



# Public Expenditures and Economic Growth

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## Talking Points

- Discussions about taxes and the appropriate level of taxation typically focus on the benefits that are expected to accrue from reducing taxes, not on the public services and infrastructure whose budgets will be cut.
- Research shows that public expenditures, particularly on education, transportation and police and fire services are important for businesses and are related to economic growth. Public spending in these categories not only contributes to current employment and income but also is an investment for longer run economic growth.
- While tax cuts may result in economic growth, the consequential expenditure cuts generally result in economic growth losses larger than the gains from the tax cut, that is, the net effect is negative.
- Findings suggest that tax cut proposals in Missouri may be counterproductive, as they would necessitate cutting expenditures for public services that foster economic growth.

## Introduction

Many advocates for economic development argue that a reduction in taxation, usually in individual and business income taxes, will stimulate in-state economic activity while making the state more competitive with firms seeking to expand or relocate from elsewhere. They typically assume that any negative impact on the ability of government to provide public services resulting from reduced revenue will be offset by new revenues flowing from an increase in economic activity as businesses and individuals spend their enhanced income in ways that stimulate job creation and economic development.

Policy-makers are very concerned about the degree to which their state is – or is not – competitive with other states, often using cross-state tax comparisons as a measure of state competitiveness. Following tax cuts in Kansas (2012) and Oklahoma (2013), the Missouri General Assembly

approved legislation in 2013 to lower its income tax rates.<sup>1</sup> However, in an earlier Policy Brief, we examined several measures of taxation and found that Missouri ranks in the middle or below among its neighbors and ranks as a low-tax state nationally.<sup>2</sup>

Discussions about potential tax cuts generally are framed in terms of the benefits that are expected to accrue from those cuts, with little focus on the consequences of reduced revenue for state programs. But research has shown that some state services, services funded by tax revenues, are important to economic growth and are a factor in business decisions (Bartik, 1992; Fisher, 1997). Taxes are needed to provide public services and if tax cuts require cutting public services that are valued by businesses, this policy lever may prove to be detrimental to a state's economy (Bartik, 1992 and 1994). In addition, other operating costs, utilities, labor, and access to markets are the major costs of a firm. That is, taxes are only a small part of the total decision and a high-tax state may be desirable if it provides lower operating costs (Ernst & Young, 2011).

This brief draws on the extant tax and public expenditure literature to examine the impact of tax cuts and corresponding cuts to public services and infrastructure on economic growth.

## Looking Beyond Taxes

Many factors contribute to a state's economic growth, including its population size, economic structure, and the age structure of its work force. Beginning in the 1960s an extensive literature developed that examines the impact of taxation on firm location, job creation and/or economic growth. As with most research, studies of economic development are not always consistent due to differences in the design and focus of the studies, the time periods they cover, and difficulties of measurement (Fisher 1997). Thus the weight of the evidence must be used and overall, the research indicates that tax cuts alone contribute relatively little to economic development.

In the 1990s many states cut taxes. Leachman et al (2013) identified six states that cut taxes by more than ten percent of revenue and compared them with all other states in the subsequent full economic cycle from 2000 to 2007. One of the states (New Jersey) later raised taxes so it was not included in the analysis. For the remaining five states, job growth was less than one-third the national average. In four of the five states, personal income also grew more slowly than the national average.

From 2000 to 2007, six states enacted income tax cuts. Leachman et al. (2013) found that for three of the six, their share of gross national product fell six percent and their share of national jobs and personal income fell four percent. The remaining three states, Louisiana, New Mexico, and Oklahoma, cut taxes and their economies have surpassed the other states to date, but much of their growth is due to increasing oil prices and the growing use of new oil and gas extraction techniques. All three states are major oil and natural gas producers, refiners and chemical producers.

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<sup>1</sup> This legislation, HB 253, was vetoed by Governor Nixon. The General Assembly will have an opportunity to override the veto in September, 2013.

<sup>2</sup> See *Comparing taxes in Missouri and surrounding states*. Stallmann, J., Wesemann, A. & Valentine, D. Report 07-2013. <http://ipp.missouri.edu>.

Leachman et al. (2013) also reviewed eight studies published since 2000 that had examined the impact of tax cuts on economic growth, typically in the 48 contiguous states. Five of the eight studies found that tax cuts had no significant effect on economic growth. Another study found initial support for a positive relation between tax cuts and economic growth, but when the authors performed a more rigorous test they found that higher taxes increased economic growth. One study found that while corporate taxes had a negative effect on economic growth, personal income taxes did not. Only one study found states that raised their income tax levels more than surrounding states experienced slower economic growth; 3.4 percent over a thirty-year period.

Bartik (1992, 1994) found that targeted business tax reductions designed to create jobs by increasing business activity and productivity usually result in a higher annual public cost per job than the job returns to the public sector. Bartik (1992) argues that this negative tradeoff exists because 1) public revenues generated by new jobs are not sufficient to offset the tax reductions and 2) new jobs frequently require increased public expenditures. In addition, if tax cuts result in cutting public services that are valued by business, they can have a negative impact on the economy.

