Energy, fragmentation and the macroeconomy – current and future challenges

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Oil and the macroeconomy - 40 years of ‘oil price-macro’ models

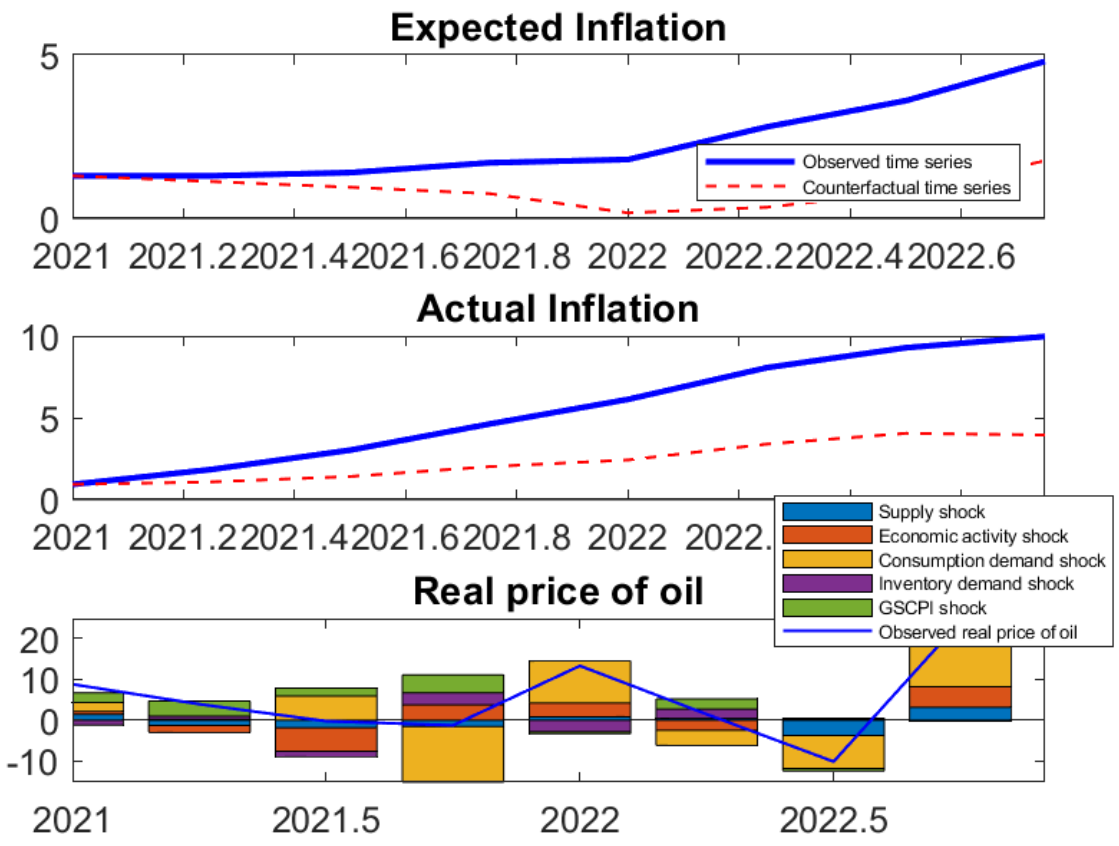
I. Adverse macroeconomic effects*
   - Commodity dependence
   - Source of oil market shocks
   - Volatility of shocks
   - Policy responses

II. Inflation expectations and the associated pass-through of oil price shocks depend on demand and supply conditions underlying the global oil market (persistence)
   - Coibion and Gorodnichenko (2015, AEJ:Macro), Aastveit, Bjørnland and Cross (2023, REStat)

**) see Hamilton (1983, JPE) for seminal paper and Bjørnland (2022, Sintra) for survey.*

Inflation ‘absent oil’ in the Euro area

- Counterfactual for the Euro area, holding commodity prices constant from Q1 2021.
- Measure the indirect effect of inflation expectations



Source: Aastveit, Bjørnland, Cross (2023, REStat) and
Aastveit, Bjørnland, Cross, Kalstad (2023) (NB: **Work in progress)**

Commodity exporters, boom or gloom?

