MOODY'S
INVESTORS SERVICE

SECTOR IN-DEPTH
14 September 2016

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State and Local Governments - US

Low Oil and Gas Prices Have Varied Implications for Energy Dependent State and Local Governments

Low oil prices have created financial challenges for state and local governments where the oil and gas industry, particularly extraction and production (E&P), is a dominant part of the economy. Low prices are driving property value declines, which affect property taxes, as well as declining severance and lease revenue. Reduced capital spending and layoffs are translating to weaker sales and income taxes. In addition, a handful of states are closing budget gaps by reducing aid to local governments. The credit impact varies based on reliance on energy related taxes, industrial diversity, available reserves, as well as the legal ability and political will to implement sustainable budget solutions (see Exhibit 1).

» **Direct revenue effects:** States derive oil and gas revenues primarily through severance taxes and royalties. Local governments with the exception of cities generally rely more on property tax revenues. Those in producing regions are experiencing significant assessed value (AV) declines, over 50% in some cases. Persistently low prices are drilling holes into government budgets where these revenues fund general operations.

» **Indirect revenue effects:** Energy sector capital spending cutbacks and layoffs have been a drag on sales and income taxes. In areas where the sector employs a high percentage of the workforce, often at higher wages, the industry downturn is rippling throughout the regional economy via negative multiplier effects. North Dakota (Aa1 negative), Wyoming (not rated) and Oklahoma (Aa2 negative) saw the largest sales and income tax declines and growth was subdued for other energy states. Moderate oil price recovery and improvements in industry efficiencies over the near term will result in a rebound in drilling activity and well completion. However, the pace will vary due to regional cost differences with Texas (Aaa stable) leading the pack in new drilling.

» **Ability to adapt:** Some states and local governments are better positioned than others to weather the industry downturn due to higher reserves, economic diversification, limited budgetary exposure to oil and gas volatility, and flexibility to augment revenues and expenditures where necessary. Those that retained surpluses during the oil boom and managed debt burdens will fare better.

Exhibit 1

Summary of Impact of Low Oil and Gas Prices

2015 Production by State	State	Local Governments
Texas 1,264 Million Barrels (MMbbl)	• The economy managed to avoid recession due to strong growth in other non-energy sectors. • The state has limited general fund reliance on production related taxes. • Sales taxes are falling short of revenue targets but recent collections indicate worst may be over. • Reserve levels provide healthy cushion.	• Permian and Eagle Ford regions are seeing significant tax base declines. • Sales tax collections in hub cities like Midland and Odessa are notably weaker. • Local governments in Texas have strong median reserve levels and budgetary flexibility.
North Dakota 429 MMbbl	• Oil prices dealt a severe blow to economy after rapid oil boom expansion. Job losses are easing as prices slowly recover. • The state is comparatively less reliant on production taxes, but significant declines in income and sales taxes resulted in a $1.3 billion (26%) budget gap for the current biennium. This will be addressed primarily with draws on reserves and budget cuts.	• Local governments rely on production taxes, but declining sales taxes are key drivers of revenue shortfalls. • Cities and counties built healthy reserves during oil boom and have strong flexibility to raise revenue and cut costs. School districts have relatively limited reserves to absorb revenue losses. The state has yet to reduce funding but cuts may still occur.
California 201 MMbbl	• California has very little state level economic or budgetary stress resulting from low oil and gas prices.	• Kern County and its local governments are experiencing significant tax base declines. • Sales tax collections are moderately weaker than last year. • Governing constraints limit budgetary flexibility.
Alaska 176 MMbbl	• Notable reliance on oil revenues is driving a $3.6 billion budget gap and projected deficits in excess of $3 billion per year through 2019. The state's abundant reserves are absorbing most of the imbalance over the near term, but a consensus on sustainable solutions has yet to be reached. • The state's economy plunged into recession due to strong ties to energy.	• Tax bases have grown despite steadily declining production over the last several years. Future growth will be hampered by diminishing investment and downsizing by energy firms. • Steep reserves support long term stability.
Oklahoma 158 MMbbl	• The pace of the energy industry contraction has abated in recent months. • The $1.3 billion (19%) budget gap, driven largely by weak sales and income taxes, was addressed with combination of recurring and non-recurring measures.	• Local governments have imited reliance on revenues directly related to production. • Sales taxes in major cities like Tulsa and Oklahoma City are tracking below last year but to a modest extent compared to the rest of the state. Revenue raising options are limited but there is some cost cutting flexibility. • The state held funding flat for schools in FY2017 but future cuts may still occur.
New Mexico 147 MMbbl	• New Mexico is the second most reliant on production related revenues of the 10 states in this report. • Revenue estimates indicate a substantial decline in reserves in FY2016 and 2017. The state is currently considering actions to address these shortfalls.	• Local governments are experiencing significant tax base and gross receipts tax (GRT) revenue declines primarily in the Permian Basin. Cities and counties have some GRT rate flexibility. • School districts rely almost exclusively on state aid. The legislature called a special session in September 2016 to address a $326M gap, and state aid cuts are a strong possibility.
Colorado 126 MMbbl	• The budget is insulated from major swings in prices and production. • The state does collect severance taxes but these revenues do not flow into the general fund.	• Weld County, where about 90% of the state's oil is produced, and overlapping local governments are seeing significant tax base declines. • Cities and counties may increase revenues with voter approval. School districts are limited to the funding formula.
Wyoming 86 MMbbl	• Mining accounts for 32% of the state's GDP and is the state's largest industry. • The governor proposed $248 million in budget cuts for fiscal 2017-18 biennial budget. • Revenue collections through June 30 are on pace to result in $130-150 million shortfall.	• Economic effects are significant given the concentration in natural resources including oil, natural gas and coal. Sales taxes in the City of Gillette are notably weaker in FY2016. • The state is implementing modest funding cuts for schools.
Louisiana 63 MMbbl	• Near term energy sector recovery will be limited due to relatively high costs of drilling. Additionally, about half of the state's exports are chemical and petroleum products which have fallen in value. • The budget gap was closed primarily through a sales tax increase set to expire in FY2018. The rainy day fund is capped at 4% of prior year revenues, substantially less than other states highlighted in this report, and can only be tapped with 2/3 approval from legislature.	• Production related revenues are generally small budgetary drivers. • Sales taxes in Lafayette, Shreveport, and Bossier City are modestly below prior year compared to parishwide collections in these areas.
Kansas 45 MMbbl	• Kansas is less exposed to oil price volatility than other energy states in this report, but the state is experiencing financial stress following significant income tax cuts.	• The large tax base declines occurring in Hugoton Field are primarily driven by natural gas volatility. Sales taxes in these areas have been modestly affected. • Cities and counties have unlimited property tax levying ability and ample budget flexibility.

In June, Moody's macroeconomic board raised its estimates to $40-$60 per barrel for oil over the medium term in light of easing global oversupply.

Exhibit 2

Oil and Gas Price Estimates for 2016-18

	2016	2017	2018	Stress	Band
WTI crude	$40	$45	$50	$30	$40 to $60
Brent crude	$40	$45	$50	$30	$40 to $60
Henry Hub natural gas	$2.25	$2.50	$2.75	$1.75	$2 to $3
Natural gas liquids	$16	$18	$20	$12	$16 to $24

Source: Moody's Investors Service

Direct Revenue Effects

The impact of low oil prices on the 10 states included in this report has been uneven. Alaska (Aa2 negative), Louisiana (Aa3 negative), North Dakota and Oklahoma have negative outlooks. Kansas (Aa2 negative) also has a negative outlook, but the impact of low oil prices was not a primary driver in the state's outlook revision. On September 12, New Mexico's (Aaa, review for downgrade) general obligation bond rating was placed under review for a possible downgrade. These states are experiencing large budget gaps, and governing constraints create challenges for developing sustainable solutions. Alaska is experiencing the most severe financial stress because energy taxes were almost 90% of general fund revenues when prices were high. Other states with more diverse economies and less general revenue reliance on energy taxes are in a better position to weather the industry downturn; Texas (Aaa stable) and California (Aa3 stable), despite ranking first and third respectively in crude oil production in the US, fall into this category.

Severance taxes for local governments generally are not significant revenue sources; North Dakota is the notable exception. State level reliance on production related revenue also varies. For example, California and Colorado (Aa1 stable) have no general fund exposure, and Kansas is heading in that direction. For the other states, oil and gas revenue out of total general revenue has been falling over the last couple of years with the drop in oil prices (ss Exhibit 3).

Exhibit 3

Production Related Revenues are Declining as a Share of Total General Fund Revenue

Fiscal Years 2014 - Projected 2016

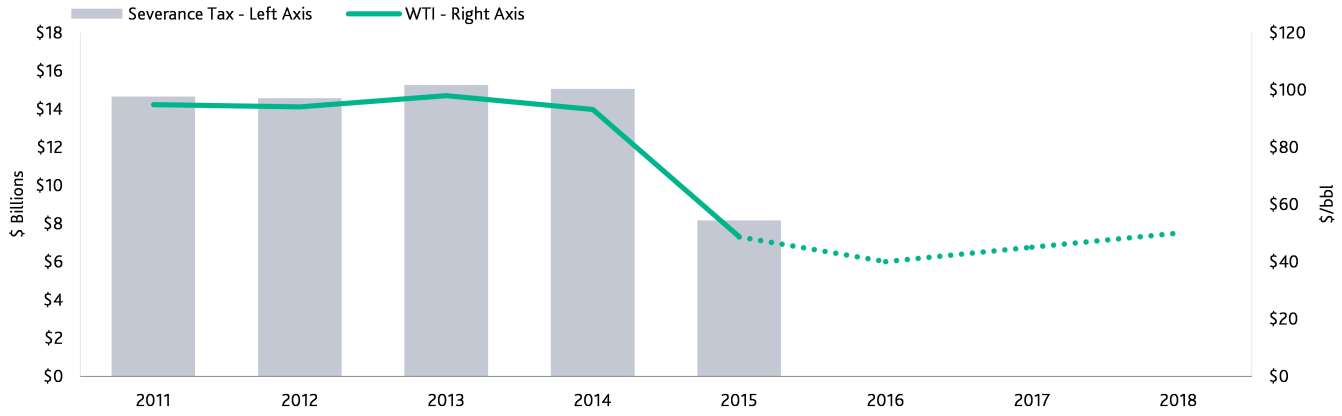
	GO Rating	2014	2015	2016 Projected
Alaska	Aa2 Negative	88%	75%	60%
New Mexico	Aaa Review for Downgrade	19%	16%	12%
Louisiana	Aa3 Negative	16%	12%	8%
Texas	Aaa Stable	13%	9%	6%
Wyoming	Not Rated	5%	4%	5%
North Dakota	Aa1 Negative	5%	5%	8%
Oklahoma	Aa2 Negative	4%	2%	2%
Kansas	Aa2 Negative	2%	1%	0%
California	Aa3 Stable	0%	0%	0%
Colorado	Aa1 Stable	0%	0%	0%

North Dakota's General Fund receives up to $300 million in oil and gas taxes per biennium. This is usually reached in the first year of the biennium, which is why fiscal 2016 is higher. The value has been averaged over fiscals 2014 and 2015.
Source: State financial reports; Moody's Investors Service

States levy and collect severance taxes and distribute the local government share on a formula basis. While the mechanics vary from state to state, factors generally include production, population and energy industry employment. These revenues are usually collected on a monthly basis so rapid changes in the market have a more immediate impact. Property taxes are collected annually, which delays the impact. According to the US Census Bureau, severance taxes imposed on the removal of natural products (e.g. oil, gas, other minerals, timber, fish, etc.) in calendar year 2015 were 46% below 2014 collections (see Exhibit 4). West Virginia (Aa1 negative), while

not included in this report[1], is also among the hardest hit states for severance tax revenue declines due to falling coal production and low natural gas prices.

