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Impact Fees in Relation to Housing Prices and Affordable Housing Supply

Gregory Burge

I. Introduction

When it comes to paying for the significant costs of growth, local governments throughout the U.S. are largely stuck holding the tab. This responsibility is particularly acute in rapidly growing localities, as demands for new infrastructure (i.e., roads, schools, sewers, parks and recreation facilities, and public safety) can outstrip the means to pay for them using existing revenue streams. But why is this so important now, when the U.S. has long been a nation of growth?¹ One reason is that increasing taxes to pay for these additional infrastructure costs has become increasingly difficult over the past few decades. During the 1970s, high inflation boosted nominal property values and, in turn, property tax collections, creating substantial taxpayer resentment (Altshuler and Gómez-Ibáñez 1993). In such an environment, localities have become hesitant to raise taxes to pay for additional expenses associated with new development and have instead created ways to “shift” the costs of public improvements away from existing residents.

One of the most innovative and popular of these methods is impact fees. Impact fees are one-time levies, predetermined through a formula adopted by a local government unit, that are assessed on property developers during the permitting process. In practice, impact fees bridge the gap between the cost of new municipal infrastructure and revenue streams that will help pay for them. They also provide local politicians with ammunition that can be used to appease anti-growth contingencies within the community. Consider the historical lineage of impact fees. Antecedents to impact fees were in-kind exactions, land dedications or build/install requirements for the construction of specific facilities. Impact fees, paid as monetary rather than in-kind contributions, first came into use beginning in the 1970s, providing a more efficient and flexible means of local infrastructure financing than negotiated or ad hoc exactions. Since then, they have become more popular as communities have gradually warmed to the idea that impact fees may be a pragmatic means of addressing fiscal shortfalls and adding capacity to public infrastructure systems that badly need it.

Impact fees remain controversial, however. The development community often complains that impact fees detract from economic development by driving up costs, thereby causing developers to “vote with their feet” by building in communities with no (or lower) impact fees. They argue that impact fees will drive prices up and construction down. A particularly concerning criticism is that impact fees may disproportionately burden low income groups and have negative effects on housing affordability. If true, this

¹ For example, nationwide population growth rates during the 1950’s, 60’s, and 70’s far exceed those seen over the past three decades in the U.S.

means impact fees may lead to higher racial and income based segregation and lower homeownership rates among Hispanic and African Americans ([Baden and Coursey 1999](#); Braun 2003). Others say that impact fees are the only feasible means of financing sufficient new infrastructure in a tax-averse political environment and that they may actually have many positive effects on communities, serving more as an efficient user fee than as a tax.

Because so many public discussions over the relative merits of impact fees have been based mostly upon speculation and anecdotal evidence, there is much that can be gained from a better understanding of what the literature has to say about their impacts on market conditions. This Chapter is designed to provide a summary of the various theoretical and empirical investigations of the effects of impact fees over the past two decades. It is designed to synthesize the existing evidence concerning three critical market conditions: 1) residential property values, 2) residential construction rates, and 3) non-residential economic development and job growth. The Chapter concludes with a brief summary and some comments on how these findings contribute to the public debate over the use of impact fees.

II. Housing Price Effects

As mentioned above, critics of impact fees often claim that they will lead to higher construction costs and housing prices, potentially having adverse effects on housing affordability issues within communities. This section addresses the effect of impact fees on housing prices. Most theoretical and empirical studies have either explicitly or implicitly investigated the price effects that impact fees have under a relatively normal price elasticity of demand; that is, the housing market is relatively competitive.² This assumption is reasonable given that patterns of impact fee use reveal they are most likely to be implemented in growing areas, where the vast majority of jurisdictions face competition in the housing market.

A. Theoretical Evidence

Recent work by Keith Ihlanfeldt and Tim Shaughnessey (2004) has shed important light on the relationship between impact fees and housing prices. They begin by noting there are “old” (heretofore, traditional) and “new” theoretical approaches to addressing this issue. The traditional view, advanced by Altshuler and Gómez-Ibáñez (1993), Delaney and Smith (1989a, 1989b), Downing and McCaleb (1987), Snyder, Stegman, and Moreau (1986), Huffman, Smith, Nelson and Stegman (1988), and Singell and Lillydahl (1990) considers impact fees to be an excise tax on the production of housing. As such, the fee acts just as any other tax in a competitive market and shifts the short-run supply of housing up by the amount of the fee. This leads to a higher price for housing, lower profits for developers, and a reduction in the quantity of new homes built. The share of the fee paid by each participant in the housing market depends upon the relative

² Empirical investigations often make this assumption implicitly through their choice of data while theoretical investigations generally make the assumption explicitly.

elasticities of supply and demand for developable lots and constructed residences.³ Also, to the extent that housing consumers find new and existing housing of equal quality to be close substitutes, there should be an increase in the price of existing housing.

In the long-run, developers are assumed to be mobile across jurisdictions and are therefore able to fully avoid the incidence of the fee. The incidence must either be shifted forward to consumers in the form of higher housing prices or backwards to the owners of land. Although Huffman et al. argue that backward shifting is unlikely in many markets because landowners have a reservation price below which they will not sell, some have challenged this conclusion. Ihlanfeldt and Shaughnessy acknowledge that while a reservation price may prevent price concessions in the short run, it does not eliminate the possibility that impact fees will be shifted backward in the longer run. Moreover, they argue that in weak markets occasioned by the business cycle, reservation prices are likely to decline resulting in backward capitalization of at least part of the fee.

In a groundbreaking 1998 piece, Yinger challenges many conclusions of the traditional approach and develops what some have labeled the “new” view. More recently Nelson and Moody (2003), Ihlanfeldt and Shaughnessy (2004), and Burge and Ihlanfeldt (2006a, 2006b) have extended the conclusions of the new view. According to this view, impact fees a) reflect the cost of providing valued facilities needed to serve new development, and b) may offset property taxes that would otherwise have been assessed, leading to a savings in these costs that will be capitalized into home values. Yinger assumes mobility for housing consumers (a stronger assumption than assuming mobility for developers) so that they are protected from the long-run burden of impact fees just as developers are. While impact fees should still lead to higher housing prices, the implication is that price increases come from higher reservation prices consumers are *willing to pay* due to the value of the public infrastructure and the present value of the expected future savings in property taxes that is associated with the impact fee regime. The process by which impact fees lead to higher housing prices under the new view is traced by Ihlanfeldt and Shaughnessy. Initially, it is assumed that local governments rely almost exclusively on the property tax to finance new facilities. Also assuming there is no change in quality of facilities accompanying the move away from property tax reliance to impact fees, the new view suggests that prices for both new and existing homes will go up. “The increase in prices should equal the capitalized value of the property tax savings that homeowners expect from the reduction in the tax rate. The tax rate declines because the imposition of the impact fee shifts the costs of new infrastructure from existing property owners to developers” (p.4).⁴

Nelson and Moody (2003) extend this approach by arguing that since impact fees enhance the timely provision of public infrastructure, they may expand the supply of buildable land. This expansion may reduce the equilibrium price of land, but the

³ See Huffman et al. (1988) for an outline of three specific types of market elasticity conditions and a discussion of the likely distribution of costs in each.

