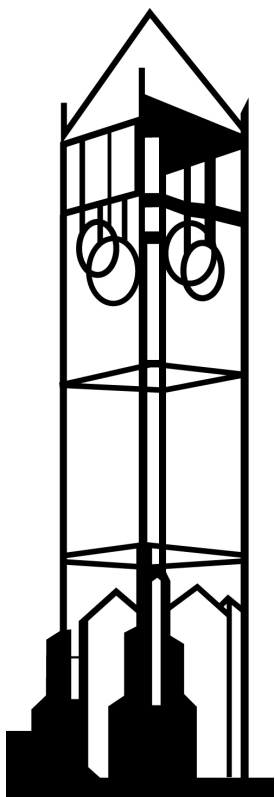


## **If You Build It, Will They Come?: Fiscal Federalism, Local Provision of Public Tourist Amenities, and the Vision Iowa Fund**

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# If you build it, will they come?: Fiscal federalism, local provision of public tourist amenities, and the Vision Iowa Fund

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In 2001, Iowa instituted a state program called Vision Iowa. This program aimed to enhance recreational, cultural, educational or entertainment attractions available to the general public across Iowa. Iowa communities could apply for state funding for a wide variety of projects. The project was funded by taxes imposed on casinos. Because the State only allowed casinos in a few locations, the Vision Iowa program aimed to spread the benefits of the casinos more broadly including communities that were not given the right to host a casino. Projects were supposed to enhance tourism.

Between 2001 and 2008, the \$228 million public investment by Vision Iowa helped spur almost \$2 billion in new public facilities and improvements through 393 projects in 94 of Iowa's 99 counties. Thirty-four percent of the projects and 33% of the allocated funds were assigned to cultural amenities. Investments in recreational and outdoor amenities represented 56% of all projects but just 26% of all funds, and so recreational amenities tended to be smaller on average. In contrast, entertainment amenities accounted for 10% of the projects but 42% of all funds, so entertainment projects were much larger than average.

Although the rationale for the program was to allocate some of the casino revenue to the counties that were not allocated a casino, counties with casinos received the majority of the funds. Twenty-three percent of the projects representing 63% of the allocated funds were placed in the 13 casino counties. However, this reflects the fact that casinos tended to be in larger counties and larger counties had larger projects. Larger counties were also better able to provide the required local match which averaged 80% of the project costs. Over three-quarters of the projects were placed in towns with fewer than 10,000 residents.

This study shows that tourism did respond positively to the local public amenities built as part of the Vision Iowa program. County taxable retail sales rose by 0.9% for every 1% increase in expenditures on the projects. Because the State of Iowa taxes sales at 5% of each additional dollar of sales induced by the program, the State benefited particularly from its investments in local amenities. The State's return averaged 9.2% per year in increased sales tax revenue induced by the program. Returns to the local community were much smaller at 0.9% per year because the local area invested four times more than the state and because local sales tax was limited to no more than 2% of induced taxable sales.

The program would be counterproductive if it caused a shift in retail sales from surrounding communities to the locality building the new public amenity. However, we find significant increases in taxable retail sales in the surrounding areas as well. The finding of positive spillovers to the State and to the surrounding communities from newly built local public amenities suggest that without the State subsidy, local communities would undersupply public amenities aimed at attracting visitors.

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## If you build it, will they come?: Fiscal federalism, local provision of public tourist amenities, and the Vision Iowa Fund

*Daddy, we don't have to sell the farm. People will come...from all over.  
They'll just decide to take a vacation, see? And they'll come to Iowa City.  
They'll think it's really boring. So they'll want to pay us.  
Like buying a ticket.  
It will be just like when they were kids, a long time ago.  
Karin Kinsella to her father Ray, Field of Dreams (1989)*

### 1. INTRODUCTION

Research documenting the importance of local amenities in fostering economic growth has sparked a burgeoning interest in amenity-led rural development efforts. Amenity-led development efforts can have a variety of positive economic effects (Power, 2006). Most directly, they may spur tourism which supports increased retail expenditures, employment and new firm entry. Amenities may also draw new residents and new workers to the area (Deller et al., 2001; McGranahan, 1999; Nord and Cromertie 1997).

While much of the research focus has been on natural amenities -- pleasant climates, oceans, lakes, and other beautiful landscapes-- more recent studies recognize the importance of man-made amenities as well. Built amenities such as recreation facilities can complement natural ones, resulting in stronger growth impacts than would occur from the natural ones alone (Olfert and Partridge, 2010). Cultural amenities such as museums or music venues contribute to local quality of life and encourage in-migration (Clark, 2003; Florida, 2002; Partridge, et al. 2008; Wojan, Lambert & McGranahan 2007).

In states lacking natural amenities such as Iowa where vistas range from corn on the right and soybeans on the left, amenities must be manufactured. A long-standing issue in public economics is whether local communities will provide the optimal level of such public amenities. If benefits from the public amenities spillover to nonresidents (Gordon, 1983), or if funding for

the amenity is generated by distortionary local taxes (Zodrow and Mieszkowski, 1986), the local government will under-invest in local public goods relative to the optimal level. One solution to this under-provision of local public goods is the provision of matching grants from a higher level of government. When appropriately designed, these matching grants can induce local governments to incorporate the interjurisdictional spillover benefits in their decision making, lessening the costs arising from a lack of coordination among communities, while preserving local decision-making authority (Gordon, 1983; Oates, 1999; Oates, 2005).