Exhibit 4
Severance Taxes Fall 46% in 2015 for Top 10 Oil Producing States



Source: US Census Bureau: Quarterly Summary of State and Local Taxes, Energy Information Administration, Moody's Investors Service

County governments in oil rich regions are experiencing significant declines in assessed values and property taxes, the primary source of revenue for county budgets. Importantly, states like Oklahoma, North Dakota, Alaska and Louisiana exclude the value of production and minerals from property taxes and receive a share of severance taxes from the state instead. Assessed values in these states will therefore be more stable than other states like Texas, California, New Mexico, and Colorado where local government tax bases are more sensitive to rapid oil price changes. The influx of revenue, whether it be property, severance or royalties, during the oil boom has been essential in addressing the rising costs of energy industry on roads and demand for public services. Property tax reliant special districts face similar fiscal stress.

School districts in producing areas will also see tax base declines, but funding for schools is formula driven and states will backfill aid to their respective per pupil funding requirements. However, school districts in states like Oklahoma, North Dakota and New Mexico that are dealing with budget gaps will need to cope with potential future cuts in state aid. In these cases, the impact of the oil price collapse is more diffuse and not limited to school districts located in producing areas.

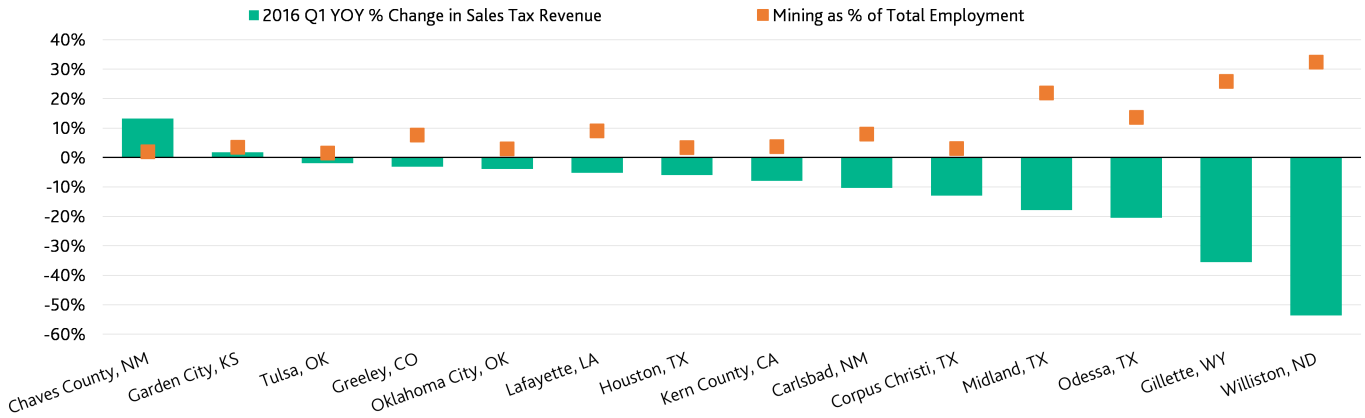
Indirect Revenue Effects

Non-energy taxes in energy states are also underperforming. North Dakota, Wyoming and Oklahoma will be three of the four worst performers in terms of sales and income taxes in 2016 as reductions in capital spending in the energy industry ripple throughout the economy.[2]

Cities are more reliant on sales taxes to fund operations and are therefore more indirectly affected than the other local government sectors. The extent of the declines corresponds to industrial diversity. Energy hub cities and counties are seeing weaker sales tax collections (see Exhibit 5). Like counties, cities have had to cope with increasing demand for public services during the oil boom. As prices rise, exploration and production activity will also rebound but the swiftness will vary across the nation due to regional differences in oil and gas development costs based on factors like geology and wastewater disposal options.

Exhibit 5

Sales Tax Struggles are More Severe Where Oil and Gas is the Dominant Economic Driver



A selection of Moody's rated cities and counties in states covered in this report
Source: Bureau of Labor Statistics; monthly and quarterly financial disclosures

Ability to Adapt

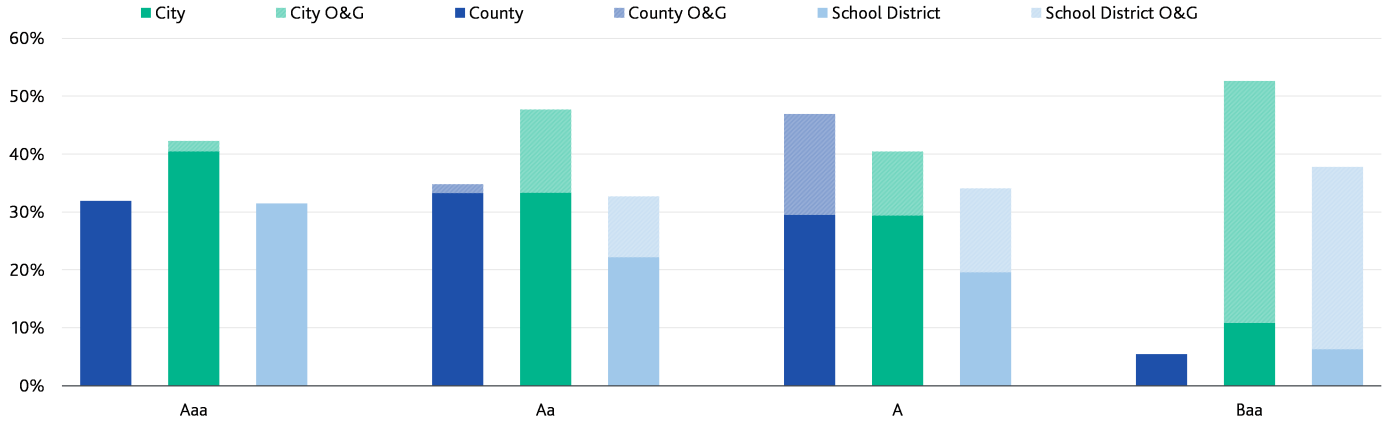
Most states are not hitting revenue targets and are addressing budget gaps through draws on reserves, spending cuts, as well as short- and long-term revenue enhancement programs. States have a number of options to adjust revenues and spending under adverse economic conditions, a key factor in their high ratings. Primary options include drawing on rainy day funds, cutting spending and raising taxes. Other options include tapping special purpose state funds, shifting costs to lower levels of government, selling assets such as state buildings or other property, and short or long-term borrowing for operations.

For all local government sectors, those that budgeted conservatively and accumulated reserves during the oil boom are in a better position to weather a bust. Median reserves among local government issuers with oil and gas exposure compare favorably to national medians (see Exhibit 6). Draws on reserves are expected, but significant draws would signal credit quality deterioration.

Exhibit 6

Reserves of Local Governments with High Oil and Gas Employment are Above National Medians

Available Fund Balance as a % of Operating Revenues



Rated local governments with concentration in oil- and gas-related employment include 57 cities, 24 counties, and 135 school districts. Included in this group are local governments located in counties where employment related to oil and gas extraction and production was at least 3% of total employment. The only Aaa city in this group is Oklahoma City. None of the counties and school districts within the O&G selection are Aaa, and none of the counties are rated in the Baa category.
Source: Annual financial reports; Moody's Investors Service

Governing constraints and the ability to swiftly react with revenue and expenditure adjustments also varies by state. Local governments in states like California and Oklahoma have very limited revenue-raising flexibility. Those in other states generally have

room under statutory caps or can increase tax rates through voter approval, but the will to do so may be politically challenging. States like Texas, North Dakota, Louisiana and Kansas have an edge in their ability to cut spending given limited roles of collective bargaining units.

Texas

State

Energy taxes make up a smaller share of Texas' general fund revenues compared to the other energy states. Severance taxes were 12.6% of tax revenues in fiscal 2014 but plummeting oil and gas prices drove the share down to 5.2% in fiscal 2016. Despite being the top oil producer in the nation, the Texas economy is very diverse. Strong growth in other parts of the economy, including professional services, information technology and financial services, is helping to propel growth, albeit at a more subdued pace. However, for the first time in more than a decade, employment growth is outpaced by the rest of the nation. As a result, sales tax collections, the state's largest operating revenue, have been below the state's forecast.

The state's finances are well positioned to weather the energy industry downturn. Sales taxes grew by a healthy 5.5% in fiscal 2015 compared to the forecasted 6.2%. For fiscal 2016 the state forecasted 1.2% growth, but collections declined 2.6%. Reflecting the magnitude of the oil downturn, sales taxes declined in nine of 12 months of the fiscal year. The Texas constitution requires deposits to the state's rainy day fund based on oil prices, which accumulated to $9.6 billion, or a healthy 9.1% of biennial forecasted revenue. Those reserves are still in place and provide a healthy cushion against economic and revenue underperformance: the fiscal 2015 GAAP-basis fund balance totaled 19.8% of operating revenues, more than three times our Aaa-rated state median.

