Oil Supply News and Sovereign Default Risk: Exploring the Link in Oil Exporting Economies

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Introduction

- Oil price fluctuations contain information on net oil exporter's repayment capacity. Expectations of future oil price determine current sovereign default risk (**fernandez2018sharing**).
- News on commodity prices explain almost half of output variations in emerging economies (**benzeev2017emerging**)

Introduction

Two examples on the role of oil price news in LatAm sovereign bond markets:

> Ecuador yields surge above 20% as oil rout boosts default risk
>
> *Ecuador's dollar bonds slumped the most in emerging markets as investors price in a higher probability of default following the crash in crude prices [...] Oil crashed more than 30% on Monday after the breakup of the OPEC+ alliance triggered an all-out price war, with both Russia and Saudi Arabia poised to flood the market with cheap oil.*
>
> Date: 9 March 2020. Source: Bloomberg.

Introduction

Two examples on the role of oil price news in LatAm sovereign bond markets:

> Fitch Downgrades Colombia's Rating to 'BBB-'; Outlook Remains Negative
>
> *The downgrade reflects the likely weakening of key fiscal metrics in the wake of the economic downturn caused by a combination of shocks stemming from the sharp fall in the oil price and efforts to combat the coronavirus pandemic [...] The recession and fall in oil price will negatively impact government revenues while the fiscal package announced by the government (1.4% of GDP to date) will increase government spending.*
>
> Date: 01 April 2020. Source: Fitch Ratings

This paper

- I empirically examine the impact of oil price fluctuations driven by oil supply news on the economy of six LatAm net oil exporters
- I build a quantitative model to analyze the role of the exchange rate regime in the transmission of these shocks and propose counterfactual exercises

Research question

- What is the quantitative impact of oil supply news on sovereign spreads in net oil exporting economies in the Americas?
  - Is there evidence of a feedback effect arising from the relationship between oil supply news and sovereign default risk?
  - How is the oil supply news shock transmitted throughout the economy?
  - Is this impact unique to net oil exporters in the Americas, or could similar effects be observed in other economies?

Literature review

- Negative relationship between oil price fluctuations and sovereign default risk

  wegener2016oil, pavlova2018dynamic, chuffart2019investigation, bouri2020oil
- Effects according to the source of the oil price shock: demand/supply driven shocks

  filippidis2020oil, alturki2021impact, chen2022oil, alsalman2023oilb, kumar2024oil
- The effect of oil discoveries and reserves on sovereign default risk

  hooper2015oil, hamann2023natural, esquivel2023sovereign
- Macroeconomic repercussions of oil supply news shocks

  kanzig2021macroeconomic, caraiani2022impact, liu2022oil, alsalman2023oil, miyamoto2023oil, drossidis2024distributional, sardar2024revisiting

Methodology

I employ a two-stage approach:

1. Proxy-VAR model characterizing the world oil market, from which oil supply news shocks are derived ⇒
2. Local Projection analysis incorporating the estimated news shocks in a panel of six LatAm net oil exporters ⇒

Methodology

Second stage: Panel local projection

Baseline specification (for $h = 0, ..., 12$)

$$y_{it+h} - y_{it-1} = \alpha_{i(h)} + \beta_{(h)} s_t + \gamma_{(h)}(L)\boldsymbol{z}_{it} + \delta_{(h)}\boldsymbol{d}_{it+h} + \nu_{it+h} \quad (1)$$

- y_{it} is the variable of interest of country i in period t and h indicates the forecast horizon
- $\alpha_{i(h)}$ is the country fixed-effect
- s_t represents the estimated oil supply news shock
- $\boldsymbol{z}_{it} = \{\Delta y_{it}, s_t\}$ with the lag polynominal $\gamma_{(h)}(L)$ and $L = 4$
- $\boldsymbol{d}_{it}$ is a vector of dummy variables: take the value of one if country i has defaulted on its debt in period t and zero otherwise
- $\beta_{(h)}$ captures the cumulative response of variable of interest, h quarters after the shock