The elasticities we were sent were calculated as ratios, like:

β = revenue growth / personal income growth

by construction this imposes the following model:

revenue growth = β * personal income growth

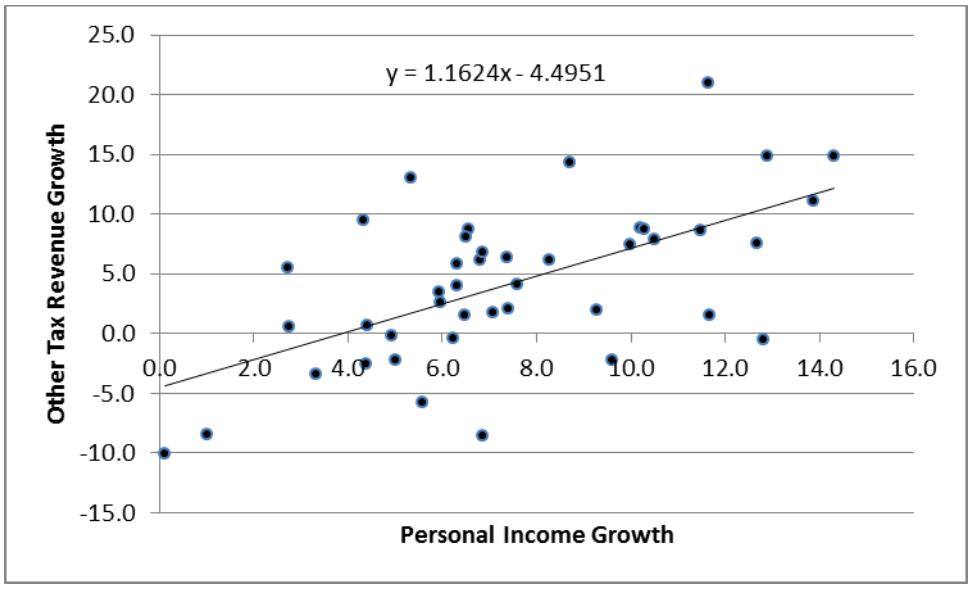
The more accurate model in reality is:

revenue growth = $\alpha + \beta$ * personal income growth

and thus, you are implicitly imposing the restriction that $\alpha = 0$ with the ratio method, which is possible, but not likely, and this is testable (and rejected)

INTUITIVELY, the issue here is as follows:
Assume personal income growth is zero. By design, the ones we were sent, regardless of the value, end up forecasting zero growth in revenue when income growth is zero. More likely, when income growth is zero a tax source may grow negatively (fall) or rise. This is what the α captures

Graphically, here is an example, for "other tax revenue" plotted against income growth:

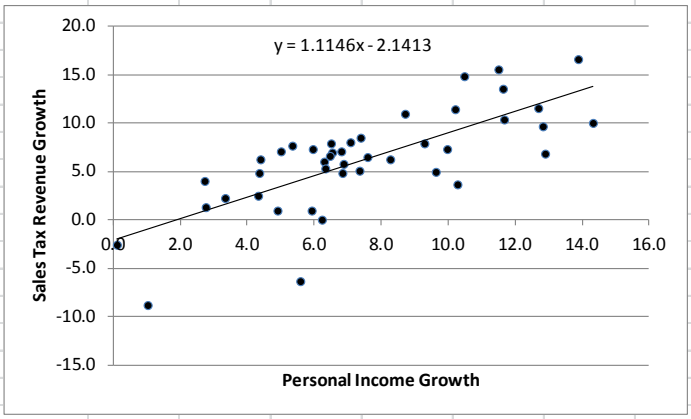


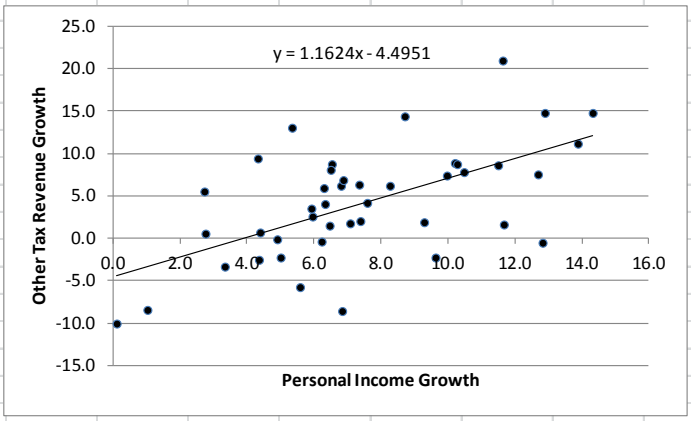
Obviously, the trend line DOES NOT GO THROUGH THE ORIGIN, α is NOT zero. In fact, when personal income growth is zero, the best estimate is that other tax revenue falls by -4.4951% (the estimated intercept). [While we are used to writing a line like: y=a+b*x, notice that Excel puts it as: y=b*x+a]