Local Governments

DRAMATIC ASSESSED VALUE DECLINES OCCURRING THROUGHOUT EAGLE FORD AND PERMIAN REGIONS

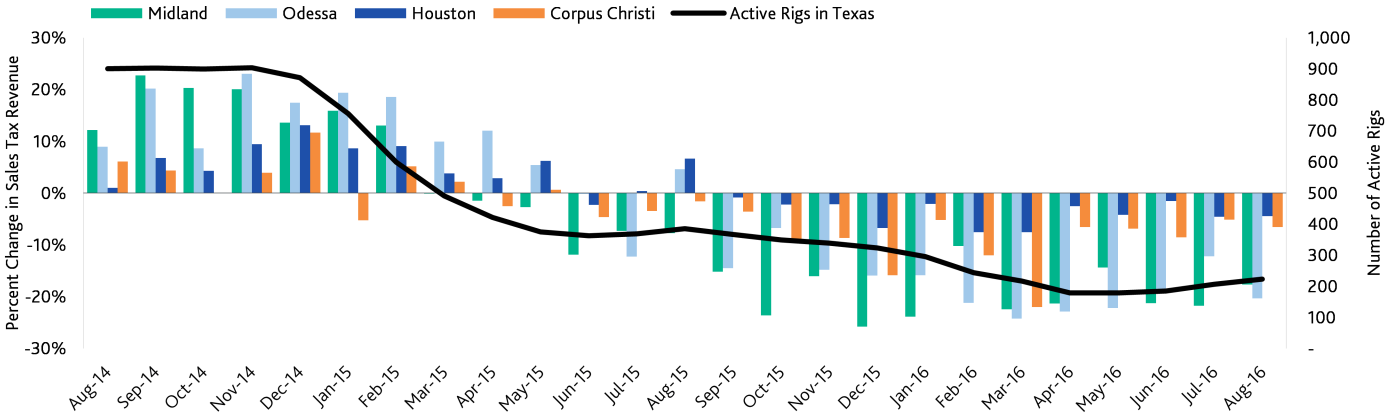
The state is having more success weathering the downturn compared to local governments located in the oil patches. The combined assessed valuation (AV) of 74 counties in the oil rich Eagle Ford and Permian regions fell 6% in fiscal 2016, which negatively affects property taxes. A discounted cash flow of future net income approach is used in the valuation of oil and gas deposits, and price is a key factor. Values are declining further still in fiscal 2017, according to preliminary estimates from county appraisal districts. The most severe declines are occurring in local government jurisdictions where mineral values relative to total AV is high. The declines are more significant in less profitable drilling regions. Some local governments have seen their assessed values drop by more than half. As oil prices rise, drilling activity will ramp up. According to a recent analysis by the Energy Information Administration and IHS Global Inc. that focuses on five onshore regions,[3] the Delaware play in the Permian basin, which includes the profitable Wolfcamp and Bone Spring formations, is estimated to have the lowest average cost of drilling in 2015.[4]. The Delaware sub-basin overlays Reeves, Ward, Pecos (A1 negative), Winkler, Loving and Culberson counties in Texas as well as Eddy and Lea counties in New Mexico.

STRUGGLING ECONOMIES AND WEAK SALES TAX COLLECTIONS DRIVE NEGATIVE OUTLOOK ASSIGNMENTS ON HUB CITIES

Cutbacks in business spending on extraction activities coupled with less consumer spending due to layoffs are driving down sales tax collections among the state's metro areas that have economic ties to oil and gas (see Exhibit 7). The cities of Midland (Aa2 negative) and Odessa (Aa3 negative), major energy hubs located in west Texas, are seeing the largest year-over-year declines, up in the double digits each month since November 2015 and exceeding 20% in some months. Declining revenues and ongoing economic risks were key factors in our one-notch downgrades and negative outlook assignments for Midland and Odessa in April. We also assigned Corpus Christi (Aa2 negative) a negative outlook in June. Sales taxes generated in Houston (Aa3 negative) have also been below prior year collections but not to the same extent as Midland and Odessa. Sales taxes as a share of these cities' general revenues range from 27% (Corpus Christi) to 41% (Odessa).

Exhibit 7

Decline in Active Rigs in Texas Precipitated Declining Sales Taxes for Energy Employment Hubs



Mining as % of Total Employment: Midland 22.4%, Odessa 13.7%, Houston 3.4%, Corpus Christi 3.1%
Sources: Baker Hughes Rotary Rig Count, Municipal Advisory Council of Texas

Oil prices stabilizing in the mid-$40 per barrel range, and the projected modest price recovery over the near term will result in a steady rebound in drilling activity. According to Baker Hughes, 21 drilling rigs were added in the US in the second week of August (607 total active rigs), including 12 in the Permian basin. We expect sales tax revenues in hub cities to stabilize but remain depressed over the near term.

STRONG RESERVE GROWTH DURING OIL BOOM WILL PROVIDE CUSHION DURING BUST

Texas local governments maintain operating reserves above national medians, which will provide a financial cushion during the volatility. Median fund balances for each of these sectors exceed national medians. Cities and counties generally have substantial margins to increase property tax rates under constitutional caps. For school districts, aid is based on the state's funding formula. Some districts have revenue raising flexibility with rates typically at $10.40 per $1,000 of AV and can increase up to $11.70 with voter approval. Local governments in Texas also benefit from budgetary flexibility given moderate fixed costs and limited union presence.

Hospital districts are a highly pressured sector in Texas due to limited room below the tax rate caps that are usually $7.50 per $1,000 of AV. These caps apply to the combined rate including both the general operating tax rate and the debt service tax rate. As assessed values drop, districts will need to raise the debt service tax rates to cover their debt payments. This will crowd out the amount that can be levied for general purposes which was a factor in multi-notch downgrades of general obligation ratings in this sector.

Is the Texas Permanent School Fund exposed to the slowdown in the oil and gas industry?

The Texas Permanent School Fund (PSF) (Aaa stable) guarantees the debt of a number of individual school districts in producing regions. As of August 31, 2015, the PSF guaranteed approximately $2 billion of general obligation debt issued by the 68 school districts in oil rich areas, equal to a small 3.1% of the debt portfolio. If economically exposed school districts are unable to withstand the industry downturn, a potential call on the PSF's guarantee may be required. Importantly, schools have unlimited debt service tax rate authority that mitigates the PSF's exposure.

The PSF is also exposed to rapid market changes due to the value of the mineral interests held within the State Land Board's portion of the fund valued at $2.1 billion in fiscal 2015, 34.4% lower than the prior year. Positively, mineral interests are only 6% of the total fund value. For more details, see *the Texas Permanent School Fund Frequently Asked Questions.*

North Dakota

State

North Dakota's General Fund is comparatively less reliant on energy tax revenues than other states and local governments highlighted in this report; production and extraction taxes are only about 5% of the biennial budget. However, sharp declines in sales and income taxes are drilling large holes in the state's budget. North Dakota has made mid-cycle budget cuts to partially offset losses in key state revenues, which had opened a $1 billion biennial budget gap (22%) as of January. From January through May, an additional $90 million (3.6%) revenue gap opened as sales taxes continued to underperform expectations. The state's July revenue estimate forecasts that the new revenue gap will widen by $308 million by the end of fiscal 2017.

To balance the combined $1.3 billion gap, the state plans to draw on reserves including $331 million from the General Fund and $572 million from the Budget Stabilization Fund, depleting both funds. Other measures include trimming certain state agency budgets by 6.5% and cutting funding for the University of North Dakota System (Aa3 stable). To date, the state has avoided cuts to local government aid, and funding for K-12 was supplemented with a transfer from the Foundation Aid Stabilization Fund. In addition, the legislature authorized a contingent transfer from the Bank of North Dakota, if necessary. For the 2017-19 biennium, the governor has advised all departments except K-12 education to reduce their operating budget requests by 10% and eliminate one-time spending. The state's revenue shortfalls and the risk of ongoing economic and revenue volatility contributed to our March 28 revision to the state's outlook to negative. Positively, the state has ample reserves, currently 103% of revenues, to weather the downturn.

Local Governments

PRODUCTION TAX DISTRIBUTIONS ARE DECLINING FOR BAKKEN REGION ENERGY HUBS

The state distributes a share of oil and gas production taxes to local governments based on industry employment and production volume occurring within each jurisdiction. Oil- and gas-related employment as a percent of total employment for the hub cities for fiscal year 2016 was 66% for Williston (Ba2 negative), 40% for Dickinson (not rated) and 14% for Minot (Aa2 stable). Williston derives almost 80% of General Fund revenue from the production tax, which declined 10.5% in fiscal 2015 and will decline further still in 2016. This level of exposure along with sales tax declines, limited liquidity and a high debt burden were key factors in our March 21 negative outlook assignment and downgrade to Ba1 from Baa2. Our further downgrade on July 14 to Ba2, while maintaining the negative outlook, relates to the issuance of new debt that will also be paid from the oil- and gas-production tax, significantly increasing the city's fixed cost burden relative to a declining revenue source.

School districts also receive a share of production tax revenues that is offset by a reduction in state aid. However, as production tax revenues decline, state aid will not fully make up the difference. Williston Public School District 1 (A1), which derived 27% of revenue from the production tax distribution in fiscal 2014, is projecting a deficit in fiscal 2017 as a result.

LOCAL GOVERNMENTS IN OIL-RICH AREAS SQUEEZED BY LOWER SALES TAX REVENUES

Williston's sales tax collections are rapidly deteriorating compared to other hub cities in the nation. Mining jobs are 32% of total employment in Williams County (not rated). The magnitude of decline was a key factor in the multi-notch downgrade of the city's sales tax revenue bond rating in March to Ba3 from Baa2. We further downgraded the rating to B1 as of July 14th, based on further declines in sales tax revenues. As of June 2016, annual fiscal 2016 collections were projected to be 45% lower than fiscal 2015. If revenues do not recover, pledged revenue coverage will fall below one times annual debt service for fiscal 2016. The city indicated that it will use reserves available in the General and Sales Tax Fund to cover any shortfalls. If revenues do not recover, those reserves along with debt service reserves could be depleted as early as 2020. Further declines in sales taxes could result in even earlier depletion.

The oil boom brought unprecedented population growth to the region, increasing demand for local services such as roads, water and sewer infrastructure, and emergency services. Many cities addressed these needs with increased sales tax revenues. As sales taxes decline, cities may be able to mitigate the negative impacts by moderating and suspending infrastructure projects or reducing services.

HEALTHY RESERVES WITH FLEXIBILITY TO RAISE REVENUES AND CUT COSTS

North Dakota local governments amassed healthy reserves during the shale revolution that compare favorably with national medians, though draws on reserves are highly likely based on the unfavorable year-to-date tax collections. The cities of Minot and Mandan (A1) have reserves equating to a year's worth of operating revenue. Williston's available liquidity was adequate in fiscal 2015 at $11.4 million (27.4% of revenue); however, it may be inadequate to react to future revenue volatility. Cities and counties have strong revenue raising

flexibility. Home rule cities can increase levies without limit. Counties and non-home rule cities have healthy margin below their caps. Cities and counties also have cost cutting flexibility without needing to negotiate with collective bargaining units.

School districts that rely on oil-production taxes and have limited reserves face greater financial pressure in this environment. Williston Public School District 1, for instance, in fiscal 2014 had a General Fund balance equal to 9.8% of revenues, which is below the national median of 16.8% for school districts in the A-rated category for the same year. The state has yet to cut aid to schools, but cuts may still occur due to the state's financial challenges. Districts have the ability to increase property tax revenues through voter approval, but political willingness may be a hindrance.

California

State

While California is the third largest oil producer in the US, oil and gas exploration and production is a very small portion of the state's economy. By extension, low oil and gas prices have a negligible impact on the state's budget.

Local Governments

SIGNIFICANT ASSESSED VALUE DECLINES FOR KERN COUNTY AND SOME OVERLAPPING LOCAL GOVERNMENTS

Three-quarters of the state's oil is produced in Kern County (certificates of participation, A1 negative), located in the Monterey Shale. The county's AV fell by 8.5% in fiscal 2016 and is expected to fall by an additional 4.5% in fiscal 2017, which is better than the previous expectation of a 10% drop, noted in our April rating update report. Municipalities within the county with concentrations of oil production have cumulative two-year declines in AV. Property taxes are generally the largest share for California local governments but usually do not represent more than 25%-30% of revenues. Property taxes are levied based on the AV as determined by the county assessor with increases limited by Proposition 13. Under Proposition 13, a property's AV is set annually equal to the lower of the current market value and the acquisition value increased by an inflation index of no more than 2% annually.

