

## Impact of Economic Freedom on Growth and Fiscal Strength of US States

Gus A. Gordon  
The University of Texas at Tyler

Chen Y. Wu  
The University of Texas at Tyler

Vivek K. Pandey  
The University of Texas at Tyler

### Abstract

*In this study, we examine the impact of a state's economic freedom ranking and its fiscal spending patterns on its private sector GSP growth as well as the increase in its net debt over the sample period 2004-2008. We find that private sector GSP growth can be enhanced and the fiscal debt burden reduced by lowering taxes, reducing the size of government and deregulating labor markets. Higher government spending on investments in infrastructure and human capital, such as capital outlays, education, and healthcare also enhances a state's private GSP growth. Hence there exist categories of optimal and suboptimal government spending.*

### Introduction

Within the United States, each state approaches its many policy issues differently. Perhaps as a result of this, the economic and fiscal condition of states is significantly different as detailed in a report published by the Pew Center on the States (Vock et al., 2009). The purpose of this study is to determine if the conduct of different fiscal and economic policies among US states prior to the recession can be shown to produce different fiscal and economic outcomes during the recession that began in late 2007, which many regard as being the most severe since the end of World War II.

From an economic perspective, governments exist to provide public goods that are both non-rival and non-excludable in nature. The difficulty of excluding free-riders prevents self-interested market participants from supplying these goods at socially optimal quantities. Therefore, public goods tend to be produced at sub-optimal quantities and may not be produced at all. Government action is not necessarily needed. For example, if the number of consumers is small and transaction costs are low, Coase (1960) suggests that consumers can band together to provide public goods. But the most obvious solution is for governments to make the provision of such goods involuntary and funded by taxes. However, determining the optimal quantities of public goods to be provided this way is difficult and even if this were not the case, governments may not have the right incentives to do so. Some prior research has suggested that, whether it is at the federal or local level, the marginal contribution of government spending to economic growth becomes negative beyond some optimum level of spending (e.g., Friedman (1997), Glaeser et al. (1995)).

This study will try to address the question whether American state governments have expanded to a point where they are engaged in the overproduction of public goods. As such, additional government spending may only promote state indebtedness and not deliver the economic growth needed to cope with the most severe post-World War II recession that began in late 2007. We attempt to quantify the relationship between the level of state spending and taxation, economic regulation and labor market freedom prior to the recession and subsequent changes in growth of per capita gross state product and fiscal health of state governments as proxied by their level of debt while controlling for interstate differences in size of economic sectors since some such as construction were particularly hard hit.

In summary, we find that states with greater economic freedom and labor market flexibility, higher investment in capital and healthcare expenditures, smaller governments and lower taxation experience faster growth in per capita gross state product (GSP) and slower increases in net state debts. More importantly, these effects are both statistically and economically significant. For example, a one standard deviation increase in labor market freedom ranking is associated with a 4% increase in per capita GSP growth. We also find a strong negative relationship between level of welfare and government administration spending and per capita GSP growth. On the other hand, higher welfare and government administration spending is associated with higher growth in net state debts. Finally, we find that states with larger mining and agricultural sectors fared better than states more dependent on construction, manufacturing and services both in terms of faster per capita GSP growth and slower increases in net state debts.

The remainder of the paper is organized as follows. We begin with a review of the existing literature on state spending/taxation, economic freedom, and economic growth. Next we detail our empirical hypotheses to be followed by an explanation of our data and methodology. We then present our results and conclude the paper with some policy implications of our study.

## Literature Review

How much government spending is ideal to promote maximum economic growth? Friedman (1997) suggests that, while government is essential, the marginal contribution of government spending becomes negative somewhere between 15 and 50 per cent of GDP. Within the United States, Canto and Webb (1987) find that federal fiscal policies mainly determine absolute levels of income and economic performance for all states while state fiscal policies have an impact on differences in income. Furthermore, they discover that expenditure and transfer payment programs are larger than optimal and have a negative impact on income for most states although they also state that reduction of tax rates may not bring about increases in tax revenues. Similarly, Glaeser et al. (1995) also show that for US cities, higher expenditures are not contemporaneously associated with higher growth although increases in debt are correlated with later higher growth. Clingermayer and Wood (1995) find that changes in state indebtedness are mainly determined by need to borrow and debt capacity. In other words, states borrow when they have temporary shortfalls in revenue and need to counteract recessions and when both population and income growth are strong. Interestingly, they find that limitations on taxes and expenditure often increase state debts while constitutional debt restrictions have no discernible impact on state debt.

