

TAX POLICY CENTER
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**ARE STATES BETTING ON SIN?
THE MURKY FUTURE OF STATE TAXATION**

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ABSTRACT

“Sin taxes” are often viewed as budget saviors, though they play a rather small role in state budgets. Although states raise revenue from sin taxes, policymakers should be mindful of these taxes’ limitations. Absent policy changes (such as increased tax rates), long-term growth for sin tax revenue has often been weak and limited. Moreover, greater dependence on sin tax revenues can lead to odd incentives: part of the reason for taxing some of these activities is to discourage consumption and use rather than to maximize revenue.

This report reviews the long-term revenue trends from the three most common sin taxes (alcohol, tobacco, and gambling) and explores how changes in economic activity may affect future revenues. The report also reviews the current status of emerging sin taxes, examining taxes on marijuana and providing overview for taxes on e-cigarettes and sugar-sweetened beverages.

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EXECUTIVE SUMMARY

- State reliance on specific taxes on goods or activities often seen as harmful to individuals or society (often referred to as “sin taxes”) has grown over time. Historically, sin taxes have been imposed as a way both to discourage activities that are harmful to individuals or society and to help pay for the external costs of those activities. These taxes are often introduced or expanded to generate revenue during economic downturns or other periods when states or localities need to raise revenues. Although sin taxes are sometimes considered primarily the province of state governments, the federal governments and some local governments also raise money by taxing these activities. The major categories of sin taxes are:
 - **A tax on alcohol** (whiskey) was first enacted at the federal level in 1791 to pay off national debt incurred during the Revolutionary War.
 - **Taxes on tobacco** products were first introduced at the federal level in 1862 as a revenue measure during the Civil War.
 - **Gambling** has a long history in the United States, going back to colonial times. However, it was not until the early 20th century that states started legalizing and taxing some forms of gambling, such as parimutuel betting. States expanded gambling options in response to the most recent three recessions.
- In fiscal year 2017, states raised nearly \$64 billion in revenues from these **sin taxes**—tobacco, alcohol, and gambling (including lotteries)—representing 4.8 percent of total state own-source general revenues. State revenues from **sin taxes** grew 6.3 percent in real terms between fiscal years 2008 and 2017. In comparison, growth in inflation-adjusted total **state own-source general revenues** was 8.0 percent over the same time period. Growth rates were mixed across these different types of taxes.
 - Inflation-adjusted **alcohol tax revenues** grew 14.3 percent between fiscal years 2008 and 2017, but the growth rate per adult (age 21 and older) over this period was weaker, at 4.5 percent.
 - Inflation-adjusted **tobacco tax revenues** grew 0.8 percent between fiscal years 2008 and 2017 but decreased 7.8 percent per adult (age 18 and older) over this period.
 - Inflation-adjusted **lottery revenues** grew 6.5 percent between fiscal years 2008 and 2017 but decreased 2.6 percent per adult (age 18 and older) over this period.
 - Inflation-adjusted **casino and racino revenues** grew 6.8 percent between fiscal years 2008 and 2017 but decreased 2.4 percent per adult (age 18 and older) over this period.
- More recently, as technology and social views have changed, states have renewed their interest in taxing more activities and products, such as marijuana, sports betting, e-cigarettes, sugar-sweetened beverages, and prescription opioids.
 - **Recreational marijuana** taxes have been enacted in 10 states and the District of Columbia, but so far marijuana taxation is in effect in only 7 states.

- **E-cigarettes** are currently taxed in twelve states and the District of Columbia as well as in seven localities. Several other states have also enacted legislations for taxing e-cigarettes.
 - **Sports betting** is currently legal in 16 states and the District of Columbia (but actual betting takes place in just 10 states). Twenty-seven other states have also introduced proposals or are debating proposals for legalization of sports betting.
 - **Sugar-sweetened beverages** are currently taxed in seven cities, but no state has yet enacted a statewide tax on them.
 - **Prescription opioids** are currently subject to tax only in one state (New York). However, some other states are also considering taxing prescription opioids.
- Many states have renewed their interest in taxing “sinful” goods and activities to raise revenues while also discouraging certain behaviors. But sin taxes make up only a small part of overall state budgets and have limited revenue potential for governments. The history of sin taxes also illustrates that these revenues are volatile and can deteriorate or decrease over time. If the primary purpose of sin taxes is to discourage specific behavior, states may find that success in this goal can reduce revenues and leave future budgets vulnerable.

INTRODUCTION

Traditionally, “sin taxes” have been levied on products or services that government perceived as undesirable or harmful to either the individuals consuming the goods or services or society as a whole. That is, governments levied special taxes on certain products and activities not merely to collect revenue, as with a general sales tax, but to alter consumer choices and reduce consumption of the taxed good or service. However, revenue collection has always been an important goal of taxing sins.

The primary goal of sin taxes is to increase the price of the product or service in an effort to reduce consumption, but another goal is to raise revenue in a way that is less likely to generate strong opposition. Sin taxes are often criticized for being regressive and for putting a disproportionate burden on lower-income people.

When people talk about sin taxes, they have historically meant taxes on alcohol, tobacco, and gambling. However, the spectrum of sin taxes has expanded in the past decade, possibly to the point that the term may no longer be useful. Depending on the state and locality, taxes are also being levied on products such as marijuana, e-cigarettes, sugar-sweetened beverages, and opioids. Although some of these newer sin taxes fit the traditional model (e.g., states and localities that tax e-cigarettes clearly want to reduce the use of e-cigarettes as a long-term substitute for cigarettes and reduce the temptation for children to start using), legalizations of other “sinful” goods and activities are designed to increase legalized activity and tax revenue through continued or expanded legal usage. For example, states that legalize and tax marijuana want consumers to consume the products in the legal market and thus generate tax revenue. And some might argue that gambling taxes should be considered an entertainment tax and not a sin tax.

Sin taxes have a long history, dating back at least to the 18th century. In 1776, Adam Smith, the father of modern economics, entertained the idea of sin taxation: “Sugar, rum, and tobacco are commodities which are nowhere necessities of life, which are become objects of almost universal consumption, and which are therefore extremely proper subjects of taxation” (Smith 1776). The first sin tax in the United States was passed soon thereafter, on whiskey, at the recommendation of Alexander Hamilton in 1791. Although some in the government may have wanted to curtail drinking, the tax was largely created for the purpose of paying off national debt incurred during the Revolutionary War (Perkins 2014). Similarly, federal tobacco taxes were introduced in 1862 as a revenue measure during the Civil War.

Although some politicians present sin taxes as budget saviors, they currently are and always have been a relatively small source of state government finances. In fiscal year 2017, states raised \$34 billion from the two most common sin taxes, tobacco and alcohol, or 2.6 percent of total state own-source general revenue. In addition to alcohol and tobacco, states also raised nearly \$30 billion in fiscal year 2017 by taxing various gambling activities, representing 2.2 percent of total state own-source general revenues.¹

Recently, states have been more likely to raise taxes on tobacco products than on alcohol, even though both pose a significant public health threat. Since 2000, 48 states increased cigarette tax rates, while very few states increased tax rates on alcohol. Despite these increases in tax rates on tobacco, inflation-adjusted tobacco tax revenues per adult decreased 7.8

percent between fiscal years 2008 and 2017 (largely because of falling tobacco consumption). The opposite is true for alcohol revenues. Despite the relatively stable tax rates on alcoholic beverages, inflation-adjusted alcohol revenues per adult grew 4.5 percent over the same period, largely because of growth in alcohol consumption.

States expanded gambling options significantly in the past decade, particularly in the wake of the Great Recession, when more than a dozen states authorized new gambling options, including legalizing casinos in eight states. Despite these expansions, inflation-adjusted gambling revenues per adult declined 3.1 percent between fiscal years 2008 and 2017. It appears the weakening of the growth in gambling revenues is partially attributable to market saturation and industry cannibalization as new gambling facilities compete and take business away from existing gambling activities and establishments in neighboring states. Between fiscal years 2008 and 2017, inflation-adjusted tax and fee revenues from commercial casinos and racinos grew by \$1.4 billion in states with newly authorized establishments but declined by \$0.8 billion in states with longer histories of legalized casinos and racinos.

States also raised nearly \$0.7 billion from recreational marijuana in fiscal year 2017. Colorado and Washington were the first states to legalize recreational marijuana in November 2012. Currently, recreational marijuana is legal in 10 states, 7 have implemented tax rules.

This report reviews the longer-term revenue trends from the three most common sin taxes (alcohol, tobacco, and gambling) and explores how changes in economic activity may affect future revenues. The report also reviews the current status of emerging sin taxes, examining taxes on marijuana and providing an overview of taxes on sugar-sweetened beverages and the possibility of taxing opioids.

Alcohol taxes in the United States date back to the 18th century. In 1791, the first Secretary of the Treasury, Alexander Hamilton, proposed a tax on whiskey to help pay off debt accumulated during the Revolutionary War. Opposition to this tax was substantial, and it was repealed in 1802. Alcohol taxes were once again enacted at the federal level as part of the Revenue Act of 1862, which was passed by Congress to fund the Civil War. The landscape of alcohol taxation has changed a lot since then. “The modern system of federal alcohol excise taxes was enacted following Prohibition’s end” in 1933 (McClelland and Iselin 2017).

ALCOHOL TAX RATES

Both federal and state tax rates on alcoholic beverages vary by type of beverage as well as by the beverages’ percentage of alcohol. The federal government increased the tax rate on alcoholic beverages (i.e., distilled spirits, wine, and beer) several times in 1940s but has increased it very rarely since then. The federal government excise tax rate for distilled spirits was \$10.50 per proof gallon² in 1951; it was increased to \$12.50 in 1985 and to \$13.50 in 1991. Federal per-gallon wine tax rates in 1951 were \$0.17 for wines that have below 14 percent alcohol, \$0.67 for wines that have between 14 to 21 percent alcohol, and \$2.25 for wines that have between 21 to 24 percent alcohol. The federal tax rates were increased in 1991 to \$1.07, \$1.57, and \$3.15, respectively. The regular federal tax rate on per-gallon beer was \$0.29 in 1951 but increased to \$0.58 in 1991. The federal government has not raised taxes on alcoholic beverage since 1991.³ Instead, the Tax Cuts and Jobs Act of 2017 contained a provision called the Craft Beverage Modernization and Tax Reform Act that generally cut excise taxes on certain beer, wine, and distilled spirits.

States regulate alcohol sales in two ways and can be divided into “license” states and “control” states. Currently 33 states regulate the private alcohol industry through license systems that allow private enterprises to buy and sell alcohol and that generally collect taxes on sales. In contrast, 17 states directly control alcohol sales through a public monopoly system where the state sells alcohol directly. Most of the control states allow private enterprises to sell beer and wine directly, typically through a licensing system. These systems have very different implications for tax revenue.

Governments in the control states set a uniform price or a minimum shelf price for distilled spirits sold within the state and engage in the sale of alcoholic beverages through state-run stores. The control states generally obtain revenue from the markup on sales of liquor in state-run stores, but sometimes they also impose additional taxes on liquor. Control states usually have a separate license and tax system for regulating the distribution and sale of wine and beer.

Alcohol tax rates and structures vary widely by state and by type of alcoholic beverage. Taxes on beer are usually much lower than taxes on distilled spirits, and taxes on wine are generally somewhere in between. In some states, nontraditional alcohol taxes may be substantial. For example, Texas has a specific sales tax and a specific gross receipts tax on mixed beverages that, in combination, raise more than four times as much revenue as its other alcoholic beverage taxes. Further,

many states levy multiple taxes on the same unit of alcohol. A state’s tax rate on an alcoholic beverage can include fixed-rate per-volume taxes, wholesale taxes, distributor taxes, retail taxes, case or bottle fees, and a sales tax.

TABLE 1
State Alcohol Excise Tax Rates as of January 1, 2019

State	Control state	Beer		Wine		Distilled Spirits	
		(\$ per gallon)	Rank	(\$ per gallon)	Rank	(\$ per gallon)	Rank
Median		\$0.200		\$0.720		\$3.768	
Alabama	x	\$0.533	6	\$1.700	5	**	**
Alaska		\$1.070	2	\$2.500	1	\$12.800	2
Arizona		\$0.160	32	\$0.840	21	\$3.000	23
Arkansas		\$0.234	23	\$0.750	23	\$2.500	26
California		\$0.200	26	\$0.200	47	\$3.300	20
Colorado		\$0.080	46	\$0.277	44	\$2.281	30
Connecticut		\$0.240	22	\$0.720	24	\$5.400	10
Delaware		\$0.263	19	\$1.630	6	\$4.500	13
Florida		\$0.480	7	\$2.250	2	\$6.500	4
Georgia		\$0.323	14	\$1.514	7	\$3.785	17
Hawaii		\$0.930	3	\$1.380	11	\$5.980	7
Idaho	x	\$0.150	35	\$0.450	35	**	**
Illinois		\$0.231	24	\$1.390	10	\$8.550	3
Indiana		\$0.115	40	\$0.470	34	\$2.680	25
Iowa	x	\$0.190	28	\$1.750	3	**	**
Kansas		\$0.180	29	\$0.300	40	\$2.500	26
Kentucky		\$0.081	45	\$0.500	32	\$1.920	32
Louisiana		\$0.403	11	\$0.757	22	\$3.028	22
Maine	x	\$0.350	13	\$0.600	28	**	**
Maryland		\$0.090	43	\$0.400	37	\$1.500	33
Massachusetts		\$0.106	41	\$0.550	29	\$4.050	15
Michigan	x	\$0.203	25	\$0.511	31	**	**
Minnesota		\$0.148	36	\$0.300	40	\$5.035	12
Mississippi	x	\$0.427	8	\$0.350	38	**	**
Missouri		\$0.060	49	\$0.420	36	\$2.000	31
Montana	x	\$0.139	38	\$1.022	13	**	**
Nebraska		\$0.310	15	\$0.950	16	\$3.750	18
Nevada		\$0.160	32	\$0.700	26	\$3.600	19
New Hampshire	x	\$0.300	16	\$0.300	40	**	**
New Jersey		\$0.120	39	\$0.875	19	\$5.500	9
New Mexico		\$0.410	10	\$1.703	4	\$6.057	6
New York		\$0.140	37	\$0.300	40	\$6.435	5
North Carolina	x	\$0.617	5	\$0.997	15	**	**
North Dakota		\$0.160	32	\$0.500	32	\$2.500	26
Ohio	x	\$0.180	29	\$0.320	39	**	**
Oklahoma		\$0.403	11	\$0.719	25	\$5.565	8
Oregon	x	\$0.084	44	\$0.670	27	**	**
Pennsylvania	x	\$0.080	46	**	**	**	**
Rhode Island		\$0.106	41	\$1.400	9	\$5.400	10
South Carolina		\$0.768	4	\$0.900	18	\$2.720	24
South Dakota		\$0.274	17	\$0.930	17	\$3.930	16
Tennessee		\$1.287	1	\$1.210	12	\$4.400	14
Texas		\$0.194	27	\$0.204	46	\$2.400	29
Utah	x	\$0.413	9	**	**	**	**
Vermont	x	\$0.265	18	\$0.550	29	**	**
Virginia	x	\$0.256	21	\$1.514	7	**	**
Washington		\$0.261	20	\$0.868	20	\$14.274	1
West Virginia	x	\$0.177	31	\$1.000	14	**	**
Wisconsin		\$0.065	48	\$0.250	45	\$3.250	21
Wyoming	x	\$0.019	50	**	**	**	**

Source: Data from “Tax Rates/Surveys,” Federation of Tax Administrators, accessed September 20, 2019, <https://www.taxadmin.org/current-tax-rates>.

Notes: ** In these states, the government directly controls the sales of distilled spirits and wine; revenue is generated from various taxes, fees, price mark-ups, and net liquor profits.

Table 1 shows state excise tax rates for beer, wine, and distilled spirits as of January 2019. State beer tax rates range from \$0.02 per gallon in Wyoming to \$1.29 per gallon in Tennessee, with a national median of \$0.20 per gallon. In the states that do not control the sale of wine, tax rates range from \$0.20 per gallon in California to \$2.50 per gallon in Alaska, with a national median of \$0.72 per gallon. Distilled spirits per-gallon tax rates among the license states range from \$1.50 in Maryland to \$14.27 in Washington, with a national median of \$3.77.

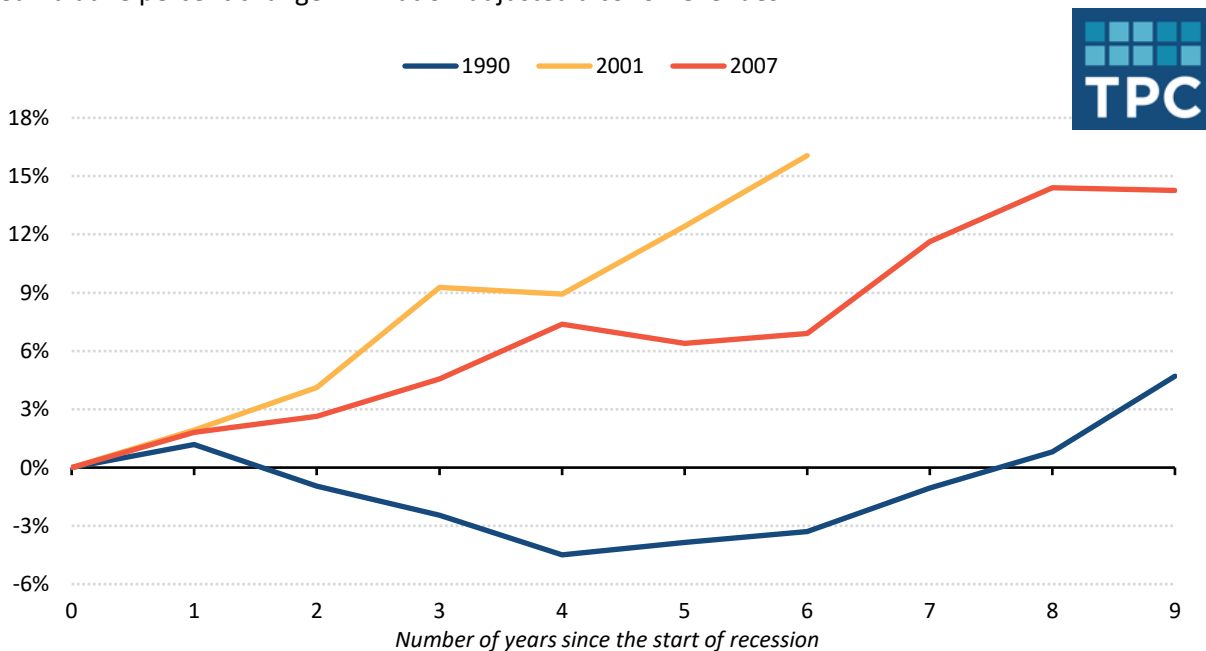
TRENDS IN ALCOHOL TAXES, FEES, AND LIQUOR STORE REVENUES

Taxes on alcohol are usually calculated per gallon. Therefore, like tobacco, alcohol tax revenue grows or declines with consumption or a change in tax rate. Only a handful of states increased tax rates on alcohol in response to the Great Recession. Alcohol consumption has been on the rise in recent years, which led to growth in overall state alcohol tax and liquor store revenues.⁴

Sometimes an economic downturn provides the impetus for a state government to raise revenues from excise taxes. However, states have been less likely to increase taxes on alcoholic beverages than on tobacco. Between 2008 and 2018, for example, only 11 states—Connecticut, Delaware, Illinois, Louisiana, Nebraska, Nevada, New Jersey, New York, North Carolina, Rhode Island, and Tennessee—increased their tax rates on beer and/or wine.⁵ Because of the relatively stable tax rates on alcoholic beverages, alcohol taxes as a share of the pretax price of alcohol have fallen significantly over time.

FIGURE 1

Steady Growth in Alcohol Revenues during and after the Great Recession
Cumulative percent change in inflation-adjusted alcohol revenues



Source: Census Bureau and individual state data. Analysis by the author.

Note: Data series all end with the start of the next recession.

Figure 1 shows the cumulative percent change in alcohol tax, license fees, and liquor store revenues since the start of the recession for the most recent three recessions. Alcohol revenues did not decline during the 2001 or 2007 recessions unlike other major sources of tax revenues. Growth in alcohol revenues has been steady and strong after the Great Recession, but it has been somewhat weaker than in the aftermath of the 2001 recession. Nine years after the start of the Great Recession, inflation-adjusted alcohol revenues are 14.3 percent above their fiscal year 2008 level compared with the 5.5 percent growth in overall state tax revenues. The strong growth in alcohol revenues is mostly attributable to the growth in consumption: overall alcohol consumption grew from 2.31 gallons per capita in 2008 to 2.34 gallons per capita in 2017, or 1.3 percent. However, the consumption growth was not consistent across alcoholic beverage types. Per capita consumption of wine and spirits rose 13.2 and 15.1 percent, respectively, between 2008 and 2017, whereas per capita consumption of beer declined 11.7 percent for the same period (Slater and Alpert 2019).⁶ As shown in **Table 1**, tax rates per gallon are significantly higher on wine and spirits than on beer. Therefore, the strong growth in alcohol revenues has been driven by the strong growth in consumption of wine and spirits.

Table 2 shows state-by-state inflation-adjusted total and per adult (age 21 and older) alcohol revenues for fiscal years 2008 and 2017 as well as the growth rate and compound annual growth rate⁷ for the same period.⁸ The states are divided into alcohol control states and alcohol license states.

Alcohol revenue collections exceeded \$15.6 billion in fiscal year 2017, representing roughly 1.2 percent of total state own-source general revenue. Inflation-adjusted alcohol revenues grew 14.3 percent between fiscal years 2008 and 2017, for a compound annual growth rate of 1.5 percent. Growth in alcohol revenues per adult was 4.5 percent between fiscal years 2008 and 2017, for a compound annual growth rate of 0.5 percent.

Growth in alcohol revenues varied widely across the states. Inflation-adjusted growth was strong in control states, at 26.2 percent between 2008 and 2017, whereas license states saw declines of 2.9 percent during the same period. Total inflation-adjusted alcohol revenues increased in 38 states, while per adult revenues increased in 31 states. Illinois, a license state, had the largest growth in alcohol revenues at 60.6 percent between fiscal years 2008 and 2017, mostly because it increased its excise tax rate in 2009: the tax rate on beer increased to \$0.231, the rate on wine increased to \$1.39, and the rate on liquor increased to \$8.55.⁹ In contrast, Florida, also a license state, had the largest decline at 55.0 percent, with constant tax rates of \$0.48 on beer, \$2.25 on wine, and \$6.50 on liquor.