Of municipalities that we rate in Kern County, the county itself faces the greatest fiscal stress due to persistently low oil prices. In fiscal 2017, the county is cutting discretionary expenditures and drawing on reserves to address a projected $46 million revenue loss, equating to 12.3% of General Fund discretionary revenues. Similarly, the county's separate fire department fund is cutting expenditures, relying on additional General Fund support, and drawing on reserves to address a projected $10.6 million loss in property tax revenue, equating to 7.4% of total fund revenues. Special districts also rely heavily on property taxes and those with oil concentration will be similarly impacted. The tax bases of Kern County cities, meanwhile are less exposed because oil properties tend to be located outside their jurisdictions. School districts with oil concentration will benefit from some relief because formula-driven state aid is constitutionally protected and will offset any property tax declines.

KERN COUNTY SALES TAX COLLECTIONS DOWN 12%

Reduced capital expenditures by oil companies and increased unemployment are combining to pressure sales tax revenues to the county and city governments. Sales and use taxes, and the related highway user taxes, represent significant revenue sources for the county and cities in Kern County, generally ranging from 22% to 43% of their budgets for governmental activities and 41% to 55% of their general revenues.

Sales taxes disbursed to local governments in the fourth quarter of 2015 were down an average 9% from the same period last year. Sales taxes collected in Kern County remained weak through fiscal 2016 with sales and use taxes coming in 12% below last year. The county's unemployment rate is typically elevated, 9.6% as of May, which is slightly below last year although it remains below recessionary levels.

LIMITED OPTIONS TO REACT TO DOWNTURN

California local governments have limited flexibility to increase revenues and decrease spending, due to both constitutional constraints on revenue raising and a strong union presence. Most municipalities are also anticipating increases in pension costs. The realignment of state and counties' responsibilities and associated funding related to prisons and healthcare created some operational challenges for Kern County. Favorably, the increase in insured individuals under the Affordable Care Act is allowing the county to save on contributions to the county-owned hospital. In addition, in January 2015 the county declared a “fiscal emergency,” which provided flexibility in labor negotiations and cutting spending.

When oil prices were high, county management prudently built reserves, which we now expect will be largely spent down. The county's available reserves increased by $77 million in fiscal 2015 to $296 million, equal to 34% of revenues, up from 24% in the prior year. Other local governments within the county followed this pattern during the oil boom, including the City of Bakersfield (A1), which has available reserves equal to 104% of general revenues, although about one-third is committed for parks and roads.

Alaska

State

On July 18, the Alaska state legislature ended a special session without a fiscal overhaul, a credit negative. Fiscal 2017 will end with a projected deficit of $3.6 billion, and annual deficits of at least $3 billion are projected through 2019. The downgrade to Aa2 on July 25 reflects the state's current inability to meaningfully address these severe shortfalls.

Alaska is more reliant on production taxes and royalties to fund government operations than any other oil-producing state by a large margin. In 2014, the state derived as much as 88% of operating revenue from the oil industry while the other energy states are all less than 20%. Even as direct energy taxes relative to general revenues are shrinking for all energy states, 60% of the state's unrestricted general fund revenues still come from production-related taxes and royalties. As oil prices slid steadily downward, the impact on the state's budget has been severe: general purpose unrestricted revenue has declined by 76% since fiscal 2013 and the state has cut spending by more than one-third. To fund state services, Alaska has relied heavily on its sizeable reserves; the state ended fiscal 2015 with $10.1 billion in the Constitutional Budget Reserve Fund (CBRF) and $7.1 billion in the Permanent Fund Earnings Reserve (PFER).

Based on the size of the draws and current spending, the state expects the CBRF to be depleted in fiscal 2018. We believe this trend could only be reversed if oil returns to $100. Governor Bill Walker proposed a fiscal overhaul in favor of a sovereign wealth fund approach. Under this model, the general fund would be funded by investment income from the state's $54 billion permanent fund which is currently used to fund dividends to citizens. This plan has its own risks, but ongoing uncertainty resulting from legislative inaction has magnified the credit quality risks. Finding sustainable solutions to the severe structural imbalance will remain a serious challenge.

The state's labor market outperformed the US in the recession and during the recovery as oil prices surpassed $100 per barrel. Since then, employment growth has been slow, reflecting both reductions in federal spending and the steep decline in oil prices. For the last three years, employment in Alaska has grown by less than 0.5% and in recent months it has been slightly negative. Furthermore, companies partnering with the state to build the Alaska liquefied natural gas pipeline indicated that they will pull out of the project, which is credit negative for the state and local governments due to the project's estimated potential to generate a significant and much-needed boost to tax revenue and long-term jobs. We do not expect employment growth to rebound strongly amid low oil prices.

Local Governments

TAX BASE VALUES IN NORTH SLOPE AND ANCHORAGE HAVE GROWN DESPITE YEARS OF DECLINING PRODUCTION

Alaska's oil production has steadily declined over the last several years as oil fields have matured. Most of the oil production occurs in the North Slope region, a very established production region with sizeable proved reserves and accounts for approximately 7% of annual production in the US. Local governments have not seen property taxes decline following decreasing energy prices. North Slope Borough (Aa2 stable) and the Municipality of Anchorage (Aa2 stable) rely heavily on property taxes, which comprise approximately 70% of operating revenues for either entity. Property taxes are highly predictable and, although subject to levy rate constraints, local governments have some ability to increase taxes.

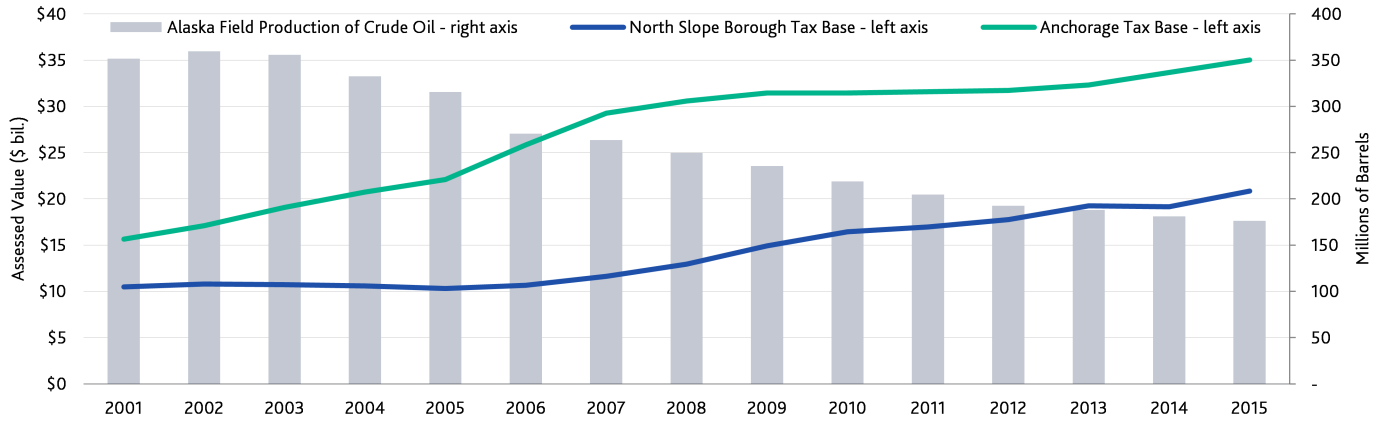
Tax base trends remain strong for municipalities with exposure to the energy sector. For the North Slope Borough, the large tax base comprises almost entirely the personal property and real production assets for oil producers and is among the most concentrated tax bases with the 10 largest taxpayers comprising approximately 90% of the tax base. Tax base valuations in Alaska exclude the value of below ground deposits and extracted oil. In addition, the Trans-Alaska Pipeline System, which conveys oil from the Prudhoe Bay oilfield in the north to Valdez, AK (not rated) in the south, is also an important tax base anchor for many local governments in the state.

For Anchorage, the large tax base has not declined yet amid low energy prices owing to no significant taxpayer concentration and a diverse economy as the state's only metropolitan area (see Exhibit 8). Nevertheless, Anchorage is at risk of falling into recession due to

ongoing pressures on the energy sector as well as near-term military personnel reductions. A prolonged downturn would pressure the tax base, either slowing its growth or driving expected manageable declines.

Exhibit 8

Positive Anchorage and North Slope Borough Assessed Value Trend Despite Declining Production



Source: Energy Information Administration; Anchorage and North Slope Borough annual financial reports

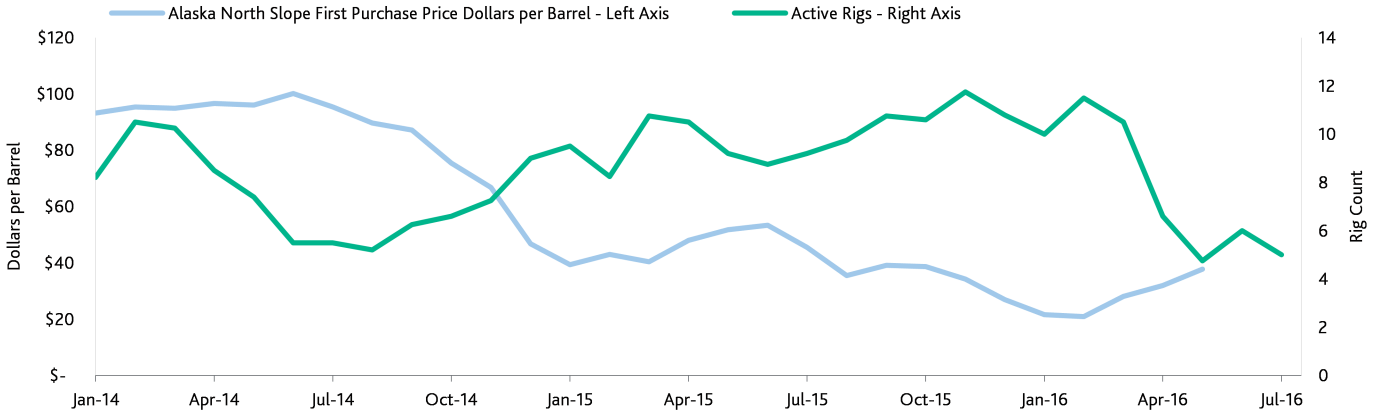
LACK OF INCOME AND SALES TAX LEVIES PROVIDES SOME PROTECTION BUT SOME DOWNSIDE RISKS REMAIN

Local governments are largely insulated from indirect revenue impacts of employment volatility related to the energy sector, especially North Slope Borough and Anchorage, because they do not levy economically sensitive income or sales taxes. Similarly, the state does not levy these taxes either. However, a sustained pullback in drilling activity and resulting decrease in real and tangible personal property would have negative implications for assessed values.

