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2016: Another Lackluster Year for State Tax Revenue

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Lucy Dadayan and Donald J. Boyd







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Summary

tate taxes grew only 1.2 percent in fiscal year 2016 and actually declined slightly after adjusting for inflation — the weakest performance since 2010 — according to data released last month. The personal income tax and sales tax each grew less than 1 percent after adjusting for inflation, the corporate income tax declined 6 percent, and severance taxes in oil- and mineral-producing states declined steeply. Many states have lowered revenue forecasts in the wake of tax revenue shortfalls and we expect more to do so.

The weak results for 2016 mark yet another year of slow recovery in the post-Great Recession era. Inflation-adjusted tax revenues were up only 5.1 percent in fiscal year 2016 compared to the recessionary peak in fiscal 2008, and are below prior peaks in eighteen states.

States continue to face sharply constrained resources and budgetary uncertainty heightened by debates surrounding federal tax reform and potential federal spending cuts.

Weak Tax Revenues in Fiscal Year 2016

State tax revenue growth weakened significantly in fiscal year 2016, growing only 1.2 percent, a slowdown from 4.7 percent growth in fiscal 2015. Although technically this was the sixth consecutive year of growth, after adjusting for inflation, tax revenue actually declined by 0.1 percent in 2016. Revenues were the weakest since 2010, when tax revenue declined by 1 percent.

Table 1 shows nominal and inflation-adjusted tax revenues for fiscal years 2015 and 2016 for major tax categories. It also shows each category's share of total tax revenues. Sales tax and personal income tax, which combined represent over two-thirds of state tax revenue, had weak growth of only 0.2 and 0.9 percent, respectively, after adjusting for inflation.

Motor fuel tax, which represents slightly less than 5 percent of total taxes, grew 1.6 percent after adjusting for inflation. Corporate income tax revenue declined both in nominal and real terms, and is now only 5.0 percent of total tax revenues, the lowest point since 1970.

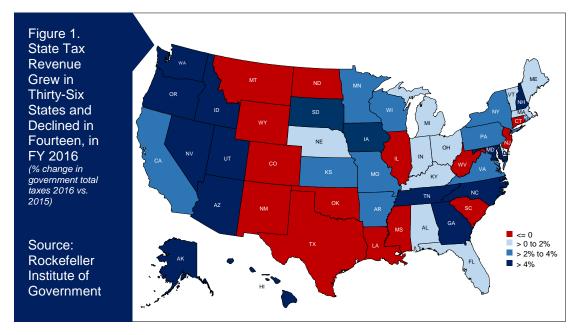
Severance taxes fell 40.1 percent in real terms, driven by substantial declines in oil and gas prices and a slowdown in production. While severance taxes are only about 1 percent of total taxes for the nation as a whole, they constitute a much larger share of tax revenues in the nine states with economies that depend heavily on oil and mineral production. Those nine states are: Alaska, Louisiana, Montana, New Mexico, North Dakota, Oklahoma, Texas, West Virginia, and Wyoming.

All other taxes in aggregate were up only 1.7 percent in inflation-adjusted terms.

Table 1. State Tax Revenues Were Weaker in Fiscal Year 2016 Than 2015									
				Inflation	n-adjusted	Share of total			
Tax	Nominal	revenues,	\$ millions		\$ millions			taxes	
category	2015	2016	% change	2015	2016	% change	2015	2016	
Sales	284,844	289,200	1.5%	288,604	289,200	0.2%	31.3%	31.4%	
PIT	336,234	343,621	2.2%	340,673	343,621	0.9%	37.0%	37.3%	
CIT	48,656	46,202	-5.0%	49,298	46,202	-6.3%	5.4%	5.0%	
Motor fuels	42,499	43,732	2.9%	43,060	43,732	1.6%	4.7%	4.8%	
Severance	12,603	7,650	-39.3%	12,769	7,650	-40.1%	1.4%	0.8%	
Other	184,565	190,183	3.0%	187,001	190,183	1.7%	20.3%	20.7%	
Total Taxes	909,401	920,587	1.2%	921,405	920,587	-0.1%	100.0%	100.0%	
Source: U.S. Census Bureau, analysis by the Rockefeller Institute of Government									

State tax revenues grew in thirty-six states in fiscal year 2016 and declined in fourteen (see Table 2 and Table 3, and Figure 1).

