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Development impact fees and employment

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ABSTRACT

Development impact fees have sparked considerable controversy as they have spread rapidly in usage throughout the United States. One contentious issue is the effect that these fees have on local economic development. While some scholars have argued that impact fees attract jobs by reducing developers' uncertainty, the development community maintains that they operate as an excise tax, reducing commercial development and driving away jobs. We use Florida county level panel data, from 1990–2005, to investigate the relationship between private employment and different types of impact fees. We find that commercial fees and school fees have countervailing effects, with the former repelling jobs and the latter attracting jobs. These results are consistent with our theory driven expectations. Our investigation also suggests that differences between our results and those obtained in prior studies can be attributed to two factors: the latter studies' violation of the condition of strict exogeneity required for consistent estimation and a failure to account for differential employment effects across various types of impact fees.

1. Introduction

Increasingly throughout the United States property tax revenues are insufficient to fund public infrastructure expansions necessitated by new development. Because raising property tax rates has politically become increasingly difficult, many local governments have chosen to address revenue shortfalls by adopting various types of development impact fees over the past few decades.[2] Impact fees are one-time levies, predetermined through a formula adopted by a local government unit, that are assessed on a property developer during the permit approval process. They are earmarked for specific public services, bridging the gap between the cost of infrastructure expansions and revenue streams that will help pay for them. The services covered vary from jurisdiction to jurisdiction, but routinely include road, water, and sewer. Other services less frequently included are schools, libraries, police, fire and parks.[3] For each service there is a separate fee schedule, and developments pay fees only for services they directly consume (e.g., commercial developments are not included under a school impact fee schedule).

Many controversial issues, including concerns over how impact fees affect the availability and affordability of housing, surround the use of impact fees.[4] However, from the point of view of local governments considering implementing fees, perhaps the most important issue is the effect that the fees have on local economic development. Critics, who come mainly from the development community, argue impact fees are an excise tax on development, driving investment and job growth to other jurisdictions where fees are lower or do not exist.[5] Proponents of fees make the case that they encourage development by decreasing developers' uncertainty surrounding two key elements affecting the profitability of their projects (Nelson et al., 1992; Nelson and Moody, 2003). First, impact fees may expedite project approval. The project approval process can be long and expensive to the developer. In the absence of development fees, funding for new public infrastructure typically comes from the property tax. Hence, depending on the magnitudes of the services

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[2] Altshuler and Gomez-Ibanez (1993) discuss why property tax increases have become increasingly unpopular. Based upon a nation-wide survey of local governments, Lawhorn (2003) concludes that roughly a quarter of local governments levied impact fees in 2002. Usage rates are considerably higher in areas that have experienced intense population growth, such as Florida and California.

[3] In Florida, the typical county first adopted water/sewer fees during the late 1970s or 1980s. Road fees, usually small in size, were typically added in the late 1980s. Once the legality of impact fees was established through a number of court cases, most impact fee programs expanded in both size (fee levels) and scope (services covered). See Burge and Ihlanfeldt (2007) for a discussion of these court cases.

[4] Most studies on the effects of impact fees have focused on the issue of incidence (i.e., to what extent are fees shifted forward to home buyers in the form of higher housing prices). For a review of this literature see Ihlanfeldt and Shaughnessy (2004). There is also a smaller literature that relates impact fees to housing construction. These studies are reviewed in Burge and Ihlanfeldt (2006b).

[5] See, for example, the internet pages of the Urban Land Institute (http://www.uli.org), the National Association of Realtors (http://www.realtor.org), and the National Association of Home Builders (http://www.nahb.org).

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required and the tax revenues generated by the new development, existing property owners may face higher property tax burdens when growth occurs. Impact fees reduce or eliminate this risk, presumably making local government more willing to approve new development, and to do so expeditiously. Second, because impact fees are earmarked, they may reduce the uncertainty that developers/employers have over whether the infrastructure they need will be provided by local government or provided in a timely fashion. Developers may view impact fees as a contractual agreement with local government that gives them some assurance that the infrastructure services they need will be provided.

Only two studies (having much in common, as discussed more fully below) have empirically investigated the above issue, focusing on the effect that impact fees have on the local jurisdiction's private sector employment growth (Nelson and Moody, 2003; Jeong and Feiock, 2006). Both studies conclude that impact fees increase the number of jobs within the jurisdiction and attribute the employment growth to a reduction in developer uncertainty. However, neither study adequately deals with the concern that impact fees are endogenous to employment growth. Even casual observation suggests that fees are more likely within those jurisdictions where strong growth has created a deficit in their stock of public capital. The positive relationship observed by these studies between fees and employment growth may therefore be the result of reverse causation.

