



Lingering Energy Bust Depresses, Doesn't Sink Texas State Budget

By Jason Saving

ABSTRACT: The recent oil price collapse has adversely affected Texas' budget situation and slowed the growth of its rainy-day fund. While energy continues to play an important role in Texas, the state has been better economically and fiscally positioned than most other energy states.

Ever since Texas began taxing oil and gas in 1906, the state has relied on revenue from the energy sector. Those initial taxes on “sundry oil companies” brought in a mere \$101,403 to the Texas budget—about 3 percent of state tax revenue.

No doubt, energy has grown a lot since then, prompting some to conclude that without a robust energy sector, the Texas economy is in trouble. After all, the Great Recession and a contemporaneous oil-price decline created an unprecedented \$15 billion shortfall for Texas that prompted deep cuts to education and health care in fiscal 2012–13.

Prices for benchmark West Texas Intermediate crude oil fell by more than half from August 2014 to February 2015 and have remained relatively low in 2016. The state's rig count declined dramatically as did energy and manufacturing employment.

Something else just as noteworthy also occurred: Despite the oil bust, the state budget has held up without the need for significant fiscal adjustments. Subsequent events provide insight into the state's rainy-day fund and its ability to withstand future recessions.

Texas' experience has provided a useful counterpoint to other energy-dependent states, though the bust's lingering impact has been particularly notable in formerly booming areas.

Energy and the Budget

Petroleum producers in Texas are taxed based on the market value of the products they extract. Oil producers pay 4.6 percent of market value in “oil production and regulation tax,” which is also levied on related petroleum products called condensates. Natural gas producers pay 7.5 percent of mar-

ket value in “natural gas production tax” for natural gas they extract and capture. These taxes are collectively known as severance taxes.

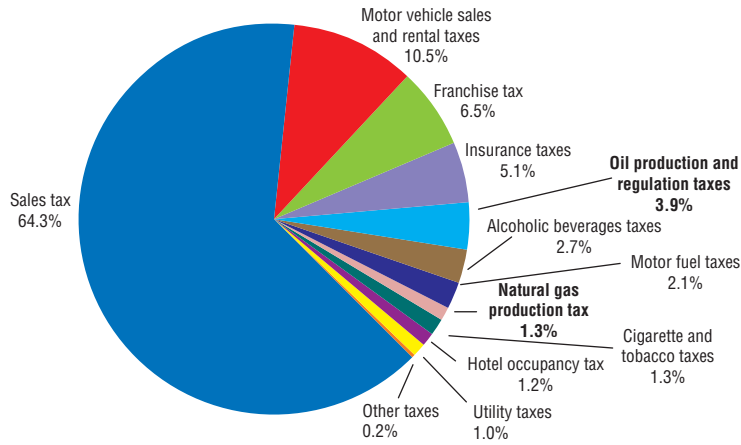
Over the last three years, state revenue from oil and natural gas taxes has varied dramatically. Oil prices remained high for almost all of fiscal 2014 (September to August), and severance tax revenues—oil plus natural gas—totaled \$5.8 billion. This revenue fell 28 percent to \$4.2 billion in fiscal 2015 and another 45 percent to \$2.3 billion in fiscal 2016—a total \$3.5 billion decline.

The oil production tax contributed 3.9 percent of state tax revenue, making it the fifth-largest source of state tax revenue in 2016; the natural gas production tax accounted for 1.3 percent, the eighth-largest-source of state tax funds.

By comparison, about 64.3 percent of state tax revenue came from the sales tax, and 10.5 percent came from the state's motor vehicle taxes (*Chart 1*). Other significant taxes include the franchise tax (assessed on corporations), insurance taxes (primarily on premiums paid), “sin” taxes on alcohol and cigarettes, and motor fuel taxes.

