

RESEARCH REPORT

States Reported Revenue Growth in July-September Quarter, Reflecting Revenue Shifts from the Prior Quarter

State Tax and Economic Review, 2020 Quarter 3

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Get Real-Time Data

The State Tax and Economic Review is the preeminent source of data and analysis on state tax collections. The Urban Institute's State and Local Finance Initiative regularly collects data and information from all 50 states, uses this information to adjust national and state data from the US Census Bureau, then provides the most timely, accurate, and in-depth look at how states are faring.

Visit our project page to read previous *State Tax and Economic Review* reports and subscribe to gain direct access to the following datasets:

Monthly State Government Tax Revenue Data

Data from all states from 2010 to present on revenue from the individual income tax, corporate income tax, general sales tax, and total taxes.

Monthly State Government Personal Income Tax Data

Data from 41 states with broad-based income taxes from 2010 to present for the following components of personal income taxes: withholding, estimated payments, final payments, refunds, and total net personal income taxes.

Quarterly State Government Tax Revenue Data

Data from all states from 2010 to present on tax revenue from the individual income tax, corporate income tax, general sales tax, and motor fuel tax.

Annual State Government Tax Revenue Collections versus Official Forecasts

Data from nearly all states from fiscal year 2015 onward for actual revenue collections and revenue forecasts for the individual income tax, corporate income tax, and general sales tax.

Annual State and Local Government Gambling Revenue Data

Data from all states for fiscal year 2000 onward for revenues collected on various types of gambling, including lottery, pari-mutuels, casinos and racinos, and video games.

Monthly State Government Marijuana Tax Revenue Data

Data from all states that tax sales of recreational marijuana from inception of the tax to present.

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- State and local government tax revenues from major sources—personal income, corporate income, sales, and property taxes—were 17.1 percent higher in the third quarter of 2020 than in the prior year, which was in sharp contrast to the 0.2 percent average annual decline for the prior four quarters. The growth in state and local government tax revenues was primarily caused by the shifting of income tax deadlines in most states from April 15 to July 15 and a share of 2019 income tax revenue being received in the third quarter of 2020 instead of the second quarter of 2020. Therefore, the strong revenue growth in the third quarter of 2020 should be viewed in combination with the steep revenue declines in the second quarter of 2020. Using six-month periods when making comparisons to the prior year presents a clearer picture of states' fiscal health.
- State government tax revenues from major sources showed year-over-year growth at 25.9 percent for the third quarter of 2020, which contrasts with the 2.4 percent average annual decline for the prior four quarters. As noted, the strong growth in the third quarter of 2020 was the mirror image of the steep revenue declines in the second quarter of 2020, largely reflecting the shifting of state income tax receipts across quarters for many states. Growth rates varied considerably among major revenue sources:
 - State personal income tax revenues grew by \$39.5 billion or 42.7 percent in the third quarter of 2020, mostly because states delayed their income tax filing deadlines into the third quarter. As a reminder, state personal income tax revenues declined by \$46.2 billion or 32.1 percent in the second quarter of 2020. This volatility in income tax revenues is the consequence of both federal and state policy decisions related to the pandemic. State personal income tax revenues declined by 2.8 percent for the second and third quarters of 2020 combined, compared with the same period in 2019.
 - State sales tax revenues grew by \$2.3 billion or 2.7 percent in the third quarter of 2020. Growth in the third quarter followed the steep decline seen in the second quarter, when sales tax revenues declined by \$12.1 billion or 13.2 percent because of actions taken by individuals, businesses, and governments early in the spring that dramatically reduced business activity. State sales tax revenues had seen some increases prior to the onset of the COVID-19 pandemic, mostly in response to the US Supreme Court's June 2018 South Dakota v. Wayfair, Inc. decision and subsequent changes in state tax rules. The ability of states to collect sales taxes on e-commerce transactions propped up sales taxes in many

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- states during the pandemic, as many consumers switched from in-person to online shopping. Despite the growth observed in the third quarter of 2020, state sales tax revenues declined by 5.5 percent for the second and third quarters of 2020 combined compared with the same period in 2019.
- State corporate income tax revenues grew by \$8.5 billion or 63.8 percent in the third quarter of 2020 compared with the same quarter in 2019. As with personal income taxes, most states extended the due date for corporate final and estimated payments. Therefore, the strong growth in the third quarter of 2020 is largely related to timing as revenues were shifted. State corporate income tax revenues were 8.6 percent lower in the second and third quarters of 2020 combined, compared to the same period in 2019.
- » Local government tax revenues from major sources showed year-over-year growth of 5.4 percent for the third quarter of 2020, which contrasts with the 3.9 percent average annual growth rates for the prior four quarters. Year-over-year growth in local government tax revenues from major sources was 1.7 percent in the second and third quarters of 2020 combined.
- Local property tax revenues, the largest source for local government revenues, increased 5.3 percent year over year for the third quarter of 2020, which is slightly stronger than the 4.2 percent average growth for the prior four quarters. Year-over-year growth in local government property tax revenues was 2.5 percent in the second and third quarters of 2020 combined.
- Preliminary data for the fourth quarter of 2020 indicate year-over-year growth in overall state tax revenue collections as well as in major sources of tax revenues: personal income, corporate income, and sales taxes.
 - State personal income tax collections grew 8.9 percent in the fourth quarter of 2020 compared with the same period a year earlier. Growth in the median state was substantially weaker, at 4.5 percent.
 - State corporate income tax collections grew 23 percent in the fourth quarter of 2020 compared with the same period a year earlier. Growth in the median state was weaker, at 17 percent.
 - » **State sales tax** collections grew 3.3 percent in the fourth quarter of 2020 compared with the same period a year earlier. Growth in the median state was stronger, at 5.4 percent.
- Economic factors driving revenue growth were mostly negative in the third quarter of 2020.
 State economic performance took a dramatic negative turn with the spread of the pandemic

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across the nation. However, growth in some economic factors had been weakening since mid-2019, well before the COVID-19 pandemic began.

- » Real gross domestic product (GDP) declined 2.8 percent for the third quarter of 2020 compared with the same quarter in 2019. This is the second consecutive quarter of decline, and preliminary figures indicate that GDP declined further in the fourth quarter of 2020. Declines in real GDP were expected because of the massive economic disruptions caused by the COVID-19 pandemic and responses from governments, businesses, and individuals.
- The seasonally adjusted unemployment rate was 8.8 percent in the third quarter of 2020, which was an improvement over the double-digit unemployment rate observed in the second quarter of 2020. The pandemic forced many businesses to shut down or dramatically reduce activity, leaving millions of Americans out of work, especially in the second quarter of 2020.
- Year-over-year decline in employment was 7.0 percent for the third quarter of 2020. All 50 states reported outright employment declines in the third quarter compared to a year earlier. However, overall employment growth had slowed even before the onset of the COVID-19 pandemic.
- Personal consumption expenditures declined 1.7 percent for the third quarter of 2020 compared with the same quarter a year earlier. Declines in personal consumption spending were largely expected given that oil prices declined precipitously and that the COVID-19 pandemic stalled large portions of the economy beginning in mid-March, leading to steep declines in spending on services.
- » House prices increased 4.8 percent in nominal terms for the third quarter of 2020 compared with a year earlier. Overall, house price growth was weaker throughout 2019 and 2020 than in the prior two years. Although average house prices have been rising since the Great Recession, as of the third quarter of 2020, they were still below their pre-Great Recession peaks in four states.

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Trends in State and Local Revenues

The COVID-19 pandemic caused an unprecedented economic shock across the world. As a result, state and local government tax revenues saw steep declines this past spring. Some of the revenue losses were in response to government actions that deferred revenue collections to a later period; others were due to underlying economic factors. In the past few months, we have seen some rebounding in state tax revenues, due in part to federal aid provided early in the pandemic.

State and local tax revenues have become increasingly volatile and sensitive to economic, policy, and behavioral changes. Unfortunately, we expect the impact of the COVID-19 pandemic on state and local government tax revenues to be ongoing and to differ widely across specific states and localities. Although some states have seen state revenues bounce back, others have not. The recently passed American Rescue Plan Act will cushion state and local budgets and should help protect recent signs of economic recovery. Although infection rates are falling and individuals are getting vaccinated, states' additional fiscal needs and recovery paths are still uncertain because of changes in consumer behavior in response to the pandemic and because of public health and economic risks associated with the new variants of the COVID-19 virus.

State and local government tax revenues fluctuated wildly after the passage of the Tax Cuts and Jobs Act of 2017 (TCJA), as discussed in previous *State Tax and Economic Review* quarterly reports. Growth in state and local government tax revenues had normalized in the second half of 2019, but that did not last as the COVID-19 pandemic spread to the United States.

Table 1 shows state and local government tax revenues from major sources for the third quarter of 2019 and the third quarter of 2020 as well as the nominal percentage change between both quarters and the average quarterly year-over-year growth in the prior four quarters. Table 1 also shows revenues for the second and third quarters combined for 2019 and 2020 as well as the nominal percentage changes between the two periods. Overall, states and localities reported strong revenue growth in the third quarter of 2020. However, that growth was largely because of the deferral of tax filing deadlines and income tax receipts being shifted from the second quarter to the third quarter of 2020. Major findings include the following:

State and local government tax revenues from major sources grew 17.1 percent in the third quarter of 2020 compared with a year earlier; this contrasts with the average quarterly year-over-year decline rate of 0.2 percent in the prior four quarters. As noted, however, this growth reflects shifts in revenues between the second and third quarters. State and local revenues for

- the second and third quarters of 2020 combined declined 2.0 percent compared with the same period in 2019.
- State government tax revenue from major sources grew 25.9 percent in the third quarter of 2020 relative to a year earlier, which is in sharp contrast to the average year-over-year declines of 2.4 percent observed for the prior four quarters. However, state government tax revenues from major sources declined 4.3 percent in the second and third quarters of 2020 combined, compared with the same period in 2019. The growth in state personal income tax revenues was 42.7 percent for the third quarter of 2020 compared with the third quarter of 2019, though largely reflecting the delay in filing deadlines. This contrasts with the average quarterly year-over-year declines of 4.1 percent for the prior four quarters and with year-over-year declines of 2.8 percent in the second and third quarters of 2020 combined. State corporate income tax revenues increased 63.8 percent for the third quarter of 2020 compared with a year earlier. However, part of the strong growth in corporate income taxes was because of the delays in filing deadlines. Corporate income tax revenues declined 8.6 percent in the second and third quarters of 2020 combined, compared with the same period in 2019. State sales tax collections increased 2.7 percent for the third quarter of 2020 compared with the third quarter of 2019. However, sales tax revenues declined 5.5 percent in the second and third quarters of 2020 combined, compared with the same period in 2019.
- Local government tax revenue from major sources grew 5.4 percent from a year earlier in the third quarter of 2020, which was stronger than the 3.9 percent average quarterly year-over-year growth for the prior four quarters. However, year-over-year growth in local government tax revenues from major sources was weaker, at 1.7 percent in the second and third quarters of 2020 combined. Local property taxes, the single largest source of local government tax revenues, increased 5.3 percent from the prior year; average quarterly year-over-year growth was 4.2 percent for the prior four quarters. Local property taxes saw some fluctuations in the past two years as some taxpayers shifted the timing of their property tax payments in response to passage of the TCJA in late 2017. Local sales taxes declined 1.2 percent for the third quarter of 2020 compared with the level a year earlier. Both local personal income taxes and local corporate income taxes saw double-digit growth in the third quarter of 2020, but these constitute a relatively small share of local revenues (less than 10 percent in a typical quarter), are concentrated in a few states, and (as with state income taxes) reflect in part the shifting of receipts from the second quarter of 2020 to the third quarter of 2020 because of postponed income tax return filing deadlines.

TABLE 1
State and Local Government Tax Revenue Trends

				Average quarterly Y-O-Y growth	2019 Q2	2020 Q2	
			Y-O-Y %	rate, prior four	and	and	Y-O-Y %
Tax source	2019 Q3	2020 Q3	change	quarters (%)	2019 Q3	2020 Q3	change
Total state and							
local major taxes	\$340,594	\$398,969	17.1	(0.2)	\$751,964	\$737,219	(2.0)
State major taxes	\$195,286	\$245,794	25.9	(2.4)	\$461,937	\$442,133	(4.3)
Personal income tax	92,449	131,956	42.7	(4.1)	236,504	229,791	(2.8)
Corporate income tax	13,259	21,712	63.8	(3.8)	40,150	36,714	(8.6)
Sales tax	85,023	87,340	2.7	0.9	176,409	166,639	(5.5)
Property tax	4,556	4,785	5.0	1.9	8,874	8,989	1.3
Local major taxes	\$145,308	\$153,175	5.4	3.9	\$290,027	\$295,086	1.7
Personal income tax	8,841	10,373	17.3	(0.9)	21,134	20,138	(4.7)
Corporate income tax	1,819	2,531	39.1	(0.7)	4,671	4,980	6.6
Sales tax	23,587	23,295	(1.2)	4.8	46,385	46,724	0.7
Property tax	111,061	116,976	5.3	4.2	217,837	223,244	2.5

Source: US Census Bureau (tax revenue), with adjustments by the author.

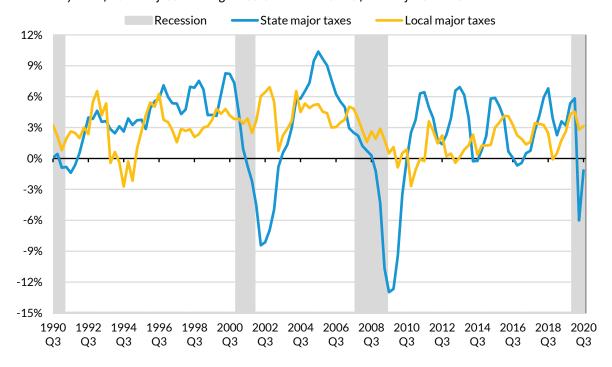
Notes: Q = quarter; Y-O-Y = year-over-year.

Figure 1 shows longer-term trends in state and local tax collections, specifically the year-over-year percentage change in the four-quarter moving average of inflation-adjusted state and local tax collections from major sources: personal income tax, corporate income tax, sales tax, and property tax. As shown in Figure 1, state tax revenues from major sources fluctuated greatly over the past few years, mostly driven by the impact of the federal fiscal cliff negotiations (in 2013), volatility in the stock market, and the impact of taxpayer behavior in response to the passage of the TCJA. The pandemic caused further volatility in state and local taxes. State taxes from major sources, adjusted for inflation, declined 1.2 percent on average for the past four quarters relative to a year earlier. Most states rely heavily on three major sources of taxes (personal income, corporate income, and sales tax), all of which respond rapidly to economic upticks and declines as well as to government policy decisions.

The four-quarter moving average of inflation-adjusted local taxes from major sources showed a 3.1 percent increase for the third quarter of 2020. Most local governments rely heavily on property taxes, which are relatively stable and respond relatively slowly to changes in property values. Over the past two decades, property taxes have consistently made up at least two-thirds of total local tax collections.

State Major Tax Revenues Still below Their Prepandemic Levels

Year-over-year inflation-adjusted change in state and local taxes from major sources

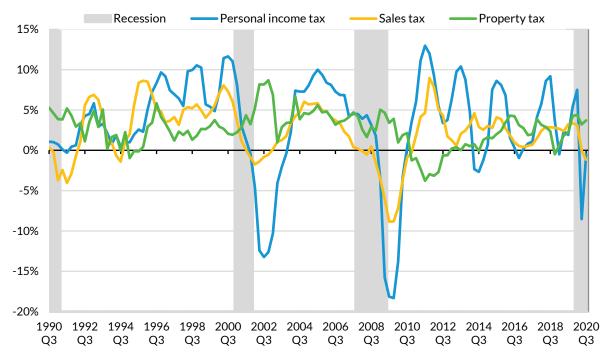


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Source: US Census Bureau (tax revenue) and Bureau of Economic Analysis (GDP), analysis by the author. **Notes:** Year-over-year change is the percentage change of four-quarter moving averages. Data are adjusted for inflation. Data are for four major tax categories only: personal income, corporate income, general sales, and property.

Figure 2 breaks out inflation-adjusted state and local personal income, sales, and property tax revenue over the past 30 years. The graph shows the large fluctuations in real (inflation-adjusted) state and local personal income tax collections in recent years. State and local personal income tax revenues saw a 0.5 percent year-over-year decline in the third quarter of 2020. Real state and local sales tax revenues showed a 1.2 percent year-over-year decline in the third quarter of 2020. State and local property taxes, nearly all of which are collected by local governments, showed a 3.7 percent real growth rate from a year earlier for the third quarter of 2020.

FIGURE 2
State and Local Sales Tax Revenues Took a Sharp Turn in the Second Quarter of 2020
Year-over-year inflation-adjusted change in major state-local taxes



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Source: US Census Bureau (tax revenue) and Bureau of Economic Analysis (GDP), analysis by the author. **Notes:** Year-over-year change is the percentage change of four-quarter moving averages. Data are adjusted for inflation.

