

July 17, 2006

TAKEN FOR A RIDE:

ECONOMIC EFFECTS OF CAR RENTAL EXCISE TAXES

William G. Gale, Ph.D.
Deputy Director & Senior Fellow
The Brookings Institution

and

Kim Rueben, Ph.D
Senior Research Associate
Urban Institute

This paper was prepared for Enterprise Rent-A-Car as a private consulting project undertaken by the authors and was not associated with their affiliations with the Brookings Institution, the Urban Institute, or The Tax Policy Center. The views expressed are our own and should not be attributed to the officers, trustees, or staff of the Brookings Institution, the Urban Institute, the Tax Policy Center or any other organization. We thank Pedro Cerdan-Infantes and Misha Dworsky for outstanding assistance.

I. Introduction

The taxation of rental car usage has increased dramatically in recent years. Currently, there are at least 80 car rental taxes in effect in 38 states and the District of Columbia. These are excise taxes that are above and beyond standard retail sales taxes, vehicle licensing fees, and other appropriate taxes and fees. In addition, new car rental taxes are under consideration in at least 24 states. This paper analyzes several aspects of the economics of car rental excise taxes, emphasizing the following questions:

- Why is the use of car rental taxes increasing?
- Are actual and proposed car rental excise taxes economically sound means of collecting public monies?
- Does the taxation of the customers of one industry place an unfair and disproportionate burden on too few members of society to fund a “public” project?
- What are the effects of car rental excise taxes on local consumers and businesses?

Growth in car rental excise taxes

The rise in car rental excise taxes can be traced to at least three factors: 1) the escalating revenue needs of state and local government; 2) the decisions made in many cities to provide public subsidies for the construction and renovation of professional sports facilities; and 3) the common misconception that such taxes are painless for local residents.

This study demonstrates that none of these factors justify the structure or even the existence of separate car rental taxes (except in those instances where car rental taxes are paid in lieu of traditional taxes on all vehicles).

A principal factor behind the increase in car rental taxes stems from the broader economic downturns earlier in the decade which, in turn, increased pressure for new sources of tax revenues at the state and local levels throughout the country. Although additional revenues may well be needed, new (and existing) taxes should be designed to promote equity, simplicity, and economic prosperity. Our view is that car rental excise taxes fail all of these tests.

Unsound tax policy

A standard view of tax analysis is to create a broad tax base to spread the burden to all who draw benefits from the project or purpose being funded with tax dollars. A broad tax base also allows taxing authorities to maintain low marginal tax rates. States and localities, in their recent efforts to shore up revenues, appear to have strayed significantly from these precepts.

In particular, many car rental taxes represent additional levies above and beyond regular state or local sales taxes and other standard costs such as vehicle licensing fees. Piling taxes onto car rental customers is, in general, both inefficient and inequitable. It is inefficient because it can distort the choices people make regarding what mode of transportation they use. It is inequitable because it is unclear why users of one particular business or service should bear a disproportionate cost of financing government.

Although steep taxes on particular goods can be justified in some particular cases, the conditions for such taxes are not evident in the rental car market. For example, if the production or consumption of a particular good generates significant environmental degradation, then a “pollution tax” could be used to align the individual’s costs of using the good with the social costs for dealing with added pollution. But there is no reason to

believe that rental cars have a different effect on the environment than owner-driven cars, so environmentally related taxes should not apply to rental cars above and beyond the extent they apply to owner-driven cars.

Perhaps the most telling comparison is with cigarette taxes. Cigarette taxes raise taxes on a single good, but the explicit goal of such taxes is to reduce cigarette consumption—indeed, the tax is commonly called a “sin tax.” The reduction in cigarette consumption in turn can improve public health and reduce government health expenditures. It is by no means evident, however, why lower usage of rental cars would generate broader public benefits, nor why renting a car should be considered a sin.

Funding sports facilities

A second factor behind the increase in car rental taxes is that increased efforts to attract and retain professional sports teams have led many cities increasingly to finance the construction and renovation of sports stadiums via public means. It has become normal practice for state, city, and local governments to subsidize an enormous amount of construction and renovation of indoor sports arenas and outdoor sports stadiums in the United States. Public subsidies are generally advocated on the basis that the stadium will prove to be an engine of economic development that brings new spending into a city, creates jobs, and attracts new businesses by improving a city’s image. Yet almost without exception, economists who have examined these claims have failed to find empirical support for any of these supposed positive effects.

In the absence of broad economic gains, the most economically appropriate financing mechanism would be private investment by team owners and their backers, so that customers from one industry are not being coerced into subsidizing the profit

margins of another. In instances where cities do choose to provide public financing, this same absence of broader external benefits implies that they should finance the stadiums with user fees, such as taxes on tickets. With a user tax, the people who benefit from the investment would pay its costs.

Instead, governing authorities all too often assemble a hodgepodge of unrelated taxes, fees, and levies. Stadium financing deals accordingly tend to violate principles of sound tax policy: Because the costs of stadium construction are distributed in a way that bears little or no relation to the distribution of the benefits received, these arrangements are generally highly inequitable.

Today, there are at least 35 sports stadiums (either in existence, under construction, or being discussed) that are (or will be) funded in part by a tax on rental car customers, despite the fact that rental car customers derive no unique benefits from these facilities. Ultimately, it is the people who live in a city or state who will make the decision as to whether it is appropriate to use tax dollars to fund sports stadiums and arenas. But if such public funding is deemed necessary, the funding mechanism should be one that spreads the financial burden to all in society who derive benefit. Car rental excise taxes fail that test.