This study examines whether an Iowa state program that offered partial investment in local public cultural, recreational and entertainment amenities paid off for the state. In 2001, Iowa instituted Vision Iowa, a program that provided partial funding to Iowa communities for a wide variety of projects ranging from relatively small aquatic centers, park improvements and libraries to large convention centers and performance and sports arenas. Over eight years, the \$228 million public investment by Vision Iowa helped spur almost \$2 billion in new public facilities and improvements in 91 of the 99 counties in Iowa.

We find that the Vision Iowa program significantly raised taxable sales relative to past county-specific trend growth in sales in the counties that built new public amenities. The State of Iowa made a 9.2% return per year on their investment in the form of a 5% sales tax on every additional dollar of sales generated. Neighboring counties also experienced more modest but statistically significant growth in taxable sales relative to trend. Therefore, we find two ways that benefits from the local amenities spilled over to other jurisdictions, implying that local governments would have undersupplied these built amenities without the state subsidy. The communities that hosted the new amenities had a much more modest 0.9% per year return on

their investments in the form of induced increase in local sales taxes, but they also received the utility from having the new amenities in town.

## 2. CONCEPTUAL FRAMEWORK

Tiebout (1956) argued that variation in the provision of local public goods and tax rates allowed people to “vote with their feet.” Mobile residents choose to live in the community that best meets their willingness to pay for and utility from government services. An implication is that communities can compete for residents by providing a mix of publicly funded amenities that is particularly attractive to populations it wishes to attract. On the other hand, attractive public goods will raise the value of inelastically supplied local land as migrants attracted by the amenities bid up land values. Property tax receipts rise with rising land values. As a result, the property tax can be viewed as a residential user fee on local public goods (Hamilton, 1975, 1976). In fact, Glaeser (1996) contends it is the opportunity to raise local taxes that provides an incentive for local governments to provide the amenities that local residents desire. But Bewley (1981) shows that the assumptions necessary for a Tiebout equilibrium are unrealistic. Effectively, there have to be enough communities to allow every consumer type to move to a unique community type that maximizes utility for that group of homogeneous consumers. Costs of public services have to be proportional to the number served, which means public amenities cannot be pure public goods. Deviations from these assumptions imply that the local government may not optimally provide local public goods.

Other authors argue that if capital is mobile across communities or if local governments cannot restrict consumption of public amenities to local residents, then the local government will underinvest in local public goods. In the first case, property taxes artificially increase the cost of private capital. This distortion in the cost of capital will cause investors to shift toward low tax

jurisdictions. Knowing this, local governments will hold back on the provision of public services relative to the level provided if they had access to a nondistortionary revenue source (Zodrow and Mieszkowski, 1986; Zodrow, 2006).

The second case occurs when the benefits from the amenity spillover to other jurisdictions. As originally modeled by Gordon (1983), these spillovers to other jurisdictions can be positive or negative. Citizens in other jurisdictions can benefit from one community's investment in a public library (as an example) in several ways. Nonresidents can use the library without having to pay supportive taxes; population may shift to the community with the library which lowers congestion costs of consuming public goods in other jurisdictions; or other jurisdictions might shift tax revenues toward other public goods due to a reduced need to provide library services. On the other hand, the library could have negative spillover effects on other jurisdictions by attracting nonresident shoppers whose sales taxes help support the library or by inducing higher costs of public service provision elsewhere as those jurisdictions raise their own library expenditures as a competitive response. In addition, if there are returns to scale in library provision, it may be cost effective for one jurisdiction to specialize in library provision while other jurisdictions specialize in other regional public goods (Zax, 1988).

The existence of these price distortions and externalities means that reliance solely on local taxes to pay for local public amenities can result in an inefficient investment in local public goods. Gordon (1983) and Oates (1999, 2005) argue that fiscal federalism offers a mechanism to induce the optimal level of public goods provision. Because distortionary local taxes and positive external benefits lead local governments to underproduce local public amenities, state or federal matching grants can induce additional investment in local public goods. If local public goods impose negative externalities on nonresidents, the local government overproduces local

public goods as they do not incorporate the negative consequences of their local amenities on their neighbors. Taxing local public goods would be the natural central remedy, but the Constitution limits the federal government's power to tax local governments. However, the federal and state governments can regulate the level of local public good provision. For example, state governments place limits on local per pupil expenditures in public schools in order to equalize school quality across school districts.

The theory of fiscal federalism has been put in practice in numerous settings: Medicare, welfare reform, school finance, job training, public transit, disaster relief, and public housing. The rationale for these multilevel funding methods presumes positive spillover benefits from public goods, an assumption that holds broadly for public goods (Pereira and Roca-Sagalés, 2003; Pinto, 1997). However, negative spillovers are found for several public amenity investments. For example, Boarnet's (1998) work provides evidence of negative spillover effects across counties from highway infrastructure investments. Mobile capital tends to migrate toward places with the best infrastructure. His finding is corroborated by others who find that local projects draw economic activity away from areas that do not receive the benefit of federal highway spending (Holl, 2004; Shirley and Winston, 2004; Cohen and Morrison Paul, 2007).

