The Impact of the 2026 Geopolitical Oil Supply Disruption on the U.S. Economy

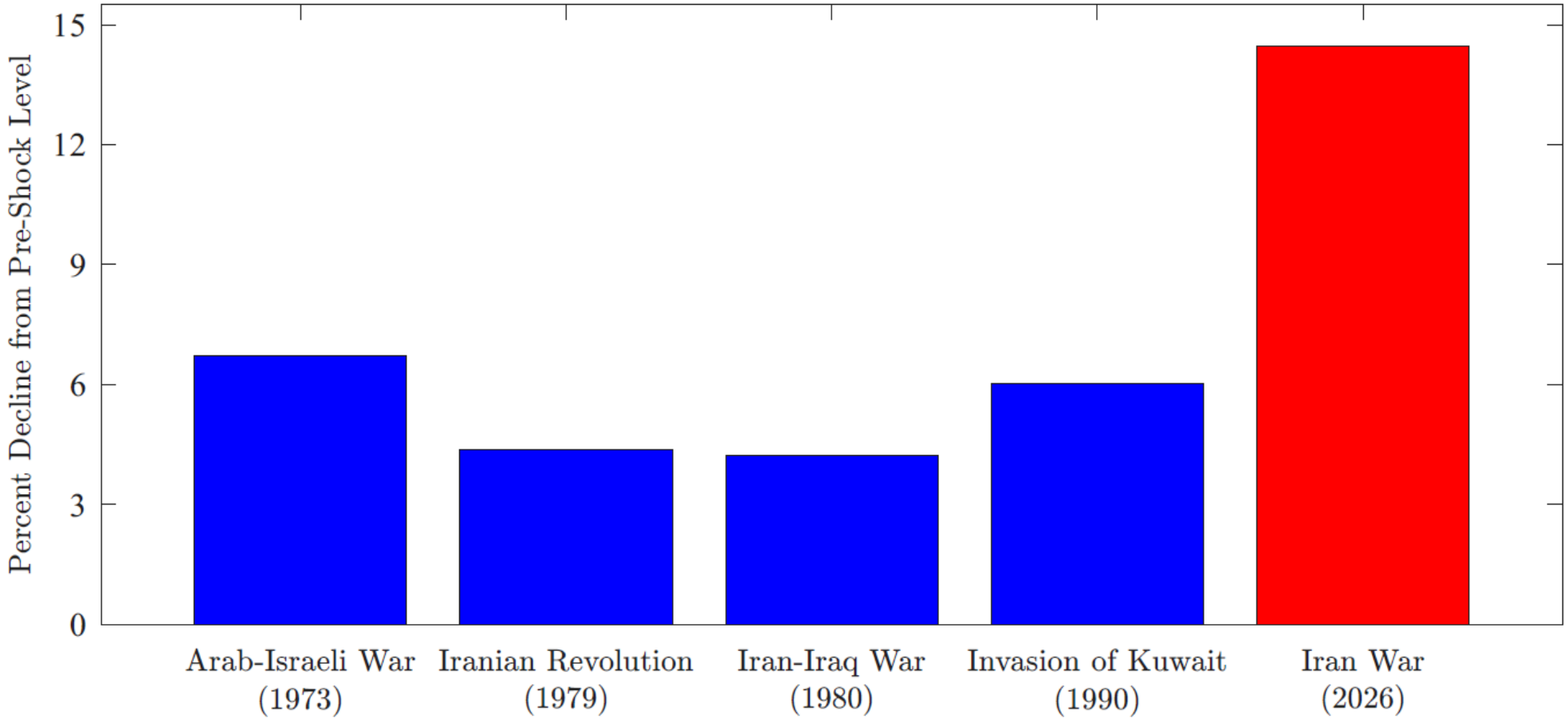
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November 19, 2027
RSQE

Disclaimer: The views in this presentation are my own and do not necessarily reflect the views of the Federal Reserve Bank of Dallas or the Federal Reserve System.

Unprecedented Geopolitical Oil Supply Disruption in 2026

More than twice the peak decline than past geopolitical oil supply disruptions:



