

## AVERAGE STATE TAX YIELD FROM HOUSEHOLD EARNINGS

This brief discusses and depicts the simple average yield over time, in state tax receipts, of one dollar of household earnings and one dollar of state gross domestic product.<sup>1</sup> The accompanying graph depicts the ratio of selected state tax receipts to labor & proprietor income from state fiscal year 1970 through 2021. Four distinct periods are evident, the oil boom years of the 1970s to early 1980s, the oil bust and recovery years of the mid-1980s to mid-1990s, the relatively stable post-oil economy years from the mid-1990s through fiscal year 2005, and the period of recession and sluggish recovery after the aberration of hurricanes Katrina & Rita. The effects of the storms are obvious in fiscal year 2006 - 2008, as are the effects of the national recession and material state tax cuts affecting fiscal years 2009, 2010, and beyond through fiscal year 2015. A fifth era may be establishing after 2016 as tax increases have been implemented to address persistent budget gaps from the exhaustion of ad hoc resources used to prop up budgets after earlier tax decreases. With fiscal year 2021, the Covid-19 shock is evident as a sharp uptick in tax receipts as shares of the economy, resulting from the very large federal income support provided in response to the coronavirus pandemic.

The household earnings concept used is labor & proprietor income. This is wages & salary income plus income to proprietorships, as reported by the U.S. Department of Commerce, Bureau of Economic Analysis, from the income by place of residence dataset. This earnings concept is utilized because it closely approximates the household earnings concept utilized in final demand multiplier analysis typically utilized in economic impact analysis from which the question is asked that gives rise to this brief. The broader income concept of gross domestic product is also utilized in order to include various tax receipts more closely associated with overall business activity in the state, as opposed to only household earnings/activity in the state.

State tax receipts are selected for inclusion in the household earnings-based ratio on the basis of whether they are likely to be “caused” by a change in current Louisiana household earnings. Causal relationships in economic data are impossible to determine with 100% confidence, and this analysis employs judgment to select those tax sources that can reasonably be presumed to be caused by this earnings concept. For example, sales taxes, personal income taxes, and much of gaming revenue can reasonably be said to largely be caused by Louisiana household earnings, while severance tax, royalties, and corporate taxes are not included in the ratio since it is highly unlikely that changes in Louisiana earnings cause changes in those state receipts. Those receipts are caused by the prices and production levels of oil & natural gas, determined in regional and international markets reflecting regional and international supply & demand factors, as well as the national and international markets that large corporate taxpayers sell into, of which Louisiana is a negligible component. The consequent activity of large corporations and the oil & gas industry is “causing” household earnings in the state, not the other way around.<sup>2</sup> While excluding

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<sup>1</sup> The question, “How many tax dollars does the state receive from a dollar of earnings?”, is usually asked in the context of the fiscal impact of an incremental amount of economic activity. Thus, the marginal tax yield, controlling for other influences on tax receipts and isolating the effect of a change in household earnings, is the more appropriate answer. This brief looks at the average yield over multi-year periods as a proxy for that analysis.

<sup>2</sup> Many economic data series exhibit very high positive correlations, and yet have little or no direct causal relationship with each other. If nothing else, inflation and real economic growth will result in them moving together even if they have no direct causal relationship (running either way between them).

oil & gas revenue or corporate revenue may be obvious, other exclusions may not be so obvious, and some degree of judgment is necessary. To the extent certain revenue sources are excluded that may have some portion caused by Louisiana household earnings, the ratio generated by this exercise will understate the true relationship between Louisiana household earnings and state tax receipts.

On the other hand, portions of any revenue source that are included in the ratio may not reflect the desired direction of causation, from household earnings to tax receipts. For example, the entire general and motor vehicle sales tax are included in the ratio even though it is reasonable to presume that some material portion of each tax is not caused by Louisiana resident household earnings. The state welcomes a substantial number of tourists each year whose spending is driven by household earnings in their own states and countries. In this case, it could be said that the sales tax receipts resulting from their spending causes Louisiana household earnings, not the other way around. Similarly, sales taxes from business purchases in the state, driven by their national and international market activity, is also more likely to be causing Louisiana household earnings as opposed to being caused by resident earnings. Thus, to the extent certain revenue sources are included that may contain some portion not caused by Louisiana household earnings, the ratio generated by this exercise will overstate the true relationship between Louisiana household earnings and state tax receipts.

Major revenue sources included are personal income tax, general sales tax, vehicle sales & license taxes, excise taxes on alcohol, tobacco, gasoline, and premiums, and a material portion of the gaming tax receipts. Major excluded revenue sources are corporate taxes, oil & gas receipts, diesel fuel tax, interest earnings, and various miscellaneous receipts. A casual consideration of these items suggests that the exclusions are fairly reasonable in their entirety, while the included items tend to contain material portions that are likely to reflect the reverse causation from receipts-to-earnings discussed above rather than the desired earnings-to-receipts direction of causation. Thus, it seems likely that this exercise results in a revenue-to-earnings ratio that somewhat overstates the true relationship between resident household earnings and state tax receipts.