⁴ Burge and Ihlanfeldt (2006) point out that under an alternative assumption- that the property tax rate is held constant and instead impact fee revenues are used entirely for *additional* service provision, the result still holds. In either case there is a more favorable ratio of property tax liabilities to public service provision for homeowners that is capitalized into home values.

interpretation is different than was the case under the traditional view. The conjecture of the traditional view is that since developers pay the impact fee (but receive no benefit) they reduce their demand for land to the extent that they are not able to fully shift the fee forward to consumers. However, if impact fees make more areas developable by adding capacity to existing public infrastructure systems, it may well be an increase in the supply of developable land that causes lower prices.

Burge and Ihlanfeldt (2006a) also emphasize the possibility that impact fees may increase the supply of developable land but offer an alternative explanation. They argue that communities may have exclusionary fiscal motives causing them to zone their undeveloped land in ways that protect themselves from high levels of residential development. Because residential development does not generate enough additional tax revenue to cover the costs of providing new public services, the community may adopt exclusionary barriers to the construction of residential property. Under these conditions, developers are more likely to face costly rezonings which may not even be approved. Therefore, impact fees may cause communities to willingly zone more of their undeveloped land for residential purposes and lower other regulatory barriers if they are seen as a method of reducing the fiscal burden of growth. Hence, the supply side price effects under this approach are complicated. On the one hand developers have the statutory burden of paying a fee, but on the other they may benefit from a savings in non-impact fee related project approval costs if a fiscal motivation for exclusion exists within communities. As such, the extent to which developers are forced to shift excess costs (either forward or backwards) is mitigated by this direct savings.

Their model also builds on the Yinger proposition that impact fees offset property tax revenues. Since consumers under impact fee regimes are willing to pay a higher price for housing to the extent that it is offset by a savings in property taxes, Burge and Ihlanfeldt (2006a) point out that the present value of this savings should vary directly with the value of the home. One prediction of our theoretical model is that increases in the constant quality price of housing across different segments of the market, should be proportional to the values of homes in that segment. For example, if a \$1,000 per home impact fee reduces property tax rates, the additional willingness to pay for very expensive homes may rise by over \$1,000 while the increase in the willingness to pay for smaller homes may be much smaller.

While Yinger (1998) asserts that housing consumers will value the additional public facilities provided by the impact fees such that they willingly pay higher prices, he takes no stance on the magnitude of this effect. Ihlanfeldt and [Shaughnessy \(2004\)](#) suggest that if the benefits from the new facilities financed from impact fees are valued highly enough by new homebuyers, it is possible that housing prices will increase by a greater amount than the size of the fees. In fact, evidence to support this possibility is found by various studies discussed below. The possibility that one dollar of impact fees could lead to a greater than one dollar price increase for homes is commonly referred to as “over-shifting”. One possible explanation in support of the over-shifting hypothesis is that impact fee revenues may be used strategically by local governments to secure additional benefits to the community. Note that impact fees rarely cover the full cost of facilities,

typically financing less than half the cost. However, because impact fees must be spent to deliver the quality or level of service on which the fee is predicated, often within binding time limits, local governments may attempt to leverage impact fee revenues along with other revenues to provide the facilities.⁵ If this conjecture is valid, impact fees may add value to the community that is greater than the fees themselves if they are leveraged to provide facilities of higher value than the fees assessed.

B. Empirical Evidence

Previous empirical investigations on the price effects of impact fees include studies by Delaney and Smith (1989a and 1989b), Singell and Lillydahl (1990), Nelson, et al. (1992), Skaburskis and Qadeer (1992), Dresch and Sheffrin (1997), Baden and Coursey (1999), Mathur, et al. (2004), Campbell (2004), Ihlanfeldt and Shaughnessy (2004), Evans-Cowley et al. (2005), and Burge and Ihlanfeldt (2006a). There was a great deal of inconsistency across early findings and little consideration as to whether or not observed price increases were due to reductions in supply or increases in demand. Much of the early work also suffers from important methodological weaknesses, often related to a lack of appropriate data. More recent investigations have the benefit of being able to account for the significant developments in our theoretical understanding of the effects of impact fees on house prices and have also used more appropriate data.

In one early investigation, Delaney and Smith examine the effect of a single impact fee adopted by the city of Dunedin, Florida in 1974. In their first paper they find that impact fees raise the price of new homes by roughly three times the size of the original impact fee. Their second paper finds that impact fees also raise the price of existing housing, but by a much smaller amount. In addition to the implausibly large price effect on new homes, it is difficult to believe the price effects of impact fees are so dissimilar between new and existing homes when other evidence suggests they are such close substitutes. Yinger (1998) points out that their results are based on the assumption that the price of land does not change as a result of the fee (which may or may not hold) and that their failure to control for public infrastructure quality and neighborhood characteristics may be a critical flaw in their empirical models. [Singell and Lillydahl \(1990\)](#) find a very different set of results in their study. Using data from Loveland, Colorado that spanned a three year period (1983-1985), they examine the price effects of a \$1,182 increase in impact fees that occurred during that time period. Consistent with Delaney and Smith, they find an increase in the price of new homes of just over three times the size of the impact fee. However, they also find the fee to increase the price of existing homes by \$7,000—roughly six times the size of the original fee and a highly implausible result. Troubling aspects of this study include the fact that so few sales were used (429) and that only one impact fee change in a single jurisdiction was analyzed. Because both of these studies analyze only one impact fee change in a single community, any price effects they observe could be attributed to an omitted time-related factor.

⁵ For example, it is a common practice in Florida to use road impact fees to pay for right-of-way acquisition and engineering, which account for about half the costs of road construction, with a majority of the remaining costs coming from the state. From anecdotal evidence, it seems possible that impact fees may create value to the community if revenues can be leveraged to secure state or federal funds.

Studies by Nelson et al. (1992), Skaburskis and Qadeer (1992), and Evans-Cowley et al. (2005) are interesting because they investigate the relationship between impact fees and the price of undeveloped land within a community. To the extent that price effects on land are directly related to potential price effects on housing, their results belong in a discussion of the effects of impact fees on housing prices. Nelson et al. find significant positive effects on the price of land but the effect differs dramatically across selected housing markets. The positive effect on the price of land is consistent with the over-shifting results from previous work. They offer two arguments to support their finding. First, because impact fees establish a contract for development rights, developers may prefer impact fee programs to situations with no fees but less certain development rights. They also argue that impact fees may delay the timing of development until housing prices, and in turn land prices, increase enough to offset the fee and any interest charges on the fee amount. One troubling point is that the effect of impact fees on land prices varies widely across the different areas included in their study- ranging from strong positive effects to sometimes insignificant effects. Skaburskis and Qadeer (1992) also find that the price of land increases with the presence of an impact fee. Their models describe prices as a function of development costs (including impact fees), locational variables, and the expected future growth in housing prices and construction costs. They find that lot prices increase by 1.2 times the amount of the impact fee, again indicating over-shifting. Unfortunately these studies both suffer from similar data limitations as other early studies. However, they do provide some evidence that the price effects of impact fees may not be driven entirely by a reduction in supply as most early impact fee work argued.

