THE SHALE BOOM AND STATE LEVEL OCCUPATIONAL OUTCOMES

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Overview

Shale gas rose from less than 1% of domestic gas production in the United States in 2000 to over 20% by 2010.In this study, we examine how the shale revolution has restructured economic activity across space. In particular, we focus on the indirect effects that this shift has had on employment and wages in the retail and leisure industries. The analysis is conducted at the state and non-metro aggregate level to capture spill overs which previously have been ignored by simply looking at county growth.

Methodology

A typical comparative case study is feasible when one or more units (U.S. states in our case) are exposed to an intervention-defined here as- shale gas production- can be compared to other units that were not exposed to the same intervention. In this paper we compare outcomes in the state(s) where the there was a surge in proven reserves and production – the intervention – starting in 2007 with states that did not have the resource over the period 2000-2011. We employ Synthetic control method (Abadie and Gardeazabal 2003, Abadie, Diamond and Hainmueller 2010) using the 30 states which do not have proven reserves and or shale gas production as the donor pool. The SCM has a number of advantages in studying these kinds of case studies. In most comparison studies the choice of the comparison group is often subjective or even *ad hoc*. SCM uses a data-driven procedure to construct suitable comparison groups; it calculates 'optimal' weights to be assigned to each state in the donor pool (Abadie and Gardeazabal 2003, Abadie, Diamond and Hainmueller 2010). Since it is difficult to find a single unexposed state that resembles the treated state the SCM provides a better comparison state (or synthetic) that is a combination of the control states (often assigning near zero weights to many control states).

Results

We show what the occupational outcomes would have been in the absence of the shale boom .Specifically, we compare median, 10th percentile and 90th percentile wage growth rates of retail, leisure and mining occupations.

Conclusions

The paper tries to shed light on important structural changes occurring across the country that were initiated as a result of the shale boom. By looking at state level occupational outcomes, we capture spillovers that otherwise would be missed in county level studies. We also use the SCM which allows us to create the counterfactual and attribute the changes to the start of production.