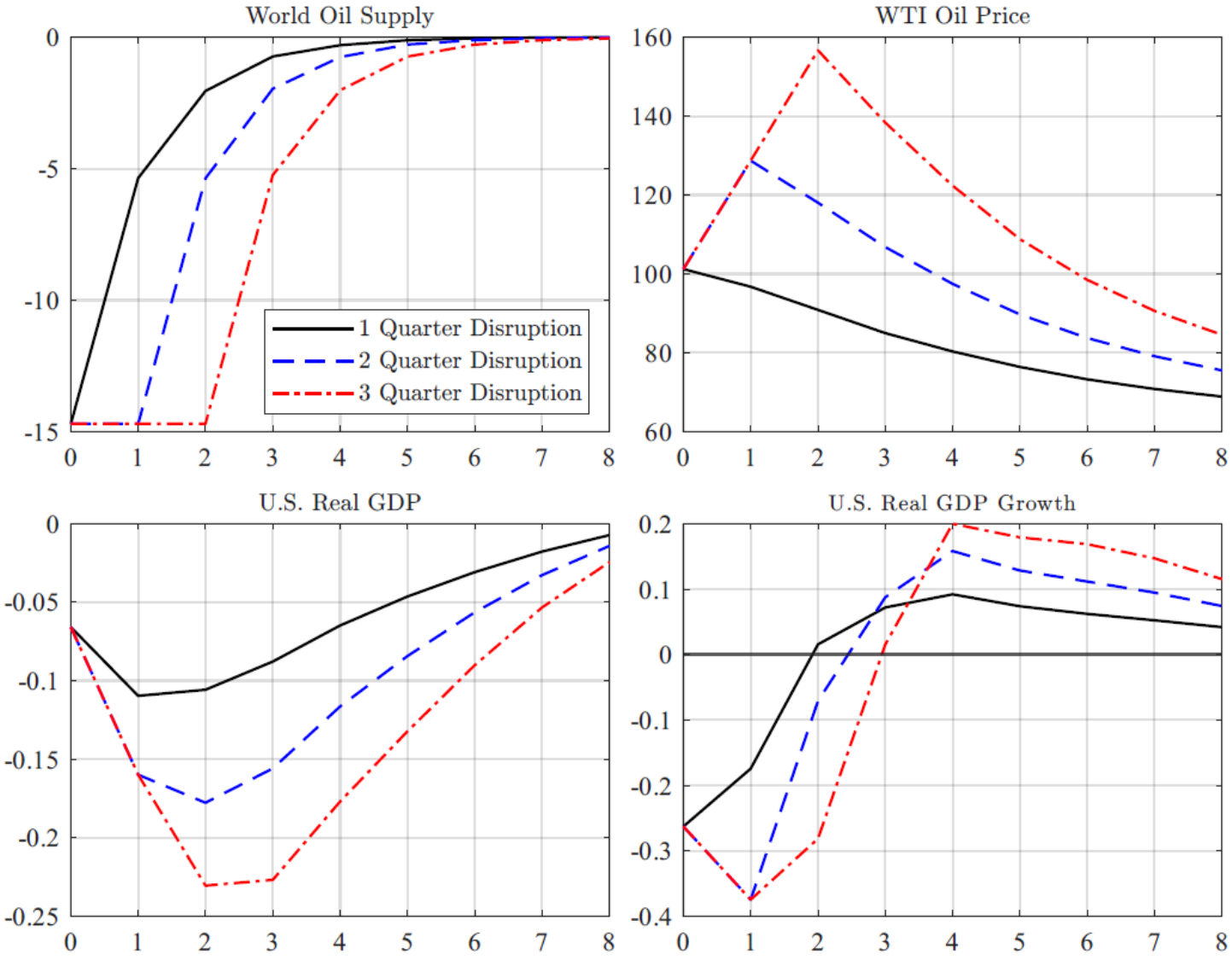
Source: Energy Information Administration, crude oil production.

Kilian, Plante and Richter (2026) Model

- Two-country model of the global economy:
  - Country 1: U.S.
  - Country 2: Rest of world
- Key features:
  - Both countries produce oil and hold oil inventories
  - Geopolitical oil production shortfall originates abroad
  - Oil is used as an intermediate input in firms' production
  - Households consume both oil and non-oil goods
  - Oil price is determined endogenously in the global oil market
  - Trade in oil and non-oil goods
- Focus on chain-weighted GDP as in the national accounts
- Model calibrated alternatively to data for 1980, 2024 and 1985-2019

Part I: Oil Price Responses to 2026 Geopolitical Oil Supply Disruption

The Role of the Duration of the Oil Supply Disruption



Notes: The horizontal axis denotes quarters. The growth rate is annualized.

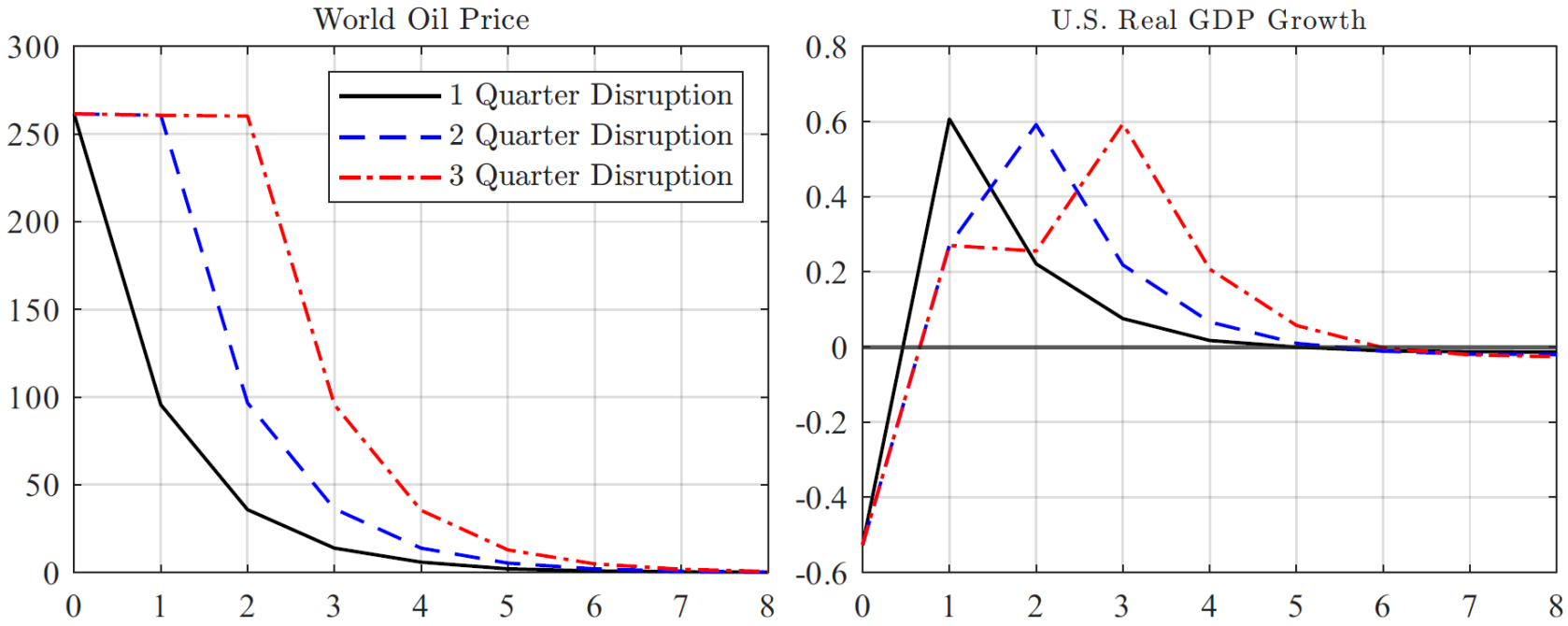
<u>1Q Disruption (black)</u>:
WTI peak: $101
4Q GDP: -0.09%

