Research Working Papers

Effects of State Taxation on Investment: Evidence from the Oil Industry

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The drilling response to a change in tax paid per barrel of oil is inelastic, implying that a decrease in the tax rate per barrel typically leads to decreases in state tax revenue.

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We provide theoretical and empirical evidence that firms do not in general respond equally to changes in prices and taxes in the setting of oil well drilling in the United States. Our key theoretical contribution is that in a multi-state model, a change in output price changes both the benefit and opportunity cost of drilling, whereas a change in a state tax rate only changes the benefit of drilling in that state. Thus, a firm responds more to a change in tax than a change in price. Our econometric results support this theoretical prediction. We find that a one dollar per barrel increase in price leads to a 1 percent increase in wells drilled, but a one dollar per barrel increase in tax leads to at least an 8 percent decrease in wells drilled. These estimates correspond to elasticities of about 0.5 and -0.3, respectively. These results are robust to interstate spillovers, other state regulations, and econometric specification. They imply that using state tax rate decreases to incentivize investment may lead to losses of government revenue.

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