Helms (1985) finds that transfer expenditures significantly reduce economic growth while additional spending on education, transportation, public health and safety has a positive effect on growth despite the obvious increase in taxes needed to fund such activities. Mofidi and Stone (1990) reach a similar conclusion with net manufacturing investment and employment. A meta-analysis by Phillips and Goss (1995) shows that impact of tax policy on economic development is modest at best at interstate and inter-metro area levels but is very pronounced at the intra-metro area level. In an early paper, Plaut and Pluta (1983) find that once variables such as cost of energy, labor and land, labor productivity and size of state markets are controlled for, business climate and fiscal policies are not strongly related to GSP growth but instead are related to state employment and investments.

Despite the seemingly large variations in per capita state public expenditures, Case et al (1993) find that they are highly correlated between states that are economically and demographically similar. The authors define demographic and economic similarity by comparing states on population density, proportion of residents between ages of 5 and 17 and above age of 65, proportion of black residents, per capita income and federal grants. In particular, when a “neighboring” state, as defined by proximity in terms of the variables listed above, increases its per capita public expenditures by \$1.00, a state will increase its own expenditures by as much as \$0.70. State expenditures may be driven by factors other than voter preferences or political philosophy of the party in control of state government. Garand (1988)

tests various theories to explain the tremendous growth in state government expenditures since the end of World War II and finds that much of it can be explained by increases in income, percentage of population working as state and local government employees, and federal government grants.

### **Government spending, economic growth and fiscal health of state governments**

Laffer et al. (2010) analyzed the economic condition of the 50 US states. Their conclusion is that states that have lower tax rates and spend less as a percentage of GSP are generally better off economically compared to states that spend more, especially with respect to income transfer programs. Laffer et al. (2010) also examined states with perennial budget problems over the last decade and found some commonality with respect to their economic policies. New York, New Jersey, California and Michigan, all have the following characteristics in common: relatively high tax rates on high incomes, relatively high per capita government spending, union-friendly policies, and relatively high spending on government health care and intervention in the health care market.

The negative impact of higher taxes on state economic growth has been shown in other studies. Poulson and Kaplan (2008) found that, for the period 1964 – 2004, higher marginal tax rates negatively impacted state economic growth. Feldstein and Wrobel (1998) conclude that state policies designed to redistribute wealth through taxation of high income earners will fail due to the mobility of high income earners. Young et al (2008) confirmed the net negative migratory effects of higher taxes in New Jersey.

If state government spending is decomposed into categories, is it possible that certain types of government spending are beneficial? It is often claimed that government spending on education has positive effects on state growth rates. Vedder and Denhart (2007) examined state government education spending and real growth in per capita income within all of the 50 US states for the period 1960 – 2005 and found a negative relationship. Their analysis also revealed a strong negative relationship between growth and state and local tax burdens. One positive relationship uncovered was between the percentage of the state population above 25 who possessed college degrees and the rate of growth in state GSP.

### **Implications from past research**

Much of the research reviewed indicates that often government spending, of certain types, and perhaps beyond some optimal point, results in a reduction in the rate of GSP growth. During recessions, it is theorized by Keynesian economists that a spending shock through increased government spending is necessary to reinvigorate the economy.

New Keynesian models take into account rational expectations. The introduction of this variable reduces the multiplier below that obtained in traditional Keynesian models. Cogan et al. (2010) find that the spending multiplier may even fall below one after the first year, citing leakage and/or crowding out. These results call into question the benefits of government spending to increase GDP.

Previous research has not argued for no government spending. Certain types of spending at reasonable levels can be beneficial. However, beyond a certain level, government spending may be detrimental to growth in output and simply add to government debt. This implies that policy makers should seek to determine optimum levels of spending at both the federal and state levels.

