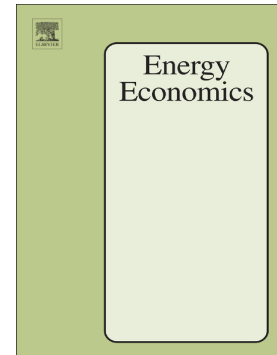


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# Time varying macroeconomic effects of energy price shocks: A new measure for China\*

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## Abstract

In this paper, we examine the effects of world energy price shocks on China's macroeconomy over the past two decades. We begin by showing that the use of oil prices as a proxy for more general energy price dynamics is not appropriate for the case of China. Having established this fact, we propose a new energy price index which accurately reflects the structure of China's energy expenditure shares, and intertemporal fluctuations in international energy prices. We then employ a sufficiently rich set of time varying VARs, identified through a new set of agnostic sign restrictions, to estimate the effects of energy price shocks on China's macroeconomy. Our main result is that positive energy price shocks generate statistically significant reductions in real GDP growth and increases in inflation. Interestingly, both the sets of responses have consistently declined over the sample period. Next, the interest rate responses are found to be consistently positive over the sample period. Given the aforementioned stagflation result, this suggests that the PBOC is more focused on inflation stabilization as compared to facilitating output growth. All presented results are shown to be robust under both official national data and those developed by Chang et al. (2015), thus strengthening our conclusion that energy price shocks have significant time varying effects on China's macroeconomy.

**JEL-codes:** C32, E31, E32

**Keywords:** China, energy prices, time varying parameters, stochastic volatility, sign restrictions.

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