

When in Doubt, Tax More Progressively? Uncertainty and Progressive Income Taxation

Minsu Chang and Chunzan Wu

Abstract

We study the optimal income tax problem under parameter uncertainty about household preferences and wage dynamics. We derive conditions characterizing how such uncertainty affects optimal tax policy. To quantify the effect, we estimate a life-cycle model using US data and a Bayesian approach. Parameter uncertainty makes the optimal tax more progressive, increasing the marginal tax rate gap between high- and low-income households by 5.5 percentage points. This effect is primarily driven by uncertainty about the wage process. We also find that parameter uncertainty imposes sizable welfare costs through the income tax channel alone.