The purpose of this paper is to present the results obtained from estimating panel data models that relate private sector job growth to three types of impact fees: commercial, school, and water/sewer. We exploit the panel nature of our data to control for potential endogeneity and multiple sources of unobserved heterogeneity. In making these improvements, we find that higher commercial fees reduce employment, while the opposite is true for school fees. Water/sewer fees are not found to have a significant effect in either direction. The negative effect that commercial impact fees have on employment suggests that these fees impose costs on developers that exceed any benefits that they may accrue from reduced uncertainty. Our finding that school fees increase employment is consistent with our earlier work showing that residential impact fees stimulate the construction of both single-family and multi-family housing construction (Burge and Ihlanfeldt, 2006a,b). More homes mean more people, which bring benefits to commercial developers/employers in the form of greater customer demand and labor supply. In addition, commercial developers bear no costs from school fees, because they are exempt from paying them.

2. Literature review

Two previous studies have empirically examined the relationship between impact fees and employment levels. Both investigations, as well as the current study, use panel data at the county level from the state of Florida. Nelson and Moody (2003) explain the Florida advantage:

> Florida is also an appropriate state to examine since it has arguably the most extensive history of applying rational nexus-style development impact fees and therefore the most likely to reveal an observable cause and effect relationship between impact fees and tangible economic benefits.

Nelson and Moody's key data item is annual impact fee collections for each of Florida's 67 counties covering the years 1993–1999. They regress the two-year change in jobs ($E_t - E_{t-2}$) on impact fees collected by each county between the base year ($t-2$) and the previous year ($t-3$) divided by the total number of building permits issued over the same time period. Their control variables include base year employment change ($E_{t-2} - E_{t-3}$), prior decade employment change ($E_{1990} - E_{1980}$), per capita property taxes collected between the base year and the previous year ($T_{t-2} - T_{t-3}$), along with year and region fixed effects. The impact fee variable is positive and statistically significant.

Jeong and Feiock's (2006) panel covers the years 1991 to 2000. Their dependent variable is the two-year change in employment per 1000 population ($(E/P)_t - (E/P)_{t-2}$) in each county. Their impact fee variable is a dummy variable indicating whether the county had a fee in year ($t-2$). Their control variables are more extensive than those employed by Nelson and Moody, but only four are statistically significant: form of government (council–manager cities generate more jobs than mayor–council cities), population change ($P_t - P_{t-2}$), per capital state job growth ($J_t - J_{t-2}$) and lagged county employment (E_{t-3}). Although it would have been feasible given the panel nature of their data, neither time nor area fixed effects are included in any of their estimated models. They also find the impact fee variable to be positive and statistically significant.

Although pioneering, these studies suffer from two serious limitations. First, both fee collections per building permit and a fee existence indicator variable crudely measure impact fees. The correct measure of commercial impact fees is what developers must pay per standardized area unit of commercial building space.[6] Prior studies also mismeasure impact fees by lumping together residential and commercial impact fees into a single variable.[7] As we argue below, employment is expected to respond differently to each type of fee. Secondly, both studies fail to adequately deal with the endogeneity of fees (as well as many of the control variables). In the use of panel data, the strict exogeneity of the regressors is required to obtain consistent estimates (Wooldridge, 2002, p. 254). Strict exogeneity implies that explanatory variables in each time period (X_{it}) are uncorrelated with the idiosyncratic error (ε_{it}) in each time period: $E(X_{is}^{j}\varepsilon_{it}) = 0$, s, $t = 1,\ldots, T$. This assumption is much stronger than assuming zero contemporaneous correlation: $E(X_{it}^{j}\varepsilon_{it}) = 0$, $t = 1,\ldots, T$. Strict exogeneity is violated if current values of the dependent variable affect current or *future* values of the explanatory variables. Employment growth (the dependent variable in prior studies) experienced in previous periods is likely to influence both whether an impact fee program exists in future years (Jeong and Feiock) and the level of future impact fee collections (Nelson and Moody). Hence, strict exogeneity may have been violated in prior studies, potentially accounting for the positive correlation found between employment change and impact fees. We later use our panel data to demonstrate that models akin to those estimated in prior studies do yield the finding that both commercial and school impact fees have a positive effect on employment. However, we also demonstrate that these models clearly violate strict exogeneity. To improve upon prior studies, we estimate first differenced models that are well grounded theoretically, allow for employment to respond to changes in fees using appropriate lag structures, and satisfy the strict exogeneity condition required for consistent estimation.

3. Theoretical framework

We investigate the relationship between county employment and three distinct categories of impact fees: commercial fees (CF), water/sewer utility fees (UF), and school fees (SF). Our theoretical framework is built upon two common characteristics of these fees: 1) they provide a "bounty" that counties receive from allowing new development, which on the margin may increase the likelihood that

[6] The dominant practice is to charge a set impact fee rate per 1000 interior square feet of development. Our construction of the commercial impact fee variable is discussed in detail in Section 4.

[7] Both studies also fail to account for water/sewer impact fees. No explanation is given in either study for why these fees are ignored in the analysis. The importance of this oversight is magnified by the fact that in Florida water/sewer impact fees are the most heavily used type of impact fees. See Table 1.