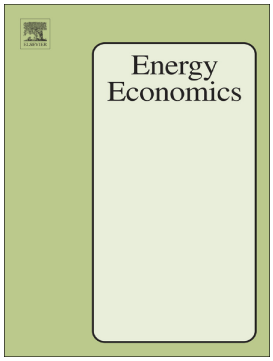

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PII: S0140-9883(18)30181-6
DOI: doi:10.1016/j.eneco.2018.05.014
Reference: ENEECO 4026

To appear in:

Received date: 8 April 2017
Revised date: 17 March 2018
Accepted date: 8 May 2018

Please cite this article as: Jamie Cross, Bao H. Nguyen , Time varying macroeconomic effects of energy price shocks: A new measure for China. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Eneeco(2018), doi:10.1016/j.eneco.2018.05.014

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

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May 16, 2018

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.

*We sincerely thank Warwick J. McKibbin, Renee Fry-McKibbin and Nam Hoang for their invaluable guidance. This research is funded by University of Economics Ho Chi Minh city, Vietnam.

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