

## AVERAGE STATE TAX YIELD FROM HOUSEHOLD EARNINGS

The question is often asked, “How many tax dollars come from a dollar of earnings”. This brief discusses and depicts the simple average yield over time, in state tax receipts, of one dollar of household earnings.<sup>1</sup> The accompanying graph depicts the ratio of selected state tax receipts to labor & proprietor income over the thirty-nine year period from state fiscal year 1970 through 2008. Three 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, and the relatively stable post-oil economy years from the mid-1990s through the latest year fiscal year 2007-2008. The effects of hurricanes Katrina & Rita are obvious at the end of this third period.

The 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 most closely approximates the household earnings concept utilized in final demand multiplier analysis, itself typically utilized in economic impact analysis from which the question is asked that gives rise to this brief.

State tax receipts are selected for inclusion in the 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 brief essentially employs judgment to select those tax sources that can reasonably be presumed to be caused by the 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 and royalties 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 much more likely to be caused by the prices of oil & natural gas, determined in regional and international markets reflecting regional and international supply & demand factors, of which Louisiana households are a negligible component. The consequent activity in the oil & gas industry is “causing” the household earnings in the state, not the other way around.<sup>2</sup> While excluding oil & gas 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 changes in Louisiana household earnings and changes state tax receipts.

On the other hand, portions of any revenue source that is 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

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<sup>1</sup> The question 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 time as a proxy for that analysis.

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

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 changes in Louisiana household earnings and changes state tax receipts.

Major revenue sources included are personal income tax, general sales tax, vehicle sales & license taxes, personal excise taxes (alcohol, tobacco, gasoline, premium), and most of the gaming tax receipts. Major excluded revenue sources are corporate taxes, oil & gas receipts, diesel fuel, interest earnings, and various miscellaneous receipts. A casual consideration of the these items suggests that the exclusions are fairly reasonable in their entirety, while the included items tend to contain material portions that 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 overstates the true relationship between changes in resident household earnings and changes in state tax receipts.

An alternative ratio is also presented that adds to the personal/household earnings related taxes various other revenue sources more reflective of business activity in the state (corporate taxes, diesel fuel, health provider bed taxes, and various other charges/collections). This broader tax receipt concept is divided by the broader concept of the economy, 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 roughly only about one-half that of narrower tax concept relative to household earnings. This 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 at all. Payroll taxes collected and administered by the State Department of Labor are associated with household earnings but are 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>

The accompanying chart tells a basic story of state fiscal history over three general periods, each spanning roughly 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 but the state's direct mineral revenue receipts are not included in the ratio. The oil bust recovery era of

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<sup>3</sup> Even if mineral revenue is included in this tax-to-gdp ratio, the result is a 5.5% average yield, still substantially below the tax-to-earnings ratio.

<sup>4</sup> Part of the context of the basic question addressed by 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.

the mid-1980s to the mid-1990s exhibited an increasing ratio as higher sales and income taxes, and new gaming revenue (all included in the ratio) replaced declining mineral revenue, in conjunction with slower earnings growth. The post-oil economy of the mid-1990s to today reflects a well diversified state revenue base that has grown at rates comparable to earnings growth, resulting in a fairly stable 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 return to normal, the ratio is declining back toward the range experienced for the years prior to those hurricanes. This multi-year norm of 8.5% to 9% is a reasonable estimate of the maximum major state tax revenue yield resulting from an additional dollar of household earnings in Louisiana.

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