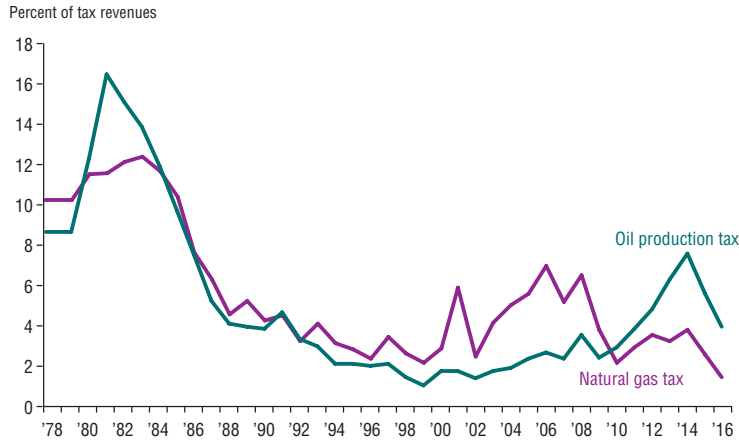
Severance taxes, even at their 2014 peak, made up a far smaller proportion of total state taxes than in the 1980s (*Chart 2*). Oil production tax routinely contributed more than 10 percent of state tax revenue during that time, briefly spiking to 17 percent in 1981, just before the 1980s oil bust. Natural gas tax revenue also exceeded 10 percent of state tax revenue in the first half of the 1980s before prices plunged in 1986 and slid again as the shale and hydraulic fracturing (fracking) revolution took hold in 2009. Absent a large

Chart 1 Oil and Gas Taxes Provide Relatively Small Piece of Texas Collections



NOTE: Data are for fiscal 2016.
SOURCE: Texas Comptroller of Public Accounts.

Chart 2 Texas Oil and Gas Tax Revenue Falls Sharply in Latest Period, Remains Far Below 1981 Peak



SOURCE: Texas Comptroller of Public Accounts.

and unexpected change in energy markets, these trends will not soon reverse, suggesting severance taxes will remain a relatively modest budget contributor in the near future.

Rainy-Day Fund

The oil and gas sector also affects the state’s overall fiscal position—though not its year-to-year budget—in another way. When state economic growth slows, tax revenue typically follows as firms produce less (and individuals work less)

than would have been the case in more robust economic times.

Sales tax revenue grew 1.5 percent annually between 2014 and 2016, for example, compared with a 6.4 percent annual rate the preceding two years. At the same time, slower growth (or a recession) typically causes state expenditures to rise as more people find themselves in need of safety-net programs such as unemployment insurance and Medicaid health coverage. These developments tend to strain

state budgets during periods of slow growth. As the economy moves into a period of stronger expansion, pressures abate.

Standard models of government finance suggest jurisdictions should deficit-spend when growth falls below trend and make up for it by running surpluses when growth is unusually strong. However, Texas and most other states (all but two, in fact) require yearly revenues and expenditures to be balanced.

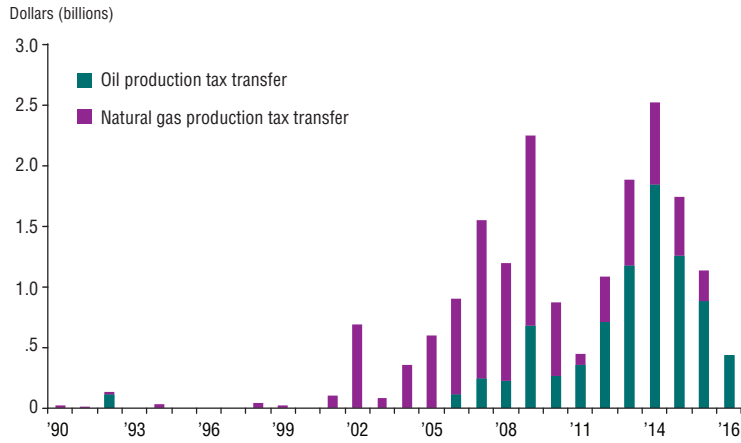
While states differ in how stringently these rules are applied and what exceptions can be made, balanced budget requirements make it difficult for states to spend more than they receive in any given year. This presents states with a dilemma: At the precise moments when policymakers know state services will be most needed, they can reasonably expect funding for those services to be least prevalent.

To work around this public finance problem, most states have created “rainy-day” funds. Known as the Economic Stabilization Fund in Texas, the rainy-day fund is intended to stockpile revenue during periods of robust economic growth. The money can then be used to help fund state services when economic growth is weak or a recession brings contraction. State policymakers can use the fund to ensure stable provision of public services over time.

