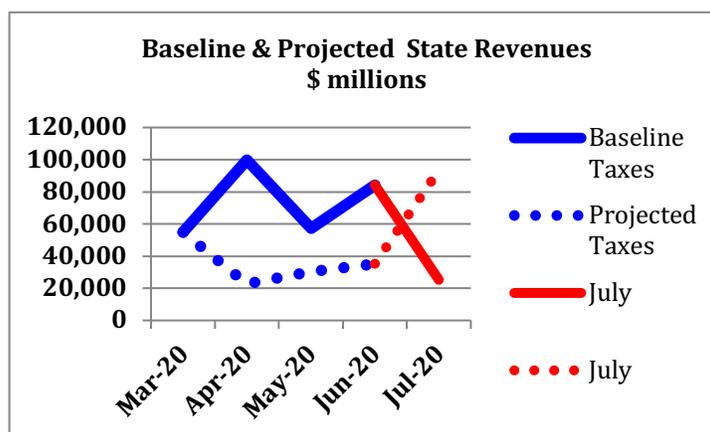


State Revenue Impact of COVID-19 by Ronald Alt

Ronald Alt is the Senior Manager for Research with the Federation of Tax Administrators. The options and analysis in this paper represent his viewpoints.

The COVID-19 pandemic has shut down much of the U.S. economy and directly affected state tax collections. To help state and federal policymakers understand the significance and magnitude of this impact, FTA has created a simple simulation model that calculates the anticipated tax revenue loss. This paper will provide a brief description of the model, the assumptions used and the projected revenue loss.

This research shows that the sharp decline in the economy and federal/state policy changes will lead to a direct loss of \$152 billion between April and June (the end of the fiscal year for most states). To put this number in perspective, state FY 2020 annual budgets were estimated at a total of \$900 billion for the entire year. This loss exceeds year-end balances plus rainy-day funds, which were estimated at around \$90 billion for FY 2020 according to NASBO data.



However, this projected loss includes some individual and corporate tax payments that were deferred until July. Once April-July revenues are considered, we estimate a net loss of \$91 billion. Note, this estimate requires assumptions on Tax Year 2021 estimated payments for which we have limited information. FTA will continue to research these assumptions and update the model.

The model includes all the major taxes in the states' general funds, including individual and corporate income taxes and sales tax. In addition, we include motor fuel excise taxes, which are typically dedicated to highway maintenance and construction funds.

The estimates provided by the FTA model are consistent with other studies:

- [Moody's Analytics](#) used its economic forecast and a multistate model to estimate a revenue decline of between \$135 billion and \$165 billion through the end of FY 2021.

- [The Center on Budget and Policy Priorities](#) [CBPP] is projecting a loss of roughly \$105 billion in FY 2020 and another \$290 in FY 2021.
- The [State of Maryland](#) has projected a \$2.8 billion revenue decline in the final quarter. While FTA does not generally release state-level estimates, our model predicts \$3.2 billion for Maryland.
- [The Georgia Fiscal Research Center](#) projects a sales tax loss between \$0.7 and \$1.3 billion. The FTA model for sales tax loss estimates \$0.7 billion.

Model Descriptions and Base Assumptions

Revenue data is collected through FTA's Monthly Revenue Survey. This data, provided by state revenue and budget agencies, provides more detail and is more current than other data sources, for which the latest data are for March 2020. We use the [Census Bureau's](#) revenue data to fill in certain missing data for some states. For the missing data, we assume that the Census data has the same monthly distribution as the other states reported in the Monthly Revenue Survey. Projections for April through July are based on state median growth rates over the past five years. These projections form the baseline revenue trends, from which we calculate the dollar loss.

The [Institute for Health Metrics and Evaluation](#) is currently projecting the pandemic to last until early June. Since state revenue collections typically lag changes in the economy, we assume the revenue impact will last through the end of June. We insert the economic impact to the model on a lump-sum basis, applying equally to the months of April through June. Anticipating a slow restart and recovery, we add one-half of the impact for the July estimate.