<u>2Q Disruption (blue)</u>:
WTI peak: $129
4Q GDP: -0.26%

<u>3Q Disruption (red)</u>:
WTI peak: $157
4Q GDP: -0.23%

The Role of Global Oil Inventories

- Our model implies a lower oil price than some pundits predicted. Why?
- Without drawing down oil inventories, the oil market must clear instantaneously
  - The WTI price would have increased to $219, compared to $101
  - Real GDP growth would have declined more in impact quarter



Notes: The horizontal axis denotes quarters. Real GDP is chain-weighted. The oil price is in percent deviations from the baseline, while GDP growth rate is in annualized percentage point deviations.

Model Fit for Oil Spot and Futures Prices

	Spot		6M Futures	
	Data	Model	Data	Model
WTI	97.77	101.22	79.09	89.32
Brent	109.02	111.10	84.70	98.04

	12M Futures		24M Futures	
	Data	Model	Data	Model
WTI	72.92	78.00	69.26	67.43
Brent	78.17	85.61	74.40	74.02

Notes: Prices are in dollars per barrel. Data values are averages of daily spot and futures prices from March–May 2026. The model results are based on a 15% oil supply disruption.

Evaluation over March-May impact quarter

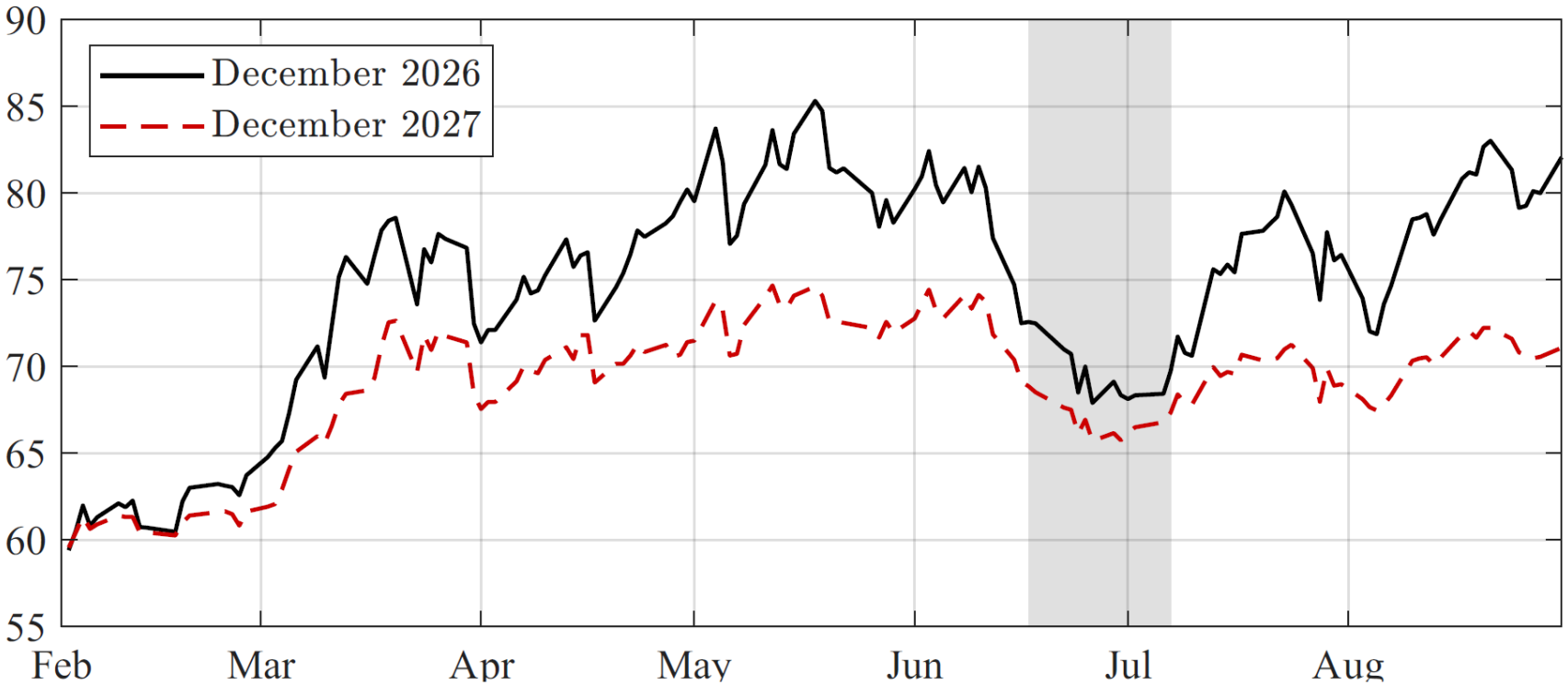
Model closely matches WTI and Brent spot price