Who really pays?

A third factor behind the increase in car rental excise taxes is the widespread perception that such taxes are paid by tourists or business travelers and hence are not shouldered by local residents and businesses. This perception has made car rental excise taxes look like “easy money” for local governments in need. This common notion, however, is outdated and misleading. As of 2004, rental car sales at offices away from

airports comprise the majority of the U.S. rental car market.¹ The vast majority of customers at these locations are locals, not out-of-towners. As a result, the burden of these excise taxes on car rental customers creates substantial negative effects on local consumers and business owners.

We provide evidence on these issues by examining how the imposition of a \$4-per-day car rental tax in Kansas City, Missouri, at the beginning of 2005 negatively affected local customers and business owners. Using complete Kansas City customer data from Enterprise Rent-A-Car (the largest car rental company in Kansas City and the country), we tracked all of the company's rental car transactions in the Kansas City market between January 1, 2002, and June 30, 2005, and employed a simple and robust difference-in-difference methodology to obtain several key results.

First, the Kansas City car rental excise tax is borne by consumers in the form of higher total costs for renting a car. That is, the tax is passed forward from firms to individuals in the form of higher prices. This is an expected result in a highly competitive industry with historically thin margins. Because the overwhelming majority of renters at neighborhood branches in Kansas City, Missouri, are local residents, it is *local residents* who are bearing almost all the burden of the car rental tax imposed at these branches.

Second, we find significant customer sensitivity to the car rental tax. The imposition of the car rental excise tax reduces the number of rental customers in taxed branches by 9 percent relative to untaxed branches. Perhaps the best evidence of customer sensitivity to the heavy tax is that people who lived in ZIP codes that are close

¹“Local Market Revenue Grows Past Airport.” *Auto Rental News*. Available at: http://www.fleet-central.com/arn/t_inside.cfm?action=article_pick&storyID=822. Jan/Feb 2006.

to taxed branches changed their behavior dramatically, reducing demand for rentals by between 41 percent and 50 percent and the demand for rental car days by between 69 percent and 86 percent.

We also document that overall rental car behavior shifted from Missouri to Kansas. This implies that the imposition of a specific car rental excise tax actually reduced Missouri's state sales tax receipts by driving customers across the state line in search of less costly car rentals.

In summary, car rental taxes appear to be inconsistent with basic principles of good taxation, and recent efforts to raise car rental taxes appear to be the product of politically expedient but empirically flawed notions of who bears the burden of the tax.

The remainder of this paper is organized into five sections. Section II discusses the rising trend of car rental excise taxes and the reasons behind it. Section III discusses the ways in which car rental taxes fly in the face of sound economic principles of taxation. Section IV provides evidence on the effects of the tax imposed in Kansas City beginning on January 1, 2005. Section V summarizes the voluminous literature on the effects of stadium construction and renovation on local, metropolitan-area economic activity and discusses alternative methods of financing such projects. Section VI concludes.

II. Car rental Taxes: A Rising Trend

Car rental taxes have been rising steadily, most commonly as a means of financing sports stadiums and arenas. It is a trend that marks a dramatic shift away from the use of broad-based, general revenue measures.

A recent study concluded that in the 1980s, “state and local governments in every state raised taxes or imposed new ones on hotel and car rentals, amusement and entertainment attractions, and meals and alcoholic beverages at bars and restaurants.”² A survey by the World Travel and Tourism Tax Center (WTTC) provides a car rental tax index for major U.S. cities between 1997 and 2001. The data show significant increases in U.S. taxes on rental cars during the period for most of the cities listed, with tax rates reaching between 8 percent and 20 percent for major U.S. cities by 2001 (Table 1).³ Since 2001, the number of new proposals calling for funding from new car rental excise taxes has continued to grow at an alarming rate.

A particularly problematic feature of car rental taxes from an economic perspective is the tendency of political jurisdictions to “pile on” tax after tax on one particular industry or product. A well-designed tax system generally taxes a relatively broad set of goods and services at a relatively low rate; this reduces distortions and inequities in the system and often can make taxes simpler. Car rental taxes, however, are often imposed in layer after layer. Table 2 provides examples based on several major cities across the country. Besides creating the distortions and inequities noted above, the

² Mak, James. *Tourism and the Economy: Understanding the Economics of Tourism*. Honolulu, University of Hawaii Press. Page 143. 2004.

³ WTTC Travel Tax Barometer. Available at: <http://traveltax.msu.edu/barometer/>.

combination of taxes confuses customers and obscures the total tax rate.

Some taxes are matched to their purposes. Gasoline taxes, for example, are often dedicated to maintaining and constructing roads and bridges. But one of the most remarkable aspects of car rental taxes is the wide variety of projects they finance around the country that are not in any way related to the act of renting a car. Just under half of all existing or proposed car rental taxes are earmarked to finance stadiums or convention centers. Currently, car rental taxes are either financing or being proposed to finance at least 35 sports arenas or stadiums. Another prominent use is to finance local transit systems (Table 3).

Other uses defy simple categorization: an outdoor museum in a sporting goods store; a youth sports complex; performing arts centers; and a sewage treatment facility. In Massachusetts, one town successfully lobbied the state legislature to pass “temporary” \$10 rental car surcharges to build a new police and fire station, funded entirely with a tax on local rental car transactions. Many of these jurisdictions already have separate car rental taxes, but are proposing increases to the existing tax of 1 to 2 percentage points. Charlotte, North Carolina, is a bit of an outlier; the city’s financial plan for a downtown arts center, including a number of museums, is staked to a 5 percentage point rental tax hike. Rental taxes in Charlotte are already high at 11 percent.