Trends in State Tax Revenue in 2020 Quarter 3

Total state tax revenue increased 18.8 percent in nominal terms in the third quarter of 2020 relative to a year earlier, according to US Census Bureau data adjusted by the author (Table A1).¹ All major sources of taxes (except for motor fuel taxes) showed growth in the third quarter of 2020. The year-over-year growth in state personal income tax revenues was 42.7 percent for the third quarter of 2020. Corporate income tax revenue collections grew 63.8 percent for the third quarter of 2020 compared with a year earlier. State sales tax collections grew 2.7 percent while motor fuel tax collections declined 5.7 percent relative to a year earlier. However, much of the growth in personal income and corporate income tax revenues was caused by the shifting of revenues from the second quarter of 2020 into the third quarter of 2020. Table A1 shows (1) nominal and inflation-adjusted growth in state government tax revenue collections from major sources and (2) average quarterly year-over-year growth between the first quarter of 2010 and the third quarter of 2020. The inflation-adjusted average annual growth rate in overall state tax revenues since 2010 was only 2.7 percent.

Regions differed in year-over-year total state tax revenue growth for the third quarter of 2020 (Table A2). State tax revenues saw double-digit growth in all but the New England, Plains, and Southeast regions. The Far West and Rocky Mountain regions had the strongest year-over-year growth at 36.1 and 29.2 percent, respectively, while the New England region had the weakest growth at 2.5 percent.²

Thirty-seven states reported growth in total state tax revenue collections for the third quarter of 2020 relative to a year prior, with 27 states reporting double-digit growth. State tax revenues declined in 13 states, with North Dakota and New Jersey reporting the steepest declines at 29.2 and 8.4 percent, respectively.

Because a substantial portion of income tax revenues was shifted from second quarter of 2020 to the third quarter of 2020 because of the deferral of tax filing deadlines for tax year 2020, it is important to analyze revenue growth trends for the second and third quarters of 2020 combined. State total tax revenues declined 5.6 percent in the second and third quarters of 2020 combined, compared with the same period in 2019, with a median decline of 3.8 percent (Table A3). State tax revenues declined in 41 states over that six-month period, ranging from a 0.3 percent decline in Georgia to a 39.1 percent decline in North Dakota. Nine states reported growth, with Idaho and Utah reporting the largest growth at 10.2 and 5.7 percent, respectively.

Personal Income Taxes

State personal income tax revenues increased 42.7 percent in nominal terms and 41.2 percent in inflation-adjusted terms in the third quarter of 2020 compared with the same period in 2019. This contrasts with the steep declines reported in the second quarter of 2020. These wild swings in personal income tax collections were primarily in response to the deferral of tax filing deadlines, which shifted income tax revenues from the second quarter of 2020 to the third quarter of 2020. The average quarterly year-over-year growth rate in state personal income tax collections since 2010 has been 6.1 percent in nominal terms and 4.4 percent in real terms (Table A1).

Because the Internal Revenue Service delayed income tax deadlines in 2020 from April 15 to July 15 and states generally followed suit, states collected substantially less income tax revenue in April 2020. Typically, April is the most important month for income tax payments. Usually states collect around 13 to 15 percent of annual personal income tax revenues in April, with 70 to 75 percent coming from estimated and final payments. In 2020, large shares of estimated and final payments were shifted to July. These changes resulted in wide variations from prior years.

Personal income tax collections increased across all regions in the third quarter of 2020 compared with the same period in 2019 (Table A2). The Far West region saw the largest growth, at 82.9 percent, largely reflecting substantial income tax growth in California.

As noted, the income tax revenue picture in the second and third quarters of 2020 is complicated because of delayed income tax filing deadlines. This led to substantial declines in personal income tax collections across the states for the second quarter and significant growth in the third quarter. However, some states adjusted their accounting to shift income tax revenues received in July back into June, which falls in fiscal year 2020 in most states. Therefore, it is important to examine income tax revenues trends for the second and third quarters combined.

Overall, personal income tax collections increased in 36 states, with 32 states reporting double-digit percentage-point growth in the third quarter of 2020 compared with the same quarter in 2019. The largest growth in dollar value was in California, where income tax revenues increased by \$19 billion or 91.6 percent, mostly because the income tax filing deadline was delayed from April 15 to July 15. State personal income tax revenues declined in Connecticut, Maine, Minnesota, New Jersey, South Carolina, and Wisconsin, reflecting that these states shifted a portion of income tax collections received in July back to the second quarter of 2020.

Despite strong year-over-year growth in the third quarter of 2020, state personal income tax revenues were down by 2.8 percent for the second and third quarters of 2020 combined, compared with the same period in 2019 (Table A3).

To get a clearer picture of the underlying trends in personal income tax collections, we examine trends in the four major components: withholding, quarterly estimated payments, final payments, and refunds. The US Census Bureau does not collect data on the individual components of personal income tax collections. The data presented here were collected by the author directly from the states.

TABLE 2
Growth in State Government Personal Income Tax Components

Year-over-vear nominal percentage change

Personal income tax components	Calendar Year 2019					Calendar Year 2020				
	2019	2019	2019	2019	CY	2020	2020	2020	2020	CY
	Q1	Q2	Q3	Q4	2019	Q1	Q2	Q3	Q4	2020
Withholding	1.2	5.2	4.3	4.8	3.8	5.8	(1.3)	5.1	6.2	4.0
Estimated payments	(8.8)	16.3	2.4	9.1	4.9	9.7	(64.0)	102.9	16.7	(4.6)
Final payments	18.5	39.0	21.2	20.8	32.7	(10.3)	(55.7)	621.7	(9.0)	(3.3)
Refunds	(0.3)	(1.1)	8.2	7.4	1.0	9.9	(16.4)	106.0	(9.6)	5.5
Total	(0.2)	18.7	3.9	6.2	7.9	4.4	(34.8)	47.5	7.6	1.4

Source: Individual state data, analysis by the author.

Notes: CY = calendar year; Q = quarter. The percentage changes for total personal income tax differ from data reported by the US Census Bureau. Red numbers in parentheses represent declines.

Table 2 shows the growth for each major component of personal income tax collections in the past eight quarters as well as for calendar years 2019 and 2020, illustrating income tax volatility associated with the enactment of the TCJA as well as the deferral of tax filing deadlines. Personal income tax collections declined in the first quarter of 2019 but soared in the second quarter of 2019 because of an increase in estimated and final payments. The volatility in personal income tax revenues was mostly observed in estimated payments and final payments, which were shifted between tax years because of the TCJA. Growth in personal income tax collections moderated in the third and fourth quarters of 2019 as well as the first quarter of 2020. However, year-over-year growth in the first quarter of 2020 was weaker than the growth in the fourth quarter of 2019, largely because of final tax payments.

Personal income tax collections saw wild swings during the first six months of the pandemic. The latest data indicate steep declines in personal income tax collections in the second quarter of 2020, followed by significant growth in the third quarter of 2020, largely because most states delayed income tax filing deadlines from April 15 to July 15. Preliminary data for the fourth quarter of 2020 indicate more normalized growth in personal income tax collections, at 7.6 percent.

The economic impact of the pandemic on personal income tax revenues was not as bad as initially feared, largely because the pandemic has disproportionately affected low-income earners employed in service industries. Many states have progressive income tax structures, which means higher-income taxpayers pay a higher percentage rate on their income than lower income taxpayers. Year-over-year growth in personal income tax revenues for calendar year 2020 was only 1.4 percent, substantially weaker than the year-over-year growth of 7.9 percent in calendar year 2019.

Growth in personal income tax revenues for calendar year 2020 was largely sustained due to growth in withholding, whereas estimated and final payments both showed year-over-year declines in calendar year 2020. Personal income tax refunds showed year-over-year growth in calendar year 2020, which means they effectively reduced net personal income tax collections. We expect personal income tax revenues to fluctuate further, particularly in the second and third quarters of 2021, reflecting the impact of policy changes implemented last year and possible extensions in filing deadlines this tax season.

Withholding

Withholding is usually a good indicator of the current strength of personal income tax revenue and the economy because it comes largely from current wages and salaries and is less volatile than estimated

payments or final settlements. However, bonuses and stock options received by employees are also subject to withholding.

Table A4 shows year-over-year growth in withholding for the past eight quarters for all states with a broad-based personal income tax. Year-over-year growth in withholding was weak in the first quarter of 2019, at 1.2 percent. Growth in withholding regained strength after that, and year-over-year growth was particularly strong for the first quarter of 2020, at 5.8 percent. However, withholding declined 1.3 percent year over year for the second quarter of 2020 because of the economic disruptions caused by the COVID-19 pandemic, which triggered mass layoffs and furloughs beginning in the second half of March. The employment situation improved in the third and fourth quarters of 2020, which led to the improvement of withholding taxes as well. Year-over-year growth in withholding was 5.1 percent in the third quarter of 2020.

All regions except the Plains showed year-over-year growth in withholding in the third quarter of 2020. The Rocky Mountain region reported the strongest growth at 9.3 percent, while the Southwest region reported the weakest year-over-year growth at 3.4 percent in the third quarter of 2020. The Plains region reported declines of 0.6 percent in withholding.

Thirty-five of the 41 states with a broad-based personal income tax reported growth in withholding in the third quarter of 2020 compared with a year earlier, with three states (Colorado, Georgia, and Idaho) reporting double-digit growth.

The Urban Institute's preliminary data for the fourth quarter of 2020 indicate further growth in withholding, at 6.2 percent, with all regions reporting growth. However, growth in the median state was weaker, at 4.0 percent.

Figure 3 shows monthly and fiscal year-to-date growth rates in withholding between July 2020 and December 2020, which corresponds to the first six months of state fiscal year 2021 in 46 states. Monthly data should be viewed with caution because they may include one-time payments that are not likely to recur, or a given month may have fewer tax-processing days compared with the same month in the prior year.

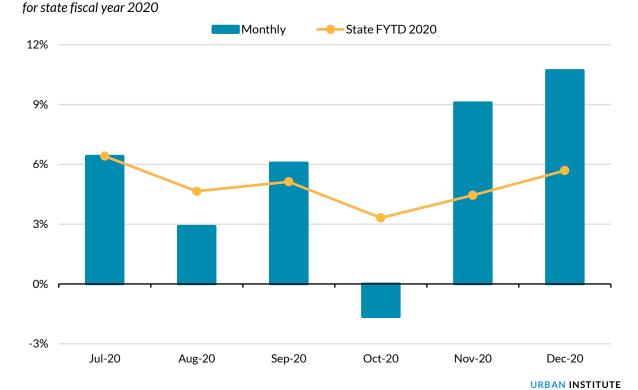
Withholding was lower in October 2020 than in October 2019. The decline in withholding was likely caused by timing issues in some states. For example, Arizona reported one fewer processing day in October 2020 than in October 2019.³ Withholding showed strong growth in November and December of 2020. The largest growth in dollar value was in California, where withholding tax revenues increased by \$0.7 billion or 13.6 percent in November and by \$1.5 billion or 19.0 percent in December. Strong growth in withholding taxes in California was largely because of the large year-end bonuses that

led to higher withholding and because of large withholdings tied to the initial public offerings of shares of companies located in California, such as AirBnB and DoorDash.⁴

Despite solid growth in withholding, unemployment rates remain higher in most states than their prepandemic levels. The disconnect between withholding tax collections and higher unemployment rates is largely because of the disproportionate impact of the pandemic-induced recession on lower-income taxpayers.

Year-to-date growth in withholding for the first six months of fiscal year 2021 was 5.7 percent. States collected around \$177 billion in withholding revenues from July 2020 through December 2020. Thirty-two states reported growth while eight states reported declines in withholding tax revenues for the July through December 2020 period.

FIGURE 3
Withholding Declined in October but Rebounded Since Then
Percentage change in withholding tax collections compared with the previous year, monthly and year-to date



 $\textbf{Source:} \ \mathsf{Individual} \ \mathsf{state} \ \mathsf{government} \ \mathsf{agencies}, \mathsf{analysis} \ \mathsf{by} \ \mathsf{the} \ \mathsf{author}.$

Notes: FYTD = fiscal year to date.

Estimated Payments

Higher-income taxpayers (and the self-employed) generally make estimated tax payments (also known as declarations) on their income not subject to withholding. This income often comes from investments, such as capital gains realized in the stock market, or from self-employment or business income. Estimated payments normally represent a small share of overall income tax revenues, but because of their volatility, they can have a large impact on the direction of overall collections. Estimated payments accounted for 23.3 percent of total personal income tax revenues in the third quarter of 2020 and 7.1 percent in the fourth quarter of 2020.

The first estimated payment for each tax year is due in April in most states; the second, third, and fourth payments are generally due in June, September, and January, respectively (although many high-income taxpayers make the last estimated payment in December so that it is deductible on the federal tax return for that tax year rather than the next). In some states, the first estimated payment includes payments with extension requests for income tax returns for the previous tax year and is thus related partly to income received in that previous tax year. Subsequent estimated payments are generally related to income for the current tax year, although that relationship is often quite loose.

As noted, because the first estimated payment contains a combination of payments related to the current and prior tax year, it is not a good indication of the current strength of the economy. The second and third estimated payments are easier to interpret because they are almost always related to the current year, and they can give a real-time look at how the economy and income tax base are doing. Weakness in these payments can reflect weakness in nonwage income, such as that generated by the stock market. However, it can also be "noisy" in the sense that it reflects taxpayers' responses to taxpayment rules as well as to expected nonwage income.

The filing deadline for federal individual income tax returns in 2020 was extended from April 15 to July 15, and most states also delayed their filing deadlines.⁵ The federal government also extended the filing deadline for estimated tax payments for tax year 2020 that were due on April 15. Twenty-nine states followed the federal government and extended the filing deadline for the first estimated payments attributable to tax year 2020 from April 15 to July 15 (Loughead 2020).

To make things even more confusing, eight states (Delaware, Indiana, Montana, Nebraska, New Jersey, New York, Oklahoma, and Rhode Island) delayed the first estimated payments for tax year 2020 originally due on April 15 to July 15 but did *not* extend the deadline for the second estimated payments for tax year 2020, which were due on June 15. It appears that most taxpayers have filed first estimated payments for tax year 2020 with their 2019 income tax returns, even in the states where the first

estimated payments for tax year 2020 were due in April. That could be because of confusion caused by differences between federal and state due dates for filing estimated payments for tax year 2020. Moreover, estimated payments may have declined for some self-employed individuals if their earnings declined.

As expected, because of delays in filing deadlines, all states but Arizona and Illinois reported double-digit percentage-point declines from prior-year levels for the first estimated payments for tax year 2020, those that were to be filed in April 2020. Estimated payments due in April declined 82.3 percent on average compared with the prior year, but the decline in the median state was 72 percent (Table A5). Arizona and Illinois are among the states that had not extended the deadline for the first quarterly estimated payments for tax year 2020. That is the likely reason that those two states, in contrast with the others, saw growth in estimated payments in April.

Declines in the second estimated payments for tax year 2020 were also steep and widespread, again likely because of delayed filing deadlines from June 15 to July 15. Estimated payments due in June declined 47.9 percent on average compared with the prior year; the decline in the median state was 38.8 percent. States also reported declines in the third estimated payments for tax year 2020 that were due in September, although such declines were less severe, an average of 1.5 percent.

Finally, states reported year-over-year growth of 33.5 percent for the fourth estimated payments for tax year 2020 (filed in December 2020 and January 2021). However, growth in the median state was 10.2 percent. The largest growth in dollar value was in California, where the fourth estimated payments increased by \$5.5 billion or 48.6 percent. The second largest growth in dollar value was in New York, reporting growth of \$0.9 billion or 21.9 percent in the fourth estimated payments for tax year 2020 (Table A5). Estimated payments in California alone represented nearly 50 percent of the total fourth estimated payments filed for tax year 2020. Therefore, strong growth for the fourth estimated payments is largely attributable to the growth in California. Some taxpayers also likely held off making estimated payments during the year because of uncertainty around the pandemic. Strong growth in the fourth estimated payments for tax year 2020 might also reflect realization of higher capital gains from the strong stock market and shifts of capital gains into tax year 2020 by some taxpayers in anticipation of possible higher tax rates with a new federal administration.

In prior *State Tax and Economic Review* reports, we have warned that because of wide fluctuations in the performance of financial markets, possible declines in self-employment income, and other changes in the economy related to the COVID-19 pandemic, estimated payments were likely to be lower in 2020. Now we have data for estimated income tax payments through January 2021, and our data show that 26 states reported declines in estimated payments for the April 2020 through January 2021 period

compared with the same period in the prior year. Estimated payments for the nation increased by \$1.6 billion or 2.0 percent between April 2020 to January 2021 compared with the same period a year earlier. However, this growth was attributable to California, where estimated payments increased by \$3 billion or 11.2 percent. California's estimated payments represented over one-third of the national total. If we exclude California, estimated payments for the rest of the nation declined 2.5 percent between April 2020 and January 2021 (Table A6).