Model-implied futures curve reasonably close to the observed curve

Even better fit based on May 2026 data

Model Implied WTI Prices by Duration

Quarter	1Q-Fast	1Q-Slow	2Q-Slow	3Q-Slow
4	71.66	84.98	106.79	138.34
8	65.67	70.82	79.12	90.62



Daily WTI Futures Price for December expiration

Notes: The shaded region denotes when the U.S.-Iran memorandum of understanding was in effect.

Part II: Growth Responses to 2026 Geopolitical Oil Supply Disruption

Larger shock, but greater resiliency?

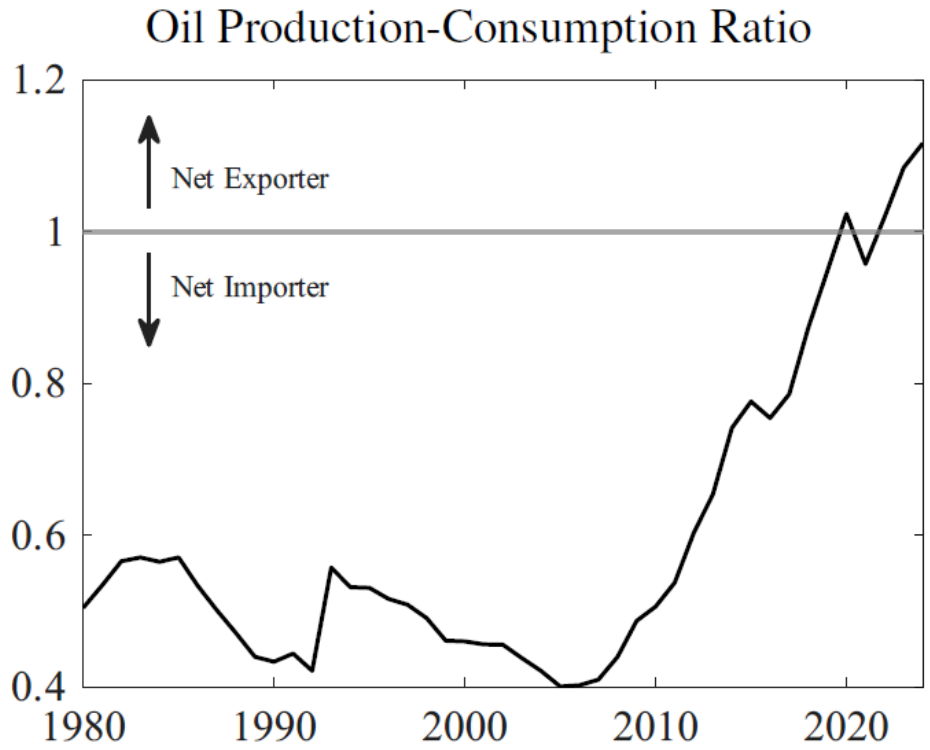
- Given the scale of this geopolitical oil supply shock, it is natural to expect a large slowdown in U.S. and global real GDP growth

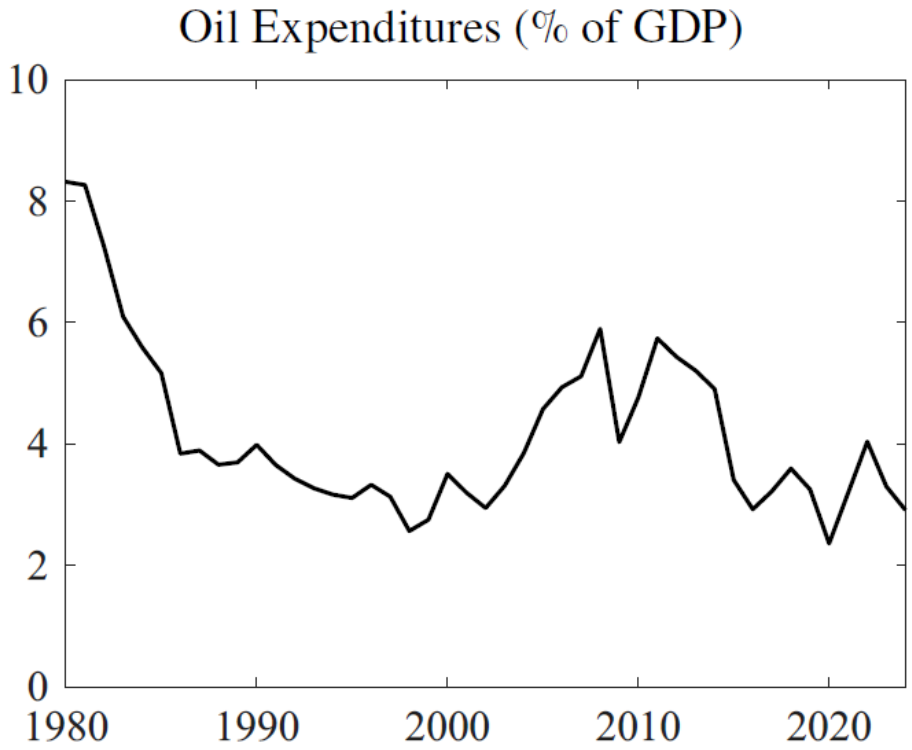
- Yet, there also are reasons to expect the U.S. economy to be less vulnerable to such shocks today than in the 1970s–80s:

> *"When economists discuss oil price shocks in the U.S., the example is often the events of the 1970s. While informative, it is important to understand that the U.S. is in a very different position relative to a half-century ago."*
>
> —Fed Vice Chair Philip Jefferson
>
> (March 26, 2026)

Why This Time Might Be Different?

- Large decline in the oil expenditure share
- Shale oil revolution reduced U.S. petroleum import dependence





Sources: U.S. Energy Information Administration; Bureau of Economic Analysis.

Initial Real GDP Growth Impact in Model Economy

Present		Past		Average	
US	ROW	US	ROW	US	ROW
−0.26	−1.98	−4.40	−5.82	−1.49	−2.49

Notes: Impact effects of a 15% oil supply disruption. Values are annualized GDP growth rates.

- Most compelling evidence to date of quantitatively important time variation in the responses of U.S. real GDP growth to exogenous variation in the price of oil.
- Allowing for international borrowing and lending enlarges recessionary impact effect under the 2024 calibration and dampens recessionary impact effect in 1980.
- The central result that the impact of geopolitical oil supply disruptions on real GDP growth has substantially declined is robust to this and other changes in the model.

Which Structural Change is Driving the Reduced Growth Impact?

Full Present Calibration	Past Oil Exp Share	Past Oil Trade Balance	Past Oil Exp & Oil Trade	Full Past Calibration
−0.26	−0.41	−1.25	−4.05	−4.40

Notes: Impact effects of a 15% oil supply disruption. Values are annualized GDP growth rates.

- Neither the reversal of the petroleum trade balance nor the change in the oil expenditure share alone explains the decline in growth under the 1980 calibration.
- When both change at the same time, however, their combined effect of -4.1 ppts is much larger than the sum of their marginal effects. Together these structural changes come close to explaining the -4.4 ppts reduction in real GDP growth in 1980.

Is the U.S. Experience Different from Other Countries?

The U.S. is "an oil exporter, so we're not feeling the same kind of pain . . . that economies in Western Europe and, certainly, in Asia are feeling."

—Former Fed Chair Jerome Powell

(April 29, 2026)

Differential Growth Impact on Europe

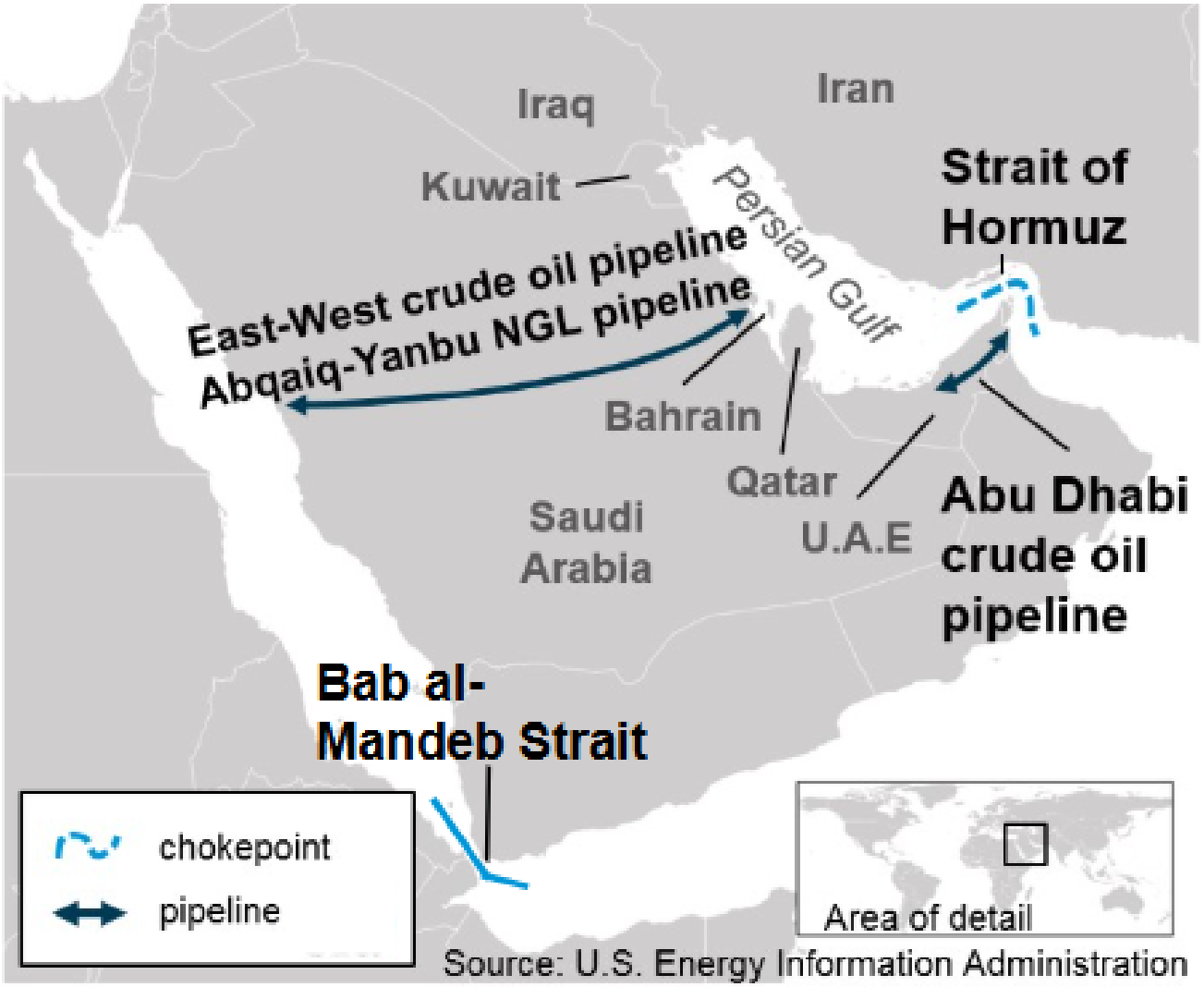
Present			Past		
U.S. GDP	Euro GDP	Ratio	U.S. GDP	Euro GDP	Ratio
–0.26	–1.11	4.20	–4.40	–4.20	0.95