Whatever the project or purpose, the growing number of car rental excises taxes reflects, as noted above, a dramatic shift away from the use of broad-based, general means of raising revenue. During the 1990s, for example, the share of public stadium costs paid out of general revenue sources such as property and income taxes fell from a

historic average of four-fifths to less than one-third.⁴ It is now common for cities to finance a variety of capital projects with a grab bag of dedicated, often narrowly based revenue sources, frequently including car rental excise taxes. For example, the Indianapolis Colts' planned new stadium and the city's convention center are being paid for by a mix of tax increment financing and special taxes on car rentals, restaurants, and hotels.

A stadium and arena building boom is certainly a driver for these taxes, but the varied and growing range of uses for car rental taxes shows that many other factors are involved as well. In several states, local governments have limited power to impose taxes. In Texas, for example, communities are encouraged to subsidize sports teams by a law allowing cities to enact car rental tax increases to fund stadiums and arenas. In Massachusetts, Revere and Barnstable have opted to pursue 10 percent local car rental taxes because the amount of property taxes the cities receive falls short of their spending needs.

These issues point to broader issues concerning federal and state limits placed on municipalities; the federal government and states limit the ability of municipalities to raise revenues in a straightforward manner, then put budget pressure on those same local governments through unfunded mandates—all of which results in the advent of nontraditional taxes.

⁴Long, Judith Grant. "Full Count: The Real Cost of Public Subsidies for Major League Sports Facilities." Ph.D. dissertation, Harvard University. 2002.

III. Failing the Test of Sound Tax Policy

Economists generally agree on the goals of a good tax system, emphasizing that revenues should be raised in a manner that is equitable, simple, conducive to economic prosperity, and adequate to finance government spending.⁵ Sometimes these principles cannot all be met simultaneously, in which case trade-offs must be made. Nevertheless, the general thrust of the principles goes against the types of excise taxes currently burdening rental car customers throughout the United States. (To be clear, we take as given the view that if there is a state or local sales tax that applies to a broad range of goods and services, it is perfectly reasonable to apply that tax to rental cars. Our discussion throughout focuses on *additional* excise taxes on rental cars, over and above the standard sales tax.).

The degree to which a tax affects the economy depends in part on how responsive consumers and businesses are to the tax. In particular, the basic rule for the least damaging way to tax the economy is to put smaller taxes on goods or services whose demand or supply is very responsive to changes in tax rates and higher taxes on goods and services whose demand or supply is not responsive. (This principle goes by the name of the Ramsey Rule in economics.) As detailed in the following section, the data we gathered and analyzed in Kansas City suggest that rental car demand is sensitive to price and hence that tax rates should, if anything, be lower on rental car usage. At the very least, though, the estimates do not provide a strong case for extra taxation of rental cars.

Another key principle of an efficient tax is to tax similar goods in similar ways. A key implication for car rental taxes is that the taxation of rental cars should not differ

⁵ "Principles of a High-Quality State Revenue System." *Foundation for State Legislatures and National Conference of State Legislatures*. 4th Edition. June 2001.

significantly from the taxation of alternative forms of transportation—taxis, buses, trains, subways, etc. Ironically, most mass transit systems cannot exist without government subsidies, whereas rental car companies are self-sufficient, tax-generating businesses. As stated earlier, car rental taxes are often being used to fund their own publicly subsidized competitors.

Another implication of the idea that similar goods should be taxed in similar ways is that fixed per-day fees (like the \$4-per-day Kansas City tax) are not well-designed. Such taxes create higher tax *rates* on less expensive rentals and lower tax rates on more expensive rentals. This creates distortions and inequities, since it ends up imposing a higher tax rate on less-expensive rentals, which presumably are made by lower-income households.

The economic damage caused by a tax, per dollar in revenue raised, is related to the *square* of its tax rate. A 2 percent tax causes four times as much damage as a 1 percent tax, if all other goods are taxed at zero. The implication for car rental taxes from this celebrated principle of taxation is clear: the “piling on” of car rental taxes, such as that displayed in Table 2, is extremely damaging.

An exception to this rule occurs if production or consumption of a good or service generates some “bad” thing—for example, pollution or congestion. In that case, a tax can help align the social and private costs of an action and lead people to optimally reduce their consumption or production of the good in question. There is no reason, however, to think that rental cars—many of which are environmentally efficient newer model cars being used as replacement vehicles for people whose cars are being repaired—create any more pollution or congestion than any other car. Therefore, if taxes on cars (including

vehicle licensing fees, sales tax, gasoline tax, personal property tax, etc.) are set appropriately, there is no justification for an additional levy on rental cars.

