PROPOSAL: THE LOCATION DECISION OF FIRMS AND WORKERS

Patrick Bayer, Assistant Professor and Fabian Lange, Assistant Professor, Department of Economics

This project examines how firms' location decisions interact with local variation in the pool of labor that corresponds to the requirements of firms. We aim to demonstrate the importance of the local availability of labor in the firms' location decisions by examining how firms' location decisions vary with variation in minimum wages. The answer to this question will be important for predicting how different subpopulations are affected by minimum wage changes. More broadly the sensitivity of firm's location to variation in the local labor supply is important for understanding the structure of cities.

To understand why the minimum wage affects the location decision of firms consider the example of a firm that demands a relatively large fraction of unskilled laborers. If wages are market clearing, then we can expect that the geographic proximity of a firm to a large population of low-skilled workers will lower the supply price of low skilled labor. We conjecture that the introduction of a binding minimum wage leads to rationing of low-skilled workers and reduces the incentives of firms to locate close to areas with a large population of low-skilled workers. Another factor that might affect the incentives of locating close to potential employees is the business cycle, since it affects the relative availability of labor across different skill and demographic groups.

We plan to base our analysis on census data as well as a unique dataset, the National Establishment Time-Series (NETS) Database. The census data will allow us to identify industries that rely heavily on low-skilled workers and allows us to characterize the population distribution across geographic areas within metropolitan areas. The full NETS data represents a panel (1989-2004) of the population of firms (establishments) in the US. This data is well suited for our purpose since it allows identify the exact location of an establishment. It also contains some additional information on the characteristics of the establishment.

We will require the research assistant to help us analyze the spatial distribution of workers and firms. The student will also be required to research the links to the existing literature on minimum wages. The ideal research assistant for this program possesses analytical, quantitative and programming skills. The student will be exposed to ideas and methods (theoretical and empirical) in urban economics and labor economics.

SUMMARY

Nathan Huttner, Class of 2006

The research project I worked on aims to study how firms make location decisions during different phases of the business cycle. Some economists have argued that during the peak of the business cycle when high demand for labor drives up wages, businesses that rely on low skilled, low cost workers may move into areas where those workers are abundant in order to gain access

to a larger supply and counteract rising wages. The project can test that and other assumptions about the location decisions of firms using a unique dataset, the National Establishment Time-Series (NETS), which provides a population of Californian enterprises tracked as a panel from 1989-2004. The NETS includes nearly 3 million enterprises. Due to the scope of the dataset and data collection problems, there have not yet been any findings, though I will continue to work with Professors Bayer and Lange on the project in the fall.

As a research assistant, I was responsible for laying the groundwork for the arrival and cleaning of the NETS data. I used 1990 and 2000 census data to analyze which Californian industries used the highest proportion of low skill and low cost labor. Since the data provided by the NETS does not include the average wages of workers employed, this industry data is necessary to understand what kind of workers an enterprise is likely to employ. To further set the groundwork for the project, I worked with the geospatial imaging software suite, ArcGIS, using ArcView and ArcInfo to determine the best way to map a set of latitude and longitude points into the correct census block groups. In this way, we will be able to determine in which census block groups enterprises are located, since NETS provides latitude and longitude data, and so can make determinations about whether the firm is located in an area where low-cost labor is abundant.

I learned a great deal working on this project. Working with the census data and Stata proved invaluable since I have mastered a powerful dataset and a useful set of programming techniques. And gaining an understanding of ArcGIS will no doubt prove helpful. The ROME project provided me a wonderful opportunity that I have strived to take advantage of, and I am pleased with my work this summer.