### 3. THE VISION IOWA PROGRAM

In 2001, the state of Iowa instituted Vision Iowa, a program aimed to enhance recreational, cultural, educational, or entertainment attractions available to the general public across the state. Iowa communities could apply for state funding for a wide variety of projects. The project was funded by taxes imposed on casinos. Because the State only allowed casinos in a few locations, the Vision Iowa program aimed to spread the benefits of the casinos more

broadly including communities that were not given the right to host a casino. Vision Iowa only provided partial funding for the projects with the majority having to be raised locally.

This study examines the benefits incidence from a state effort to induce more local provision of public cultural, entertainment and recreational amenities in Iowa. The State of Iowa paid about 20% of the costs of these local projects and the balance was paid by local taxes and/or other grants or charitable donations. Iowa is a good laboratory for evaluating such policies because the state is divided into 99 counties of roughly equal size, few of which have naturally occurring amenities that might complicate the identification of any returns to man-made amenities. The project fits the fiscal federalist response to a presumed underprovision of local public amenities caused by local reliance on distortionary property taxes and/or positive spillover of benefits to nonresidents.

Funded projects were selected by a Vision Iowa Board, whose members were appointed by the Governor based on experience or expertise in the field of tourism development and promotions, public financing, architecture, engineering, major facility development or construction. The Vision Iowa Board was charged with ensuring that projects would improve the quality of life or quality of attraction in the community, create an economic impact, and use planning principles such as efficient land use and existing infrastructure.

Between 2001 and 2008, the \$228 million public investment by Vision Iowa helped spur almost \$2 billion in new public facilities and improvements through 393 projects in 94 of Iowa's 99 counties. Over three-quarters of the projects were placed in towns with fewer than 10,000 residents, and only 13% were located in towns with populations over 50,000. Although the rationale for the program may have been to allocate some of the monopoly rents earned in counties hosting the casinos to the counties that were not allocated a casino, there was an



apparent tendency to reinvest the Vision Iowa funds in the same casino counties that generated the revenue. Twenty-three percent of the projects representing 63% of the allocated funds were placed in the 13 casino counties. However, this reflects the fact that casinos tended to be in larger counties. Larger counties, including counties with casinos, were better able to provide the required local match for projects. Holding fixed aggregate income in the county, casino counties were not significantly more likely to receive Vision Iowa funding.<sup>1</sup>

Thirty-four percent of the projects and 33% of the allocated funds were assigned to cultural amenities. Investments in recreational and outdoor amenities represented 56% of all projects but just 26% of all funds, and so recreational amenities tended to be smaller on average. In contrast, entertainment amenities accounted for 10% of the projects but 42% of all funds, so entertainment projects were much larger than average.

Figure 1 portrays the average dollars per capita of both Vision Iowa subsidies and expenditures of local and neighboring counties over time. The graph's upward trend illustrates the monetary increases in funding that culminated in numerous types of amenities over the years. In dollar amounts, the state's investment in the local county averaged around \$75 per capita in 2008, which translates to over \$2.3 million per county. The local counties' expenditures averaged around \$9.6 million, for a total of \$11.9 million expended on local projects per county, with the state bearing roughly one-fifth of the project cost. The average amount spent on projects in neighboring counties per capita is approximately 10 times the own county investment,<sup>2</sup> aggregating to \$116 million in amenities in the surrounding communities. (Overall, the dollar amounts spurred by Vision Iowa funding represent a substantial amount of local public amenities investment in the state over the period.<sup>3</sup>

Although not by deliberate design, the Vision Iowa project offers an opportunity to examine whether state grants designed to induce new local public amenities actually result in a more efficient provision of public services. Efficiency is enhanced if we can demonstrate positive externalities from these local projects that go to nonresidents. In the case of the types of tourism related projects funded by the Vision Iowa program, the most plausible source of a positive externality is an increase in revenue from taxable retail sales that go to jurisdictions other than the local area receiving the new amenity. Clear evidence of a positive externality exists if increased tourism raises sales not just in the own community, but in neighboring communities as well. In addition, the State of Iowa benefits as it gets 5 of every 7 cent tax imposed per dollar of induced increase in taxable retail sales. However, if as a result of the program we see a decrease in taxable retail sales in neighboring communities, then there are negative externalities from the Vision Iowa projects. If true, the state grants for local provision of public amenities will cause overproduction of public goods which will harm the state as a whole.

The Vision Iowa program represents a sudden sustained surge in funding of public amenities in large and small towns in all parts of the state. Projects were subject to a selection process, so only the most promising projects for bolstering tourism should have been funded. As such, our evaluation is not a randomized social experiment, but an attempt to measure the returns to the types of promising local public amenity investments that might normally meet the criteria of a public good. Our results should generalize to the most promising tourism projects that might pass a local bond issue, but will overstate returns to any randomly placed and/or designed public amenity that did not require local funding or pass a state review.

#### 4. EMPIRICAL MODEL

Let real taxable sales in county  $i$  at time  $t$  be represented by  $S_{it}$ . We assume that in the absence of any policy shocks, real sales are defined by the trend stationary process

$$(1) \quad \ln(S_{it}) = \alpha_{i0} + \alpha_i t + \varepsilon_{it}.$$

Note that each county real sales series has its own unique trend and constant.

The real sales process shifts when exposed to a local public amenity,  $A_{it}$ , provided of course that the amenity is actually valued. In our context, these amenities are funded in part by the state and in part by local tax payers. The impacts of the two funding sources on taxable sales would not be the same in general because the state subsidy comes without the need for local taxes while the local expenditures require commitment of local resources equal to the value of the amenity. The local tax obligation may lower taxable purchases by local tax payers.