Figure 4 shows year-over-year percentage change by quarter in estimated payments and in the S&P 500 Index for the past 11 years. The longer-term trends indicate substantial volatility in estimated payments, which is partially caused by volatility in the stock market but is also affected by federal tax policy changes and taxpayers' subsequent behavioral changes related to tax timing. For example, growth in estimated payments in the final quarter of 2012 and the first quarter of 2013 was much larger than the growth rates in the S&P 500 Index because estimated payments were tied to the impact of the "fiscal cliff" budget deal as Congress raised top federal income tax rates for tax year 2013. Therefore, some high-income taxpayers accelerated income into tax year 2012 to avoid higher tax rates for future years. This led to large declines in the year-over-year comparisons for estimated payments the following year.

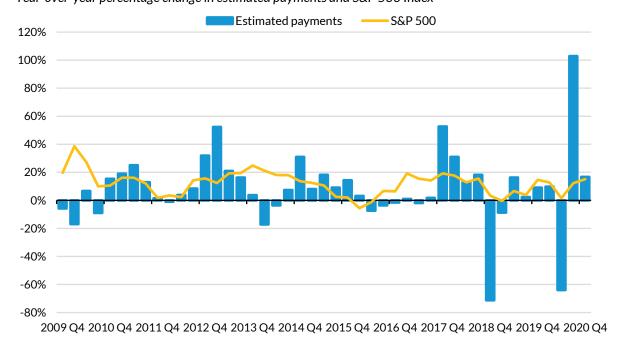
Similarly, the substantial growth in estimated payments in the final quarter of 2017, as well as in the first quarter of 2018, and the steep declines in estimated payments in the final quarter of 2018 were mostly attributable to the passage of the TCJA. However, the further decline in estimated payments in the first quarter of 2019 was likely also driven by the weak stock market performance in December 2018 and January 2019. In response to declines in realized capital gains, some taxpayers may have reduced their December 2018 and January 2019 estimated payments. After two consecutive quarters of decline, estimated payments rebounded and showed strong growth in the second quarter of 2019 compared with the year-earlier level; growth in the stock market was weaker for the same period.

Estimated payments showed continued year-over-year growth for the second half of 2019 and for the first quarter of 2020; growth in the stock market was stronger for the same period. Estimated payments saw steep declines at 64 percent for the second quarter of 2020 compared with the same period in 2019, mostly because of filing deadline extensions. For the second quarter of 2020, the stock market ended 1.6 percent higher than for the second quarter of 2019. Estimated payments showed abrupt growth in the third quarter of 2020, a mirror image of the steep declines in estimated payments in the second quarter of 2020 caused by the deferral of tax filing deadlines. Year-over-year growth in the stock market was strong at 12.3 percent in the third quarter of 2020. Finally, estimated payments increased 16.7 percent in the fourth quarter of 2020, which was more in line with the 15.2 percent growth in the stock market compared with a year earlier.

FIGURE 4

Large Volatility in Estimated Payments

Year-over-year percentage change in estimated payments and S&P 500 Index



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Source: Individual state government agencies and Yahoo Finance (S&P500), analysis by the author.

In general, estimated payments as a share of overall personal income taxes have grown somewhat over time. In state fiscal year 2018, estimated payments made up 22.2 percent of total personal income tax collections, up from 17.7 percent in fiscal year 2010 and 19.9 percent in fiscal year 2014. However, estimated payments as a share of total personal income tax collections declined in state fiscal year 2019, representing around 19.1 percent of the total, mostly because of the TCJA and subsequent income tax–shifting behavior. Estimated payments as a share of total personal income tax collections declined further in state fiscal year 2020, representing only 15.7 percent of the total, with the decline mostly attributable to the shifting filing deadlines. The volatility of estimated payments adds more uncertainty to state income tax revenues and makes them harder to forecast. This was especially true this year because of the shift in tax filing deadlines.

Final Payments

Final tax payments normally represent a small share of total personal income tax revenues in the first, third, and fourth quarters of the tax year and a much larger share in the second quarter of the tax year because of the April 15 personal income tax return deadline.⁶ Final payments accounted for 26.3

percent of all personal income tax revenues in the second quarter of 2019 but less than 7 percent in the third and fourth quarters of 2019 as well as in the first quarter of 2020. Because most states extended the filing deadline for income tax returns from April 15 to July 15 in 2020, a significant share of final payments was shifted into the third quarter of 2020. Therefore, final payments represented only 17.9 percent of personal income tax revenues in the second quarter of 2020 (compared with 26.3 percent in 2019), but also 17.2 percent in the third quarter of 2020. The shifting of final payments from the second quarter of 2020 to the third quarter of 2020 caused large variations in percentage changes.

Table A7 shows year-over-year final payment amounts and growth rates for April through December. In prior *State Tax and Economic Review* reports, we presented quarterly data. However, the alternative nine-month range paints a clearer picture of final payment tax collections during the pandemic. Final payments on average declined by \$1.3 billion or 2.7 percent for April through December 2020 from a year earlier; the decline in the median state was 2.1 percent. By contrast, final payments showed double-digit percentage-point year-over-year growth in the prior year, for April through December 2019.

Twenty-seven states reported declines in final payments for April through December 2020 compared with a year earlier, while 11 states reported growth for the same period. Once again California had the largest increase in final payments in dollar value (\$577 million) during April through December 2020. Final payments in California represented nearly one-fifth of the national total.

Refunds

By definition, personal income tax refunds represent a negative share of personal tax revenues and usually are a small amount in the third and fourth quarters of the tax year and a much larger negative amount in the first and second quarters of the tax year.

Refunds compared with the prior year increased 9.9 percent for the first quarter of 2020 but declined 16.4 percent for the second quarter of 2020 as people delayed filing their taxes. In total, states paid out \$3.9 billion less in tax refunds in the second quarter of 2020 than in the second quarter of 2019, mostly because of the later processing of income tax refunds caused by delayed income tax filing deadlines. This subsequently led to strong year-over-year growth in refunds in the third quarter of 2020, and states paid out \$5.6 billion more in tax refunds in the third quarter of 2020. Preliminary data for the fourth quarter indicate that states paid out \$0.9 billion less in tax refunds in the fourth quarter of 2020 than in the fourth quarter in 2019. In total, 23 states paid out less in tax refunds in the fourth quarter of 2020 than in the same quarter in 2019. California had the largest decline in refunds in dollar

value (\$401 million) in the fourth quarter of 2020, followed by New York (\$384 million), but that is largely because of their size.

Actual versus Forecasted Income Tax Revenues

We collect data on actual and forecasted amounts for monthly personal income tax revenue from the states. Although monthly personal income tax forecast information is not available for all states, it was available for 24 states (Table 3). In this section, we present data for the July–September quarter to illustrate the variance between actual and forecasted personal income tax revenues. As expected, this year third quarter income tax collections were drastically different because of extended income tax filing deadlines.

Actual personal income tax collections in the third quarter of 2020 were higher than in the third quarter of 2019 in 20 of the 24 states for which we have detailed data. Personal income tax collections showed double-digit growth in 19 states in the July–September 2020 quarter.

State revenue forecasters anticipated large fluctuations in income tax collections in the second and third quarters of 2020 because of the extended income tax filing deadlines. Actual personal income tax collections in the July–September quarter were higher than the forecasts in 22 states and below the forecasts in only 2 states, with an average underestimate of 12.1 percent and a median underestimate of 6.5 percent (Table 3). States that underestimated personal income tax revenues in that quarter the most were the states that prepared their monthly forecasts well before the pandemic hit the US. Large variations were inevitable because these states could not have accounted for the delay in income tax filing deadlines.

However, even states that updated their revenue forecasts after the pandemic hit faced difficulties forecasting revenues precisely. In the past two years, state revenue forecasters faced many uncertainties related to the passage of the TCJA and warned that forecasts were subject to higher-than-usual margins of error because predicting taxpayers' behavioral responses to the federal tax policy changes would be difficult. State revenue forecasters continue facing considerable challenges in forecasting revenues because of uncertainties about the length of the pandemic and associated economic damage (Dadayan 2020a).

TABLE 3
Actual versus Forecasted State Personal Income Tax Revenues for April-June 2020
Dollar amounts in millions

	July-Sep. 2019 actual	July-Sep. 2020 actual	July-Sep. 2020 forecast	Percent change, July–Sep. 2020 vs. July–Sep. 2019	Percentage variance, July–Sep. 2020 actual from forecast	Forecast date
Median				31.4	6.5	
Average	\$58,997	\$92,569	\$82,572	56.9	12.1	
Arizona	\$1,361	\$1,926	\$1,755	41.6	9.8	Jun-20
Arkansas	\$774	\$924	\$878	19.3	5.3	Apr-20
California	\$20,429	\$39,147	\$32,453	91.6	20.6	May-20
Colorado	\$1,949	\$3,184	\$2,974	63.4	7.1	Sep-20
Idaho	\$358	\$482	\$425	34.7	13.5	Jul-20
Illinois	\$4,995	\$6,397	\$5,592	28.1	14.4	Jul-20
Indiana	\$1,436	\$2,169	\$1,489	51.0	45.7	Dec-19
Kansas	\$831	\$1,249	\$1,225	50.4	2.0	Jun-20
Maine	\$447	\$430	\$382	(3.7)	12.6	Aug-20
Minnesota	\$2,917	\$2,906	\$2,741	(0.4)	6.0	May-20
Mississippi	\$483	\$594	\$604	23.1	(1.5)	Nov-19
Montana	\$355	\$518	\$341	45.7	51.7	Jun-19
Nebraska	\$656	\$931	\$890	42.0	4.6	Aug-20
New Mexico	\$410	\$453	\$422	10.6	7.5	Sep-20
New York	\$11,072	\$18,225	\$17,730	64.6	2.8	Jul-20
North Dakota	\$97	\$153	\$90	56.8	69.3	Mar-19
Ohio	\$2,282	\$2,906	\$2,822	27.3	3.0	Mar-19
Oklahoma	\$668	\$844	\$818	26.5	3.2	Feb-20
Pennsylvania	\$3,125	\$4,522	\$4,459	44.7	1.4	Jun-20
Rhode Island	\$347	\$368	\$325	5.9	13.1	May-20
South Carolina	\$1,449	\$1,426	\$1,356	(1.5)	5.2	Aug-20
Vermont	\$205	\$415	\$386	102.7	7.7	Aug-20
West Virginia	\$504	\$614	\$592	22.0	3.8	Jan-20
Wisconsin	\$1,850	\$1,786	\$1,825	(3.5)	(2.1)	Nov-20

Source: Individual state data, analysis by the author.

Corporate Income Taxes

State corporate income tax revenue is highly volatile because corporate profits and the timing of tax payments can vary and shift across quarters. Further, most states collect a small share of state revenues from corporate taxes and can therefore experience large fluctuations in percentage terms, with little overall budgetary impact. Average quarterly year-over-year growth rates in state corporate income tax collections were 5.1 percent in nominal terms and 3.3 percent in real terms since 2010 (Table A1).

State corporate income tax revenue saw steep declines during the Great Recession and only recently approached or surpassed levels observed before the Great Recession, driven by strong growth in reported profits following enactment of the TCJA. This growth weakened substantially in early 2020

and fell off because of the COVID-19 pandemic. Year-over-year corporate income tax receipts grew by double digits in percentage-point terms for seven consecutive quarters, from the second quarter of 2018 through the fourth quarter of 2019. However, the strong growth observed during that time was largely attributable to the TCJA, which created an incentive for corporations to shift profits from tax year 2017 into tax years 2018 and beyond because of the law's lower federal corporate income tax rates.

Under the Coronavirus Aid, Relief, and Economic Security (CARES) Act passed in March 2020, net operating losses (NOLs) incurred in calendar years 2018, 2019, and 2020 can be carried back to each of the five tax years preceding the tax year of such loss. Therefore, corporate income tax revenues may also be retrospectively lowered for prior fiscal years in those states that have rolling conformity with the Internal Revenue Service tax code and have adopted the NOL carryback provisions. More than half of the states (including states with large shares of corporate income tax revenues, such as California, Illinois, New Jersey, and New York) have decoupled from the federal NOL carryback provisions. States that conform with the federal NOL carryback provisions may have state-specific restrictions on either the timing or the amount of the allowable carrybacks.

To mitigate the impact of the pandemic, the Internal Revenue Service extended the filing deadline for corporations filing calendar-year income tax returns from March 15, 2020, to July 15, 2020.⁷ Many states followed and extended corporate income tax return and payment due dates as well. This led to steep declines in state corporate income tax revenues in the second quarter of 2020 followed by a spike in the third quarter of 2020.

State corporate income tax revenues declined 44.2 percent in the second quarter of 2020 compared with a year earlier but increased 63.8 percent in the third quarter of 2020. Growth in the median state was 46.8 percent in the third quarter of 2020. Thirty-seven states reported year-over-year growth in corporate income tax collections, while seven states reported declines (Table A2). All regions reported double-digit growth, with the Far West region reporting the strongest year-over-year growth in corporate income tax revenues, at 176.3 percent, and the New England region reported the smallest growth, at 14.2 percent. However, as with personal income taxes, these increases are largely caused by the delays in filing deadlines that shifted corporate income tax revenues from the second quarter to the third quarter. State corporate income tax revenues were 8.6 percent lower in the second and third quarters of 2020 combined than in the same period in 2019. Thirty-six states reported year-over-year declines over that six-month period; eight states reported growth (Table A3).

The future of corporate income tax collections is unpredictable not only because of the impact of the COVID-19 pandemic but also because of the various provisions of the TCJA, some of which might be altered under the Biden administration. (See prior *State Tax and Economic Review* reports for detailed discussions of the TCJA provisions and the law's impact on state corporate income taxes.)

Even before the pandemic greatly affected the US economy, states were forecasting lower corporate income tax collections for fiscal years 2020 and 2021, mostly because of higher costs for business inputs and a weaker global economy (Dadayan 2020a). Moreover, data from the Bureau of Economic Analysis indicated substantial prepandemic weakness in business investment, which implied lower corporate income tax revenue collections. The outlook for state corporate income tax revenues remains gloomy for the coming months because of the pandemic-induced economic downturn, which had a strong negative impact on some industries (such as hospitality, entertainment, travel, and oil and gas), but a positive impact on some other industries (such as construction).

General Sales Taxes

General state sales tax collections increased 2.7 percent in nominal terms for the third quarter of 2020 compared with the same period in 2019 (Table A1), which follows sharp declines seen in the second quarter of 2020 that were primarily caused by the pandemic. Sales tax revenue declines observed in the second quarter of 2020 were the first in a decade. Before the pandemic, sales tax collections had grown continuously since the first quarter of 2010 in nominal terms, and growth generally has been steady if unspectacular.

Year-over-year sales tax collections increased in all regions but the Far West and Plains for the third quarter of 2020 (Table A2). The Southwest region reported the strongest average growth at 25.2 percent; the Southeast region reported the smallest average growth at 1.5 percent. The Far West and Plains regions reported declines in sales tax revenues at 11.4 and 0.4 percent, respectively.

Thirty-one of 45 states with broad-based sales taxes reported growth in sales tax collections for the third quarter of 2020 compared with the prior year. Eight states reported double-digit percentage-point increases. Overall, states that saw solid growth in sales tax revenues include those that impose sales taxes on grocery food items as well as those that did not mandate statewide stay-at-home orders throughout the pandemic. On the other hand, states that saw declines in sales tax revenues in the third quarter of 2020 include those whose economies rely on the tourism and hospitality industry (e.g., Hawaii and Nevada) and that reported higher COVID-19 caseloads because of densely populated metropolitan areas (e.g., California, Florida, and New York).

State sales tax revenues were 5.5 percent lower in the second and third quarters of 2020 combined, compared with the same period in 2019. The smaller offset relative to the declines in the third quarter of 2020 is because of less shifting of revenue collections across quarters (Table A3).

The recovery in sales tax collections was relatively slow following the Great Recession. Since 2010, the average quarterly year-over-year growth rate in state sales tax collections has been 3.7 percent in nominal terms and 2.0 percent in real terms. The weak annual growth rate in sales tax collections is partially attributable to tax dollars being lost because online retail sellers were not collecting and remitting sales tax on some or all sales. However, growth in sales tax revenue collections strengthened in the recent past, largely because of sales tax base expansions in several states and because of states' efforts to capture tax revenues from a larger share of online sales following the *Wayfair* decision.

On June 21, 2018, the US Supreme Court ruled in favor of South Dakota in *South Dakota v. Wayfair*, ⁹ giving states the authority to require out-of-state sellers with at least a specified amount of sales within the state to collect sales taxes and transfer the revenues to state governments. Since the Supreme Court's *Wayfair* ruling, 43 of 45 states with general sales taxes have enacted laws or regulations to require sales tax collections by remote sellers. The remaining two states, Florida and Missouri, have bills under consideration that are likely to be enacted into law soon. ¹⁰ States have set different sales and volume thresholds for internet sales taxation (Table A8). Finally, most states have also enacted laws or regulations requiring marketplace facilitators to collect sales taxes on behalf of their sellers.

State implementation of online sales taxation does not address if and how local jurisdictions that operate independently and have independent taxing authority will collect sales taxes from remote sellers. However, some states (e.g., Alabama and Texas) have either passed legislation or continue debating regulations for creating a "single local use tax rate" that remote sellers can use to calculate the local tax due instead of applying local sales tax rates for the specific jurisdiction in which a sale is made.

