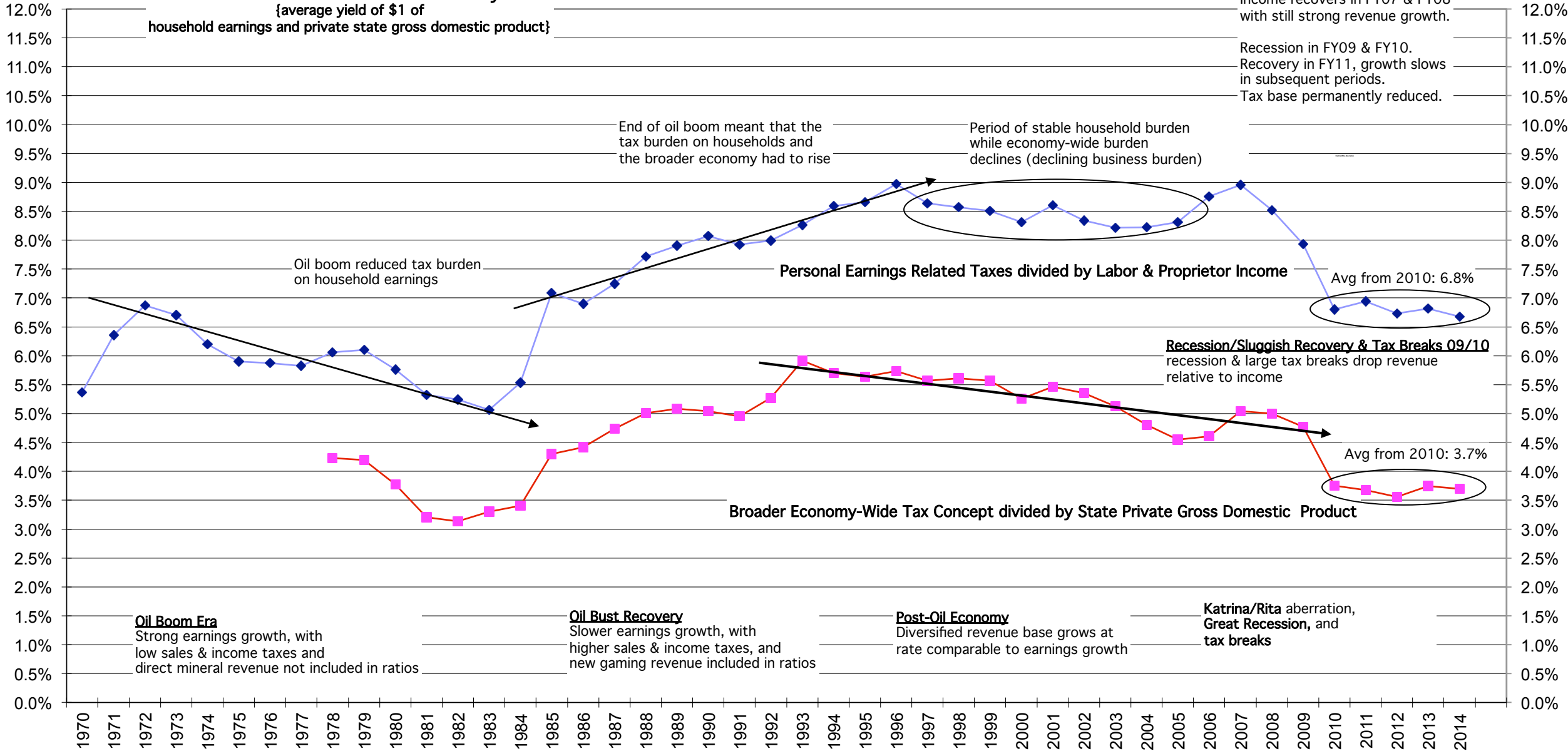# State Tax Revenue As
Percentages Of LA Household Income
and Overall State Economic Activity
{average yield of $1 of household earnings and private state gross domestic product}

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

Recession in FY09 & FY10. Recovery in FY11, growth slows in subsequent periods. Tax base permanently reduced.

End of oil boom meant that the tax burden on households and the broader economy had to rise

Period of stable household burden while economy-wide burden declines (declining business burden)

Oil boom reduced tax burden on household earnings

Personal Earnings Related Taxes divided by Labor & Proprietor Income

Avg from 2010: 6.8%

Recession/Sluggish Recovery & Tax Breaks 09/10
recession & large tax breaks drop revenue relative to income

Broader Economy-Wide Tax Concept divided by State Private Gross Domestic Product

Avg from 2010: 3.7%

Oil Boom Era
Strong earnings growth, with low sales & income taxes and direct mineral revenue not included in ratios

Oil Bust Recovery
Slower earnings growth, with higher sales & income taxes, and new gaming revenue included in ratios

Post-Oil Economy
Diversified revenue base grows at rate comparable to earnings growth

Katrina/Rita aberration, **Great Recession,** and **tax breaks**

LA Legislative Fiscal Office

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 and one dollar of state private gross domestic product.[1] The accompanying graph depicts the ratio of selected state tax receipts to labor & proprietor income over the forty-six year period from state fiscal year 1970 through 2014. 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 the last fiscal year of 2014.

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, itself typically utilized in economic impact analysis from which the question is asked that gives rise to this brief. The broader income concept of private gross domestic product is also utilized in order to include various tax receipts more closely associated with 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 brief essentially 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 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 caused by the prices and production levels of oil & natural gas, determined in regional and international markets reflecting regional and international supply & demand factors, of which Louisiana is a negligible component. The consequent activity in the oil & gas industry is "causing" household earnings in the state, not the other way around.[2] 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 in state tax

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[1] 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 <u>over time</u> as a proxy for that analysis.

[2] 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).

Greg Albrecht, Chief Economist

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 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 a material portion 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 entirely, 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 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 a variety of other revenue sources that are 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 a broader economy-wide concept of income, the state's overall private sector gross domestic product. This ratio depicts the average amount of state tax receipts associated with a dollar of private value added in the state, or the state's overall private 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.[3]

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 and business activity 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.[4]

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[3] Even if mineral revenue is included in this tax-to-gdp ratio, the current result is approximately a 4.3% average yield, still materially below the current tax-to-earnings ratio.

[4] 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

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 be reduced 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 conjunction with slower earnings growth. The post-oil economy of the mid-1990s to today reflects a relatively well-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 return to normal, the ratio declined back toward the bottom of the range experienced for the years prior to those hurricanes. Thus, a multi-year norm of 8.0% to 8.5% might be a reasonable estimate of the major state tax revenue yield resulting from an additional dollar of household earnings in Louisiana in the pre-storms period.

The national recession of 2008-2009 and the sluggish recovery afterward have helped reduce the household earnings ratio to a low point last seen in the mid-1980s. As the economy continues to recover from this latest recession it might be 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 has 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 (and tax receipts to gdp ratio) have not return to a pre-storm level, but have established themselves at a new lower post-recession norm of about 6.8% for household earnings and 3.7% for private gross domestic product.

Finally, it is interesting to compare the paths of the two average yield ratios. Over the first and second periods depicted (roughly one-half to two-thirds of the history 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 last two decades of the 1990s and 2000s (or roughly one-third to one-half of the history) the household earnings ratio was fairly stable while the broader economy-wide income ratio steadily declined. This suggests that while the burden on households was held steady over these years the burden on business activity was reduced. Both burdens appear to be benefiting from a step-down in the last period depicted (the post-storms and recession/recovery period), but the business burden appears to have permanently benefited relative to the household burden.

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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.