At the same time, neighboring counties may also be introducing man-made amenities,  $N_{it}$ . These amenities may increase or decrease sales in the home county. If such amenities substitute for one another, local sales will decrease in the presence of competing amenities elsewhere. If such amenities complement each other, the opposite will occur. The introduction of these policy shocks supplements the error process in Equation (1) so that

$$(2) \quad \ln(S_{it}) = \alpha_{i0} + \alpha_i t + \gamma_A \ln(A_{it}) + \gamma_N \ln(N_{it}) + \omega_{it}.$$

The term  $\omega_{it}$  is an *i.i.d* error process. The sign and significance of  $\gamma_A$  and  $\gamma_N$  will reveal whether local and area amenities affect local taxable sales and whether neighboring amenities are substitutes or complements.

To operationalize (2), we need to specify the functional form for  $A_{it}$  and  $N_{it}$ . Note that these amenities were introduced first in 2000, and so we set them equal to 1 before that period and thereafter until the first Vision Iowa dollar is spent in the county. We specify the quantity of local public amenities per person as

$$(3A) \quad A_{it} = V_{it}^{\beta_V} L_{it}^{\beta_L}, \quad t \geq 2000$$

$$= 1, \quad t < 2000.$$

where  $V_{it}$  is the cumulative infusion of real Vision Iowa funds into the local county and  $L_{it}$  is the cumulative local expenditures on these projects. These dollar amounts are in per capita terms to account for differences in the scale of the projects. The rationale is that a dollar of public good will be less noticeable and hence have a smaller sales externality in a metropolitan area than in a small town. Effectively this presumes that cultural, entertainment and recreational amenities face congestion costs and must be scaled up in more populated areas. We assume that the production of local amenities uses resources efficiently so that  $\beta_V > 0$  and  $\beta_L > 0$ .

We model neighboring amenities similarly as

$$(3B) \quad N_{it} = V_{lit}^{\theta_V} L_{lit}^{\theta_L}, \quad t \geq 2000$$

$$= 1, \quad t < 2000.$$

$V_{lit}$  is the cumulative Vision Iowa investment in all contiguous counties to  $i$ . The own county cumulative investments in these projects is given by  $L_{lit}$ . As before, we assume these investments are efficient so that  $\theta_V > 0$  and  $\theta_L > 0$ .

Inserting Equations (3A) and (3B) into Equation (2), we get

$$(4) \ln(S_{it}) = \alpha_{i0} + \alpha_i t + \gamma_A \beta_V \ln(V_{it}) + \gamma_A \beta_L \ln(L_{it}) + \gamma_N \theta_V \ln(V_{lit}) + \gamma_N \theta_L \ln(L_{lit}) + \omega_{it},$$

which becomes the empirical specification used to test the impact of the Vision Iowa program. Note that the coefficients on the dollars spent on local amenities will be the product of two effects, the productivity of the dollars in generating a quality public amenity and the impact of the amenity on sales. Under the maintained hypothesis that these dollars are used efficiently, the

signs on these compound coefficients will still reveal whether the own county and neighboring county amenities raise or lower local sales.

We use several alternative measures of the dependent variable. In addition to taxable retail sales, we also can specify taxable sales in eating and drinking establishments. Further, we have information on the total number of firms and on the number of eating and drinking establishments which we use as alternative outcome measures.

## 5. DATA

We assume that the local authority is the county and that the indicator of amenity success or failure will depend on retail sales or the number of firms servicing the retail sector. In Iowa, data on retail sales,  $S_{it}$ , and number of firms by county are available from the *Iowa Retail Sales and Use Tax Reports*, published annually by the Iowa Department of Revenue and Finance beginning in 1976. Sales of all taxable goods and services and number of firms are reported in total and by two digit merchandise categories as long as five or more businesses within the category report data. Overall taxable retail sales is available for every county and year, and data for eating and drinking establishments is available for all but four possible county-year cells. This provides us a comprehensive 32 year window for each county to evaluate whether the program has any impact on consumer purchases. We convert the nominal sales data reported by the state to real (2008) dollars using the all item urban consumer price index (CPI-U) from the Bureau of Labor Statistics. Information on each Vision Iowa project including location, project type, date, total dollar amount, and state contribution,  $V_{it}$ , was compiled annually by the Iowa Department of Economic Development.<sup>4</sup> All necessary information on cumulative investments in Vision Iowa projects by county were culled from those on-line reports. Our measure of aggregated amenity expenditures in neighboring counties incorporated all counties with a

common border excluding counties that only touch at the corners. Authors' summaries of these data are presented in section II.

## 6. RESULTS

Table 1 reports the results of our estimation of Equation (4) using the natural log of real taxable retail sales and of real taxable sales in eating and drinking establishments as the dependent variable. The specification requires a county-specific constant  $\alpha_{i0}$  and a county-specific trend term  $\alpha_i$ . These 198 coefficients are estimated but not reported. The first column is the reduced form effect of the state Vision Iowa subsidy on the own county and any potential spillover effects from grants awarded to neighboring counties. The focus is only the state subsidy in the own and neighboring counties effectively constrains the local expenditure effects  $\beta_L = \theta_L = 0$ . Because the Vision Iowa subsidy requires local effort, the second column separates the Vision Iowa effect into the direct effect of the subsidy plus any indirect effect from induced local expenditures. This specification includes the full set of four parameters reflecting responses to cumulative per capita state and local expenditures on Vision Iowa projects in the own and neighboring counties. The reduced form effects in the first column can be compared to the corresponding summed effects of the subsidy and the induced local expenditure in the second column.