Evans-Cowley et al. note that from a theoretical perspective impact fees should have different price effects on developed versus undeveloped plots of land. They use data from forty-three cities in the Austin, Fort Worth, Dallas, and Houston metropolitan areas that used residential impact fees during 1999. Using pooled cross-sectional OLS as well as fixed and random effects models they find that impact fees significantly increase the value of vacant developable lots. They also find weak statistical evidence (a 10 percent significance level using a one-tailed test) that impact fees decrease the value of undeveloped land. They estimate a \$1,000 residential impact fee would increase the price of residential lots by 1.3 percent, or about \$311 for an average valued lot. For undeveloped land they find the same size impact fee would decrease prices by 0.042 percent, but absolute magnitudes are difficult to relate to the former effect because a typical undeveloped land parcel would be later subdivided into many residential lots. Although the authors claim their findings are consistent with Yinger's 1998 theoretical model, it is curious to note how weak the finding is that impact fees reduce undeveloped land prices and how small the magnitude of the effect is. To the extent that homeowners had increases in willingness to pay that were less than the size of the impact fee itself, the prediction from the Yinger model is that the difference will be entirely shifted backwards to the owners of undeveloped land since developers are mobile and bear no burden in the long run. One could interpret these results as being consistent with the idea that there is sufficient increases in willingness to pay on the part of housing consumers that little (if

any) of the impact fee incidence is left to be shifted backwards to the owners of undeveloped land.

In their 1997 article, Dresch and Sheffrin use data on housing sales in Contra Costa California spanning a four year period. The study is broken down into two areas, Eastern County and Western County. As is still common in California, impact fees were substantial in their case study- over \$16,000 and \$24,000 in the Eastern and Western County areas, respectively. In Western County, an additional \$1 of impact fees was found to significantly increase the price of new homes by \$1.88, while in the Eastern County; the increase was only \$0.25. Although the authors provide a number of explanations for the large difference in magnitudes across areas, their arguments are not consistent with the new view of impact fees and there is no satisfactory resolution of this troubling issue.

A more recent attempt to measure the price effects of impact fees is Baden and Coursey (1999). They use sales from both new and existing homes in the Chicago area between 1995 and 1997 to regress logged sales prices on a detailed set of structural variables and an impact fee variable. Their results produce an estimated elasticity of impact fees on the full sample of new and existing homes ranging between 0.011 and 0.013. After multiplying these coefficients by the mean selling price for each of their municipalities, they find significant and positive effects- again larger than the size of the fee itself. They offer an explanation that is contrary to the Nelson et al. (1992) argument that impact fees reduce uncertainty, essentially arguing the reverse- that impact fees *add* additional uncertainties and delay costs into the approval process, forcing developers to more than fully recoup the cost of the fees. Given that the magnitude of their price effect is highly consistent with other recent estimates that lend support to the over-shifting hypothesis, it is unclear why the authors failed to discuss any potentially positive effects of impact fees or cite earlier findings concerning their potential effects on the price of land. The tradition view of being limited to a supply side effect comes through in the discussion of their results. Still, this study produced the first set of estimated price effects that holds up to more current evidence.

Mathur, Waddell, and [Blanco \(2004\)](#) examined the effect of impact fees on the prices of new single-family homes in Kings County, Washington, using sales data from 38 jurisdictions for the years 1991 through 2000. In hedonic models that control for a number of structural, locational, and jurisdictional attributes, they find that \$1 of impact fees is correlated with a \$1.66 increase in price for a new home selling for \$246,000- the mean from their data set. Impact fees are found to have an even larger effect on the selling price of higher quality homes (\$3.58 for \$1 of fees) while their effect on lower quality new homes is found to be statistically insignificant. This is the first piece of evidence that impact fees may cause different price effects on homes falling into different value ranges, a finding also supported by Burge and Ihlanfeldt (2006a). Mathur et al. speculate that the effect on high quality home prices was so large because the value of the infrastructure paid for by the fees was greater than the cost of the fee. Their findings are also consistent with the idea that impact fee revenues may reduce future property tax liabilities, thus increasing the demand for housing in the community proportionally to property values. While the authors focus on the fact that their price effect result becomes

insignificant when looking at homes falling into the lower quality tier, it is worth noting that their point estimate is still positive (roughly \$0.60) with a *t*-statistic of nearly 1.5. All things considered, this study can be taken as evidence that the *overall* effects of impact fees on the price of housing are positive (with roughly \$0.60 cents of over-shifting if we look at the mean in their sample) and that the magnitude of these price effects depends upon the value of the new home.

In another recent study, Ihlanfeldt and Shaughnessy (2004) use time-series data from Dade County, Florida to investigate the effects of impact fees on the price of both new and existing housing. Their sample included sales of all new (39,792) and existing homes (107,376) transacted during the study period. An improvement to the existing literature is that they use hedonic and repeat sales regression methods to construct monthly constant quality price indexes for new and existing single-family housing as well as undeveloped residential land which are then used in a second stage that estimates the price effects of impact fees on these measures. They found that \$1 of impact fees increased the selling price of new and existing homes by \$1.64 and \$1.68, respectively. Both were statistically significant, although neither differed significantly from 1. The explanation offered was that, consistent with the new view, impact fees act to reduce the property tax burden felt by community residents- lowering future property tax rates. In separate regressions, they estimate the present value of these future property tax savings to be about \$1.20 for each \$1 of additional impact fees- providing one of the most direct pieces of empirical evidence to support the new view to date.

Ihlanfeldt and Shaughnessy interpret their results as evidence in support of the argument that impact fees add value for consumers that is capitalized into home prices rather than operating merely as an excise tax that may be passed on to consumers given the right market conditions. This finding is important because it gets to the heart of the most important issue regarding impact fees price effects- are price increases primarily driven by reductions in supply or by increases in the demand for housing, due to a more favorable ratio between public infrastructure services and levels of property taxation? Been (2005) has recently commented on Ihlanfeldt and Shaughnessy's interpretation of their findings. She argues that because impact fees will add amenity value only to new homes, and because any future savings in property taxes should accrue equally to owners of both new and existing homes, we would expect the Ihlanfeldt and Shaughnessy results to show larger price effects for new as opposed to existing homes. However, because enforceable legal standards generally require equitable access to public services across different parts of a community, the conclusion that impact fees generate public facilities valued *exclusively* by owners of new homes is difficult to believe. While rational nexus tests require impact fee dollars be spent in ways that directly affect new construction, it seems a rather strong assumption that these revenues would be spent on projects that are completely worthless to existing residents. A simple example involving a school impact fee clarifies this point.