A special feature relating to state and local governments is called “tax exporting.” Tax exporting occurs when state and local governments impose tax burdens on non-locals. This cannot be done directly because of the interstate commerce clause in the Constitution. It can be done indirectly, however, by taxing at a higher rate those goods or services used disproportionately by non-locals. However, as noted above, today’s typical rental car customer is more likely to be a local resident than an out-of-towner. Moreover, as the Kansas City data show, renters can substitute across state lines—not only avoiding the car rental tax, but also “exporting” revenue from sales tax and other state taxes. This, in effect, means that the demand is sensitive to price, which suggests that a lower tax rate is more appropriate, the opposite of the tax exporting view. In addition, even rentals at airports can be sensitive to price, with newspaper reports of air travelers choosing different rental car locations and even different airports to avoid onerous excise taxes.⁶ Finally, viewed from the perspective of effective tax policy, taxes on narrowly defined goods whose benefits are not connected to the payers of the tax, remain both inefficient and inequitable. Broadly speaking, tax exporting is a “beggar thy neighbor” policy; all localities would be better off in the absence of all such policies.

We draw several conclusions from the discussion of economic principles. First, the “piling on” of car rental taxes is particularly damaging. Second, per-day taxes are structured inappropriately and are not efficient. Third, and most important, while there is a very strong case that rental cars should be included in the tax base of a broad or general

⁶ Johnson, Avery. “Travelers Hit with Slew of New Taxes on Rental Cars -- Added Fees Can Double the Price of an Economy Car; Ways to Avoid Extra Charges.” *Wall Street Journal*. November 9, 2005.

retail sales tax, there is an equally weak case for the existence of “special” car rental excise taxes to be added on. Again, when measured against agreed-upon economic principles of sound taxation, car rental excise taxes come up short across the board.

IV. Unintended Consequences: Evidence From Kansas City

The rental car market is highly competitive, with as many as eight well-known companies providing a full range of services. What is less well known is this: Whereas in the past, it might have been appropriate to think of the typical customer as a tourist or business traveler, now the typical rental car customer is much more likely to be a local resident or business owner.

On August 3, 2004, voters in Kansas City, Missouri, approved a \$4-per-day tax on rental car usage. The proceeds were earmarked largely to finance the construction of a new indoor sports arena in downtown Kansas City. But, as the following analysis shows, since its implementation the tax has generated significant unintended consequences—given its negative impact on consumers, on business activity, and even on the larger state economy. The new car rental tax took effect on January 1, 2005. The tax represents a particularly sizable burden, raising the cost of an average \$30-per-day rental by more than 14 percent. For some rentals, such as economy cars, the increase in the cost of renting is substantially higher. Notably, this new tax applies above and beyond the existing Missouri state sales tax of 4.225 percent, other city and county sales taxes, and gasoline taxes that rental car users pay.

We use the tax in Kansas City as a sort of lab experiment in which to estimate the effects of car rental taxes on local customers and business owners. The Kansas City tax is useful to demonstrate these effects because the tax is large and because the Kansas City

market covers a relatively compact metropolitan area that contains both a group of branches whose rentals were taxed and a group whose rentals were not.

A. Who bears the burden of a tax?

A key issue in analysis of any tax is to understand who is and is not made worse off by the levy. For purposes of understanding the burden of taxation, a business is simply a pass-through entity. A tax that is imposed on a business is paid either by the consumers, the workers, the suppliers, or the owners of that business. It would be paid by consumers to the extent that the total price consumers pay rises. It would be paid by workers to the extent that the tax causes the firm to reduce wages, benefits, or employment. It would be paid by suppliers to the extent that the tax causes the firm to buy less or pay a lower price for supplies. If none of those things happens, the tax reduces the business' profits and, hence, is borne by the owners of the company.

A related point is that the person or organization that has the legal liability to send the tax money to the government is not necessarily the person who is made worse off by the tax. For example, even though a business has the legal liability to collect and remit sales taxes to the government, that business does not bear the burden of the tax—some group of individual does, for the reasons described above.

Another point to bear in mind is that in a competitive industry, such as car rental, taxes are usually passed directly to consumers. This is because the industry already operates under tight constraints on costs. Any added tax, especially one that is industry-wide, is likely to be passed on to consumers.

B. Data

To analyze the effects of the car rental tax, we use data provided by Enterprise

Rent-A-Car on every Enterprise rental in the Kansas City market from January 2002 through June 2005.⁷ The time period includes rentals before and after imposition of the car rental tax. For each rental, the information includes the branch where the rental was made; the beginning date, duration, and purpose (business or residential) of the rental; the type of car; the price paid (with taxes and charges broken out separately); and the age and residential ZIP code of the renter.⁸ We focus on the over 900,000 rentals from non-airport branches.

Most of our study uses the branch office as the unit of analysis. We distinguish between “taxed branches” and “untaxed branches.” Taxed branches are defined as those located in *geographic areas* that are subject to the car rental tax imposed in 2005. Untaxed branches are defined as those located in areas that are not subject to the car rental tax. To be clear, though, rentals at *both* types of branches are subject to a variety of *other* taxes.⁹ In some cases, we also differentiate untaxed branches further into those located in Kansas and those in Missouri. Figure 1 provides information on the geographic location of Enterprise rental branches in the Kansas City area. Note that for renters in the central Kansas City area, there are numerous taxed and untaxed branches in relatively close proximity.

⁷ The information dates as far back as July 2000. In preliminary looks at the data, however, we found that rental behavior changed substantially and immediately following September 11, 2001. (Overall car rentals dropped and time patterns changed.) Thus we limit our examination to the rentals that occurred beginning in January 2002.

⁸ Privacy issues were carefully considered in the development of this data set. We cannot identify any particular individual with just the age and zip code information that Enterprise provided, and we were not provided with any additional information on particular rentals or renters.

