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*Federal Reserve Board*

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*Discussion of*

## **The Effects of Geopolitical Oil Price Shocks**

by Verduzco-Bustos & Zanetti (2026)

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Stanford GSB - February 27

The views expressed are solely those of the discussant and do not represent the views of the Board of Governors of the Federal Reserve System or anyone else associated with the Federal Reserve System.

- **What the paper does:** measure the macroeconomic response to oil price shocks *driven by geopolitical events* — a distinct object from studies that identify exogenous supply shocks (strikes, natural disasters, OPEC decisions)
- Uses days of **sharp increases in geopolitical risk** to extract oil price surprises  $\Rightarrow$  external instrument in a Proxy VAR
- Key findings: 1% production decline  $\Rightarrow$  11.5% price increase; inventories first fall, then **accumulate** (precautionary demand); higher uncertainty; large cross-country spillovers

# Key intuition: the instrument $z$ “signs” the geopolitical shock

## Illustrative Example

| Period | $z_t$ | $\Delta p^{oil}$ | $\Delta y$ | Context                          |
|--------|-------|------------------|------------|----------------------------------|
| 1      | 1     | +10%             | -3%        | War threat<br><i>supply risk</i> |
| 2      | 1     | -10%             | +3%        | Price war<br><i>supply glut</i>  |
| 3      | 0     | +10%             | 0%         | Cold weather<br><i>noise</i>     |
| 4      | 0     | -10%             | 0%         | Technical fix<br><i>noise</i>    |

## What the proxy VAR does

- **Ignores** periods 3–4: oil moves, but no geopolitical trigger  $z$
- **Uses** periods 1–2: instrument is on — prices move in *opposite* directions, yet the output response is *consistent*
- Recovers a structural elasticity: every geopolitically-driven 1% oil price change  $\Rightarrow$  -0.3% output

$\Rightarrow$  The instrument **signs** the shock; the VAR does the rest

# Main concern: does the instrument satisfy the exclusion restriction?

## Exclusion restriction

A typical instrument must affect the economy **only through oil prices** — not through any other channel

- **A 200% GPR change triggers many things at once:** trade disruptions, financial market volatility, consumer confidence — the macro contraction likely reflects the *geopolitical event itself*, not just the oil price increase
- **Mixed supply and demand:** the instrument groups opposite forces — supply disruptions (price  $\uparrow$ ) and price wars / demand collapses (price  $\downarrow$ ) — blurring the structural interpretation
- **Still useful:** the analysis delivers oil price elasticities *conditional on a GPR shock* — a well-defined and policy-relevant object; a purist, however, may not call this a structural oil price shock

## VB&Z (this paper)

- Large *positive* GPR change ( $> 200\%$  daily)  $\Rightarrow$  event day
- Oil surprise:  $\pm$  (both directions)
- Mixes supply disruptions with price wars, demand collapses, ...

## Supply disruption instrument

- Physical interruptions only (strikes, earthquakes. . .)
- Oil surprise:  $+$  only (production falls  $\Rightarrow$  price rises)
- Identifies *supply channel* only

# Alternative proposal: GPR\_OIL as a cleaner instrument

## GPR\_OIL (Iacoviello & Tong, 2026)

Restrict GPR to articles about *geopolitical oil supply disruptions* and flag only **positive** large spikes — filtering out energy-irrelevant events and oil-price-war episodes

### Stage 1 — AI-GPR

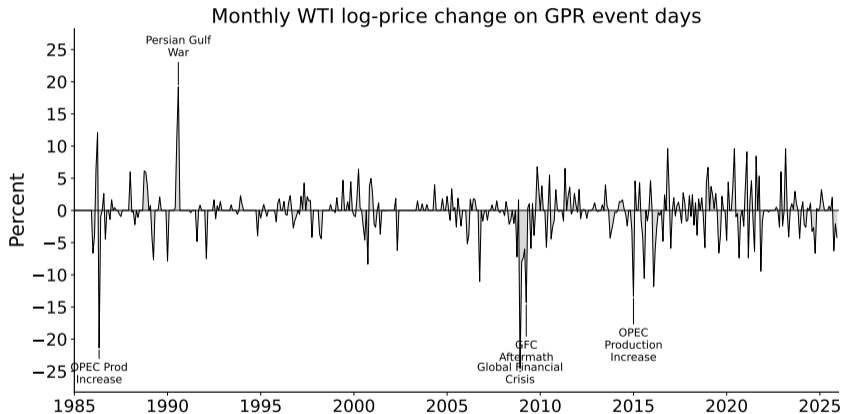
- LLM scores every newspaper article 0–1 for geopolitical risk content
- Aggregated daily across NYT, WaPo, Chicago Tribune (1960–2025)