In terms of dollar value, the largest growth was in Pennsylvania, where inflation-adjusted alcohol tax and fee revenues grew by \$481 million, or 24.6 percent, between fiscal years 2008 and 2017. West Virginia was the only control state to see declines in both total and per adult alcohol revenues. Among license states, 11 states reported declines in overall alcohol revenues between fiscal years 2008 and 2017, while 18 states reported declines in per adult alcohol revenues.

Alcohol revenues on a per adult basis were highest in New Hampshire. The per adult revenues were \$692.9 in fiscal year 2017, which is more than 10 times higher than the national average of \$62.3. New Hampshire's per adult alcohol tax revenues are substantially higher than other states because the state lacks a sales tax, which attracts many out-of-state consumers.

TABLE 2

Alcohol State Revenues Increased in Control States, but Declined in License States
 Inflation-adjusted alcohol state revenues and growth rates, FY 2008 versus FY 2017

State	Alcohol real revenue (\$ millions)				Alcohol real revenue per adult age 21+			
	2008	2017	Percent change, 2008–17	CAGR, 2008–17	2008	2017	Percent change, 2008–17	CAGR, 2008–17
United States	13,676.7	15,627.7	14.3%	1.5%	59.6	62.3	4.5%	0.5%
Control states	8,076.1	10,189.1	26.2	2.6	147.3	172.9	17.4	1.8
Alabama	476.9	547.3	14.7	1.5	141.4	152.4	7.8	0.8
Idaho	143.6	175.5	22.2	2.3	137.5	145.4	5.7	0.6
Iowa	248.2	335.6	35.2	3.4	115.3	147.6	28.0	2.8
Maine	24.7	26.0	5.3	0.6	24.8	25.1	1.2	0.1
Michigan	1,079.9	1,315.5	21.8	2.2	152.5	178.0	16.7	1.7
Mississippi	336.0	392.6	16.8	1.7	164.0	182.6	11.3	1.2
Montana	113.7	135.5	19.3	2.0	159.9	172.9	8.1	0.9
New Hampshire	547.9	716.1	30.7	3.0	569.4	692.9	21.7	2.2
North Carolina	314.6	421.4	33.9	3.3	47.3	55.8	18.0	1.9
Ohio	965.3	1,302.2	34.9	3.4	117.0	151.5	29.5	2.9
Oregon	481.0	618.6	28.6	2.8	175.1	198.0	13.1	1.4
Pennsylvania	1,952.2	2,433.3	24.6	2.5	211.7	253.0	19.5	2.0
Utah	296.8	436.4	47.1	4.4	175.2	214.2	22.3	2.3
Vermont	72.0	90.6	25.9	2.6	156.6	190.5	21.6	2.2
Virginia	815.1	1,017.6	24.8	2.5	144.2	162.6	12.8	1.3
West Virginia	114.7	111.9	(2.5)	(0.3)	83.4	80.9	(3.0)	(0.3)
Wyoming	93.5	113.1	21.0	2.1	239.4	268.7	12.2	1.3
License states	5,600.6	5,438.6	(2.9)	(0.3)	34.7	30.3	(12.6)	(1.5)
Alaska	45.8	42.1	(8.2)	(0.9)	96.9	79.9	(17.6)	(2.1)
Arizona	87.5	83.0	(5.1)	(0.6)	20.0	16.2	(19.0)	(2.3)
Arkansas	51.2	60.6	18.3	1.9	25.0	27.8	11.1	1.2
California	428.9	428.9	(0.0)	(0.0)	16.7	14.9	(11.1)	(1.3)
Colorado	47.5	52.7	10.9	1.2	13.6	12.7	(6.6)	(0.8)
Connecticut	61.2	72.4	18.3	1.9	23.8	27.1	13.8	1.4
Delaware	17.8	22.6	27.2	2.7	27.9	31.5	13.1	1.4
Florida	734.6	330.4	(55.0)	(8.5)	53.4	20.6	(61.5)	(10.1)
Georgia	191.7	198.1	3.3	0.4	29.0	26.5	(8.7)	(1.0)
Hawaii	52.2	51.2	(1.9)	(0.2)	53.3	47.7	(10.4)	(1.2)
Illinois	193.9	311.3	60.6	5.4	21.4	33.1	54.6	5.0
Indiana	63.4	62.0	(2.2)	(0.2)	14.0	12.9	(8.1)	(0.9)
Kansas	124.7	140.6	12.8	1.3	63.4	67.8	6.9	0.7
Kentucky	130.0	152.2	17.1	1.8	42.1	46.6	10.6	1.1
Louisiana	63.4	77.4	22.1	2.2	20.3	22.8	12.5	1.3
Maryland	34.3	33.6	(2.0)	(0.2)	8.4	7.6	(10.1)	(1.2)
Massachusetts	85.8	89.0	3.8	0.4	18.1	17.2	(5.0)	(0.6)
Minnesota	159.4	181.9	14.1	1.5	42.6	44.8	5.2	0.6
Missouri	41.1	43.2	5.0	0.5	9.7	9.6	(0.9)	(0.1)
Nebraska	30.5	31.6	3.6	0.4	24.2	23.2	(4.0)	(0.4)
Nevada	46.2	45.0	(2.6)	(0.3)	24.4	20.5	(16.1)	(1.9)
New Jersey	128.0	142.0	10.9	1.2	20.3	21.5	5.9	0.6
New Mexico	50.6	44.9	(11.3)	(1.3)	35.9	29.5	(17.8)	(2.2)
New York	288.8	320.1	10.8	1.1	20.6	21.7	5.3	0.6
North Dakota	8.2	9.3	13.3	1.4	17.3	17.1	(1.3)	(0.1)
Oklahoma	104.9	119.6	14.0	1.5	40.4	42.5	5.1	0.6
Rhode Island	13.4	21.0	56.3	5.1	17.5	26.3	50.5	4.6
South Carolina	188.3	199.9	6.2	0.7	58.0	53.8	(7.4)	(0.8)
South Dakota	16.2	18.7	15.6	1.6	28.7	30.0	4.7	0.5
Tennessee	148.1	190.4	28.5	2.8	33.0	38.4	16.6	1.7
Texas	956.7	1,293.7	35.2	3.4	57.8	65.4	13.0	1.4
Washington	941.9	506.1	(46.3)	(6.7)	199.3	91.8	(53.9)	(8.3)
Wisconsin	64.2	63.1	(1.7)	(0.2)	15.9	14.8	(6.9)	(0.8)

Source: Census Bureau and individual state data. Analysis by the author.

Notes: CAGR = compound annual growth rate. Before June 1, 2012, Washington was a control state with a monopoly on liquor sales.

TOBACCO

A tobacco tax was first enacted at the federal level in 1862 amid the Civil War funding crisis and was viewed strictly as a revenue measure. Iowa was the first state to tax cigarettes, in 1921; North Carolina was the last state to impose a tax on cigarettes, in 1969. Currently all 50 states and the District of Columbia levy taxes on cigarettes and most other tobacco products, but only a few states levy taxes on e-cigarettes. Some local governments in nine states—Alabama, Alaska, Colorado, Illinois, Missouri, New York, Ohio, Pennsylvania, and Virginia—also tax cigarettes and most other tobacco products.

TOBACCO TAX RATES

State and local governments usually tax cigarettes separately from other tobacco products, such as chewing tobacco, snuff, cigars, and pipe tobacco. States usually impose a specific per-pack excise tax on cigarettes. Taxation of other tobacco products varies by state and product, but it is often ad valorem (i.e., as a percentage of the tobacco product's retail or wholesale price).¹⁰

Table 3 shows the history of federal tax rates on cigarettes since 1951.¹¹ These taxes are set at a fixed amount on a pack of cigarettes or quantity of tobacco and thus do not increase as prices increase. Therefore, tobacco taxes have declined over time in real terms. The federal government has increased the cigarette tax rate six times in the past six decades, mostly in response to economic downturns. Moreover, in recent years there has been a lot more emphasis on the health consequences of smoking and of secondhand smoke, and this has led to more support for proposals to increase taxes on tobacco to discourage smoking and reduce consumption. The last cigarette tax hike was in April 2009, during the Great Recession, when the federal tax on cigarettes was increased from \$0.39 to \$1.01 per pack, and it was the first time that the cigarette tax rate was above its 1951 inflation-adjusted value.

TABLE 3

Alcohol State Revenues Increased in Control States, but Declined in License States

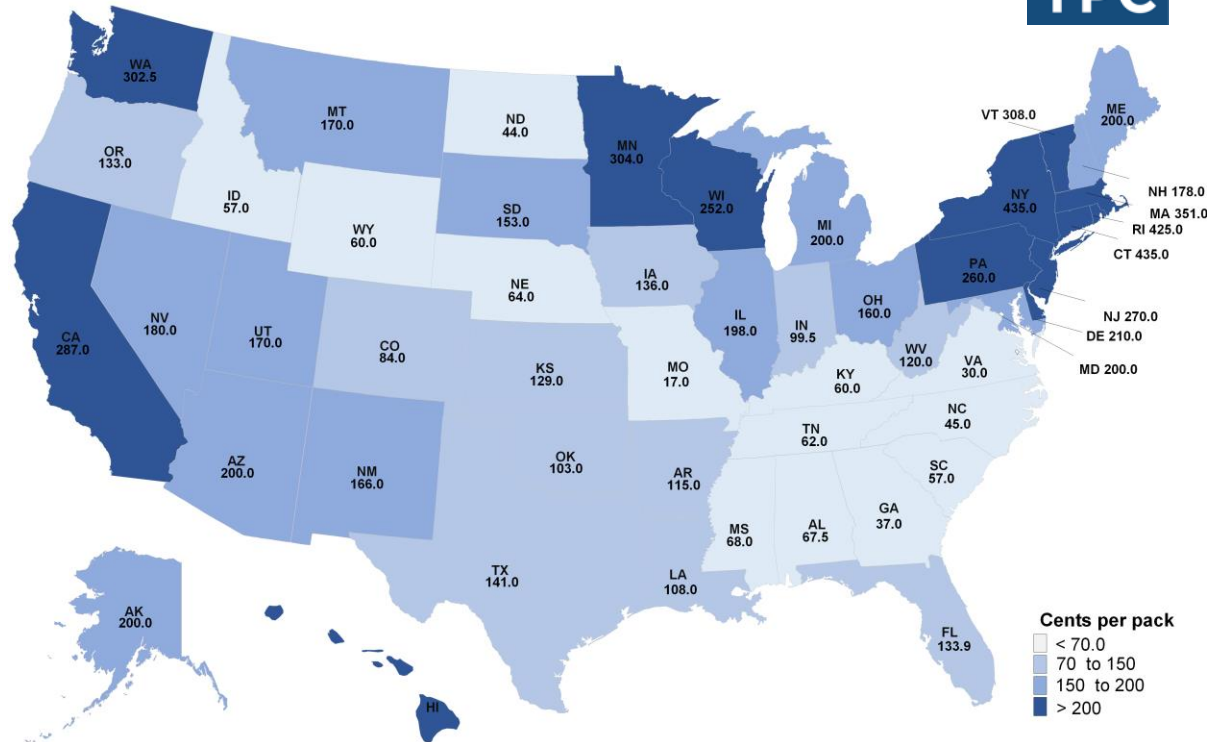
Effective tax increase date	Tax rate per pack of 20 cigarettes		GDP price index	Inflation-adjusted tax rate per pack of 20 cigarettes (adjusted to 2009 dollars)	
		Percent change			Percent change
Nov. 1, 1951	\$0.08		13.950	\$0.54	
Jan. 1, 1983	\$0.16	100%	51.051	\$0.30	-45%
Jan. 1, 1991	\$0.20	25%	65.819	\$0.29	-3%
Jan. 1, 1993	\$0.24	20%	68.917	\$0.33	15%
Jan. 1, 2000	\$0.34	42%	78.069	\$0.41	25%
Jan. 1, 2002	\$0.39	15%	81.039	\$0.46	11%
Apr. 1, 2009	\$1.01	159%	94.999	\$1.01	121%

Source: Data from Campaign for Tobacco-Free Kids. Analysis by the author.

As of July 2018, state per-pack cigarette tax rates ranged from \$0.17 in Missouri to \$4.35 in Connecticut and New York (**Figure 2**). The median state's tax rate was \$1.57 per pack. The District of Columbia's tax rate was \$4.50 per pack. States in the Northeast generally have higher cigarette tax rates; states in the South generally have lower rates. Chicago has the highest local government tax rate on a pack of cigarettes, at \$4.18 (including the county and city tax rates), and consumers

in Chicago pay the highest overall cigarette tax burden in the nation, at \$7.17 per pack when combining federal, state, and local taxes.

FIGURE 2
Wide Variation in State Cigarette Excise Tax Rates
 State cigarette excise tax rates as of July 1, 2018



Source: Data from Campaign for Tobacco-Free Kids. Analysis by the author.

One of the biggest issues related to cigarette taxes is the large variation in rates among the states and sometimes even within a state. These variations provide “incentives for tax avoidance through smuggling, legal border crossing to low-tax jurisdictions, or Internet purchasing. When taxes rise, tax paid sales of cigarettes will decline both because consumption will decrease and because tax avoidance will increase” (Stehr 2005). In addition, there are large tax disparities among various tobacco products (e.g., cigarettes, loose tobacco, small cigars, large cigars, pipe tobacco), which can trigger market shifts and thus tax avoidance (US Government Accountability Office 2012).

Even though higher tax rates on cigarettes lead to higher tax noncompliance rates, states often end up increasing taxes on cigarettes, particularly during tough economic times, in the hopes of generating more revenue. Between 2000 and 2018, 48 states increased cigarette tax rates about 133 times. The only two states that did not increase their cigarette tax rates since 2000 (or earlier) are Missouri and North Dakota. In contrast, seven states—Connecticut, Hawaii, Minnesota, New Hampshire, New Jersey, Rhode Island, and Vermont—increased their tax on cigarettes at least five times between 2000 and 2018.

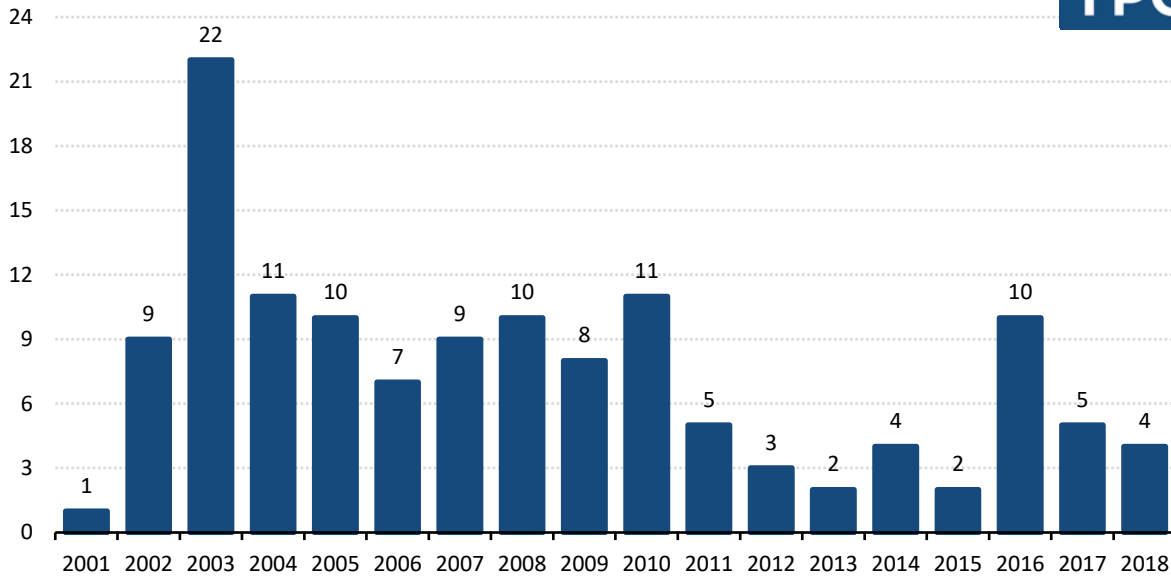
Figure 3 shows the number of states that raised cigarette tax rates by year. Despite the slow and prolonged recovery of overall state tax revenues in the immediate aftermath of the Great Recession, relatively few states turned to cigarette tax

increases. However, more than half the states increased their tax in response to the much milder 2001 recession, but this was also shortly after the enactment of Master Settlement Agreement in November 1998, which led states to focus on the negative effects of cigarettes.¹²

FIGURE 3

Fewer States Raised Cigarette Tax Rates Immediately after the Great Recession

Number of states increasing cigarette tax rates



Source: Data from Campaign for Tobacco-Free Kids. Analysis by the author.

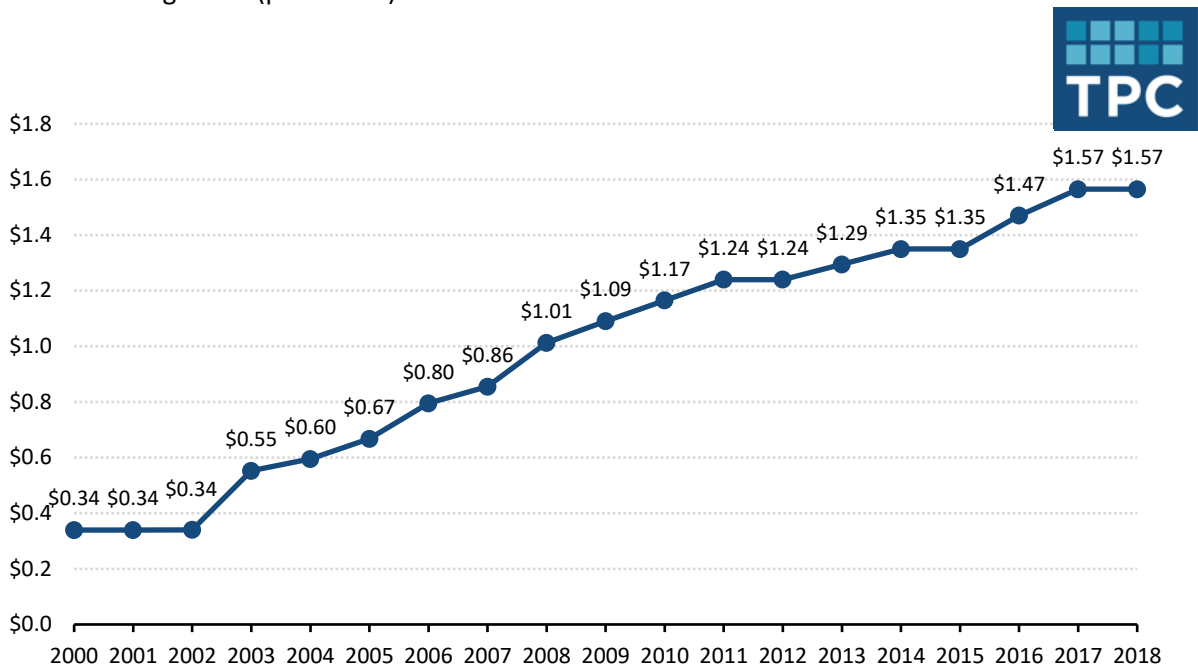
In general, states have been reluctant to raise rates on broad-based taxes as well as cigarette taxes following the Great Recession. States have reduced reliance on tax increases and have been taking other measures to close budget gaps (Boyd and Dadayan 2015). Rueben, Randall, and Boddupalli (2018) found that state’s unwillingness to raise taxes since the Great Recession might be related in part to changes in party control, with more states having Republican governors and majorities in both legislative chambers. Continued fiscal challenges, however, prompted 10 states to raise taxes on cigarettes in fiscal year 2016. Another five states raised taxes on cigarettes in fiscal year 2017, and four more states raised taxes in fiscal year 2018.

Figure 4 shows nominal cigarette tax rates for the median state between 2000 and 2018. The median cigarette tax rate increased from \$0.34 in 2000 to \$1.57 in 2018, or 361 percent in nominal terms.

FIGURE 4

Continuous Growth in Median State Cigarette Tax Rates

Median state cigarette (pack of 20) tax rate



Source: Data from Campaign for Tobacco-Free Kids. Analysis by the author.

TOBACCO TAX REVENUE TRENDS

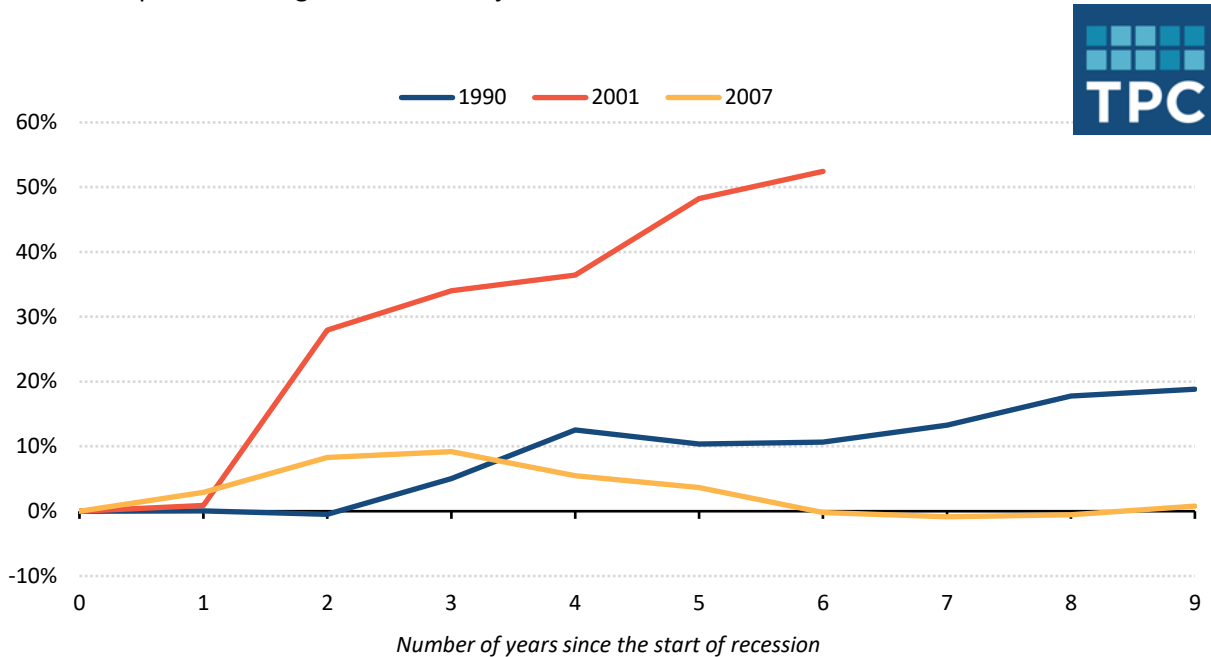
As discussed, tobacco taxes are usually calculated on a per-pack basis rather than on the price, while general sales taxes are calculated as a percentage of the sales price of a taxable item. Thus, tobacco tax revenues do not increase with inflation: when prices of other goods rise, sales taxes rise even if the number of goods sold is the same, but when cigarette prices rise, per-pack tax rates do not rise (all else equal). Therefore, tobacco tax revenues normally respond to changes in cigarette consumption and tax rates. Because cigarette consumption historically has been declining, cigarette tax revenues generally decline, except when tax rates change (Institute on Taxation and Economic Policy 2016). Cigarette tax rates also can have powerful effects on tax avoidance and evasion: when tax rates rise, taxed consumption of cigarettes in the higher tax jurisdiction may fall considerably.

