THE RELATIONSHIP BETWEEN CHANGES IN OIL PRICES AND HOUSING PRICES IN OKLAHOMA AND TOP OIL PRODUCING REGIONS IN THE US: A PANEL ARDL APPROACH

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Overview

This study aims at analyzing the relationship between oil prices and housing prices in Oklahoma's oil producing regions. Using monthly data between 2015:01 and 2018:01, results from a panel ARDL model imply that there is long run causality from unemployment to housing prices. A 1% increase in unemployment lowers home values by 11% in the long run. Our study also analyzed the oil price and housing price nexus in the SCOOP and STACK regions of Oklahoma, before comparing findings with a panel of five major oil-producing counties in the U.S. The findings demonstrate that housing prices were more responsive to changes in oil prices in the STACK region. In the panel of U.S. oil-producing regions, a 1% increase in oil prices increases home values by 30%.

Methods

Panel Autoregressive Distributed Lag Bounds Testing Approach (Pooled Mean Group (PMG) estimator)

Results

- In Oklahoma, there is long run causality from unemployment to housing prices, where a 1% increase in unemployment lowers home values by 11%. The error correction term indicates that approximately 23% of long run disequilibrium is corrected each month by changes in the housing prices equation.
- Within the STACK region, a 1% increase in oil prices increased home values by 64 percent
- Point estimates from the SCOOP model shows that there is no long causality running between oil prices and unemployment to housing prices. They also indicate that home prices adjust slowest (3.2%) to shocks in oil prices.
- Point estimates from the STACK and SCOOP regions reveal long run causality running from unemployment and oil prices to housing prices at the 10% level of significance. A 1% increase in unemployment lowers home values by 27% while a 1% increase in oil prices increases home values by 31%.
- Results from the model of a panel of top oil producing counties in the U.S. reveal that 1% increase in unemployment lowers home values by 23% while a 1% increase in oil prices increases home values by 30% in the long run.

Conclusions

In the long run, past and present values can help explain housing prices in STACK region, STACK and SCOOP region, and the panel of U.S. counties only in the long run. Compared ot other regions in the study, the SCOOP region's home prices react slowest to changes in oil prices and unemployment as demonstrated by the error correction term. Generally, home prices do not react to changes in oil prices in the short run.

References

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