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State minimum wages and business location: Evidence from a refined border approach

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ABSTRACT

This study examines the effect of state minimum wage changes on new and existing business establishments. It employs a refined border approach in conjunction with other differencing methods to control for unobserved heterogeneous area characteristics. The findings suggest that state minimum wage increases deter new establishments from locating in an area, particularly in industries that rely on low-education workforces, such as the retail and manufacturing industries. However, existing establishments, regardless of industry type, are not found to be adversely affected by minimum wage policy.

1. Introduction

Between 1997 and 2007 the federal minimum wage remained unchanged, despite a rising price level. As a result, states took a more prominent role in setting minimum wage policy, with 23 states increasing their minimum wage above the federal minimum wage of $5.15. This paper explores whether state minimum wage increases unintentionally deter new business location decisions and harms existing business activity.

There are three primary challenges when analyzing the effect of minimum wage policy. First, it is important to account for local characteristics at a fine geographic scale. The agglomeration economies literature (for a review see Rosenthal and Strange, 2001) has documented that immediate area characteristics play a critical role in the business location decisions. However, researchers have difficultly controlling for unobserved heterogeneous area characteristics due to lack of data at a sufficient geographic scope, which potentially biases estimates.

Second, state governments may enact other state polices that affect business location decisions concurrently with minimum wage increases, making it difficult to isolate the effect of the minimum wage increase. Third, previous research has had difficulty identifying the causal effect of the policy due to the timing of the minimum wage change because many studies do not adequately distinguish between anticipated and unanticipated minimum wage increases. For instance, many studies include minimum wage increases from states that index their minimum wage to the Consumer Price Index, which are clearly anticipated changes in the minimum wage. If businesses anticipate the minimum wage increase then results will be biased toward zero.

Due to these challenges, standard methods leave researchers with limited ability to identify the effects of the minimum wage on local businesses. To tackle these changes, a border approach with a unique Geographic Information Systems (GIS) process is used to create similar comparison areas that are adjacent and are within a short distance of the geographic areas that experienced a minimum wage increase. This border approach restricts the comparison areas to those which likely have similar unobserved area characteristics that may affect business location decisions. Within these border-areas, the effect of minimum wage changes on business activity is compared between industries that do not rely on minimum wage workers and industries that predominately hire minimum wage earning workers. To determine an industry's reliance on minimum wage earning workers the Integrated Public Use Microdata Series (IPUMS) dataset is used. Because all industries are affected by the other state policies, while the minimum wage affects these industries in varying degrees, it is possible to separate the effect of other state policies from the effect of the minimum wage. The identifying assumption being that other state

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policies affect workers of all education levels, while minimum wage policies disproportionately affect workers of low education. Finally, I focus only on unanticipated minimum wage increases by excluding those states whose minimum wage is indexed to inflation. Additionally, information on the legislative history of the minimum wage bills is used to identify the appropriate preperiod in order to remove any anticipatory effects.

Using these methods along with data on firm location and employment from Dun and Bradstreet (D&B), I estimate the effect of minimum wage increases on business location and employment decisions while controlling for unobserved heterogeneous area characteristics and other state policies that affect business location decisions. Previous literature tends to measure local business activity as the total number of firms or employment to capture the total effect of the policy change. However, if new and existing businesses are differentially affected by the minimum wage then the total number of firms or employment has the potential to mask these differential effects due to existing business comprising the majority of overall business. Therefore, this paper separates business activity into new and existing business activity to determine if there are these differential effects. Also, understanding the effect minimum wage policy has on new establishments is important because there has been recent interest by state and local policy makers to encourage and attract new establishments. This idea, known as "economic gardening," is highlighted by Neumark et al. (2006) who find that "new firms contribute substantially to job creation."[1] Therefore, it is important to determine whether minimum wage policy has an unintended consequence of deterring new business. The minimum wage could also cause existing establishments and their employment opportunities to move out of the area or shut down completely. As existing establishments make up a large proportion of local employment and tax receipts, losing these businesses could have substantial negative effects for the local area. In either case, it is important to understand how minimum wage policy affects both new and existing business.