Tobacco tax revenues did not decline during the Great Recession, unlike other major sources of state tax revenues, because 16 states increased tax rates. However, tobacco tax revenue grew slower than it did following the prior two recessions, in part because (as noted) fewer states raised rates. Despite continued tax rate increases, tobacco tax revenues have seen declines in recent years.

Figure 5 shows the cumulative percentage change in inflation-adjusted tobacco tax revenues since the start of a recession for the three most recent recessions. In fiscal year 2017, nine years after the start of the Great Recession, inflation-adjusted tobacco tax revenue was 0.8 percent above fiscal year 2008 levels, while overall state tax revenues were 5.5 percent above their 2008 levels. The weakness and declines in tobacco tax revenues are partially attributable to

declines in consumption: cigarette consumption in the median state declined from 55.9 packs per capita in 2008 to 40.6 packs per capita in 2017, or 27.4 percent.¹³ That dip in consumption was driven in part by higher tax rates at the federal and state levels, but it could also be related to individuals shifting consumption to other tobacco products or to e-cigarettes and vaporizers. As noted, in 2009 the federal government more than doubled the tax rate on cigarettes, raising it from \$0.39 per pack to \$1.01 per pack. The hike in tax rates led to lower consumption, as well as increased evasion and avoidance, eroding some of the gains in tobacco tax revenues.

FIGURE 5
Downward Trends in State Tobacco Tax Revenues
 Cumulative percent change in inflation-adjusted tobacco taxes



Source: Census Bureau and individual state data. Analysis by the author.

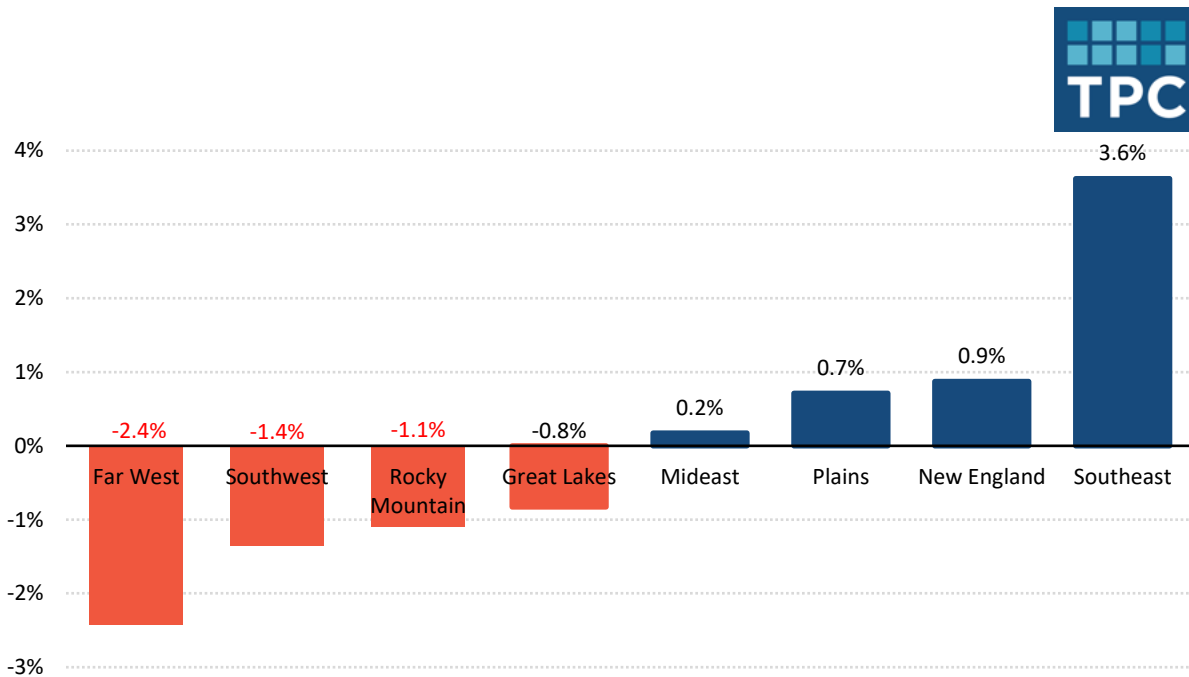
Note: Data are shown until the start of the next recession.

Tobacco tax revenue growth varies widely across the regions and among the states. **Figure 6** shows compound annual growth rates in inflation-adjusted tobacco tax revenues by region between fiscal years 2008 and 2017. The Southeast had the strongest growth, at 3.6 percent; the Far West had the largest declines, at 2.4 percent.

FIGURE 6

Wide Regional Disparity in Tobacco Revenue Growth Rates

Compound annual growth rates in inflation-adjusted tobacco taxes, FYs 2008–17



Sources: Census Bureau and individual state data. Analysis by the author.

Table 4 shows state-by-state inflation-adjusted total and per adult (age 18 and older) tobacco tax revenues for fiscal years 2008 and 2017 and growth rates for that period as well as the compound annual growth rate.¹⁴ Tobacco tax collections by state governments exceeded \$18.5 billion in fiscal year 2017, representing roughly 1.4 percent of total own-source state government general revenue. Inflation-adjusted tobacco tax revenues grew 0.8 percent between fiscal years 2008 and 2017, reflecting a compound annual growth rate of only 0.1 percent. Despite overall real revenue growth, tobacco tax revenues declined 7.8 percent per adult between fiscal years 2008 and 2017, with the corresponding compound annual growth rate declining 0.9 percent. The growth in adult population (age 18 or above) for the nation was 9.4 percent during the same period.

Table 4 breaks states into two groups: the first group consists of the states that had tax rate increases on cigarettes between fiscal years 2008 and 2017, and the second group consists of the states that had no tax rate increases over the same period. Thirty-four states increased cigarette tax rates between fiscal years 2008 and 2017 and constitute the first group; 16 states had no increases and constitute the second group.¹⁵

TABLE 4

Tobacco State Tax Revenues per Adult Resident Declined Despite Overall Growth
 Inflation-adjusted tobacco state tax revenues and growth rates, FY 2008 versus FY 2017

State	Tobacco real tax revenue (\$ millions)				Tobacco real tax revenue per adult age 18+			
	2008	2017	Percent change, 2008–17	CAGR, 2008–17	2008	2017	Percent change, 2008–17	CAGR, 2008–17
United States	18,386.1	18,531.9	0.8%	0.1%	80.1	73.8	-7.8%	-0.9%
States with tax rate increases between 2008 and 2017	13,077.5	14,056.0	7.5	0.8	78.0	77.4	(0.7)	(0.1)
Alabama	165.8	188.2	13.5	1.4	46.3	49.8	7.6	0.8
Alaska	84.0	67.6	(19.5)	(2.4)	166.5	121.9	(26.8)	(3.4)
Arkansas	168.7	228.5	35.5	3.4	77.8	99.5	27.9	2.8
California	1,186.2	778.5	(34.4)	(4.6)	43.5	25.6	(41.0)	(5.7)
Connecticut	381.7	380.3	(0.4)	(0.0)	140.4	134.3	(4.3)	(0.5)
Delaware	143.0	112.0	(21.7)	(2.7)	211.0	148.7	(29.6)	(3.8)
Florida	507.4	1,203.0	137.1	10.1	35.0	71.7	105.0	8.3
Hawaii	119.6	124.1	3.7	0.4	116.0	110.9	(4.4)	(0.5)
Illinois	701.7	781.5	11.4	1.2	73.1	79.0	8.0	0.9
Indiana	600.7	434.4	(27.7)	(3.5)	124.8	85.4	(31.6)	(4.1)
Kansas	135.2	138.5	2.4	0.3	64.6	63.0	(2.5)	(0.3)
Kentucky	204.1	243.0	19.1	2.0	62.4	70.6	13.0	1.4
Louisiana	167.2	314.2	87.9	7.3	50.3	88.1	75.3	6.4
Maryland	430.4	386.9	(10.1)	(1.2)	99.5	82.7	(16.9)	(2.0)
Massachusetts	499.7	619.4	24.0	2.4	99.2	112.8	13.8	1.4
Minnesota	485.0	691.3	42.5	4.0	122.4	161.9	32.3	3.2
Mississippi	66.7	144.8	117.1	9.0	30.5	63.6	108.7	8.5
Nevada	154.4	206.0	33.4	3.3	77.6	89.9	15.9	1.7
New Hampshire	194.2	203.1	4.6	0.5	190.4	186.4	(2.1)	(0.2)
New Jersey	902.7	697.6	(22.7)	(2.8)	136.1	100.7	(26.0)	(3.3)
New Mexico	55.0	77.9	41.6	3.9	36.7	48.5	32.2	3.2
New York	1,113.2	1,228.5	10.4	1.1	75.0	79.4	5.8	0.6
North Carolina	283.8	292.2	3.0	0.3	40.2	36.7	(8.8)	(1.0)
Ohio	1,087.4	980.5	(9.8)	(1.1)	124.3	108.3	(12.9)	(1.5)
Oregon	291.1	247.4	(15.0)	(1.8)	100.3	75.6	(24.6)	(3.1)
Pennsylvania	1,173.1	1,401.3	19.5	2.0	119.8	138.4	15.5	1.6
Rhode Island	130.4	141.5	8.6	0.9	158.0	166.6	5.4	0.6
South Carolina	35.5	26.4	(25.8)	(3.3)	10.3	6.7	(34.5)	(4.6)
Tennessee	311.5	256.8	(17.6)	(2.1)	65.5	49.4	(24.7)	(3.1)
Utah	71.2	114.9	61.4	5.5	39.0	52.8	35.5	3.4
Vermont	67.8	76.7	13.2	1.4	137.8	151.1	9.6	1.0
Washington	472.8	430.0	(9.1)	(1.0)	94.5	74.5	(21.2)	(2.6)
West Virginia	131.1	194.6	48.4	4.5	90.4	134.4	48.7	4.5
Wisconsin	555.2	644.5	16.1	1.7	129.2	142.9	10.6	1.1
States without tax rate increases between 2008 and 2017	5,308.6	4,476.0	(15.7)	(1.9)	85.8	64.5	(24.9)	(3.1)
Arizona	465.9	310.6	(33.3)	(4.4)	100.2	57.4	(42.7)	(6.0)
Colorado	252.4	200.0	(20.8)	(2.6)	68.5	46.0	(32.9)	(4.3)
Georgia	274.0	220.8	(19.4)	(2.4)	39.0	27.9	(28.4)	(3.6)
Idaho	62.6	50.9	(18.8)	(2.3)	56.3	39.9	(29.2)	(3.8)
Iowa	287.7	221.1	(23.2)	(2.9)	125.6	91.7	(27.0)	(3.4)
Maine	172.1	144.2	(16.2)	(1.9)	164.2	133.3	(18.8)	(2.3)
Michigan	1,230.6	1,038.6	(15.6)	(1.9)	163.5	133.2	(18.5)	(2.2)
Missouri	132.3	105.6	(20.2)	(2.5)	29.4	22.3	(24.1)	(3.0)
Montana	107.2	85.1	(20.6)	(2.5)	142.5	103.3	(27.5)	(3.5)
Nebraska	87.3	61.9	(29.1)	(3.8)	65.0	42.9	(34.0)	(4.5)
North Dakota	27.5	28.8	4.9	0.5	53.9	49.8	(7.6)	(0.9)
Oklahoma	241.3	229.9	(4.8)	(0.5)	87.5	77.3	(11.6)	(1.4)
South Dakota	71.4	61.8	(13.5)	(1.6)	119.2	94.1	(21.1)	(2.6)
Texas	1,654.6	1,522.8	(8.0)	(0.9)	93.8	72.7	(22.6)	(2.8)
Virginia	210.4	171.2	(18.6)	(2.3)	35.1	26.0	(26.0)	(3.3)
Wyoming	31.3	22.7	(27.5)	(3.5)	75.5	51.2	(32.1)	(4.2)

Source: Census Bureau and individual state data. Analysis by the author. Notes: CAGR = compound annual growth rate.

States that increased cigarette tax rates between fiscal years 2008 and 2017 have seen growth in total inflation-adjusted tobacco tax revenues of 7.5 percent; revenues declined 15.7 percent in the states that did not raise cigarette tax rates during the same period. Inflation-adjusted per-adult tobacco tax revenues declined in both groups of states: the decline was 0.7 percent in states with tax rate increases and 24.9 percent in states with no tax rate increases.

Total inflation-adjusted tobacco tax revenues declined in 27 states; per-adult revenues declined in 32 states. The declines were particularly pronounced in the states that did not implement tax rate increases on cigarettes between fiscal years 2008 and 2017. Tobacco tax revenues declined in 15 of the 16 states that did not raise tax rates on cigarettes, ranging from a 4.8 percent decline in Oklahoma to a 33.3 percent decline in Arizona. North Dakota was the only state that did not raise cigarette tax rates but saw growth of 4.9 percent in overall tobacco tax revenues. The growth in North Dakota was likely affected by cross-border purchases because the state's tax rate on cigarettes is \$0.44 per pack, much lower than the tax rates on cigarettes in all three border-states: \$3.04 in Minnesota, \$1.70 in Montana, and \$1.53 in South Dakota. In addition, growth in tobacco tax revenues in North Dakota could also be related to a surge in population associated with increased economic activity related to natural gas production. Tobacco tax revenues per adult declined 7.6 percent in North Dakota between fiscal years 2008 and 2017, while the state adult population (age 18 and older) grew 13.5 percent in the same period.

Overall tobacco tax revenues also grew in 22 of the 34 states that increased tax rates on cigarettes between fiscal 2008 and 2017, while revenues declined in the remaining 12 states. Tobacco tax revenue growth was particularly strong in Florida, where revenues grew from \$0.5 billion in 2008 to \$1.2 billion in 2017, or 137.1 percent. The strong growth in Florida is largely attributable to legislated increases in tax rates on cigarettes and other tobacco products. If we exclude Florida, inflation-adjusted tobacco tax revenues for the rest of the nation shows a decline of 3.1 percent, between fiscal years 2008 and 2017.

The declines in tobacco tax revenues in recent years combined with the declines in cigarette consumption may have been caused by consumers making healthier choices and quitting smoking. However, some consumers may have simply shifted to using e-cigarettes. E-cigarettes have been gaining in popularity, perhaps because most states do not tax them.

E-CIGARETTES

Electronic cigarettes (e-cigarettes) and vapor products were developed in China and introduced to the US market in 2007. An e-cigarette refers to the tool used to inhale an aerosol that contains nicotine, while vaping products include both tools used to inhale (e.g., a pipe, vape pen) and the cartridges that contain the liquid solution with nicotine and other chemicals.¹⁶ Understanding and examining how states should tax or regulate e-cigarettes depends critically on whether they are seen as a device to help people stop smoking or as an alternative product. In other words, are e-cigarettes more like Nicorette or more like loose tobacco? The answer to this question affects if and how e-cigarettes should be subject to a sin tax.

As traditional cigarette consumption has declined in the US, the use of e-cigarettes has increased. According to a study by Wang and colleagues (2018), e-cigarette product sales significantly increased between 2012 and 2016, while prices generally decreased. E-cigarettes are not currently regulated or taxed at the federal level because Congress has not enacted a specific tax for e-cigarettes (US Government Accountability Office 2015).

Absent federal regulation, several states and localities have passed legislation that regulates and taxes the sale and use of e-cigarettes and vapor products. In 2010, Minnesota was the first state to include vapor products in its definition of “other tobacco products,” and the state began taxing them in 2012. As of September 2019, the District of Columbia and 12 states—California, Delaware, Illinois, Kansas, Louisiana, Minnesota, New Jersey, New Mexico, North Carolina, Pennsylvania, Vermont, and West Virginia—had enacted taxes on vapor products such as e-cigarettes. Seven other states—Connecticut, Maine, Nevada, New York, Ohio, Washington, and Wisconsin—recently enacted legislation to tax e-cigarettes that will take effect in the coming months. Some localities in Alaska, Illinois, and Maryland also tax vapor products for e-cigarettes.¹⁷

TABLE 5
E-Cigarette Excise Tax Rates and Effective Dates as of September 2019

State	Effective date	Tax rate
California	April 2017	59.27% of wholesale
Connecticut	October 2019	10% of wholesale; \$0.40/ml on e-juice
Delaware	January 2018	\$0.05/ml
Illinois	July 2019	15% of wholesale
Kansas	January 2017	\$0.05/ml
Louisiana	August 2015	\$0.05/ml
Maine	January 2020	43% of wholesale
Minnesota	October 2012	95% of wholesale
Nevada	January 2020	30% of wholesale
New Jersey	September 2018	10% of retail; \$0.10/ml on e-juice
New Mexico	July 2019	12.5% of wholesale; \$0.50 per cartridge
New York	December 2019	20% of wholesale
North Carolina	June 2015	\$0.05/ml
Ohio	October 2019	\$0.10/ml
Pennsylvania	October 2016	40% of wholesale
Vermont	July 2019	92% of wholesale
Washington	October 2019	\$0.09/ml; \$0.27/ml on e-juice
West Virginia	July 2016	\$0.075/ml
Wisconsin	October 2019	\$0.05/ml
Localities	Effective date	Tax rate
District of Columbia	2015	96% of wholesale
Juneau Borough, AK	2015	45% of wholesale
Mat-Su Borough, AK	2015	55% of wholesale
NW Arctic Borough, AK	2015	45% of wholesale
Petersburgh, AK	2015	45% of wholesale
Chicago, IL	2015	\$1.50/container + \$1.20/ml
Cook County, IL	2015	\$0.20/ml
Montgomery County, MD	2015	30% of wholesale

Source: State government agencies.

Some states tax vapor products ad valorem (i.e., as a percentage of the wholesale price of the product); others tax them per unit (i.e., on each milliliter of e-liquid or each milligram of nicotine; **Table 5**). The main advantage of per-unit taxation is that revenues are predictable because the per-unit tax is not sensitive to changes in price, while the main disadvantage is that the tax rate does not automatically adjust to inflation and, absent tax rate increases, inflation will erode the value of the tax. The main advantage of ad-valorem taxation is that the tax automatically adjusts with price

changes, while the main disadvantage is that ad-valorem tax revenues are hard to predict because of changes in the underlying product prices (this is especially important for e-cigarettes because prices have declined in recent years). E-cigarette tax rates vary widely. Among the jurisdictions that tax the wholesale value, the District of Columbia has the highest rate at 96 percent, followed by Minnesota at 95 percent. Chicago levies the highest per-container tax at \$1.50, in addition to \$1.20 per milliliter.

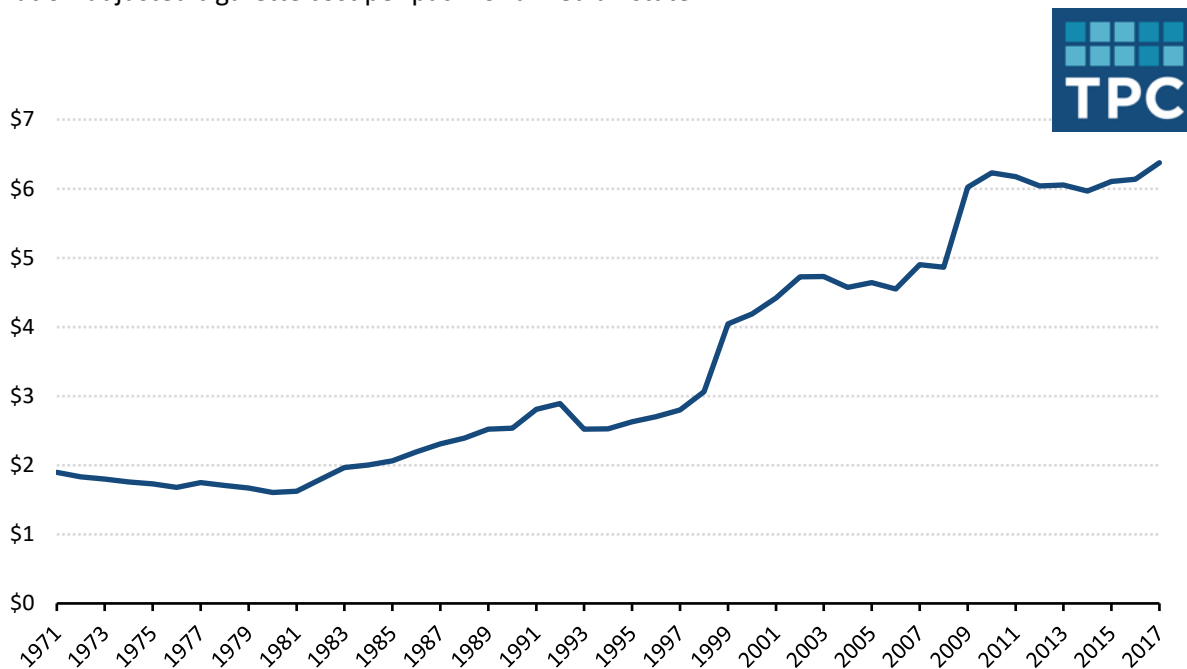
E-cigarettes are still evolving as technology changes. Limited information is available about the e-cigarette market and actual tax revenues, which makes it hard to accurately forecast the revenue potential from taxing e-cigarettes. Moreover, increased regulation would potentially have a significant impact on the e-cigarette market. The wide disparities in tax rates on e-cigarettes could potentially lead to e-cigarette smuggling and tax evasion, and the high tax rates could lead to a larger black market, but it seems clear that not taxing e-cigarettes while taxing tobacco might encourage a shift in consumption toward e-cigarettes.

