

# Optimal Taxation in a Federation and GST in India

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## Abstract

Optimal tax models, starting from Ramsey (1927), are often studied using a single government. However, there are several countries which federations and multiple level of governments are have fiscal authority. In this paper we study a federation with several states and a central government. We ask what the optimal design of taxation is and find that optimally either states, or the center should impose a consumption tax, but not both. We then characterize two equilibria, one where both the central government and state governments impose tax and two, where only the center imposes tax rates. We find that in the first equilibrium, though states can potentially impose different tax rates, consumption across states are the same, as is the case in the second equilibrium. However, aggregate consumption in the country is greater in the second equilibrium, when only the center imposes tax. We then calibrate the model to Indian data and find the revenue neutral tax rates. We find that the highest revenue neutral tax rate is 20.1% and the median rate is 11.4%. Using the calibrated indirect tax rates in a regression analysis, we find that tax rates at the state level is negatively related to the growth rate of the state. So, after the implementation of GST in India, some states may see a higher level of consumption tax rate in the state and hence, a fall in growth rate.

## Speaker Profile:

Partha Chatterjee is currently Head and Associate Professor of Economics at Shiv Nadar University. Earlier he has worked as Assistant Professor at NUS Business School (2005-2011) and FMS, University of Delhi (2011-2013). His research interests are broadly in macroeconomics, international economics, and issues related to emerging economies. He has taught a variety of Undergraduate and Graduate and MBA courses including Macroeconomics, International Business, Managerial Economics, and, Asia Pacific Business and Society.

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