- Theory of Dutch disease. Does it fit?
  - Depend on democracy, institutions, spending rule and saving for rainy days…
- Some resource-rich economies have had higher growth rates than OECD
- Role for the oil related industry as an engine for growth*
  - Oil prices – Spending effect (0/-)
  - Oil activity – Resource movement - Technology spillovers, Learning by doing (+)

**) Bjørnland and Thorsrud (2016, EJ), Arezki, Ramey, and Sheng (2017, QJE), Alcott and Keniston (2018) and Bjørnland, Thorsrud and Torvik (2019, EER).*

Fragmentation and long run challenges for commodity producers

- ❑ Climate change - reaching net zero by 2050 will require an 80 percent reduction in global fuel extraction IEA (2022)

- ❑ Shift in energy consumption patterns. Renewable and sustainable sources

- ❑ Fragmentation: diversification of energy sources and decentralization of production and distribution.

- ➢ Possibilities and challenges for countries like Norway and Canada?

Economic repercussions of a substantial contraction in oil extraction?

- Very little is known about consequences/relevance of oil for the macroeconomy in the long run

- ***Bjørnland, Brubakk, Maffei-Faccioli and Robstad (2023):*** Study importance of the oil sector for long run macroeconomic developments of oil-exporters

- Structural VAR with common trends, c.f Del Negro et al. (2017, Brookings).
  - Identify structural drivers: oil trends and foreign/domestic productivity
  - Quantify the relative importance of trends for the macroeconomy
  - Implications for the future