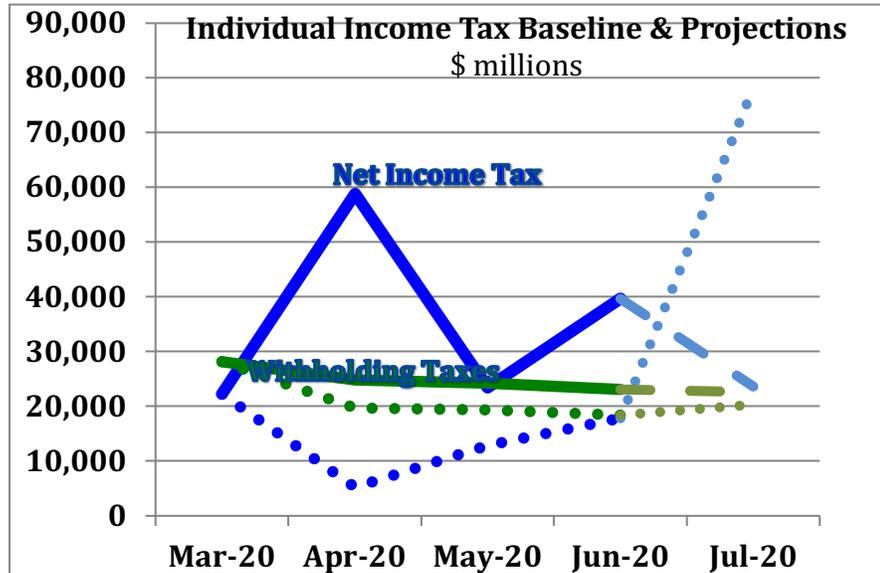
Additional assumptions and sources were made for the specific tax impacts. These will be discussed in the sections below.

Individual Income Tax

The individual income tax is paid from three sources: quarterly estimated payments, final payments with the return and monthly/weekly withholding. In addition, refunds for overpayment of tax are typically made during the April filing season. We calculate the impact on each of these sources separately, with the net impact being the sum of each part. For these calculations, a base assumption is that the taxpayers will always behave in their rational best interests. Thus, we assume that taxpayers due a refund file their returns in April (refunds paid), while taxpayers with tax due wait until July to file and pay the tax liability.

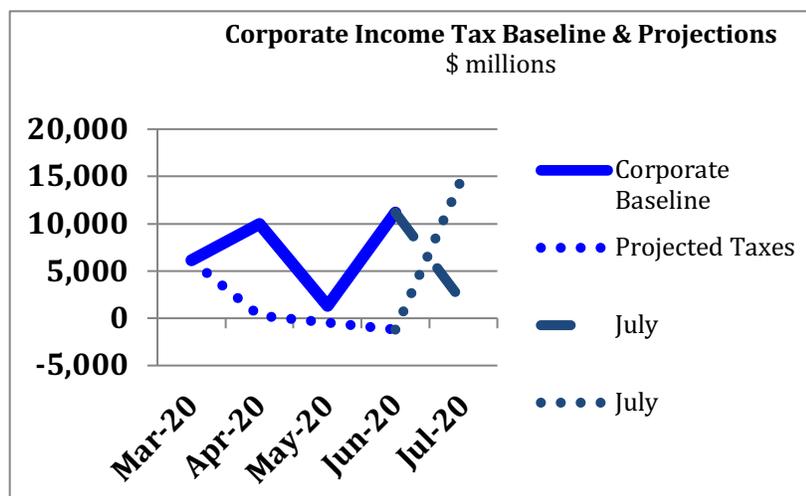
The federal extension of filing deadline from April 15 to July 15 affected the individual income tax collections. While legally states may set their own filing and payment deadlines, there are political and practical reasons why all [states extended their filing deadlines](#). Only a few excluded estimated tax payments from the extension.

For the FTA model, we followed the filing dates and estimated tax payment deadlines established by each state. However, we assume taxpayers will behave rationally, so we assume that all refunds will still be paid out in April.