The pandemic has had a detrimental impact on state sales tax revenue collections, particularly in states with high reliance on the tourism, entertainment, and hospitality industries. Federally mandated travel restrictions and state or regionally mandated restrictions on a wide range of businesses and services have led to less business activity, less consumer spending, and therefore less sales tax revenue collections for states, particularly during the second quarter of 2020. Our previous analysis indicated that sales tax revenues shrank by over \$6 billion in the month of May alone. Sales tax increases in the third quarter were caused in part by pent-up demand from consumers as well as by delays in sales tax remittances from businesses. About half of the states also extended filing and remittance deadlines for sales tax payments by retailers.

Motor Fuel Taxes

State motor fuel sales taxes declined 5.7 percent year over year for the third quarter of 2020. This is the second consecutive quarterly decline in motor fuel sales taxes in nominal terms since the first quarter of 2013. Moreover, the declines in motor fuel sales taxes observed in the second and third quarters of 2020 were much steeper than declines observed throughout the Great Recession, likely because of declines in travel related to state and local restrictions and businesses and individuals engaging in remote work.

Motor fuel sales tax collections have fluctuated since the Great Recession. Average quarterly year-over-year growth in state motor fuel tax collections has been 3.4 percent in nominal terms and 1.7 percent in real terms since 2010. Economic growth, changing fuel prices, general increases in fuel efficiency, and changing driving habits all affect gasoline consumption and motor fuel taxes. Changes in state motor fuel tax rates also affect tax collections.

Growth rates from the third quarter of 2019 to the third quarter of 2020 varied widely across the states and the regions (Table A2). Motor fuel tax revenue collections decreased in all regions but the Great Lakes, where revenues increased 5.9 percent, due to tax increases in Illinois and Ohio. The steepest declines were in the New England and Plains regions, with a 12.5 percent decline in each.

Forty-three states reported year-over-year declines in motor fuel sales tax collections for the third quarter of 2020; 17 states reported double-digit declines. In total, seven states (Alabama, Idaho, Illinois, Mississippi, Nebraska, North Dakota, and Ohio) reported growth in motor fuel sales tax collections in the third quarter of 2020 compared with the same quarter in 2019. Growth in these states was mostly caused by motor fuel tax rate increases. For example, Illinois doubled its motor fuel tax rate from 19 cents a gallon to 38 cents a gallon and increased the diesel fuel rate from 21.5 cents to 45.5 cents. ¹² Ohio increased its gasoline tax rate from 28 cents a gallon to 38.5 cents a gallon and increased the tax rate for diesel and all other fuel types from 28 cents a gallon to 47 cents a gallon. ¹³

State motor fuel sales tax revenues declined 11.8 percent in the second and third quarters of 2020 combined compared with the same period in 2019, with a median decline of 13.2 percent (Table A3). Declines in motor fuel sales tax revenue collections in the second and third quarters of 2020 were largely anticipated because of stay-at-home orders across states earlier in the spring and because many employees continue to work remotely, which has drastically reduced commuting traffic.

Other Taxes

The US Census Bureau's quarterly data on state tax collections provide detailed information for some of the smaller revenue sources, including state property taxes, tobacco product excise taxes, alcoholic beverage excise taxes, and motor vehicle and operators' license taxes. In Table A9, we show year-over-year growth rates for four-quarter moving average inflation-adjusted revenue for the nation as a whole. In the third quarter of 2020, states collected \$52.4 billion from all the smaller tax sources, which constituted 17.1 percent of total state tax collections.

Compared with major tax sources, revenues from smaller taxes have been growing at a slower pace since the Great Recession. The average quarterly year-over-year growth rate in state tax revenues from smaller sources was 1.7 percent in real terms since 2010.

The four-quarter moving average of inflation-adjusted revenues from smaller tax sources showed a 4.5 percent decline for the third quarter of 2020 compared with the same quarter in 2019. State property taxes, which represent a small portion of overall state tax revenues, increased 2.8 percent. Tax revenue from motor vehicle and operators' licenses decreased 3.3 percent, and tax revenue from alcoholic beverage sales decreased 4.2 percent. Revenue from tobacco product sales decreased 1.7 percent, marking the eighth consecutive quarter of decline. Finally, revenues from all other smaller tax sources decreased 6.1 percent in the third quarter of 2020 compared with levels a year earlier.

Preliminary Review of State Revenue in 2020 Quarter 4

Preliminary data collected from 48 states for the October–December quarter of 2020 (Table A10) show growth in overall state tax collections as well as in personal income, corporate income, and sales tax collections compared with the fourth quarter in 2019.

The pandemic caused wild swings in states' economic activity in recent months, consequently affecting state tax revenues. Overall state tax collections increased 6.5 percent in the fourth quarter of 2020 compared with the same quarter in 2019. Growth in the median state was somewhat weaker at 4.4 percent. Despite overall growth in state tax collections in the fourth quarter of 2020, a look at individual states shows a mixed story. Thirty-eight states reported growth, with eight states reporting double-digit increases. On the other hand, 10 states reported declines in overall tax collections, with Alaska and North Dakota reporting the steepest declines at 60.5 and 22.8 percent, respectively. Both states have a high reliance on the oil and gas industry and thus on severance tax revenues (Dadayan and Boyd 2016). Severance tax revenues saw substantial declines even before the pandemic because of

weakness in oil and natural gas prices throughout 2019 and the freefall of prices in April 2020; this subsequently led to weaknesses in overall state tax revenues.

Personal income tax collections increased 8.9 percent in the fourth quarter of 2020 compared with a year earlier, but growth in the median state was only 4.5 percent. Thirty-two states reported growth while nine states reported declines. Growth in personal income tax collections in the fourth quarter of 2020 is a mixed story. States that have progressive tax rate structures have seen growth in personal income tax revenue collections, and for the most part these are disproportionately tied to the earnings of high-income taxpayers. Strong stock market prices likely also contributed to the strength of personal income tax revenues. On the other hand, unemployment rates in most states remain higher than their prepandemic levels. Strong income tax revenues and stock prices might indicate shifting of capital gains realizations into 2020 if taxpayers forecast higher future tax rates on capital gains under the new federal administration.

State sales tax collections increased 3.3 percent for the fourth quarter of 2020 compared with the same quarter in 2019; growth in the median state was 5.4 percent. Thirty-three states reported growth in sales tax collections, with six states reporting double-digit growth. Eleven states reported declines in sales tax collections in the fourth quarter of 2020, with Hawaii reporting the largest decline at 20.4 percent. Steep declines in Hawaii are largely because of the state's reliance on the tourism and hospitality industry, which remains severely depressed because of the pandemic.

Finally, corporate income tax revenues increased 23.0 percent year over year for the fourth quarter of 2020; growth in the median state was 17.0 percent. Thirty-two states reported growth in corporate income tax collections, with 25 states reporting double-digit growth. On the other hand, 11 states reported declines in corporate income tax collections.

Looking ahead at the coming months, state tax revenues are likely to remain depressed in the states that have high reliance on tourism, hospitality, and entertainment industries, largely because of economic disruptions and reduced business activity caused by the pandemic. Tax revenues will also likely remain depressed in the states with high reliance on sales tax and severance tax revenues. Earlier in the pandemic, state revenue estimates suggested a total \$200 billion tax revenue shortfall for fiscal years 2020 and 2021 combined when compared with tax revenue forecasts prepared before the pandemic (Dadayan 2020c). Although revenue shortfalls are likely to be less severe than our earlier projections, many states continue reporting revenue shortfalls.¹⁴

Factors Driving State Tax Revenues

State revenues vary across place and time because of three underlying forces: state-level changes in the economy (which often differ from national trends), different ways that national economic changes and trends affect each state's tax system, and legislated changes in tax rates or rules. The next two sections discuss changes in both economic conditions and recently legislated tax changes.

On March 11, 2021, President Biden signed into law the American Rescue Plan Act, which includes \$350 billion in aid to help state, local, territorial, and tribal governments mitigate the impact of the pandemic on state budgets. However, the bill prevents states from using aid to fund pensions or offset revenue losses produced by a tax cut enacted on or after March 3, 2021. These restrictions on the use of federal aid will likely lead to some legislated tax changes in the coming months. The Urban Institute is closely monitoring the impact of the pandemic on state budgets. ¹⁵

Economic Indicators

Most state tax revenue sources are heavily influenced by the economy. In general, state tax revenues rise when the state economy grows, income taxes grow when resident incomes go up, sales taxes generate more revenue when consumers increase their purchases of taxable items, property taxes increase when house prices go up, and so on.

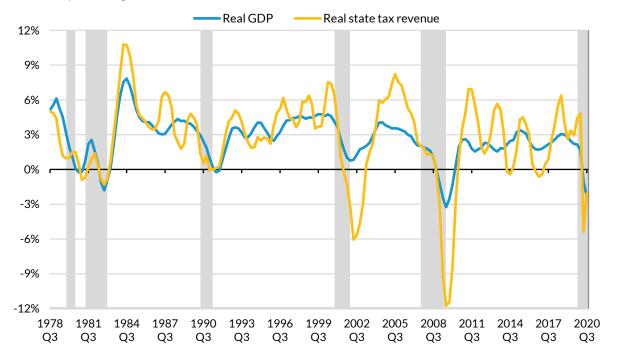
State Gross Domestic Product

When the economy booms, tax revenues tend to rise rapidly, and when the economy declines, revenues tend to decline, though these changes have different patterns and timing. Figure 5 shows year-over-year growth for four-quarter moving averages in real state tax revenue and GDP. We present moving averages to smooth short-term fluctuations and illustrate the interplay between the state of the economy and state revenues. As shown in Figure 5, real GDP showed uninterrupted growth since the second quarter of 2010. Real GDP growth weakened throughout 2019 and the first quarter of 2020 and declined in the second and third quarters of 2020, based on the four-quarter moving-average measure. Real state tax revenues also declined in the second quarter of 2020. The declines in GDP and in state tax revenues were primarily because of the global pandemic.

Volatility in state tax revenue is not fully explained by changes in real GDP, a broad measure of the economy. State tax revenues became far more volatile in the past two decades, mostly because of

changes in state tax rates and states' growing reliance on income taxes, some of which are progressive and very dependent on volatile income sources such as stock options and capital gains.

FIGURE 5
State Tax Revenue Is More Volatile Than the Economy
Year-over-year change in real state taxes and real GDP



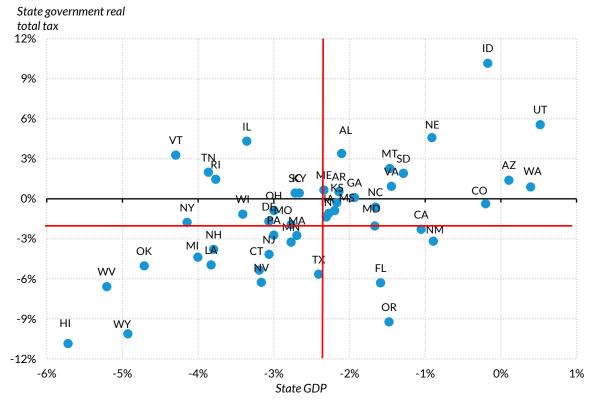
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Source: US Census Bureau (tax revenue) and Bureau of Economic Analysis (GDP), analysis by the author. **Notes:** Year-over-year change is the percentage change of four-quarter moving averages. Data are adjusted for inflation.

States vary substantially in terms of the correlation between growth rates in real state tax revenues and state GDP. Figure 6 shows for each state the four-quarter moving averages in real state tax revenue and real state GDP for the third quarter of 2020 compared with the same quarter in 2019. By this measure, real state tax revenues decreased in 32 states, and real state GDP decreased in 47 states. (Alaska and North Dakota are outlier states and are excluded from Figure 6 to better display the overall relationship.) The year-over-year change in real state tax revenues ranged from negative 24.6 percent for Alaska and negative 20.2 percent for North Dakota to 10.2 percent growth for Idaho; the change in real state GDP ranged from negative 5.7 percent for Hawaii to 0.5 percent growth for Utah. The national average year-over-year decline in real state GDP was 2.3 percent, and the national average year-over-year decline in real state tax revenues was 2.1 percent, based on the four-quarter moving-average measure.

FIGURE 6
Growth Disparity: State Tax Revenues versus State GDP

Year-over-year change in real state taxes and real GDP, 2020 quarter 3 versus 2019 quarter 3



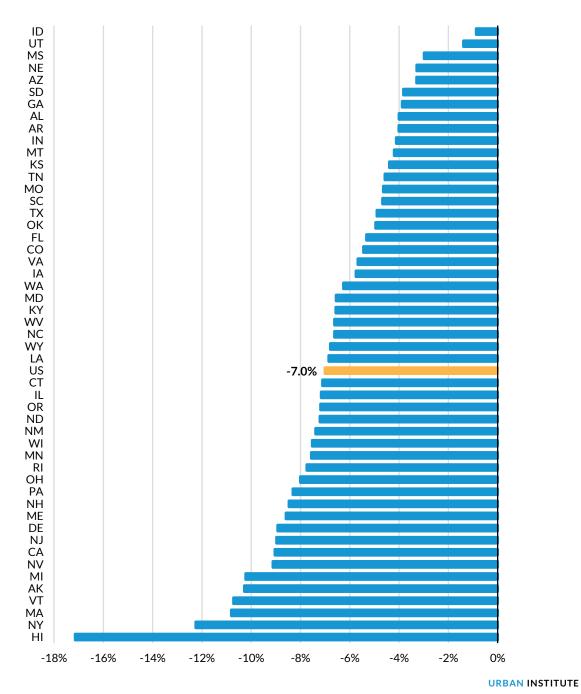
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Source: US Census Bureau (tax revenue) and Bureau of Economic Analysis (GDP), analysis by the author. **Notes:** Year-over-year change is the percentage change of four-quarter moving averages. Data are adjusted for inflation. Red lines show US averages. Figure excludes Alaska and North Dakota because both are outliers.

State Unemployment and Employment

The national unemployment rate climbed to 9.9 percent in the fourth quarter of 2009, which until recently was the highest rate observed since 1982. Before March 2020, the unemployment rate had seen nearly uninterrupted decline from that peak. The unemployment rate was 3.6 percent in the fourth quarter of 2019, which was a 50-year low. The unemployment rate increased to 3.8 percent in the first quarter of 2020 and increased to 13 percent in the second quarter of 2020, marking the highest level on record since 1948. However, the unemployment rate dropped to 8.8 percent in the third quarter of 2020 as states slowly reopened economies after limiting activities during the second quarter of 2020. Unemployment rates ranged from 4.1 percent in Nebraska to 14.7 percent in Nevada for the third quarter of 2020. According to preliminary data, the national unemployment rate dropped to 6.7 percent in the fourth quarter of 2020.

FIGURE 7
Steep Declines in Employment in the Second Quarter of 2020, by State
Year-over-year change in seasonally-adjusted employment, 2020 quarter 3 versus 2019 quarter 3



Source: Bureau of Labor Statistics, analysis by the author.

Nationwide employment declined 7.0 percent in the third quarter of 2020 compared with the same quarter in 2019 (Figure 7). Employment declines were particularly steep in states with high reliance on

hospitality and tourism industries (such as Hawaii and Nevada) as well as in states that experienced high numbers of COVID-19 cases during the first phase of the pandemic (such as Michigan and New York). Employment declines year over year ranged from 0.9 percent in Idaho to 17.1 percent in Hawaii for the third quarter of 2020. Although the employment situation improved in the third and fourth quarters of 2020, about 10 million fewer people are employed than were employed last February. Moreover, 14 percent of people who lost their jobs during the pandemic had been employed by state and local governments. States and localities cut public-sector jobs to address budgetary challenges caused by the pandemic. The American Rescue Plan might help state and local governments rehire some of the employees who were laid off because of the pandemic.

Personal Consumption Expenditures

"Personal consumption expenditures" is a measure of national consumer spending. The measure shows the value of the goods and services purchased by American consumers and is correlated with the base for states' sales taxes. Figure 8 displays the year-over-year percentage change in the four-quarter moving average of real personal consumption expenditures for services, durable goods, and nondurable goods as well as for aggregate state real sales tax collections. We also show trends in the consumption of energy goods and services.

Before the pandemic, overall growth rates for both goods and services were weaker than growth rates observed before the Great Recession. Growth rates in state sales tax revenues were also substantially weaker than the peaks observed before the Great Recession, although growth in sales tax revenues improved after the *Wayfair* decision as states started requiring remote sellers to collect and remit sales and use tax. Year-over-year spending on services declined an average of 4.4 percent in the third quarter of 2020, while year-over-year spending on both durable and nondurable goods increased.

Before the pandemic, spending on services was resilient to economic downturns. However, spending on services declined in the second quarter of 2020, marking the first decline on record since 1948. This is primarily because of the unique characteristics of the current downturn. American consumers spend substantially more on services (70 percent of total consumption) than on goods and spending on services as a share of total personal consumption has generally grown steadily throughout the past four decades. Thus, the current reversal in this long-term trend may be a temporary change rather than a reversal in economic activity.