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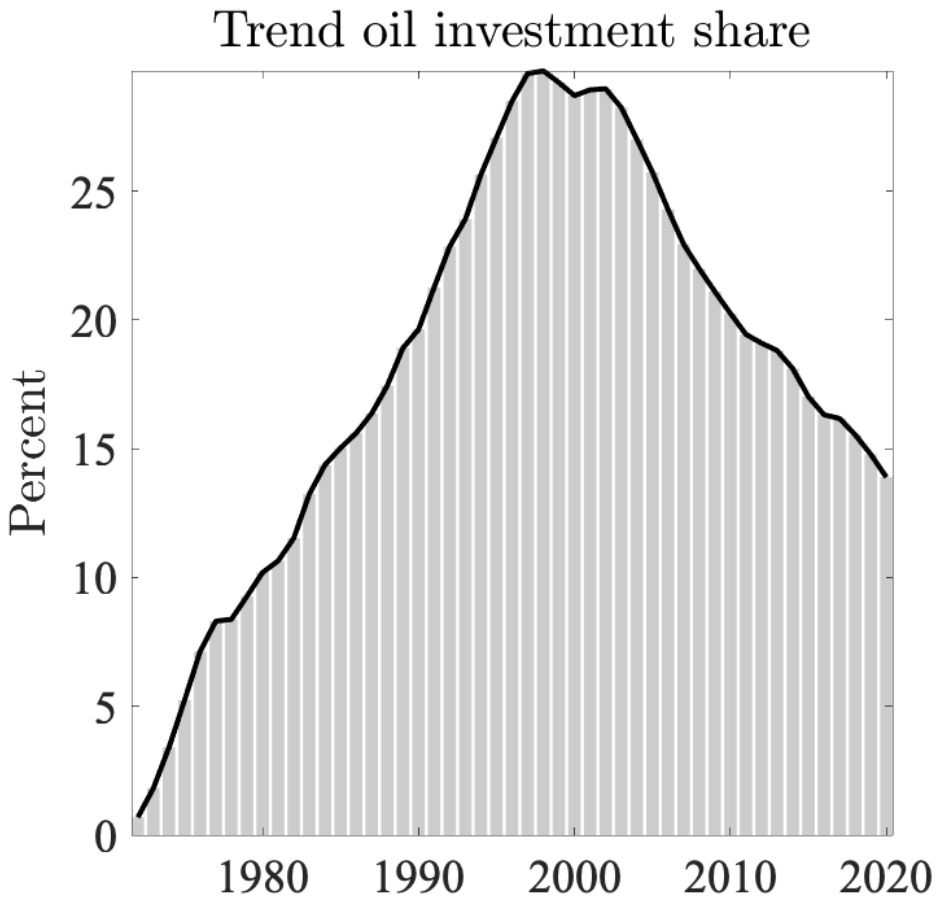