More than half of the states with declines were heavily dependent upon oil and mineral production: Louisiana, Montana, New Mexico, North Dakota, Oklahoma, Texas, West Virginia, and Wyoming. These states' budgets have suffered enormously due to the drastic fall in oil prices and production, as discussed in previous Rockefeller Institute reports.² The largest declines were in North Dakota and Wyoming, at 35.4 and 18.8 percent, respectively. (Declines in North Dakota are also partially attributable to legislated reductions in personal and corporate income taxes.) Alaska was the only oil- and mineral-dependent state with growth in total tax revenue collections in fiscal 2016. However, the growth is from the extremely depressed revenue levels in fiscal 2015, and tax revenue remains far below the prior peak.



Sales tax revenue grew in fiscal year 2016 in thirty-three of the forty-five states with broad-based sales taxes, and declined in the other twelve. The personal income tax grew in thirty-one of the forty-three states with income taxes and declined in the other twelve (see Table 3).

State Tax Revenues Compared to Their Peak Levels

Total state tax revenues are slowly recovering from the deep declines caused by the Great Recession. State tax revenues in fiscal year 2016 were 18.1 percent above the recessionary peak level of 2008 in nominal terms, but only 5.1 percent above after adjusting for inflation. Table 4 shows nominal and real percent change for each state's total tax collections from its own state-specific peak to fiscal year 2016, as well as similar data for sales and personal income taxes. Table 5 provides the peak year for total taxes, as well as sales and personal income taxes for each individual state. Total real tax collections were 5.1 percent above the prior peak, sales tax collections were 7.2 percent above, and personal income tax collections were 10.0 percent above the peak levels. The growth in income tax collections is mostly attributable to two states: California and New York. If we exclude both California and New York, personal income tax collections for the rest of the nation grew 3.7 percent in real terms between fiscal year 2008 and fiscal 2016. In California alone, inflation-adjusted personal income tax collections were \$18.1 billion higher in fiscal 2016 than in its prior peak in fiscal 2008.

While nominal tax collections were higher in 2016 than in the prior peak in almost every state, the strength of the revenue recovery has varied dramatically. Using inflation-adjusted receipts, a better measure of available resources, only thirty-two states had higher total tax collections in 2016 than in their prior peak year. Inflation-adjusted sales tax collections were higher in twenty-six states and personal income tax collections were higher in twenty-eight states.

The largest decline relative to the prior peak was in Alaska, where real total tax collections were down 89.4 percent. The steep tax revenue decline in Alaska is attributable to its high reliance on severance taxes. Most other oil- and mineral-dependent states also have severance and total tax revenues below their prior peak.

Looking Ahead

State tax collections in 2016 were disappointing. State forecasters are anticipating continued slow growth in tax revenues for the remainder of fiscal year 2017 and fiscal 2018.³ Fiscal conditions vary greatly among the states. The oil-patch states have had steep revenue declines in the last two fiscal years. States with high reliance on capital gains have experienced great personal income tax volatility caused by stock market

gyrations and behavioral responses to anticipated federal tax policy changes. The current uncertainty surrounding federal tax reform leaves the states in the dark as they are finalizing state budgets for the fiscal year 2018.