### Stage 2 — Oil filter

- Second LLM pass on articles with AI-GPR score  $> 0.5$
- Flags articles about *geopolitical oil supply disruptions* specifically
- Only **positive** spikes retained  $\Rightarrow$  supply disruptions only

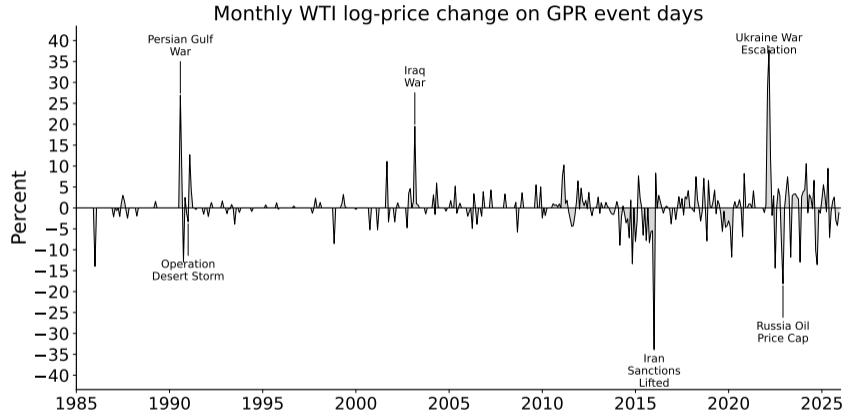
**GPR\_OIL strips out energy-irrelevant events and oil-price-war episodes, leaving a clean signal of exogenous oil market disruptions**

# VBZ GPR instrument (this paper): picks up supply and non-supply events



Event days:  $GPRD\_THREAT > 200\%$  (daily change). WTI log-price change around each event day, aggregated monthly.

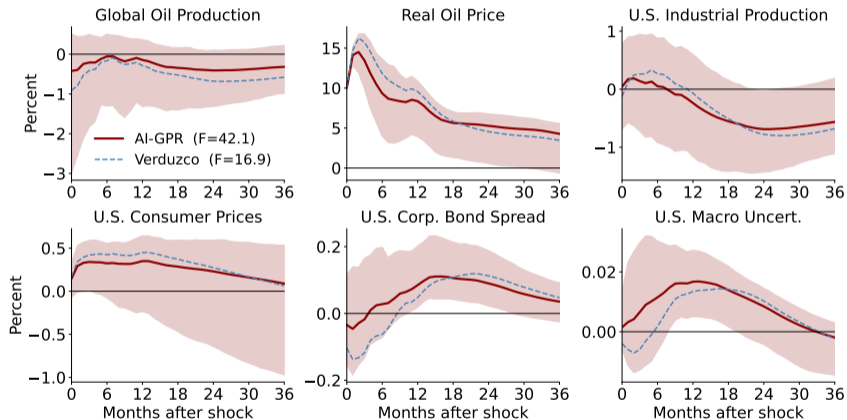
# Oil-specific GPR instrument: cleaner supply disruption (and reversal) signal



Event days:  $GPR\_OIL > 2 \text{ s.d. (level)}$ , *positive spikes only*. More concentrated on known oil supply disruption episodes (Gulf War, Ukraine invasion).

# AI-GPR instrument delivers sharper, more plausible IRFs

Proxy VAR — AI-GPR vs. Verduzco (dashed) | shock: 10% oil price increase | 68% CI



Proxy VAR, 1975–2024, 12 lags, 68% CI. Colored band: AI-GPR instrument. Dashed: Verduzco instrument, point estimate only. Shock normalized to 10% oil price increase on impact.

## Conclusions: An ambitious and thought-provoking paper

VBZ tackle a first-order question — how do geopolitical events transmit through oil markets to the macro economy — and deliver a carefully estimated framework

### Key suggestion: sharpen the instrument

- The instrument pools **opposite-signed surprises** (war threats push prices up; price wars push them down) — making the structural interpretation difficult
- GPR spikes move **confidence, trade, and investment directly**, not only through oil prices — the exclusion restriction is hard to defend in its strict form
- The estimated elasticity is best read as **conditional on a geopolitical event**, not as a clean structural oil-price shock
- Some alternatives — restricted to supply disruption episodes, for instance — may offer a cleaner path to identification