A CLOSER LOOK AT CIGARETTES: COST, CONSUMPTION, AND SMUGGLING

Median cigarette prices have seen periods of growth and stagnation between 1971 and 2017 (Figure 7), while cigarette-taxed consumption has seen steady declines since 1980 (Figure 8). In 1971, the inflation-adjusted cigarette cost was \$1.90 per pack in the median state, while in 2017 the inflation-adjusted cigarette cost was \$6.38 per pack for the median state.

FIGURE 7

The Real Cost of a Pack of Cigarettes Has Increased over Time
Inflation-adjusted cigarette cost per pack for a median state

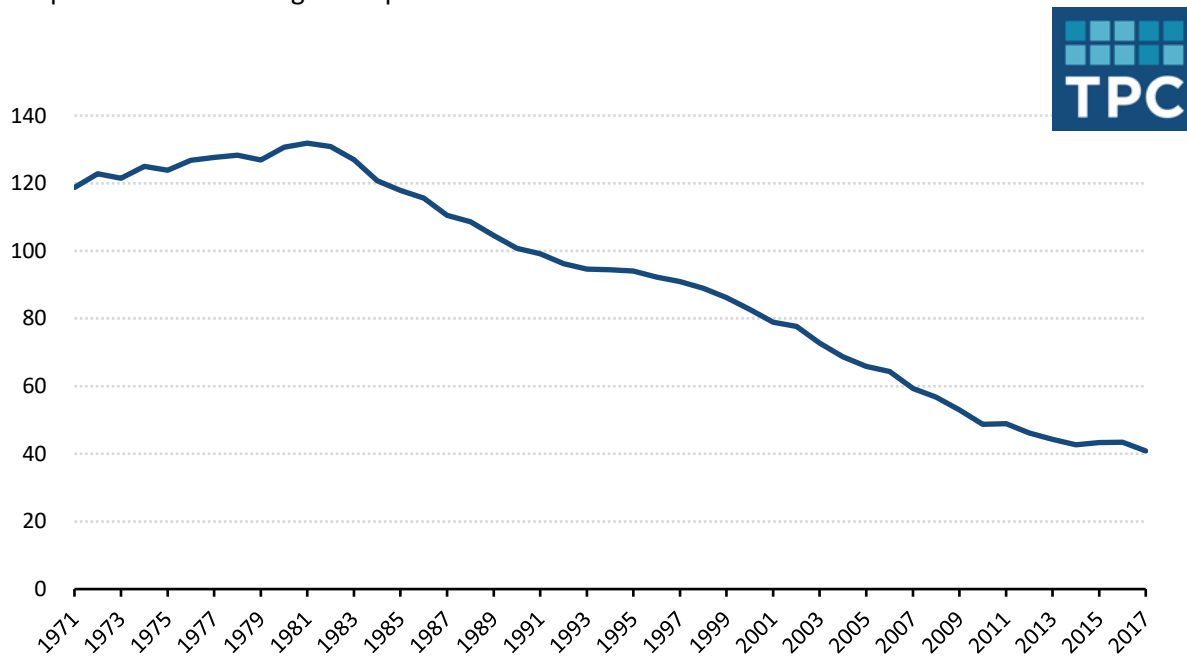


Source: Orzechowski and Walker, The Tax Burden on Tobacco: 1970-2017. Analysis by the author.

The inflation-adjusted cigarette cost per pack was relatively stagnant between 1971 and the mid-1980s, but it saw substantial growth between the late 1980s and 2010. According to the Campaign for Tobacco-Free Kids, “From the beginning of 1998 through 2002, the major cigarette companies increased the prices they charge by more than \$1.25 per pack (but also instituted aggressive retail-level discounting for competitive purposes and to reduce related consumption declines). In January 2003, Philip Morris instituted a 65-cent per pack price cut for four of its major brands, to replace its retail-level discounting and fight sales losses to discount brands, and R.J. Reynolds followed suit.”¹⁸ The real price of a pack of cigarettes has been relatively constant between 2010 and 2017.

Per capita sales of taxed cigarette packs have seen steep declines over the past four decades. The declines in taxed consumption are partially attributable to declines in smoking prevalence, but they are also attributable to tax avoidance and evasion. Further, many state and local governments have enacted smoking bans in public spaces over the past two decades, which has also reduced cigarette consumption.

FIGURE 8
Steady Decline in Cigarette Consumption since the 1980s
 Per capita sales of taxed cigarette packs



Source: Orzechowski and Walker, *The Tax Burden on Tobacco, 1970-2017*. Analysis by the author.

Table 6 shows state rankings based on five measures: (1) average cost per pack of 20 cigarettes, (2) cigarette-taxed consumption (pack sales per capita), (3) cigarette use for adult population (age 18 and older), (4) cigarette state tax rate, and (5) estimated smuggling rate.¹⁹ Of particular interest in this table is the estimated smuggling rate.²⁰ The estimates reflect both commercial smuggling and casual avoidance and evasion of cigarette taxes.²¹ In general, higher smuggling rates are associated with higher state cigarette tax rates and a higher average cost of cigarettes per pack. Conversely, states with a lower average cost of cigarettes (or lower state tax rates) have lower smuggling rates. Other factors that influence the amount of smuggling include tax rates in border states, how much of a state’s population is located near borders of states with lower tax rates, and the availability of cigarettes from Indian reservations. States bordering Mexico and Canada also have higher smuggling rates (Chaloupka, et al. 2015, LaFaive, Nesbit and Drenkard 2016, Lovenheim 2008).

As shown in **Table 6**, in 2017 New York had the highest average retail cost of cigarettes in the nation at \$10.38 per pack as well as the highest state tax rate on cigarettes at \$4.35. Consequently, New York had the largest estimated inbound smuggling rate in the nation. On the other hand, New Hampshire had the highest sales of cigarettes per capita in the nation, likely driven by outbound smuggling, which was estimated to be the highest in the nation. In New Hampshire, the prevalence of cigarette smoking among adults was 15.7 percent in 2017, and it ranked 33rd among the states in its reported cigarette use rate. Outbound smuggling is the most likely explanation for the discrepancy between reported consumption and observed purchases.

TABLE 6

State Rankings, 2017: Cigarette Cost, Consumption, Use, State Tax Rate, and Smuggling

State	Average retail cost per pack (\$)	Rank	Cigarette pack sales per capita	Rank	Cigarette use, age 18+ (%)	Rank	Cigarette state tax rate (\$)	Rank	Estimated smuggling rate (%)	Rank
Median	\$6.38		40.9		17.2%		\$1.57		8.5%	
Alabama	5.45	39	58.1	12	20.9	10	0.68	39	(2.5)	34
Alaska	9.25	5	32.9	36	21.0	9	2.00	13	no data	
Arizona	7.10	15	22.5	46	15.6	35	2.00	13	39.3	5
Arkansas	5.96	32	52.4	16	22.3	5	1.15	33	6.3	26
California	7.66	11	20.5	47	11.3	49	2.87	9	44.6	2
Colorado	5.70	36	34.5	33	14.6	39	0.84	37	8.8	23
Connecticut	9.25	4	26.5	42	12.7	48	3.90	2	21.4	11
Delaware	6.62	20	72.6	5	17.0	27	1.60	24	(40.6)	46
Florida	6.01	31	40.6	26	16.1	29	1.34	29	15.2	16
Georgia	5.01	47	45.6	20	17.5	20	0.37	48	(4.8)	36
Hawaii	9.09	6	25.1	43	12.8	47	3.20	5	no data	
Idaho	5.40	40	39.0	28	14.3	41	0.57	44	(26.8)	45
Illinois	7.55	13	30.7	38	15.5	36	1.98	18	17.2	15
Indiana	5.67	37	61.2	7	21.8	7	1.00	36	(18.8)	42
Iowa	6.18	28	45.0	21	17.1	26	1.36	28	10.6	22
Kansas	6.01	30	34.5	33	17.4	22	1.29	31	21.8	10
Kentucky	5.18	45	85.6	2	24.6	2	0.60	42	(9.3)	38
Louisiana	5.84	35	57.6	13	23.1	3	1.08	34	11.8	20
Maine	7.07	16	49.6	19	17.3	23	2.00	13	8.3	25
Maryland	6.87	17	29.2	39	13.8	43	2.00	13	11.4	21
Massachusetts	9.40	3	24.3	44	13.7	44	3.51	4	25.0	8
Michigan	6.72	19	44.4	22	19.3	13	2.00	13	20.6	14
Minnesota	8.66	7	28.3	40	14.5	40	3.04	7	34.6	6
Mississippi	5.21	43	59.4	10	22.2	6	0.68	38	3.3	29
Missouri	4.82	50	79.5	4	20.8	11	0.17	50	(17.1)	40
Montana	6.54	21	41.1	25	17.2	24	1.70	21	21.3	12
Nebraska	5.50	38	43.4	23	15.4	37	0.64	40	(0.7)	32
Nevada	6.45	24	36.3	31	17.6	19	1.80	19	(11.9)	39
New Hampshire	6.45	25	87.3	1	15.7	33	1.78	20	(65.0)	47
New Jersey	7.58	12	27.3	41	13.7	44	2.70	10	(0.5)	31
New Mexico	6.53	22	24.0	45	17.5	20	1.66	23	40.8	4
New York	10.38	1	13.3	50	14.1	42	4.35	1	55.4	1
North Carolina	4.98	48	54.5	15	17.2	24	0.45	46	no data	
North Dakota	4.97	49	65.2	6	18.3	18	0.44	47	(18.7)	41
Ohio	6.31	26	50.1	18	21.1	8	1.60	24	8.5	24
Oklahoma	5.93	33	60.5	9	20.1	12	1.03	35	1.0	30
Oregon	6.12	29	38.3	30	16.1	29	1.32	30	4.2	28
Pennsylvania	7.96	10	40.5	27	18.7	16	2.60	11	14.7	17
Rhode Island	9.43	2	34.2	35	14.9	38	3.75	3	14.4	18
South Carolina	5.14	46	55.5	14	18.8	15	0.57	44	(1.4)	33
South Dakota	6.46	23	41.6	24	19.3	13	1.53	26	13.5	19
Tennessee	5.21	44	59.2	11	22.6	4	0.62	41	(2.8)	35
Texas	6.24	27	31.9	37	15.7	33	1.41	27	25.2	7
Utah	6.79	18	18.4	48	8.9	50	1.70	21	22.1	9
Vermont	8.41	8	36.3	31	15.8	32	3.08	6	4.8	27
Virginia	5.22	42	60.8	8	16.4	28	0.30	49	(24.2)	44
Washington	8.18	9	17.0	49	13.5	46	3.03	8	42.8	3
West Virginia	5.88	34	82.2	3	26.0	1	1.20	32	(5.8)	37
Wisconsin	7.54	14	39.0	28	16.0	31	2.52	12	21.2	13
Wyoming	5.33	41	52.4	16	18.7	16	0.60	42	(22.4)	43

Sources: Orzechowski and Walker, The Tax Burden on Tobacco, 1970–2017 (average cost per pack and cigarette pack sales per capita), Centers for Disease Control and Prevention (cigarette use), Campaign for Tobacco-Free Kids (cigarette state tax rate), and Mackinac Center for Public Policy (estimated smuggling rate). Analysis by the author.

Notes: For estimated smuggling rates, positive percentages indicate inbound smuggling (into the state), and negative percentages indicate outbound smuggling (out of the state). The Mackinac Center for Public Policy noted that the estimated smuggling rates were excluded for North Carolina because it was the source state for “commercial smuggling” calculations, while Hawaii and Alaska were excluded because of the challenges of modeling states that are noncontiguous.

AVAILABILITY, EXPANSION, AND REVENUES

Availability of State-Sanctioned Gambling Activities

Gambling has a long history in the United States, going back to colonial times. However, it was not until the early 20th century that states started legalizing some forms of gambling, such as parimutuel betting.

State-sanctioned gambling has expanded over the past four decades. All states except Hawaii and Utah collect revenue from one or more forms of gambling. In May 2019, 43 states allowed parimutuel betting, 45 states had legalized lotteries, 21 states had legalized commercial casino operations, and 12 states had racinos.

In Alaska, gambling operations are legal only on Native American reservations, but, another 28 states allow Native American casinos as well as some other type of sanctioned gambling activity. Native American casinos are run by tribes and operated on reservations. In 1987, the Supreme Court recognized that Native American tribal entities could operate gaming facilities free of state regulation. A year later, in 1988, Congress enacted the Indian Gaming Regulatory Act to provide terms and conditions for gambling on Indian reservations. States usually do not have authority to regulate or profit from these Indian casinos. However, some states have negotiated special revenue-sharing agreements with the tribes. Currently, there are around 400 Native American casinos operated by over 200 tribes.

Box 1 defines the different types of state sanctioned gambling.

BOX 1

Glossary of Gambling

Commercial casino: A private gambling facility that is on land, a riverboat, or a dock and hosts slot machines, video games, card games, or other games of chance such as keno, craps, and bingo. Nevada was the first state to legalize operations of commercial casinos in 1931.

Fantasy sports: A type of online game where participants assemble fantasy or virtual teams and compete against each other based on actual professional players' or teams' statistics.

iGaming (internet gambling): Online casino gambling (including online poker). Nevada was the first state to legalize casino-style online gambling in 2013, followed by Delaware and New Jersey.

Lottery: Games that allow patrons to guess winning numbers, or otherwise draw "lots" (such as those on scratch-off tickets) for cash prizes. New Hampshire was the first state to legalize modern-day lottery operations in 1964. (Several southern states authorized lotteries in the late 1800s to finance Reconstruction, but they were subsequently ended.) Some states enacted legislation that allows the sale of lottery tickets over the internet.

Native American casinos: Gambling businesses that are run by tribes and operate on Native American reservations. States usually do not have authority to regulate or profit from these casinos. However, some states have negotiated special revenue-sharing agreements with the tribes.

Parimutuel wagering: Parimutuel wagering usually refers to gambling on an event such as horse racing, dog racing, jai-alai, or another sporting event with a relatively short duration in which participants finish in a ranked order. The amount wagered determines the payouts to the winners.

Racino: A hybrid of a casino and a racetrack. In addition to racing, racinos also host other gambling activities such as slot machines, video lottery terminals, and table games. The first racino began operations in 1992, when Rhode Island legalized placement of video lottery terminals at racetracks.

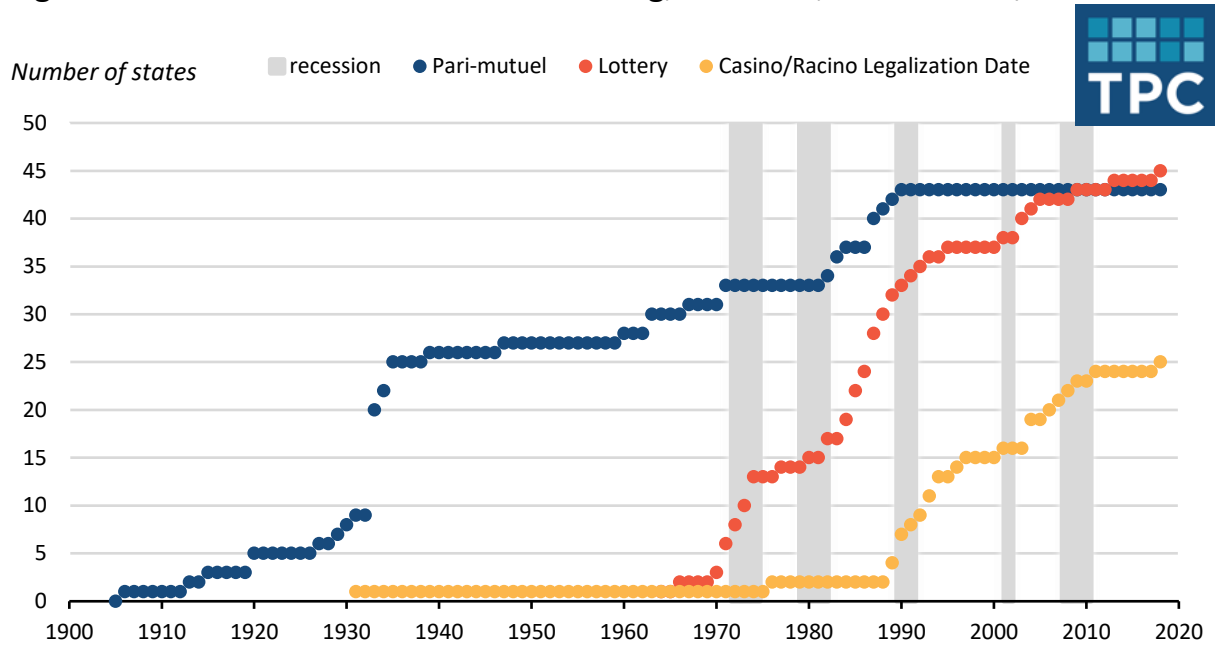
Sports betting: Sports betting refers to the activity of predicting sports results and placing a wager on the outcome. On May 14, 2018, the Supreme Court overturned the federal restriction on state authorization of legal sports gambling. Several states have legalized sports betting since then.

Video gaming devices / video lottery terminals (VLTs): Special gaming machines that can be programmed to carry a variety of games, such as video poker. Some states count revenues generated from VLTs as lottery revenue; other states count it as part of racino or casino revenues.

Figure 9 shows the legalization timeline for parimutuel betting, lotteries, and casinos or racinos. In general, it takes months or even years of debate before any type of gambling activity is legalized and becomes fully operational. Parimutuel betting operations expanded mostly in the 1930s and in response to the Great Depression "as a form of economic stimulus" (Rodríguez, Humphreys and Simmons 2017). Lottery operations expanded in the 1970s and 1980s, and the expansions appear to be mostly in response to the 1973 recession and the 1980 double-dip recessions. Most states legalized casino and racino operations since the 1990s, partly in response to the preceding three recessions. The Indian Gaming Regulatory Act of 1988 and legalization of tribal gambling also encouraged some state governments to consider legalizing commercial casinos (Calcagno, Walker and Jackson 2010). Finally, on May 14, 2018, the Supreme Court overturned the federal

restriction on state authorization of legal sports gambling. Since then, 10 states have legalized and started operations of sports betting, seven other states have passed bills to legalize sports betting, and another 26 states have introduced such bills.

FIGURE 9
Legalization Timeline for Parimutuel Betting, Lotteries, and Casinos/Racinos



Source: Individual state data.

Notes: Recession periods shown for the last five recessions only.

The history of parimutuel betting goes back to colonial times, but the first state to formally legalize it was Kentucky in 1906, with a few other states such as New York and Nevada following shortly after. Parimutuel betting was legalized at some point in time in about 43 states, but a few states had either repealed or ceased operations of it. In 2018, for example, lawmakers in Tennessee repealed the Racing Control Act of 1987, which provided the regulatory framework for parimutuel betting.²² In addition, Kansas ceased parimutuel betting operations in 2009 (Kansas Racing and Gaming Commission 2017).

New Hampshire was the first state, in 1964, followed by New York in 1967, to legalize modern-day lottery operations. Overall, the Northeastern states were early adopters of lottery operations, while Southern states generally adopted lotteries much later. By 1990, 32 states had legalized lotteries. Another five states legalized lottery operations between 1990 and 2000 and eight more states did so since 2001. Wyoming and Mississippi were the latest states to legalize lottery operations in 2013 and 2018, respectively.

Commercial casino and racino gambling are now legal in 25 states and operational in 24 states. Overall, casino and racino operations are more common in the Southern and Midwestern states and far less common in the West. Only three Western states—Colorado, Nevada, and New Mexico—have state-regulated casino or racino operations, but several Western states have Indian casinos (which are regulated by tribal governments). Nationally, nine states allow operations of both casinos and racinos: Indiana, Iowa, Louisiana, Maryland, Massachusetts, New York, Ohio, Pennsylvania, and West

Virginia. Nevada was the first state to legalize casino operations in 1931. No other state allowed commercial casino gambling until New Jersey passed legislation in 1976. South Dakota and Iowa were the next two states to legalize casinos in 1989. Another nine states legalized casinos between 1990 and 2007. Finally, eight more states have legalized casino operations since 2008, mostly in response to fiscal stress caused by the Great Recession. Arkansas is the latest state to legalize casino operations, in 2018. In general, northeastern states (except for New Jersey) have been late adopters of casino and racino operations.

The expansion of lotteries and casinos contributed to declines in revenues from parimutuel betting (e.g., on horse and dog racing). Therefore, many racetracks were converted into “racinos”: racetracks that host electronic gaming devices such as slot machines or VLTs. In recent years, racinos in some states started operating table games in hopes of generating more revenue. Rhode Island was the first state to legalize racino operations in 1992, and 13 states have since followed suit. Maine legalized racino operations in 2004 and casino operations in 2010, but in 2012 converted its only racino facility into a casino. Rhode Island, the frontrunner of racino states, has also converted its racinos into casinos.

Why Do States Legalize and Expand Gambling?

States have been legalizing and expanding gambling activities in the past four decades. When state finances are constrained, legislators often turn to gambling to attract tourism and keep gambling residents and gambling revenue in-state (Calcagno, Walker and Jackson 2010, Etzel 2012, Furlong 1998). State voters and legislators may also turn to casinos and racinos in hopes of stimulating economic development and revitalizing distressed economies. However, there is no consensus on whether the operation of casinos and racinos leads to improved economic development (Calcagno, Walker and Jackson 2010, Gold 1993, Wohlenberg 1992). Some studies have concluded that casinos and racinos create jobs and improve the regional economies in which they operate (Cotti 2008, Rephann, et al. 1997, Walker and Jackson 2013). Other studies have found that casinos and racinos simply alter the mix of employment and income among industries and do not lead to real economic growth (Felsenstein, Littlepage and Klacik 1999, Truitt 1996).

Several states legalized and expanded various forms of gambling to help balance budgets in the aftermath of the Great Recession and in hopes of generating new streams of tax revenues without increasing tax rates on income or sales. Three states—Arkansas, Mississippi, and Wyoming—legalized lottery operations. Eight states—Arkansas, Maine, Maryland, Massachusetts, New York, Ohio, Rhode Island, and West Virginia—legalized commercial casino operations. Maryland and Ohio also legalized racino operations. Several states legalized poker and other table games at their casinos and racinos, while others authorized online lottery operations (i.e., the sale of lottery tickets over the internet). New York and nine other states agreed to create a new multistate lottery. A few states also introduced new forms of gambling such as video games, sports betting, iGaming, and fantasy sports betting. Finally, several states are considering legalization of sports betting since the Supreme Court overturned the federal restriction on state authorization of legal sports gambling in May 2018. Sports betting is currently legal and operational in seven states and in the process of legalization in several other states.