An additional ratio is also presented that adds to the personal/household earnings related taxes a variety of other revenue sources that are more reflective of business activity in the state (corporate taxes, diesel fuel tax, health provider bed taxes, and various other charges/collections). This broader tax receipt concept is divided by a broader economy-wide concept of income, the state's overall gross domestic product. This ratio depicts the average amount of state tax receipts associated with a dollar of value added in the state, or the state's overall economic activity. Even with a broader tax concept employed, the average tax yield of the economy as a whole is currently only about half that of the narrower tax concept relative to household earnings. This also suggests that, if anything, the tax-to-earnings ratio likely overstates the true average tax burden of household earnings.<sup>3</sup>

For further clarification, it should be pointed out that only major state taxes that finance the state government operating budget are considered. Payroll taxes collected and administered by the State Department of Labor are associated with household earnings and business activity but are

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<sup>3</sup> Even if mineral revenue is included in this tax-to-gdp ratio, the current result is approximately a 4.8% average yield, still materially below the current tax-to-earnings ratio.

not part of the state government budget, as either a revenue source or expenditure item. Various other governmental fees and charges are also omitted, as are local tax receipts.<sup>4</sup> Obviously, to the extent these other levies were included in the ratio numerators, the overall average yield calculations would be greater than those resulting from this exercise.

The accompanying chart tells a basic story of state fiscal history over four general periods, three spanning at least ten years. The oil boom era of the early 1970s to the early 1980s exhibited a declining revenue-to-earnings ratio as oil & gas activity generated strong earnings growth. Household and business burdens could decline in this period because the state's mineral endowment could be tapped (the state's direct mineral revenue receipts are not included in the ratios). The oil bust recovery era of the mid-1980s to the mid-1990s exhibited increasing ratios as higher sales, income, and business taxes, and new gaming revenue (all included in the ratio) replaced declining mineral revenue in the state budget, in conjunction with slower earnings growth. The post-oil economy of the mid-1990s to today reflects a more diversified state revenue base that has grown at rates comparable to earnings growth, resulting in a fairly stable household earnings ratio over that period, with the exception of the Katrina/Rita aberration FY06-FY08. Surging state revenues from rescue/recovery/rebuilding activity combine with resident earnings (reduced in FY06 then recovering in FY07 and FY08) to significantly increase the ratio. Note, however, that as earnings and revenue growth returned to normal, the ratio declined back toward the bottom of the range experienced for the years prior to those disasters. Thus, a multi-year norm of 8.0% to 8.5% of the major state tax revenue yield resulting from an additional dollar of household earnings in Louisiana was the pre-storms norm.

The national recession of 2008-2009 and the sluggish recovery afterward worked to reduce the household earnings ratio. As the economy recovered from this last national recession it might have been reasonable to expect the ratio to rise back toward the "normal" pre-storms range. However, in addition to the effects of the recession, the state significantly permanently reduced its tax base, cutting personal income taxes, business sales taxes, and corporate franchise taxes, along with implementing a variety of other credit/rebate tax expenditure/subsidy programs that are reflected in lower net tax receipts. Thus, the tax receipts to household earnings ratio established a contemporary low range of 6.5% - 7.0% for the six-year period of 2010 – 2015. The tax receipts to GDP ratio also established a new lower post-recession range of about 3.4% to 3.5% during these years, as well.

A new era may be establishing from 2016 as tax increases have been implemented to address persistent budget gaps from the exhaustion of ad hoc resources used to prop up budgets after the earlier tax decreases. Tax increases in late fiscal year 2016 (primarily, but not exclusively a 5<sup>th</sup> penny of state sales tax and base expansion), continued through 2018, boosted both ratios back to their pre-recession levels. This sales tax increase was reduced by roughly half for 2019 and subsequent years, and the ratios were expected to fall back somewhat from their levels of 2017 and 2018. However, federal tax law changes effective with the 2018 tax year had the effect of

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<sup>4</sup> Part of the context of the basic question that gives rise to this brief is that tax receipts associated with incremental economic activity are often compared to state tax and spending subsidies benefiting that activity. Although payroll tax receipts are collected at the state level, they are not available to finance those subsidies. A similar case exists with regard to local tax receipts and state tax and spending subsidies. Thus, from that perspective, it would not be reasonable to include either of these categories of tax receipts in the ratio of state receipts per dollar of household earnings or economy-wide income, with that context in mind.

increasing state personal and corporate income tax liabilities, and the state increased its own withholding amounts for personal income tax in the spring of 2018 to capture much of the personal liability increase through that mechanism. Thus, the average tax yield of household earnings fell only modestly in FY19 as the sales tax reduction was offset by the income tax increase. This effect continued in FY20 as the federal tax law changes added additional state tax receipts. However, the offsetting event of the onset of the coronavirus pandemic occurred in the last quarter FY20, and the average yield from household income fell modestly in FY20. This sharply reversed in FY21 as very large federal transfers more than replaced lost wage income, resulting in a surge of spending and associated tax receipts, and boosting the average yield ratios significantly. It remains to be seen how long this boost will persist, although additional federal spending programs currently being debated could help support spending and tax receipts for the next few years.

Finally, over the entire history, it is interesting to compare the paths of the two average yield ratios. Over the first and second periods depicted the two ratios appear to have moved together, sharing roughly equally in the decreases and increases in tax burden reflected. However, for much of the third era, encompassing the two decades of the 1990s and 2000s, the household earnings ratio was fairly stable while the broader economy-wide ratio declined. This suggests that while the burden on households was held steady over these years the burden on business activity was reduced. Both burdens stepped down in the fourth period depicted, the post-storms and recession/recovery period, and both appear to be stepping back up in the latest era beginning in 2016, as increases in state tax burdens appear to be shared by households and businesses together.

# State Tax Revenue As Percentages Of LA Household Income and Overall State Economic Activity

{average tax yield of \$1 of household earnings and state gross domestic product}

## Katrina/Rita Aberration

Storms reduce income in FY06, while recovery revenue surged. Income recovers in FY07 & FY08 with still strong revenue growth.

## FY2016 - 2020

Tax increases boost yields in FY16 and beyond. FY19 sales tax cut offset by federal tax law change effect on income tax, resulting in moderated yield decline. Similar effect in FY20, but combined with Covid-19 shock.