In Texas, oil and natural gas production taxes provide rainy-day funds. By law, 75 percent of severance tax revenue in excess of 1987 levels—\$599.8 million for natural gas, \$531.9 million for oil—is deposited in the rainy-day fund rather than used for ordinary expenditures.¹ The transfers were small in the 1990s but soared in the 2000s, driven primarily by the natural gas production tax (Chart 3).

As fracking came into prominence in 2009 and natural gas production surged, natural gas prices collapsed and boosted the relative importance of oil in rainy-day contribution data. Rainy-day contributions from the oil production tax soared to nearly \$2 billion as the oil boom ended in 2014,

Chart 3 Energy Tax Contributions to Rainy-Day Fund
Fall to 13-Year Low in 2016



NOTES: Each year's transfer is based on the previous year's tax revenues; thus, 2017 transfers are based on fiscal 2016 tax revenues. 2017 oil production transfer data point based on 2016 actual data.
SOURCE: Texas Comptroller of Public Accounts.

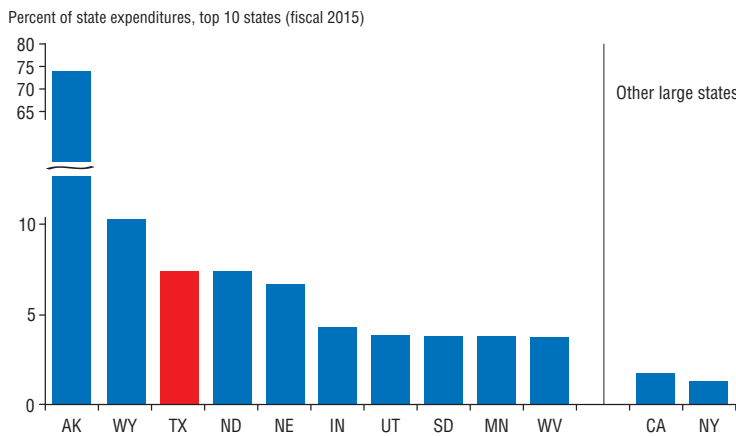
while the natural gas production tax netted only one-third of that amount. By 2016, reductions in the prices of both oil and natural gas had reduced contributions from the oil production tax to a five-year low and cut contributions from the natural gas tax to zero—a phenomenon that had not occurred since 2000.

Yet a slower pace of inflows over the last two fiscal years does not mean the rainy-day fund's balance was "low"—or lower than other states.

While complete 2016 data is not yet available, Texas' rainy-day fund balance at the end of 2015 was the second highest nationally in dollar terms and third highest as a share of annual state expenditure (Chart 4). As a percentage of state expenditures, the Texas fund at 7.4 percent was more than four times larger than California's 1.7 percent and nearly six times New York's 1.3 percent, suggesting those states would experience greater difficulty using the rainy-day fund to stabilize state expenditures

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Chart 4 Texas Rainy-Day Fund Balance Third Largest in Nation



NOTE: California ranked 25th; New York ranked 35th.
SOURCE: National Association of State Budget Officers.

during a significant economic downturn.

Although the rainy-day fund is supposed to supply a fiscal cushion, the fund's balance in Texas suggests it does not vary much when the state enters recession (*Chart 5*).² Even the appearance of a \$15 billion budget shortfall for fiscal 2012–13 did little to alter the trajectory of the rainy-day fund, with lawmakers instead adopting sizable cuts to education and other parts of the state

budget. These reductions may or may not have been appropriate, but they do beg the question of why the rainy-day fund exists if not to stabilize outlays during times of economic distress.

How Texas Compares

Texas is often portrayed as the nation's energy capital, with good reason. It produces more oil than any other state (36.4 percent of domestic production) and more natural gas (24.9 per-

cent). Yet, because the state economy is so large and so diversified, the impact of an energy bust on the state budget is less than it might otherwise be.³

Severance taxes as a share of state expenditures are much lower in Texas (4.6 percent) than in other key energy-producing states (*Chart 6*). North Dakota, where severance taxes equal nearly 44 percent of state expenditures, tops the list. North Dakota is nearly 10 times as dependent on severance-tax revenue as Texas, suggesting its budget is much more vulnerable to energy-price swings.

