STATE FISCAL POLICIES AND ECONOMIC GROWTH
Arwiphawee Srithongrung, Associate Professor, Hugo Wall School of Public Affairs
Kenneth A. Kriz, Kansas Regents Distinguished Professor, Hugo Wall School of Public Affairs

Issue

Our research explores one of the most fundamental questions of public finance at the state and local level: What is the effect of fiscal policy on economic growth? The issue is extremely important at this time because some states, including Kansas, have embarked on major fiscal reform programs under the guise of increasing economic growth. The prevailing wisdom in policy circles and the popular press seems to be that taxes have an inverse relationship with growth (higher taxes means lower economic growth) and government spending has no relationship or a small direct relationship with growth (higher spending means a small improvement in growth).

There has been a fair amount of research on this topic prior to our work. However, it has been plagued by many methodological and data limitations. Further, the results that previous models produced have largely been static in the sense that they produce one predicted effect for fiscal policy changes. We use a relatively new statistical methodology and a large data sample in order to get around these issues. The methodology we employ also allows us to look at the dynamic effects, in other words how the effects of a fiscal policy change evolve over time.

We published our research in the fall 2014 issue of the Journal of Public Policy Analysis and Management (Srithongrung and Kriz, 2014), the third ranked academic journal in the field of Public Administration. It has gained attention in state and local policy debates. As one example, we were asked to write an editorial for a newspaper in the state of Nebraska, which is considering similar legislation.

Alternatives

In essence, we considered the alternatives of changes in tax policy, changing spending on operational items such as personal services and supplies, and changing spending on capital items. We do this through formulating a statistical model which takes into account the one of the fundamental methodological concerns that plagued previous research: endogeneity. Endogeneity can best be understood as a “chicken and egg” problem. Simply noting that states with one tax policy or spending policy have higher or lower economic growth does not answer the question of whether the policy caused the growth difference or whether past
economic growth caused a change in policy. Our statistical model allows us to sort out these effects. In doing so, the model allows us to trace out the effects of changes to fiscal policy for several years into the future.

We also use a far longer dataset than other studies have used. One of the keys in detecting changes over time is to have a long enough sample time frame to actually be able to detect changes. Therefore, we obtained data on all 48 continental US states over the period 1970 to 2010. We omitted Alaska and Hawaii, as most studies have also done, recognizing their limited comparability with other states.

**Findings**

We found that changes in taxes have an inverse effect on economic growth in keeping with the prevailing wisdom. However, that effect only lasts for two years after the tax policy change. Figure 1 below shows the predicted effect from our model of a one-standard deviation change in taxes in a state. The vertical axis units are the number of standard deviations that economic growth changes (measured by changes in per capita personal income) in response to a one-standard deviation change in taxes. The black upward sloping line is our point estimate of the change, with the gray shaded region indicating the 95% confidence interval for the effect. In the year immediately after the policy change (time $t$ in our notation), we predict that the one standard deviation increase in taxes will cause about a 0.4 standard deviation decrease in economic growth. In dollar terms, this would mean a $1 increase in per capita taxes would cause a $0.30 reduction in per capita income. The effect is predicted to also exist but be smaller in year two. By the third year after the policy change, we cannot say with certainty whether the change in per capita income will be positive or negative, as indicated by the gray 95% confidence region including both positive and negative values. Over the six-year period that our model tracks, we predict that a $1 increase in per capita taxes would cause a cumulative decrease in per capita income of $0.45.
We further find that increases in operational and capital spending both have positive effects on growth. Figure 2 shows the effects for an increase in operational spending. The positive effect is about the same size initially as the negative effect for taxes (a $1 increase in per capita operational spending is projected to increase per capita personal income by $0.27). However, the positive effects of operational spending persist over time, being significant even six years into the future. The cumulative effect of a $1 increase in per capita operational spending is predicted to be an increase of $1.02 in per capita income.
Figure 2
Response of Per Capita Personal Income to a One Standard Deviation Change in Per Capita Operational Spending

![Graph showing the response of per capita personal income to a one standard deviation change in per capita operational spending.](image)

Figure 3 shows the effects of capital spending. Similar to the effects shown for taxes, the impact fades after time, in this becoming insignificant after the third year. The initial effect in dollar terms is higher, however. Due to the relatively larger scale of capital projects, a $1 increase in spending on capital items is projected to have increase economic growth by $0.71 in the first year, with smaller effects in years two and three. The cumulative impact of a $1 increase in per capita capital spending is predicted to be $1.34 increase in per capita income over the six-year model period.

We tested the robustness of our model in several ways, and against several other competing statistical methodologies. We found our model to perform better than other models and produce consistent results across many alternative samples and statistical specifications.
Impact and Summary
Our research results are important because they help to untangle the thinking in the prevailing wisdom about fiscal policy. We can now say with more clarity that tax cuts like the ones passed in Kansas will likely have a short-run effect in boosting the economy. However, if they result in the need to cut public spending on capital and especially on operating items then the medium-term effects of the tax cuts are likely going to be to reduce economic growth. In a way we simply found that the old adage of “no free lunch” in economics can be extended to fiscal policy. We cannot simply cut taxes and watch the economy prosper. We need to return to tried and true methods of increasing growth such as accumulating human and physical capital and improving productivity in both the public and private sectors. The advantage of doing these things in the short-and-medium term is that they may have effects in the longer-run, although we should point out that our model (along with all of the other research in this area) does not allow us to say what the long-run effects of tax and spending are likely to be.

References