Suppose a community is dealing with overcrowding in their existing elementary schools. Also suppose that impact fee revenues from an existing school impact fee are pooled and used to pay for at least a portion of the capital cost of building a new elementary school-

adding capacity to the school system. While new residents may predominately send their children to the new school, it is incorrect to assume this does not also benefit existing residents since the new school alleviates overcrowding at all existing schools. It is reasonable to characterize this situation as providing a higher level of service to all community residents, rather than just households sending their children to the new school. Note also that this situation would easily pass a rational nexus test. A similar argument can be made for road impact fees leading to less congestion on major thoroughfares throughout the community, even when they are used to build or widen a road traversed primarily by newer residents.

Doug Campbell (2004) finds very similar results using a similar methodology. He investigates the effects of impact fees on house and land prices in several jurisdictions located within the Orlando SMSA. Although it is difficult at times to point to one conclusive piece of evidence given that individual price effects models are estimated for each jurisdiction in his sample, the average price effect coefficient of roughly \$1.50 (per \$1.00 of impact fees) for new homes falls in line with the Ihlanfeldt and Shaughnessy study and the Mathur, Waddell, and Blanco study. He also estimates the average price effect on existing homes to be roughly \$1.00.

Burge and Ihlanfeldt (2006a) investigate the price effects of impact fees on the constant quality price of housing as estimated across different segments of the market for single family homes. While our work was primarily concerned with estimating the construction effects of impact fees, we investigated the price effects as well to further explore the hypothesis that homebuyers find communities more attractive after they pass or increase impact fees. In the first stage of a two-stage process we estimated constant quality housing price indexes using both new and existing home sales for each of three “tiers” (i.e., small, medium, and large sized homes as defined by selected square footage ranges) across all Florida Counties that had used impact fees, including water and sewer impact fees, during an eleven year time period from 1993-2003. The natural log of the estimated price indexes was used as the dependant variable in the second stage, which regressed two categories of impact fees (water/sewer impact fees and non-water/sewer impact fees) on housing prices, along with various controls, in both fixed effects and random trends price models. Non-water/sewer impact fees (i.e., roads, schools, parks, etc.) were found to have positive effects on prices, generally achieving statistical significance at conventional levels of confidence. At the point of means, our estimated coefficients implied that a \$1.00 increase in impact fees will increase the price of small, medium, and large sized homes by \$0.39, \$0.82, and \$1.27, respectively. While all were significant, the difference in magnitudes implies that the absolute change in price is roughly proportionate to the value of the homes- we interpret this as evidence that market demand is increasing from a more favorable ratio between public service levels and future property taxes.

C. Summary

Collectively, the most convincing empirical evidence to date concerning the price effects of impact fees indicates:

- 1) Impact fees do lead to higher average housing prices. Focusing on several recent studies that use reliable data and methodological approaches, the estimated price effects for new homes have mostly pointed to a range between \$1.50 and \$1.70 for a \$1.00 increase in impact fees. For existing homes, point estimates are somewhat less consistent, starting at \$1.00 and ranging as high as \$1.68. Collectively, over-shifting is definitely occurring in the market for new homes and may be occurring in the market for existing homes.
- 2) Demand driven increases in willingness to pay are, at least in large part, responsible for these price increases. (As opposed to a reduction in supply) The new view of impact fee incidence accounts for two positive demand side effects of impact fees, namely that impact fees are expected to offset future property tax liabilities and that they create infrastructure valued by community residents.
- 3) Impact fees do not cause price increases of similar absolute magnitudes for expensive versus more affordable homes. Instead, the increase in willingness to pay seems to be approximately proportional to the value of the home.
- 4) There is no strong consensus as to the price effects of impact fees on undeveloped land due to conflicting evidence within the literature and the difficulty in adequately measuring constant quality land prices. More work must be done to address this question.

An understanding of the market price effects of impact fees is essential for local governments considering their use. Unfortunately, there are many discussions of impact fees that focus mainly on the first point, failing to recognize the second and third. Good public policy concerning impact fee use would be mindful of any potential problems low-income housing consumers may face from rising housing prices among the most affordable homes in the community, but would also recognize where the positive pressure on prices seems to be coming from. As such, while concerns over housing affordability should certainly be addressed within the approach a community takes towards implementing impact fees, they should not be used as a barrier to impact fee implementation within communities that are struggling to find ways to pay for badly needed infrastructure expansions.

III. Housing Production Effects

Although related, it is useful to treat housing price effects and housing production effects with separate discussions. One of the chief concerns about impact fees goes beyond whether and to what extent they may increase housing prices, to whether the production of affordable housing is jeopardized. That is to say, in addition to the worry that impact fees may adversely affect affordability issues within a community, critics of impact fees also express concerns that they may stifle the production of new homes (and particularly smaller homes where the fee is a larger percentage of the costs of producing the homes). This section presents the theoretical and empirical evidence concerning the effects of impact fees on housing construction rates. Evaluating the evidence concerning supply effects is yet another way to better understand the complexity the impact that impact fees have on housing markets.

A. Theoretical Evidence

As shown in Section II, existing evidence supports the idea that impact fees increase the demand for housing because they a) lower property taxes, the savings of which are capitalized into home values and b) are used to provide infrastructure of value to both new and existing community residents. It has also been suggested that impact fee revenues may be leveraged with extra-jurisdictional funds to provide greater value in total facilities than the size of the fees themselves- one potential explanation for the over-shifting phenomenon that is found consistently in recent empirical investigations of price effects. But turning to the question of supply effects, the following discussion considers the effects of impact fees on the supply curve for new homes and, in turn, on the construction of single-family homes. It will demonstrate how the relationship between impact fees and housing production is quite nuanced, with many important dynamics at work. For a more complete discussion of the model see Burge and Ihlanfeldt (2006a).

First, it is critical to recognize that impact fees may impact both the demand and supply curves for new residential homes in the community. The positive demand shift is discussed in Section II and will not be reconstructed here, but note that the increase in willingness to pay does mean that *ceteris paribus*; we would expect an increase in the production of residential properties. However, all else is not held constant and there are important supply side effects to consider. In the end, both supply and demand shifts will interact with one another to determine whether impact fees will slow down, speed up, or have no effect upon residential construction rates.

The supply side effects of impact fees are multifaceted. The development community has largely followed the traditional approach to impact fee incidence and has argued that impact fees are a tax on residential development, which reduces housing construction by causing a backwards shift in the housing supply curve equal to the size of the fee.⁶ This conclusion is an outgrowth of the traditional approach to impact fee incidence. While there is no question that the fee creates a cost for developers as they go through the permitting process, several offsetting positive effects are at work as well.