⁹ Over this period, some branches closed and others opened. Often, closed branches were satellite offices of other branches. We have combined branches where this is the case. If a branch closed but was located in an area that would have been subject to the tax, that branch was coded as a “taxed” branch. This definition of branch mergers was done in consultation with Enterprise management.

C. Statistical approach

A seemingly obvious, but actually flawed, way to examine the effects of the car rental tax would be to examine how rentals at “taxed branches” changed when the tax was introduced. The problem with this approach is common to many empirical studies of tax policy: the need to disentangle the effects of the tax itself from the effects of other factors that may also be changing at the same time. Thus, for example, even if rentals at taxed branches fell after the imposition of the tax, it would be incorrect to conclude from that evidence alone that the car rental tax caused a reduction in rentals. The reason is that other changes (e.g., bad weather or market-specific disruptions) could have occurred at the same time, and those other changes could actually have accounted for the decline in rentals rather than the tax itself.

What is needed is a way to control for the other changes that could have occurred. One way to do that is to add controls for specific variables in the regression. This is helpful but it is very difficult to think of or quantify all of the relevant factors that could have influenced rental behavior. In addition, it is inappropriate, statistically speaking, to look back to the period in question, see what else (besides taxes) changed, and then include those other items in the regressions.

To address this issue, we focus on *the change in rentals at taxed branches relative to the change in rentals at untaxed branches* during the period spanning the imposition of the car rental tax. The basic idea of this comparison is that if nothing else changed except the tax, the comparison of rentals at taxed branches before and after the tax was imposed would be perfectly adequate. We then control for any other factors that change by assuming the change is the same for taxed and untaxed branches. For example, if there

was bad weather shortly after the imposition of the car rental tax, our methodology assumes that on average the weather was equally bad at taxed and untaxed branches, since all the branches—taxed or untaxed—exist in the same, relatively small geographic area. Thus, the comparison of taxed and untaxed branches controls for other items so that the *difference* between rental car growth at taxed and untaxed branches can be attributed to the tax itself. This approach is referred to as a difference-in-difference methodology.

D. Results

We employ a regression framework. The analysis explains monthly rental behavior in each branch as a function of indicator variables for: the month of the year (to control for any seasonality in car rentals), the year (to control for economy-wide changes over time), the specific branch (to control for any unique characteristics of a specific branch), and whether the car rental tax applied to the branch in question in the month in question. Thus, the regression framework provides difference-in-difference estimates of the effects of the car rental tax, controlling for month, year, and branch.

Table 4 reports the central estimates for all Enterprise branches in the Kansas City area. The left uppermost entry indicates that, controlling for year, month, and branch-specific fixed-effects, the average number of customers (rentals) per branch per month *fell by 38.2 more for taxed branches than for untaxed branches* after the imposition of the car rental tax. This represents an 8.6 percent decline in the number of customers at the affected branches. The number of rental days (the number of customers times the average rental duration per customer) fell by 153 per branch per month for taxed branches relative to untaxed branches, representing almost a 6 percent decline in rental days. These effects are statistically meaningful declines.

Although not shown, the revenue (including taxes) received per rental day is about \$4 higher for taxed branches relative to untaxed branches. This is direct evidence that the burden of the car rental tax was passed forward onto consumers in terms of higher overall prices of renting a car.

Table 5 examines how rentals changed after the imposition of the car rental tax depending on renter residential location. Among customers who are likely to be most affected by the tax—i.e., those who live within 5 miles of a taxed branch but further than 5 miles from the closest untaxed branch—we find a whopping 41 percent decline in the number of rentals, with a 69 percent decline in number of rental days, and a 59 percent reduction in revenues generated (exclusive of the car rental tax). These effects are even larger for people who live within one mile of a taxed branch and farther than five miles from the closest untaxed branch. For these customers, rentals fall by 50 percent, rental days fall by 86 percent, and total revenues (exclusive of the car rental tax) fall by 76 percent. People who live closest to the affected branches—that is, those who live within Kansas City, Missouri—seem to have the largest reductions in rental car usage due to the tax. There is little net change in relative rental patterns for customers who live near (within one or five miles) an untaxed branch but far away (more than five miles) from a taxed branch.

Although the car rental tax was imposed by a city, state policy makers may also have an interest in the tax. To the extent that the tax caused renters to substitute from taxed Missouri branches to untaxed Missouri branches, there would be no change in state revenues from the sales tax. However, to the extent that the tax caused renters to reduce rentals (as described above) or to shift rentals to nearby Kansas offices, Missouri state

revenues would fall. To examine these issues, we employ the difference-in-difference methodology as before, but instead of looking at the distinction between taxed branches (in Missouri) and untaxed branches (which are located in Missouri and Kansas), we now examine the change in rental car growth in Missouri relative to rental car growth in Kansas. If customers moved their rentals out of Missouri and into Kansas, then Missouri rentals should have fallen relative to Kansas rentals.

Table 6 suggests exactly that pattern occurred. Branches in Missouri had a decline in rentals of 52 per month, relative to branches in Kansas and a decline in rental days of 199 per month. They also had a significant decline in revenues of \$6,846 per month. Note that all of these effects are larger than the differences between taxed and untaxed branches shown in Table 6. This implies that customers did shift away from Missouri branches to Kansas branches, with a negative correlation to Missouri state revenue from sales taxes and other taxes.

E. Summary

Because the \$4-per-day tax is so large, the Kansas City car rental excise tax offers a very clean test of the impact of such taxes on local consumers and business owners. The evidence indicates that the tax is borne by rental car customers, it significantly reduces the demand for rental cars, and it led to a shift of rental car activity from Missouri to Kansas. These results belie the claims that such taxes are a painless and efficient way to raise revenues.