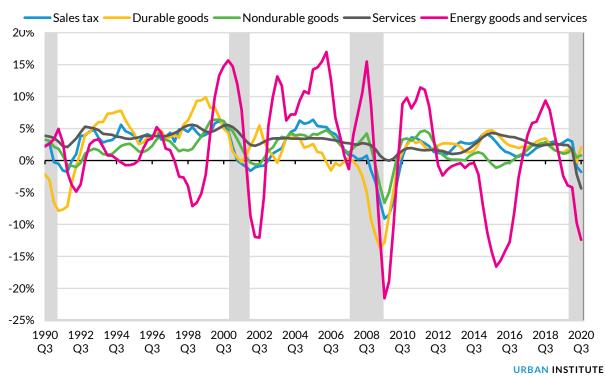
Although some states have expanded their sales tax bases to include some services, many services are still not subject to state sales tax. And some states, such as Arizona and Missouri, have banned taxing services altogether.

Year-over-year growth in nondurable goods was 0.8 percent for the third quarter of 2020, largely because of increased consumption of grocery food as consumers consumed more meals at home during the pandemic. This contrasts with earlier periods where the amount of nondurable spending was significantly affected by consumption of gasoline and other energy goods (spending on gasoline and energy goods represents about one-fifth of total spending on nondurable goods). Year-over-year growth on spending on durable goods was 2.1 percent for the third quarter of 2020.

FIGURE 8

Substantial Declines in Energy Goods and Services

Year-over-year percentage change in real sales taxes and real personal consumption spending



Sources: US Census Bureau (sales taxes) and Bureau of Economic Analysis (NIPA table 2.3.5), analysis by the author. **Notes:** Year-over-year change is the percentage change of four-quarter moving averages. Data are adjusted for inflation.

As shown in Figure 8, year-over-year spending on energy goods and services declined for 19 consecutive quarters, from the third quarter of 2012 to the first quarter of 2017. The decline was particularly dramatic throughout 2015 and 2016 in response to steep declines in oil and gas prices. The decline in total spending in the energy sector led to declines in overall general sales tax revenues, which

are based on prices as well as quantity consumed. Overall consumption of energy goods and services had been recovering since the second quarter of 2017 and showed strong year-over-year growth through the first quarter of 2019, largely bouncing back from previously depressed levels. However, year-over-year growth in consumption of energy goods and services weakened substantially in the second quarter of 2019 and showed declines in the second half of 2019 and throughout 2020. Because oil prices declined precipitously in April and because many people are commuting less and working remotely, spending on energy goods and services will continue to decline in the coming months. The year-over-year decline in spending on energy goods and services for the third quarter of 2020 was 12.4 percent.

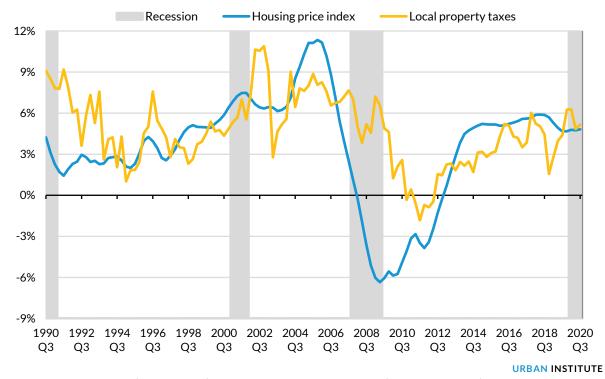
Housing Market

House prices are an important determinant of local property taxes, though changes in property tax revenues often lag property price changes. Assessment lags and assessment caps can affect how quickly house price changes translate into property tax revenue changes, but declines in house prices usually lead to declines in property taxes, while growth in house prices usually lead to growth in property tax revenues.

Figure 9 shows year-over-year percentage changes in the four-quarter moving average of the house price index and local property taxes in nominal terms. House prices saw steep declines during the Great Recession, which led to a significant slowdown in local property tax growth and to an actual decline in property tax revenues during state fiscal years 2011 and 2012.¹⁷ Growth in the house price index began weakening in mid-2005, and the price index declined for five straight years, between the first quarter of 2008 and the fourth quarter of 2012, though patterns varied across states and regions. The trend in the house price index has been generally upward between 2013 and 2018 but showed some weakness following the first quarter of 2019. National average house prices appreciated 4.8 percent for the third quarter of 2020 compared with one year earlier; year-over-year growth in local property taxes was 5.2 percent for the same period.

Statewide house price indexes increased in all states for the third quarter of 2020 compared with a year earlier, ranging from a 0.8 percent increase in Hawaii to a 10.0 percent increase in Idaho. Year-over-year growth was 4.8 percent for the nation. Despite continuous and strong nationwide growth in the housing market, prices are still below their prerecession peaks in Connecticut, Illinois, Maryland, and New Jersey. Figure 10 shows the state-by-state nominal percentage change in house price indexes at the end of the third quarter of 2020 compared with the first quarter of 2007.

FIGURE 9
Growth in Housing Prices and in Local Property Taxes Weakened during the Pandemic Year-over-year percentage change in house prices versus local property taxes



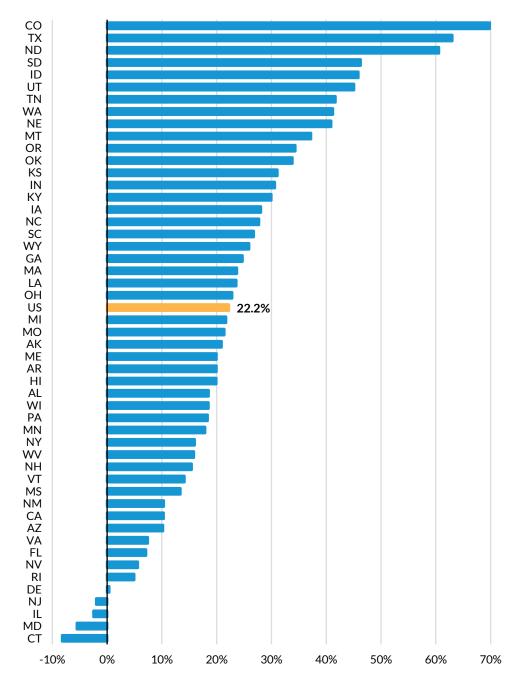
Sources: US Census Bureau (property taxes) and Federal Housing Finance Agency (house price indexes), analysis by the author. **Notes:** Year-over-year change is the percentage change of four-quarter moving averages.

National average house prices grew 22.2 percent in nominal terms between the first quarter of 2007 and the third quarter of 2020. However, house price movements varied substantially across the states. House prices are above their pre–Great Recession peaks in 46 states in the third quarter of 2020 but are still lower in 4 states (in nominal terms). Housing prices in Connecticut were the hardest hit and are still on average 8.2 percent below their peak. On the other hand, statewide house price indexes increased by double-digit rates in 41 states over this period. In 19 states, growth in statewide average house prices since 2007 was over 25 percent, with Colorado, Texas, and North Dakota having the highest growth rates at 69.8, 63.0, and 60.6 percent, respectively.

FIGURE 10

Growth in House Price Indexes Since the Prerecession Peak

Percent change in house prices from pre-recession peak level, 2020 quarter 3 versus 2007 quarter 1



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Source: Federal Housing Finance Agency (house price indexes), analysis by the author.

The pandemic has not drastically impacted residential real estate property values. However, the pandemic's exact effects on commercial real estate property values, and thus commercial property tax revenues and potentially residential properties, remains uncertain. Most commercial property (hotels, retails, and offices) owners should expect reductions in commercial property values in their 2021 assessments. Further, residential properties in high-cost or densely populated cities such as San Francisco or New York City are also likely to be negatively affected by the pandemic. Predicting the pandemic's long-term effects on real estate and commercial properties is difficult because it is still unclear whether remote work and online shopping will remain the new standard even once other normal living patterns return.

In response to the negative economic impact of the pandemic, the Federal Reserve cut interest rates twice, once on March 3, 2020, and again on March 16, 2020. These were the largest one-time interest rate cuts since 2008 but followed earlier cuts in short-term interest rates that began in July 2019, even though the economy was still expanding at that time. Because interest rates are now very low, there is virtually no room for the Federal Reserve to pursue further interest rate cuts to stimulate the economy.

Tax Law Changes Affecting the Third Quarter of 2020

Anticipated and actual federal policy changes had a substantial impact on state tax revenues in the past few years. But changes in state tax laws also affect state tax revenue trends. Only a few states enacted tax changes for fiscal year 2021, partly because of the pandemic and shortened legislative sessions but also because of deep uncertainty surrounding revenue projections at the time. We present analysis here based on the data and information retrieved from the National Association of State Budget Officers' Fall 2020 Fiscal Survey of the States. However, the analysis and forecasted effects are based on anticipated revenue gains or losses based on states' legislated tax changes and do not include the effects of changing economic conditions related to the COVID-19 pandemic. Because of decreased economic activity, actual revenue collections typically varied from expected tax revenues.

During the third quarter of 2020, enacted tax changes were forecasted to increase revenues by \$1.1 billion compared with the same period in 2019. B Overall, tax changes were expected to decrease personal income taxes by \$32 million and increase corporate income taxes by \$1 billion. Enacted tax changes for sales taxes were insignificant. Further, some states enacted tax changes in other taxes and fees, which were expected to increase state tax and fee revenues by approximately \$126 million

(National Association of State Budget Officers 2020). Below, we discuss some of the major enacted tax changes for fiscal year 2021.

The estimated impact of all the enacted tax changes was a projected net increase of \$5.2 billion in state revenues in fiscal year 2021. By comparison, legislated tax actions in fiscal year 2020 were more substantial, with an estimated net revenue increase of \$8.1 billion. California and New Jersey enacted the most substantial changes, with estimated net revenue increases of \$5.0 billion and \$0.6 billion, respectively, for fiscal year 2021. Legislated changes were also substantial in Colorado, with an estimated net revenue increase of over \$235 million.

Two states enacted personal income tax increases, and 13 states enacted decreases for fiscal year 2021. Legislated tax changes were estimated to increase aggregate personal income tax revenues by \$250 million in fiscal year 2021. The largest estimated increase was in New Jersey, where Governor Phil Murphy extended the millionaire tax by raising the gross income tax rate from 8.97 percent to 10.75 percent for taxpayers with an annual income between \$1 million and \$5 million. The tax rate increase is retroactive to January 1, 2020. Previously, the 10.75 percent tax rate applied only to taxpayers with an annual income of \$5 million or more. ¹⁹ Lawmakers in Wisconsin reduced personal income tax rates by cutting the rates for the two lowest income tax brackets from 3.86 percent to 3.54 percent and from 5.04 percent to 4.65 percent. ²⁰ These tax rate reductions were estimated to decrease personal income tax collections by \$179 million in fiscal year 2021.

Four states enacted corporate income tax increases, and five enacted decreases. Legislated tax changes were estimated to increase aggregate corporate income tax revenues by \$4.3 billion in fiscal year 2021, but this is almost entirely driven by actions in California. The largest corporate income tax change was in California, where Governor Gavin Newsom signed a tax bill that is estimated to increase corporate income tax revenues by \$4.1 billion in fiscal year 2021. The tax bill introduced two major changes pertaining to corporations. First, the tax bill suspended the NOL deductions for corporation with net income of over \$1 million for tax years 2020 through 2022. Second, the tax bill limited utilization of business credits for tax years 2020 through 2022; businesses can claim a maximum of \$5 million in tax credits. Some corporations have both NOLs and credits. Because the tax bill put restrictions on both NOLs and credits, the interaction between the two measures would increase the tax revenues even further. In New Jersey, Governor Murphy signed a law that extended the 2.5 percent surtax imposed on corporations with annual net income over \$1 million through tax year 2023. The surtax, however, is not applicable on public utilities and \$ corporations. This measure is estimated to increase corporate income tax revenues by \$210 million in fiscal year 2021.

Seven states enacted sales tax increases, and five states enacted decreases. Legislated tax changes were estimated to increase sales tax revenues by \$128 million in fiscal year 2021. The most significant legislative change was in Tennessee, where officials revised the law related to online sales taxation to now require marketplace facilitators with sales over \$100,000 to remit sales and use tax. The revised law also lowered the annual sales economic nexus threshold from \$500,000 to \$100,000 for out-of-state marketplace sellers.²³

Five states enacted changes for taxes on cigarettes and gaming, with an estimated overall decrease of \$42 million in fiscal year 2021. The estimated impact of each state's changes was not significant.

Twelve states enacted changes for some other taxes and fees, with an estimated overall increase of \$514 million in fiscal year 2021. These changes were estimated to increase state revenues in eight states but decrease revenue in four states. The largest estimated increase was in California, mostly because of the managed-care organization (MCO) tax. In California, officials urged an extension of the MCO tax that was set to expire on July 1, 2019. ²⁴ Governor Newsom approved the bill to renew the MCO tax retroactively, subject to approval from the federal government. ²⁵ The federal government initially rejected California's MCO tax on January 30, 2020, ²⁶ but finally approved it for the period of January 1, 2020, through June 30, 2023. ²⁷

Conclusion

State tax revenues and economies were strong and had a period of sustained growth before the onset of the global pandemic. However, the pandemic and subsequent federal and state policy actions rapidly altered states' fiscal year 2020 trajectory for revenues (Dadayan 2020b). States saw steep declines in revenues in the second quarter of 2020, though some of this was caused by shifting revenues into the next quarter and next fiscal year. Many states cut spending, laid off or furloughed workers, or used federal aid or rainy-day funds while they waited to see what their revenues would be after the July 15 income tax filing deadline.

We now have complete data for state fiscal year 2020 for 47 states. These data show a 3.2 percent decline in overall state tax revenue collections compared with fiscal year 2019 collections, but the decline for the median state was 1.5 percent. The declines in state tax revenues ended a 10-year expansion. Before the spread of the COVID-19 pandemic, states were reporting steady revenue growth and forecasting solid growth for fiscal year 2020 (Dadayan 2020a). Although revenues declined in many states in fiscal year 2020, some of the declines and budget deficits at the end of fiscal year 2020 reflected the delay of income tax revenues into July and therefore into the first quarter of fiscal year 2021. According to our preliminary analysis, about 15 states had accrued income tax revenue in fiscal year 2020 though it was received after the end of the fiscal year. Overall, the pandemic's impact on state personal income tax revenues has tended to be less severe than first expected, especially in states that have progressive income tax rates and thus have greater reliance on high-income taxpayers. This mostly reflects the fact that most Americans who have been economically affected by the pandemic's recession are low-wage earners.

Fiscal and monetary policies adopted by the federal government in response to the pandemic also helped state governments to sustain their revenue performance. For example, the \$600 weekly federal supplement to unemployment benefits under the CARES Act may have helped states sustain their income tax withholding revenues. However, with the exemption of some 2020 unemployment compensation from federal income, we might see states also exempt these payments, which might lower state income taxes in the next quarter.

Although states reported robust revenue growth in the third quarter of 2020, that was mostly a reversal of steep revenue declines in the second quarter of 2020, reflecting the shifting in state income tax receipts. If we look at revenue changes over the six-month period (April through September 2020), we find a 2.0 percent year-over-year decline.

States continue facing fiscal uncertainties because of the pandemic, which has substantially weakened the economy since March 2020. Although vaccines, declining caseloads, easing of state restrictions, and support from the American Rescue Plan will likely lead to improving economic and fiscal conditions, a recovery will still take some time, and economic activity could look different in a postpandemic world.

Governors and legislators in many states had discussed larger changes to state tax policies in the beginning of 2021. But how these proposals will interact with federal relief payments and restrictions on using funds to decrease state tax rates will be an ongoing policy concern.

