

(1) Raw data in DATA20230408-JAE.xlsx file

The model is estimated using quarterly time series of the *spot oil price and futures prices data* and *other macro data*.

All data can be downloaded from the Thompson Reuters Datastream or Federal Reserve St Louis database.

DATA20230408-JAE.xlsx file stores all raw data that are used in the paper, specifically:

- The first spreadsheet entitled: NYM-WTI stores raw WTI futures data downloaded directly from Thompson Reuters Datastream
- The second spreadsheet entitled: OIL (SPOT) stores raw Spot Crude Oil Price: West Texas Intermediate (WTI), Dollars per Barrel, Quarterly, Not Seasonally Adjusted, downloaded directly from Federal Reserve Bank of St. Louis database.
- The third spreadsheet entitled: US-IPD stores raw US implicit price deflator (2012=100), Seasonally Adjusted, downloaded directly from Federal Reserve Bank of St. Louis database.
- The fourth spreadsheet entitled: US-GDP (REAL) stores raw US GDP, constant price, downloaded directly from Federal Reserve Bank of St. Louis database.
- The fifth spreadsheet entitled: US-FFR stores US federal funds rate, downloaded directly from Federal Reserve Bank of St. Louis database.

(2) Spot oil price and futures prices data

The spot oil price is a composite series. We use the WTI spot price which is available from 1970Q1. Since the crude oil price was fixed close to \$2.25 per barrel between 1964Q1 and 1970Q1, this value is used until then.

To represent the term structure of oil futures, the prices of WTI light crude oil futures traded on New York Mercantile Exchange are used, beginning in 1984, when these oil futures contracts started trading. Oil futures contracts with 1, 2, 3, 6, 9, 12, 18 and 24 month maturities are studied. The series for the prices of oil futures with 1, 2, 3, 6, 9 and 12 month maturities are available from 1984Q1, the 18 month contract from 1989Q3; and the 24 month contract from 1995Q1

(3) Other macro data

We also use data for US output, US inflation, and US Federal Funds rate, from 1964Q1 to 2022Q1. These are generated directly from time series that are downloaded from Federal Reserve st Louis database, or equivalently, from Thompson Reuters Datastream. The following works have been undertaken to obtain series used in the model:

- The Fed Funds rate is specified as a quarterly decimal fraction (the annual rate in percent divided by 400).
- We use the US output gap, which is generated by applying the HP filter to log US GDP, then subtracting this measure of potential output from log GDP.
- US inflation is the annual log difference of the US implicit GDP price deflator.

(4) Dataset and summary statistics

One can easily produce dataset that is used by the model in the paper once the above procedures are taken, which yields summary statistics that is shown as Table 1 in the paper.