	Table 2. State Tax Revenue, FY 2015 and FY 2016									
	State Fiscal Year 2015 (\$ in millions)				State Fiscal Year 2016 (\$ in millions)				ons)	
	PIT	CIT	Sales	MFT	Total	PIT	CIT	Sales	MFT	Total
United States	336,234	48,656	284,844	42,499	909,401	343,621	46,202	289,200	43,732	920,587
New England	26,228	3,952	12,493	1,800	56,036	25,593	4,134	12,547	1,792	55,652
Connecticut	8,182	690	4,083	482	16,232	7,557	719	3,753	468	15,245
Maine	1,533	169	1,280	244	4,064	1,552	137	1,359	245	4,130
Massachusetts	14,492	2,227	5,804	756	27,012	14,430	2,334	6,090	767	27,283
New Hampshire	96	577	N/A	147	2,488	88	700	N/A	145	2,642
Rhode Island	1,215	176	960	86	3,197	1,236	144	974	90	3,266
Vermont	709	113	367	86	3,043	730	98	371	77	3,086
Mid-Atlantic	77,939	11,578	36,526	5,956	169,285	81,427	10,315	37,528	6,282	174,712
Delaware	1,140	401	N/A	117	3,514	1,112	318	N/A	125	3,522
Maryland	8,346	1,004	4,410	923	19,850	8,518	1,129	4,504	1,018	20,894
New Jersey	13,250	2,579	9,146	536	31,568	13,356	2,229	9,268	554	31,547
New York	43,713	5,084	13,104	1,648	78,243	46,509	4,182	13,534	1,612	81,354
Pennsylvania	11,489	2,510	9,865	2,732	36,110	11,932	2,456	10,222	2,972	37,395
Great Lakes	45,924	7,178	42,235	6,058	128,956	43,984	6,320	42,827	6,127	127,962
Illinois	15,914	4,054	8,951	1,293	39,283	13,807	3,367	9,072	1,354	36,635
Indiana	5,233	904	7,280	832	17,400	5,218	1,034	7,306	845	17,588
Michigan	8,825	1,186	9,212	1,010	26,957	9,304	898	9,164	1,029	27,437
Ohio	8,883	3	11,900	1,908	28,297	8,169	33	12,227	1,856	28,695
Wisconsin	7,069	1,032	4,892	1,015	17,019	7,487	987	5,059	1,043	17,608
Plains	24,737	3,359	19,105	3,269	65,969	25,137	3,057	19,293	3,484	65,626
lowa	3,472	463	3,041	542	9,189	3,553	377	3,163	690	9,559
Kansas Minnesota	2,263 10,370	458 1,477	3,053	439 885	7,884	2,232	392 1 516	3,240 5,584	451 901	8,059
Missouri	5,856	426	5,484 3,380	695	24,439 11,956	10,733 6,024	1,516 329	3,536	717	25,189 12,245
Nebraska	2,240	344	1,788	328	5,087	2,245	308	1,783	342	5,117
North Dakota	537	186	1,788	232	5,740	351	103	1,763	197	3,709
South Dakota	N/A	4	971	148	1,674	N/A	33	969	187	1,748
Southeast	53,593	9,903	64,386	10,931	178,606	55,982	9,265	66,310	11,780	182,703
Alabama	3,337	534	2,464	560	9,755	3,493	377	2,596	527	9,920
Arkansas	2,664	477	3,182	462	9,190	2,781	450	3,314	480	9,453
Florida	N/A	2,238	21,801	2,482	37,218	N/A	2,272	22,291	2,611	37,640
Georgia	9,679	1,001	5,257	1,026	19,724	10,440	981	5,480	1,655	21,454
Kentucky	4,070	752	3,267	850	11,598	4,282	607	3,463	750	11,779
Louisiana	2,983	254	2,927	606	9,719	2,866	172	3,187	622	9,310
Mississippi	1,783	535	3,423	428	7,907	1,800	463	3,298	444	7,660
North Carolina	11,198	1,330	6,863	1,924	25,062	12,043	1,067	7,188	1,936	26,202
South Carolina	3,742	377	3,569	546	9,633	3,869	440	3,268	565	9,551
Tennessee	302	1,401	6,547	858	12,698	324	1,539	7,006	898	13,386
Virginia	11,904	818	3,793	756	20,537	12,238	753	3,932	896	21,220
West Virginia	1,932	189	1,293	434	5,566	1,846	145	1,287	396	5,128
Southwest	8,394	1,329	45,068	4,912	84,585	8,375	1,012	43,349	5,108	80,762
Arizona	3,761	691	6,466	754	14,082	3,968	571	6,661	898	14,676
New Mexico	1,381	250	2,256	240	6,009	1,410	114	2,085	245	5,462
Oklahoma	3,252	389	2,682	455	9,407	2,997	328	2,471	464	8,491
Texas*	N/A	N/A	33,664	3,462	55,086	N/A	N/A	32,131	3,500	52,133
Rocky Mountain	12,192	1,427	6,976	1,650	28,689	12,562	1,267	7,125	1,725	28,629
Colorado Idaho	6,375 1,478	673 217	2,818 1,464	668 259	12,811 3,975	6,486 1,521	626 189	2,840 1,559	667 337	12,795 4,210
Montana Utah	1,180 3,158	168 369	N/A 1,883	227 377	2,843	1,181 3,375	119	N/A 2,084	186 420	2,628 7,083
Wyoming	3,158 N/A	369 N/A	811	119	6,703 2,356	3,375 N/A	333 N/A	2,084 641	420 115	7,083 1,914
Far West	87,227	9,929	58,056	7,923	2,336 197,275	90,559	10,832	60,222	7,433	204,541
Alaska	N/A	228	56,056 N/A	7, 923 42	864	90,559 N/A	212	N/A	7, 433 49	1,042
California	77,930	9,007	38,465	5,711	151,173	80,753	9,902	39,189	5,001	155,231
Hawaii	1,988	72	2,993	93	6,486	2,116	108	3,206	93	6,919
Nevada	1,966 N/A	N/A	4,081	304	7,533	2,110 N/A	N/A	4,266	316	8,025
Oregon	7,309	622	4,001 N/A	525	10,575	7,690	610	4,200 N/A	518	11,043
Washington	7,309 N/A	N/A	12,518	1,248	20,644	7,090 N/A	N/A	13,560	1,458	22,280
Source: U.S. Censu		111/71	12,010	1,240	20,044	IN/A	IN/A	13,300	1,400	22,200

Source: U.S. Census Bureau.