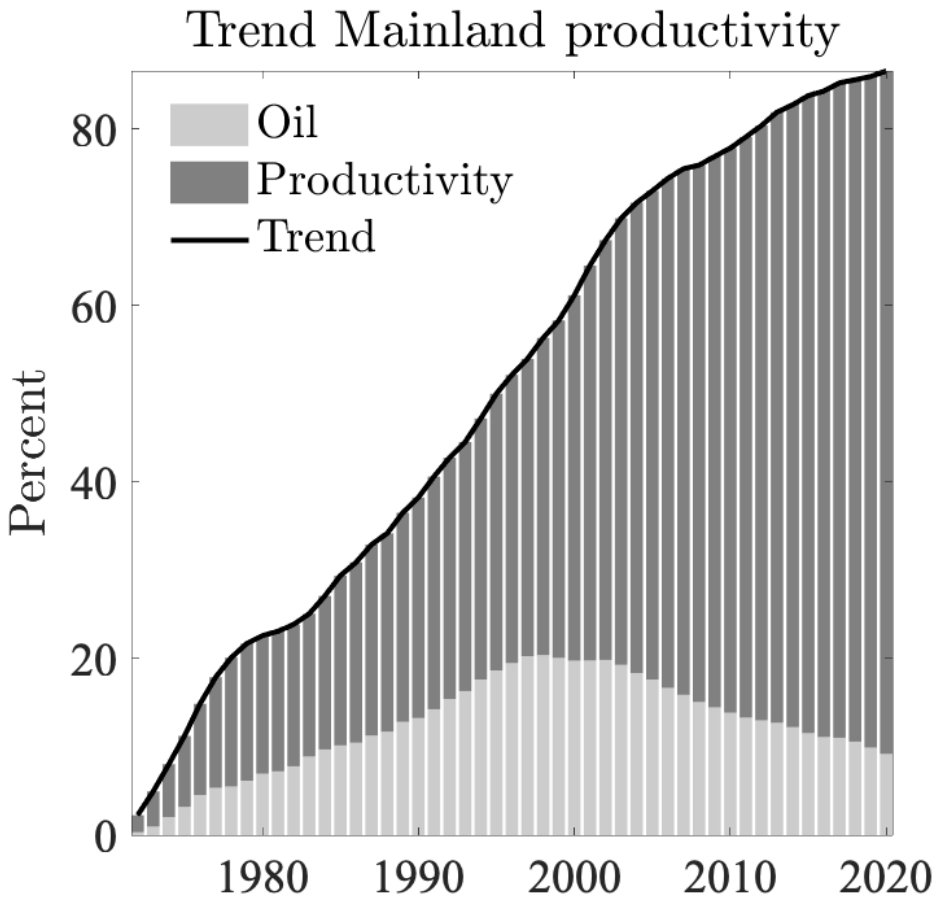
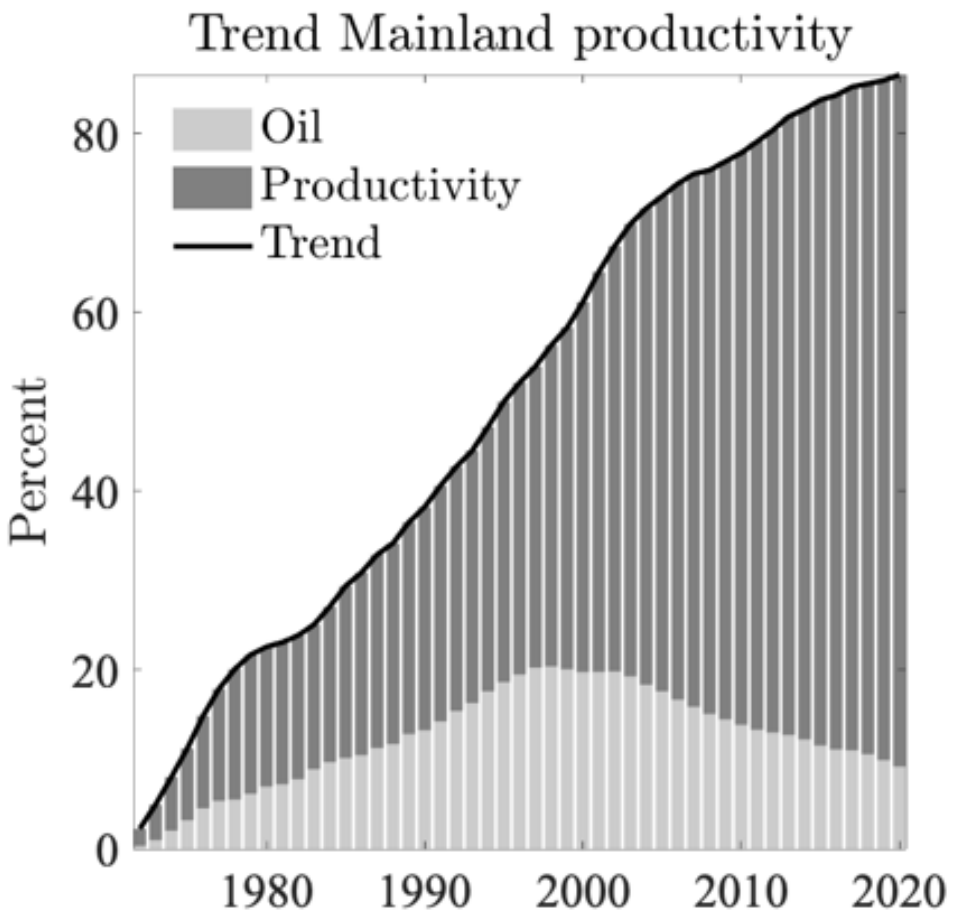
The tide has turned