Turning to the first column, we find that a 1% increase in per capita cumulative state Vision Iowa subsidy to the county results in a 0.009% increase in county taxable retail sales. The effect is quite large: as the implied 1% increase in per capita subsidy amounts to about \$15 thousand in aggregate, but the induced increase in taxable sales is nearly \$29.5 thousand per year. The literal implication of this result is that local built amenities are complements with local purchases in the retail and hospitality sectors. The state's share in the form of a 5% sales tax on

induced increases in sales is \$1,474 per year, implying a state return of just under 10% per year per \$15,000 invested.

The state subsidy in any one county does not occur in a vacuum as the state is also investing in other counties at the same time. Investments in neighboring counties may compete with the effectiveness of the state subsidy in the own county. However, it appears that Vision Iowa investments are complementary across counties. Local county sales increase 0.004% from every 1% increase in per capita subsidies in the neighboring counties. As a result, even counties that did not receive a subsidy benefited from state investments in their neighbors. These implied effects are also large, amounting to \$1.1 million in induced sales and \$57 thousand in added sales tax. Clearly the state gets a large average return from its Vision Iowa investments.

The reason the state gets such a large return on its investment is that it is only investing a fraction of the cost of the local project, but with its 5% state sales tax, it gets a disproportionate share of the induced return. In contrast, the local constituents provide over 80% of the cost of the project but can only charge a maximum sales tax of 2% on the induced increase in sales.

By including the local expenditure measures  $\ln(L_{it})$  and  $\ln(L_{l,t})$  as additional regressors, we can decompose the reduced form effect of the state subsidy into components attributed to the share of the project costs borne by the local entity and the share borne by the state. The results are reported in the second column. Turning first to the own county effects, the returns to a 1% increase in the per capita state subsidy (0.006%) are nearly twice the returns to the per capita local expenditure. This is true despite the fact that a 1% increase in local expenditures implies a dollar amount more than 4 times larger than the 1% increase in Vision Iowa subsidy. The key difference is that the local expenditure requires that the community raise property taxes to pay for the project. Presumably, the implied decline in local after tax income would reduce sales,

even as the project might induce increased sales. In contrast, the state subsidy is paid by Casino earnings which have no attached local tax obligation.

When we include both  $\ln(V_{it})$  and  $\ln(L_{it})$ , neither coefficient is statistically significant. Because the amount of the local match is tied to the amount of the state award,  $\ln(V_{it})$  and  $\ln(L_{it})$  are highly correlated, our difficulty in estimating their independent effects is not surprising. Nevertheless, the summed effect of 0.009, interpretable as the elasticity from a 1% increase in both local expenditure and state subsidy, is highly significant and virtually identical to the reduced form effect of  $\ln(V_{it})$  in the first column. Using the relative size of the estimated coefficients on  $\ln(V_{it})$  and  $\ln(L_{it})$ , we can attribute roughly two-thirds of the increase in taxable local sales to the state subsidy and one-third to local expenditures.<sup>5</sup>

The summed elasticity of local taxable sales to a 1% increase in state and local Vision Iowa expenditures in surrounding counties is 0.003, virtually identical to the estimate in column one. While the individual coefficients are not precisely estimated, their relative magnitudes are sensible. For the spill-in benefits, it is presumably the size of the project that matters most and not the funding source as the own county would incur no tax liabilities to fund projects in neighboring counties. In fact, the response from a 1% increase in neighboring county expenditures is 2.5 times larger than the effect of a 1% increase in state subsidy in those counties, reflecting the larger implied dollar expenditure from the neighboring counties relative to the smaller state contribution on Vision Iowa projects.

The last two columns replicate the exercise except that we focus exclusively on taxable sales from eating and drinking establishments. Here we find that projects in surrounding counties compete with own county projects in attracting customers. Apparently restaurant and bar sales are more closely tied to proximity of cultural, recreational and entertainment amenities



than are retail sales in general. Nevertheless, the overall effect on taxable eating and drinking establishment sales of a 1% increase in state and local per capita Vision Iowa expenditures in own and neighboring counties is 0.006, about half of the magnitude for retail sales as a whole.

The results in Table 1 show significant evidence of spillover benefits from a local built amenity to neighboring counties in the form of increased sales and to the state in the form of increased sales taxes. As we only observe completed projects, we cannot test whether the state subsidy increases local effort to build public amenities. However, the existence of these external benefits to other jurisdictions implies that the localities would have invested less than the optimum amount in the absence of the Vision Iowa program.

Table 2 shows the corresponding effects of Vision Iowa subsidies and community expenditures on the number of firms per capita in the county or in eating and drinking establishments. The specification is the same as in Table 1. In the first column, we find a small positive effect of the Vision Iowa spent locally, but a larger negative effect of Vision Iowa funds spent in the surrounding counties. While the estimates are statistically significant, they are not large. A 1% increase in the state subsidy in the local county would result in an increase of 0.001% in the number of firms or less than one more firm in the county. A 1% increase in the subsidy in the surrounding counties lowers by 7 the number of local firms.