V. Car rental Taxes and the Public Finance of Professional Sports Facilities

Today, state and local governments play a leading financial role in the development of professional sports facilities. Prior to the 1990s stadium-building boom, all public subsidies for stadiums were financed with general revenues and facility revenues. Since then, an increasing role has been played by earmarked general sales taxes, sin taxes, and a variety of so-called tourist taxes, including taxes on rental cars.

A prominent issue in debates over the merits of public stadiums concerns whether the stadiums are worth the public subsidies that cities provide. We do not take a stand on the worthiness of public funding for stadiums and arenas in this paper. Our point is that, regardless of the outcome of that debate, the notion that car rental taxes should pay for stadium construction is inconsistent with a whole variety of principles of good taxation. In other words, if city officials want to finance stadium or arena construction with public funds and they have voter support for such a program, that is a decision they are entitled to make; however, the financing should be accomplished in a manner that is fair and imposes the smallest amount of distortion on economic activity.

For example, it would be reasonable to have users of the stadium pay for the costs of the stadium. That is, governments or private owners could issue bonds and have these bonds repaid with taxes or charges on ticket sales. This would link the cost of the stadium to those who benefit from its existence. Alternatively, if a local government believes that the stadium creates non-monetary value through, for example, increased civic pride, these stadiums could be built with general city revenues.

However, a troubling trend has developed with stadiums being funded with special excise taxes including those on rental cars and hotel rooms. This breaks the link

between costs being borne by those who benefit from a public service. It is estimated that as few as 5 percent of attendees at professional sporting events are from out of town.¹⁰ Thus out-of-town renters and visitors are likely not to benefit from the stadium in any direct way. Likewise, there is no reason to believe that the local residents who bear the burden of these taxes are more likely to attend these sporting events than those who do not rent cars. Either way, the customers of one industry pay a disproportionate share of the costs of building new stadiums or arenas, when there is no evidence to suggest that they benefit from these stadiums more than any other group of people.

While their financing has evolved, public subsidies have remained the norm in stadium construction with teams and fans paying a small share of development costs. As exceptions to this rule, however, two MLB ballparks have recently been constructed with relatively little direct public financing. These two cases raise the question of whether the prevailing level of public financing is really necessary to induce the development of premier professional sports facilities. Indeed, they illustrate sustainable funding mechanisms whereby those attending the sporting events directly pay for the benefit.

The new ballparks constructed in St. Louis and San Francisco are financed heavily by the teams themselves. In San Francisco, about two-fifths (\$134 million) of the \$343 million cost of PacBell Park¹¹ was paid for immediately through the sale of the stadium's naming rights and private seat licenses (PSLs). The remainder was borrowed by the team. Although the city is providing \$15 million of tax increment financing, it is fair to view PacBell Park as the first privately financed baseball stadium since Dodger

¹⁰ Noll, Roger G. and Zimbalist, Andrew. "The Economic Impact of Teams and Sports Facilities." *Sports, Jobs and Taxes: The Economic Impact of Sports Teams and Stadiums*. pp. 55-91. Washington, DC: Brookings. 1997.

¹¹ This is now officially AT&T Park as of 2006.

Stadium opened in 1962. The St. Louis Cardinals are also paying for over 80 percent of a \$345 million stadium currently under construction. There are some public subsidies involved, such as a property tax exemption in San Francisco and some state aid in St. Louis.

Nevertheless, these two stadiums represent a massive departure from recent practice; total subsidies for outdoor stadiums built in the 1990s averaged 94 percent of official development costs.¹² The largely private financing of these two stadiums may belie the claim that stadium construction is unattractive as a private investment and, therefore, requires subsidy.

VI. Conclusion

The rise of car rental excise taxes has been motivated by a general need for states and localities to raise revenue and the specific need to finance the construction and renovation of professional sports facilities, combined with the sense among many that such costs are costless for local residents. On closer examination, none of these factors provides justification for the rise—or the existence—of car rental excise taxes.

Although local governments may need to raise revenue, they should still seek to raise revenue in the most equitable and efficient manner possible. For a variety of reasons detailed above, stacking extra taxes on car rental customers is unjustified by almost any criteria.

The construction of sports facilities and other civic projects may appropriately reflect public wishes, but is not an excuse to impose excise taxes that are poorly designed or fall disproportionately on rental car customers.

¹² Long, Judith Grant. “Full Count: The Real Cost of Public Funding for Major League Sports Facilities.” *Journal of Sports Economics*. 6(2):119-43. 2005.

The notion that car rental taxes are painless to local residents is contradicted by the simple fact that the majority of rentals in the United States now take place in non-airport branches. Because it was so large, the Kansas City car rental tax offers a very clean test of the impact of such taxes on local consumers and business owners. The evidence indicates that the excise tax is borne by rental car customers, it significantly reduces the demand for rental cars, and it shifts rental car activity from Missouri to Kansas.

Despite the growing popularity of car rental excise taxes as a solution for municipal funding needs, all evidence points to the fact that these taxes are arbitrary, inequitable, and interfere with interstate commerce.