Drilling activity has been slow to decline in North Slope compared with other energy patches in the US. While the national rig count more or less followed the rapid decline in oil prices, the borough's rig count increased throughout 2015 to 10-12 active rigs (see Exhibit 9). However, several rigs have been idled in recent months, and the count now stands at four active rigs as of the second week of August compared to nine at the same time in 2014. BP Corporation North America, Inc. (A3 positive and A2 parent), the borough's largest taxpayer at 42.5% of assessed value, announced in March that it would reduce the active rig count in the borough's Prudhoe Bay, one of the largest oilfields in the US, to two from five. Importantly, the energy industry is incentivized to forestall shuttering production that would trigger environmental remediation requirements for restoring well sites to its natural state at undefined potential costs of billions of dollars.

Exhibit 9

Curtailed North Slope Drilling Activity More Than a Year After Oil Price Plunge



Sources: Energy Information Administration, Baker Hughes Rotary Rig Count

A sustained trend in slowed energy sector spending will cause employment to suffer. Despite a significant presence, the energy sector is an overall moderate share of Alaska's employment at just over 5% of the workforce, as of 2015. In Anchorage, the energy industry was approximately 2% of employment as of 2015. According to a recent report by the Anchorage Economic Development Corporation, year-to-date (YTD) mining and logging employment, which includes oil and gas production, is down 400 (10.3%) from last year.[5] Anchorage benefits from large governmental employers, including the military and other federal as well as state employees, which provide relative stability. In the North Slope Borough, employment is heavily concentrated in the energy sector at approximately 60% of employment because the sector is the economic draw for this highly rural area.

PERMANENT FUNDS SUPPORT LONG-TERM STABILITY

North Slope Borough, with a population of approximately 19,638, has a General Fund budget of over $450 million. By comparison, Anchorage has a budget of about $700 million while serving a population of almost 300,000. Both have sizeable permanent funds, but any spending of the corpus of these funds is restricted by their respective charters. North Slope's permanent fund had $579.8 million as of fiscal 2015. Transfers to the General Fund of up to 8% of market value are allowable under charter, although historically management has only used around 4% but plans to cease transfers starting in fiscal 2016. Anchorage's trust fund held $139 million as of fiscal 2016. Up to 5% of the fund's value can be appropriated each year, although more can be drawn upon voter approval, which affords the municipality additional flexibility in extreme circumstances. The unrestricted fund balances of North Slope and Anchorage are satisfactory at 25% and 10.2%, respectively.

Revenues for boroughs and municipalities are generally predictable. Property taxes are subject to levy rate constraints with the ability to increase taxes with voter approval. North Slope will benefit from additional property tax flexibility starting in fiscal 2016 due to Senate Bill 138, which increased the tiered multiplier property tax assessments based upon municipalities' millage. Anchorage's levy rate is well below its statutory cap. Expenditures are stable and predictable but the ability to cut costs is somewhat constrained by unions and outsized fixed costs.

We do not rate any stand-alone school districts in Alaska because they are component units of boroughs. However, education faces some challenges in the near term due to budgetary pressures at the state level. While state aid cuts to the university system and public education have been scaled back as the state opted for larger draws on the CBRF, spending reductions are likely to occur in the next budget cycle absent a significant and sustained increase in oil prices and rebound in extraction activity.

Oklahoma

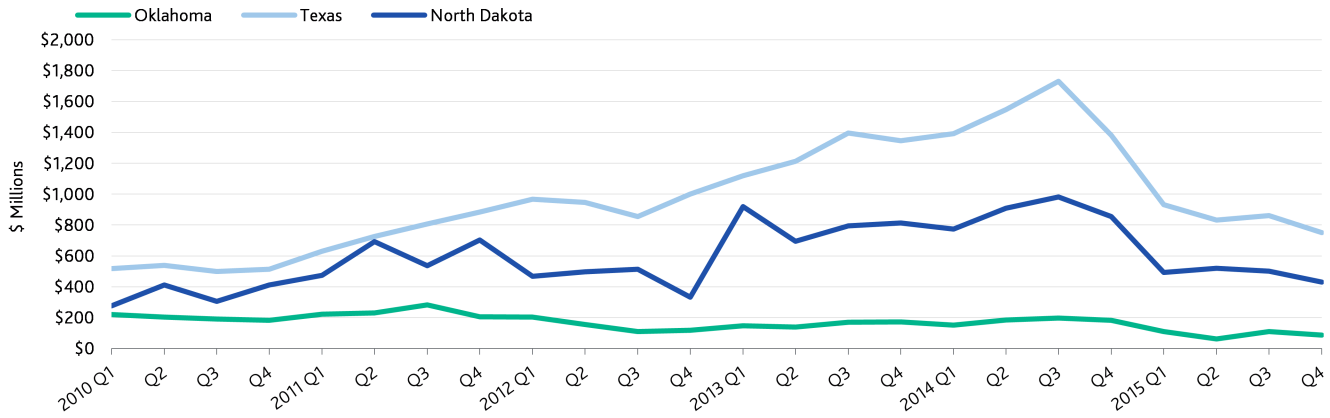
State

Oklahoma's gross production taxes for oil and gas are down sharply in fiscal 2016, a trend we expect to continue. The state general fund collected just $95 million, which is 67% below the estimate and 56% below fiscal 2015. We expect gross production tax revenues to remain well below collections in previous years given our expectation that prices will remain in the $40 to $60 per barrel range over the medium term.

For fiscal 2015, Oklahoma's base gross production tax rate for both oil and natural gas wells was 7%. The state has offered generous incentives including a 1% tax rate for qualified horizontal wells during the initial years of production, though the rate was recently revised to 2% for the first three years, after which the production rate rapidly declines. Advancements in drilling technology resulted in the proliferation of horizontal drilling and hydraulic fracturing ("fracking"), which kept the effective tax rate low compared to other states. While states like Texas and North Dakota saw a dramatic increase in oil and gas tax revenue, Oklahoma's revenues were essentially flat while prices were high and output significantly increased between 2011 and 2014 (see Exhibit 10). Total gross production revenues are projected to account for 2% of total state revenue in fiscal 2017, well below the 14% peak in 2009.

Exhibit 10

Oklahoma's Flat Severance Tax Growth During Production Boom Resulted in Less Cushion for Bust



Sources: US Census Bureau: Quarterly Summary of State and Local Taxes

The indirect effects from the oil industry on other parts of the economy, reflected in sales and income tax collections, will have a larger negative effect on Oklahoma's finances than severance taxes. Fiscal 2016 sales taxes were 4.5% below last year. Individual and corporate income taxes were also down 8.4%. Much of the economy is linked to the energy sector, and drilling activity has fallen off sharply. There currently are about 62 active rigs in Oklahoma, roughly 107 fewer rigs than in August 2014 before prices began to collapse.

The state's total general revenue fund collections in fiscal 2016 were 9.4% below estimate and 9.1% below least year. Collections for almost every month during the last 12 months have been below prior year monthly receipts. May was also the fourth time in the fiscal year when the general revenue fund received no corporate income tax collections; corporate income tax refunds exceeded collections in May, and $5 million was borrowed from personal income tax collections to fund the difference.

In May, the legislature passed a budget closing the large $1.3 billion (19%) budget gap largely with recurring solutions. The state cut spending by 5% to $6.8 billion, drew on the rainy day fund again, issued $200 million in bonds to finance transportation projects and increased revenues by reforming tax policy to eliminate certain credits. Overall, the budget narrows the state's reserve position to 6.5% of fiscal 2015 revenue, according to our estimates, the lowest level since at least 1994. At the same time, the budget makes significant progress in addressing the structural imbalance, leaving it in on more solid footing going in to fiscal 2018.

Local Governments

LESS VULNERABILITY TO DIRECT REVENUES LIKE PROPERTY AND SEVERANCE TAXES

Compared to other energy states in this report, Oklahoma local governments receive a relatively small share of production-related taxes, including property and severance tax. Local governments cannot levy property taxes on the value of production, deposits and equipment related to oil and gas production. Rather, severance taxes are levied in lieu of property taxes. We therefore expect minimal tax base declines compared to local governments with oil and gas exposure in other states.

The state distributed $164 million in oil and gas severance tax revenue in fiscal 2015, 50% for counties for roads and 50% for school districts, based on the proportion of the total value of production.[6] To put that into perspective, the school district share of the gross production tax was only about 3% of state sources of revenue for all Oklahoma school districts in 2015.[7] State aid is calculated based on student counts and is then reduced by local revenue collections, including gross production taxes. The state also allocated $13 million in severance revenues to counties statewide based on a traffic formula set by the state Department of Transportation. While these funds are dedicated for specific purposes like road maintenance and repair, counties will need to adjust to declining severance tax revenue either by delaying projects or finding alternative sources of funding.

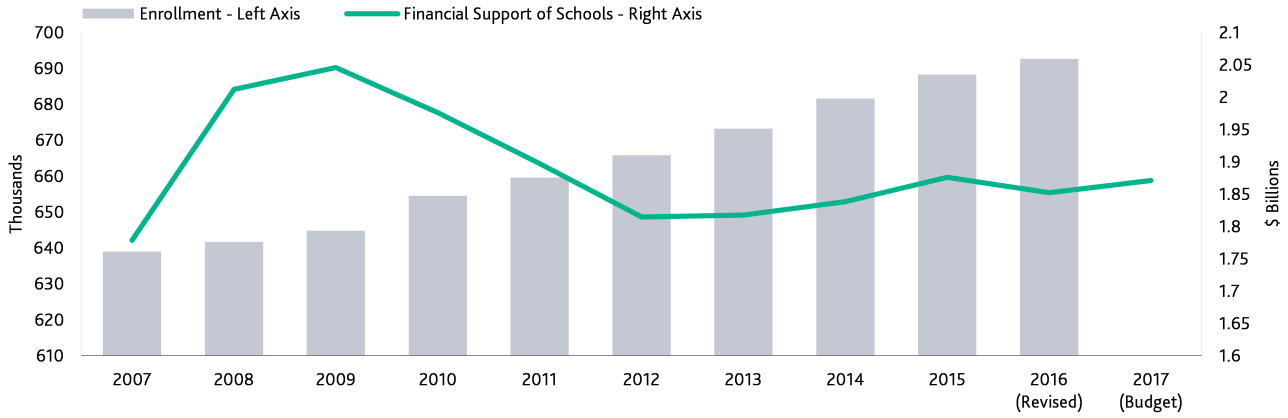
FUNDING FOR COMMON EDUCATION SPARED OF SIGNIFICANT CUTS IN FY2017 BUDGET

Most state agencies, including funding for schools, initially saw monthly general revenue allocations decline by 7% in fiscal 2016 after the state declared a mid-year revenue failure before the state restored about half of the cuts – approximately $51 million out of $109

million. Positively, the state legislature kept funding for schools essentially flat in the fiscal 2017 budget while other agencies absorbed the cuts. Many districts began preparing for cuts as high as 20%. Funding for the State Department of Education was down 2.3% from the original 2016 budget, but up 0.6% after considering the mid-year cuts. Of the amount appropriated for education, higher education took the largest hit with a 15.9% decrease from the original fiscal 2016 budget. Financial support for K-12 schools, while roughly even with fiscal 2015, remains well below 2008 and 2009 levels despite steady enrollment growth (see Exhibit 11). Looking to fiscal 2017, school districts face difficult spending decisions, and credit quality could deteriorate if they do not adequately prepare for the possibility of additional future mid-year cuts.