Notes: PIT – personal income tax; CIT – corporate income tax; MFT – motor fuel tax; N/A – not applicable.

Table 3. Percent Change in Fiscal Year State Tax Revenue FY 2015 vs. FY 2016, Percent Change, Not Adjusted for Inflation

	PIT	CIT	Sales	MFT	Total
United States	2.2	(5.0)	1.5	2.9	1.2
New England	(2.4)	4.6	0.4	(0.5)	(0.7)
Connecticut	(7.6)	4.3	(8.1)	(2.9)	(6.1)
Maine	1.2	(18.6)	6.2	0.5	1.6
Massachusetts	(0.4)	4.8	4.9	1.4	1.0
New Hampshire	(8.4)	21.4	N/A	(1.3)	6.2
Rhode Island	1.7	(18.2)	1.5	4.9	2.2
Vermont	2.9	(12.7)	1.3	(9.6)	1.4
Mid-Atlantic	4.5	(10.9)	2.7	5.5	3.2
Delaware	(2.4)	(20.6)	N/A	6.9	0.2
Maryland	2.1	12.5	2.1	10.2	5.3
New Jersey	0.8	(13.6)	1.3	3.5	(0.1)
New York	6.4	(17.7)	3.3	(2.2)	4.0
Pennsylvania	3.9	(2.1)	3.6	8.8	3.6
Great Lakes Illinois	(4.2) (13.2)	(12.0) (16.9)	1.4 1.3	1.1 4.7	(0.8)
Indiana	(0.3)	14.5	0.4	1.6	(6.7) 1.1
Michigan	5.4	(24.2)	(0.5)	1.8	1.8
Ohio	(8.0)	1,185.2	2.7	(2.7)	1.4
Wisconsin	5.9	(4.4)	3.4	2.8	3.5
Plains	1.6	(9.0)	1.0	6.6	(0.5)
Iowa	2.4	(18.6)	4.0	27.3	4.0
Kansas	(1.4)	(14.5)	6.1	2.6	2.2
Minnesota	3.5	2.6	1.8	1.9	3.1
Missouri	2.9	(22.8)	4.6	3.2	2.4
Nebraska	0.2	(10.7)	(0.2)	4.4	0.6
North Dakota	(34.6)	(44.6)	(26.8)	(15.3)	(35.4)
South Dakota	N/A	654.1	(0.2)	26.2	4.4
Southeast	4.5	(6.5)	3.0	7.8	2.3
Alabama	4.7 4.4	(29.4)	5.4	(6.0)	1.7
Arkansas Florida	4.4 N/A	(5.5) 1.6	4.2 2.2	3.9 5.2	2.9 1.1
Georgia	7.9	(2.0)	4.3	61.3	8.8
Kentucky	5.2	(19.3)	6.0	(11.8)	1.6
Louisiana	(3.9)	NM	8.9	2.6	(4.2)
Mississippi	0.9	(13.4)	(3.7)	3.6	(3.1)
North Carolina	7.5	(19.8)	4.7	0.6	`4.5
South Carolina	3.4	16.7	(8.4)	3.6	(0.9)
Tennessee	7.2	9.8	7.0	4.7	5.4
Virginia	2.8	(8.0)	3.7	18.5	3.3
West Virginia	(4.5)	(23.4)	(0.5)	(8.7)	(7.9)
Southwest	(0.2)	(23.9)	(3.8)	4.0	(4.5)
Arizona	5.5	(17.4)	3.0	19.2	4.2
New Mexico Oklahoma	2.1 (7.9)	(54.4) (15.6)	(7.6) (7.9)	2.2 1.9	(9.1)
Texas	(7.9) N/A	(13.6) N/A	(4.6)	1.1	(9.7) (5.4)
Rocky Mountain	3.0	(11.2)	2.1	4.6	(0.2)
Colorado	1.7	(7.0)	0.8	(0.1)	(0.1)
Idaho	2.9	(12.9)	6.5	30.2	5.9
Montana	0.0	(29.2)	N/A	(18.0)	(7.6)
Utah	6.9	(9.6)	10.7	11.2	5.7
Wyoming	N/A	N/A	(20.9)	(2.9)	(18.8)
Far West	3.8	9.1	3.7	(6.2)	3.7
Alaska	N/A	(6.8)	N/A	16.1	20.7
California	3.6	9.9	1.9	(12.4)	2.7
Hawaii	6.4	49.7	7.1	(0.5)	6.7
Nevada	N/A	N/A	4.6	3.8	6.5
Oregon Washington	5.2 N/A	(1.9) N/A	N/A	(1.3) 16.8	4.4 7.9
Source: U.S. Censu		IN/A	8.3	16.8	1.9
Source: U.S. Censu	S Duleau.				