Table 1: Car Rental Excise Taxes as Percent of Total Rental Cost, Selected

Year	1997	2001	Percent Increase, 1997 to 2001
Boston	5.20%	19.85%	282%
Chicago	19.79%	16.32%	-18%
Honolulu	10.52%	18.54%	76%
LA	8.25%	7.62%	-8%
Miami	16.22%	17.53%	8%
NYC	13.25%	11.70%	-12%
San Francisco	8.50%	12.59%	48%

Source: WTTC Travel Tax Barometer, available at:
<http://traveltax.msu.edu/barometer/>.

Table 2: Examples of "Piling On" of Car Rental Excise Taxes

Seattle, WA

+8.8% Sales Tax

+1% King County Retail Car Rental

+2% Special Baseball Stadium Sales Tax *

+0.8% Regional Transit Authority District Tax *

Total: 12.6% tax on rentals

Chicago, IL

+5% State Auto Renter's and Occupation Tax

+6% Metro, Pier, and Expo Tax

+6% Chicago Lease Transaction Tax

+\$2.75 per rental Chicago Lessor Tax

Total: 17% tax on rentals plus \$2.75 fee

Lake Tahoe, Nevada

+6.75% Sales Tax

+6% Nevada Government Services Fee

+\$4.75 per day Tahoe Regional Planning Agency
(Rental Car Mitigation Fee)

+4% Nevada Recovery Surcharge ^

Total: 16.75% tax on rentals plus \$4.75 per day fee

Las Vegas, Nevada

+7.75% Sales Tax

+2% Clark County Rental Car Fee
(funds performing arts center)

+6% Nevada Government Services Fee

+4% Nevada Recovery Surcharge ^

Total: 19.75% tax on rentals

Philadelphia, Pennsylvania

+7% Sales Tax

+2% Philadelphia County Local Rental Tax
(to fund stadium projects)

+\$2 per day Pennsylvania Public Transportation Fee
(to fund transit projects)

+2% Pennsylvania Vehicle Rental Tax ^

Total: 11% tax on rentals plus \$2 per day fee

Salt Lake City, Utah

+6.6% Sales Tax

+2.5% Utah Motor Vehicle Rental Tax
(to fund transportation)

+7% Salt Lake County Rental Car Tax
(to fund tourism, recreation, cultural, and conventions)

Total: 16.1% tax on rentals

Phoenix, Arizona

+8.1% Sales Tax

+Greater of \$2.50 per day or 3.25% Maricopa County Car Rental Surcharge

+5% Arizona Rental Vehicle Surcharge ^

Total: 13.1% tax on rentals plus minimum \$2.50 per day fee

*Sales tax applies to motor vehicle rentals only

^Surcharge permitted under state law so companies
can reimburse themselves for registration fees

Sources: [fiftystaterentalprintable.xls](#), ERAC.

Table 3: Examples of the Prevalence and Uses of Car Rental Excise Taxes

<u>State</u>	<u>City/County</u>	<u>Status</u>	<u>Dedicated Purpose</u>
AK	Statewide	Enacted	State General Fund
AK	Anchorage	Enacted	City General Fund
AR	Statewide	Enacted	Public transit, education
AZ	Maricopa	Enacted	NFL stadium, spring training facility
AZ	Tucson	Discussion	Arena
CA	Statewide	Discussion	Tourism, transportation, other
CA	San Diego	Discussion	Misc. city services
CT	Statewide	Enacted	State General Fund
DC	Districtwide	Enacted	General Fund, Convention Authority
FL	Statewide	Enacted	Transportation, tourism, intl. trade
FL	Statewide	Vetoed legislation	General transportation needs
GA	Atlanta	Enacted	NFL, NBA sports stadiums
GA	Atlanta	Discussion	Streetcar system
GA	Atlanta	Discussion	Incent NASCAR Hall of Fame project
GA	Athens/Clarke	Enacted	Trade, tourism, sports, capital projects
GA	Augusta	Enacted	Parking facilities
GA	College Park	Enacted	Trade, tourism, capital projects
GA	Lawrenceville	Enacted	Trade, sports facility projects
GA	Marietta	Enacted	Trade, tourism, capital projects
GA	Savannah	Enacted	Trade, tourism, capital projects
GA	Sandy Springs	Enacted	Sidewalks, traffic lights, etc.
HI	Statewide	Enacted	State special funds
IA	Statewide	Enacted	State Road Use Tax Fund
IA	Statewide	Discussion	Tourism
IL	Chicago	Enacted	City General Fund
IL	Chicago	Enacted	Pier and Metropolitan Authority
IL	Evergreen Park	Enacted	City General Fund
IL	Schaumburg	Enacted	Village General Fund
IN	Marion	Enacted	Stadium & Convention Building Authority
KS	Johnson	Discussion	Professional soccer stadium
KS	Wichita	Discussion	Arts funding
KY	Boone, Campbell, Kenton	Enacted	Tri-county economic development
KY	McCracken	Enacted	Economic development
LA	Statewide	Enacted	State and local purposes
MA	Statewide	Enacted	Convention/exhibition facilities
MA	Boston	Enacted	Convention and Exhibition Ctr. Fund
MA	Barnstable	Discussion	Public construction/wastewater projects
MA	Revere	Enacted	Public Safety building
MD	Statewide	Enacted	State General Fund
ME	Statewide	Enacted	State General Fund
MI	Wayne	Enacted	MLB stadium
MI	Detroit	Discussion	Tourism
MN	Statewide	Enacted	State General Fund, education shortfall
MO	Kansas City	Enacted	Downtown arena
NC	Statewide	Enacted	State General Fund
NC	Charlotte	Pending Legislation	Cultural arts facilities
NC	Wake, Durham, Chapel Hill	Enacted	Triangle Transit Authority
ND	Bismarck	Enacted	State General Fund
ND	Grand Forks	Enacted	Convention & Visitors Bureau promotion
ND	Minot	Enacted	Convention & Visitors Bureau