Exhibit 11

Relatively Flat State Aid Between FY 2011-17; Remains Below 2009 Levels



Sources: Oklahoma Office of Management and Enterprise Services, Oklahoma Policy Institute, State Department of Education

SALES TAX COLLECTIONS AMONG OKLAHOMA CITIES ARE SLIPPING

Weakness in the energy sector will subdue growth in Oklahoma's major metro areas including Oklahoma City (Aaa negative) and Tulsa (Aa1 stable), where mining jobs account for 3.0% and 1.6% of total employment, respectively. Importantly, the unemployment rates for these cities are currently low at 3.9% and 4.4% as of May 2016, respectively, and the labor force has picked up in recent months. Aerospace manufacturing in Tulsa will continue benefiting from Boeing's (senior unsecured A2 stable) plane backlog and expansions at American Airlines (CFR Ba1 stable) facilities, which will mitigate softening in non-aerospace manufacturing. Oklahoma City's economy also has healthy non-energy elements like the institutional presence of Tinker Air Force Base, as well as education and health services. The city's weaker sales tax collections in recent months resulted in a projected revenue shortfall for fiscal 2016 of 4.9% of the budget based on unaudited results. This is slightly better than the 5.2% expected when the negative outlook was assigned in March 2016. Going forward, the city anticipates slightly more positive operations. Sales taxes for both cities are roughly half of the general operating budget. While the recent sales tax revenue trend among the larger metro areas is not as severe as declining sales tax revenues for the state's general revenue fund, prolonged economic uncertainty will continue to ripple throughout other non-energy related sectors and weaken business and consumer spending.

LOCAL GOVERNMENTS HAVE LIMITED REVENUE-RAISING FLEXIBILITY; SCHOOL DISTRICTS HAVE NARROW RESERVES

Counties and school districts have very little flexibility to raise revenues through property taxes due to statutory caps on tax rates. However, because mineral values and equipment related to oil and gas production are not subjected to ad valorem taxation, we expect assessed values to remain relatively stable.

All three sectors have some operating expenditure flexibility despite a union presence as union relationships typically are not contentious. Cities rely more on sales taxes, which are prone to fluctuate based on economic conditions. Of the four cities we rate in the state, each has a fund balance that is competitive with similarly rated peers across the nation.

While maintaining flat funding for school districts going into fiscal 2017 is a positive development given earlier expectations of more severe cuts, median reserve levels for Oklahoma school districts are very narrow at 9% of revenues in fiscal 2015, down from 12.9% in fiscal 2011. Oklahoma County ISD 89 (Aa3 negative), which primarily serves Oklahoma City, was downgraded and assigned a negative

outlook in April due to narrow reserves and budgetary challenges resulting from state aid cuts. Reserves have been declining over the last few years while statewide enrollment trend outpaced state funding. State aid typically ranges from 55%-65% of revenues. Districts that inadequately prepare for the possibility of additional mid-year cuts face difficult spending decisions and greater credit quality pressure given narrow reserves and lack of property tax flexibility.

New Mexico

State

Most of New Mexico's (Aaa, review for downgrade) oil is produced in the Permian Basin in the southeastern portion of the state. Oil- and gas-related revenues in the state's General Fund are historically volatile and have declined significantly since fiscal 2014, mirroring the steep fall in oil prices. These revenues fell by 13.8% in fiscal 2015 and are projected to decline by 28.9% in 2016. They represented 19.4% of recurring General Fund revenues in fiscal 2014 and are expected to make up only 13.2% of recurring General Fund revenues in 2017. The state's August 2016 revenue forecast anticipates that oil and gas revenues in the General Fund, along with other General Fund revenues, will remain essentially flat in fiscal 2017. Based on this forecast and the recently adopted budget, available reserves would decline significantly in fiscal 2016 and 2017. The state is currently considering actions to address these shortfalls.

General Fund revenues from mineral extraction are derived primarily from oil and gas production and consist of a number of severance taxes, primarily the Emergency School Tax, and rents and royalties from production on public, primarily federal, land. These revenues are separate from the tax that secures the state's severance tax bonds.

From the second half of 2014 to the second half of 2015, employment in the state's mineral sector, which is predominantly oil and gas, declined by 6%. Overall employment still increased by 0.5% during the same period, as job losses in minerals were offset by gains in healthcare, driven in part by Medicaid expansion, professional services, and hospitality and tourism.

Local Governments

OIL PRICE DRIVEN ASSESSED VALUE DECLINES OCCURRING PRIMARILY IN PERMIAN REGION

Local governments with the highest degree of exposure to energy price volatility are primarily located in the Permian Basin. Advancements in drilling technology resulted in the rapid increase in production and proved reserves. Counties in this area include Eddy (not rated), Lea (not rated) and Chaves (A1 sales and use tax). The San Juan Basin in the northwest is also rich in natural gas.

Property taxes are levied against the assessed value, and, specific to oil and gas, are calculated as 50% of production value less any deductions allowed for trucking costs and for royalties on federal, state and tribal lands. Values are assessed based on prior year production. Therefore, as production values decline, we expect tax bases to contract. Cities and counties generally receive the majority of their revenues from gross receipt and property taxes. School districts in New Mexico are much less reliant on property taxes compared to other states given that state aid is typically at least 95% of total revenues.

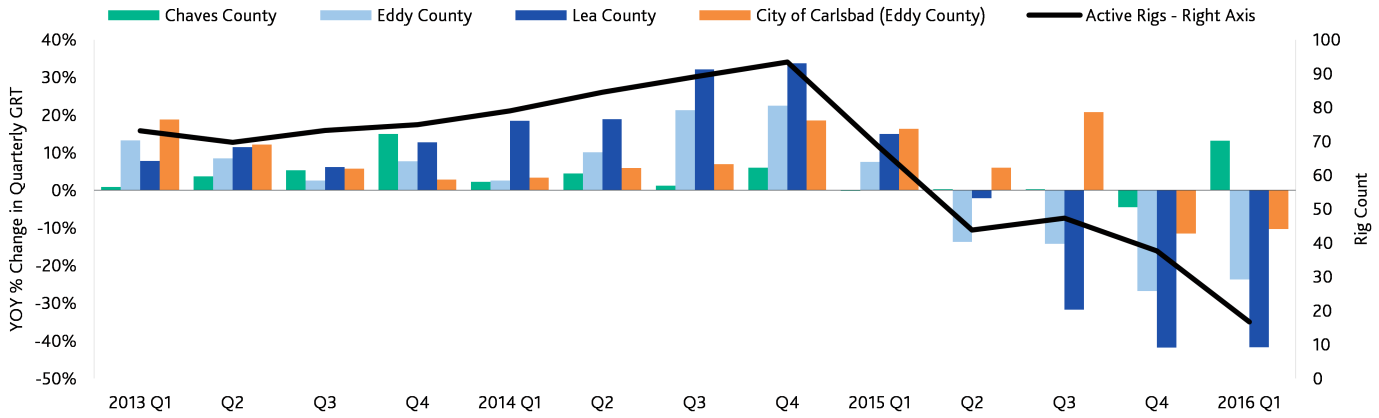
GROSS RECEIPTS TAXES SLIDE WITH DECLINES IN DRILLING

Gross receipt taxes (GRT) are considered fairly broad, levied against all goods and services, with the exception of food and medical, purchased within a county or city. Specific to oil and gas, GRT is imposed on ancillary services related to production, such as the cost of constructing a drilling pad or service road. With the expansion of exploration and production, several municipalities in the Permian Basin enjoyed significant increases in their GRT revenues. For instance, during fiscal 2011 to fiscal 2015, combined GRT in Eddy and Lea counties saw average annual increases of 3.2%, which is more than double that experienced elsewhere in the state. However, in fiscal 2016, Eddy and Lea counties experienced a 7.3% decline in revenues during the oil price slump. In contrast, the rest of New Mexico experienced a 1.8% increase in GRT collections in fiscal 2016.[8]

Taxes from business activities classified as mining, which includes oil and gas extraction, are about 18% and 31% of Eddy and Lea counties' total GRT revenues, respectively. GRT revenues are less directly exposed in Chaves County and the City of Carlsbad (sales and use tax, Aa3), which is located in Eddy County. Mining related revenue is only about 2% and 8% of total GRT receipts for Chaves County and Carlsbad, respectively. Looking forward, local governments in the San Juan and Permian Basins will experience a softening in their GRT revenues while industry spending remains low, particularly among those with a higher share of mining related GRT revenues (Exhibit 11).

Exhibit 12

Permian Region Gross Receipts Taxes Decline with Reduced Energy Industry Spending



Mining as a % of total GRT Revenues: 2% in Chaves County (A1), 18% Eddy County, 31% Lea County, 8% City of Carlsbad (Aa3)
Sources: New Mexico Department of Taxation and Revenue; Baker Hughes Rotary Rig Count

CITIES AND COUNTIES HAVE TAX RATE FLEXIBILITY; FLAT STATE FUNDING FOR SCHOOLS IN FISCAL 2017

Most municipalities issue general obligation bonds secured by an unlimited ad valorem tax pledge. We expect debt service levy adjustments in the case of assessed value contractions. In addition to GO debt, cities and counties commonly carry GRT revenue bonds, secured by sales tax revenues. In areas highly concentrated in oil and gas, coverage will narrow, especially if the municipality does not see offsetting gains in other industries. Most cities and counties do have the ability to impose additional gross receipt taxes without voter approval (e.g. hold harmless GRT), providing additional operating revenues; however, unless specified, this additional liquidity would not be pledged to the outstanding bonds. If reduced drilling activity resulted in job losses, any sort of tax increase may be politically implausible.

The state's General Fund supports local governments with approximately 44% of total revenues allocated to school districts. For New Mexico public schools, state aid is critical to their operations; any reductions in state funding could significantly stress district finances. The state's fiscal 2017 budget indicates flat funding levels for public education; however, the legislature is holding a special session in September 2016 to discuss a $326 million budgetary gap. While the governor's office has stated there are no plans to reduce K-12 funding, during fiscal 2009 and fiscal 2010, the state implemented mid-year cuts, which negatively impacted school districts. Districts tend to operate within narrow margins, thus, any changes to funding throughout the school year forces the districts to draw upon already-limited reserves.

Considering fluctuations in the oil and gas market, school district operations are insulated from significant tax base swings as a majority of revenues are derived from the state rather than property taxes. While tax base contractions will not directly impact operations, job loss in the energy sector could result in out-migration, translating to enrollment declines, which would negatively impact state aid awarded.

Colorado

State

The state's budget is insulated from major swings in prices and production. Severance taxes do not flow into the state's General Fund and are a minor portion of total tax revenue. While roughly half of severance tax revenue is distributed to local governments, the other half flows into the Department of Natural Resources.

