Regional Science and Urban Economics 33 (2003) 663–693

regional SCIENCE & urban ECONOMICS

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Thy neighbor's jobs: geography and labor market dynamics

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Received 27 October 1999; received in revised form 23 December 2002; accepted 2 January 2003

Abstract

This paper develops three explanations for the extent of correlation between neighboring geographic areas' economic outcomes. Export-oriented firms in neighboring counties might independently produce similar goods, or might be linked directly through the production of intermediate inputs. In either case, counties are exposed to similar demand shocks. Finally, regions share markets for goods and services that are both produced and consumed locally. Empirical results suggest that much of the 'risk' associated with economic decline in neighboring regions can be attributed to industrial similarity rather than direct dependence of jobs in one area on jobs in another.

Keywords: Employment spillovers; Local labor markets; Regional development

JEL classification: E32; R11; R23

1. Introduction

It is deeply intuitive that adjoining geographic areas, whether bounded by streets, natural topography, or political delineations, are closely linked economically. Not only are such areas likely to share common attributes such as

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0166-0462/03/$ – see front matter
doi:10.1016/S0166-0462(03)00006-1

climate and accessibility, they often feature similar industrial composition and production technologies. Additionally, neighboring areas share markets for many locally produced and consumed goods. While a small but growing body of literature has considered these issues (Krugman, 1991; Ghosh and Wolf, 1997; Hanson, 1998), much economic analysis of geographic regions overlooks this richness of interaction between neighbors.

This paper examines the links in economic fluctuations that exist between US counties and tests three hypotheses regarding causal mechanisms underlying the links. In doing so, we model counties as having two basic categories of employment: export-sector employment, which produces goods for a global market, and local-sector employment, which provides goods and services to consumers in the immediate area. Labor demand in the export sector is determined exogenously from the perspective of the locality. Local sector labor demand is determined endogenously.

The potential exposure of neighboring counties to similar exogenous export-sector demand shocks motivates two of the three hypotheses. The first might be termed an ‘indirect’ link: counties might produce similar goods for consumption in the global marketplace; therefore when demand for a certain product declines employment reductions will tend to occur in several neighboring counties simultaneously. This hypothesis implies that a shock to one county should be accompanied by a shock of similar relative magnitude in a neighboring county, even if the first county is small relative to the second. We test this hypothesis by examining spatial correlation in *relative* employment shocks across neighboring counties. Evidence suggests that this causal channel is significant; correlation in relative employment shocks can be detected in regions up to 300 miles in diameter. Indirect export-sector links are most pronounced in industries heavily reliant on fixed-location inputs: agriculture and mining.

The second ‘direct’ export-sector link involves firms directly associated with the production process in the originating county. A shock to a producer in one county affects suppliers of intermediate goods in the surrounding area. Unlike the indirect-link hypothesis, this theory implies that the *absolute* size of employment shocks matters. A 1% employment loss in a relatively small county should have fewer cross-border repercussions than an equivalent percentage point loss in a large county. Our test of this hypothesis focuses on spatial correlation in absolute employment shocks across counties. Evidence supports this link, especially in the manufacturing sector, where upstream–downstream linkages are presumably most important.

The final hypothesis concerns the effects of exogenous labor demand shocks on endogenously determined local sector employment. Decreases in export-sector employment in one county may in turn lead to decreased demand for local-sector goods both in the original county and in neighboring areas. As with the direct export-sector hypothesis, this explanation implies that employment in one county depends to some extent on continued employment in another county. The data