Appendix: Additional Tables

TABLE A1

Quarterly State Government Tax Revenue by Major Tax

7		inal Y-O				Inflation	Re	al Y-O-Y	Percent	age Char	nge
2010 Q1-2020 Q3	PIT	CIT	Sales	MFT	Total	rate	PIT	CIT	Sales	MFT	Total
average growth	6.1	5.1	3.7	3.4	4.4	1.7	4.4	3.3	2.0	1.7	2.7
2020 Q3	42.7	63.8	2.7	(5.7)	18.8	1.1	41.2	62.0	1.6	(6.7)	17.5
2020 Q2	(32.1)	(44.2)	(13.2)	(17.7)	(24.3)	0.6	(32.5)	(44.6)	(13.7)	(18.2)	(24.8)
2020 Q1	5.0	(1.2)	4.1	5.1	4.2	1.7	3.3	(2.8)	2.3	3.4	2.4
2019 Q4	6.2	18.4	5.7	7.5	5.6	1.6	4.5	16.5	4.0	5.8	3.9
2019 Q3	4.3	11.6	7.1	6.0	5.5	1.7	2.5	9.7	5.3	4.2	3.7
2019 Q2	18.8	21.0	2.5	3.5	10.5	1.8	16.7	18.8	0.6	1.6	8.5
2019 Q1	(2.4)	40.5	5.6	1.4	2.7	2.0	(4.3)	37.8	3.5	(0.6)	0.6
2018 Q4	(9.2)	12.0	4.5	6.0	(0.1)	2.3	(11.3)	9.4	2.1	3.6	(2.4)
2018 Q3	7.9	26.4	6.3	8.8	8.4	2.5	5.2	23.3	3.7	6.2	5.7
2018 Q2	10.6	17.5	5.3	8.9	8.9	2.6	7.8	14.5	2.6	6.1	6.2
2018 Q1	15.3	(6.5)	5.0	10.9	8.9	2.1	12.9	(8.4)	2.8	8.6	6.6
2017 Q4	14.9	10.5	4.5	9.7	9.1	2.0	12.6	8.4	2.4	7.6	7.0
2017 Q3	4.6	6.5	3.1	2.0	3.9	1.9	2.6	4.5	1.2	0.0	2.0
2017 Q2	(0.0)	11.7	3.2	5.2	2.3	1.7	(1.7)	9.8	1.5	3.5	0.6
2017 Q1	8.9	(28.1)	2.3	0.9	3.3	2.0	6.7	(29.5)	0.3	(1.1)	1.2
2016 Q4	0.3	(3.4)	1.7	1.2	1.2	1.5	(1.2)	(4.8)	0.2	(0.3)	(0.3)
2016 Q3	2.4	(9.0)	2.7	1.4	1.3	1.0	1.5	(9.8)	1.7	0.4	0.3
2016 Q2	(2.8)	(9.7)	1.2	0.3	(1.7)	0.9	(3.7)	(10.5)	0.2	(0.6)	(2.5)
2016 Q1	1.7	(5.9)	1.9	2.9	1.4	0.8	0.9	(6.6)	1.1	2.0	0.6
2015 Q4	5.1	(9.4)	2.7	3.5	2.4	0.8	4.3	(10.2)	1.8	2.7	1.5
2015 Q3	6.5	0.3	3.5	5.0	4.1	0.9	5.5	(0.6)	2.6	4.1	3.2
2015 Q2	14.0	6.0	3.6	2.5	7.1	1.1	12.8	4.8	2.5	1.5	5.9
2015 Q1	6.9	3.3	5.8	4.3	5.5	1.1	5.8	2.2	4.7	3.2	4.3
2014 Q4	8.4	10.1	6.5	2.4	5.7	1.5	6.8	8.5	5.0	0.9	4.1
2014 Q3	4.4	7.4	6.6	0.6	4.3	2.0	2.4	5.3	4.5	(1.3)	2.2
2014 Q2	(6.7)	(0.3)	4.6	4.0	(1.0)	2.1	(8.6)	(2.4)	2.5	1.9	(3.0)
2014 Q1	(1.3)	7.9	3.0	2.8	0.5	1.8	(3.0)	6.0	1.2	1.0	(1.3)
2013 Q4	1.1	3.6	5.1	3.6	3.0	1.8	(0.7)	1.8	3.2	1.7	1.2
2013 Q3	4.9	1.8	5.5	2.8	5.3	1.7	3.1	0.1	3.7	1.1	3.5
2013 Q2	19.2	8.5	4.6	2.0	10.0	1.7	17.2	6.6	2.8	0.3	8.1
2013 Q1	18.2	9.6	3.9	(1.7)	8.9	1.9	16.0	7.6	2.0	(3.4)	6.9
2012 Q4	10.4	2.5	3.3	1.3	5.6	2.1	8.1	0.4	1.2	(0.8)	3.4
2012 Q3	4.7	8.6	2.3	2.2	3.1	1.8	2.8	6.7	0.5	0.3	1.3
2012 Q2	4.7	1.6	2.1	1.7	3.2	1.7	2.9	(0.2)	0.4	(0.1)	1.4
2012 Q1	4.0	4.2	4.6	1.3	3.7	2.1	1.9	2.1	2.5	(0.8)	1.6
2011 Q4	3.7	(6.5)	3.5	0.7	3.2	2.0	1.7	(8.3)	1.5	(1.2)	1.2
2011 Q3	9.7	2.5	3.7	(0.3)	6.2	2.4	7.2	0.1	1.3	(2.6)	3.7
2011 Q2	15.3	19.3	5.7	7.5	11.1	2.2	12.9	16.8	3.5	5.2	8.8
2011 Q1	12.1	4.4	6.3	13.4	10.0	1.9	10.1	2.5	4.4	11.3	8.0
2010 Q4	10.5	19.8	4.8	11.8	8.4	1.6	8.8	17.9	3.2	10.1	6.7
2010 Q3	4.8	(0.9)	4.5	10.6	5.4	1.4	3.4	(2.3)	3.1	9.1	3.9
2010 Q2	2.2	(19.4)	4.8	4.0	2.6	1.1	1.0	(20.3)	3.7	2.8	1.5
2010 Q1	2.4	0.8	0.6	(0.2)	2.9	0.6	1.9	0.2	0.0	(0.7)	2.3
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Source: Bureau of Economic Analysis (GDP) and US Census Bureau (tax revenue), analysis by the author.

 $\textbf{Notes:} \ \mathsf{CIT} = \mathsf{corporate} \ \mathsf{income} \ \mathsf{tax}; \ \mathsf{PIT} = \mathsf{personal} \ \mathsf{income} \ \mathsf{tax}; \ \mathsf{MFT} = \mathsf{motor} \ \mathsf{fuel} \ \mathsf{tax}; \ \mathsf{Y-O-Y} = \mathsf{year-over-year}.$

TABLE A2

Quarterly State Government Tax Revenue, by State

Nominal percentage change, 2020 quarter 3 versus 2019 quarter 3

State/region	PIT	CIT	Sales	MFT	Total
US (median)	28.8	46.8	3.9	(8.3)	11.9
US (average)	42.7	63.8	2.7	(5.7)	18.8
New England	5.0	14.2	2.7	(12.5)	2.5
Connecticut	(11.3)	2.8	7.1	(5.7)	(5.5)
Maine	(2.8)	(0.2)	(1.1)	(13.9)	(2.5)
Massachusetts	1.2	16.1	0.9	(16.3)	0.1
New Hampshire	89.3	30.6	N/A	(9.6)	14.3
Rhode Island	48.3	85.9	6.2	(8.3)	22.9
Vermont	102.7	(30.0)	11.4	(12.0)	34.6
Mideast	43.8	24.2	2.0	(11.1)	20.6
Delaware	32.6	7.4	N/A	(13.9)	15.3
Maryland	1.6	(7.1)	2.0	(9.4)	(2.4)
New Jersey	(11.1)	(15.9)	2.1	(18.3)	(8.4)
New York	64.6	52.5	(8.0)	(8.0)	35.2
Pennsylvania	45.5	49.1	15.7	(12.1)	23.1
Great Lakes	25.9	57.7	5.4	5.9	16.5
Illinois	28.7	50.6	2.2	27.1	24.2
Indiana	35.2	96.1	4.9	(8.3)	20.1
Michigan	32.4	55.4	9.8	(5.5)	16.4
Ohio	26.8	NM	5.5	12.9	10.5
Wisconsin	(3.5)	52.7	0.9	(12.2)	1.5
Plains	24.0	45.0	(0.4)	(12.5)	9.3
Iowa	24.4	70.1	1.6	(24.1)	12.8
Kansas	50.4	44.0	5.9	(10.7)	23.7
Minnesota	(0.4)	19.4	(6.9)	(13.0)	(0.6)
Missouri	50.2	98.9	2.7	(8.3)	27.5
Nebraska	42.1	17.2	10.7	1.0	23.1
North Dakota	40.4	59.4	(24.5)	(16.6)	(29.2)
South Dakota	N/A	627.8	8.3	(5.2)	6.0
Southeast	15.7	39.2	1.5	(3.3)	8.4
Alabama	28.8	133.8	8.9	25.8	26.2
Arkansas	20.0	10.4	10.0	(8.3)	11.2
Florida	N/A	(9.4)	(4.1)	(10.2)	(3.3)
Georgia	13.8	35.9	(5.1)	(1.1)	6.7
Kentucky	4.5	(5.3)	7.0	(6.5)	3.5
Louisiana	11.2	98.2	(5.9)	(8.3)	5.9
Mississippi	21.5	94.9	11.9	0.8	14.6
North Carolina	29.4	94.1	7.7	10.4	21.3
South Carolina	(1.5)	(2.6)	3.6	(18.6)	(0.0)
Tennessee	NM	86.1	3.9	(2.9)	17.8
Virginia	8.9	36.1	5.9	(8.3)	8.6
West Virginia	22.0	110.5	6.2	(8.3)	5.5
Southwest	30.9	92.6	25.2	(8.1)	12.0
Arizona	41.6	29.7	11.0	(8.3)	18.3
New Mexico	10.6	NM	(6.4)	(8.3)	(7.5)
Oklahoma	23.9	144.9	4.4	(7.0)	9.3
Texas	N/A	N/A	32.4	(8.2)	12.7
Rocky Mountain	64.2	17.6	4.0	(6.5)	29.2
Colorado	63.4	2.3	(0.9)	(11.4)	30.8
Idaho	34.9	24.5	11.8	4.1	17.1

State/region	PIT	CIT	Sales	MFT	Total
Montana	45.7	44.6	N/A	(5.3)	22.2
Utah	83.5	55.0	8.3	(8.3)	42.4
Wyoming	N/A	N/A	(8.5)	(7.3)	(7.2)
Far West	82.9	176.3	(11.4)	(9.1)	36.1
Alaska	N/A	84.9	N/A	(20.1)	4.5
California	91.6	192.6	(14.7)	(7.8)	47.6
Hawaii	38.9	85.1	(24.6)	(27.1)	(7.2)
Nevada	N/A	N/A	(6.2)	(8.3)	(6.4)
Oregon	20.7	36.0	N/A	(8.3)	17.3
Washington	N/A	N/A	(0.9)	(14.1)	(8.0)

Source: US Census Bureau (tax revenue), analysis by the author.

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

State Government Tax Revenue Trends During the Pandemic, by State
Nominal percentage change, April-September 2020 versus April-September 2019

State/region	PIT	CIT	Sales	MFT	Total
US (median)	(2.5)	(8.4)	(2.5)	(13.2)	(3.8)
US (average)	(2.8)	(8.6)	(5.5)	(11.8)	(5.6)
New England	(8.0)	(9.3)	(5.6)	(18.1)	(5.4)
Connecticut	(2.6)	(4.3)	(5.2)	(14.9)	(7.3)
Maine	5.7	(13.8)	(4.3)	(17.4)	(0.9)
Massachusetts	(1.6)	(13.6)	(7.6)	(24.2)	(6.4)
New Hampshire	15.3	(2.2)	N/A	(21.1)	(5.4)
Rhode Island	(0.3)	5.2	(1.9)	(2.5)	(2.4)
Vermont	13.7	(45.3)	5.7	(0.5)	1.7
Mideast	(3.9)	(7.7)	(9.3)	(18.9)	(6.7)
Delaware	(1.7)	(28.3)	N/A	(19.8)	(3.9)
Maryland	(0.1)	(3.9)	(14.1)	(14.9)	(5.6)
New Jersey	(7.4)	(17.3)	(9.0)	(13.7)	(9.5)
New York	(4.0)	6.0	(13.2)	(22.7)	(6.1)
Pennsylvania	(2.5)	(9.6)	(2.5)	(19.2)	(6.1)
Great Lakes	(3.0)	(4.6)	(3.0)	3.6	(2.1)
Illinois	(2.9)	(5.9)	(6.6)	35.9	0.6
Indiana	(2.4)	(9.2)	(0.9)	(12.7)	(4.6)
Michigan	1.7	(12.4)	(2.5)	(18.1)	(3.0)
Ohio	(6.4)	NM	(1.9)	14.7	(2.6)
Wisconsin	(6.0)	9.6	(1.4)	(12.6)	(3.6)
Plains	(5.0)	(6.1)	(2.1)	(13.6)	(6.8)
lowa	(0.9)	3.7	(2.1)	(16.6)	(3.9)
Kansas	(9.0)	(12.9)	0.8	(13.6)	(5.7)
Minnesota	(6.6)	(2.6)	(4.8)	(17.7)	(5.8)
Missouri	(4.8)	0.7	(0.4)	(10.1)	(4.0)
Nebraska	2.5	(26.8)	5.9	(6.6)	0.1
North Dakota	(5.9)	(20.7)	(18.9)	(15.8)	(39.1)
South Dakota	N/A	(3.5)	5.9	(7.4)	3.5
Southeast	(0.6)	(13.4)	(5.9)	(10.3)	(4.3)
Alabama	(4.4)	7.2	2.6	18.2	2.4
Arkansas	(3.7)	(5.5)	5.6	(2.9)	0.1
Florida	N/A	(34.9)	(13.7)	(17.1)	(13.2)
Georgia	5.4	(2.5)	(7.3)	0.4	(0.3)
Kentucky	4.3	(12.6)	0.6	(12.7)	(1.1)
Louisiana	(11.2)	(7.5)	(9.7)	(15.5)	(8.4)
Mississippi	(6.5)	(10.4)	4.5	(8.1)	(3.1)
North Carolina	(1.1)	(4.1)	(2.0)	(12.9)	(1.7)
South Carolina	3.8	(27.8)	(2.8)	(15.3)	(2.3)
Tennessee	(27.7)	(5.6)	(1.4)	(7.8)	(1.5)
Virginia	(1.1)	9.6	(3.1)	(13.5)	(0.9)
West Virginia	(5.5)	(4.0)	2.0	(12.3)	(10.6)
Southwest	(1.7)	13.5	(2.4)	(14.3)	(8.5)
Arizona	(3.2)	(16.9)	4.6	(14.1)	(1.3)
New Mexico	8.2	NM	1.5	(15.5)	4.3
Oklahoma	(3.9)	(10.0)	(1.5)	(9.3)	(8.3)
	l	NI/A	(3.9)	(15.1)	(11.8)
Texas	N/A	N/A	(0.7)		(==:0)
Rocky Mountain	9.1	(23.8)	1.1	(12.7)	1.5

State/region	PIT	CIT	Sales	MFT	Total
Montana	(0.4)	3.2	N/A	(7.1)	(0.7)
Utah	10.9	(25.8)	7.0	(25.2)	5.7
Wyoming	N/A	N/A	(10.2)	(5.5)	(15.3)
Far West	(4.9)	(7.0)	(9.2)	(16.8)	(7.6)
Alaska	N/A	(62.6)	N/A	(9.2)	(28.6)
California	(3.7)	(5.5)	(8.7)	(14.1)	(6.9)
Hawaii	(6.7)	(51.0)	(24.6)	(28.8)	(21.7)
Nevada	N/A	N/A	(14.1)	2.9	(15.0)
Oregon	(16.0)	(2.9)	N/A	(12.8)	(13.2)
Washington	N/A	N/A	(5.5)	(32.0)	(2.3)

Source: US Census Bureau (tax revenue), analysis by the author.