NE	Omaha	Enacted	City General Fund
NH	Statewide	Enacted	State Education Trust Fund
NJ	Statewide	Enacted	State Domestic Security Account
NJ	Statewide	Discussion	State transportation needs
NM	Statewide	Enacted	Road and highway funds
NV	Statewide	Enacted	State General Fund
NV/CA	Tahoe	Enacted	Tahoe Transportation District
NV	Clark	Enacted	Performing arts center
NV	Washoe County	Enacted	Minor League Baseball stadium
NY	Statewide	Enacted	Highway and Bridge Trust Fund
OH	Statewide	Discussion	State tourism
OH	Cleveland	Enacted	City General Fund
OR	Lane	Enacted	County General Fund, county parks
OR	Multnomah	Enacted	County General Fund
PA	Statewide	Enacted	Public Transportation Assistance Fund
PA	Philadelphia	Enacted	Stadium and sports venues
PA	Statewide	Discussion	Public transportation
RI	Statewide	Enacted	State General Fund
SC	Horry County	Enacted	Road and public safety projects
TN	Nashville	Discussion	Convention center construction
TN	Shelby	Enacted	NBA arena
TX	Arlington	Enacted	NFL stadium
TX	Bexar	Enacted	NBA stadium
TX	Bexar	Discussion	MLB stadium
TX	Dallas**	Enacted	NHL, NBA arenas
TX	El Paso**	Enacted	NCAA stadium
TX	El Paso	Discussion	Sports and community venue district
TX	Harlingen	Discussion	Shopping Outlet Construction
TX	Harlingen	Discussion	Arena project
TX	Harris**	Enacted	MLB, NFL, NBA sports facilities
TX	Potter/Randall**	Enacted	Rodeo grounds
UT	Statewide	Enacted	Transportation Corridor Revolving Fund
UT	10 counties	Enacted	County Tourism, Recreation, Cultural &
UT	Salt Lake City	Discussion	Salt Palace expansion
VA	Statewide	Enacted	Road projects and police radio repayment
VA	Arlington	Discussion	Trolley system
WA	Statewide	Pending Legislation	Five Minor League Baseball facilities
WA	Franklin	Enacted	Public/youth sports facilities
WA	King	Enacted	MLB stadium
WA	Pierce	Enacted	Public/youth sports facilities
WA	Puget Sound	Enacted	Regional Transit Authority
WA	Spokane	Enacted	Public/youth sports facilities
WA	Seattle	Discussion	Monorail system
WA	Seattle	Pending Legislation	
WI	Exposition District	Enacted	Exposition District
WI	Regional Transit District	Enacted	Regional Transit Authority/commuter rail
WI	Statewide	Enacted	State Rental Vehicle Fee
WI	Milwaukee	Discussion	Guided electric bus system
WV	Statewide	Pending Legislation	Urban and rural mass transportation

* Amount of tax per rental, unless otherwise noted

** Set to expire

Source: Gathered from media coverage and ERAC historical tax data (current as of July 7, 2006)

**Table 4: Change in Monthly Rental Activity in Kansas City at Taxed Branches
Relative to Untaxed Branches After Imposition of the Car Rental Excise Tax**

	<u>Number of Rentals</u>	<u>Number of Rental Days</u>	<u>Total Revenues</u>
Change	-38.16	-152.69	-2,635.81
Standard Deviation	(12.53)	(70.61)	(2,557.63)
Percent Change	-8.62%	-5.95%	-3.00%
Average Value	443	2568	\$87,936

Non-airport branches, January 1, 2002 to June 30, 2005.

**Table 5: Change in Monthly Rental Activity in Kansas City After Imposition of Arena Tax
By Location of Customer**

	Number of Rentals	Number of Rental Days	Total Revenues
Customers Within 5 Miles of Tax Branch and Further Than 5 Miles from Non-Tax Branch			
Effect	-17.04	-185.09	-5,311.63
Standard Deviation	(3.76)	(24.82)	(779.48)
Percent Change	-41.42%	-68.91%	-59.31%
Customers Within 1 Miles of Tax Branch Further Than 5 Miles of Non-Tax Branch			
Effect	-12.01	-134.22	-4,039.10
Standard Deviation	(2.01)	(14.32)	(462.81)
Percent Change	-50.11%	-85.56%	-76.07%
Customers Within 5 Miles of Non-Tax Branch and Further Than 5 Miles from Tax Branch			
Effect	-8.45	-99.29	-2,010.96
Standard Deviation	(11.33)	(66.47)	(2,226.67)
Percent Change	-3.76%	-7.54%	-4.56%

Significant (5% level) effects are in bold.

**Table 6: Change in Monthly Rental Activity After Imposition of Arena Tax
By State**

	Number of Rentals	Number of Rental Days	Total Revenues
Missouri - Kansas			
Change	-52.49	-198.62	-6,846.36
Standard Error	(8.90)	(50.33)	(1,822.04)
Percent Change	-11.85%	-7.73%	-7.79%
Average Value	443	2568	\$87,936

Significant (5% level) effects are in bold.

Figure 1: Location of Branches in Kansas City, MO