Source: U.S. Census Bureau. **Notes:** PIT – personal income tax; CIT – corporate income tax; MFT – motor fuel tax; N/A – not applicable.

Table 4. Change From Peak to FY 2016 in State Tax Collections							
	Nominal %	change from p	eak to 2016	Real % change from peak to 2016			
State	Total tax	Sales tax	PIT	Total tax	Sales tax	PIT	
United States	18.1	20.4	23.6	5.1	7.2	10.0	
Alabama	9.4	13.5	13.5	(2.6)	1.0	1.0	
Alaska	(88.1)	N/A	N/A	(89.4)	N/A	N/A	
Arizona	1.9	0.7	5.9	(11.0)	(12.0)	(7.5)	
Arkansas	25.5	14.1	18.6	11.7	(0.3)	5.6	
California	32.3	20.0	44.9	17.7	4.8	29.0	
Colorado	32.9	22.8	28.0	18.4	9.3	13.9	
Connecticut	9.3	5.8	10.3	(2.7)	(5.8)	(1.8)	
Delaware	20.2	N/A	8.5	7.0	N/A	(5.3)	
Florida	(6.2)	(2.4)	N/A	(20.2)	(14.8)	N/A	
Georgia	17.5	(7.4)	18.0	2.7	(19.1)	5.1	
Hawaii	34.4	22.4	35.6	19.7	9.0	18.5	
Idaho	15.3	15.7	5.8	2.6	3.0	(5.9)	
Illinois	21.8	14.3	33.8	6.4	1.8	19.1	
Indiana	16.3	17.7	7.9	3.6	5.6	(4.0)	
Iowa	36.8	43.7	24.7	22.8	28.9	11.1	
Kansas	12.6	43.1	(24.2)	0.2	27.4	(32.5)	
Kentucky	17.3	20.4	22.9	4.4	7.2	9.4	
Louisiana	(15.4)	(8.5)	(10.8)	(24.7)	(20.1)	(22.1)	
Maine	9.1	28.2	(0.7)	(2.9)	14.1	(11.6)	
Maryland	32.7	17.0	22.7	18.1	4.9	9.3	
Massachusetts	23.7	48.6	15.5	10.1	32.3	2.8	
Michigan	10.7	13.4	29.6	(1.4)	(3.5)	15.3	
Minnesota	37.5	22.7	38.0	22.4	9.2	22.9	
Mississippi	13.6	4.5	16.1	1.1	(8.7)	3.3	
Missouri	12.1	8.1	17.7	(0.2)	(5.6)	4.8	
Montana Nebraska	6.9 21.0	N/A 16.3	35.7 30.0	(4.8) 7.7	N/A 3.5	20.8 15.8	
Nevada	27.3	32.8	30.0 N/A	11.2	16.0	N/A	
New Hampshire	17.4	32.6 N/A	(25.4)	4.5	N/A	(33.6)	
New Jersey	3.0	4.0	6.0	(8.3)	(7.5)	(53.6)	
New Mexico	(1.2)	7.7	17.6	(13.7)	(6.0)	4.7	
New York	24.7	19.8	26.2	11.0	6.7	13.3	
North Carolina	14.9	36.4	9.5	2.3	21.4	(2.5)	
North Dakota*	60.4	67.5	(5.1)	42.8	50.3	(14.9)	
Ohio	10.0	55.4	(17.0)	(2.0)	38.4	(26.1)	
Oklahoma	1.9	14.3	7.5	(9.3)	2.5	(4.3)	
Oregon	42.6	N/A	37.4	24.6	N/A	20.0	
Pennsylvania	16.4	15.2	14.6	3.6	2.6	2.1	
Rhode Island	18.1	11.2	13.2	3.1	(2.9)	0.8	
South Carolina	9.9	1.1	16.3	(4.0)	(11.7)	3.5	
South Dakota	30.2	28.0	N/A	16.9	14.9	N/A	
Tennessee	16.0	2.5	11.3	3.3	(8.7)	(0.9)	
Texas	14.5	48.5	N/A	1.9	32.2	N/A	
Utah	15.9	6.1	30.1	3.2	(5.6)	15.9	
Vermont	20.4	9.6	17.2	5.1	(2.5)	4.3	
Virginia	13.7	8.2	19.5	(0.7)	(5.5)	4.4	
Washington	24.1	19.5	N/A	10.4	6.4	N/A	
West Virginia	5.0	13.9	18.5	(6.5)	(0.5)	6.3	
Wisconsin	18.1	18.5	18.2	5.1	5.5	3.1	
Wyoming	(30.8)	(35.2)	N/A	(37.9)	(41.8)	N/A	