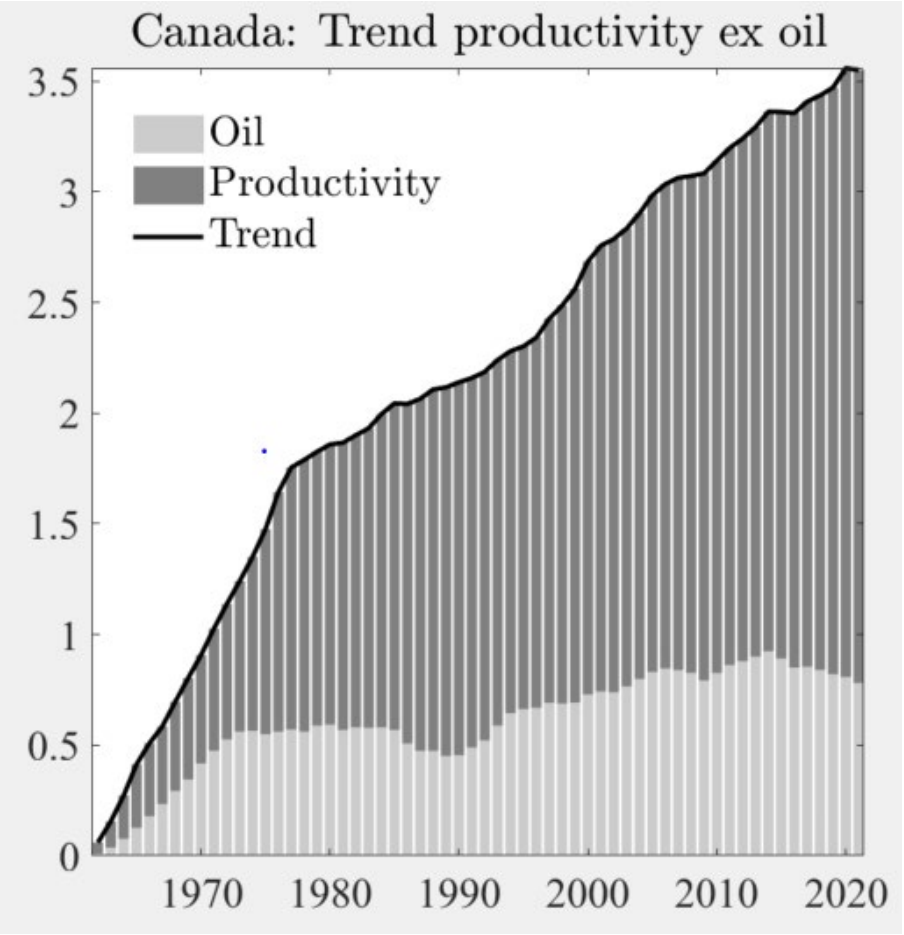




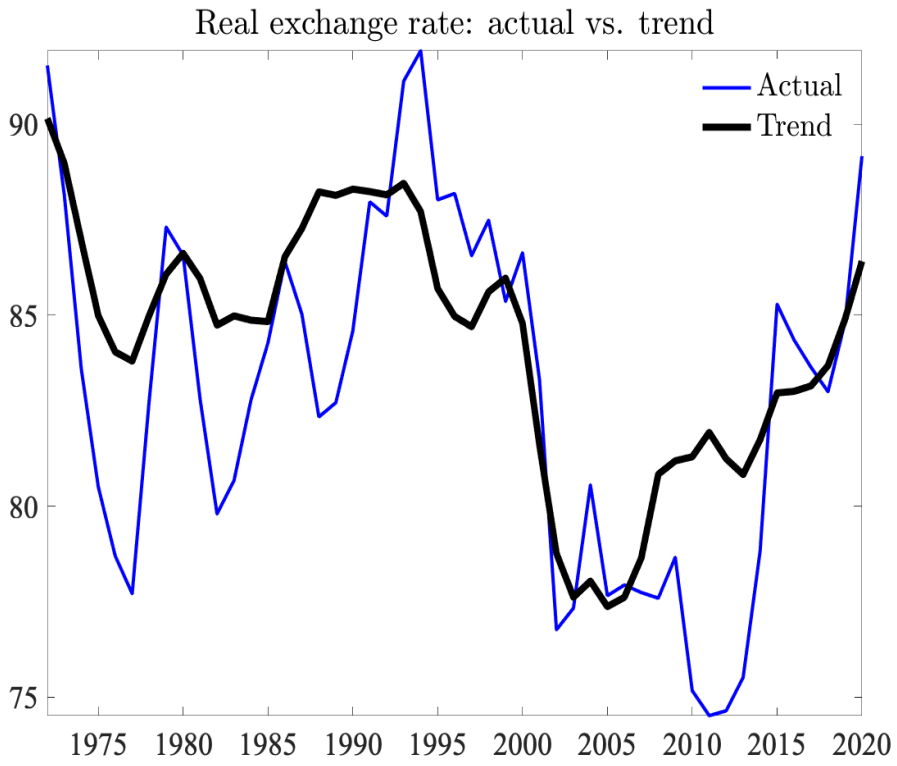
Source: Bjørnland, Brubakk, Maffei-Faccioli and Robstad (2023)

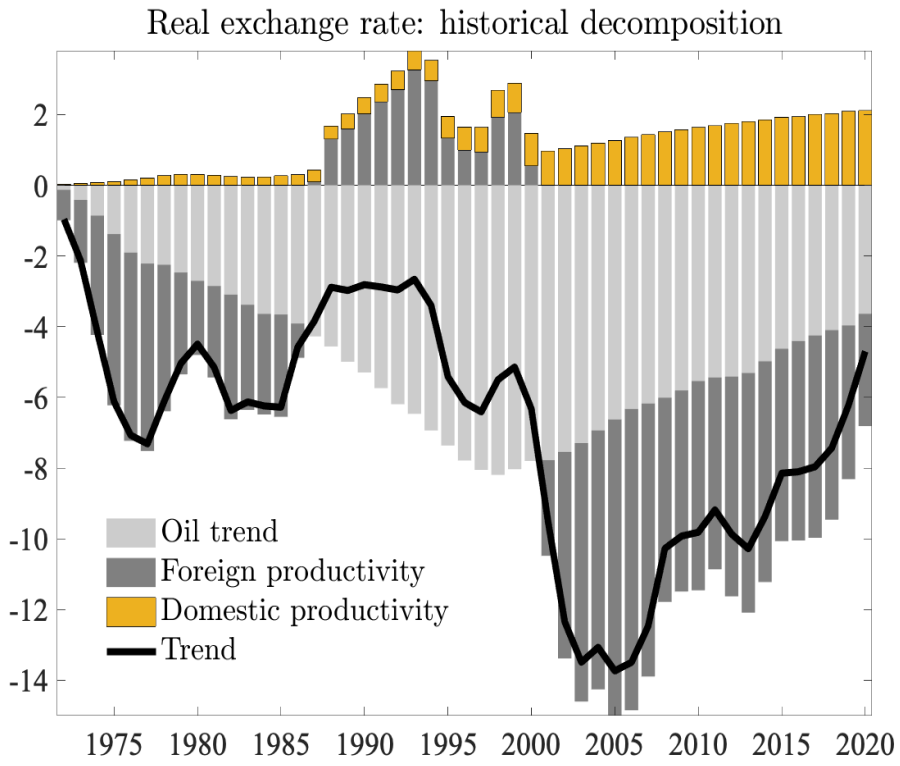
Norway and Canada





Why is the Norwegian currency so weak?





Source: Bjørnland, Brubakk, Maffei-Faccioli and Robstad (2023)

To conclude

1. Oil explains a sizeable share of mainland trend productivity
2. The expected decline in the Norwegian oil sector over the next decades will significantly dampen the trend growth rate of productivity
3. Wages are more sensitive to the oil sector than productivity, potentially increasing the welfare loss for households of downscaling the oil sector
4. Slowdown in oil trend (and being less productivity) has weakened the exchange rate lately (+ cyclical factors)

Thank you!

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