

Shipping Freight Costs and UK Inflation Dynamics

Shipping is fundamental for the UK economy, transporting c.85% by weight of the country's international freight trade. Using an econometric model, we show that shipping freight costs are statistically significantly associated with the level and volatility of UK inflation. Scenario simulations, however, indicate that these inflationary effects are predominantly transitory, with impacts decaying over time even under high shipping cost increases. For instance, even a doubling of container freight costs raises inflation by ~0.2% above baseline over a 2-year horizon, declining to 0.03% after a decade.

This research explores the link between shipping freight rates and UK inflation, including *inflation volatility*, which has so far been little studied. Increased volatility is important as it creates economic uncertainty and adverse impacts, e.g. heightened systemic risk. The findings are based on an econometric framework called Generalised Autoregressive Conditional Heteroscedasticity-in-Mean with exogenous predictors (GARCH-MX) – this approach has strengths in modelling inflation and, to the best of the authors' knowledge, is applied to this context for the first time.

The data analysis focuses on the container, dry bulk, and oil tanker (unrefined and refined oil) shipping segments and considers a range of potential freight rate increases and horizons. The figure below illustrates how the UK's consumer price index (CPI) tracks changes in container ship freight rates (it is interesting to note the lag post-2020).

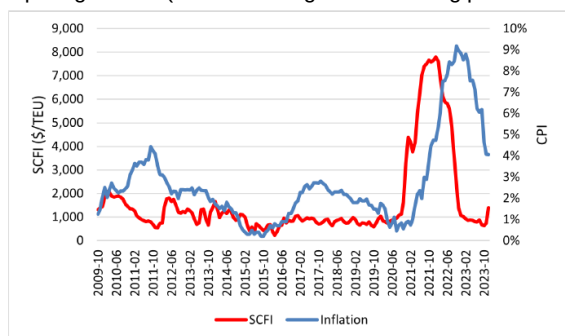


Figure. Illustration of the Shanghai-Europe Containerised Freight Index (SCFI) and UK headline Consumer Price Index (CPI) over the period October 2009 to December 2023.

Source: Clarksons' Shipping Intelligence Network (2025) & Office for National Statistics (2025).

It is found that:

- Increases in shipping freight rates may contribute to UK inflation, both its level and its volatility.
- Inflation effects are highly dependent on the magnitude of freight rate increases.
- Degree of increase varies by shipping type; most from containers, then refined oil products, followed by dry bulk, and finally unrefined oil carriers.
- Contribution varies in the short (<1 yr), medium (2-5 yrs), and long term (7-10 yrs):

- Greatest effects on inflation levels and volatility in the short term.
- Effects significantly decay over time, both inflation levels and volatility, negligible in the long term.

POLICY IMPLICATIONS

Policy recommendations for HM Treasury:

- Monetary policymakers should explicitly monitor shipping-related cost pressures as a source of short-term inflation uncertainty.
- Contribution to inflation from increased shipping costs varies by segment – highest is from container ships; attention needed for different vessel types.
- Potential inflationary effects from shipping decarbonisation measures are highly unlikely to persist over the medium to long term.
- There can be other, much more extreme shocks to the sector (e.g. due to geopolitical turbulence) that can lead to persistently higher levels of inflation.

RESEARCH PUBLICATION

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