To begin, consider what impact fee revenues actually do: they help provide valuable facilities needed to accommodate growth. If, in the absence of impact fees, new facilities cannot be provided to meet the demands of growth, residential development may be slowed if certain areas do not have adequate services. We could take a different approach and assume local governments force existing residents to pay for these facilities through higher taxes so that the demanded facilities will still all be built. In this case, growth will become highly unpopular and community residents will become resistant over time to further residential development. The homevoter hypothesis, advanced by [Fischel \(2001\)](#), predicts something has to give in this situation- elected officials will not stay in office if they continue to place unpopular tax increases upon existing homeowners to the benefit

⁶ See the homepages of the Urban Land Institute (www.uli.org), the National Association of Home Builders (www.nahb.org), and the National Association of Realtors (www.realtor.org) for their positions on impact fees.

of future residents. Therefore, it is unlikely that communities will willingly allow high levels of residential development and higher taxes. If elected officials and those who work for them predictably respond to the interests of their constituents, residential development proposals will be more frequently denied, reducing construction. Furthermore, they may employ specific regulatory policies (other than impact fees) that are designed to limit or stop residential growth. Examples include exclusionary zoning policies, minimum lot size requirements, urban growth or containment boundaries, and potentially lengthening the time required to receive approval (or simply making a conscious effort to lower approval rates for residential projects).

All of these reactions to the unwanted fiscal burden of rapid residential development increase developer's compliance costs but create nothing of value to the community. In contrast, because they help provide facilities needed to accommodate growth, impact fees do provide value added to the community in addition to their desired effect of internalizing some of the external fiscal burden of new residential development. Among other positive effects, impact fees may increase the supply of buildable land in a manner that is more responsive to growth needs. If so, upward pricing pressures that may occur in absence of buildable land supply may be moderated. In addition to providing infrastructure that increases the supply of buildable land, impact fees may also cause communities to zone a higher percentage of their land for residential purposes or to allow higher residential densities. Furthermore, impact fees may reduce the presence or stringency of enforcement for the other types of exclusionary barriers outlined above- a point that was first mentioned by [Gyourko \(1991\)](#) in a theoretical piece investigating the relationship between impact fees and optimal density levels for development. This possibility was also picked up on by [Altshuler and Gómez-Ibáñez \(1993\)](#) and [Ladd \(1998\)](#) and is a component of the model developed by [Burge and Ihlanfeldt \(2006a\)](#). Collectively, these factors may generate at least a partial offsetting of the monetary costs of the impact fee itself and lead to higher probabilities of project approval.

Additionally, impact fees may reduce the time needed to review proposals for development. In the absence of impact fees, local governments will need to review development proposals for their full impact on facilities and this can delay the decision-making process. Another possibility is that local governments may use lengthy review processes and unforeseen time delays as a strategy to slow down the pace of residential development in their community. Because "time is money" these delays can lead to higher housing prices and lower rates of residential construction. Therefore, besides the direct negative effect that impact fees will have on the supply curve, they are also expected to reduce other preexisting monetary and time related compliance costs. Therefore, *impact fees generate both positive and negative effects on residential construction* and there is no *a priori* prediction of a positive or negative net effect. This motivates well designed empirical research that can answer the important question of whether or not impact fees will actually reduce or enhance the number of affordable housing opportunities within communities, the focus of the next section.

It is worth noting that construction effects may vary across different parts of metropolitan areas and across different size ranges of homes. [Burge and Ihlanfeldt \(2006a\)](#) note that

the potential for impact fees to lower other regulatory costs is the strongest in suburban areas, where levels of preexisting residential exclusion have been documented to be the most stringent. Also, both monetary and non-monetary compliance costs may be higher for affordable residential developments than for large single family developments. For a number of reasons including fiscal budgetary considerations, communities are more likely to try to exclude higher density residential developments such as starter homes and multi-family structures than they are large single family subdivisions.⁷ Also, we have from before that the demand driven increase in willingness to pay from housing consumers is expected to be larger for expensive homes than it is for starter homes. All these considerations motivate research that investigates the supply effects of impact fees across different areas and home size ranges.

Prior to the work of Burge and Ihlanfeldt (2006a, 2006b) there were two theoretical studies that investigated the residential construction effects of impact fees. Brueckner (1997) constructs a model that compares an impact fee scheme for infrastructure financing to two alternative types of cost-sharing schemes. His model produces the conclusion that the effect of impact fees on residential construction rates is *a priori* ambiguous, and that the parameters characterizing the housing market would determine whether impact fees actually slowed down or sped up residential development. Turnbull (2004) compares the development patterns that result from impact fees, urban growth boundaries, and an unregulated environment. He finds that optimally constructed impact fees lower construction rates in steady state equilibrium and on the equilibrium path, but that this reduction in development reflects a move to the socially optimal level of construction, as opposed to growth boundaries and the unregulated environment which lead to above optimal growth rates. While Yinger (1998) does not explicitly model the relationship between impact fees and residential construction, one conclusion of his model is that impact fees cause an increase in demand for housing (along with an assumed decrease in the supply curve by the amount of the impact fee). Thus, his model also does not predict a definitive positive or negative effect on construction rates.

B. Empirical Evidence

While many studies have analyzed the effects that impact fees have on housing prices, the existing empirical literature on the relationship between impact fees and housing construction is comparatively thin- consisting of studies by Skidmore and Peddle (1998), Mayer and Somerville (2000), and Burge and Ihlanfeldt (2006a, 2006b).

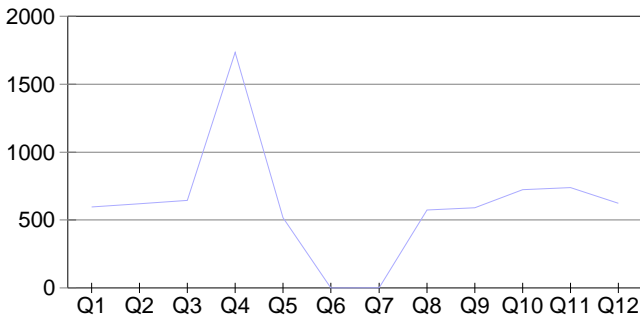
Skidmore and Peddle's data are a panel of 29 cities contained within Dupage County, a suburb of Chicago, covering the years 1977 to 1992. By the end of this period, just over a third of these cities had implemented impact fees. They regress the number of new single-family homes built in city *i* in year *t* on a dummy variable indicating whether the city had an impact fee in year *t*; year and city dummy variables, resulting in a two-way fixed effects model; and a number of control variables, including per household property tax revenue and average assessed valuation of property in city *i* in year *t*. Depending on specific models they employed, Skidmore and Peddle obtain results indicating that a

⁷ See Ihlanfeldt (2004) for a review of the evidence on various forms of exclusionary land use regulation.

newly imposed impact fee is associated with about a 25 to 30 percent reduction in residential development rates.

