

## Measuring the "Beta" of Different Tax Bases

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### Proposal Description:

Different tax bases vary in their capacity as automatic macroeconomic stabilizers. Income tax revenues, for example, rise with income in boom years and fall with income in busts—without any need for changes in tax law. As a result, the income tax lowers disposable income and aggregate demand when the economy is robust and raises aggregate demand in recessions—exactly the Keynesian prescription for good macro policy. A head tax, by contrast, collects the same revenue in boom years and in busts. The head tax therefore raises its revenue without stabilizing the business cycle. While the head tax rate could vary with the business cycle in order to provide some stabilization effect, this fiscal policy requires discretionary adjustments to the head tax rate or a complicated trigger mechanism to move the rate in tune with the business cycle.

I examine the performance of different tax bases as automatic stabilizers from an empirical perspective. I define a parameter, beta, which measures a tax base's volatility—how much the tax base fluctuates in tandem with a business cycle parameter of interest, such as income or unemployment. The higher a tax base's beta, the better a tax on that base functions as an automatic stabilizer. A head tax's beta, for example, would be zero because population does not vary in tandem with income or unemployment. The beta of the income tax base equals one— income fluctuates, one for one with itself. Betas greater than one are also possible for tax bases that are particularly sensitive to the business cycle. From a macroeconomic perspective, we want the highest tax rates to be imposed on the tax bases with the highest betas.

RAs will collect data and conduct statistical analysis to assist the proposal.

**Requisite Skills and Qualifications:** Stata or R.

**Award:** William Vester

**Tobin Application Link:** [Tobin Application](#)

**Project Type:** Tobin RA

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