Even with the gradual increase in prices in recent months, mining jobs will be slow to recover due to cuts in capital investment and relatively high break-even points for Colorado producers. While the state's rate of economic growth may be weighed down by weakness in the energy sector, job gains in other parts of the economy have more than offset this. We expect Colorado's diversified economy, with its robust in-migration, highly educated workforce and vast opportunities in high value added sectors, will outperform the nation. Colorado's unemployment rate of 2.9% is the lowest its been in 15 years, and a tight labor market creates favorable conditions for wage growth. [9]

Approximately 90% of Colorado's oil production occurs in Weld County (not rated), situated in the Niobrara Shale formation in the Denver-Julesberg Basin in the northwestern part of the state extending south of the Denver (Aaa stable) metro area. The Wattenburg field in this area is the fourth largest US oil field.[10] Before the drop in prices, crude oil production in the state more than doubled between 2012 and 2015 due to the increased use of directional drilling and hydraulic fracturing technologies.[11]

Local Governments

COLORADO LOCAL GOVERNMENTS RECEIVE A LARGE SHARE OF REVENUE FROM PRODUCTION

Second only to Wyoming, local governments in Colorado receive a relatively high share of total production value in the state compared with other states in this report, according to a study by Headwaters Economics. While the state is on solid footing to weather the energy industry downturn, the direct revenue effects of the oil price collapse will be focused more on local governments in the energy pockets where production occurs, particularly in Weld County. The decline in natural gas prices has also negatively affected local governments in Rio Blanco and Garfield counties (neither are rated) in the Piceance Basin in the west and the San Juan Basin in the south.[12]

Property taxes are the primary source of revenue derived directly from the production of oil and gas. Severance tax revenue and royalties, while a smaller share of operating budgets, tend to be directed toward increased costs like road maintenance and repair and other public services to defray the increased costs of industry activity during the boom years.

Cities, counties and school districts collected an estimated $434.7 million in property tax revenue from the oil and gas industry in fiscal 2014, a 21% increase over the prior year.[13] In 2015, the state's oil and gas production value declined 36% due to low prices.[14] Located in Weld County, Platte Valley School District RE-7's (A2 negative) tax base is among the most concentrated in the state with oil- and gas-related property valued at 92% of total AV. According to the Weld County Office of the Assessor, the district's AV is estimated to fall 40% in fiscal 2017. Management has been preparing for another 18% decline for fiscal 2018, although this could be lower if there is a sustained recovery in the price of oil to at least $50 per barrel and drilling activity resumes.

Severance taxes are typically a relatively small share of total revenues. For the City of Greeley (sales and use tax, Aa3), the county seat to Weld County, they were about 3% of General Fund revenues in fiscal 2014. Companies can deduct prior-year property tax payments from the current-year severance tax liability. This will exacerbate the impact of low prices on statewide severance tax revenues in fiscal 2016 because of property taxes based on 2014 production value when prices were much higher, resulting in a forecasted decline of 74.3%.[15]

Some local governments receive royalties on land they own. Weld County collects royalties from oil and gas leases on over 40,000 acres of mineral interests. Royalties, like severance taxes, flow into the county's Public Works Fund and totaled $35.4 million in fiscal 2014, which is 16% of General Fund and Public Works Fund revenues. The state distributes revenue from state and federal lands. Revenue from state land is diverted to a trust fund for public education capital projects.[16] Within a given county, Federal Mineral Lease (FML) districts typically receive the largest share of revenue from federal lands. These districts then distribute the revenue to communities impacted by the oil and gas industry for planning, construction and maintenance of public facilities, and providing public services.

SALES TAXES IN CITY OF GREELEY ARE DOWN A MODEST 3% IN Q1 2016

While the unemployment rate in the City of Greeley remains relatively low at 4%, economic expansion has been derailed by low oil prices. Mining employment, which is 7.7% of total employment, has been cut by more than one quarter over the last year, and we expect this to negatively affect the city's sales and use taxes. Positively, according to the city's 2016 April Financial Report, sales taxes were only down 3% in the first three months of 2016 compared with last year. The city's historically strong pledged revenue coverage on its sales tax debt is a key factor in the Aa3 rating, ranging from a low of 6.8 times annual debt service in fiscal 2009 to 10.8 times in fiscal 2014, which is the highest in the last 10 years. These coverage levels will provide a comfortable cushion while low energy prices weigh on the local economy.

PROPERTY TAX FLEXIBILITY THROUGH VOTER APPROVAL

Taxpayer Bill of Rights (TABOR) limits annual revenue growth rate to the sum of the inflation rate and construction of improvements and additional taxable real property; otherwise voter approval is required. Cities and counties may significantly increase property tax

revenues with voter approval, though political willingness to raise rates is also a factor. Negotiations with collective bargaining units constrain expenditure reduction flexibility.

Revenues for school districts are limited to the funding formula. Positively, in the event of a tax base decline, state aid will increase within the same fiscal year to offset the loss in property tax revenues. In Platte Valley RE-7's case, because the district is 100% locally funded, designated as "categorical buyout," it may not see state aid fully offset the decline in property tax revenue due to the loss of the categorical buyout mill levy to pay for programs above the base per pupil funding amount.

Wyoming

State

We currently do not have a rating for the State of Wyoming, but fiscal challenges at the state level are trickling down to local governments due to declining revenues from oil, natural gas, coal and other minerals, which are approximately 70% of the state's total revenues. In June, Governor Matt Mead proposed $248 million in cuts, or about 9% of the fiscal 2017-18 biennial budget. According to a July report from the Consensus Revenue Estimating Group (CREG), revenue collections through June 30 are likely to result in a shortfall between $130 million and $150 million, up from the April estimate of $110 million to $130 million. Also noted in the report sales and use tax, severance tax, and Permanent Wyoming Mineral Trust Fund Investment income, which are the primary sources of revenue for the General Fund, will each experience year-over-year decreases in the same fiscal year for the first time since fiscal 2009.

The state has strong reserves to mitigate the impact of persistently low prices. At the end of fiscal 2014, the state had a rainy day fund of $2.5 billion and overall available general fund reserves of $3.7 billion or approximately 133% of general fund revenues. As of October 2015, the rainy day fund dropped to $1.8 billion, which still compares favorably with other states.

Because Wyoming sells crude at a discount to WTI, we do not expect drilling to become profitable until late 2016.[17] Coal has also been negatively impacted by the price slump, and coal jobs account for about one-quarter of all mining jobs in Wyoming. Mining accounts for 32% of the state's GDP and is the state's largest industry. Wyoming's jobless rate hit a low of 3.8% in February 2015 but has gradually increased each month through 2015 and 2016. In June the unemployment rate was 5.6%.

Local Governments

REVENUE DECLINES DUE TO LACK OF ECONOMIC DIVERSITY AND STATE BUDGET CUTS

Local governments levy property taxes on oil production at the full value of the prior year's market value of production. The assessed value of oil property statewide was $5.6 billion, 21% of the total in 2015. Production value of oil in Wyoming was down 46% through March 2016, nine months into the fiscal year.[18] School districts, counties and other special districts that are dependent on property taxes to fund operations will be negatively affected. The state is cutting aid to schools by $36 million, a modest decrease of 1%. Another 1.4% cut is planned for the 2017-18 school year. We do not rate any school districts in Wyoming.

The economic effects are significant given the lack of industrial diversity and concentration in mining. About 26% of jobs in Campbell County (not rated) are in mining. The unemployment rate in the City of Gillette (Aa3), the county seat and only Wyoming city we rate, increased to 6% in May 2016 from 3.3% in the previous year. The state's rate rose to 5.6% from 4.2% over the same period. Gillette is considered a regional energy hub due to its access to oil, natural gas and coal resources. The coal mining industry is also struggling due to new environmental regulations and natural gas's emergence as the leading source of electricity generation in the US. The impact on Gillette's sales tax revenue collections has been severe. The city's local and state share of sales and use tax revenues is down about 32% in fiscal 2016 compared to collections in fiscal 2015.[19] Sales taxes are a very large share of the city's operating budget and were 69% of General Fund revenues in fiscal 2015.

A very small portion of severance taxes are directly passed to local governments. For example, Gillette received $1.1 million in severance taxes in fiscal 2015 which is less than 2% of total General Fund revenues. The distributions are largely based on population and are distributed each quarter. Still, severance taxes are driven by production and price, and revenues are therefore expected to decline.

Louisiana

State

The impact of depressed oil revenues is most acutely felt at the state level in Louisiana because the state, not local governments, taxes oil production. The state derives its oil and gas-related revenue from severance taxes and royalties. From fiscal 2010 to 2014, these sources provided roughly 16% of the state's direct general fund revenues, excluding revenues dedicated to specific purposes that are not available for other general fund purposes. This amounted to $1.3 billion in fiscal 2014. That contribution has fallen by half since oil prices peaked in 2012. As of June, the state's revenue estimating conference projected these revenues will yield only about 6% of projected revenue over the two years, about $600 million in fiscal 2016 and $456 million in fiscal 2017.

In addition to the direct revenue impacts of falling oil prices, the industry's links to other sectors affect overall employment and therefore sales and income taxes. Total employment declined 1% from January 2015 to March 2016 after growing at a 1.6% pace in 2014. While declines have occurred across the board, mining employment fell 25% over this period, and manufacturing and professional and business services also lost ground. Areas in the state with stronger ties to refining did not suffer from low oil prices due to low input costs, but the profits resulting from better crack spreads (the price difference between crude oil and refined products like gasoline) are waning as oil prices rise and gasoline supply remains high despite increased consumption during the summer driving season.[20]

In fiscal 2015, revenue collections deteriorated and totaled $8.4 billion compared to the initial forecast of $8.7 billion, and the state ended the year with a budget deficit. With this negative momentum as a backdrop, the legislature enacted various revenue measures including reducing tax credit allowances for personal and business income taxes to balance the fiscal 2016 budgets. The legislature also produced a balanced budget for fiscal 2017, closing a $2 billion budget gap forecasted last winter. Additional revenues for fiscals 2017 and 2018 are derived primarily from a 1% increase and base-broadening in the sales tax through June 30, 2018. In the meantime, the state is evaluating longer-term budget solutions.

Local Governments

WINDFALL FROM ROYALTIES DRYING UP; SEVERANCE AND PROPERTY TAX ON OIL AND GAS HAVE SMALLER IMPACT

Local governments collect revenues from the oil and gas industry through severance taxes, royalties and property taxes, although these sources are generally small budgetary drivers. The state distributes a small portion of severance and royalty revenue to oil-producing parishes.[21] The local share amounted to 8% in fiscal 2015, and parishes along the Gulf Coast and in the Haynesville Shale region in the northern portion of the state generated most of the revenue. Severance taxes typically make up less than 7% of revenues.

Certain local governments benefitted more from a windfall in royalty revenue on locally owned land. For local governments in and around the Haynesville Shale, including Caddo Parish (Aa1), this revenue stream deteriorated over the last few years as drilling slowed. Plaquemines Parish (A1), in the southern part of the state, derived 24% of total governmental revenues from royalty payments in fiscal 2014. Officials report current royalty revenues are roughly a quarter of what they were in 2014. For fiscal 2016, the parish cut expenditures and allocated existing reserves, totaling roughly $20 million, to balance operations. In addition, nearly $10 million has been cut from operations and $4 million to $5 million in expected capital expenditures.

Eleven parishes saw assessed value declines where oil and gas was a significant driver in fiscal 2016. Only two were in excess of 5%.