The rapid expansion and geographic proliferation of gambling activities have led to increased interstate competition for the gambling market.

In addition to enacted proposals, gambling expansion proposals have failed in a few states. For example, officials in Hawaii, one of two states with no state-sanctioned gambling, have introduced several measures since 2009 for the legalization of gambling, but those measures have not been enacted.²³ However, officials in Hawaii are once again debating gambling legalization,²⁴ and Hawaii may leave Utah alone as the sole nongambling state.

Role of Gambling Revenues in State Budgets

An analysis of annual state and local government gambling revenue²⁵ data from lotteries, casinos, racinos, video gaming machines, and parimutuels shows that with a few notable exceptions these revenues are a minor source of funding for most states.²⁶

In fiscal year 2017, state and local governments collected \$29.6 billion from these major types of gambling. Approximately 64.0 percent came from lottery operations, 30.5 percent came from casinos and racinos, 5.0 percent came from video games, and 0.5 percent came from parimutuel wagering. States can also raise revenue from Indian casinos. However, states cannot tax Indian casinos directly, and they instead raise revenues pursuant to negotiated revenue-sharing agreements with the tribes. Revenues from Indian casinos are not reported comprehensively and are considerably less than revenue from state-regulated casinos. This report focuses on state-regulated casinos only.

Gambling revenue plays a relatively small but politically important role in most state budgets. In fiscal year 2017, gambling revenue from major sources represented 2.2 percent of total state own-source general revenues. In 33 of the 47 states that have gambling operations, gambling revenue represented less than 3.0 percent of state own-source general revenues, and in another 10 states they were less than 5.0 percent of state own-source general revenues. The remaining four states—Louisiana, Nevada, Rhode Island, and West Virginia—had much higher reliance on gambling revenue, and revenues from casinos and racinos provided the largest share of total gambling revenue in all of these four states.

We analyzed two related measures of gambling tax and fee revenue in each state, including the state's share of the nationwide total and revenue per resident age 18 and older (**Table 7**). States vary widely in their shares of nationwide gambling revenue. Gambling revenues in five states—California, Florida, Illinois, New York and Pennsylvania—are a relatively large share of the national total, at 5.0 percent or above, but those figures are mostly driven by the states' comparatively high populations and level of economic activity. In fact, gambling revenue per resident is below the national average in California and Florida. On the other hand, four smaller states—Delaware, Rhode Island, South Dakota and West Virginia—constitute relatively small shares of the national total but rank well above national averages in gambling revenue per resident.

Nationwide, gambling revenue amounted to \$118 per adult resident (age 18 and older) in 2017.²⁷ In five states—Delaware, Louisiana, Nevada, Rhode Island, and West Virginia—gambling revenues amounted to over \$250 per adult resident. In 23 states, gambling revenue was \$100 or less per adult resident, and in another 19 states it was less than \$250. Differences across states reflect different degrees of gambling tourism, different tax structures, and different preferences for gambling options.

TABLE 7

Gambling Revenue: Ranking the States

State	State share of gambling revenue, FY 2017		Gambling revenue per resident age 18+	
	Percent	Rank	Dollars	Rank
United States	100.0%		\$117.8	
Alabama	0.0	47	0.3	47
Alaska	-		-	
Arizona	0.7	30	36.6	40
Arkansas	0.3	38	38.2	39
California	5.3	5	51.4	35
Colorado	0.9	28	57.8	34
Connecticut	1.1	25	118.6	20
Delaware	0.7	29	268.3	5
Florida	6.3	3	111.7	21
Georgia	3.7	12	139.3	19
Hawaii	-		-	
Idaho	0.2	42	38.5	38
Illinois	5.3	4	159.8	15
Indiana	3.0	14	174.3	12
Iowa	1.4	22	166.6	14
Kansas	0.6	32	79.8	27
Kentucky	0.9	26	74.2	30
Louisiana	3.5	13	286.9	4
Maine	0.4	36	105.1	23
Maryland	3.8	10	240.9	6
Massachusetts	3.8	11	203.7	10
Michigan	4.1	8	156.2	16
Minnesota	0.5	34	32.8	41
Mississippi	0.9	27	111.1	22
Missouri	2.5	16	155.4	17
Montana	0.3	41	89.8	25
Nebraska	0.1	43	28.7	42
Nevada	3.0	15	381.8	2
New Hampshire	0.3	39	70.5	31
New Jersey	4.1	9	174.2	13
New Mexico	0.3	37	61.7	33
New York	11.1	1	211.3	8
North Carolina	2.1	18	78.1	28
North Dakota	0.0	45	15.0	45
Ohio	4.5	7	146.1	18
Oklahoma	0.3	40	25.4	44
Oregon	2.2	17	202.7	11
Pennsylvania	8.2	2	240.1	7
Rhode Island	1.2	24	428.2	1
South Carolina	1.4	21	104.8	24
South Dakota	0.5	35	204.3	9
Tennessee	1.3	23	74.3	29
Texas	4.5	6	64.0	32
Utah	-		-	
Vermont	0.1	44	50.2	36
Virginia	1.9	19	84.7	26
Washington	0.6	33	28.4	43

Sources: State lottery and gaming regulatory agencies (gambling revenue data) and US Census Bureau (population data). Analysis by the author.

Notes: Gambling revenue is based on the sum of tax and fee revenues from lotteries, casinos, racinos, video gaming machines, and pari-mutuel bets for fiscal year 2017. Alaska, Hawaii, and Utah are excluded because gambling is not legal in these states. In Alaska, gambling is legal only on Native American reservations.

Table 8 shows state-by-state inflation-adjusted total and per adult (age 18 and older) gambling tax and fee revenues for fiscal years 2008 and 2017 and the growth rate for that period as well as the compound annual growth rate.

TABLE 8

Gambling Revenues per Adult Resident Declined Despite Overall Growth

	Gambling real revenues (\$ millions)				Gambling real revenue per adult age 18+			
	FY 2008	FY 2017	Percent change, 2008–17	CAGR, 2008–17	FY 2008	FY 2017	Percent change, 2008–17	CAGR, 2008–17
United States	\$27,899	\$29,567	6.0%	0.6%	121.6	117.8	-3.1%	-0.3%
Alabama	3.1	1.2	(59.8)	(9.6)	0.9	0.3	(61.9)	(10.2)
Arizona	165.7	198.2	19.6	2.0	35.6	36.6	2.8	0.3
Arkansas	6.0	87.7	NM	NM	2.8	38.2	NM	NM
California	1,292.1	1,560.3	20.8	2.1	47.4	51.4	8.5	0.9
Colorado	266.7	251.5	(5.7)	(0.6)	72.3	57.8	(20.1)	(2.5)
Connecticut	333.1	335.8	0.8	0.1	122.5	118.6	(3.2)	(0.4)
Delaware	288.9	202.2	(30.0)	(3.9)	426.3	268.3	(37.1)	(5.0)
Florida	1,644.2	1,874.7	14.0	1.5	113.3	111.7	(1.4)	(0.2)
Georgia	992.2	1,101.1	11.0	1.2	141.2	139.3	(1.3)	(0.2)
Idaho	41.6	49.1	18.0	1.9	37.4	38.5	2.9	0.3
Illinois	1,564.5	1,580.2	1.0	0.1	163.1	159.8	(2.0)	(0.2)
Indiana	1,189.6	886.8	(25.5)	(3.2)	247.1	174.3	(29.5)	(3.8)
Iowa	426.3	401.8	(5.7)	(0.7)	186.1	166.6	(10.4)	(1.2)
Kansas	82.3	175.5	113.1	8.8	39.3	79.8	102.9	8.2
Kentucky	225.7	255.4	13.1	1.4	69.1	74.2	7.4	0.8
Louisiana	1,114.0	1,022.5	(8.2)	(0.9)	334.9	286.9	(14.3)	(1.7)
Maine	83.4	113.7	36.4	3.5	79.5	105.1	32.1	3.1
Maryland	607.5	1,127.6	85.6	7.1	140.4	240.9	71.5	6.2
Massachusetts	1,048.1	1,118.2	6.7	0.7	208.0	203.7	(2.1)	(0.2)
Michigan	1,210.1	1,217.8	0.6	0.1	160.7	156.2	(2.8)	(0.3)
Minnesota	134.1	140.0	4.4	0.5	33.8	32.8	(3.1)	(0.3)
Mississippi	394.1	252.9	(35.8)	(4.8)	180.2	111.1	(38.3)	(5.2)
Missouri	795.1	734.4	(7.6)	(0.9)	176.9	155.4	(12.2)	(1.4)
Montana	94.6	74.0	(21.8)	(2.7)	125.7	89.8	(28.5)	(3.7)
Nebraska	35.7	41.4	16.0	1.7	26.6	28.7	8.0	0.9
Nevada	1,120.7	874.8	(21.9)	(2.7)	562.9	381.8	(32.2)	(4.2)
New Hampshire	89.8	76.8	(14.5)	(1.7)	88.1	70.5	(20.0)	(2.4)
New Jersey	1,450.5	1,206.5	(16.8)	(2.0)	218.6	174.2	(20.3)	(2.5)
New Mexico	124.1	99.0	(20.3)	(2.5)	82.8	61.7	(25.5)	(3.2)
New York	2,947.7	3,271.4	11.0	1.2	198.6	211.3	6.4	0.7
North Carolina	398.3	622.5	56.3	5.1	56.4	78.1	38.4	3.7
North Dakota	7.4	8.7	17.2	1.8	14.5	15.0	3.3	0.4
Ohio	780.9	1,323.1	69.4	6.0	89.3	146.1	63.6	5.6
Oklahoma	96.8	75.6	(21.9)	(2.7)	35.1	25.4	(27.6)	(3.5)
Oregon	795.4	663.4	(16.6)	(2.0)	274.0	202.7	(26.0)	(3.3)
Pennsylvania	1,971.3	2,431.3	23.3	2.4	201.3	240.1	19.2	2.0
Rhode Island	409.8	363.8	(11.2)	(1.3)	496.6	428.2	(13.8)	(1.6)
South Carolina	303.4	410.5	35.3	3.4	87.8	104.8	19.3	2.0
South Dakota	159.6	134.3	(15.9)	(1.9)	266.3	204.3	(23.3)	(2.9)
Tennessee	327.2	386.7	18.2	1.9	68.8	74.3	8.0	0.9
Texas	1,197.0	1,340.3	12.0	1.3	67.9	64.0	(5.8)	(0.7)
Vermont	25.8	25.5	(1.2)	(0.1)	52.5	50.2	(4.3)	(0.5)
Virginia	520.6	558.3	7.2	0.8	86.8	84.7	(2.5)	(0.3)
Washington	152.7	163.7	7.2	0.8	30.5	28.4	(7.1)	(0.8)
West Virginia	811.4	536.3	(33.9)	(4.5)	559.5	370.4	(33.8)	(4.5)
Wisconsin	169.5	184.6	8.9	1.0	39.5	40.9	3.7	0.4
Wyoming	0.2	5.8	NM	NM	0.5	13.2	NM	NM

Sources: State lottery and gaming regulatory agencies (lottery, casino, racino, and video gaming revenues) and US Census Bureau (pari-mutuel gambling and population data). Analysis by the author.

Notes: CAGR = compound annual growth rate. NM = not meaningful.

Total gambling revenues include tax and fee revenues for lotteries, commercial casinos, racinos, video gaming machines, and parimutuel bets. Revenues from Native American casinos are excluded.

Inflation-adjusted gambling revenues grew 6.0 percent between fiscal years 2008 and 2017, which translates into a compound annual growth rate of 0.6 percent. However, despite overall growth, gambling revenues declined 3.1 percent per adult between fiscal years 2008 and 2017, while the compound annual growth rate declined 0.3 percent.

Gambling revenues vary widely among the states. Inflation-adjusted gambling revenues declined in 19 states between fiscal years 2008 and 2017, while per adult revenues declined in 29 states. Indiana had the largest declines in terms of dollar value, with revenues falling \$302.8 million, or 25.5 percent in that period. Indiana's decline was caused in part by the expansion of gambling in neighboring Ohio. In 2009, officials in Ohio legalized operations of both casinos and racinos and opened the first facilities in 2012. In fact, Ohio had the largest growth in gambling revenues in terms of dollar value, with growth of \$542.2 million, or 69.4 percent, between fiscal years 2008 and 2017.

States derive the bulk of gambling-related revenues from three major sources: lotteries, casinos, and racinos. Casinos experienced dramatic growth during the 1990s. In recent years, much of the growth has shifted to racinos as more states have approved such facilities.²⁸ Parimutuel betting, once a major source of gambling revenue for states, now represents less than 1 percent of overall gambling revenue for the nation.

To get a clearer picture of the underlying trends in gambling tax and fee revenues collections, we provide more detailed analysis of government tax and fee revenues from lottery and commercial casino/racino operations.

LOTTERIES

Lottery Operations Across the States

Lotteries are currently the primary source of gambling revenues for states, representing nearly two-thirds of gambling revenues nationally and over 95 percent of gambling revenues in 18 states. Lotteries are regulated or operated by state governments. The gross revenue from lotteries is usually allocated among lottery administration, lottery prizes, and state funds. Most states transfer between 20 to 30 percent of the gross lottery revenues to the state funds. States normally put revenues generated from the lottery in the general fund or in a dedicated fund for specific program areas, such as education, veterans' programs, environmental protection, and natural resources. **Table 9** shows how states allocate lottery contributions to various government funds and programs.

TABLE 9

Lottery Contributions to State and Local Governments: Where Does the Money Go?

State	Lottery start date	Where does the money go?
Arizona	1982	General Fund; Healthy Arizona; Mass Transit; University Bond Fund; Heritage Fund; Commerce Authority Arizona Competes Fund; Court-appointed Special Advocate Fund; Economic Security Homeless Services; Department of Gaming
Arkansas	2010	Education Trust Account
California	1986	Education Fund
Colorado	1983	Great Outdoors Colorado; Conservation Trust Fund; Colorado Parks and Wildlife; Public School Capital Construction - Building Excellent Schools Today program
Connecticut	1972	General Fund (public health, libraries, public safety, education)
Delaware	1976	General Fund (Education; Health and Social Services; Natural Resources and Environmental Control; Public Safety, Judicial and Corrections; Various Children, Youth and Family Organizations)
Florida	1988	Educational Enhancement Trust Fund
Georgia	1994	Education Account
Idaho	1990	State Permanent Building Fund; Public School Building Fund; Bond Equalization Fund
Illinois	1975	Common School Fund; Capital Projects Fund; Other State Funds
Indiana	1990	Build Indiana Fund (for reducing motor vehicle excise tax and funding parks, roads and local infrastructure projects); Local Police and Firefighters' Pensions; Teachers' Retirement Fund
Iowa	1986	General Fund (education, natural resources, health and family services, public safety); Iowa Plan; CLEAN Fund; Veterans Trust Fund; Gambling Treatment Fund; Special Appropriations
Kansas	1988	Economic Development Initiatives Fund; General Fund; Correctional Institutions Building Fund; Juvenile Detention Facilities Fund; Problem Gambling Grant Fund
Kentucky	1989	General Fund (college scholarship and grant programs)
Louisiana	1992	Minimum Foundation Program (K–12 public education); Department of Health and Hospitals, Office of Behavioral Health (problem gambling)
Maine	1974	General Fund (local schools, higher education, health services, other programs)
Maryland	1974	General Fund (pre-K–12 and higher education, public health, public safety, environment); Maryland Stadium Authority; Veterans Trust Fund
Massachusetts	1972	Lottery funds are not earmarked for specific programs. Lottery revenues are distributed to cities and towns, allowing them to choose how they would like to spend the funds
Michigan	1973	School Aid Fund; General Fund; Community Health (gambling addiction programs)
Minnesota	1990	General Fund (education, local gov. assistance, public safety, environmental protection); Game and Fish Fund; Natural Resources Fund; Environment and Natural Resources Trust Fund
Missouri	1986	Education
Montana	1987	General Fund
Nebraska	1994	Education Innovation Fund; Environmental Trust Fund; Opportunity Grant Fund; State Fair; Compulsive Gamblers Assistance Fund
New Hampshire	1964	Education Trust Fund
New Jersey	1971	Education; Higher Education; Human Services; Military and Veterans Affairs; Agriculture
New Mexico	1996	Lottery Tuition Fund
New York	1968	Education
North Carolina	2006	Education
North Dakota	2004	General Fund, Multi-Jurisdictional Drug Task Force Fund, Compulsive Gambling Fund
Ohio	1975	Education
Oklahoma	2006	Education
Oregon	1986	Economic Development Fund (education; job creation and economic development; state parks; watershed enhancement); General Obligation Bond Fund
Pennsylvania	1973	Local Services, Senior Centers and Meals; Low-Cost Prescription Assistance; Free and Reduced-Fare Transportation; Property Tax and Rent Rebates; Care Services
Rhode Island	1974	General Fund (for human services, education, public safety, general government, debt services, natural resources)
South Carolina	2002	Education
South Dakota	1988	General Fund (K–12 education, state universities, technical institutes); Capital Construction Fund (water and environment; ethanol fuel; state highway)
Tennessee	2004	Education
Texas	1992	Foundation School Fund; Fund for Veterans' Assistance and Other State Programs
Vermont	1978	Education
Virginia	1989	Education

Washington	1983	Washington Opportunities Pathways Account; Education Legacy Trust Fund; Stadium and Exhibition Center Account; Economic Development; Problem Gambling
West Virginia	1986	Education; Senior Citizens; Tourism and State Parks
Wisconsin	1989	Funding for Property Tax Credits
Wyoming	2015	Lottery funds are distributed to counties and towns.

Sources: State lottery agencies' websites and reports.

Lottery State Revenue Trends

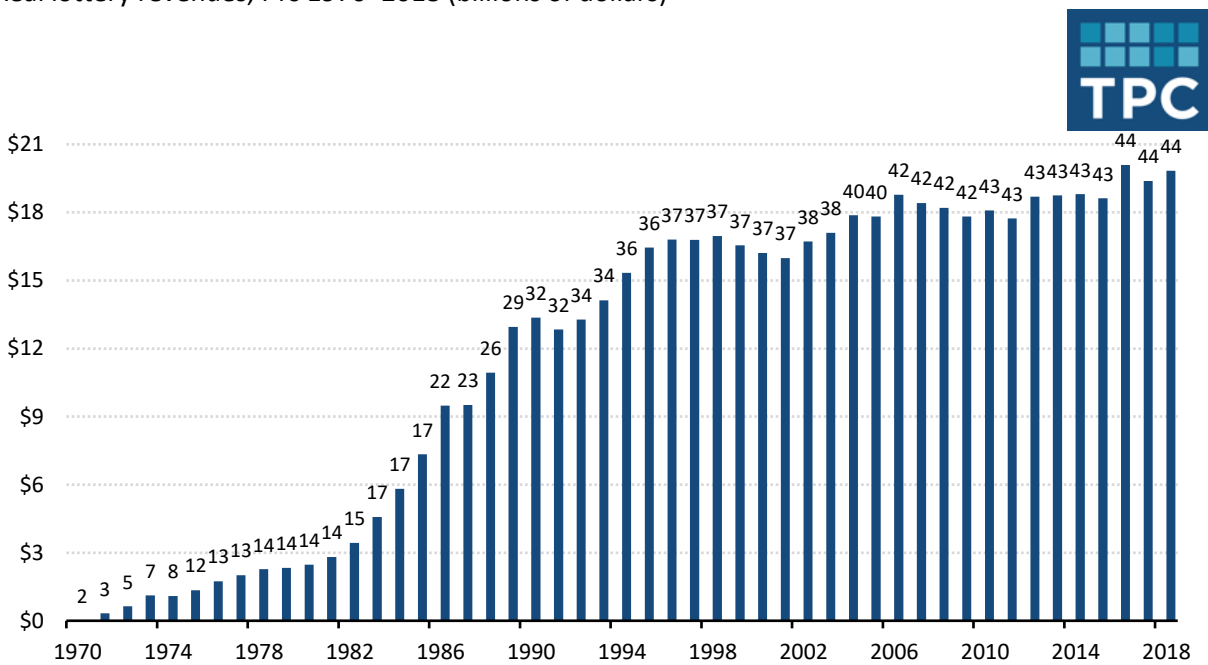
In the aggregate, states have raised \$579.6 billion in revenues in real terms in the 55-year history of lottery operations.

Figure 10 shows inflation-adjusted state lottery revenues for fiscal year 1970 through 2018. The figure shows the number of states with lottery operations for each fiscal year. Growth in lottery revenues has often been driven by new states beginning lottery operations: steep growth in 1980s was mostly driven by new states creating lotteries. In total 15 states started lottery operations between fiscal years 1989 and 2018. However, lottery revenue growth was generally stagnant over the past decade.

FIGURE 10

Not Much Growth in Lottery Revenues Despite Expansion

Real lottery revenues, FYs 1970–2018 (billions of dollars)



Source: State lottery agencies. Analysis by the author.

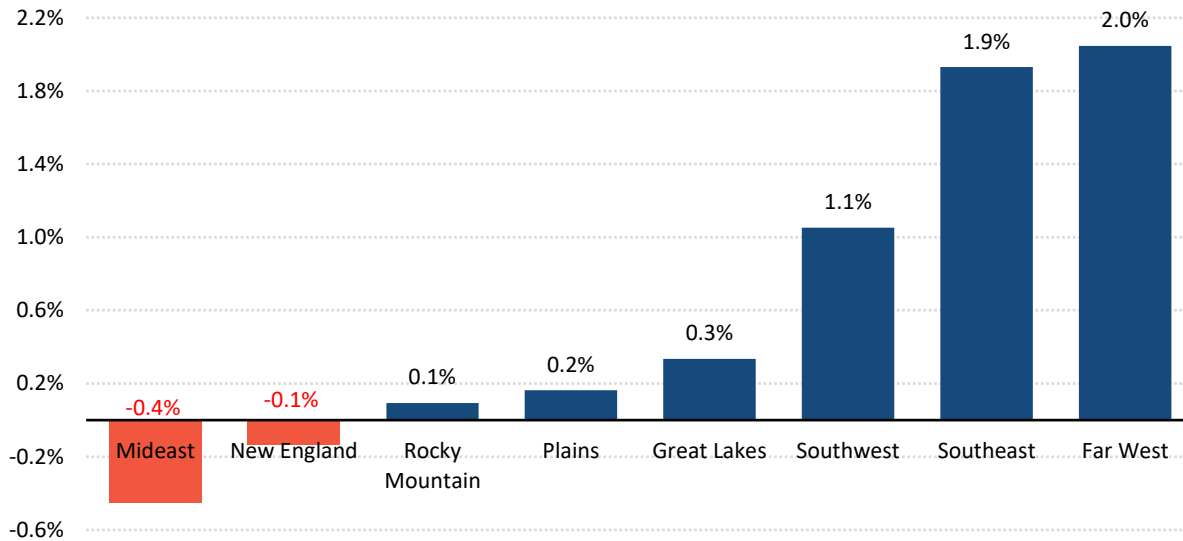
Notes: Labels indicate the number of states with lottery operations for each fiscal year.