### **Empirical Hypotheses**

This study employs the Fraser Institute's (Ashby et al. 2010) economic freedom of North America index to measure a state government's policy. As explained in a later section, the economic freedom index is comprised of constituent variables from three areas: government size, taxation, and labor market freedom. The Fraser institute also provides index scores for each individual area. Higher scores, overall and for each constituent index, is considered less restrictive policy. We test to see whether a higher economic freedom score is associated with greater growth in a state's GSP and lower increase in net state

debts during the sample period. We run separate tests for the overall economic freedom index and for index scores of its constituent areas, viz., government size, taxation, and labor market freedom. Along with economic freedom index scores, we also test for the association between government spending on infrastructure, education, welfare, and healthcare on the growth of a state's GSP as well as the increase in net state debts. It is well known that the recession which started in 2008 began with distress in real estate and financial markets. In addition, we note that states reliant on mining and agricultural sectors appear to have fared better during this recession. Hence, we believe that an industry's contribution to a state's GSP is also an important determinant of GSP growth. Therefore, the following are the hypotheses examined in this study:

1. Greater degree of economic freedom facilitates and encourages private sector economic growth. Therefore, we expect states with higher economic freedom rankings, and higher index scores in its constituent areas, during the sample period to experience higher growth in per capita gross state product.
2. State expenditures in areas such as education and infrastructure can be regarded investments that enhance future economic growth. Therefore, we expect state spending in education and infrastructure prior to the period under consideration will have a positive impact on growth of per capita gross state product during the sample period while others such as welfare and government administration will have the opposite effect.
3. The financial crisis of 2008 was caused in great part by problems in construction and finance sectors of US economy. Therefore, we expect that states more dependent on these sectors prior to the period under consideration will have lower growth of per capita gross state product during the sample period.
4. Greater degree of economic freedom facilitates and encourages private sector economic growth which in turn raises state revenues. Therefore, we expect states with higher economic freedom rankings, and higher index scores in its constituent areas, during the sample period to experience lower growth in net state debts.
5. The financial crisis of 2008 was caused in great part by problems in construction and finance sectors of US economy. Therefore, we expect states more dependent on these sectors prior to the period under consideration will have higher growth of net state debts during the sample period.

## Data

Much of the sample data comes from the US Census Bureau. State-level economic and fiscal variables and state expenditures (by category such as education, employee salaries, health care, etc.) are obtained from the Census Bureau's website. Data on size of economic sectors (such as agriculture, mining, construction, finance, etc.) are downloaded from the website of Bureau of Economic Analysis. State economic freedom rankings data is obtained from the Fraser Institute (Ashby et al. 2010).

Individual state rankings from 2006 on overall economic freedom, size of government, level of taxation and labor market freedom are obtained from the Fraser Institute's website (Ashby et al., 2010). 2006 rankings are used because it represents the midpoint in our 2004 to 2008 sample period<sup>1</sup>. The Fraser Institute is an independent and nonpartisan Canadian research organization dedicated to the promotion of economic freedom around the world. It publishes a ranking of various nations around the globe as well as for US states and Canadian provinces. Due the homogeneity amongst Canadian provinces and US states, only three determinants are used to measure differences in economic freedom. Hence, the overall composite measure of economic freedom is based on the value of variables in three component areas: size

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<sup>1</sup> We note that the Fraser Institute's economic freedom scores for US states did not change much from one year to the next during the sample period. Pearson's correlation coefficients between "economic freedom" indices amongst US states were 0.99, 0.96 and 0.96 between the years 2004-05, 2005-06 and 2006-07, respectively. 2007 is the latest year for which these scores are available.

of government, total and discriminatory taxation and labor market freedom. Lack of data precludes the inclusion of a fourth potentially important area, i.e., restriction on the movement of goods within North America, although this fourth factor is more pertinent to Canada than to the United States (Ashby, 2010). Amongst the variables used to determine economic freedom within the US states, size of government is essentially defined as the ratio of government consumption, transfers, subsidies and welfare payments as percentage of GSP. Taxation takes into consideration taxes as percentage of GSP, excluding taxes on capital, as well as marginal tax rates and incomes to which they apply. Finally, labor market freedom is based on variables such as strength of minimum wage legislation, public sector employees as percentage of total employment and degree of unionization.

## **Methodology**

Our first objective is to estimate the impact of state fiscal policies and economic characteristics on the percentage change in the per capita private sector gross state product (GSP) from the boom year of 2004 to the recession year of 2008. The year 2004 is chosen because it represents the peak of the economic expansion that began in 2001 and ended in 2007. It is the peak of the economic cycle because the real GDP growth in 2004 is at the highest between the recession of 2001 and recession of 2007, as identified by The National Bureau of Economic Research (NBER). At the time of data collection and analysis in early 2010, 2008 is the most recent year with complete data series from the Census Bureau and the Bureau of Economic Analysis.