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

TABLE A4
State Personal Income Tax Withholding

Year-over-year nominal percentage change

	Calendar Year 2019 Calendar Year 2020							
State/region	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4
US (median)	2.7	5.3	5.0	4.3	6.9	(0.1)	4.0	4.0
US (average)	1.2	5.2	4.3	4.8	5.8	(1.3)	5.1	6.2
New England	5.7	3.2	4.5	3.1	4.7	2.5	4.7	5.1
Connecticut	6.4	7.3	5.5	2.8	2.0	1.9	4.0	6.6
Maine	3.6	5.3	7.4	6.7	7.6	2.8	9.2	7.8
Massachusetts	6.0	1.5	4.1	3.1	5.8	2.9	4.5	4.3
Rhode Island	3.9	1.2	3.8	2.0	6.9	1.1	3.4	4.0
Vermont	1.9	1.5	0.6	(0.3)	3.1	2.3	7.3	1.5
Mideast	0.5	5.0	5.1	4.6	5.6	(2.1)	4.3	2.8
Delaware	3.2	7.9	6.2	0.9	10.1	(2.3)	4.8	(39.8)
Maryland	0.9	4.0	6.7	5.5	8.9	2.7	5.3	7.7
New Jersey	4.8	4.5	6.2	3.2	7.0	(5.8)	7.5	9.5
New York	(1.5)	5.5	5.0	4.8	4.6	(1.8)	3.0	2.8
Pennsylvania	3.7	5.1	2.4	4.1	3.8	(6.7)	4.5	(6.7)
Great Lakes	1.6	5.3	4.0	4.1	4.2	(2.8)	4.7	3.6
Illinois	2.7	5.1	4.2	3.2	3.1	(0.0)	6.0	6.1
Indiana	(2.8)	8.7	1.4	4.8	7.3	(10.1)	9.6	2.3
Michigan	(2.5)	5.2	7.6	6.0	6.9	4.3	5.0	2.9
Ohio	2.3	3.5	2.5	1.9	1.6	(10.6)	1.3	0.4
Wisconsin	7.7	4.7	3.0	5.3	3.4	(1.3)	(0.0)	4.0
Plains	0.4	2.8	3.4	3.3	4.4	(1.9)	(0.6)	3.4
lowa	(0.6)	(4.1)	(3.5)	(3.9)	3.0	0.8	3.6	1.2
Kansas	3.7	7.6	2.8	6.4	9.7	(4.0)	3.2	4.4
Minnesota	2.1	5.7	5.1	2.8	1.6	(2.2)	(6.0)	4.5
Missouri	(3.6)	(2.2)	6.0	6.4	4.7	(3.3)	0.1	1.9
Nebraska	(0.2)	8.2	2.1	6.5	10.9	2.3	8.2	6.2
North Dakota	13.3	5.5	10.2	3.7	13.3	(6.0)	2.5	(4.9)
Southeast	(0.4)	3.1	2.1	1.8	5.4	(0.6)	4.2	3.9
Alabama	3.9	8.3	1.7	5.4	9.0	(5.2)	1.9	3.9
Arkansas	1.3	8.2	1.9	5. ₇	9.3	(8.9)	(4.4)	(4.1)
Georgia	(4.0)	0.2	(2.4)	(2.3)	6.0	6.0	11.2	6.5
Kentucky	(2.4)	(4.0)	2.1	2.0	7.5	1.0	5.6	5.3
Louisiana	(2.8)	6.3	9.9	(4.7)	14.9	(7.9)	(11.0)	0.2
Mississippi	(0.4)	2.5	(1.0)	3.5	7.3	(4.7)	0.2	4.7
North Carolina	(1.6)	0.9	(1.0)	(0.2)	3.4	1.4	8.9	5.0
South Carolina	4.9	7.2	6.6	4.9	2.4	2.2	4.6	3.3
Virginia	1.2	4.5	5.8	5.8	2.4	(2.1)	2.4	3.4
West Virginia	6.6	6.8	(0.4)	1.2	4.1	(10.3)	(5.4)	(0.0)
Southwest	3.8	9.8	7.3	7.9	7.3		3.4	5.5
Arizona	2.3	8.4	7.3 7.1	8.7	10.3	(0.4) 2.5	2.4	8.5
	3.5		13.2	13.9			3.2	o.s ND
New Mexico		20.1	5.0		12.8 0.9	(12.3)		1.0
Oklahoma	6.0	7.0		4.3		1.6	4.8	
Rocky Mountain	4.6	2.8	6.1	5.8	10.8	7.7	9.3	13.7
Colorado	5.6	7.2	6.1	3.5	10.9	11.3	14.1	15.4
Idaho	(19.9)	(17.5)	3.2	9.7	12.1	8.0	11.5	14.9
Montana	3.1	5.6	7.6	4.2	9.7	0.7	2.8	11.2
Utah	15.5	3.3	6.5	9.0	10.3	3.3	1.6	10.9
Far West	0.9	8.4	5.3	8.2	7.2	(2.3)	8.4	12.6
California	0.2	9.4	5.1	8.2	7.5	(2.4)	9.2	14.2
Hawaii	17.8	(14.1)	4.1	5.6	4.4	(8.7)	(1.2)	(5.1)
Oregon	3.3	7.9	7.0	9.0	4.9	(0.1)	4.1	3.1

Source: Individual state data, analysis by the author.

Notes: Alaska, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, and Wyoming have no broadbased personal income tax and are not shown in this table. ND = no data.

TABLE A5
State Personal Income Tax: Estimated Payments/Declarations

Year-over-year nominal percentage change

	Estimated Payments for Tax Year 2019				Estimated Payments for Tax Year 2020			
				Dec.				Dec.
	April	June	Sep.	2019-	April	June	Sep.	2020-
	2019,	2019,	2019,	Jan. 2020,	2020,	2020,	2020,	Jan. 2021,
	1st	2nd	3rd	4th	1st	2nd	3rd	4th
State	payment	payment	payment	payment	payment	payment	payment	payment
Median	18.0	10.4	11.1	11.0	(72.0)	(38.8)	(2.3)	10.2
Average	35.7	1.3	0.4	10.5	(82.3)	(47.9)	(1.5)	33.5
Alabama	30.1	11.5	12.7	13.3	(74.8)	(61.2)	(3.6)	13.3
Arizona	(25.1)	13.4	13.3	15.1	16.4	(30.5)	0.3	33.2
Arkansas	(3.2)	3.1	14.3	9.8	(16.8)	(19.3)	11.2	21.9
California	7.6	(3.6)	(14.2)	8.6	(83.2)	(82.8)	11.3	48.6
Colorado	62.9	(0.5)	1.7	6.1	(92.0)	(66.3)	(2.2)	18.6
Connecticut	(18.3)	(31.1)	(15.9)	(11.0)	(76.1)	(75.8)	(5.5)	26.2
Delaware	11.2	12.3	15.0	13.5	(58.0)	(18.3)	9.0	17.9
Georgia	2.8	6.1	4.3	4.7	(76.4)	(69.7)	(9.5)	8.0
Hawaii	138.6	22.9	48.1	41.9	(66.8)	(39.9)	(17.7)	0.7
Illinois	19.7	12.3	8.9	7.2	9.5	(20.8)	(8.2)	10.2
Indiana	19.2	10.0	8.8	13.0	(72.2)	(52.8)	(0.1)	9.2
lowa	9.4	7.3	15.7	18.2	(20.4)	(23.1)	4.2	(1.7)
Kansas	12.4	13.3	19.0	22.0	(56.7)	(31.9)	(1.3)	13.1
Kentucky	4.6	(0.7)	(1.0)	11.0	(82.8)	126.6	(1.4)	7.3
Louisiana	17.7	20.9	20.3	25.2	(45.4)	(31.3)	(2.5)	1.0
Maine	18.3	15.6	6.2	9.3	(66.0)	(51.6)	15.4	40.4
Maryland	(1.0)	19.9	20.7	16.5	(75.9)	41.1	1.7	74.4
Massachusetts	7.6	0.3	3.4	3.2	(77.2)	10.1	(4.0)	23.5
Michigan	9.9	5.5	3.8	3.6	(73.5)	(65.2)	(0.3)	20.7
Minnesota	71.0	9.3	9.3	11.6	(75.4)	103.3	2.4	12.1
Mississippi	97.8	20.1	11.0	14.0	(79.1)	(44.5)	(10.9)	9.8
Missouri	135.6	(68.7)	(74.7)	NM	(52.5)	54.1	15.2	NM
Montana	27.6	(0.8)	17.2	35.0	(66.1)	(26.3)	3.4	1.9
Nebraska	20.6	10.1	11.3	10.8	(63.7)	(20.7)	0.3	15.3
New Jersey	10.4	7.1	5.0	8.7	(75.0)	(43.7)	(7.9)	(4.3)
New York	57.1	7.5	2.8	7.3	(96.9)	(37.7)	(8.5)	21.9
North Carolina	15.1	13.2	11.8	16.2	(56.0)	(48.6)	1.0	9.6
North Dakota	40.6	12.7	16.0	9.6	(86.9)	(47.4)	(17.1)	4.6
Ohio	8.1	12.9	16.0	7.2	(66.0)	(55.5)	(6.1)	7.5
Oklahoma	31.6	3.6	(2.0)	(7.3)	(90.6)	(48.9)	(22.7)	(6.1)
Oregon	53.5	11.5	12.9	14.1	(77.1)	(1.8)	(4.4)	12.7
Pennsylvania	13.9	13.0	11.1	8.7	(70.0)	(59.0)	(10.8)	(50.7)
Rhode Island	5.3	10.6	9.9	16.6	(64.9)	(59.4)	(2.3)	(1.1)
South Carolina	157.4	18.2	11.1	16.8	(85.8)	28.3	4.4	18.5
Vermont	20.1	14.9	18.7	13.1	(71.8)	(55.0)	3.2	12.6
Virginia	30.3	13.7	20.5	24.7	(45.5)	(8.5)	(9.4)	(2.0)
West Virginia	(9.9)	10.0	5.2	5.3	(62.7)	(46.7)	(11.3)	(1.6)
Wisconsin	51.9	0.9	2.7	1.6	(86.7)	110.4	(11.5)	10.0
* V 13CO113111	J 1.7	0.7	۷./	1.0	(00.7)	110.4	(11.0)	10.0

Source: Individual state data, analysis by the author.

Notes: Alaska, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, and Wyoming have no broadbased personal income tax and are not shown in this table. Data are not available for Idaho, New Mexico, and Utah. NM = not meaningful.

TABLE A6
State Personal Income Tax: Estimated Payments/Declarations During the Pandemic

Amounts (dollars in millions) and year-over-year nominal percentage change

•	Do	llars in millio	ns	Dollar change		Percent change		
				Apr 2019-	Apr 2020-	Apr 2019-	Apr 2020-	
	Apr	Apr	Apr	Jan 2020 vs	Jan 2021 vs	Jan 2020 vs	Jan 2021 vs	
	2018-	2019-	2020-	Apr 2018-	Apr 2019-	Apr 2018-	Apr 2019-	
State	Jan 2019	Jan 2020	Jan 2021	Jan 2019	Jan 2020	Jan 2019	Jan 2020	
Median						13.9	(2.2)	
Average	\$73,167	\$81,401	\$83,048	\$8,233.8	\$1,646.5	11.3	2.0	
Alabama	282	322	319	40.5	(3.0)	14.4	(0.9)	
Arizona	551	627	706	76.1	79.6	13.8	12.7	
Arkansas	330	355	393	24.4	38.2	7.4	10.8	
California	26,178	26,829	29,828	650.8	2,999.2	2.5	11.2	
Colorado	1,397	1,668	1,530	271.2	(138.1)	19.4	(8.3)	
Connecticut	1,596	1,273	1,252	(322.3)	(21.5)	(20.2)	(1.7)	
Delaware	199	221	238	22.6	16.8	11.4	7.6	
Georgia	826	870	793	43.6	(77.1)	5.3	(8.9)	
Hawaii	569	798	746	228.3	(51.9)	40.1	(6.5)	
Illinois	1,977	2,219	2,254	241.5	34.9	12.2	1.6	
Indiana	841	939	921	98.2	(18.4)	11.7	(2.0)	
lowa	452	528	506	75.4	(21.1)	16.7	(4.0)	
Kansas	436	516	515	80.0	(0.2)	18.4	(0.0)	
Kentucky	513	541	526	28.4	(15.1)	5.5	(2.8)	
Louisiana	308	382	377	74.2	(4.7)	24.1	(1.2)	
Maine	276	311	358	34.3	47.4	12.4	15.2	
Maryland	1,958	2,232	2,686	273.7	454.1	14.0	20.3	
Massachusetts	2,405	2,487	2,425	81.8	(62.3)	3.4	(2.5)	
Michigan	1,206	1,266	1,266	60.3	0.1	5.0	0.0	
Minnesota	2,091	2,640	2,520	549.1	(120.1)	26.3	(4.6)	
Mississippi	392	480	444	88.5	(35.8)	22.6	(7.4)	
Missouri	212	534	1,322	322.1	788.2	152.3	147.7	
Montana	278	320	339	42.1	18.7	15.2	5.8	
Nebraska	330	377	384	46.9	7.3	14.2	1.9	
New Jersey	2,894	3,066	2,742	171.8	(324.2)	5.9	(10.6)	
New York	13,785	16,798	16,158	3,013.4	(640.0)	21.9	(3.8)	
North Carolina	1,192	1,356	1,344	163.8	(12.0)	13.7	(0.9)	
North Dakota	68	83	78	14.2	(4.9)	20.8	(5.9)	
Ohio	833	904	881	71.2	(22.7)	8.6	(2.5)	
Oklahoma	434	472	352	38.9	(120.2)	9.0	(25.4)	
Oregon	2,610	3,299	2,839	689.7	(460.1)	26.4	(13.9)	
Pennsylvania	1,755	1,952	1,578	197.0	(374.1)	11.2	(19.2)	
Rhode Island	217	242	220	25.4	(21.4)	11.7	(8.9)	
South Carolina	342	413	423	71.2	10.4	20.8	2.5	
Vermont	153	177	175	23.8	(1.7)	15.5	(0.9)	
Virginia	1,845	2,290	2,140	444.8	(149.7)	24.1	(6.5)	
West Virginia	255	261	245	5.7	(16.0)	2.2	(6.1)	
Wisconsin	1,185	1,357	1,224	171.3	(132.2)	14.4	(9.7)	

Source: Individual state data, analysis by the author.

Notes: Alaska, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, and Wyoming have no broadbased personal income tax and are not shown in this table. Data are not available for Idaho, New Mexico, and Utah.

TABLE A7
State Personal Income Tax: Final Payments

Amounts (dollars in millions) and year-over-year nominal percentage change

Dollars in millions

Dollar change

	Do	llars in millio	ns	Dollar change Pe		Percent	ercent change	
				Apr-Dec	Apr-Dec	Apr-Dec	Apr-Dec	
	Apr-	Apr-	Apr-	2019 vs Apr-	2020 vs Apr-	2019 vs Apr-	2020 vs Apr-	
State	Dec 2018	Dec 2019	Dec 2020	Dec 2018	Dec 2019	Dec 2018	Dec 2019	
Median		-			-	34.4	(2.1)	
Average	34,789.9	47,153.0	45,892.9	12,363.1	(1,260.0)	35.5	(2.7)	
Alabama	397.8	541.5	519.6	143.7	(21.9)	36.1	(4.0)	
Arizona	763.4	1,123.7	1,074.6	360.3	(49.1)	47.2	(4.4)	
Arkansas	280.0	364.5	397.6	84.5	33.1	30.2	9.1	
California	6,191.7	7,992.1	8,569.3	1,800.4	577.2	29.1	7.2	
Colorado	750.0	902.9	943.3	152.9	40.4	20.4	4.5	
Connecticut	1,447.4	1,348.4	1,318.6	(99.0)	(29.8)	(6.8)	(2.2)	
Delaware	132.5	179.8	164.9	47.2	(14.8)	35.7	(8.3)	
Georgia	843.2	1,262.8	1,253.8	419.5	(9.0)	49.8	(0.7)	
Hawaii	193.5	240.8	257.3	47.3	16.6	24.5	6.9	
Idaho	452.0	659.7	777.4	207.7	117.7	45.9	17.8	
Illinois	1,725.0	2,583.6	2,055.7	858.6	(527.9)	49.8	(20.4)	
Indiana	611.9	805.8	795.0	193.9	(10.8)	31.7	(1.3)	
lowa	325.8	535.3	405.3	209.4	(129.9)	64.3	(24.3)	
Kansas	542.8	786.7	643.8	244.0	(143.0)	45.0	(18.2)	
Kentucky	300.3	348.8	356.2	48.5	7.4	16.1	2.1	
Louisiana	387.7	554.6	515.0	166.9	(39.6)	43.1	(7.1)	
Maine	241.9	304.6	308.7	62.6	4.1	25.9	1.4	
Maryland	1,519.2	2,178.9	1,998.8	659.7	(180.2)	43.4	(8.3)	
Massachusetts	2,000.7	2,895.1	2,843.6	894.4	(51.5)	44.7	(1.8)	
Michigan	858.4	1,203.6	1,164.2	345.2	(39.4)	40.2	(3.3)	
Minnesota	1,317.8	1,670.0	1,637.8	352.2	(32.2)	26.7	(1.9)	
Missouri	832.1	1,148.9	683.5	316.8	(465.4)	38.1	(40.5)	
Montana	173.3	222.6	89.0	49.3	(133.6)	28.4	(60.0)	
Nebraska	288.1	398.7	396.0	110.6	(2.7)	38.4	(0.7)	
New Jersey	2,380.3	3,484.7	3,215.8	1,104.4	(268.9)	46.4	(7.7)	
New York	2,336.2	3,109.3	3,164.5	773.2	55.1	33.1	1.8	
North Carolina	1,619.8	2,196.8	2,074.8	576.9	(122.0)	35.6	(5.6)	
North Dakota	46.4	56.5	54.5	10.1	(2.0)	21.8	(3.5)	
Ohio	713.5	1,051.8	955.8	338.3	(96.0)	47.4	(9.1)	
Oklahoma	307.2	378.3	364.4	71.1	(13.9)	23.1	(3.7)	
Pennsylvania	1,219.3	1,604.1	1,522.8	384.7	(81.2)	31.6	(5.1)	
Rhode Island	185.3	242.8	239.8	57.5	(3.1)	31.0	(1.3)	
South Carolina	648.2	830.7	829.0	182.5	(1.7)	28.2	(0.2)	
Utah	788.0	1,166.2	1,431.6	378.2	265.4	48.0	22.8	
Vermont	134.6	165.3	176.9	30.8	11.6	22.9	7.0	
Virginia	1,072.3	1,626.1	1,724.0	553.8	97.9	51.6	6.0	
West Virginia	244.4	324.7	312.3	80.3	(12.4)	32.9	(3.8)	
Wisconsin	517.8	662.4	657.9	144.6	(4.6)	27.9	(0.7)	

Source: Individual state data, analysis by the author.

Notes: Alaska, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, and Wyoming have no broadbased personal income tax and are not shown in this table. Data are not available for Mississippi, New Mexico, and Oregon.