Source: Rockefeller Institute analysis of U.S. Census Bureau data.

Notes: N/A = not applicable.

*Total tax revenues in North Dakota grew substantially during the recession; the growth rates are relative to FY 2008. However, tax revenues in North Dakota have declined in recent years.

Table 5. Peak Years for State Tax Collections (Years other than 2008, the typical peak, are shaded)

State	Total tax	Sales tax	PIT
United States	2008	2008	2008
Alabama	2008	2008	2008
Alaska	2008	N/A	N/A
Arizona	2007	2007	2007
Arkansas	2008	2007	2008
California	2008	2007	2008
Colorado	2008	2008	2008
Connecticut	2008	2008	2008
Delaware	2008	N/A	2007
Florida	2006	2007	N/A
Georgia	2007	2007	2007
Hawaii	2008	2008	2008
Idaho	2008	2008	2008
Illinois	2007	2008	2008
Indiana	2008	2009	2008
Iowa	2009	2009	2008
Kansas	2008	2008	2008
Kentucky	2008	2008	2008
Louisiana	2008	2007	2007
Maine	2008	2008	2008
Maryland	2008	2009	2008
Massachusetts	2008	2008	2008
Michigan	2008	2009	2008
Minnesota	2008	2008	2008
Mississippi	2008	2007	2008
Missouri	2008	2007	2008
Montana	2008	N/A	2008
Nebraska	2008	2008	2008
Nevada	2007	2007	N/A
New Hampshire	2008	N/A	2008
New Jersey	2008	2008	2008
New Mexico	2007	2007	2008
New York	2008	2008	2009
North Carolina	2008	2008	2008
North Dakota*	*	2009	2009
Ohio	2008	2008	2008
Oklahoma	2008	2009	2008
Oregon	2007	N/A	2007
Pennsylvania	2008	2008	2008
Rhode Island	2007	2007	2008
South Carolina	2007	2007	2008
South Dakota	2009	2009	N/A
Tennessee	2008	2008	2008
Texas	2008	2008	N/A
Utah	2008	2008	2008
Vermont	2007	2008	2008
Virginia	2007	2007	2007
Washington	2008	2008	N/A
West Virginia	2008	2007	2009
Wisconsin	2008	2008	2008
Wyoming	2009	2009	N/A
	Institute analysis of U		

Source: Rockefeller Institute analysis of U.S. Census Bureau data.

Notes: N/A = not applicable.

*Total tax revenues in North Dakota grew substantially during the recession.

However, tax revenues in North Dakota have declined in recent years.

Endnotes

1 See "Annual Survey of State Government Tax Collections," U.S. Census Bureau, last revised April 18, 2017, https://www.census.gov/govs/statetax/index.html. Inflation adjustments are done using the gross domestic product (GDP) price index from the U.S. Bureau of Economic Analysis.

2 See Lucy Dadayan and Donald J. Boyd, "Double, Double, Oil and Trouble," *By The Numbers Brief,* The Nelson A. Rockefeller Institute of Government, February 2016, http://www.rockinst.org/pdf/government_finance/2016-02-By_Numbers_Brief_No5.pdf.

3 See Lucy Dadayan and Donald J. Boyd, "Weak Revenue Forecasts, Large Uncertainties Ahead," *By The Numbers Brief,* The Nelson A. Rockefeller Institute of Government, March 2017, http://www.rockinst.org/pdf/government_finance/2017-03-27-By_numbers_brief_no7.pdf.