Essays on Higher Education, Welfare policies, and the Regional Economy

My studies investigate education policy choices in a regional context, with applications of economic theory and econometric methods.

Chapter 1 (Job Market Paper)

Should A Government Allow Schooling to Fulfill Work Requirements in A Welfare Program? – The Role of Returns to Education

Education is frequently valued for its potential to increase earnings and reduce income inequality. Despite its potential to improve low-income individuals’ position in labor markets in the long run, the question of whether to support education in a work-oriented welfare program has been the subject of frequent debate in the past two decades. In the United States, for example, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 gave states broad discretion in the use of federal funds at the same time as it restricted welfare recipients’ access to postsecondary education. In the recent reauthorization process of the 1996 welfare law, a number of bills have been introduced: some propose to broaden the definition of work to consider college attendance as meeting the work requirement, while others propose stricter rules which make it even more difficult for welfare recipients to participate in education and training.

To shed light on the controversial question of whether to allow schooling to fulfill work requirements in a welfare program, I present a principal-agent model in which a government chooses between the two alternatives to maximize the value of its objective function. Welfare programs with and without time limits are both considered. The agents on the margin are potential welfare recipients who would voluntarily go to school instead of work under the work requirement that allows schooling. I explore the relationship between returns to schooling and the relative benefits to the government of allowing schooling to count toward work requirements. A common intuition has it that the benefits of allowing schooling should increase as the returns to education increase. This paper shows how this intuition does not necessarily apply. The model shows that the optimal policy depends on the returns to education in a society and that different government objectives can lead to opposite predictions on the direction of the relationship.

If the government has an objective of poverty alleviation, which aims to provide a safety net at minimum cost, the exclusion of schooling as a qualifying work activity will lead to greater savings in welfare spending and therefore be increasingly preferred as the returns to education increase. The driving mechanism of the positive association between the returns to education and the relative benefits of the schooling-excluding rule is consistent with the concept of income transfer targeting. Alternatively, if the objective of the government is to maximize social welfare with a budget constraint, it may be the case that the optimal policy is to allow schooling to count toward the work requirement in societies with relatively high returns to education, and the contrary when the returns to education are very low. With the assumption of uniformly distributed wages, I show that the work requirement that excludes schooling leads to a greater efficiency loss than the alternative rule when returns to schooling are greater than the initial benefit standard. Consistent with the poverty alleviation hypothesis, I find that the states with greater returns to college education are less likely to allow welfare recipients to participate in postsecondary education to fulfill the work requirements post PRWORA.
Chapter 2

Long-term Effects of Institutions of Higher Education on the Regional Economy

This paper investigates the long-term effects of universities and colleges on regional growth through knowledge spillovers. As houses and producers of knowledge and human capital, institutions of higher education may accelerate the region’s capital accumulation and technological change, thereby having a persistent effect on the growth of the economy. In addition, the nature of knowledge spillovers implies that institutions of higher education may affect not only their own locations but also the neighboring areas. The main goal of this paper is to estimate and distinguish among the effects that different types of institutions have on their location and neighbors. I use county-level data from the United States and estimate the effects of higher education institutions on the changes in local economic conditions measured by employment and wages. I take into account spatial dependence among counties in the estimation, which is largely neglected in prior empirical studies. Computational difficulty arises when estimating a spatial model with a large number of observations because spatial relationships are 2-sided and multi-dimensional. I utilize the sparse nature of the spatial weight matrix to solve the computational problem.

Preliminary analyses use county-level data between 1990 and 1995, including measures of economic conditions provided in the County Business Patterns and institutional characteristics provided in the Integrated Postsecondary Education Data System (IPEDS). The results suggest that U.S. counties with more universities or colleges had higher growth between 1990 and 1995 in terms of employment. Universities with accredited engineering programs or business programs have much larger effects than others. In terms of spatial dependence measures, counties experience large spillovers from having a university with business programs in a neighboring county. I am currently extending the analysis period to the years of 1975 to 2000. Data will be acquired from additional sources, including the Covered Employment and Wages (CEW) program, which provides employment and wage data between 1975 and 2000 at the county level, and the 1974-1975 Institutional Characteristics file of the Higher Education General Information Survey (HEGIS), which provides information on universities and colleges. Institutions will be further categorized by their research and degree granting activities based on the Carnegie Classification.