Withholding taxes are one area where the slowdown in economic activity will have a direct impact on tax collections. The decline in overall employment in the economy will directly reduce withholding tax revenues. However, since state tax collection data lag current economic conditions, current [March] withholding collections are not affected. Thus, FTA uses the weekly jobs report numbers to estimate the impact on withholding. Through April 18, total job losses for the month have totaled 16 million, with a total of loss since the pandemic slump began of 26 million jobs. If we assume that jobs losses for the remainder of the month slow to earlier levels, this implies a net unemployment level of around 23%. Reducing payrolls by the portion of jobs lost and multiplying by a median state tax rate of 4.9% gives us a loss of about \$5 billion each month in withholding payments.

The net impact on individual income tax collections totals \$83 billion for April through June. Withholding accounts for \$16 billion of the total. July would see a bump in collections as final payments originally due in April are paid. However, we assume that estimated payments for the first and second quarters are reduced by 25% and 50%, respectively. FTA feels that this assumption still requires additional research.



Corporate Income Taxes

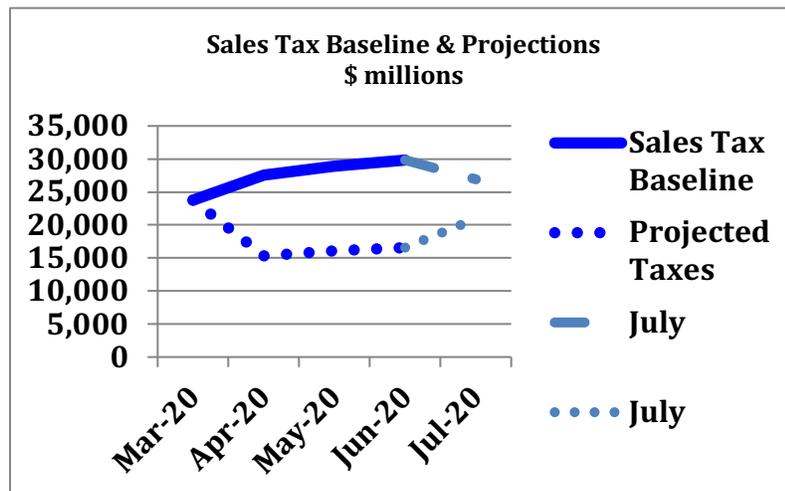
Similar to the individual income tax, the corporate tax consists of three components – quarterly estimated payments, final payments with returns and refunds. Similar to the individual income tax, we assume that refunds are paid out as they normally had been in the past. Estimated and final payments are considered received according to the filing deadlines for each state. Given that the economic slowdown will affect business profits, we assume estimated payments are reduced by 50%. Again, this is an area for future research and only affects the July estimate.

The net impact on corporate income taxes is expected to be a total decrease of \$24 billion for April through June. This loss is expected to fall to \$10 billion through July.

Sales Taxes

The general state sales tax is the second largest source of state tax revenues and will see a large direct impact from a COVID-19-driven economic slowdown. While March sales tax collections were weak, we will not understand the full impact until the April and May sales tax data are compiled.

For the FTA model, we use credit card data that was reported in a [New York Times article](#). The article presents data on spending reductions for the week ending April 1, by category. Using the Census Retail sales data, we were able to calculate a 44% decline in the taxable base.



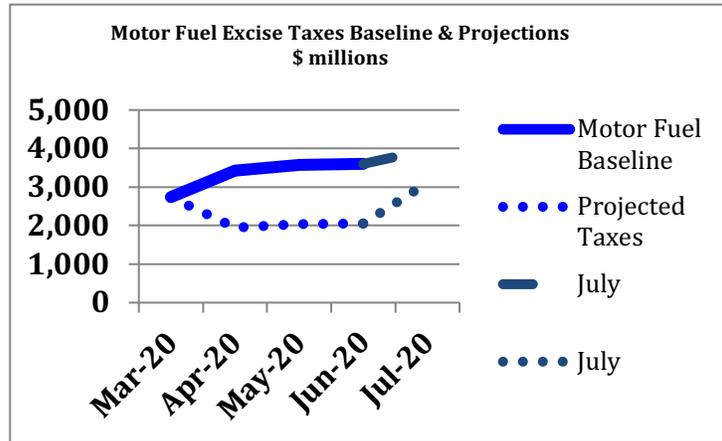
For calculating the taxable base, FTA assumed broad exemptions for each state. In general, we assumed all supermarket sales were exempt. Twenty percent of Gas and Convenience store sales were assumed to be taxable (gasoline is exempt in most states), and 50% of drug store sales were taxable.