We next examine the change in the fiscal strength of the fifty states from 2004 to 2008. The purpose of this analysis is to confirm our hypothesis that high-tax and high-spending states which tend to lower economic freedom rankings actually fare worse than their more lightly taxed counterparts in the recession that began in 2007. Our metric is the percentage change in the value of net debt from 2004 to 2008. Net debt is defined to be the difference in the value of outstanding debt issued by a state and the value of cash and securities it holds.

We use linear regression to model the effect of variables such as percentage changes in per capita tax collected used as proxies for state economic policies to determine their efficacy in creating an environment conducive to GSP growth. The results are similar to those obtained when the regression coefficients are estimated using heteroskedastic-consistent standard errors. To eliminate variance-inflation caused by multicollinearity or correlation among the independent variables, the ridge regression technique is applied to the data and the model. A series of trials are conducted to find the optimal value of the ridge parameter that yields stable coefficient estimates.

## **Explanation of Regression Variables**

The dependent variable in the first set of regressions is the percentage change in per capita private sector GSP. EconFreedom is the Fraser Institute's overall ranking of economic freedom. A second regression in this set uses the index scores in the component areas of the "economic freedom" scores, viz. GovernmentSize for size of the government, Taxation for total discretionary tax collections, and LaborMarket for labor market freedom. As mentioned earlier, all Fraser Institute rankings are from 2006. CapitalOutlays04, Education04, Welfare04, Health04 and GovernmentAdmin04 are percentage of GSP devoted to capital outlays, education, welfare, health care and government administration, respectively. All expenditures and GSP figures are from 2004. Mining04, Agriculture04, Manufacturing04, Construction04 and Finance04 are percentage of GSP contributed by mining, agriculture, manufacturing, construction and financial services sectors respectively. All sector GSP figures are from 2004.

The dependent variable in our second set of regressions is percentage change in net debt from 2004 to 2008. Net debt is defined as value of outstanding debt minus the value of cash and securities. The independent variables used in the second set of regressions are identical to the ones used in our first set of regressions.

## Results

In the first part of our analysis, we find evidence consistent with the notion that increases in a state's ranking of economic freedom has a statistically and economically meaningful impact on the private sector's ability to produce more goods and services during the sample period.

**Table 1**  
**Effect of Economic Freedom, Fiscal Policies and Economic Diversity**  
**on Per Capita GSP Growth**

Results from ridge-regression performed on a sample of 50 US states. Dependent variable is the per capita annual GSP growth between 2004-2008 (n=50).

Variable	Coefficient	Standard Error	p-value
Intercept	0.1673	0.1377	0.2318
EconFreedom	0.1224	0.0199	0.0000
CapitalOutlays04	0.0421	0.0249	0.0991
Education04	0.0227	0.00974	0.0252
Welfare04	-0.0308	0.009	0.0015
Health04	0.1792	0.03639	0.0000
GovernmentAdmin04	-0.3856	0.03736	0.0000
Mining04	0.0693	0.0162	0.0001
Agriculture04	0.0451	0.00655	0.0000
Manufacturing04	-0.258	0.106	0.0197
Construction04	-0.264	0.0326	0.0000
Finance04	0.125	0.0185	0.0000
$R^2 = 0.4715$			

Table 1 shows that states with higher economic freedom rankings have higher per capita private sector GSP growth. Not all government expenditures have a negative effect on GSP growth as capital outlays, education and health care actually have a positive effect on GSP growth. This is not surprising for these expenditures increase the physical infrastructure and human capital needed for economic growth. However, welfare and government administrative expenditures have a pronounced and statistically significant negative impact of per capita private sector GSP growth. States with large

agriculture and mining sectors enjoyed higher per capita private sector GSP growth during the sample period while states dependent on manufacturing and construction saw lower GSP growth. Surprisingly, states with a large financial services sector also experienced faster GSP growth, although this may be due to the onset of the financial crisis in late 2008, the last year of the sample period so its full effects are not captured with 2008 year-end data. Moreover, the coefficients of all economic sector variables are highly statistically significant. The high R-squared value of this model indicates it has high explanatory power.

