of the event window; unrelated to Senate majority
 - ▶ January 6, 2021 Capitol riots → thoughtfully discussed in the paper
 - ▶ January 5, 2021 oil supply news → my final comment below
- ▶ Spelling out these three “layers” explicitly could help the reader



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OPEC+ agrees rollover deal with a twist - sources

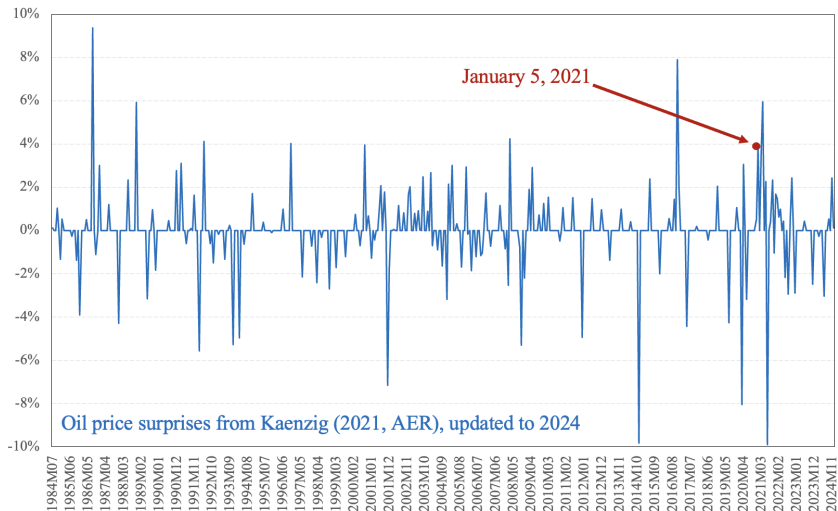
By Reuters

January 5, 2021 11:51 AM EST · Updated January 5, 2021



Jan 5 (Reuters) - The OPEC+ group of oil producers agreed on Tuesday to roll over existing oil output levels into February, but with Saudi Arabia voluntarily cutting production below its quota and Russia and Kazakhstan being allowed to raise, an OPEC+ source said.

JANUARY 5, 2021 OIL SUPPLY NEWS



- Roughly 4% upward revision in oil price expectations on Jan 5, 2021

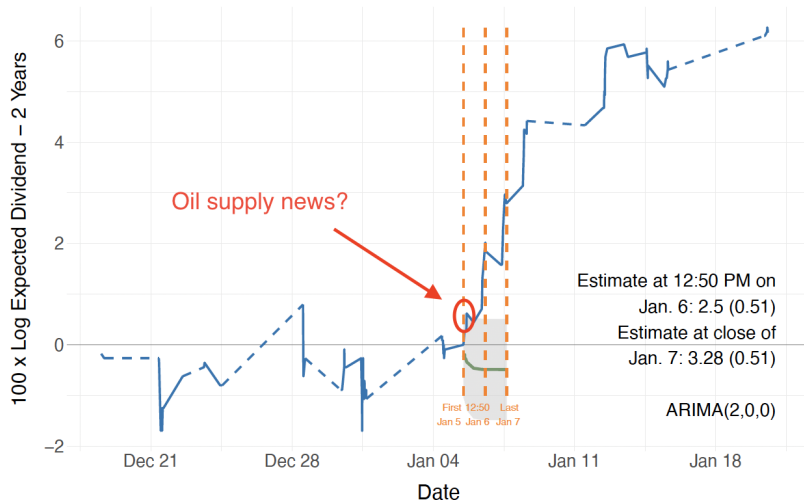
JANUARY 5, 2021 OIL SUPPLY NEWS - WHAT TO DO?

- ▶ Regression-based framework in the paper controls for oil prices
- ▶ Did the investment bank reports talk about the OPEC meeting?
- ▶ News break early on January 5 → could contribute to pre-announcement drift
- ▶ Use estimates from [Kaenzig \(2021\)](#) to reason how estimates might be affected
 - ▶ Magnitudes: impact response of inflation expectations $< 0.1p.p.$
 - ▶ Comovements: dividend futures should fall after negative oil supply news shock
 - ▶ Perhaps in combination with more granular analysis inside event window

JANUARY 5, 2021 OIL SUPPLY NEWS - INFLATION EXPECTATIONS



JANUARY 5, 2021 OIL SUPPLY NEWS - GROWTH EXPECTATIONS



CONCLUSION

- ▶ Very creative paper and impressive execution
- ▶ I applaud the authors for tackling a big question
- ▶ My suggestions
 - ▶ Discuss monetary accommodation more
 - ▶ Organize concerns about other shocks in “layers”
 - ▶ Address Jan 5, 2021 oil supply news