When we include both  $\ln(V_{it})$  and  $\ln(L_{it})$ , we find that all of the apparent firm growth attributable to local expenditures on Vision Iowa projects is due to the local match. A 1% increase in the expenditure in the local county results in an increase of 0.003% in local firms, roughly 2 added firms. Vision Iowa investments in the surrounding counties have mixed effects with the state subsidy increasing local firm numbers and the local match decreasing local firms. The summed effect of a 1% increase in both the local expenditure and the Vision Iowa subsidy in

surrounding counties is just marginally smaller than the reduced form effect in column 1, implying the loss of 6 firms. When we focus on eating and drinking establishments, the sector presumably most sensitive to Vision Iowa projects, we get very similar qualitative results. The summed effect of local projects funded by local expenditure plus the Vision Iowa subsidy is almost 4 times larger than the summed effect in column 2. A 1% increase in local expenditure from both sources increases number of firms by 0.005%. Expenditures in surrounding counties have a modestly larger negative effect of -.008% for every 1% increase.

Overall, the effect of the program on firms in Table 2 is similar to the effect on sales in Table 1. The direction of the summed effects of local expenditures and of expenditures on surrounding counties are the same on sales and firm numbers in the eating and drinking establishment sector. Own county expenditures have similar effects on total sales and firm numbers also. However, amenity expenditures in surrounding counties raise total sales but reduce total firm numbers. While statistically significant, the actual change in firm numbers is numerically small.

To make the results more concrete, we report the implied effects of a one dollar per capita infusion in Vision Iowa subsidy or local expenditure match in the local county or in the surrounding counties. A one dollar per capita increase corresponds to a \$29,558 in aggregate expenditure when we apply the average county population over the sample period. These results, based on simulations of the second and fourth columns of Tables 1 and 2, are reported in Table 3.

First, looking at the effects on total sales, we can see that a \$1 per capita infusion of Vision Iowa grant results in an annual increase of total taxable sales of \$35,757. This is not the full effect as the infusion requires a local match. The effect of \$1 per capita of Vision Iowa

subsidy plus \$1 per capita of local match rises to \$40,472 in increased sales per year. These investments do not occur in a vacuum, and so similar investments are occurring in other counties that could complement or compete with local sales. When we add an additional dollar per capita in Vision Iowa subsidy and local match in the surrounding counties, we find that local sales rise an additional \$742 from projects in neighboring counties to a total of \$41,213.

Is this a good deal for the state? The best measure of the state's return is  $V_{it} + 4 * L_{it}$  from an infusion of \$1 of state Vision Iowa subsidy per capita. The rationale is that each \$1 of state investment generated an average of \$4 of local investment. From the state's perspective, the infusion of \$29,558 yields an increase in taxable sales of  $\$35,757 + 4 * \$4,714 = \$54,614$  per year.<sup>6</sup> The state sales tax is 5% of this or \$2,731 per year. The internal rate of return for the state is 0.092. The general equilibrium effects make this a lower-bound estimate of the return, as the Vision Iowa subsidy in one county increases sales modestly in surrounding counties as well.

Is this a good deal for the locality? The local cost is \$118,232 to generate the increase in local sales of \$54,614. The local sales tax is 2%, so the induced local sales tax revenue is \$1,092 per year. The internal rate of return is 0.009 or roughly one-tenth the return that goes to the state. However, the local area also gets the value of consuming the new local amenity, and so the true local return must be larger than 0.009.

It is apparent that the state has a substantial interest in encouraging the development of these local cultural, recreational and entertainment amenities. Just through the induced sales tax revenue, the state makes back a good return on its investment. The return to the local community is much more modest. Because some of the return is externalized and because the local government's return is quite modest even with the subsidy, it seems apparent that the local communities would undersupply these amenities without the state subsidy.

For completeness, we include the related impacts on total firm numbers and on the eating and drinking sector from dollar per capita investments by source and location. Note that if we continue to apply the 4 to 1 average local match required by the program, the implied total effect of a dollar per capita Vision Iowa infusion on total firm numbers is  $-0.021 + 4*0.01 = 0.02$  local firms added to the local market, so on net, the Vision Iowa project has a small positive effect on firm numbers. The general equilibrium effects on other counties go in the opposite direction, so even this modest change in firm numbers is an overestimate.

The impacts on eating and drinking establishments show that the benefits of the program are more broadly felt than just the food service sector. The total sales effect is a factor of ten larger than that on restaurants and bars. However, the effect on firm numbers are felt more intensely in the food service sector, albeit still of modest size.

## 7. CONCLUSIONS

For eight years, the State of Iowa offered local areas the possibility of getting a subsidy for approved local built amenities. The Vision Iowa program resulted in 393 new publicly funded local amenities aimed at attracting visitors to the locales. Our analysis indicates that on average, the amenities increased county taxable retail sales relative to the county's past trend sales growth by 0.9% for every 1% growth in expenditures on local amenities. These built amenities also had spillover benefits to neighboring communities in the form of smaller induced growth in taxable sales. In addition, because the state taxes each dollar of added sales by 5%, the state receives benefits from the program as well. Viewed as an investment, the State's expenditures on the Vision Iowa program generated an average return of 9.2% per year in increased sales tax revenues. Returns to the locality were a bit less than 1% per year.

Our results show why left to themselves, local areas will underinvest in public amenities aimed at attracting tourists. Because benefits spillover to other communities and to the state as a whole, the subsidy from the state is necessary to induce local communities to provide the efficient level of the local public good. Hence, built local amenities aimed at attracting visitors are a case where fiscal federalism improves local provision of public goods.