Table 2 shows the magnitude of individual variable's impact on per capita private sector GSP growth. Impact is calculated as the product of a variable's coefficient and its standard deviation. Therefore, it represents the change in per capita private sector GSP growth that would result from a one-standard deviation increase in the value of the variable.

**Table 2**  
**Economic Significance of Economic Freedom, Fiscal Policies and Economic Diversity on Per Capita GSP Growth**

Results from ridge-regression performed on a sample of 50 US states. Dependent variable is the per capita annual GSP growth between 2004-2008 (n=50).

Variable	Coefficient	Standard Deviation	Economic Impact
EconFreedom	0.1224	0.681	0.08335
CapitalOutlays04	0.0421	0.00592	0.00025
Education04	0.0227	0.00991	0.00022
Welfare04	-0.0308	0.00885	-0.0003
Health04	0.1792	0.00251	0.00045
GovernmentAdmin04	-0.3856	0.00337	-0.0013
Mining04	0.0693	0.0834	0.00578
Agriculture04	0.0451	0.0256	0.00115
Manufacturing04	-0.258	0.0307	-0.0079
Construction04	-0.264	0.0128	-0.0034
Finance04	0.125	0.0289	0.0036

Results in Table 2 indicate that increasing a state's economic freedom score by one standard deviation can result in 8.34% increase in per capita private sector GSP growth over the sample period. This represents a significant acceleration in private sector per capita GSP growth as its median value over the five-year sample period is 21.10%. While the coefficients of welfare outlays, health care spending and government administration expenditures are statistically significant, there is not enough variation among the 50 states to give them sizeable economic impact. Also, even though the regression coefficients of all economic sectors are highly significant, none of them appear to have a sizeable economic impact.

A one standard deviation increase in the size of the any of five sectors analyzed will lead to a change of less than 0.6% in per capita private sector GSP growth during the sample period.

We then continue our analysis to see which of the three factors, size of government, level of taxation and flexibility of labor markets that make up the Fraser Institute's rankings of economic freedom drives the results noted above. Table 3 shows the results when these three factors replace economic freedom as independent variables in the same regression determining pace of per capita private sector GSP growth during the sample period.

**Table 3**  
**Effect of Size of Government, Taxation, Fiscal Policies and Economic Diversity**  
**on Per Capita GSP Growth**

Results from ridge-regression performed on a sample of 50 US states. Dependent variable is the per capita annual GSP growth between 2004-2008 (n=50).

Variable	Coefficient	Standard Error	p-value
Intercept	0.1466	0.1404	0.3034
Government Size	0.0037	0.0163	0.8198
Taxation	0.0209	0.0017	0.0000
Labor Market	0.0532	0.0195	0.0096
CapitalOutlays04	0.0441	0.0255	0.0923
Education04	0.1920	0.1005	0.0641
Welfare04	-0.1627	0.9920	0.8706
Health04	0.1444	0.0371	0.0004
GovernmentAdmin04	-0.3285	0.0381	0.0000
Mining04	0.0673	0.0165	0.0002
Agriculture04	0.0491	0.0068	0.0000
Manufacturing04	-0.2800	0.1090	0.0145
Construction04	-0.1870	0.0343	0.0000
Finance04	0.1140	0.0222	0.0000
$R^2 = 0.4875$			

Table 3 shows that level of taxation and flexibility of labor market are statistically significant in determining the level of private sector per capita GSP growth while size of government is not. The signs of coefficients for the other variables in the regression are identical to those shown in Table 1, although their numerical magnitudes may vary somewhat. However, when we calculate the economic impact of the level of taxation and flexibility of labor markets, we observe in Table 4 that an increase in rankings of these factors by one standard deviation can result in 1.57% and 4.17% increase in per capita private sector GSP growth, respectively. The economic impact of other variables are qualitatively similar to the results in Table 2 so variation in sector size does not lead to meaningful differences in private sector GSP growth during the period under study.

**Table 4**  
**Economic Significance of Government, Taxation, Fiscal Policies and Economic Diversity on Per Capita GSP Growth**

Results from ridge-regression performed on a sample of 50 US states. Dependent variable is the per capita annual GSP growth between 2004-2008 (n=50).

