

**The role of temperature in natural gas demand and the recent
inflation surge. An Eurozone perspective.**

Capitolo 3, tesi di dottorato

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Abstract

The impact of global warming on the current economies is getting heavier. To account for this development, we employ a Time-Varying Parameter Vector Autoregression (TVPVAR) model to investigate whether the decrease in European gas demand is ascribable to the gas price increase (especially after the Russia-Ukraine conflict) or is a global warming consequence. Using monthly data from January 2015 to September 2023, we show the relevant role of average temperature in the demand contraction. Moreover, through a wavelet coherence analysis approach, we study the role of temperature and geopolitical risk in the current European inflation surge, confirming that higher temperatures have partially contained the increase in energy inflation. Our results provide some policy recommendations for policymakers and governments.