*People will come Ray.  
They'll come to Iowa for reasons they can't even fathom.  
Terrance Mann to Ray Kinsella *Field of Dreams* (1989)*

In the case of Vision Iowa projects, they did come, as Karin Kinsella and Terrance Mann predicted. But they only come if built, and spillover benefits to other jurisdictions mean that tourist amenities may remain as dreams without the state subsidy.

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<sup>1</sup> This does not contradict the earlier results that projects were atypically in small towns as the towns tended to be in wealthier counties.

<sup>2</sup> In figure 1, the projects in neighboring counties are scaled down by a factor of ten.

<sup>3</sup> The program was replaced in 2008 by two new programs that together are about half as large as the Vision Iowa program. Both programs are focused on tourism, one related to enhancements along waterways and lakes, and the other on community attractions.

<sup>4</sup> Project summaries are available at

<http://www.iowalifechanging.com/documents/documents.aspx?id=27#T>

<sup>5</sup> This is not literally decomposable as one cannot separate the state subsidy from the local expenditure as the two are intimately tied. One cannot, for example, presume that spending only the state subsidy would induce an increase in taxable sales  $2/3$  as large as the total. The more correct interpretation is that given the overall size of the project, the induced increase in local

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sales is larger as the share of the cost borne by the state increases and the share borne locally decreases.

<sup>6</sup> This is an underestimate because neighboring counties would have modest increases in taxable sales also.

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Table 1: Regressions of the Log of Real County Taxable Sales on Cumulative Vision Iowa Expenditures per Capita

	Total Sales		Eating and Drinking Establishment Sales	
<b>Own County</b>				
$\ln(V_{it})$	0.009*** (8.35)	0.006 (1.49)	0.007*** (6.23)	0.005 (1.37)
$\ln(L_{it})$		0.003 (0.93)		0.002 (0.53)
<b>Surrounding Counties</b>				
$\ln(V_{lit})$	0.004*** (3.79)	0.001 (0.08)	-0.003*** (-3.13)	0.019 (1.52)
$\ln(L_{lit})$		0.002 (0.22)		-0.020* (-1.78)
N	3267	3267	3266	3266
R <sup>2</sup>	0.44	0.44	0.18	0.18
<b>Summed Effects</b>				
$\ln(V_{it}) + \ln(L_{it})$		0.009*** (7.78)		0.007*** (6.15)
$\ln(V_{lit}) + \ln(L_{lit})$		0.003** (2.47)		-0.001 (1.00)
$\ln(V_{it}) + \ln(L_{it}) + \ln(V_{lit}) + \ln(L_{lit})$		0.012*** (8.55)		0.006*** (3.97)
County Fixed Effects	√	√	√	√
County-specific trends	√	√	√	√

Note: t-statistics in parentheses. Asterisks denote significance: \* significant at the 10-percent level; \*\* significant at the 5-percent level; \*\*\* significant at the 1-percent level.

Table 2: Regressions of the Log of Firm Numbers on Cumulative Vision Iowa Expenditures per Capita

	Total Firms		Eating and Drinking Establishments	
<b>Own County</b>				
$\ln(V_{it})$	0.001*** (2.53)	-0.001 (-0.72)	0.006*** (7.63)	-0.004 (-1.37)
$\ln(L_{it})$		0.003* (1.68)		0.009*** (3.75)
<b>Surrounding Counties</b>				
$\ln(V_{lit})$	-0.008*** (-18.42)	0.011** (1.96)	-0.008*** (-12.17)	-0.007 (-0.77)
$\ln(L_{lit})$		-0.017*** (-3.44)		-0.002 (-0.21)
N	3267	3267	3263	3263
R <sup>2</sup>	0.393	0.396	0.182	0.186
<b>Summed Effects</b>				
$\ln(V_{it}) + \ln(L_{it})$		0.001*** (2.59)		0.005*** (6.53)
$\ln(V_{lit}) + \ln(L_{lit})$		-0.007*** (10.65)		-0.008*** (8.61)
$\ln(V_{it}) + \ln(L_{it}) + \ln(V_{lit}) + \ln(L_{lit})$		-0.005*** (8.07)		-0.003*** (2.97)
County Fixed Effects	√	√	√	√
County-specific trends	√	√	√	√

