Sources of variation in regional economies

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Abstract. This paper employs a vector autoregressive (VAR) methodology to examine the role of oil price shocks, defense shocks, national, and local shocks in explaining fluctuations in non-farm employment in a sample of ten states/MSAs in the US in the period 1969–2000. These include a sample of energy rich states and a sample of presumed beneficiaries of defense spending. Existing literature provides mixed evidence on the effects of defense shocks and oil shocks or does not focus on individual states. Results of this paper indicate that oil shocks and defense shocks have more pronounced effects at the local level than they do at the national level. An increase in the price of oil has a fairly large and for the most part statistically significant positive impact on the energy rich states and has a negative and statistically significant impact in the case of the Detroit-Flint MSA. When defense shocks occur they have a sizable impact on local economies that are beneficiaries of defense spending, even though their importance over the whole sample is not always significant. A key policy implication that emerges is that macroeconomic policy at the aggregate level may not be sufficient to uniformly stabilize regional economies that face oil, defense, and local shocks. Furthermore, to the extent that some of these states are linked more to their own local economies rather than to the US economy, they would have to rely more on local stabilization policies when faced with adverse local shocks.

JEL classification: R1

1 Introduction

Regional business cycles exhibit a good deal of heterogeneity. The ratios of local employment to national employment for ten states/MSAs are depicted in Fig. 1 (i)–(x). If each of these regions was experiencing employment growth at the same rate as the nation, then the ratio of local employment to national employment would be a horizontal line. Instead, Fig. 1 (i)–(iv) show that the ratio of local employment to national employment peaked sometime around 1989, which was around the same time that defense spending peaked in the US and other countries.
Fig. 1 (i)–(x).
Ratio of local employment to US employment and the industrial production index of defense and space equipment.
(v)–(x) Ratio of local employment to US employment and the price index (real) of oil.