LAFAYETTE AND SHREVEPORT-BOSSIER CITY HARDEST HIT METRO AREAS IN STATE

Approximately 8% of Lafayette's (Aa3) total workers are employed in mining, and the relatively high cost of drilling in the region will prolong the economic impact of low prices. In addition to exploration and production, mining equipment manufacturing is also a key economic driver. The city's unemployment rate, which has historically been below the state and nation, hit 6.1% in May.

Over the last 20 years, Lafayette's sales tax collections have remained relatively strong, though growth has slowed in recent months. In mid to late 2015 (early fiscal 2016), sales tax collections on a monthly basis began to decline over the previous year. In the first six months of the fiscal year (beginning in November 2015), total combined sales tax collections of the city declined by 5%, compared to the first six months of fiscal 2015. Sales taxes make up roughly 31.4% of the city's General Fund.

Job losses in high wage sectors in the Shreveport (A2)-Bossier City (Aa3) metro area are also hamstringing sales tax collections. Mining payrolls have fallen by more than 50% from their peak in 2011, costing the metro area more than 4,000 jobs. Furthermore, declining

investment by the energy industry has contributed to out-migration and population decline over the last three years. Sales taxes in Shreveport, which account for 55% of total general fund revenue, were down roughly 2% in fiscal 2015 compared to fiscal 2014. Collections were only down 1% in the first six months of fiscal 2016 in the city but were down 6.4% parishwide.

HEALTHY RESERVES AND MODERATE BUDGETARY FLEXIBILITY; SCHOOLS PROTECTED FROM STATE BUDGET SHORTFALL

Median fund balances of Louisiana local governments are generally on par with national medians. Cities and counties as well as school districts rely on a mix of property and sales taxes that can be increased with voter approval. State aid is the primary revenue stream for schools and generally accounts for at least half of revenues. We do not expect the state's budget shortfall to drastically affect state aid because money for primary and secondary education is protected under a statutory dedication.

Kansas

State

Kansas' economy is less directly exposed to volatility in the energy industry compared to other states in this report. The state produces about 1.5% of the nation's crude oil, but the primary drivers of the state's economy are manufacturing, aerospace and agriculture.[22] Oil production peaked in the state mid-century, and gas production peaked through the 1960s and '70s, with a small spike up in the 1990s. Kansas production did not ramp up to the level seen in other states such as Texas and North Dakota in recent years. Still, weakness in energy and agriculture have been weighing on the state's economy lately, and growth is lagging Midwestern peers. Overall tax base fundamentals remain positive, and the unemployment rate has historically trended below the national rate and is currently below 4%.

Key to the our negative outlook assignment in May 2016 is the rapidly deteriorating financial position following a major tax cut and a variety of nonrecurring measures are being utilized to address the budget gap, including pension underfunding, while the fund balance has been depleted over the last two years.

Kansas imposes a tax of 8% on the gross value of oil or gas, although it provides a 3.67% property tax exemption, and exemptions for low producing wells. The state reports that 42% of oil production and 40% of natural gas production are exempt from taxation due under current law. Further, declining natural gas production in the Hugoton Field is attributable to depleting reserves – production in Hugoton peaked in 1996. Severance taxes are declining but represent a small share of the state's total revenue: a modest 1.6% as of fiscal 2015, down from 2.2% in fiscal 2014. However, due to the low energy price environment expected to continue, the state significantly decreased its severance tax receipts projection, reducing its share a small 0.4% of fiscal 2016 budgeted revenues.

Local Governments

LOWER NATURAL GAS PRODUCTION WEIGHS ON COUNTIES

The state's total taxable value increased $552.7 million to $32.3 billion in fiscal 2015 as of November 2015, but oil and gas declined $1.1 billion.[23] Harper County (not rated), Ellis County (not rated) and Finney County (Aa3) are the state's top-three oil-producing counties. Finney County is located in southwest Kansas. Oil and gas values are approximately 19% of the county's total AV.[24] Stevens (not rated), Harper and Grant County (A1) are the top-three natural gas producing counties in the state. The AV of Grant County, also located in the southwestern corner of the state within the Hugoton Field, fell 22% in fiscal 2016 due to its mineral value concentration, primarily due to natural gas (oil and gas values are 38% of total AV).[25] The county's tax base trend has historically exhibited large fluctuations, a pattern which is consistent with other localities that are similarly concentrated in natural gas.

OIL AND GAS PLAYING SMALLER ROLE

Economic growth in the Hugoton Field region of southwestern Kansas is currently tempered by the slowdown in energy and agriculture. The unemployment rates of Grant and Finney counties were low at 3.3% and 3%, respectively, as of May. Sales taxes in Finney County are stable with just a 0.4% decline in fiscal 2016.[26] Garden City (Aa3), the county seat of Finney County, has not seen a material impact on employment and has posted a year-over-year sales tax increase of 3% as of June 2016. Grant County does not have a local sales tax.

CITIES AND COUNTIES HAVE SIGNIFICANT FLEXIBILITY TO RAISE PROPERTY TAXES

While potentially politically challenging, Kansas cities and counties currently enjoy an unlimited property tax levying ability as well as ample budget flexibility to adjust to the degree of downturn. New property tax lid legislation that was passed in 2015, and is currently being looked at for potential amendments, will limit the amount of taxes above the amount generated in the previous year; however, the legislation will not go into effect until 2018 (possibly 2017) and includes an exemption for debt service among other things. Oil-

and gas-producing counties have an additional backstop – the state sends 12.4% of severance taxes to an oil and gas depletion trust fund that is available to counties with more than $100,000 of receipts of excise revenues from oil and gas. Counties can receive funds from the trust in the event of mineral value declines greater than 50%. Some concentrated counties, such as Morton (not rated), have dipped into this fund in the past year.

On June 29, the Kansas Supreme Court agreed to a K-12 funding proposal, which allocates an additional $38 million and meets court requirements for equitable distribution of funds between wealthy and poor districts, a credit positive development for Kansas schools. Districts are also able to supplement their general funds by levying a Local Option Budget capped at 33% of general state aid, subject to voter approval. For districts losing significant value, increasing taxes in an economically challenged area may be politically difficult to accomplish.

The state will fund the $38 million in part from its Extraordinary Need Fund which was enacted in 2015 as part of legislation rejected by the court. A number of districts used this funding for operating costs in the event of large assessed value declines. Barton County USD 431 (A2), which is 26% concentrated in oil and gas, received a grant from this fund for fiscal 2016. Based on the court's ruling, it's unlikely that the legislature will use the concept of an Extraordinary Need Fund in the future, and budget pressures at the state level remain. Kansas spent $3.2 billion, about 50% of its general fund, on K-12 education in fiscal 2016 and budgeted a similar amount in fiscal 2017. The court will likely rule in early 2017 on whether overall funding for schools is sufficient.

Moody's Related Research

Sector in Depth:

» Low Energy Prices - Impact on Louisiana and its Local Governments, May 2016

» Low Energy Prices - Impact on North Dakota and its Local Governments, April 2016

» Low Energy Prices - Impact on Oklahoma and its Local Governments, April 2016

» Low Energy Prices - Impact on California and its Local Governments, April 2016

» Global Oil and Natural Gas Industry – Global: Increased Supply and Concerns About Demand Growth Drive Prices Yet Lower, January 2016

» Low Oil Prices Challenge Texas Local Governments in High Producing Regions, January 2016

» US State Governments: Oil States Adjust Budgets in Response to Low Prices, July 2015

Issuer in Depth:

» Texas (State of): Budget Pressure Looms as Oil Prices Scrape Bottom of the Barrel, January 2016

Issuer Comment:

» Oklahoma February Revenues Decline Sharply, Increasing Budget Stress, March 2016

» (Louisiana) Structural Deficit Untouched by One-Time Balancing Actions, December 2015

» Alaska's Bold Proposal Shifts Oil Price Volatility Away from Budget, December 2015

Sector Comment:

» Devon Energy Layoffs Add to Credit-Negative Job Cuts in Oklahoma City from Low Oil Prices, February 2016

» Burgeoning Budget Imbalance Greets Louisiana's New Governor, January 2016

» Oklahoma's 3% Mid-Year Cuts Are Credit Negative for School Districts, January 2016

» Oklahoma's Revenue Decline Foreshadows Credit-Negative Budget Stress for Energy States, December 2015

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

1 West Virginia ranks 17th in the nation for oil and 9th for natural gas production.

2 The other state is Illinois primarily due to policy changes.

3 Energy Information Administration. Trends in U.S. Oil and Natural Gas Upstream Costs. March 2016.

4 Includes the Bakken (primarily in North Dakota), Eagle Ford (Texas), and Marcellus plays (primarily in Pennsylvania), two plays (Midland and Delaware) within the Permian basin (Texas and New Mexico), as well as offshore Gulf of Mexico

5 Anchorage Economic Development Corporation. "Anchorage Employment Report Third Edition 2016." http://aedcweb.com/wp-content/uploads/2016/05/AEDC-Employment-Report-Third-Edition-sponsored-by-FNBA.pdf

6 Annual Report of the Oklahoma Tax Commission for Fiscal Year Ended June 30, 2015

7 Oklahoma State Department of Education. 2015 OCAS School District Revenue Report

8 Internal Study by Tom Clifford, Cabinet Secretary at New Mexico Department of Finance & Administration

9 Moody's Economy. *Precis State: Colorado.* April 2016.

10 U.S. Energy Information Administration, Top 100 U.S. Oil & Gas Fields (March 2015).

11 U.S. Energy Information Administration, Colorado Field Production of Crude Oil

12 U.S. Energy Information Administration. State Profile and Energy Estimates: Colorado. Accessed on June 13, 2016.

13 University of Colorado Boulder. *Oil and Gas Industry Economic and Fiscal Contributions in Colorado by County, 2014.* December 2015.

14 University of Colorado Boulder. *2016 Business Economic Outlook.*

15 Colorado Office of State Planning & Budgeting. *The Colorado Economic Outlook.* March 2016.

16 Colorado Revised Statutes §36-1-116

17 Moody's Analytics. Wyoming Precis State dated April 2016.

18 Energy Information Administration. Wyoming Crude Oil First Purchase Price; Wyoming Field Production of Crude Oil. Accessed June 23, 2016.

19 Wyoming Department of Revenue. Total Distributions by Counties, Cities and Towns. FY2014 - FY2016.

20 U.S. Energy Information Administration. *Short Term Energy Outlook.* July 2016.

21 One-fifth of oil and gas severance taxes are remitted to the parish in which the severance or production occurs up to a limit, which the state increases each year based on the CPI for all urban consumers.

22 U.S. Energy Information Administration, Crude Oil Production, Annual-Thousand Barrels, 2009-14.

23 Kansas Department of Revenue. Valuation Growth Analysis 2015.

24 Official Statement: Finney County, Kansas General Obligation Sales Tax Bonds Series 2014.

25 Official Statement: Grant County, Kansas General Obligation Refunding Bonds Series 2016.

26 Kansas Department of Revenue Office of Research and Analysis. Monthly County/City Local Sales Tax Distribution Report. June 2016.

REPORT NUMBER 1025229

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