North Dakota's economy has shifted from rapid growth to a substantial recession during the oil bust, as the lack of industrial diversification implicitly places a substantial number of the state's economic eggs in the petroleum-based basket. This is also reflected in North Dakota's real state gross domestic product, which plunged 8.4 percent in the second quarter 2016 versus the comparable year-ago level, the latest period for which data is available.

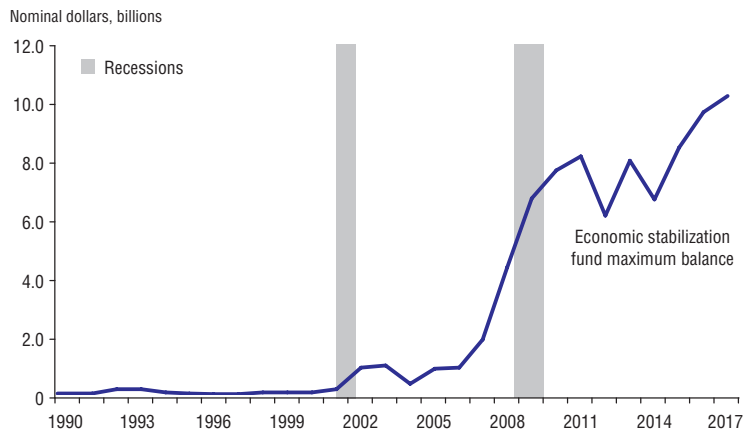
Alaska and Wyoming also receive an outsized proportion of state revenue from severance taxes. In Alaska, oil and gas tax revenue equaled 19 percent of state expenditures in 2014. Wyoming, at 15 percent, is just over three times the Texas level. For these states as well, plummeting severance-tax revenue affected their ability to meet state priorities.

Local Community Effects

Boom-and-bust oil cycles also have implications for localities that are heavily dependent on energy extraction, such as the Midland-Odessa area, and the many small towns along the Eagle Ford formation in South Texas made temporarily boom towns by the 2009–14 shale oil boom.

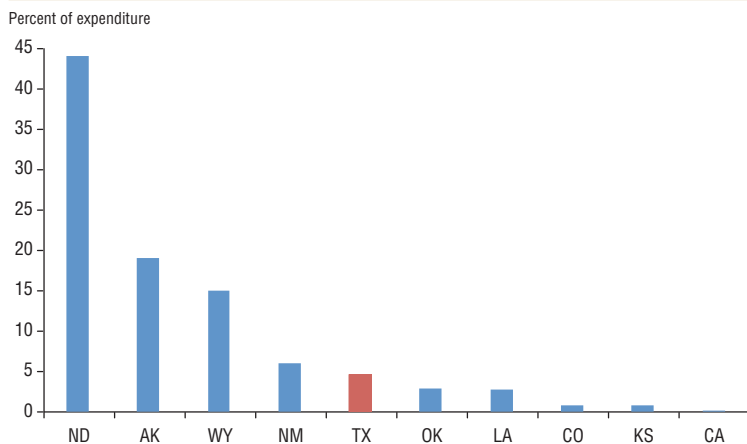
When the sector is strong, local economies thrive as energy firms and workers purchase goods and services from local vendors, rent homes and dine out. Lease payments and royalties also boost incomes locally.⁴ With increased activity comes a need for improved infrastructure and other government works

Chart 5 State Recessions Hardly Dent Rainy-Day Fund Balance



NOTES: Fiscal 2016 balance data point is unaudited; final number not yet available. Fiscal 2016 is first year to include investment revenue in the balance. Fiscal 2017 balance based on 2015 certification revenue estimate.
SOURCE: Texas Comptroller of Public Accounts.

Chart 6 Texas Energy Tax Revenue Smaller Share of Spending than in Many Other Energy States



NOTE: Bars represent severance tax revenue as share of state expenditures for each state's fiscal 2014.
SOURCE: Census Bureau.

in affected areas, both to accommodate the economic boom and to ensure local transportation networks can handle increased roadway transit (often with vehicles far heavier than rural roads were designed to routinely handle).⁵ There are also indirect effects from a strong energy sector, as soaring demand for real estate in affected areas can temporarily propel property values (and property tax bases) to very high levels.