Notes: Impact effects of a 15% oil supply disruption. The growth rates are annualized.

- As of 1980, Europe was as vulnerable as the United States to geopolitical oil supply disruptions. The impact responses of real GDP growth were close with -4.4 percentage points in the U.S. and -4.2 percentage points in Europe.
- Since then, the European oil expenditure share has declined roughly as much as in the U.S. The key difference is that Europe continues to be a net petroleum importer.
- While the impact response for real GDP growth in Europe declined from -4.2 ppts in 1980 to -1.1 ppts today, the growth impact in Europe remains larger than in the U.S.

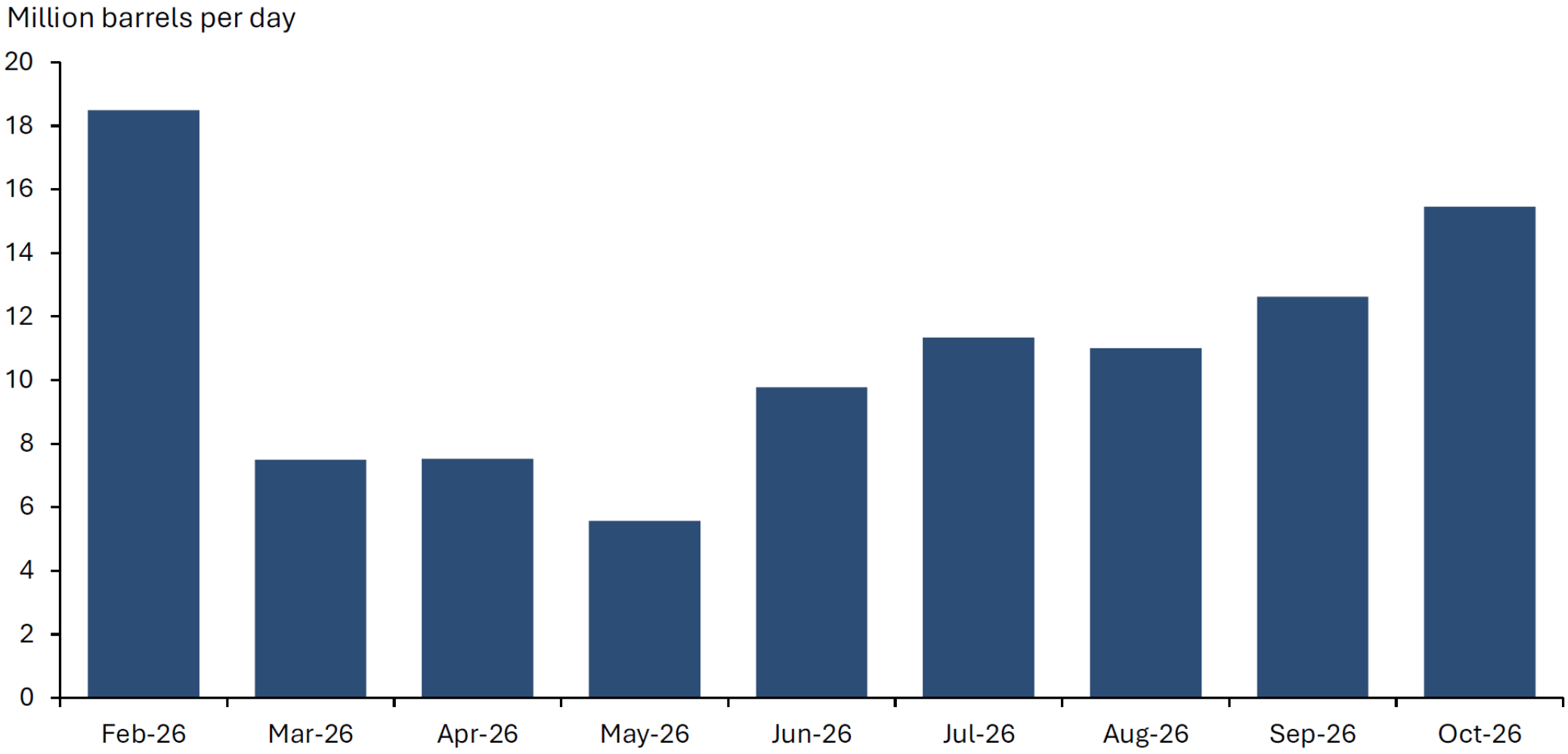
Part III: The Oil and Fuel Price Outlook

