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THE ECONOMIC IMPACT
OF THE TAX REFORM ACT OF 1986
ON SMALL OIL DRILLING PROJECTS

by

Clay Livingston Hoes

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A thesis submitted to the Faculty and the Board of Trustees of the Colorado School of Mines in partial fulfillment of the requirements for the degree of Master of Science (Mineral Economics).

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ABSTRACT

On October 22, 1986, President Reagan signed into law the Tax Reform Act of 1986 (TRA). It is the most comprehensive tax change in recent history and will affect how corporations and individuals conduct business in the future. The oil industry retained many of the favorable tax preference items from the Economic Recovery Tax Act of 1981 (ERTA). This was achieved by lobbyists and sympathetic Congressional leaders.

In order to analyze the impact that the Tax Reform Act of 1986 had on the profitability of the small oil projects, a cash flow model was developed. The model analyzed each tax change individually. Sensitivity analyses were performed to determine which had a greater impact on the profitability of small oil projects, tax changes or price decreases.

The Act has repealed the investment tax credit (ITC), modified the Accelerated Cost Recovery System (ACRS), and decreased the percentage of intangible drilling costs (IDCs) allowed to be expensed. These three changes each have had negative impacts on the profitability of small oil projects. The greatest negative impact occurred with the repeal of the ITC, followed by the decreased percentage of

IDCs allowed to be expensed, and finally the modifications to the ACRS.

The Act reduced the corporate income tax rate from 46% to 34%, which produced the only benefit to the profitability of small oil projects. When the detrimental and the beneficial tax changes are incorporated, all sizes of producers benefit from the tax changes, as long as the price of oil remains above the breakeven price of the project (\$21.64 per barrel--Williston Basin project and \$20.62 per barrel--Permian Basin project). The large independent oil and gas company experience the most positive impact upon profitability, followed by the majors and the small independents.

A sensitivity analysis was performed on the sensitivity of net present value to changes in price (decreases of \$1 per barrel at 4 price scenarios) and to changes in taxes (from the ERTA to the implementation of the TRA). A price decrease of \$1 per barrel affects the profitability of the projects more than the new tax act, when the price of oil is above the breakeven price. When the price of oil is \$3 above or below the breakeven price, the profitability of the projects is at its most sensitive. Below the breakeven price, the tax change affects the profitability of the projects more than a \$1 decrease in

the price per barrel. The small independent oil and gas company suffers the most under the TRA.

This result, coupled with an increasing percentage of stripper well abandonments because of decreasing oil prices, indicates that the TRA was not sympathetic to the plight of the small independent oil and gas company. In 1984, stripper well production accounted for 15% of the total and 70% of the total number of wells in the United States. The independents (large and small) produced 59.6% of the total stripper well production in 1982. They also drilled 88.4% of the wells (exploratory and development) drilled domestically in 1982. If the price remains at a \$15 per barrel level, approximately 734 million barrels of production will be lost. If these reserves are not protected by the TRA through tax breaks and the future drilling is not protected by the TRA on the downside of prices, then the Congress has failed to secure future supplies of oil. The United States has experienced two oil price shocks.

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