TABLE A8
States with Economic Nexus and Marketplace Laws
Economic Nexus threshold levels and effective dates

	iresnoia ieveis ana effective aates	Economic nexus	Marketplace nexus
State	Current threshold levels for economic nexus	effective date	effective date
Alabama	>\$250,000	10/1/2018	1/1/2019
Arizona	> \$150,000 in CY 2020, > \$100,000 in CY 2021	10/1/2019	10/1/2019
Arkansas	>\$100,000 or over 200 transactions	7/1/2019	7/1/2019
California	>\$500,000	4/1/2019	10/1/2019
Colorado	>\$100,000	6/1/2019	10/1/2019
Connecticut	>\$100,000 and over 200 transactions	12/1/2018	12/1/2018
Georgia	>\$100,000 in CY 2020 or over 200 transactions	1/1/2019	4/1/2020
Hawaii	>\$100,000 or over 200 transactions	7/1/2018	1/1/2020
Idaho	>\$100,000	6/1/2019	6/1/2019
Illinois	>\$100,000 or over 200 transactions	10/1/2018	1/1/2020
Indiana	>\$100,000 or over 200 transactions	10/1/2018	7/1/2019
lowa	>\$100,000	1/1/2019	1/1/2019
Kansas	TBD	10/1/2019	10/1/2019
Kentucky	>\$100,000 or over 200 transactions	10/1/2018	7/1/2019
Louisiana	>\$100,000 or over 200 transactions	7/1/2020	7/1/2020
Maine	>\$100,000 or over 200 transactions	7/1/2018	10/1/2019
Maryland	>\$100,000 or over 200 transactions	10/1/2018	10/1/2019
Massachusetts	>\$100,000	10/1/2019	10/1/2019
Michigan	>\$100,000 or over 200 transactions	10/1/2018	1/1/2020
Minnesota	>\$100,000 or over 200 transactions	10/1/2018	10/1/2018
Mississippi	>\$250,000	9/1/2018	7/1/2020
Nebraska	>\$100,000 or over 200 transactions	1/1/2019	4/1/2019
Nevada	>\$100,000 or over 200 transactions	10/1/2018	10/1/2019
New Jersey	>\$100,000 or over 200 transactions	11/1/2018	11/1/2018
New Mexico	>\$100,000	7/1/2019	7/1/2019
New York	>\$500,000 and over 100 transactions	6/21/2018	6/1/2019
North Carolina	>\$100,000 or over 200 transactions	11/1/2018	2/1/2020
North Dakota	>\$100,000	10/1/2018	10/1/2019
Ohio	>\$100,000 or over 200 transactions	8/1/2019	8/1/2019
Oklahoma	>\$100,000	7/1/2018	7/1/2018
Pennsylvania	>\$100,000	7/1/2019	7/1/2019
Rhode Island	>\$100,000 or over 200 transactions	7/1/2019	7/1/2019
South Carolina	>\$100,000	11/1/2018	11/1/2018
South Dakota	>\$100,000 or over 200 transactions	11/1/2018	3/1/2019
Tennessee	>\$500,000	10/1/2019	10/1/2020
Texas	>\$500,000	10/1/2019	10/1/2019
Jtah	>\$100,000 or over 200 transactions	1/1/2019	10/1/2019
Vermont	>\$100,000 or over 200 transactions	7/1/2018	6/1/2019
Virginia	>\$100,000 or over 200 transactions	7/1/2019	7/1/2019
Washington	>\$100,000	10/1/2018	10/1/2018
West Virginia	>\$100,000 or over 200 transactions	1/1/2019	7/1/2019
Wisconsin	>\$100,000 or over 200 transactions	10/1/2018	10/1/2019
Wyoming	>\$100,000 or over 200 transactions	2/1/2019	7/1/2019

Source: Individual state information, compiled by the author.

Notes: CY = calendar year; TBD = to be determined. Alaska, Delaware, Montana, New Hampshire, and Oregon

do not have sales tax. Florida and Missouri have not yet enacted legislation on economic nexus.

States are hyperlinked to respective economic nexus guidelines.

TABLE A9
Quarterly State Government Tax Revenue for Nonmajor Tax Revenue Sources

Year-over-year real percentage change; four-quarter moving averages Tobacco Alcoholic Motor vehicle **Total Property** product beverage & operators' Other nonmajor 2020 Q3 collections sales tax sales tax license taxes tax taxes taxes (\$ millions) \$4,785 \$4,891 \$1,768 \$8,537 \$32,455 \$52,436 2010 Q1 - 2020 Q3 0.9 2.0 2.0 (0.5)1.7 1.7 average growth 2.8 (4.2)(3.3)(4.5)2020 Q3 (1.7)(6.1)2020 Q2 0.5 (2.7)(2.8)(3.3)(4.1)(3.4)(3.2)2.2 1.7 1.2 2020 Q1 1.1 1.4 2019 Q4 0.1 (4.1)2.2 0.9 1.7 0.9 2019 Q3 (0.4)(6.2)(0.2)1.2 3.4 1.8 4.7 2019 Q2 5.2 (7.7)(2.0)8.0 2.7 2019 Q1 6.4 (5.5)4.3 5.2 4.0 (0.6)2018 Q4 9.0 (5.3)(1.5)7.1 5.3 4.6 2018 Q3 8.1 8.0 0.0 4.4 5.2 4.8 2018 Q2 3.6 5.2 1.3 4.7 3.6 3.8 1.0 4.7 1.1 2.6 2.4 2018 Q1 1.1 2.9 (0.3)1.9 1.8 2017 Q4 (0.6)6.1 0.5 (1.2)3.6 3.0 3.7 1.1 2017 Q3 2017 Q2 0.4 1.8 2.2 1.5 (0.4)0.2 3.0 2017 Q1 1.2 1.1 2.3 (1.7)(0.4)2016 Q4 2.3 1.4 0.4 2.7 (1.7)(0.4)2016 Q3 4.9 1.2 0.7 1.0 (2.5)(1.0)2016 Q2 4.1 0.6 1.6 2.6 (1.8)(0.4)2016 Q1 5.0 1.8 2.6 2.3 (1.4)0.0 2015 Q4 8.7 0.1 1.5 2.8 (1.0)0.4 2015 Q3 6.1 (8.0)1.3 1.6 (0.4)0.4 2015 Q2 5.2 (2.1)1.6 1.2 (0.7)(0.0)2015 Q1 4.3 1.2 (4.0)(0.2)(0.4)(0.1)2014 Q4 8.0 1.5 (1.9)(1.7)(4.6)(0.7)2014 Q3 3.2 1.3 (1.7)(3.7)0.6 (1.1)2014 Q2 5.2 0.5 (0.1)1.1 (0.4)0.3 2014 Q1 5.1 1.8 1.3 8.0 0.4 1.0 2013 O4 4.8 3.7 (0.7)0.3 3.2 2.8 2013 Q3 3.2 3.6 (2.4)(0.5)3.6 2.8 2013 Q2 (0.3)(1.0)(1.9)(0.9)2.7 1.5 2013 Q1 (3.2)(1.6)(0.1)0.2 2.5 1.3 2012 Q4 2.2 2.0 1.2 0.6 (4.8)(2.6)2012 Q3 (9.2)(3.4)3.4 3.1 2.2 0.9 2012 Q2 (2.3)3.0 3.1 4.1 2.1 (10.6)2012 Q1 (10.8)(2.5)0.6 2.1 7.6 4.0 2011 Q4 (11.0)(1.9)(0.5)1.8 11.8 6.5 2011 Q3 (7.5)(0.9)0.5 0.4 12.8 7.3 2011 Q2 (3.8)8.0 1.6 1.6 12.2 7.6 2011 Q1 2.5 2.8 3.4 10.1 7.4 3.2 2010 Q4 3.2 7.9 6.7 8.2 3.3 4.1 2010 Q3 13.4 2.3 3.1 5.7 5.0 5.5 2010 Q2 13.4 0.6 2.1 3.8 (0.9)1.2

Source: US Census Bureau (tax revenue), analysis by the author.

9.9

(1.2)

0.7

1.5

(8.6)

(4.7)

TABLE A10

Preliminary Quarterly State Government Tax Revenue, by State

Nominal percentage change, 2020 quarter 4 versus 2019 quarter 4

State/region | PIT CIT Sales

State/region	PIT	CIT	Sales	Total
US (median)	4.5	17.0	5.4	4.4
US (average)	8.9	23.0	3.3	6.5
New England	7.0	40.5	3.5	6.4
Connecticut	10.2	36.7	7.1	9.4
Maine	15.4	43.5	6.2	10.7
Massachusetts	5.0	50.4	(8.0)	4.6
New Hampshire	10.9	10.6	N/A	4.4
Rhode Island	0.1	114.1	7.7	2.5
Vermont	11.9	(4.0)	13.5	8.1
Mideast	4.1	17.4	0.2	6.3
Delaware	(41.1)	(52.8)	N/A	(5.4)
Maryland	15.0	71.8	(4.9)	12.1
New Jersey	3.6	17.0	5.1	16.7
New York	6.5	4.5	(5.4)	2.5
Pennsylvania	(5.1)	30.3	5.4	2.2
Great Lakes	3.0	15.8	5.3	3.7
Illinois	3.9	4.6	2.7	2.7
Indiana	2.4	(8.2)	6.4	2.4
Michigan	3.1	(4.5)	8.7	4.3
Ohio	0.7	N/A	5.4	2.3
Wisconsin	4.3	62.5	1.6	8.1
Plains	2.9	12.7	2.4	2.6
lowa	(4.0)	37.1	6.3	2.2
Kansas	4.5	4.8	5.7	4.3
Minnesota	5.9	23.8	(0.3)	5.0
Missouri	0.4	0.8	4.5	1.4
Nebraska	4.7	(21.2)	5.7	2.4
North Dakota	19.1	(13.3)	(19.1)	(22.8)
South Dakota	N/A	N/A	6.7	8.2
Southeast	4.7	19.5	3.6	5.1
Alabama	3.4	22.8	8.3	6.6
Arkansas	(3.0)	17.0	5.3	1.2
Florida	N/A	21.6	(0.8)	2.7
Georgia	6.4	7.6	6.0	6.0
Kentucky	N/A	41.3	4.8	5.5
Louisiana	1.3	99.3	(0.7)	2.2
Mississippi	5.1	(23.5)	11.1	5.7
North Carolina	8.3	253.7	5.1	8.3
South Carolina	5.6	46.1	9.4	6.5
Tennessee	(28.2)	6.2	6.5	4.7
Virginia	3.3	39.4	5.4	6.1
West Virginia	(0.2)	12.6	5.2	(2.3)
Southwest	8.9 11.1	(16.1) (16.9)	(1.3)	(4.8)
Arizona New Mexico	ND	(16.9) ND	12.0 ND	10.9 ND
Oklahoma	5.2		7.8	
Texas	5.2 N/A	(14.5) N/A	(3.9)	(1.5) (8.6)
Rocky Mountain	12.7	36.4	6.4	11.5
Colorado	19.8	72.5	2.2	11.3 17.3
Idaho	14.5	12.8	14.9	12.3
	1 1	12.0	± 1/	12.0

Montana	(14.9)	(14.7)	N/A	(8.9)
Utah	10.8	33.4	12.1	10.3
Wyoming	N/A	N/A	(12.2)	ND
Far West	20.6	33.8	6.8	14.1
Alaska	N/A	(59.9)	N/A	(60.5)
California	24.1	37.1	12.0	19.0
Hawaii	(3.1)	38.9	(20.4)	(10.2)
Nevada	N/A	N/A	(5.9)	(6.4)
Oregon	(2.5)	8.7	N/A	(1.1)
Washington	N/A	N/A	2.2	7.3

Source: Individual state data, analysis by the author.

Notes: CIT = corporate income tax; PIT = personal income tax; N/A = not applicable; ND = no data.

Notes

- ¹The author made several adjustments for the third quarter of 2020 and to several previous quarters of tax revenue data reported by the US Census Bureau based on information and data received directly from the states and from the Census Bureau.
- ² In this report, the author uses US Bureau of Economic Analysis regions as the basis of analysis.
- ³ See Arizona Joint Legislative Budget Committee, "Monthly Fiscal Highlights, November 2020," accessed March 5, 2021, https://www.azleg.gov/jlbc/mfh-nov-20.pdf.
- ⁴ Justin Garosi and Brian Uhler, "Income Tax Withholding Tracker: December 1 December 23," California Legislative Analyst's Office, December 23, 2020, https://lao.ca.gov/LAOEconTax/Article/Detail/603.
- ⁵ Thirty-seven of 41 states with broad-based personal income tax extended filing deadline to July 15, 2020. Among the remaining four states, Idaho extended to June 15, Hawaii to July 20, Iowa to July 31, and Virginia to June 1.
- ⁶ Income tax returns are due on April 15 in 35 of 41 states that have a broad-based personal income tax. The remaining six states have individual income tax return due dates later than April 15. Those states are Arkansas (May 15), Delaware (April 30), Hawaii (April 20), Iowa (April 30), Louisiana (May 15), and Virginia (May 1).
- ⁷ See "IRS Extends More Tax Deadlines to Cover Individuals, Trusts, Estates, Corporations and Others," news release, Internal Revenue Service, April 9, 2020, https://www.irs.gov/newsroom/irs-extends-more-tax-deadlines-to-cover-individuals-trusts-estates-corporations-and-others.
- 8 See "Section 5 Saving and Investment, National Income and Product Accounts," US Bureau of Economic Analysis, accessed March 5, 2021, https://apps.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey.
- ⁹ See South Dakota v. Wayfair, Brief of Amici Curiae Law Professors and Economists in Support of Petitioner, No. 17-494, March 5, 2018, https://www.supremecourt.gov/DocketPDF/17/17-494/37603/20180305141434827_Brief%20of%20Amici%20Curiae%20Law%20Professors%20and%20Economists%20iso%20Petitioner.PDF.
- ¹⁰ See Janelle Cammenga, "Florida and Missouri, the Last Wayfair Holdouts, Consider Remote Sales Tax Bills," Tax Foundation, February 5, 2021, https://taxfoundation.org/missouri-florida-remote-sales-tax.
- ¹¹ See Lucy Dadayan, "The COVID-19 Effect: State Sales Tax Receipts Shrank \$6 Billion in May," Forbes, July 14, 2020, https://www.forbes.com/sites/lucydadayan/2020/07/14/the-covid-19-effect-state-sales-tax-receipts-shrank-6-billion-in-may.
- ¹² See Illinois Department of Revenue, "Motor Fuel Tax Rates and Fees," accessed March 5, 2021, https://www2.illinois.gov/rev/research/taxrates/Pages/motorfuel.aspx.
- ¹³ See Ohio Department of Taxation, "Ohio Motor Fuel Tax Rates," accessed March 5, 2021, https://www.tax.ohio.gov/excise/motor_fuel/tax_rates.aspx.
- ¹⁴ See Lucy Dadayan and Kim Rueben. "Why States and Localities Need More Federal Aid," *TaxVox*, February 22, 2021, https://www.taxpolicycenter.org/taxvox/why-states-and-localities-need-more-federal-aid.
- ¹⁵ See "How the COVID-19 Pandemic is Transforming State Budgets," Urban Institute State and Local Finance Initiative, accessed March 5, 2021, https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/projects/state-fiscal-pages-covid-edition.

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- ¹⁶ See US Bureau of Labor Statistics, "Labor Force Statistics from the Current Population Survey," accessed March 5, 2021, https://www.bls.gov/web/empsit/cpsee_e08.htm.
- 17 For more discussion of the relationship between property tax and house prices, see Dadayan (2012).
- 18 Author's analysis of data from National Association of State Budget Officers (2019), table A-1 and table A-2.
- ¹⁹ See State of New Jersey, Governor Phil Murphy, "Governor Murphy, Lt. Governor Oliver, Senate President Sweeney, Assembly Speaker Coughlin, Assembly Budget Chair Pintor Marin, and Senate Budget Chair Sarlo Announce Agreement to Include Millionaire's Tax in Revised FY2021 Budget," September 17, 2020, https://nj.gov/governor/news/news/562020/approved/20200917a.shtml.
- ²⁰ See Wisconsin Department of Revenue, "Wisconsin Tax Bulletin. Number 212," February 2021, https://www.revenue.wi.gov/WisconsinTaxBulletin/212-02-21-WTB.pdf.
- ²¹ See California Legislative Analyst's Office, The 2020-21 May Revision: Revenue Proposals in the 2020-21 May Revision," May 20, 2020, https://lao.ca.gov/Publications/Report/4238.
- ²² See New Jersey Treasury, Division of Taxation, "Corporation Business Tax Reform Information, Surtax," accessed March 5, 2021, https://www.state.nj.us/treasury/taxation/cbt/surtax.shtml.
- ²³ See Tennessee Department of Revenue, "Marketplace Sellers, Marketplace Facilitators & Out-of-State Dealers," accessed March 5, 2021, https://www.tn.gov/revenue/taxes/sales-and-use-tax/out-of-state-dealers-marketplace-facilitators.html.
- ²⁴ See Gabriel Petek, "The 2019-20 Budget: Analysis of the Medi-Cal Budget," California Legislative Analyst's Office, February 13, 2019, https://lao.ca.gov/Publications/Report/3935.
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- ²⁶ See US Department of Health and Human Services' response letter addressed to the California Department of Health Care Services, January 30, 2020, https://www.dhcs.ca.gov/services/Documents/CMS-Response-to-CA-Tax-Waiver-Request1-30-20.pdf.
- ²⁷ See California Legislative Analyst's Office, "The 2020-21 Budget: Overview of the California Spending Plan," October 5, 2020, https://lao.ca.gov/Publications/Report/4263.

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