How Oil Trade Is Restricted by Geography



- 20 mb/d of crude oil and products exported by Gulf producers
- 3/4 is crude oil, mainly sold to Asia:
  - Some oil re-routed using pipelines to Red Sea from where it may be shipped north through the Suez Canal or south through the Bab al-Mandeb Strait (4 mbd)
  - UAE oil rerouted to Gulf of Oman (1mbd)
  - Infrastructure and tankers subject to attacks by Iran and the Houthis
  - Large stocks of oil trapped in Persian Gulf
- 1/4 is oil products that cannot be diverted:
  - Petrochemical feedstock to Asia
  - Some diesel and jet fuel goes to Europe, most to Asia

The Struggle for the Control of the Two Straits



NOTES: Preliminary estimates of crude oil export flows from Middle East. TankerTrackers.com and Dallas Fed.

Why Are Oil Prices so High If Oil Started Flowing Again?

- Partial resumption of flows (95% crude, 50% refined products as of October)
- 5 mbd of crude production remains shut down
- Oil shipping from Middle East much more costly ($25/barrel tanker rate premium on average as effective fleet size was reduced and war risks rose)
- Risk of new oil shipping disruptions remains high:
  - Iranian attacks on shipping on the rise (September: 15, October: 35)
  - Limited supply of oil tankers
  - Sunk vessels may block shipping lanes
  - Military escalation remains possible
  - The U.S. escorting tankers may not be sustainable at a cost of $2-3 billion/month
- Low oil inventories require rebuilding

Why Refined Product Prices Surged More than the Oil Price

1. The Middle East exports medium grade crude oil that is well suited for the production of diesel and jet fuel, for which U.S. shale oil and Canadian or Venezuelan heavy crude oil is a poor substitute.

2. The Middle East also exports a lot of diesel and jet fuel to Asia. These exports largely ceased with the Iran war and have been slow to recover.

3. China responded to the shortage of crude oil by shutting down refineries that used imported crude to produce refined products for customers around the Pacific Rim. This stabilized the oil market, but created a supply crisis in the refined product market.

4. Ukrainian attacks on Russian shipping, refining and pipeline infrastructure reduced Russian exports of refined products and Russia started importing fuels.

5. Refineries elsewhere in the world were near capacity already.

Prospects for a Resolution of the Problem of High Fuel Prices

1. U.S. diesel export ban would not work: Initially diesel inventories↑, diesel price↓.
   - As diesel demand↓→ refining runs↓→ production of all fuels↓→ U.S. fuel prices↑.
   - Global fuel prices↑→ price of fuel imports↑ on East and West coast of U.S.

2. Russia in October 2026 made a deal to supply more diesel to the world. The quantities are too small to matter for the global diesel price, even if Russia can deliver, which is far from obvious. The deal appears to have fallen apart already.

3. Additional diesel releases from European strategic stocks likely too small to matter.

4. Maintenance shutdowns will slow fuel production in many countries.

5. Exports of refined products from Middle East remain severely restricted.

6. With Arab oil flowing again, Asian refineries are slowly resuming their fuel production, but the higher oil input cost feeds into fuel prices.

7. China resumed refined product exports in September 2026, but that decision is reviewed every month. It remains an open question how much fuel China will add.

Part IV: Inflation Responses to 2026 Geopolitical Oil Supply Disruption

Time Variation in the Responses of U.S. Inflation to Oil Price Shocks?

- There is a long-standing belief in the profession that the inflationary effects of oil price shocks were larger before the mid-1980s than since then.
- The empirical support for this view continues to be debated.
- Key fact: There is no stable link between the oil price and inflation because:
  - (1) the cost share of crude oil in the retail price of fuels has changed dramatically over time,
  - (2) fuel prices may move more than the price of oil, as we have just seen,
  - (3) greater salience of fuel prices.

Reexamining the Evidence

Key question: How persistent is the response of inflation to a U.S. retail gasoline price shock (rather than an oil price shock)?