Although pioneering, their study suffers from many important shortcomings. Because their impact fee variable simply registers the existence of a fee and not the dollar amount of fees nor the type of services funded by the fee, it is difficult to place much confidence in Skidmore and Peddle’s results. Moreover, because new homes are, on average, more expensive than existing homes, their control variables are not exogenous to the number of new homes built. Finally, they made little effort to consider the manner in which impact fees would likely affect the timing of development at the very-short-run increment. It is easily seen that in advance of impact fees being adopted, developers apply for building permits to generate as large an inventory as they can of pre-fee housing units. The most direct evidence to support this idea comes from a yet unpublished study by John Matthews (2002) that analyzed the short-run timing effects of impact fees on residential permitting in metropolitan Atlanta. He collected data on the number of residential building permits issued each month for 18 months before and after the implementation of impact fees in several metropolitan Atlanta Counties, including Fulton County. He found that for a small number of months leading up to implementation there were extremely high numbers of permits issued, followed by very low counts for a short period of time following implementation. Within six months, permit levels had exceeded pre-fee rates and continued to rise over the rest of the sample. The inserted figure below comes from Matthews work and relates this phenomenon, showing quarterly building permit levels before and after impact fee imposition (implementation is at quarter 6). Developers have

Fulton County Building Permits Before and After Fees



a large excess of permits generated during the brief period leading up to implementation since the start date is know well in advance. This means there is little demand for permits in the quarters following implementation. It is unclear what, if any, effect this pre-implementation stockpiling will have on construction or completion levels.

Mayer and Somerville use quarterly data on 44 metropolitan areas covering the years 1985 to 1996 to regress the log of the number of single-family housing construction permits issued on impact fees, other land use regulatory variables, and a set of control variables. Like Skidmore and Peddle, Mayer and Somerville use a dummy variable as the measure of impact fees. However, Mayer and Somerville’s impact fee variable is measured with even greater error than Skidmore and Peddle’s. For all quarterly observations coming from a particular MSA the impact fee dummy variable equals one if impact fees were used somewhere within the MSA in 1989. Not surprisingly, this variable is not found to affect the number of single-family construction permits.

Recall that while impact fees may expedite the review process, lower non-impact fee related monetary costs of regulation, and cause an increase in the demand for housing within the community- they will also directly increase the developer's building permit fees. Therefore, the central question remains: do impact fees help or hurt the production of low-income housing? To address this question, Burge and Ihlanfeldt (2006a, 2006b) constructed a unique data base on impact fee use among Florida counties over an 11 year (1993-2003) period. In both studies, we estimated separate models for central cities, inner and outer suburban areas, and rural areas. Due to the richness of our data, we were able to employ panel data estimation techniques (including fixed effects and random trend models) that were designed to control for factors other than impact fees that may also affect construction rates. Impact fees are broken down into two distinct categories: those that fund services otherwise covered by property taxes (i.e., roads, schools, parks, police, fire, etc., henceforth labeled non-water/sewer impact fees), and those that fund services for which capital expansion costs are otherwise recouped through higher user fees (water/sewer). Our results include several interesting findings.

First, non-water/sewer impact fees were found to increase the construction of smaller homes and multi-family housing built within Florida's inner suburban areas over this time period. This provides the first piece of empirical evidence that, at least within inner suburban areas where a majority of population growth in Florida and where issues of housing affordability have been noted as being the most pressing, the positive effects of impact fees seem to outweigh the direct cost of the fee, leading to higher rates of affordable housing construction. On the other hand, this category of fees had no significant effect on construction rates for either type of affordable housing in central city, outer suburban or rural areas. The implication is that in those regions, the benefits are large enough to avoid a negative effect on affordable housing development but are not large enough to cause a positive relationship. Moving to larger single family homes, our results show a significant positive effect of non-water/sewer impact fees for both inner and outer suburban areas, again however, with an insignificant effect on construction rates in central city and rural areas. The finding that this type of fees increases the construction of large homes but not affordable housing opportunities in outer suburban areas may be evidence that exclusion in outer suburban areas is more than just fiscally motivated. We note that in comparison to inner suburban areas, the outer suburbs are more homogenous with respect to both income and race and that addressing the fiscal impact of low income housing may not be enough to overcome exclusionary barriers.

We find that the effects of impact fees that fund services otherwise covered by user fees, namely water/sewer impact fees, are somewhat different. Water/sewer impact fees are found to be an insignificant determinant of construction rates for all size categories of homes and across all parts of the metropolitan area. The implication is that while water/sewer fees do provide enough benefits to avoid lowering construction rates, these benefits are not larger than the fee itself. Additionally, water/sewer impact fees were found to reduce the construction of multi-family housing, an indication that the benefits of this category of fees may not be large enough to offset the direct cost of the fees for developers of multi-family projects. Additional work investigating the reasons why these two classes of impact fees have somewhat different construction effects is merited.

C. Summary

The effects of impact fees on residential construction rates are considerably more complicated than their effect on prices. Also, studies that have directly investigated supply effects are relatively few in comparison to those that focused on price effects. Unsurprisingly then, our understanding of the effects that impact fees have on housing production is somewhat less refined than our understanding of price effects. Still, several important points are worth highlighting:

- 1) Although early theoretical work predicted impact fees would have an unambiguous negative effect on residential construction rates, more recent investigations conclude that the direction of the relationship is ambiguous. The eventual effect depends upon the relative magnitudes of several factors which may partially or fully offset the monetary cost to developers. This motivates the need for well designed empirical work.
- 2) The most reliable empirical evidence to date finds that impact fees that are used to provide infrastructure otherwise funded through property tax revenues (i.e., roads, schools, parks, etc.) have a positive effect on residential construction rates in suburban areas and a negligible impact on construction rates in central city and rural areas. For affordable housing opportunities this effect seems to be limited to inner suburban areas while it applies to all suburban areas for larger homes.
- 3) Impact fees that fund services otherwise provided for through user fees (i.e., water and sewer) do not seem to have the same positive effect on construction rates. At best they seem to have a neutral effect and at worst, they may actually inhibit the production of multi-family housing.

An understanding of the complex effects of impact fees on residential construction rates is just as important as an understanding of their impact on housing prices. Policy makers are still influenced by the central conclusion of the traditional approach to impact fee incidence which asserted that they will reduce construction rates. Often the possibility of using impact fees to address growing problems of inadequate public facilities is derailed over the concern that impact fees will stifle residential construction. As such, it is crucial that state and local government officials become familiar with the more recent evidence to support the idea that impact fees may not reduce residential growth at all in the long run. All things considered, effectively crafted impact fee programs can be a part of the solution for local governments that are open to growth, but who also want to grow in ways that satisfy the needs of both current and future community residents.