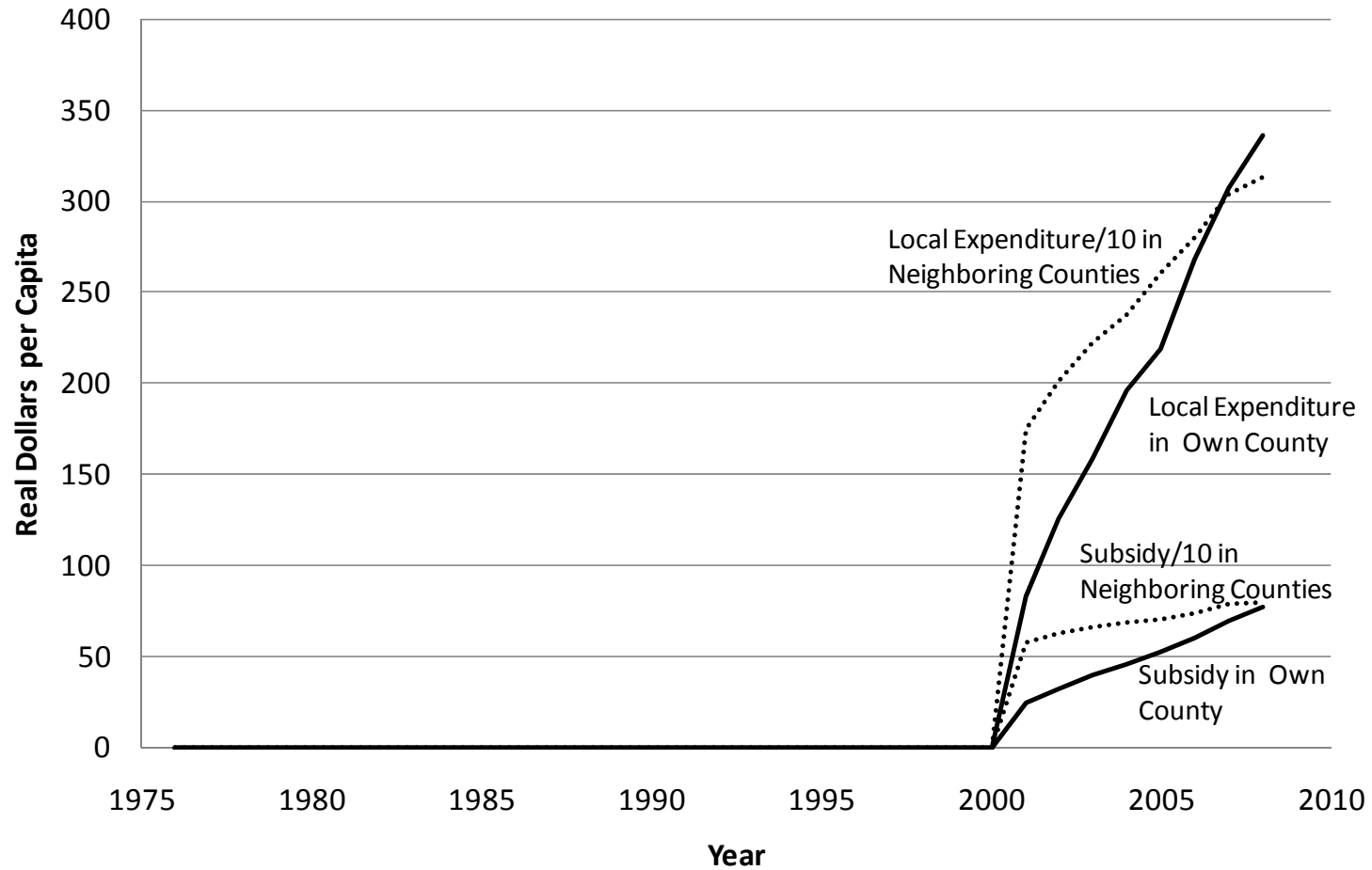
Note: t-statistics in parentheses. Asterisks denote significance: \* significant at the 10-percent level; \*\* significant at the 5-percent level; \*\*\* significant at the 1-percent level.

Table 3: Implied Real Returns from a One Dollar per Capita Vision Iowa Subsidy or Expenditure<sup>a</sup>

<b>Change in ....</b>		<b>Change in ....</b>	
<b>Dollar Change per Capita</b>	<b>Total Sales</b>	<b>Dollar Change per Capita</b>	<b>Eating and Drinking Sales</b>
$V_{it}$	\$35,757.37	$V_{it}$	\$2,983.56
$L_{it}$	4,714.35	$L_{it}$	241.89
$V_{l_{it}}$	437.62	$V_{l_{it}}$	757.85
$L_{l_{it}}$	303.97	$L_{l_{it}}$	-228.24
$V_{it} + L_{it}$	40,471.72	$V_{it} + L_{it}$	3,225.45
$V_{l_{it}} + L_{l_{it}}$	741.59	$V_{l_{it}} + L_{l_{it}}$	529.61
$V_{it} + L_{it} + V_{l_{it}} + L_{l_{it}}$	41,213.31	$V_{it} + L_{it} + V_{l_{it}} + L_{l_{it}}$	3,755.06
<b>Dollar Change per Capita</b>	<b>Total Firms</b>	<b>Dollar Change per Capita</b>	<b>Eating and Drinking Firms</b>
$V_{it}$	-0.021	$V_{it}$	-0.005
$L_{it}$	0.010	$L_{it}$	0.003
$V_{l_{it}}$	0.013	$V_{l_{it}}$	-0.001
$L_{l_{it}}$	-0.006	$L_{l_{it}}$	< -0.0001
$V_{it} + L_{it}$	-0.011	$V_{it} + L_{it}$	0.0021
$V_{l_{it}} + L_{l_{it}}$	0.007	$V_{l_{it}} + L_{l_{it}}$	-0.001
$V_{it} + L_{it} + V_{l_{it}} + L_{l_{it}}$	-0.003	$V_{it} + L_{it} + V_{l_{it}} + L_{l_{it}}$	-0.003

<sup>a</sup>A one dollar increase per capita corresponds to a \$29,558 expenditure on average.

**Figure 1: Average Cumulative Vision Iowa Subsidy and County Expenditure per Capita, Own and Neighboring Counties, 1976-2008**



Source: Authors compilations of Vision Iowa Project Summaries published at <http://www.iowalifechanging.com/documents/documents.aspx?id=27#T>