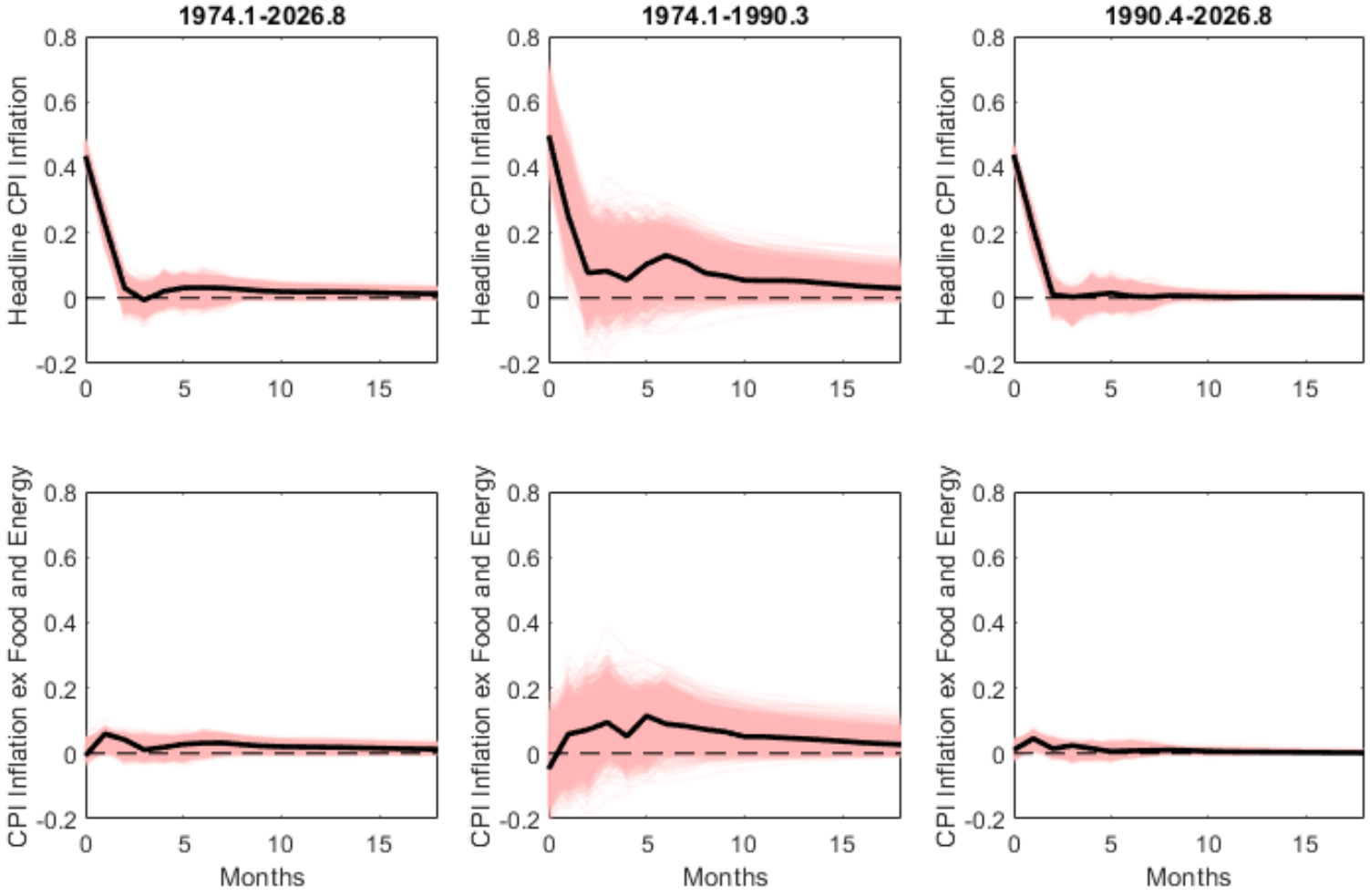
Common view in macroeconomics, exemplified by Blanchard-Gali (2010):

- The 1970s and 1980s price shocks shifted up CPI inflation immediately with inflation remaining high for a protracted period with a peak after about one year.
- Since the 1990s, the inflation response has become much more short-lived with a peak on impact.

Alternative view:

- The inflation responses have not changed much. The inflationary impact is driven mainly by the mechanical impact of higher gasoline prices through the gasoline expenditure share rather than by inflation expectations.

Inflation Responses to a 10% Gasoline Price Shock before and after 1990



Notes: Bayes estimate and 68% joint credible sets from block recursive VAR(6) models for retail price of gasoline, headline and core CPI inflation. Reproduced from Kilian and Zhou (2027).

Inflationary Impact of Gasoline, Diesel and Jet Fuel Price Shocks

	March	April	May	June	July	**March-July Average**
Total PCE inflation, annualized	7.98	4.99	5.76	-1.11	1.87	**3.90**
Without gasoline price shocks	4.16	5.19	4.49	0.89	0.77	**3.10**
Without gasoline and diesel price shocks	3.53	2.94	3.47	1.32	1.80	**2.61**
Core PCE inflation, annualized	3.55	3.13	4.30	1.76	2.94	**3.14**
Without gasoline price shocks	3.05	2.87	3.99	2.02	2.94	**2.97**
Without gasoline and diesel price shocks	3.47	2.40	3.45	1.84	3.02	**2.84**
Without gasoline, diesel, jet fuel, natural gas price shocks	2.67	1.98	3.10	2.17	2.59	**2.50**

Notes: Bayes estimate from block recursive monthly VAR(6) model for retail prices of gasoline, diesel, jet fuel and natural gas price, headline and core PCE inflation. Adapted from Kilian and Zhou (2023).

Conclusions

1. The observed oil price increase in March-May 2026 was expected, once accounting for oil production disaster risk and oil inventories.
2. The lower oil expenditure share and the reversal in the petroleum trade balance helps understand the muted impact of the Iran War on U.S. economic growth (and the differential impact on Asia and Europe).
3. While this result is very robust, it does not account for additional fuel price shocks or distributional effects that could amplify the recessionary effect.
5. The global shortage of oil and fuels is by no means resolved. The uncertainty about the future path of oil and fuel prices remains high.
6. Fuel price shocks did have sizable effects on inflation, but it takes repeated fuel price shocks to generate persistent shifts in inflation expectations and inflation.