IV. Economic Development Effects

Let us briefly move away from issues of residential development to the effects that impact fees may have on non-residential development and economic growth defined more generally. Even if impact fees do not have adverse effects on housing affordability and availability, there is still the concern that they may stifle economic development and job growth. This is worth investigating because the long-run feasibility of impact fees as

a revenue raising mechanism requires that they not drive away economic development to neighboring communities. This section first reviews some theoretical considerations and then summarizes the results of the one study that directly addresses the connection between impact fees and economic development (as measured by employment growth).

A. Theoretical Evidence

Two main questions are addressed in this section: What is the role of impact fees in infrastructure provision and land supply; and are impact fees a tax or a user fee? Each question provides important context for understanding the effects of impact fees on employment and economic development defined more broadly.

What is the Role of Impact Fees on Infrastructure and Land Supply?

Often overlooked in debates about impact fees is what they are actually intended to do. The fundamental purpose of impact fees is to generate revenue to build public infrastructure serving new development (Nelson 1988). In the absence of impact fees, local governments may have difficulty raising the revenue necessary to accommodate growth, in terms of paying for new infrastructure. In such cases, growth either is stymied through lengthy planning review processes that are preoccupied with the negative impact the proposed development will have on already congested systems (such as roads and schools), stopped or severely restricted through growth moratoria or permit limits, or simply displaced to other communities because developers are wary of locations with inadequate provision of public facilities and services. Therefore, it is worth noting that impact fee revenues generate valuable infrastructure that otherwise would not have been provided or would have been funded through alternative sources that, over time, would almost certainly lead to other forms of opposition to non-residential development.

There is another effect of impact fees that has been long overlooked in the literature: their impact on land supply. Communities that have adequate central facility capacity, such as in water and sewer treatment, may still lack the distribution network to accommodate new development. From an economic development perspective, the ability to plug into key infrastructure systems such as water, sewer, drainage, and roads is perhaps the important ingredient to increasing the supply of land commensurate with development pressures ([Blair and Premus 1987](#)). By providing a revenue source for the costs of extending the distribution network to poorly connected areas that may be otherwise ready for economic development opportunities, impact fees may increase the supply of buildable land and markedly facilitate growth in areas that had previously been lacking in basic services.

Finally, some studies have argued that impact fees appear to reduce the uncertainty and risk involved with development (Nelson et al. 1992). This is accomplished by providing developers with a reasonably predictable supply of buildable land. This is important because the eventual success or failure of most commercial developments is highly dependant upon the presence and vitality of *other supporting developments that may not even be in place yet, but should likely follow*. However, the relationship between impact

fees and the supply of buildable land has been largely ignored in the literature (with the notable exception of Kaiser and Burby 1988).

Are Impact Fees a Tax or a User Fee?

Even though the context here is non-residential development and job growth, in many ways the discussion must revisit the traditional and new views of impact fee incidence that were previously outlined in the context of residential development. The effect of impact fees on development is controversial. The traditional approach considers them to be an *excise tax* on new development. The problem with this approach is that revenues from excise taxes are not generally used in ways that the payer of the tax has a close connection to. Hence, this view of impact fees may lead to some perverse conclusions since it implicitly assumes those who pay the tax receive no benefits from the revenues. If impact fees are simply an excise tax, the predicted impact is clear: they would shift economic development away from otherwise more efficient outcomes and create a deadweight loss to society. Market participants bear the burden of the tax to the extent that the various supply and demand elasticities for land and developed structures dictate. In a competitive market, we would expect the pace of development to slow and the price of buildable land to fall (Downing and McCaleb 1987). Likewise, if impact fees simply act as a tax on capital without creating value in the development process, markets will adjust by shifting the location of development and/or by raising prices, thus reducing consumption and eroding economic efficiency.

On the other hand, impact fees may behave more like a user fee (benefit tax) if the revenues are used to provide sufficient benefits to the payers of the fee. Under this approach, there is the assumption that developers have an underlying demand for public infrastructure services tied to the locations and communities they wish to locate in and are willing to pay for it. Under this approach, it is possible that impact fees may help expand the supply of buildable land, positively impacting the pace and quality of economic development. Under *rational nexus* criteria, impact fees cannot exceed the cost of infrastructure apportioned to the development *net* of other revenues used to finance the same infrastructure. For example, if federal or state funds are available to help finance infrastructure, the impact fee is based on the cost of infrastructure *less* those external revenue sources. In this way, as noted earlier, the impact fee can leverage more infrastructure investments than the development itself pays for through the fee. Also, note that impact fees must be spent according to an agreed upon plan (Nicholas, Nelson, and Juergensmeyer 1991). This means that developers can reasonably forecast when and where additional infrastructure will be added. The supply of land made available through these infrastructure investments is thus known in advance. Hence, risk and uncertainty are reduced since the supply of buildable land expands in a predictable manner.

Still, it is not clear *a priori* if impact fees generate sufficient benefits to offset their costs to developers and the question remains: are impact fees a tax that will reduce new commercial development, or a user fee that is a practical and efficient means of investing in needed infrastructure, potentially encouraging non-residential development and economic growth.

B. Empirical Evidence

There are a number of ways one could investigate the relationship between impact fees and broadly defined measures of economic growth. Empirical specification strategies similar to those used by Burge and Ihlanfeldt (2006a, 2006b) could be applied to similar data that included information on commercial impact fees and observed construction levels for industrial, retail, and office buildings over time. This approach would link the concept of economic development to a tangible measure of structures. Such studies have yet to be completed, representing a significant whole within the literature on the effects of impact fees. Investigations of this nature should be a high priority for future research. However, it is fortunate that one existing study does link the concept of economic development to another measurable characteristic- job growth. Nelson and Moody (2003) consider the central question:

Between communities that are identical in every respect except for impact fees, are those with impact fees associated with the generation of more jobs at the margin than those without, all things considered?

They use a panel data base to examine the relationship between local economic development, defined to be the change in jobs at the county level, and aggregate impact fee collections in the 67 counties of Florida during the period 1993 to 1999. Florida's counties vary considerably with respect to size (7,000 to 2.1 million residents), economic growth rates (strongly positive to stagnant or even negative), and demographic characteristics (affluent, minority composition, urban, rural). Their panel follows counties from 1993 to 1999, encompassing various economic cycles and levels of impact fee assessment. Total impact fee revenues collected by counties in their sample rose from about \$100 million in 1993 to nearly \$200 million by 1997. During the study period about half the counties had jurisdictions collecting impact fees, and, of those where fees were collected, the variation in aggregate countywide collections was substantial. Thus, they argue there is sufficient variation in the data to evaluate the "boost-or-drag" effects of impact fees on job growth.⁸

Their analysis finds a significant positive correlation between impact fees collected per building permit issued in one year and job growth over the next two years. The finding holds even when controlling for base year employment growth, prior decade employment growth, property taxes per capita, the value of local building permit activity, regional, temporal, and other factors. Their finding is consistent with the hypothesis that impact fees spent on infrastructure development are not a drag on local economies with respect to job growth but, instead, can be beneficial to them. This supports the view of impact fees as a user fee rather than an excise tax, again consistent with the new view.