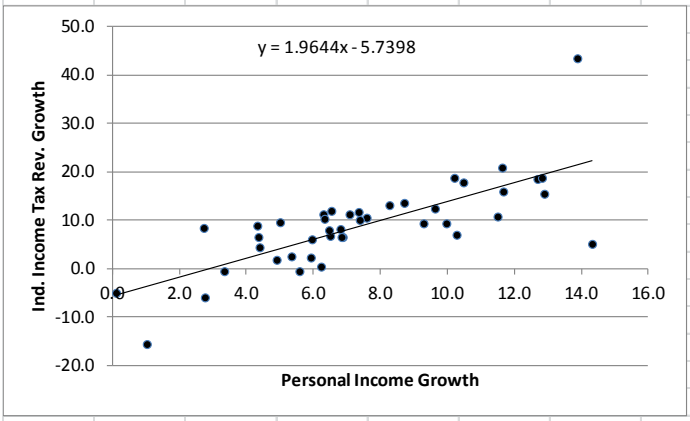
The "elasticity" number represented by the "slope" of the line, 1.1624 can only be interpreted as follows, if personal income growth RISES by 1% (Say from 5% to 6%), then other tax revenue growth RISES by 1.1624% (from 1.3169% to 2.4793%). But this does NOT mean that the best estimate of revenue growth when personal income growth is 1% is 1.16%. In fact, the best estimate of other tax revenue growth when personal income growth is 1% is:

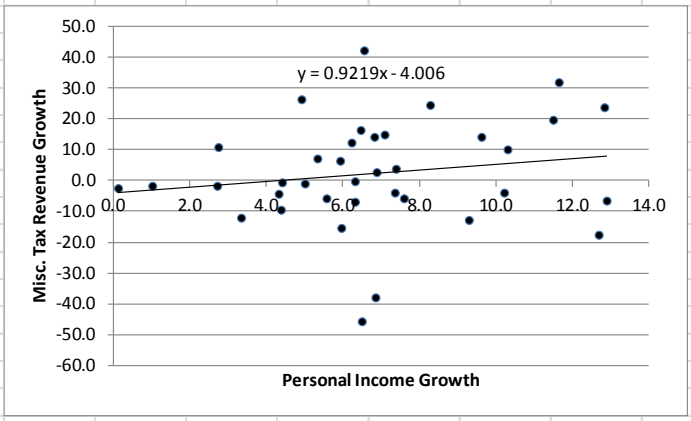
Other rev. growth = 1.1624 * Per. Inc. Growth - 4.4951
Other rev. growth = 1.1624 * (1.0%) - 4.4951
Other rev. growth = 1.1624 - 4.4951
Other rev. growth = -3.3327

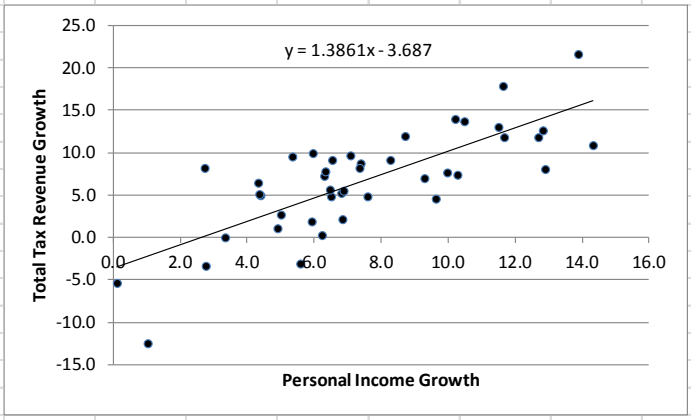
Using ALL the data in the file here are the better estimates:











Even better would be to:

1. Exclude any outlier years (changes caused by other known policy changes)
2. Use only more modern data subsample (exclude early years)
3. Check to see if the relationship differs between growth (boom) and recession periods

For my original revenue estimates, I had used data from FY1992-12 and excluded outliers which produced the following that I used in my estimates in my presentation:

Gen Rev Growth = 0.0426+0.3013 Income Growth
Ind. Inc. Tax Rev. Growth = -0.0451+1.7523 Income Growth
Gen Rev Growth = -0.0059+0.8566 Income Growth