Variable	Coefficient	Standard Deviation	Economic Impact
Government Size	0.00374	0.971	0.003632
Taxation	0.02091	0.751	0.015703
Labor Market	0.0532	0.784	0.041709
CapitalOutlays04	0.0441	0.00592	0.000261
Education04	0.192	0.00991	0.001903
Welfare04	-0.1627	0.00885	-0.00144
Health04	0.14435	0.00251	0.000362
GovernmentAdmin04	-0.3285	0.00337	-0.00111
Mining04	0.0673	0.0834	0.005613
Agriculture04	0.0491	0.0256	0.001257
Manufacturing04	-0.28	0.0307	-0.0086
Construction04	-0.187	0.0128	-0.00239
Finance04	0.114	0.0289	0.00329

The second part of our analysis focuses on the impact that economic freedom, tax/spending policies and economic diversity have on states' fiscal health. Our proxy for states' fiscal health is the level of net state debts. For our second set of regressions, we use the percentage change in net debts to gauge how the fiscal health of states changed between 2004, the year of peak GDP growth in the expansion of 2001-2007, and 2008, the year of worst GDP contraction in the recession that began in Nov 2007, as dated by the National Bureau of Economic Research.

**Table 5**  
**Effect of Economic Freedom, Fiscal Policies and Economic Diversity**  
**on Change of State Net Debts**

Results from ridge-regression performed on a sample of 50 US states. Dependent variable is the per capita annual change in State Net Debts between 2004-2008 (n=50).

Variable	Coefficient	Standard Error	p-value
Intercept	0.0807	0.4111	0.8455
EconFreedom	-0.3380	0.0593	0.0000
CapitalOutlays04	1.8381	0.7449	0.0091
Education04	0.0296	0.2909	0.4597
Welfare04	0.4119	0.2687	0.0668
Health04	-1.1114	0.0109	0.0000
GovernmentAdmin04	2.3768	1.1116	0.0195
Mining04	-0.3330	0.4820	0.2469
Agriculture04	-0.8429	0.1956	0.0001
Manufacturing04	0.2840	0.3160	0.1872
Construction04	0.8530	0.0972	0.0000
Finance04	0.0544	0.0551	0.1647

$$R^2 = 0.2357$$

Table 5 shows that states with higher economic freedom rankings experienced smaller increases in net debts as did states with smaller governments. Not surprisingly, higher state expenditures have a statistically significant impact on change in net debt with the exception of healthcare spending. Higher spending on capital outlays, welfare and government administration expenditures are correlated with higher changes in net debt. However, healthcare spending seems to have the opposite effect. States with

a larger agricultural sector increased their net debt at a slower rate while states with more dependence on construction saw more rapid accumulation of net debt.

Table 6 displays the magnitude of the economic impact of the variables from Table 5. Again, impact for our purposes is calculated as the product of a variable's coefficient and its standard deviation. Impact as used here will predict the change in net debt in percent that would result from a one-standard deviation increase in the value of the variable.

**Table 6**  
**Economic Significance of Government, Taxation, Fiscal Policies and Economic Diversity on Change of State Net Debts**

Results from ridge-regression performed on a sample of 50 US states. Dependent variable is the per capita annual change in State Net Debts between 2004-2008 (n=50).

Variable	Coefficient	Standard Deviation	Economic Impact
EconFreedom	-0.3380	0.6810	-0.2302
CapitalOutlays04	1.8381	0.0059	0.0109
Education04	0.0296	0.0099	0.0003
Welfare04	0.4119	0.0089	0.0036
Health04	-1.1114	0.0025	-0.0028
GovernmentAdmin04	2.3768	0.0034	0.0080
Mining04	-0.3330	0.0834	-0.0278
Agriculture04	-0.8429	0.0256	-0.0216
Manufacturing04	0.2840	0.0307	0.0087
Construction04	0.8530	0.0128	0.0109
Finance04	0.0544	0.0289	0.0016

The median percentage change in net debt for all fifty states is 33.43%. A one standard deviation improvement in a state's Fraser Institute economic freedom ranking can lower its increase in net debt by nearly 40%. States that spend heavily on capital outlays and government administration suffer greater increases in debt although their effect is at least one order of magnitude smaller than the effect of economic freedom rankings. The economic impact of sector diversification on net debts is minimal as well.

We next investigate the effect of size of government, taxation and labor market flexibility on changes in net state debts. Table 7 shows that higher the size of government ranking (smaller government) and higher the taxation ranking (lower taxes), the smaller the increase in net state debts and the difference is statistically significant. Higher expenditures in the form of capital outlays, welfare and government administration are strongly associated with increases in state debts. But education and health care spending seems to have the opposite effect. States with larger mining, agriculture and financial services sectors have smaller increases in net debts although the coefficients of these variables are not statistically significant at traditional levels.