There is wide variation in lottery revenues across regions and among the states. Figure 11 shows compound annual growth rates in inflation-adjusted state lottery revenues by region between fiscal years 2008 and 2017. The Far West and Southeast regions had the strongest lottery revenue growth at 2.0 and 1.9 percent, respectively. Meanwhile, lottery revenues declined in the Mideast and New England regions.

FIGURE 11

Regional Disparity in Lottery Revenue Growth Rates

Compound annual growth rates in inflation-adjusted lottery revenues, FYs 2008-2017



Source: State lottery agencies. Analysis by the author.

Table 10 shows state-by-state inflation-adjusted total and per adult (age 18 and older) state lottery revenues for fiscal years 2008 and 2017 and the real growth rate for that period as well as the compound annual growth rate. State lottery revenue collections exceeded \$18.9 billion in fiscal year 2017, representing roughly 1.5 percent of total state government general revenues from own sources. Inflation-adjusted state lottery revenues grew 6.5 percent between fiscal years 2008 and 2017, which translates into a compound annual growth rate of 0.7 percent. Despite overall growth, lottery state revenues declined 2.6 percent per adult between fiscal years 2008 and 2017, with the corresponding compound annual growth rate declining by 0.3 percent.

Total inflation-adjusted state lottery revenues declined in 19 states between fiscal years 2008 and 2017, while per-adult revenues declined in 29 states. Recent declines in state lottery revenues is partially attributable to increased interstate lottery competition as well as to the expansion of other gambling activities, which may have led to a shift in spending from one type of gambling activity to another type.

TABLE 10

State Lottery Revenues per Adult Resident Declined Despite Overall Growth
 Inflation-adjusted state lottery revenues and growth rates, FY 2008 versus FY 2017

State	Lottery real revenues (\$ millions)				Lottery real revenue per adult age 18+			
	FY 2008	FY 2017	Percent change, 2008–17	CAGR, 2008–17	FY 2008	FY 2017	Percent change, 2008–17	CAGR, 2008–17
United States	\$17,778	\$18,929	6.5%	0.7%	77.5	75.4	-2.6%	-0.3%
Arizona	165.2	198.1	19.9	2.0	35.5	36.6	3.1	0.3
Arkansas	0.0	85.2	NM	NM	0.0	37.1	NM	NM
California	1,252.1	1,545.5	23.4	2.4	45.9	50.9	10.9	1.2
Colorado	139.9	133.5	(4.6)	(0.5)	37.9	30.7	(19.2)	(2.3)
Connecticut	323.6	330.0	2.0	0.2	119.0	116.6	(2.1)	(0.2)
Delaware	45.1	50.3	11.4	1.2	66.6	66.7	0.2	0.0
Florida	1,467.6	1,656.3	12.9	1.4	101.2	98.7	(2.4)	(0.3)
Georgia	992.2	1,101.1	11.0	1.2	141.2	139.3	(1.3)	(0.2)
Idaho	39.7	48.5	22.0	2.2	35.7	38.0	6.4	0.7
Illinois	756.6	738.2	(2.4)	(0.3)	78.9	74.6	(5.4)	(0.6)
Indiana	248.2	288.0	16.0	1.7	51.6	56.6	9.8	1.0
Iowa	64.7	80.8	24.9	2.5	28.2	33.5	18.7	1.9
Kansas	80.1	75.3	(6.0)	(0.7)	38.3	34.2	(10.5)	(1.2)
Kentucky	219.7	248.6	13.2	1.4	67.2	72.2	7.4	0.8
Louisiana	150.8	159.2	5.6	0.6	45.3	44.7	(1.5)	(0.2)
Maine	56.6	58.2	2.9	0.3	54.0	53.8	(0.4)	(0.0)
Maryland	605.4	524.9	(13.3)	(1.6)	140.0	112.1	(19.9)	(2.4)
Massachusetts	1,044.1	1,039.7	(0.4)	(0.0)	207.2	189.4	(8.6)	(1.0)
Michigan	847.0	924.1	9.1	1.0	112.5	118.5	5.4	0.6
Minnesota	133.0	139.2	4.7	0.5	33.6	32.6	(2.8)	(0.3)
Missouri	304.9	291.6	(4.4)	(0.5)	67.8	61.7	(9.1)	(1.0)
Montana	12.6	9.2	(26.9)	(3.4)	16.8	11.2	(33.2)	(4.4)
Nebraska	35.5	41.3	16.4	1.7	26.4	28.6	8.4	0.9
New Hampshire	86.5	76.1	(12.0)	(1.4)	84.8	69.9	(17.6)	(2.1)
New Jersey	1,008.7	994.0	(1.5)	(0.2)	152.0	143.5	(5.6)	(0.6)
New Mexico	46.7	37.8	(18.9)	(2.3)	31.1	23.6	(24.3)	(3.0)
New York	2,420.8	2,322.0	(4.1)	(0.5)	163.1	150.0	(8.1)	(0.9)
North Carolina	398.3	622.5	56.3	5.1	56.4	78.1	38.4	3.7
North Dakota	6.8	6.9	2.5	0.3	13.3	12.0	(9.7)	(1.1)
Ohio	768.7	739.4	(3.8)	(0.4)	87.9	81.6	(7.1)	(0.8)
Oklahoma	82.5	53.8	(34.7)	(4.6)	29.9	18.1	(39.5)	(5.4)
Oregon	78.9	68.7	(13.0)	(1.5)	27.2	21.0	(22.9)	(2.8)
Pennsylvania	1,061.3	1,045.7	(1.5)	(0.2)	108.4	103.3	(4.7)	(0.5)
Rhode Island	68.1	55.9	(17.8)	(2.2)	82.5	65.8	(20.2)	(2.5)
South Carolina	303.4	410.5	35.3	3.4	87.8	104.8	19.3	2.0
South Dakota	13.0	12.3	(5.3)	(0.6)	21.6	18.7	(13.6)	(1.6)
Tennessee	327.2	386.7	18.2	1.9	68.8	74.3	8.0	0.9
Texas	1,183.4	1,334.0	12.7	1.3	67.1	63.7	(5.2)	(0.6)
Vermont	25.8	25.5	(1.2)	(0.1)	52.5	50.2	(4.3)	(0.5)
Virginia	520.6	558.3	7.2	0.8	86.8	84.7	(2.5)	(0.3)
Washington	149.0	161.9	8.7	0.9	29.8	28.0	(5.9)	(0.7)
West Virginia	75.0	62.8	(16.3)	(2.0)	51.7	43.4	(16.2)	(1.9)
Wisconsin	168.5	184.4	9.5	1.0	39.2	40.9	4.3	0.5
Wyoming	N/A	2.6	NM	NM	N/A	6.0	NM	NM

Sources: State lottery agencies and US Census Bureau (population data). Analysis by the author.

Notes: CAGR = compound annual growth rate. NM = not meaningful. N/A = not applicable.

CASINOS AND RACINOS

Casino and Racino Operations across the States

Commercial casinos/racinos are operated by businesses and taxed by the states. Before 1991, there were very few commercial casinos across the country outside of Nevada and Atlantic City, New Jersey. About 50 percent of all casinos/racinos outside of Nevada have opened since 2001. In most states, casino/racino facilities are located near border lines with other states to take advantage of cross-border consumers.

At the end of fiscal year 2018, commercial casino/racino operations were legal in 25 states and operational in 24 states. Eight states legalized casino operations and three states legalized racino operations during or after the Great Recession (**Table 11**). In addition, some states introduced table games at their existing casino or racino facilities in hopes of raising more revenues. Finally, seven states had legalized sports betting at their casinos. At the end of fiscal year 2018, there were about 540 casinos/racinos operating in 24 states. Despite the recent expansion, Nevada is still home to more than 50 percent of all US casino and racino facilities.

TABLE 11

State Lottery Revenues per Adult Resident Declined Despite Overall Growth

State	Casino legalization year	Racino legalization year	Number of operating casinos/racinos as of FY 2018	Casino/racino format as of July 1, 2018
Arkansas	2018		N/A	not operational yet
Colorado	1990		33	Land-based
Delaware		1994	3	VLTs or table games
Florida		2006	8	Land-based (3), racino (5)
Illinois	1990		10	Riverboat
Indiana	1993	2007	13	Riverboat (9), land-based (2), racino (2)
Iowa	1989	1994	19	Riverboat (1), land-based (16), racino (2)
Kansas	2007		3	Land-based
Louisiana	1991	1997	20	Riverboat (15), land-based (1), racino (4)
Maine*	2010	2004	2	Land-based (2)
Maryland	2008	2008	6	Land-based (5), racino (1)
Massachusetts	2011	2011	1	Land-based (1)
Michigan	1996		3	Land-based
Mississippi	1990		28	Dockside (15), land-based (13)
Missouri	1993		13	Riverboat
Nevada	1931		289	Land-based
New Jersey	1976		11	Land-based (9), internet (2)
New Mexico		1997	5	Slot machines
New York	2014	2001	14	Land-based (4), VLTs (10)
Ohio	2009	2009	11	Land-based (4), racino (7)
Oklahoma		2004	2	Slot machines
Pennsylvania	2004	2004	12	Land-based (6), racino (6)
Rhode Island*	2016	1992	2	VLTs or table games
South Dakota	1989		26	Land-based
West Virginia	2009	1994	5	Land-based (1), racino (4)

Source: State gaming regulatory agency information. Analysis by the author.

Notes: *Maine and Rhode Island converted existing racinos into casinos.

Shaded rows indicate casino legalization dates during or after the Great Recession. N/A = not applicable.

Casino and Racino Tax Rates

All states tax casino/racino gaming revenue—that is, wagers collected after payouts to winners. However, tax rates vary widely across states. Some states have graduated tax structures depending on the casino or racino profits; other states levy a flat tax rate on gross gaming revenues. In addition to tax rates charged on gross gaming revenues, some states also charge admission fees, license fees, gaming device fees, or some other local fees (**Table 12**). Moreover, most states have adopted different tax rates for table games, and those are usually at a lower rate.

TABLE 12
Commercial Casino and Racino Current Tax Rates

State	Legalization date	Tax type	Tax rates	Tax rate details
Casino states				
Colorado	1990	Graduated	Graduated tax between 0.25% to 20%	0.25% tax on \$0 - \$2 million 2.0% tax on \$2 - \$5 million 9.0% tax on \$5 - \$8 million 11.0% tax on \$8 - \$10 million 16.0% tax on \$10 - \$13 million 20.0% tax on over \$13 million
Illinois	1990	Graduated	Graduated tax between 15% to 50%	15.0% tax on \$0 to \$25 million 22.5% tax on \$25 to \$50 million 27.5% tax on \$50 to \$75 million 32.5% tax on \$75 to \$100 million 37.5% tax on \$100 to \$150 million 45.0% tax on \$150 to \$200 million 50.0% tax on over \$200 million
Indiana	1993	Graduated	Graduated tax between 15% to 35%	15.0% tax on \$0 to \$25 million 20.0% tax on \$25 to \$50 million 25.0% tax on \$50 to \$75 million 30.0% tax on \$75 to \$150 million 35.0% tax on over \$150 million
Iowa	1989	Graduated	Graduated tax between 5% to 22%	5.0% tax on \$0 to \$1 million 10.0% tax on \$1 to \$3 million 22.0% tax on over \$3 million
Kansas	2007	Flat	Flat tax rate at 27%	22% state tax 3% local government tax 2% tax to fund problem gambling treatment
Louisiana	1991	Flat	Flat tax rate at 21.5%	Additional local government taxes
Maine	2010	Flat	Flat tax rate of 39% or 46% depending on the casino facility	39% for Hollywood casino 46% for Oxford casino
Maryland	2008	Flat	Flat tax rate between 40.75% to 62.5% depending on the casino facility	
Massachusetts	2011		Flat tax rate of 25%	
Michigan	1996	Flat	Flat tax rate of 19%	8.1% state share 10.9% local share
Mississippi	1990	Graduated	Graduated tax between 4% to 8%; Additional municipality tax	4.0% tax on \$50,000/per month 6.0% tax on \$50,000 to \$134,000/per month 8.0% tax on revenue over \$134,000/per month
Missouri	1993	Flat	Flat tax rate of 21%	
Nevada	1931	Graduated	Graduated tax between 3.5% to 6.75%	3.5% tax on \$50,000 4.5% tax on \$50,000 - \$134,000 6.75% tax on over \$134,000
New Jersey	1976	Flat	Flat tax rate of 9.25%	8% gross revenue tax 1.25% investment alternative tax

New York	2014	Graduated	Flat tax rate between 37% to 45% depending on the casino facility	37% for Tioga Downs casino 37% for del Lago resort and casino 39% for Resorts World Catskills casino 45% for Rivers casino and resort
Ohio	2009	Flat	Flat tax rate of 33%	
Pennsylvania	2004	Flat	Flat tax rate of 54%	34% state tax 2% local share assessment 6% Economic Development & Tourism Fund 12% Race Horse Development Fund
Rhode Island	2016	Flat	Flat tax rate of 60.89% or 61.07% depending on the casino facility	60.89% at Twin River 61.07% at Tiverton
South Dakota	1989	Flat	Flat tax rate of 9%	
West Virginia	2009	Flat	Flat tax rate of 53.5%	
Racino states				
Delaware	1995	Flat	Flat tax rate of 39%	
Florida	2006	Flat	Flat tax rate of 35%	
Indiana	2008	Graduated	Graduated state tax between 25% to 35%; County wagering tax at 3%; Addition wagering tax at 1%	25.0% tax on \$0 to \$100 million 30.0% tax on \$100 to \$200 million 35.0% tax on over \$200 million
Iowa	1995	Graduated	Graduated state tax between 22% to 24%, depending on various conditions	22.0% tax on \$0 to \$100 million 24.0% tax on over \$100 million also subject to other conditions
Louisiana	2002	Flat	Flat tax rate of 18.5%	
Maryland	2011	Flat	Flat tax rate of 48.5%	
Massachusetts	2011	Flat	Flat tax rate of 49%	
New Mexico	1999	Flat	Flat tax rate of 46.25%	26% gaming tax 20% tax for racing purses 0.25% tax for problem gambling
New York	2004	Flat	Flat tax rate between 34% to 52.5% depending on the racino facility	
Ohio	2012	Flat	Flat tax rate of 33.5%	
Oklahoma	2005	Graduated	Graduated tax between 10% to 30%; 9% to state racing commission; Varying payments to horsemen, breeders and purses	10.0% tax on \$0 to \$30 million 15.0% tax on \$30 to \$40 million 20.0% tax on \$40 to \$50 million 25.0% tax on \$50 to \$70 million 30.0% tax on over \$70 million
Pennsylvania	2006	Flat	Flat tax rate of 54%	34% state tax 2% local share assessment 6% Economic Development & Tourism Fund 12% Race Horse Development Fund
West Virginia	1994	Flat	Flat tax rate of 53.5%	

Sources: State gaming regulatory agency information and American Gaming Association, *State of the States 2019, The AGA Survey of the Commercial Casino Industry* (Washington, DC: American Gaming Association, 2019).

State casino tax rates range from as low as 0.25 percent in Colorado to as high as 62.5 percent in Maryland. The early adopter states of commercial casinos such as Nevada and New Jersey have much lower tax rates than late adopter states such as Pennsylvania and Maryland. In fact, all states that legalized commercial casinos after 2000 have tax rates at or above 25 percent, while earlier adopter states have lower tax rates. Illinois and Indiana are the only two early adopter states with higher commercial casino tax rates. In Illinois, the top tax rate is 50 percent for casinos with over \$200 million gross gaming revenues, while in Indiana the top tax rate is 35 percent for casinos with over \$600 million gross gaming revenues, but casinos with less than \$25 million gross gaming revenues pay tax rates of 15 percent in both states.

The format of racinos evolved over time. Like casinos, many racinos now offer table games. Moreover, some racinos are scaling back their live racing events: the two racinos in Rhode Island were the first racinos, but they no longer offer any

live racing events and have been converted to casinos. Racino tax rates, just like casino tax rates, vary widely across the states.

The tax revenues collected from casino and racino operations are usually earmarked for various purposes including education, infrastructure, property tax relief, tourism, and other state and local government services.

Casino and Racino Tax and Fee Revenue Trends

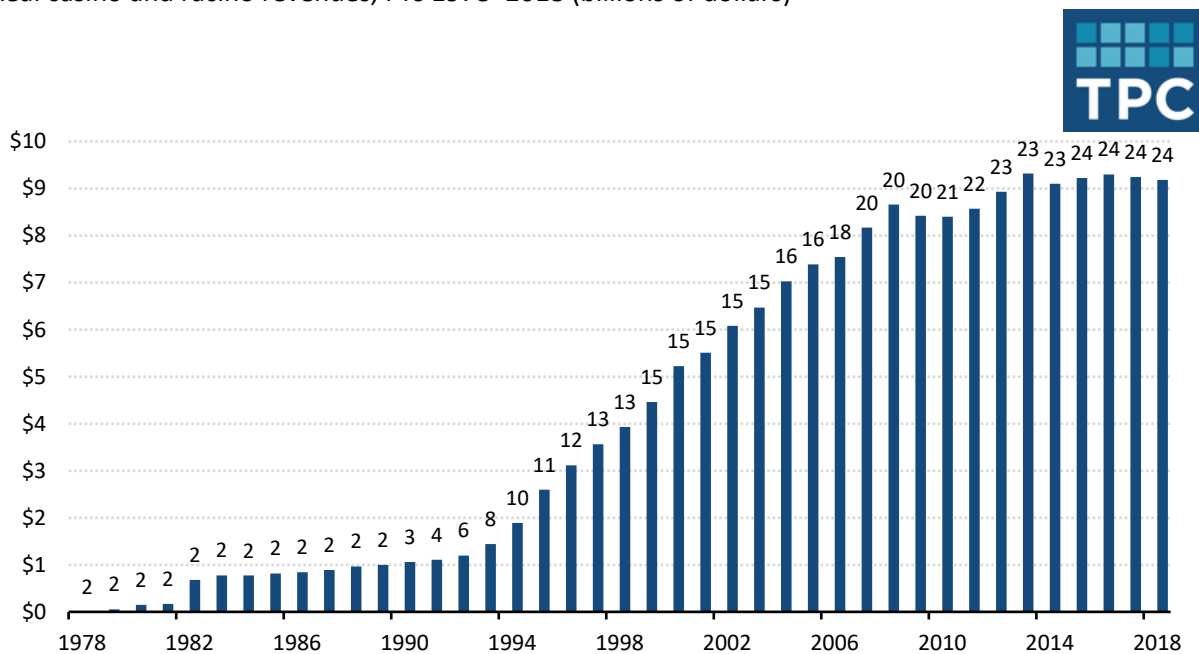
For this report, we obtained detailed state data for casino and racino tax and fee revenues transferred to state and local governments since the inception of casino and racino operations in each respective state (except Nevada, for which historical data were not available).²⁹ States in the aggregate raised over \$183 billion in revenues in real terms in the past 40 years.

The overall growth in casino/racino tax and fee revenues has been relatively stagnant in the past decade despite widespread expansion of casinos and racinos across the nation. **Figure 12** shows inflation-adjusted casino and racino tax and fee revenues between fiscal years 1978 and 2018. In **Figure 12**, we show the number of states with casino or racino operations for each fiscal year. Before 1990, casinos and racinos were legal and operational in only two states: Nevada and New Jersey. Since then, casino or racino operations spread in another 22 states between fiscal years 1990 and 2018.

FIGURE 12

Not Much Recent Growth in Casino and Racino Revenues Despite Expansion

Real casino and racino revenues, FYs 1978–2018 (billions of dollars)



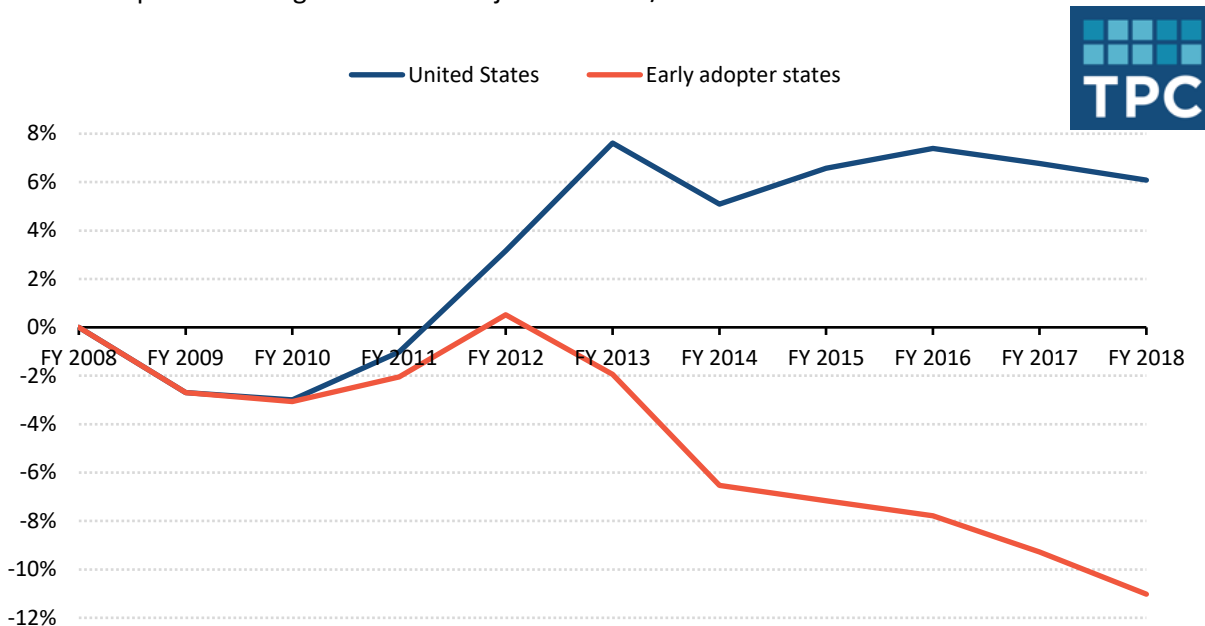
Source: State gaming regulatory agencies. Analysis by the author.
Notes: Labels indicate the number of states with lottery operations for each fiscal year.