The problem is that energy booms are inevitably followed by energy busts. And as the sector weakens, consumer demand abates. Local governmental entities largely dependent on property taxes for financing confront greatly reduced revenue.

Although predicting oil booms and busts would be helpful for energy-dependent states and localities, oil prices have proven notoriously difficult to forecast. Surveys that better document what industry insiders believe is most likely to happen can prove helpful. For example, 62 percent of respondents in the Dallas Fed's quarterly energy survey believe oil prices will be higher in late 2017 than they were in late 2016, and about half anticipate that natural gas prices will be higher in late 2017 than they were in late 2016.⁶

Fiscal Outlook

As the post-Great Recession oil boom drew to a close, energy moved from being a Texas tailwind to a Texas headwind during 2014–15. The impact on tax revenue was noticeable, though smaller than it would have been had the state remained as energy-focused as it was during the early 1980s.

Other states much more dependent on energy than Texas suffered more profoundly from the oil slump, illustrating the importance of having a diversified economy in much the same way individuals benefit from having a diversified investment portfolio. This is easier said than done, especially for energy-producing states and communities in the midst of an energy slump.

Following the 2015 Texas legislative session, lawmakers passed a \$209.4 billion, two-year budget that left roughly \$4 billion in general

revenue unspent. There were hopes in some quarters that the state might begin its 2017 session with a significant surplus. However, a combination of lower-than-expected oil and gas prices, falling energy production, slower-than-expected economic growth, greater Medicaid outlays and a growing shortfall in the state's teacher retirement system suggest the state will enter its budget deliberations with little if any surplus.

From that vantage point, the state will need to carefully balance demands for more spending in the areas of K–12 education, infrastructure, health care and the environment against the desire to preserve its low-tax, low-regulation climate that has historically helped the state grow more rapidly than the nation.

To some degree, it would be possible to mitigate these pressures by tapping the rainy-day fund. So far, however, state voters have chosen to address structural problems within the budget, approving a reallocation of certain rainy-day contributions in 2014 to bolster highway spending. Whether this evolution of the fund's purpose will continue is unclear, though it will certainly be a topic of discussion in 2017 and beyond.

Severance taxes are a common thread linking these budget issues. Because severance taxes are a relatively small part of state revenue and expenditures, developments in the energy sector cannot single-handedly solve (or derail) Texas' fiscal situation.

But at the margin, energy matters. For example, state agencies were recently asked how they would cope with a 4 percent reduction if the 2017 Legislature approved a cut of that magnitude. Such a decrease could save perhaps \$1.5 billion annually, depending on exactly where the cuts occur. If the energy sector were to rise from its 2016 levels to its 2014 heights, the resulting \$3.5 billion increase in severance-tax revenue would provide enough new general revenue to offset this reduction and additionally make a sizable contribution to the rainy-day fund.

Put another way, severance taxes may not be able to solve Texas' fiscal issues, but they can certainly help.

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Notes

¹ See Article III, Section 49-g-d of the Texas constitution.

² Recession dates given by the Dallas Fed's Business-Cycle Index for Texas.

³ See, "The Effect of High Oil Prices on Today's Texas Economy," by Mine Yücel and Stephen P.A. Brown, Federal Reserve Bank of Dallas, *Southwest Economy*, no. 5, 2004, www.dallasfed.org/research/swe.

⁴ See, "Oil Boom in Eagle Ford Shale Brings New Wealth to South Texas," by Robert W. Gilmer, Raúl Hernandez and Keith R. Phillips, Federal Reserve Bank of Dallas, *Southwest Economy*, second quarter, 2012, pp. 3–7, www.dallasfed.org/research/swe.

⁵ See "On the Record: South Texas County Hopes to See Lasting Gains from Eagle Ford Shale Oil Boom," Federal Reserve Bank of Dallas, *Southwest Economy*, third quarter 2014, pp. 8–9, www.dallasfed.org/research/swe.

⁶ The full report for third quarter 2016 is available at www.dallasfed.org/research/surveys/des/2016/1603/des1603.aspx.