**Table 7**  
**Effect of Size of Government, Taxation, Fiscal Policies and Economic Diversity**  
**On Change of State Net Debts**

Results from ridge-regression performed on a sample of 50 US states. Dependent variable is the per capita annual change in State Net Debts between 2004-2008 (n=50).

Variable	Coefficient	Standard Error	p-value
Intercept	0.1526	0.4204	0.7187
GovernmentSize	-0.4893	0.0488	0.0000
Taxation	-0.8590	0.0523	0.0000
LaborMarket	0.0348	0.0583	0.5542
CapitalOutlays04	1.9245	0.7643	0.0164
Education04	-0.3482	0.3010	0.2549
Welfare04	0.3090	0.0970	0.0030
Health04	-0.1213	0.1110	0.2818
GovernmentAdmin04	2.3645	1.1408	0.0454
Mining04	-0.0327	0.0493	0.5114
Agriculture04	-0.0460	0.0202	0.0290
Manufacturing04	0.2970	0.3270	0.3698
Construction04	1.7010	1.0280	0.1067
Finance04	-0.2860	0.6650	0.6697
$R^2 = 0.2549$			

In Table 8, we find that a one standard deviation increase in size of government score leads to a 47.5% decrease in net state debts during the sample period. A similar change in taxation score leads to a 64.5% drop in net state debts. On the other hand, a one standard deviation increase in capital outlays and government administration expenditures lead to 1.14% and 0.80% increase in net state debts, respectively. Spending in other areas such as education, health care and welfare have even smaller impact on changes in net debts. States with large construction and manufacturing sectors suffer a larger increase in net debts while states with larger agricultural, mining and financial services sectors experience a smaller increase in net debts. This is entirely consistent with the nature of the severe recession that began in November 2007. Unlike most post-World War II recessions, it was driven by a collapse in residential and to a lesser extent, commercial construction as well as a sharp drop in equity values.

**Table 8**  
**Economic Significance of Government, Taxation, Fiscal Policies and Economic Diversity on Change of State Net Debts**

Results from ridge-regression performed on a sample of 50 US states. Dependent variable is the per capita annual change in State Net Debts between 2004-2008 (n=50).

Variable	Coefficient	Standard Deviation	Economic Impact
Government Size	-0.4893	0.9710	-0.4751
Taxation	-0.8590	0.7510	-0.6451
Labor Market	0.0348	0.7840	0.0273
CapitalOutlays04	1.9245	0.0059	0.0114
Education04	-0.3482	0.0099	-0.0035
Welfare04	0.3090	0.0089	0.0027
Health04	-0.1213	0.0025	-0.0003
GovernmentAdmin04	2.3645	0.0034	0.0080
Mining04	-0.0327	0.0834	-0.0027
Agriculture04	-0.0460	0.0256	-0.0012
Manufacturing04	0.2970	0.0307	0.0091
Construction04	1.7010	0.0128	0.0218
Finance04	-0.2860	0.0289	-0.0083

## Conclusions

Our purpose was to examine the role of government and the effect of economic freedom on private sector GSP growth of US states from 2004 to 2008. We find that states with higher economic freedom rankings as compiled by the Fraser Institute experience faster per capita private sector GSP growth during the sample period. Certain state government expenditures have a negative impact on private sector GSP growth. Our results suggest that states can accelerate the rate of private GSP growth by reducing taxation, size of government, and by increasing labor market flexibility.

Additionally, we find that states with higher economic freedom rankings also fared better fiscally during the sample period despite the most severe recession in the US since the early 1980's. In particular, states with greater economic freedom experience less increase in net debts and the effect of economic freedom on percentage change in net debt trumps the effect of spending policies and a state's reliance on construction and finance industry sectors by roughly an order of magnitude.

The evidence presented in this study implies that private sector GSP growth can be enhanced and the fiscal debt burden reduced by lowering taxes, reducing the size of government and deregulating labor markets. Higher government spending on investments in infrastructure and human capital, such as capital outlays, education, and healthcare also enhances a state's private GSP growth. Hence there exist categories of optimal and suboptimal government spending.

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