Sources of fluctuations in regional growth

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Abstract. This paper re-examines the role of employment and population growth in regional development. Previous studies have found evidence for both the “chicken and the egg”: both demand-side employment shocks and supply-side population shocks have been found to influence regional growth. Using recent developments in causality testing for pooled samples, this study also finds evidence of bivariate causality, but support for the “people follow jobs” approach to regional development is marked by results that are more consistent and more often statistically significant. Impulse response functions also sustain this point.

1. Introduction

Two alternative, but not necessarily mutually exclusive, theories of regional economic development concern the relationship of population and employment change across regions. The demand-side approach views regional labor supply as highly elastic, with changes in regional employment driven primarily by changes in the demand for regional output, particularly the demand for regional exports. In this view, regions produce different bundles of goods, and the different shocks they experience produce changes in labor demand and employment, with migration patterns conforming to the changes in labor demand. This is the “people follow jobs” thesis (Mathur and Song 1995).

By contrast, the supply-side approach views labor demand as highly elastic, with the real wage set nationally. In this view, proposed by Borts and Stein (1964) and elaborated by Muth (1991), changes in regional employment are driven mainly by fluctuations in labor supply through in- or out-migration. Workers are attracted by regional amenities, including climate, safety, schools, health services and the like, and employers follow, both to employ the migrated workers, but also to provide support services to the newly expanded population (Mathur and Stein 1993). This is the “jobs follow people” thesis.

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Anecdotal evidence to support either theory is readily available. For the demand-side, employment in oil and gas extraction in Texas grew by 141% in the decade 1975–1985, and state total employment by 47%, or roughly double the national rate. In the subsequent decade, ending 1995, oil and gas employment in the state fell by 36%; state total employment rose by 21%, or about the same as the national average. For the supply-side, the doubling of Florida’s population – versus an increase of one-quarter in the national population – during the past 25 years has much to do with that state’s climate and its attractiveness to retirees and immigrants from Latin America.

More formal empirical analyses also find evidence to support both sides of what Muth (1971) characterized as the “Chicken or Egg” problem of regional migration. In a series of papers Muth (1971, 1991) provided theoretical and empirical evidence supporting both positions, but concluded that the estimated one-for-one response of employment to migration, and the somewhat smaller estimated response of migration to employment, provided stronger support for the supply-side argument that jobs follow people. Other empirical studies generally supporting the supply-side position include Greenwood and Hunt (1984, 1989) and Norton (1991).

For the demand-side, Carlino and Mills (1989) find little support for supply-led growth using county data. Terkla and Doeringer (1991) suggest that industry-mix (i.e., export-demand) is the principle source of state employment growth, and Blanchard and Katz (1992) conclude that labor mobility is the dominant adjustment mechanism to demand shocks. The latter authors maintain, however, that demand shocks result only in temporary deviations from long run growth, which is a function of state-specific amenities attractive to workers and firms.

Mathur and Song (1995) suggest that the relationship between employment and population is region-specific. In a series of Vector Autoregressions (VARs), Mathur and Song find that employment Granger-causes population in the “Sunbelt” (generally the South and West), but population Granger-causes employment in the “Snowbelt” (generally the North and East). By way of explanation, the authors note that the favorable industry mix in the Sunbelt led to increased employment and in-migration to the South and West and that the resultant out-migration from the North and East led to further declines in the economic prospects of the latter regions.

Additionally, newer theories of endogenous growth emphasize the self-reinforcing nature of shocks to regional economies. In these models of “cumulative causation” (Krugman 1995), firms want to be located where markets are large, and markets tend to be large where firms are located. For instance, expansion of regional employment to a level consistent with minimum efficient scale of production may draw in workers from other regions, thereby further expanding the local market, and so on. In these models the issue of causality may not be as important as the issue of reaching a critical mass, which can then become self-sustaining.

However, as Romer (1994) has emphasized, the appropriate inputs to endogenous growth models are not easily measured, and the over-reliance in growth regressions on traditional physical inputs like labor and capital likely yield biased estimates of the sources of disparities in regional growth.¹ More-

¹ I am indebted to an anonymous referee for pointing out the relevance of this important strand of the literature to the questions addressed in this paper.