⁸ Also note that Florida is the ideal case study since it has an extensive history of case law that develops and applies the rational nexus test to impact fee programs. This increases the likelihood that observed correlations reveal a true cause-and-effect relationship between impact fees and market conditions.

Jeong and Feiock (2006) investigate the effect of the presence of an impact fee program on local job growth at the county level for counties in Florida between 1991 and 2001. Similar to the Nelson and Moody finding, they conclude that impact fees do not reduce job growth and instead are found to have a positive effect on job growth. Shortcomings of the study include the fact that only the presence of an impact fee program is measured rather than the actual magnitude of the commercial impact fees levied upon developers (which varies dramatically across Florida Counties) and that the effects of water and sewer impact fees were not investigated. Still, this does again provide a small piece of evidence in support of the new view of impact fees and the idea that impact fees may not be a drag on local economic growth and development.

C. Summary

The relationship between impact fees and economic development is complex and more research is needed before we can say it is well understood. For their part, Nelson and Moody caution that more rigorous analysis should be undertaken to explore the short and long-run impacts that impact fee programs have on job growth and other important measures of economic activity in communities. Nonetheless, a conservative interpretation of their results would at least be that no discernable adverse economic effects from impact fees are present. A more liberal interpretation would argue that the imposition of impact fees has a positive effect on local employment. Again, future research should be undertaken to further validate (or refute) this possibility.

V. Conclusions

Impact fees have become an important facilitator of community growth and development over the past generation. They have become so widespread in many Western (e.g., California, Arizona, New Mexico) and Southern (e.g., Florida, Texas) States, that expanding communities *not* using them in these areas are considered unusual. However, the use of impact fees is not without debate, especially since they represent a large shift away from prior public infrastructure financing mechanisms and land use management techniques. Public debates often reflect a significant lack of understanding of even their most basic effects- perhaps because so much of the convincing empirical evidence concerning their impacts is relatively new. The current debate focuses primarily on the effect of impact fees on housing prices, residential construction rates (and construction patterns in regards to affordable housing opportunities), and non-residential economic development and growth. Let us review several major findings from the literature.

First, political resistance to property tax increases has compromised the conventional approach to paying for infrastructure needs brought on by new development. The type of large, across-the-board property tax increases that are needed to pay for the full array of system and service extensions are unpopular and unlikely to be feasible in the long run. Alternative financing mechanisms such as impact fees are increasingly being recognized as more feasible policies that enable communities to grow in ways that meet the needs of both current and future residents.

Second, unlike excise taxes, impact fees are earmarked for providing facilities that will serve new development and may be better characterized as user fees (benefit taxes). Existing evidence indicates this provision is valued by both residential and commercial development. While impact fees generally do not reflect the full marginal cost of infrastructure improvements, they do establish a clear link between those paying for, and those receiving benefits from, new infrastructure. The direct economic benefits include the actual infrastructure investment, such as new roads, new schools, and new water and sewer system extensions. Indirect benefits are also important and may include improved predictability in the marketplace, knowing when and where infrastructure investment will occur, and that all developers are treated more equitably given that they are willing to pay the fees.

Third, in the absence of impact fees, local governments may simply *not be able to generate the revenue necessary to accommodate growth*. They are likely to react in predictable ways- either by severely limiting the supply of buildable land or by enacting other binding restrictions such as exclusionary zoning, service boundaries, explicit or implicit limitations on the number of building permits to be approved, or even outright restrictions on growth such as moratoria. With impact fees, communities can more effectively generate the infrastructure necessary to open areas for development.

Fourth, impact fees have complex effects on housing prices. A review of recent theoretical and empirical investigations suggests that while impact fees may raise housing prices, this is not because they are simply “passed forward” to home buyers. Instead, housing prices rise because impact fees lower property taxes and provide facilities of value to the community, increasing resident’s willingness to pay for housing. Evidence to support this idea comes from the consistent finding that impact fees produce similar *proportional shifts* in price across different segments of the market for single family homes rather than similar *absolute shifts*. Also, the consistent finding of over-shifting lends support to the conjecture that impact fee revenues may effectively be used to leverage extra-jurisdictional investment.

Fifth, impact fees have dramatically different short versus long-run impacts on building permit applications. Developers will predictably try to obtain as many approved permits as they can in the months leading up to the implementation or increase of impact fees which is offset by a period of several months following where relatively fewer permits are issued. Once a program is adopted, developers on both sides of the implementation date bear all the same benefits, but only pay the statutory incidence of the fee if they obtain approval after implementation. Why would they wait to receive no additional benefits but incur an extra cost? On the other hand, this very-short-run spike-dip phenomenon is unlikely to have a noticeable impact on housing starts or completions rates. Also, sound empirical approaches account for this short-run phenomenon by using longer time periods to measure growth and using lagged, rather than contemporaneous values of impact fees.

Sixth, the relationship between impact fees and residential construction rates is even more complicated than their impact on prices and may depend upon the type of impact fee being used, the type of residential development under consideration, and the location of the jurisdiction within the greater metropolitan area. Our understanding of this complicated relationship is inhibited by the relative scarcity of empirical research on the issue. Studies by Burge and Ihlanfeldt (2006a, 2006b) provide the most convincing evidence to date. We find that non-water/sewer impact fees are generally able to increase the stock of housing (including affordable housing) in suburban areas but that no significant relationship is found between impact fee levels and construction rates in central city or rural areas. We also find evidence to support the idea that impact fees which replace property taxes (i.e. roads, schools, parks) generate more benefits than impact fees which replace higher user fees (water and sewer).

Seventh, impact fees do not appear to slow job growth or economic development. The one direct investigation of this relationship suggests that, at a minimum, impact fees are not a drag on local economies and that it is more likely that they actually enhance commercial activity and economic growth.

In the end, impact fees are no panacea. Housing prices, housing production, economic development and job growth in communities all depend on a myriad of factors. Nonetheless, impact fees can facilitate the provision of infrastructure improvements needed to sustain economic development, meet housing needs, and even to potentially generate more affordable housing than may otherwise be produced in inner suburban areas. A perspective that surfaces from spanning the literature on the effects of impact fees is that much of the early work used a partial equilibrium approach. However, impact fee payments are not added into the development process while everything else remains the same. The best framework for public debates and analytical research concerning impact fees and their effects is to recognize what outcomes their implementation is likely to produce *relative to outcomes that occur when methods other than impact fees are exclusively used to handle situations that would typically motivate impact fee use*. Following this approach, it is likely that communities in growing regions that have impact fees may enjoy a higher quality of life and fewer negative effects of growth in the long run than communities in those regions choosing not to use impact fees.

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