

Drilling Down: The Impact of Oil Price Shocks on Housing Markets

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Executive summary

Texas is the United States' top oil producer, so oil price fluctuations have a considerable impact on the state's economy, including real estate markets. Texas has led many of the advances that have shaped the oil and gas industry, such as hydraulic fracturing ("fracking") and multi-stage drilling, in recent years. The state is, therefore, a good lab for investigating the impact of exogenous fluctuations in real oil prices on the economic outcomes of oil-producing regions/countries.

Typically, housing is one of the largest assets on a household's balance sheet, yet the economically significant relationship between house prices and oil prices has received only limited attention in the literature thus far. Using a novel panel of quarterly data, we investigate empirically the impact of oil price shocks on Texas' metropolitan housing and rural land markets. We estimate a panel vector autoregression (VAR) model from 1975:Q1 to 2016:Q2 to capture the dynamic empirical relationship between real oil prices and real house prices. We account for the endogenous effects of demand-side housing fundamentals, such as real personal disposable income (per capita) and long-term real interest rates, on real estate markets. We also incorporate supply-side housing fundamentals with real rural land prices and model the cross-sectional oil-dependence heterogeneity across metropolitan areas with data on adjacent proved crude oil reserves.

We find evidence that spillovers from oil prices play a significant role in local housing and rural land markets. We show that the response of real house prices (and to a larger extent of real rural land prices) is comparable in magnitude to that of a real income shock even among MSAs that are not heavily oil-dependent. We also argue that confounding real oil price shocks with discretionary real income shocks in oil producing regions bias our empirical inferences and tends to overestimate the effect of real income shocks. Moreover, our findings suggest this empirical relationship is stable over the full sample in spite of the significant changes in oil production that have unfolded from the shale revolution since the 2000s.

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