Using the border approach, I find that minimum wage increases negatively affects the share of new establishment and employment in an area, particularly in industries most reliant on workers with low-education, such as retail, services and manufacturing. However, minimum wage policy does not affect an area's share of new establishment and establishment employment in industries that employ highly educated workforces, such as the finance, insurance and real estate industries. Also, this paper does not find evidence that minimum wage policy affects existing establishments, including those industries with a high reliance on low-education workers. The D&B data suggest that 96% of businesses in the border-areas considered are existing businesses, thus, in the aggregate; the large effects for new businesses are masked by the large proportion of existing businesses. This reinforces the importance of separating new and existing businesses when investigating the impact of minimum wage changes.

The remainder of the paper begins with a discussion of the related literature and how this paper extends the literature. Section 3 describes the data used to estimate the effect of state minimum wages on the establishment location decisions across industry types. This section also describes the GIS process that creates the comparison areas. Section 4 discusses methodology, providing description of the identification strategy and econometric specification. Estimation results are presented in Section 5 as well as results from placebo tests that are designed to determine if there were trends before the implementation of the state minimum wages. The final section concludes the paper.

[1] Littleton, Colorado pioneered the economic gardening approach to growth in the late 1980's. A complete description of the approach is available on the city's webpage at: www.littletongov.org/bia/economicgardening/.

2. Related literature

There are three strands in the existing literature that are particularly relevant to studying minimum wage policy and business location decisions. The first consists of studies that explore the employment effect of the minimum wage. Prior to 1990, there was a consensus in the literature that the minimum wage negatively affected employment (see Brown et al., 1982, for a summary). However, more recently there is a divide in the literature about the actual effect of the minimum wage on employment. While some authors find little or no effect on employment (Card and Krueger, 1994, 1995; Dube et al., 2008), others (Neumark and Wascher, 1995, 2000, 2007) find that the minimum wage causes unemployment, as traditional economic theory predicts. While this debate continues in the literature, the methodology has become more refined in terms of geographic scope. For example, recent papers (Kim and Taylor, 1995; Orazem and Mattila, 2002; Dube et al., 2008) are narrowing the geographic scope of analysis from the state to the county by using county-level data, such as the County Business Patterns data despite the fact that counties vary substantially in geographic size. This paper improves upon this literature by comparing business activity in areas within 10 miles or less of the state border.

A second strand consists of studies that have examined the effect of the minimum wage on the number and size of firms. While Carlton (1983) gives an econometric model for new firm location and employment, Orazem and Mattila (2002) focus more directly on the minimum wage and firm location by using county-level data and find that an increase in the state minimum wage of 10% leads to a two and a half percent decrease in the total number of firms over a year. In the entrepreneurship literature, Kreft and Sobel (2005) find the minimum wage is not one of the important determinants of entrepreneurship. However, most of the focus in this literature has been on total employment, which can mask the effect on employment at new business. This paper helps fill this gap by estimating effects separately for new and existing establishments.

The third strand develops the border methodology to control for area characteristics. This approach was pioneered by Holmes (1998) and contributed to more recently by Huang (2008). Holmes (1998) examines how manufacturing's share of total employment and the growth of manufacturing employment changed when moving from an "antibusiness" state to a "probusiness" state. He examined the areas on each side of the border, which allowed him to control for natural advantages and access to labor pools.

Also, the border approach has been extended to a panel framework by Duranton et al. (2006), which allowed them to control for unobserved site characteristics, heterogeneous establishments, and the endogeneity of taxation. Recently these border approaches have been extended to studying the effects of minimum wages by Dube et al. (2008). Using restaurant earnings and employment at the county-level, Dube et al. (2008) create county pairs across state borders, which allow them to better control for spatial trends in employment that are correlated with minimum wages. They find that the negative minimum wage elasticities at the national level are driven by unobserved heterogeneities and then find no employment effects at the local level.

While Dube et al. (2008) and this paper both use the border approach to study the minimum wage at a relatively narrow geographic scope, this analysis differs in three ways. First, they analyze how the minimum wage impacts labor demand issues, such as the amount of total employment and wages in a county. In contrast, this paper focuses on the minimum wage effect on new and existing establishment location decisions and the employment at those establishments. Second, while using counties to control for heterogeneous area characteristics may be sufficient when studying labor demand issues, studying business location