Figure 13 shows the cumulative percent change in inflation-adjusted casino and racino tax and fee revenues for all states versus late adopter states. The blue line excludes casino/racino tax and fee revenues for Kansas, Maryland, Massachusetts, and Ohio, because all four states started operation of casinos and racinos after fiscal year 2008. After

excluding tax and fee revenues for these four states, revenues for the rest of the nation declined steeply, particularly in the past five years. At the end of fiscal year 2018, inflation-adjusted casino and racino tax and fee revenues were 11 percent below the prerecession levels in the early adopter states, and 6.1 percent above the prerecession level for the nation.

FIGURE 13

Steep Declines in Casino and Racino Revenues in Early Adopter States
 Cumulative percent change in inflation-adjusted casino/racino tax and fee revenues



Source: State gaming regulatory agencies. Analysis by the author.

Notes: Kansas, Maryland, Massachusetts, and Ohio are identified as late adopter states because they all started casino/racino operations after fiscal year 2008.

Despite geographic expansion of casino and racino operations and despite efforts to make casinos and racinos more attractive, tax revenues from casino and racino operations did not pick up the growth that many state officials were hoping for. Some states, including Colorado, Mississippi, and New Jersey, have seen some casinos close in recent years, mostly because of declining revenues and competition from neighboring states. **Table 13** shows state-by-state inflation-adjusted total and per adult (age 18 and older) casino and racino tax and fee revenues for fiscal years 2008 and 2017 and the overall growth rate for that period, as well as the compound annual growth rate. The states are divided into two groups: those that had casino or racino operations in place before fiscal year 2008 (older) and those that opened casino or racino facilities in 2008 or later (newer).

In fiscal year 2017, states took in about \$9 billion from commercial casinos and racinos, representing roughly 0.7 percent of total state government general revenues from own sources. For the nation, the compound annual growth rate was 0.7 percent between fiscal years 2008 and 2017. But the compound annual growth rate was negative 1.1 in the older casino/racino states.

Between fiscal years 2008 and 2017, inflation-adjusted tax and fee revenues from casino/racino operations grew 6.8 percent or \$573 million nationally, with growth of more than \$1.3 billion in newer casino/racino states offsetting a decline

of \$0.8 billion in older casino/racino states. Declines were reported in 15 of 20 older casino/racino states, indicating that casino operations in older casino/racino states have either reached saturation or been cannibalized by newer casino/racino states.

TABLE 13

Casino and Racino Revenues per Adult Resident Declined Despite Overall Growth

Inflation-adjusted casino and racino tax and fee revenues and growth rates, FY 2008 versus FY 2017

State	Gambling real revenues (\$ millions)				Gambling real revenue per resident age 18+			
	FY 2008	FY 2017	Percent change, 2008–17	CAGR, 2008–17	FY 2008	FY 2017	Percent change, 2008–17	CAGR, 2008–17
United States	\$8,453	\$9,026	6.8%	0.7%	36.8	36.0	-2.4%	-0.3%
"Older" casino/racino states	\$8,453	\$7,669	(9.3)	(1.1)	89.4	75.9	(15.1)	(1.8)
Colorado	123.7	117.4	(5.1)	(0.6)	33.6	27.0	(19.6)	(2.4)
Delaware	243.6	150.8	(38.1)	(5.2)	359.5	200.1	(44.3)	(6.3)
Florida	137.9	192.2	39.4	3.8	9.5	11.5	20.6	2.1
Illinois	798.4	475.3	(40.5)	(5.6)	83.2	48.1	(42.3)	(5.9)
Indiana	936.5	596.9	(36.3)	(4.9)	194.6	117.3	(39.7)	(5.5)
Iowa	356.9	317.6	(11.0)	(1.3)	155.8	131.7	(15.5)	(1.9)
Louisiana	728.0	685.7	(5.8)	(0.7)	218.8	192.4	(12.1)	(1.4)
Maine	23.3	54.0	131.4	9.8	22.3	49.9	124.1	9.4
Michigan	353.7	290.2	(17.9)	(2.2)	47.0	37.2	(20.8)	(2.6)
Mississippi	394.1	252.9	(35.8)	(4.8)	180.2	111.1	(38.3)	(5.2)
Missouri	490.2	442.8	(9.7)	(1.1)	109.0	93.7	(14.1)	(1.7)
Nevada	1,120.7	874.8	(21.9)	(2.7)	562.9	381.8	(32.2)	(4.2)
New Jersey	441.8	212.5	(51.9)	(7.8)	66.6	30.7	(53.9)	(8.2)
New Mexico	76.7	60.3	(21.4)	(2.6)	51.2	37.6	(26.5)	(3.4)
New York	491.6	933.0	89.8	7.4	33.1	60.3	81.9	6.9
Oklahoma	12.3	20.7	68.4	6.0	4.5	7.0	56.2	5.1
Pennsylvania	883.5	1,375.2	55.7	5.0	90.2	135.8	50.5	4.6
Rhode Island	338.5	306.8	(9.4)	(1.1)	410.3	361.1	(12.0)	(1.4)
South Dakota	18.2	15.8	(13.1)	(1.5)	30.4	24.1	(20.8)	(2.6)
West Virginia	483.6	293.6	(39.3)	(5.4)	333.5	202.8	(39.2)	(5.4)
"New" casino/racino states		\$1,358				63.4		
Kansas		100.2				45.6		
Maryland		601.6				128.5		
Massachusetts		77.6				14.1		
Ohio		578.2				63.8		

Sources: State gaming regulatory agencies and US Census Bureau (population data). Analysis by the author.

Notes: CAGR = compound annual growth rate. States that opened the first casino/racino facilities after fiscal year 2008 are classified as "new" casino/racino states.

The regional competition for casino tax dollars is at its height for the states in the Northeast. For example, when Pennsylvania legalized operations in the mid-2000s, casino revenues in New Jersey saw declines, and officials in New Jersey blamed the new competition in its neighboring state. Pennsylvania enjoyed a boom of tax revenue growth from casinos/racinos the next few years, until its neighboring states, Ohio and Maryland, legalized and opened their own casinos and racinos. Moreover, the opening of a new racino in New York City had a negative impact on revenues in both New Jersey and Pennsylvania.

Although the expansion of casinos and racinos leads to some growth in total tax revenues, much of the growth appears to come at the expense of established operations.

SPORTS BETTING

Sports betting refers to the activity of predicting results for sports games and placing a wager on the outcome. Sports betting is the newest form of gambling activity spreading across the states following the Supreme Court's decision to overturn the federal restriction on state authorization of legal sports betting on May 14, 2018.

However, sports betting has been part of American culture for many decades, though it has been mostly illegal except in Nevada. In 1949, Nevada was the first state to legalize and regulate sports betting. Forty-three years later, in 1992, Congress passed the Professional and Amateur Sports Protection Act (PASPA), which outlawed sports betting nationwide and prohibited future state expansion of sports betting, excluding Nevada, Delaware, Montana, and Oregon. Nevada was "grandfathered in" and was essentially the only state where sports wagering was legal; Delaware, Montana, and Oregon retained the right to operate sports lotteries.

PASPA was legally challenged in 2009 by officials in New Jersey who claimed that the law was unconstitutionally discriminating among the states by allowing only four states to offer sports betting. Nearly a decade later, in May 2018, the Supreme Court determined that PASPA was unconstitutional and opened the doors for states to legalize sports betting within their borders.

Shortly after the Supreme Court's ruling, several states moved to legalize sports betting. In June 2018, Delaware became the first state to legalize and offer sports betting outside of Nevada. In addition to Delaware, 14 other states (Arkansas, Illinois, Indiana, Iowa, Mississippi, Montana, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Tennessee, and West Virginia) as well as the District of Columbia have also legalized sports betting since the Supreme Court's ruling.³⁰ As of August 2019, however, six states (Illinois, Indiana, Montana, New Hampshire, North Carolina, and Tennessee) and the District of Columbia have not started to offer sports betting.

The rest of the states, except for Alaska, Florida, Idaho, Nebraska, Utah, Wisconsin, and Wyoming, have introduced but not yet enacted laws for legalization of sports betting. It is only a matter of time until sports betting becomes legal and operational in most states.

Despite states moving fast toward sports betting legalization, sports betting will not be a budget saver, and "tax revenue [from sports betting] will always be relatively small and volatile" (Auxier 2019). It will certainly generate some revenues for the early adopter states, which will likely deteriorate as legal sports betting spreads across the nation. Moreover, revenues from sports betting could just siphon revenue from other forms of gambling.

STATE RELIANCE ON REVENUES FROM ALCOHOL, TOBACCO, AND GAMBLING

States vary significantly in their reliance on state revenues from alcohol, tobacco, and gambling. **Table 14** shows state revenues from alcohol, tobacco, and gambling as a share of state own-source general revenues for fiscal year 2017.

Overall revenues from tobacco, alcohol, and gambling combined as a share of state own-source general revenues average about 4.8 percent. Not surprisingly, given the quantities of alcohol and tobacco purchased for potential consumption elsewhere and the lack of income and sales taxes, New Hampshire ranked the highest, raising almost a quarter of state revenues (23.2 percent) from sin taxes. Revenues from sin taxes represented more than 10 percent of total state own-sources general revenues in four other states: Pennsylvania, Nevada, Rhode Island, and West Virginia. Revenues from tobacco, alcohol, and gambling combined represented less than 5 percent of state own-source general revenues in 30 states. North Dakota and California were at the bottom in terms of their reliance on sin tax revenues.

Most states that have a high reliance on overall sin tax revenues also tend to have high reliance on gambling revenues. In 25 states, sin tax revenues as a share of state own-source general revenues were lower in fiscal year 2017 than in fiscal year 2007. States that had expanded various gambling activities, particularly casinos, saw growth in overall sin tax revenue dependence.

TABLE 14

Sin Tax Revenues as a Share of State Own-Source General Revenues, FY 2017

State	Tobacco	Rank	Alcohol	Rank	Gambling	Rank	Total	Rank
United States	1.4		1.2		2.2		4.8	
New Hampshire	4.7	1	16.7	1	1.8	26	23.2	1
Pennsylvania	2.5	4	4.4	2	4.4	6	11.4	2
Nevada	2.0	14	0.4	36	8.7	1	11.1	3
Rhode Island	2.8	2	0.4	38	7.3	2	10.6	4
West Virginia	2.4	7	1.4	17	6.6	4	10.4	5
Louisiana	2.1	13	0.5	30	6.7	3	9.3	6
Michigan	2.4	6	3.1	7	2.9	18	8.4	7
Montana	2.4	8	3.8	4	2.1	24	8.3	8
Ohio	2.2	11	2.9	9	2.9	16	7.9	9
South Dakota	2.2	10	0.7	26	4.7	5	7.6	10
Mississippi	1.3	30	3.6	5	2.3	21	7.3	11
Oregon	1.1	36	2.8	11	3.0	15	6.8	12
Iowa	1.5	26	2.3	13	2.7	20	6.4	13
Florida	2.1	12	0.6	29	3.3	12	6.1	14
Indiana	1.8	18	0.3	44	3.7	10	5.8	15
Delaware	1.9	16	0.4	39	3.4	11	5.7	16
Maryland	1.4	29	0.1	50	4.1	7	5.6	17
Illinois	1.6	22	0.6	27	3.3	13	5.5	18
Georgia	0.8	44	0.7	25	3.8	9	5.3	19
Maine	2.6	3	0.5	32	2.0	25	5.1	20
Texas	1.8	19	1.5	16	1.6	29	4.9	21
Missouri	0.6	47	0.2	46	4.0	8	4.9	22
Wyoming	0.5	48	2.8	10	1.5	30	4.8	23
Virginia	1.9	15	2.2	14	0.6	40	4.8	24
Vermont	0.8	43	3.8	3	0.2	45	4.8	25
Massachusetts	1.6	23	0.2	47	2.9	17	4.7	26
New York	1.2	33	0.3	42	3.1	14	4.6	27
New Jersey	1.6	25	0.3	41	2.7	19	4.6	28
Tennessee	1.4	28	1.0	20	2.1	23	4.6	29
Alabama	1.1	35	3.3	6	0.0	47	4.4	30
Utah	0.8	40	3.1	8	0.0	48	3.9	31
Connecticut	1.9	17	0.4	40	1.7	28	3.9	32
Kentucky	1.4	27	0.9	22	1.5	31	3.9	33
Idaho	0.7	45	2.3	12	0.7	39	3.7	34
North Carolina	0.8	41	1.1	18	1.7	27	3.6	35
South Carolina	0.1	50	1.1	19	2.3	22	3.6	36
Wisconsin	2.5	5	0.2	45	0.7	37	3.4	37
Kansas	1.0	38	1.0	21	1.3	32	3.4	38
Washington	1.3	32	1.5	15	0.5	43	3.3	39
Minnesota	2.3	9	0.6	28	0.5	44	3.3	40
Oklahoma	1.7	21	0.9	23	0.5	42	3.1	41
Arizona	1.6	24	0.4	37	1.0	34	3.1	42
Arkansas	1.7	20	0.5	34	0.7	38	2.8	43
Colorado	1.0	37	0.3	43	1.3	33	2.6	44
New Mexico	0.8	42	0.5	35	1.0	35	2.2	45
Alaska	1.3	31	0.8	24	0.0	48	2.2	46
Nebraska	0.9	39	0.5	33	0.6	41	2.0	47
Hawaii	1.2	34	0.5	31	0.0	48	1.6	48
California	0.4	49	0.2	48	0.8	36	1.4	49
North Dakota	0.6	46	0.2	49	0.2	46	1.0	50

Sources: State gaming regulatory agencies and US Census Bureau (tobacco, alcohol, and own-source general revenues). Analysis by the author.

WHAT'S NEXT IN SIN TAXES?

In addition to the new options for gambling and e-cigarettes, many state or local governments are turning to excise taxation on consumption of new products, such as marijuana, sugar-sweetened beverages, and opioids. Although less is known about taxing these activities, below we outline the current status of marijuana legalization and revenues and likely future activity. We also provide the current legal status regarding the taxation of sugar-sweetened beverages and opioids.

MARIJUANA

Marijuana Availability across the States

Marijuana is classified as a cannabinoid drug. Whether use of marijuana is safe and whether it is a substitute for opioids is an ongoing subject of study for physicians and other experts.

Although marijuana taxes are a relatively new state tax, the legalization, regulation, and taxation of marijuana in the US has a long history on par with that of alcohol and tobacco. In the early 1930s, the Federal Bureau of Narcotics asserted that marijuana regulation should be vested in the state governments. In 1937, however, the Treasury Department testified in front of the Congress in favor of establishing a marijuana transfer tax. In the same year, Congress passed the Marijuana Tax Act. The Act remained in place until the Comprehensive Drug Abuse Act of 1970, and between 1937 and 1970, “marijuana was legally controlled through a transfer tax for which no stamps or licenses were available to private citizens” (Musto 1991). The Comprehensive Drug Abuse Act of 1970 introduced strict requirements for certain types of drugs, including marijuana. The controversy around marijuana continued after the passage of the 1970 Act. “In 1972 the Presidential Commission on Marihuana and Drug Abuse recommended ‘decriminalization’ of marijuana, that is, legal possession of a small amount for personal use. In 1977 the Carter administration formally advocated legalizing marijuana in amounts up to an ounce” (Musto 1991). However, the attitudes shifted again in the late 1980s and early 1990s, and in 1990 Alaska passed a ballot measure for recriminalization of marijuana possession.

In recent years, several states have legalized both medical and recreational marijuana. California was the first state to legalize medical marijuana in 1996, and currently medical marijuana is legal in 33 states. Medical marijuana, in general, is not covered by health insurance because it is illegal under federal law. Many states tax medical marijuana, even though prescription medication usually is not subject to state taxes.

Colorado and Washington were the first two states to legalize recreational marijuana in November 2012. Currently, recreational marijuana is legal in the District of Columbia and 10 states: Alaska, California, Colorado, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont, and Washington. As of May 2019, recreational marijuana is taxed and sold in seven states: Alaska, California, Colorado, Massachusetts, Nevada, Oregon, and Washington. **Table 15** shows the legalization and start dates for recreational marijuana sales.

TABLE 15**Recreational Marijuana Timeline**

Recreational marijuana legalization date and operation start date

State	Legalization date	Start date
Colorado	Nov-12	Jan-14
Washington	Nov-12	Jul-14
Oregon	Nov-14	Oct-15
Alaska	Nov-14	Oct-16
Nevada	Nov-16	Jul-17
California	Nov-16	Jan-18
Massachusetts	Nov-16	Nov-18
Maine	Nov-16	TBD
Vermont	2018 (state legislature)	TBD
Michigan	Nov-18	TBD
District of Columbia	Nov-14	TBD

Sources: State government agencies.**Recreational Marijuana Tax Rates**

Given the current momentum of legalization of marijuana and the boom in tax revenue experienced by Washington and Colorado, it is likely that more states will continue to legalize medical and recreational use of marijuana in the coming years. Legalization of marijuana, particularly for recreational use, requires states to design a tax structure that generates revenues to at least cover any increased social costs. But states taxing recreational marijuana too heavily could lead to tax evasion and cause users to retreat back into the black market. These concerns mirror those around tobacco.

Recreational marijuana taxation is rather complicated and evolving, and states are gaining more experience and experiencing a steep learning curve as they implement legalization. Some states have already revised their tax structure after legalization.

Table 16 shows marijuana tax structures and rates for each of the seven states, where recreational marijuana use is legal and taxed as of May 2019. States vary in terms of their marijuana tax structure and tax rates. Alaska and California tax marijuana by weight, while six other states use an ad valorem tax (i.e., based on the price of marijuana sales). States levy these ad valorem taxes on both the wholesale transaction (similar to some state alcohol taxes, which are likely passed on to the consumer) and on the consumer purchase (similar to a general sales tax). California is the only state that imposes both ad valorem excise taxes on marijuana sales as well as a tax based on marijuana weight. States also impose marijuana application and license fees.

California, Massachusetts, Nevada, and Washington also impose a general sales tax on marijuana purchases in addition to their special marijuana taxes. Colorado does not impose its general state sales tax on marijuana, while Alaska and Oregon do not levy broad-based sales taxes on any products. Further, most states charge application and registration fees on marijuana businesses.

Some states also allow their local governments to levy taxes on marijuana. Local governments in Alaska, California, Massachusetts, and Oregon levy special marijuana taxes, and local governments in Alaska, California, Colorado, Nevada, and Washington have the authority to apply their local sales tax on marijuana sales.

TABLE 16

Recreational Marijuana Tax Structure and Rates

Recreational marijuana state and local tax rates

State	Retail excise tax	Wholesale/cultivation tax	Weight based tax	State sales tax	Local excise tax	Local sales tax
Alaska			Mature bud/flower: \$50 per ounce Immature bud/flower: \$25 per ounce Trim: \$15 per ounce Clones: \$1 per clone	N/A	0%–5%	0%–7.5%
California	15%		Flowers: \$9.25 per dry-weight ounce Leaves: \$2.75 per dry-weight ounce Fresh cannabis plant: \$1.29 per ounce	7.25%	0%–20%	0%–2.5%
Colorado	15%	15%		no		0%–6.5%
Massachusetts	10.75%			6.25%	0%–3%	N/A
Nevada	10%	15%		6.85%		0%–1.25%
Oregon	17%			N/A	0%–3%	N/A
Washington	37%			6.50%		0.5%–3.1%

Sources: State government agencies.

Notes: N/A = not applicable.

Next, we provide a brief history of marijuana taxation in the seven states that impose taxes on marijuana and the current tax structure.

In **Alaska**, the initial tax on recreational marijuana was \$50 per ounce of marijuana. Effective January 2019, sales and transfers of recreational marijuana are subject to new tax rates: marijuana flowers or mature buds are taxed at \$50 per ounce; immature or abnormal buds are taxed at \$25 per ounce; trims are taxed at \$15 per ounce; and clones are taxed at a flat rate of \$1 per clone.³¹

California levies excise taxes both on the cultivation and retail sale of marijuana. The cultivation tax is \$9.25 per ounce of flower, \$2.75 per ounce of leaves, and \$1.29 per ounce of fresh cannabis plant. In addition, there is a 15 percent tax on the retail price of marijuana. Beginning January 1, 2020, California’s Department of Tax and Fee Administration will annually adjust the cultivation tax rates to account for inflation (California Office of the Governor 2019). California also levies its state general sales tax (7.25 percent) on the purchase price of marijuana.

In **Colorado**, recreational marijuana purchases were originally subject to the state’s 2.9 percent general sales tax, a 10 percent state retail marijuana sales tax, and a 15 percent state marijuana excise tax on cultivators. However, just a few years later, the state revised its tax structure. Effective July 1, 2017, the state exempted marijuana purchases from its general sales tax and increased its marijuana retail sales tax rate to 15 percent. The states maintained its 15 percent state marijuana excise tax on cultivators.³²

In **Massachusetts**, the state excise sales tax on recreational marijuana is 10.75 percent. The state also levies its 6.25 percent general sales tax on marijuana purchases.³³

Nevada imposes a 15 percent excise tax on the first wholesale sale of marijuana by a cultivator and a 10 percent excise tax on the retail sale of marijuana to a customer. Nevada also imposes its 6.85 percent state general sales tax on marijuana sales.³⁴

Lawmakers in **Oregon** initially proposed, and voters approved, taxing marijuana based on the type of product. Measure 91 specified a harvest tax imposed on growers with the following rates: \$35 per ounce on all marijuana flowers, \$10 per ounce on all marijuana leaves, and \$5 per immature plant.³⁵ However, before legal sale began, legislators replaced the harvest tax with a 17 percent retail tax on marijuana purchases. Further, as of January 2017, municipalities can enact an additional marijuana tax of up to 3 percent on purchases.³⁶

In **Washington**, lawmakers initially introduced a complex marijuana taxation structure: a 25 percent tax on producer sales to processors, another 25 percent tax on processor sales to retailers, and a further 25 percent tax on retailer sales to customers. Effective July 2015, Washington replaced this complicated tax structure with a 37 percent marijuana excise tax. In addition, Washington also levies its 0.484 percent gross receipts tax (known in Washington as the business and occupation tax on production) and its 6.5 percent general receipts tax on marijuana sales.³⁷

As discussed above, marijuana is taxed ad valorem in all states but Alaska, and California has both an ad valorem and weight-based tax structure. Ad valorem taxation normally has “automatic” growth potential as prices rise. For marijuana, however, revenue growth potential should be viewed with caution because the legal market is still limited and immature, and prices of marijuana may not always rise.

