This dissertation focuses on the growth of aggregate and sectoral earnings per worker in Missouri counties in 1969-2000. Using the fact that counties’ employment composition differs and applying measures of its change to separate counties into clusters, in the second chapter of this dissertation we build spatial VAR models of first order and estimate effects that spatial spillovers across counties have on growth of aggregate earnings. An innovative approach to modeling spatial correlation among counties in a neighborhood shows that aggregate earnings in counties with different employment composition have different and, sometimes, opposite effects on aggregate earnings of their adjacent neighbors. Estimation results shows that counties with large employment share of manufacturing sector have the biggest impact on their neighbors.

In the third chapter we use a new variable to model spatial dependencies for three-dimensional panel data -- sectoral portions of aggregate earnings per worker -- with separate temporal and spatio-temporal lags of first order and estimate external shocks across and within counties as well as across and within sectors of the economy. Estimation results for this spatial VAR model of first order show that earnings in some sectors influence earnings in other sectors with these effects differing by magnitude and direction.