The model projects a decrease in net sales tax collections totaling \$38 billion for April through June. Including July calculations would lead to a \$44 billion decline. Note, the credit card survey data was for the week ending April 1, which is early in the pandemic slowdown. Thus, actual revenues could be much lower. Again, this section can be updated when new data is available.

Motor Fuel

People are traveling less and buying less gasoline. However, products are still being shipped to factories, businesses and homes, mostly in diesel-burning trucks, which means diesel fuel sales should not decline as much. An informal survey of oil

companies and state administrators shows gasoline sales are down 33% to 61% and diesel fuel sales are down 10% to 50%. The higher end of those estimates tend to reflect the most recent data. For this analysis, FTA set the projected decrease as 50% for gasoline and 20% for diesel. This leads to a weighted decrease in fuel gallonage of 43%. This is consistent with an [Oregon Department of Transportation](#) survey that showed a 40% decrease in highway traffic during the pandemic.



The net decrease in motor fuel tax collections from April through June totals \$4.6 billion. Through July, the total loss is \$5.4 billion. This section can be updated when April data is available.

Conclusions

The simulation model FTA has built is very good at projecting short-term revenue trends. Based on the latest economic data, FTA has projected a loss of \$152 billion in tax revenues for the remainder of the 2020 fiscal year (through June). The model's projections are less reliable as we move on to July and the rest of FY 2021. We would need a better understanding of how the economic downturn is affecting business profits, capital gains and other non-withheld income. These are areas ripe for future research once additional economic and revenue data become available.

Notes and Sources:

Stress-Testing States: COVID-19, April 14, 2020, Dan White, Sarah Crane and Colin Seitz, Moody's Analytics,

<https://www.economy.com/getlocal?q=37F6F320-EF2A-4806-9AAB-EADE66FA0317&app=download>.

States Need Significantly More Fiscal Relief to Slow the Emerging Deep Recession, Elizabeth McNichol, Michael Leachman and Joshua Marshal, CBPP, <https://www.cbpp.org/research/state-budget-and-tax/states-need-significantly-more-fiscal-relief-to-slow-the-emerging-deep>.

Comptroller Provides Updated Revenue Forecast in Light of COVID-19,

Comptroller of Maryland Press Release,

https://content.govdelivery.com/bulletins/gd/MDCOMP-285ddf9?wgt_ref=MDCOMP_WIDGET_C7.

Pandemic-Driven Industry Cutbacks and Closures: Georgia Sales Tax Revenue Impacts, Peter Bluestone and Robert Buschman,
<https://frc.gsu.edu/download/covid-19-impact-report/?wpdmdl=5505&refresh=5e964506a370e1586906374>.

Government Finance Series - 2019, U.S. Bureau of the Census,
<http://www.census.gov/govs/>.

Institute for Health Metrics and Evaluation provides projections on COVID-19 infection rates, <https://covid19.healthdata.org/united-states-of-america>.

FTA has compiled information on state individual and corporate filing deadlines at <https://taxadmin.org/covid-19-filing-extensions>.

The latest data on ***Weekly Unemployment Claims*** is reported by the U.S. Department of Labor at <https://www.dol.gov/ui/data.pdf>.

How the Virus Transformed the Way Americans Spend Their Money, By Lauren Leatherby and David Gelles, April 11, 2020,
<https://www.nytimes.com/interactive/2020/04/11/business/economy/coronavirus-us-economy-spending.html?referringSource=articleShare>.

Observed Statewide Traffic Volume Patterns: Related to COVID-19 Monitoring, Oregon Department of Transportation,
https://www.oregon.gov/odot/Data/Documents/ODOT_TrafficReport_April17_2020.pdf.