

Oil Price Shocks, Cost Structure, and the Limits of Demand-Side Stabilisation

Motivation

- The macroeconomic consequences of a sharp increase in oil prices depend critically on the nature of the shock and the structure of the economy.
- This presentation focuses on oil price increases arising from **supply-side constraints**, rather than global demand strength.
- Particular emphasis is placed on the implications for Australia under a standard New Keynesian framework.

Oil as a Cost Shock

- Oil is a traded intermediate input with limited short-run substitutability.
- A supply-driven oil price increase affects production costs across sectors.
- In the aggregate, this is best interpreted as a **cost-push supply shock** that shifts the short-run aggregate supply curve.

Analytical Framework

- Consider a standard New Keynesian environment:

$$\pi_t = \beta \mathbb{E}_t[\pi_{t+1}] + \kappa x_t + u_t$$

- u_t captures exogenous cost-push disturbances (e.g. imported input shocks).
- With $u_t > 0$, inflation increases even if $x_t = 0$. A trade-off emerges.

Relative Prices and Real Income

- Oil price increases affect relative prices in consumption baskets.
- When nominal income is slow to adjust, real purchasing power declines.
- This manifests as an increase in measured cost-of-living indices.

Australian Exposure

- Net importer of refined petroleum products.
- High geographic and sectoral dependence on fuel inputs.
- Elevated household debt and high pass-through from interest rates to consumption.

Limits of Demand-Side Stabilisation

- Standard instruments (monetary, fiscal) influence aggregate demand.
- But the disturbance originates on the supply side.
- Adjusting demand does not undo the initial constraint on feasible output.

Summary

- Supply-driven oil price increases shift the economy's short-run production possibilities.
- In standard models, they introduce a policy trade-off between inflation and output.
- Structural features of the Australian economy may amplify these effects.
- The efficacy of demand-side tools is conditional on the nature and persistence of the shock.

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