Gabe & Bell (2004) explore the factors influencing location of 3,763 establishments that began operations in Maine between 1993 and 1995. Proximity to interstate highways increases firm location. They find that firms also prefer municipalities with higher spending on educational instruction, transportation, and other local public services even if that means higher taxes. Not all public spending, however, attracts firms. For example, they found a higher dependence on state and federal funds, rather than local funds, for education decreases firm location as does public spending on educational administration.

Bartik (1992, 1994) also points out that studies that include changes in both taxes and expenditures find that a balanced budget tax increase (taxes and expenditures increase by the same amount) with increased spending on public services, such as education and fire services, and on public infrastructure, such as roads, water and sewers, boosts the state economy. Similar to the studies summarized by Bartik (1992, 1994), Lynch (2004) in review of the literature finds if both taxes and public spending are cut, the positive impact of the tax cut is less than the negative impact of the cut in public spending, that is the net effect is negative. Lynch (2004, p. 12) argues that “[b]usinesses need to know that they can rely on high-quality, well-administered public services to facilitate the conduct of their enterprises.”

Tannenwald (1996) used the after-tax rate of return calculated from a hypothetical firm analysis<sup>3</sup> to estimate its impact on capital spending per production worker. Overall he finds that the after-tax rate of return was not statistically significant in explaining capital spending per production worker. Public spending, however, as measured by police and fire spending, has a positive impact on capital spending. Not surprisingly, labor productivity also has a positive impact on capital spending. Energy costs negatively affected capital spending.

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<sup>3</sup> Hypothetical firm analysis sets up “typical firms” and then applies the tax laws of various states to the firm for comparisons. For an explanation of hypothetical firm analysis, see *Comparing taxes in Missouri and surrounding states*. Stallmann, J., Wesemann, A. & Valentine, D. Report 07-2013. <http://ipp.missouri.edu>

Overall, the findings suggest that tax cuts do not stimulate economic growth and/or development in a state because the other side of the tax cut coin is cuts in public services. But despite these findings, the public debate continues to focus on tax cuts without consideration of alternative strategies, including improvements to public services and infrastructure as a way to stimulate economic growth. The preponderance of studies find evidence that cuts to some public services and infrastructure are detrimental to economic growth (Bartik, 1992; Bartik, 1994; Fisher, 1997; Leachman et al., 2013).

## State Expenditures and Economic Growth

Taxes and tax rates garner a lot of attention when strategies for stimulating economic growth and/or development are discussed but the broader impact of proposed cuts is seldom examined. In fact, public spending is an important component of economic development and a substantial body of literature explores the relationship between specific public expenditures and economic growth, as measured by job creation, firm location decisions, capital spending, earnings, per capita income or gross state product. In addition, this research has primarily focused on the impacts of education, highway and transportation infrastructure, and public safety expenditures on economic growth of states and municipalities (Bartik, 1992; Bartik, 1994; Fisher, 1997; Lynch, 2004).

It is important to note that the positive relationship between public expenditures and economic growth does not hold for all expenditures. In addition, it may only hold up to a certain threshold, beyond which increased spending levels may begin to have an inverse relationship with economic growth. That is, public spending may stimulate economic growth, but only to a certain point and eventually the costs associated with public spending may begin to outweigh their benefits (Nizalov & Loveridge, 2005). A further point is that the same level of expenditures can have different impacts depending on how “well-spent” they are, that is the outcomes they lead to. For example, measuring the relationship between spending and actual quality (how well the money is used) and quantity of the public services provided can prove rather difficult (Fisher, 1997). Assuredly, these issues pose significant challenges to policy makers.

### *Education*

Research generally finds that education expenditures, especially Kindergarten to 12<sup>th</sup> grade (K-12) and higher education expenditures, can serve as a means to improve economic conditions in states and communities. Fisher (1997) conducted an extensive review of the literature on the relation between education expenditures and economic growth, measured as gross state product, employment, personal income, wages, investment, spending, manufacturing investment, small business, and firm migration. Most of the studies found evidence of a statistically significant positive relationship between public spending on education and economic growth.<sup>4</sup> Only one study found a statistically significant negative relationship.

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<sup>4</sup> Fisher points out that the variation in findings among the studies is likely due to numerous measurement difficulties. For example, measuring the relationship between spending and actual quality (how well the money is used) and quantity of the public services provided is difficult (Fisher, 1997).

In a more recent study, Gabe & Bell (2004) found that higher spending on educational instruction positively influenced firm location decisions, whereas higher spending on educational administration did not. Baldwin & Borrelli (2008) found that spending on higher education was positively related to economic growth, as measured by per capita income, while spending on K-12 education was negatively related in the 1988-2005 period. The pupil-teacher ratio was negatively related to per capita income, meaning more students per teacher lowered per capita income. High school and college attainment rates were not related to per capita income. They also broke the data into two periods, 1988-1996 and 1997-2005 and found some differences between the periods. Expenditures and the student teacher ratios were not related to per capita income in the earlier period; high school attainment was positively related and college attainment was negatively related. In the 1997-2005 period higher education expenditures were positively related to per capita income and the student-teacher ratio was negatively related, suggesting that more students per teacher decrease economic development.