States should forecast marijuana tax revenues with caution, particularly as more states are moving toward legalizing marijuana. The spread of marijuana legalization means the tourism demand for marijuana would decline while in-state consumption would likely grow. Moreover, the spread of marijuana legalization would likely lead to a substantial drop in wholesale prices, but it could also mean higher rates of tax evasion, particularly if states end up with large discrepancies in marijuana tax rates—just as we have seen with tobacco (Davis, Hill and Phillips 2019).

Widespread marijuana legalization has the potential to decrease tax revenues raised by alcohol and tobacco excise taxes, because marijuana consumption could partially function as a substitute for alcohol and tobacco consumption.

Recreational Marijuana State Tax Revenue Trends

For this report, we obtained detailed marijuana state tax revenue data in the states where retail sale of recreational marijuana is legal.

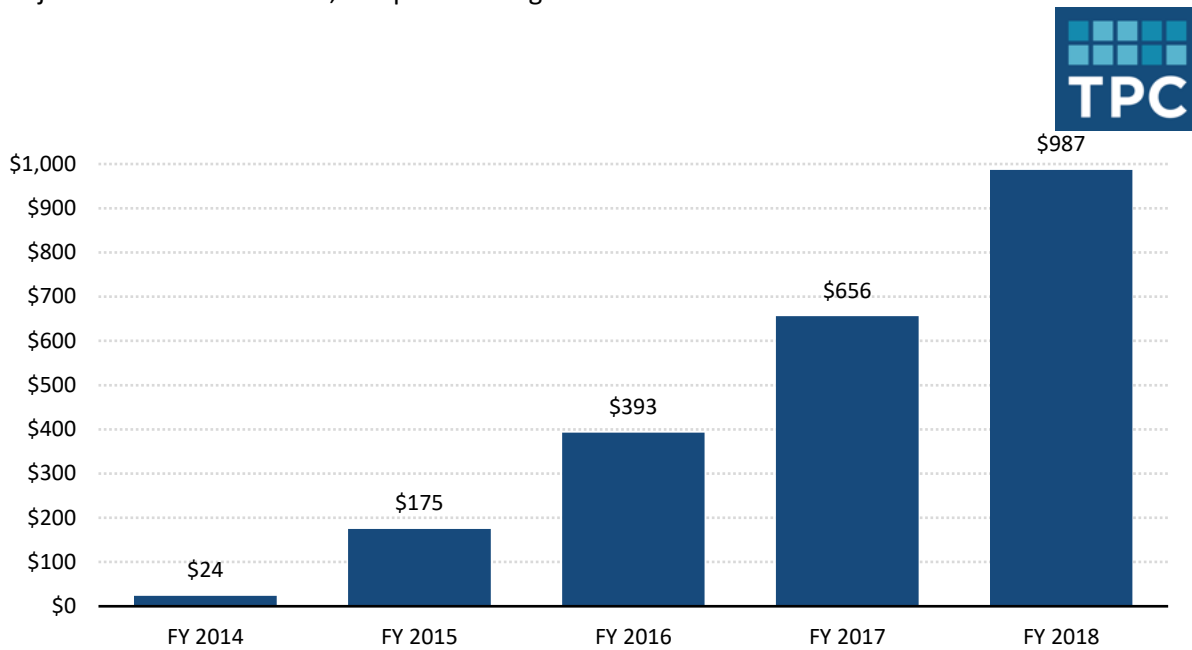
Figure 14 shows state tax revenues from recreational marijuana by fiscal year. State tax revenues from recreational marijuana grew substantially between fiscal years 2014 and 2018 as retail markets grew and as more states allowed retail sales of recreational marijuana. State tax revenues from recreational marijuana grew to nearly \$1 billion in fiscal year 2018 in the six states where sale of recreational marijuana was legal at the end of fiscal year 2018.

In fiscal year 2014, Colorado was the only state with taxable recreational marijuana sales, collecting \$24 million in tax revenue. By fiscal year 2018, five other states had joined Colorado and marijuana tax revenue had grown to nearly \$1 billion. Washington started retail sales of recreational marijuana in fiscal year 2015, Oregon in fiscal year 2016, Alaska in fiscal year 2017, and California and Nevada in fiscal year 2018. Finally, Massachusetts started the retail sales of recreational marijuana in November 2018.

FIGURE 14

State Tax Revenues from Recreational Marijuana Reached Nearly \$1 Billion in FY 2018

Marijuana state tax revenues, inception through FY 2018



Source: State government agencies. Analysis by the author.

Notes: Local government tax revenues and license/application fees are excluded.

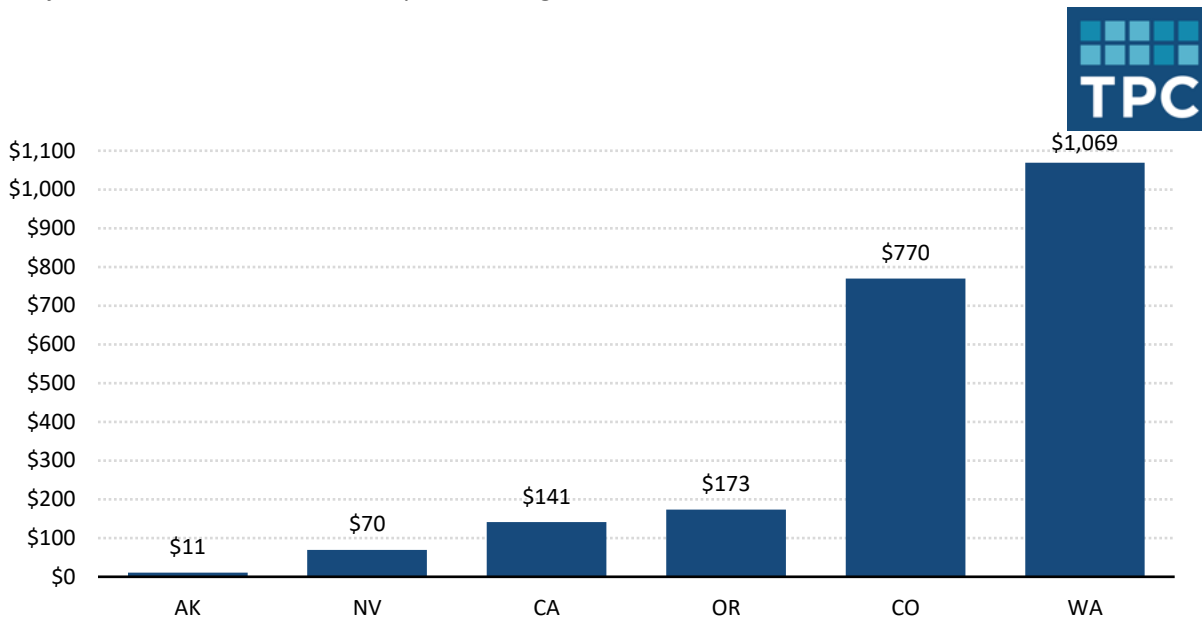
Figure 15 shows state tax revenues from recreational marijuana from inception through the end of fiscal year 2018 by state. Although Colorado was first, Washington has raised the most tax revenue from recreational marijuana, surpassing \$1.0 billion during the first four years of legal sales of recreational marijuana, between fiscal years 2015 and 2018. Colorado collected \$770 million from fiscal year 2014 to fiscal year 2018. The other four states combined raised less than \$400 million in state tax revenues from recreational marijuana from inception through end of fiscal year 2018.

Table 17 shows state tax revenues from recreational marijuana by state and by quarter as well as total tax revenues from inception through end of calendar year 2018. This table includes two additional quarters of data covering the last half of 2018. States collectively raised \$2.9 billion in revenues from recreational marijuana since inception.

State tax revenues from recreational marijuana will continue to grow, particularly due to the expansion of legal marijuana market into additional states. However, annual growth rates will likely weaken with time, and state revenues from marijuana will continue playing only a small role in state budgets.

FIGURE 15

Tax Revenues from Recreational Marijuana from Inception through FY 2018, by State
 Marijuana state tax revenues, inception through FY 2018



Source: State government agencies. Analysis by the author.

Notes: Local government tax revenues and license/application fees are excluded. For Nevada, general sales tax revenues are excluded. Tax revenues for Washington include medical marijuana.

TABLE 17

State-by-State Tax Revenues from Recreational Marijuana

Marijuana state tax revenues, inception through calendar year 2018 (thousands of dollars)

Year/Quarter	AK	CA	CO	MA	NV	OR	WA	Total
2014 Q1			7,612					7,612
2014 Q2			15,970					15,970
2014 Q3			21,671				4,979	26,650
2014 Q4			22,341				12,928	35,269
2015 Q1			26,460				19,650	46,109
2015 Q2			31,923				35,115	67,038
2015 Q3			36,850				44,259	81,109
2015 Q4			35,178				50,358	85,536
2016 Q1			39,910			6,843	54,524	101,277
2016 Q2			44,763			13,810	66,050	124,623
2016 Q3			53,544			19,559	81,874	154,977
2016 Q4	87		55,388			19,943	90,009	165,427
2017 Q1	342		53,439			14,246	90,904	158,931
2017 Q2	744		61,094			16,516	97,977	176,332
2017 Q3	1,669		67,448		13,265	18,380	105,328	206,091
2017 Q4	2,266		65,387		17,112	19,504	103,313	207,581
2018 Q1	2,569	60,900	63,688		18,596	21,471	103,716	270,941
2018 Q2	2,981	80,200	67,244		20,787	22,849	108,158	302,219
2018 Q3	3,999	100,800	69,779		23,476	24,512	115,237	337,804
2018 Q4	5,009	111,900	65,819	678	24,042	25,395	112,300	345,142
Total since inception	19,667	353,800	905,508	678	117,278	223,028	1,296,680	2,916,639

Source: State government agencies.

Notes: Local government tax revenues and license/application fees are excluded. For Nevada, general sales tax revenues are excluded. Tax revenues for Washington include medical marijuana.

NEW AND EMERGING SINS

Officials in state and local governments are constantly looking for options to raise revenues without increasing tax rates on sales or income. Sometimes, they turn into taxing new products or activities often thought to be immoral.

Some governments recently turned to imposing a tax on sugar-sweetened beverages, most commonly known as a “soda tax,” aiming to reduce consumption of drinks with added sugar. Proponents of a soda tax argue that the primary goal is to offset the growing economic costs of obesity while discouraging unhealthy diets. Some economists argue that soda taxes are regressive because these drinks are more likely to be consumed by lower-income households (Hill and Davis 2016). Moreover, sugar-sweetened beverages are often taxed based on drink volume rather than sugar content, which means consumers will pay an equally high tax price for both high-sugar and low-sugar drinks. Several economists recommend that sugar-sweetened beverages should be taxed based on sugar content rather than on volume, which is “a better way to discourage sugar consumption because the price will increase as sugar content increases” (Francis, Marron and Rueben 2016).

Denmark was the first country to impose taxes on sugar-sweetened beverages in the 1930s, but they repealed the tax in 2014. Currently 39 countries around the world impose taxes on sugar-sweetened beverages, 22 of which enacted such taxes in the past five years (Allcott, Lockwood and Taubinsky 2019). There is a global as well as state and local movement toward taxing sugar-sweetened beverages with the hopes of fighting obesity and achieving healthier populations.

In the United States, sugar-sweetened beverages are not taxed at the federal or state level. But seven cities in four states levy a special tax on them (**Table 18**). Officials in Cook County, Illinois, passed a 1 cent per ounce soda tax in November 2016 but repealed it in October 2017.

In addition to taxes on sugar-sweetened beverages, 23 states and the District of Columbia either fully or partially exempt groceries from sales taxes but do not classify sugar-sweetened beverages as groceries, so sales taxes apply to them.

TABLE 18

Sugar-Sweetened Beverage Tax Effective Dates and Tax Rates as of September 2019

Localities	Legalization date	Effective date	Tax rate
Albany, CA	November 2016	April 2016	1 cent (\$0.01) per ounce
Berkeley, CA	November 2014	January 2015	1 cent (\$0.01) per ounce
Oakland, CA	November 2016	July 2017	1 cent (\$0.01) per ounce
San Francisco, CA	November 2016	January 2018	1 cent (\$0.01) per ounce
Boulder, CO	November 2016	July 2017	2 cents (\$0.02) per ounce
Philadelphia, PA	June 2016	January 2017	1.5 cents (\$0.015) per ounce
Seattle, WA	June 2017	January 2018	1.75 cents (\$0.0175) per ounce

Source: Local government agencies. **Note:** Cities are hyperlinked to respective sugar-sweetened beverage tax guidelines.

Finally, some states are also considering the possibility of taxing opioids. In recent months, 14 states have introduced legislation for taxing prescription opioids. However, New York is the only state to enact a measure to tax prescription opioids, effective July 1, 2019.³⁸ Officials in favor of taxing prescription opioids argue that it will help address the opioid crisis. But critics argue that the opioid overdose epidemic is largely caused by consumption of illegal opioids and only marginally caused by prescription opioids. At present, there is no consensus around the desirability of taxing prescription opioid sales.

CONCLUSION

Although states can and do raise revenue from sin taxes, they should be mindful about the limitations of these taxes. The longer-term growth patterns for sin tax revenue have often been weak and limited, and they will likely stay that way absent policy changes (such as increased tax rates). Even in states where sin tax revenues have grown, they often make up only a small part of state budgets. Taxes on sin goods and services are often just a short-term solution to state budget gaps. Revenue gains from sin taxes are usually short-lived and can create longer-term fiscal challenges for states if revenue growth from sin taxes deteriorates over time or requires higher tax rates to maintain a certain level. And higher tax rates can decrease consumption, which lowers tax revenue.

One lesson from the implementation of sin taxes is that when the tax is based on the quantity of goods sold, rather than on their value, tax revenue is driven by consumption until states change tax rates. States opting to increase tax rates on sin goods, such as tobacco or alcohol, often leads to reduced consumption as some consumers either quit or reduce their intake of tobacco and alcohol. Moreover, tax rate increases on these products may also lead to shifts in consumer behavior, consumption of alternative products, and tax evasion through smuggling from nearby jurisdictions.

Revenues from sin taxes showed mixed growth in the past decade. The growth in alcohol revenues is largely attributable to growth in alcohol consumption, particularly wine and spirits. On the other hand, the weakness in tobacco tax revenues over the past decade is largely attributable to the overall decline in tobacco consumption. Falling cigarette consumption might also reflect a shift in usage of e-cigarettes or other tobacco products.

The growth in gambling revenues is attributable to the expansion of gambling activities, particularly the legalization of casinos and racinos in some states as well as the introduction of new gambling activities, such as tables games, video games, and sports betting. However, states considering further expansions of gambling should consider market competition within the state and among neighboring states. The revenue trend analysis shows that in the long run, the growth in state revenues from gambling activities tends to slow or even reverse and decline. The gambling revenue deterioration is partially caused by competition with other states for a limited market (saturation) and competition between different forms of gambling (substitution).

Finally, the growth in aggregate recreational marijuana revenues is attributable to the growth of legalization across states, but the current states taxing marijuana sales will likely face falling revenues as more states legalize recreational marijuana usage.

In sum, sin taxes offer only limited revenue potential to governments. Expanding the consumption of sin goods and services has social and economic costs and benefits that often are hard to quantify and measure. Taxing sins is understandably appealing to officials wishing to raise revenue without raising taxes on income or sales, but the longer-term revenue picture is uncertain, and potential economic and social costs and benefits associated with these revenue sources require careful consideration. Greater dependence on these revenues can also set up odd incentives because part of the reason for taxing some of these activities is to discourage consumption and use, not to maximize revenue.

- ¹ In this report, tax revenues for alcohol, tobacco, and gambling exclude District of Columbia.
- ² A proof gallon refers to a liquid gallon that is 50 percent alcohol by volume.
- ³ For more information, see “Historical Tax Rates,” Alcohol and Tobacco Tax and Trade Bureau, https://www.ttb.gov/tobacco/94a01_4.shtml.
- ⁴ In this report, for alcohol state revenues the author reports aggregated revenue data for alcohol taxes, license fees, and liquor store revenues. Alcohol taxes are applicable to both license and control states. License fees are applicable to license states only, while liquor store revenues are applicable to control states only.
- ⁵ For more detailed information on the history of excise tax rates on alcoholic beverages see the Alcohol Policy Information System at <https://alcoholpolicy.niaaa.nih.gov>.
- ⁶ Note that the authors used population age 14 and above to calculate per-capita consumption rates because most self-reported surveys indicate that many people below the legal drinking age and above age 14 have been consuming alcohol.
- ⁷ The compound annual growth rate is the average annual growth rate over a specified period of time.
- ⁸ Alcohol revenue numbers in this report may differ from the numbers reported by the Census Bureau because the author made several adjustments based on data directly retrieved from individual states.
- ⁹ For more information, see “Liquor Tax Rate Changes,” Illinois Department of Revenue, July 2009, <http://www.revenue.state.il.us/Publications/Bulletins/2010/FY-2010-04.pdf>.
- ¹⁰ See “Excise Tax Rates for Non-Cigarette Tobacco Products,” Campaign for Tobacco-Free Kids, accessed September 20, 2019, <https://www.tobaccofreekids.org/assets/factsheets/0169.pdf>.
- ¹¹ See Orzechowski and Walker, “The Tax Burden on Tobacco: Historical Compilation, 1970-2017,” Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, accessed September 20, 2019, <https://chronicdata.cdc.gov/Policy/The-Tax-Burden-on-Tobacco-1970-2018/7nwe-3aj9/data>.
- ¹² In early 1990s, several states sued the major cigarette manufacturers to recover Medicaid and other costs that states incurred for treating smokers. On November 23, 1998, the major cigarette manufacturers, along with 46 states entered into the Tobacco Master Settlement Agreement, which is the largest civil litigation settlement in US history and requires the tobacco industry to pay the settling states billions of dollars annually.
- ¹³ See Orzechowski and Walker, “The Tax Burden on Tobacco.”
- ¹⁴ Tobacco tax revenue numbers in this report may differ from the numbers reported by the Census Bureau because the author made several adjustments based on data directly retrieved from individual states.
- ¹⁵ These states might have increased the rates on other tobacco products, which we did not track.
- ¹⁶ See “What are Electronic Cigarettes,” National Institute on Drug Abuse, last revised June 2018, <https://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-cigarettes>.
- ¹⁷ For more details, see “E-Cigarette Tax: States with Laws Taxing E-Cigarettes, Enacted as of June 15, 2019,” Public Health Law Center at Mitchell Hamline School of Law, accessed September 20, 2019, <https://www.publichealthlawcenter.org/sites/default/files/States-with-Laws-Taxing-ECigarettes-June152019.pdf>.
- ¹⁸ See “State Cigarette Excise Tax Rates and Rankings,” Campaign for Tobacco-Free Kids, accessed September 20, 2019, <https://www.tobaccofreekids.org/research/factsheets/pdf/0097.pdf>.
- ¹⁹ In table 3, all measures pertain to cigarettes only, with the exception of tobacco tax revenues that pertain to all tobacco products (both cigarettes and other tobacco products).
- ²⁰ The Mackinac Center for Public Policy has been providing estimates for state cigarette smuggling since 2008. For the latest estimated cigarette smuggling rates, see <https://www.mackinac.org/smokes#map>.

- ²¹ The author did not review the model independently but believes the results generally are consistent with academic research on this topic.
- ²² See State of Tennessee, Public Chapter No 74, Senate Bill No 636, <https://publications.tnsosfiles.com/acts/109/pub/pc0074.pdf>.
- ²³ For summary of bills, see the Hawaii Coalition against Legalized Gambling: <http://hcalg.org/legislature>.
- ²⁴ See H.B. 1107, 30th Leg., Reg. Sess. (HI 2019). https://www.capitol.hawaii.gov/session2019/bills/HB1107_.pdf.
- ²⁵ In this report, gambling revenues refer to revenues from various taxes and fees transferred to state and local governments.
- ²⁶ We obtained lottery revenue data since inception from individual state lottery agencies, except for New York which is missing data for fiscal years 1968–70. We also obtained casino and racino revenue data since inception from individual state gaming regulatory agencies or other state agencies, except for Nevada which is missing casino revenue data before fiscal year 1982. Video gaming revenue data were obtained from individual state gaming regulatory agencies, while parimutuel wagering data were obtained from the US Census Bureau.
- ²⁷ In most states the legal gambling age is either 18 or 21 years, so we adjust the gambling revenue to state populations age 18 or older.
- ²⁸ Several states with racino operations host VLTs. In this report, revenues from VLTs are included in casino/racino revenues for Delaware, Maryland, New York, Ohio, Rhode Island, and West Virginia. In addition, lottery revenues for Oregon exclude revenues from video gaming machines, which are reported separately, under video gaming machines.
- ²⁹ The author was unable to obtain data for Nevada for fiscal years 1933–82.
- ³⁰ In New Mexico, sports betting is legal only at Native American casinos.
- ³¹ See “Marijuana Tax,” Alaska Department of Revenue, accessed September 20, 2019, <http://tax.alaska.gov/programs/programs/index.aspx?60000>.
- ³² See “Marijuana Tax Data,” Colorado Department of Revenue, accessed September 20, 2019, <https://www.colorado.gov/pacific/revenue/colorado-marijuana-tax-data>.
- ³³ See “Learn About Massachusetts Tax Rates,” Massachusetts Department of Revenue, accessed September 20, 2019, <https://www.mass.gov/service-details/learn-about-massachusetts-tax-rates>.
- ³⁴ See “FAQs for Marijuana Establishments,” State of Nevada Department of Taxation, accessed September 20, 2019, https://tax.nv.gov/FAQs/Retail_Marijuana.
- ³⁵ See “Measure 91,” Oregon Liquor Control Commission, accessed September 20, 2019, <http://www.oregon.gov/olcc/marijuana/Documents/Measure91.pdf>.
- ³⁶ See “Marijuana Tax,” Oregon Department of Revenue, last updated March 8, 2018, http://www.oregon.gov/DOR/press/Documents/marijuana_fact_sheet.pdf.
- ³⁷ See “FAQs on Marijuana,” Washington State Liquor and Cannabis Board, accessed September 20, 2019, https://lcb.wa.gov/mj2015/faqs_i-502#Financial.
- ³⁸ For more information, see “Opioid Excise Tax,” New York State Department of Taxation and Finance, accessed September 20, 2019, <https://www.tax.ny.gov/bus/oet/oetidx.htm>.

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