

# **Fiscal Policy in General Equilibrium Models of the Business Cycle Syllabus**

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The issue of how to set taxes, government spending and debt along the cycle used to be a central part of macroeconomics. Much less research was devoted to fiscal policy analysis in the 80's and 90's, but it is now back at the forefront of economic research. Fiscal policy is also at the forefront of policy discussions such as the reform of the Growth and Sustainability Pact, the effect of limits to debt or deficit etc.

In part 1 we discuss informally issues of sustainability and tax policy, using a simple difference equation to talk about what it takes for an exogenous deficit rule to be sustainable, both under the assumption that the government can insure against business cycle shocks (complete markets) and the assumption that it can not (incomplete markets). We discuss problems for monitoring debt sustainability.

Then we introduce the formal setup to analyze optimal fiscal policy in a dynamic stochastic framework with proper microfoundations and rational expectations; these give rise to endogenous (and optimal) deficit rules and debt behavior following the paper of Lucas and Stokey (1983). Most of the course will use the assumption of flexible prices, optimal policy, and full information. We explain some recently developed techniques to solve models of optimal policy under incomplete markets, in particular, the lagrangean approach to solve recursive contracts. A large part of the course will be devoted to policies under full commitment of the government, but the case of discretion and loose commitment is also discussed. We also discuss interactions between monetary and fiscal policy, and of debt management, that is, how government should mix long and short run debt in order to facilitate smoothing of taxes policy.

The book by Ljungqvist and Sargent has a good discussion of the preliminaries in general and optimal policy in particular, and Chari and Kehoe's chapter in the Handbook provides a more specialized reference.

1. *Fiscal Policy and Government Debt under uncertainty*  
Government debt under given deficit rules. Complete and incomplete insurance. Behavior of debt under various deficit rules. Sustainability of debt policy. Difficulties in monitoring sustainability of debt.
2. *Optimal Fiscal Policy under full insurance*  
Optimal rules for taxes, government spending, deficit and debt (Ramsey equilibrium) when government has access to complete markets. Optimal labor taxes: tax smoothing.
3. *Capital vs. Labor Taxation*  
Chamley's result of zero capital taxes in the long run. Robustness to various extensions. Efficiency versus redistribution. Optimal capital vs. labor taxes in the short run.
4. *Optimal Fiscal Policy under incomplete insurance*  
Empirical evidence on full or incomplete insurance. Optimal policy under incomplete markets and full government's commitment. Tax smoothing under incomplete markets. Government debt under complete and incomplete markets. Effects of debt limits under complete or incomplete markets. What can we say about GSP.
5. *Time Consistency*  
How to restore time consistency. Imposing time consistency by assuming discretionary policy (time consistent). Capital taxes and debt policy under discretion. Loose commitment.
6. *Debt Management*  
Achieving the complete markets outcome with bonds at different maturities: the proposal to use only long bonds for debt. Introducing incomplete markets.
7. *Introducing Capital Taxes and Monetary Policy*  
Achieving complete markets through capital taxes or monetary policy. Achieving complete markets through inflation policy. Zero bound on interest rates.

## References

Some references with a lot of information on dynamic models and optimal policy are

- Chari, V.V. and P. Kehoe (1999): "Optimal Fiscal and Monetary Policy" chapter in *Handbook of Macroeconomics*, John Taylor and Mike Woodford, eds. (North Holland: Amsterdam).
- Ljungqvist, L. and T.J. Sargent (2000); *Recursive Macroeconomic Theory*, The MIT Press.

More specific references that we will discuss in the course:

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