In a subsequent study Baldwin, Borrelli, & New (2011) break the data into two time periods, 1988-1996 and 1997-2005 but use gross state product growth as the measure of economic growth. They find all educational expenditures are positively related to economic growth in the latter period, but have no relationship in the earlier period. High school attainment rates were not related to economic growth in either period. While college attainment rates were positively associated with economic growth, 1997-2005, unexpectedly, college attainment rates showed a significant, negative relationship with economic growth, 1988-1996.

These findings demonstrate that at different times different factors affect economic growth, likely depending on the structure of the economy in different periods. In addition, these findings highlight, once again, the complexity of this issue and the importance of using multiple measures of economic growth to determine the robustness of the results.

### *Infrastructure*

Researchers have also investigated the relationship between highway and transportation expenditures and economic growth. Gabe & Bell (2004) found that proximity to highways and higher spending on transportation can facilitate economic growth (measured through firm location decisions). Bollinger & Ihlanfeldt (2003) found that highway expenditures were positively associated with employment growth for the Atlanta region, 1985-1997. Baldwin & Borrelli (2008) find highway expenditures are positively related to per capita income 1997-2005, but not 1988-1996; Baldwin, Borrelli, & New (2011) find highway expenditures are related to gross state growth, 1997-2005, but not 1988-1996. Nizalov & Loveridge (2005) examined growth of per capita income and of jobs in Michigan counties, 1993-2000. Highway expenditures targeted at economically distressed counties had a positive impact on both measures of growth, but highway expenditures associated with other incentive programs did not. They also found that the impact of highway expenditures differed by the per capita income of the county, rural and urban areas and the economic sectors in the county. These findings point out that state policy can have differential effects across the state.

Fisher (1997) also reviewed the literature focusing on the impact of public spending on transportation services and highway facilities on various measures of economic growth – growth

in state product, capital investment, employment, population, new plants and manufacturing investment. Given the variety of measures used, both positive and negative relations were found. The majority of the relationships found were positive and significant. Only one negative relationship was statistically significant, and the authors expressed doubts about their finding. They pointed out that spending on transportation may be the result of past neglect which would be related to slower economic growth.

### *Public Safety*

There is also empirical evidence that public safety measures are associated with economic growth. Bollinger & Ihlanfeldt (2003) found that the crime rate was negatively associated with employment growth in the Atlanta region. Fisher (1997) reviewed nine studies that focused on public safety spending and various measures of economic growth – capital spending, new plants, employment, gross state product, and small business. Most studies reported several estimates using various measures of economic growth. The general findings are a positive relation with public sector and growth. In addition, the importance of public safety expenditures varied by industry. In general, findings of a negative relationship between public safety and economic growth were not statistically significant.

### **Discussion and Conclusion**

We have highlighted the importance of looking beyond the level of state taxation by also considering the influence that public expenditures exert on economic growth. The literature points out that focusing just on the impact of taxes on economic growth ignores half of the issue. Taxes fund public services and infrastructure which influence economic growth because they affect the profitability of firms. Studies that analyze both tax cuts and expenditure cuts find the positive impact of a tax cut on economic growth is outweighed by the negative impact of the expenditure cut on economic growth. That is, the net impact is negative.

It is crucial, therefore, for policy makers to examine the economic tradeoffs that exist between cutting public expenditures and cutting taxes. Of course, cutting expenditures can produce economic gains if the expenditures are beyond what is efficient. In addition, there can be gains using existing levels of expenditures if programs are not well managed. An examination of Missouri on both measures of taxation and state spending underscores the complexity of this issue. In a prior analysis, we found that Missouri is a low tax state relative to its neighboring states. In particular, on four of the six measures of taxation examined, Missouri ranked in the bottom half of the states in the region with the lowest taxes. Missouri also ranks as a low tax state nationally (Stallmann, Wesemann, & Valentine, 2013).

Because Missouri is a low tax state, there may be little or no gain from cutting taxes. Tax cuts may be counterproductive as they would likely require reductions in state expenditures for services valued by business and linked to economic growth (Bartik, 1992, 1994; Lynch, 2004; Ernst & Young, 2012). Hence, enacting legislation which results in tax reductions and in turn necessitates lower levels of public spending may be detrimental to economic growth in Missouri. If low taxes were sufficient to generate economic growth, Missouri should rank near the top nationally in economic growth.

Missouri has one additional reason for being cautious about reducing taxes. Missouri has the Hancock Amendment (Article X, Sections 16-24 of the Missouri Constitution) that limits the ability of the General Assembly to raise taxes. That amendment requires voter approval of all significant tax increases, a requirement that makes it much more difficult to increase taxes in Missouri, should the need arise in the future.

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