

*Optimality of the Friedman rule with  
Heterogeneous Agents and Non-Linear  
Income Taxes*  
da Costa and Werning

*Discussion*  
by  
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## Aim:

Study general conditions for optimality of Friedman rule

## Contribution:

Abandon Ramsey  
Study trade-off between efficiency and redistribution

## Main Finding:

FR optimal more often than you thought

## Outline:

**1. Motivation**

**2. Findings**

-uniform commodity taxation

**3. Dynamics**

## Findings

### **Ramsey:**

Weak separability between consumption and labor

FR optimal if income elasticity of money demand  $> 1$

Related to uniform taxation result, more general, due to constraint  $R > 0$

### **Non-linear:**

FR optimal (Prop 1) if

**C1** Binding IC constraint is under-reporting ( $\lambda > 0$ )

**C2** Money demand falls when agent decides to under report productivity ( $m < 0$ )

## Meaning of C1:

Society wishes to distribute to low prod agents

## Meaning of C2:

Demand for real balances conditional on expenditure and production greater for low prod agents

## Implications:

- $R$   $\bar{R}$  does not influence IC under C1
- $R$   $\bar{R}$  hits low prod households more

## Prescriptions for choice of $R$ :

- Distribution: Set  $R$  low
- Efficiency: Set  $R = \bar{R}$ , since IC condition not affected under C2

C1 C2 no conflict between efficiency and distribution in choice of  $R$ .

*Why FR optimal under weaker conditions?*

Distribution and efficiency both push toward FR.

Remark:

C2 plausible, based on Mulligan and Sala-i-Martin and Erosa and Ventura

Households with lower income and lower skills hold more money as a fraction of total purchases in US (and other economies).

*When is there potential conflict between efficiency and distribution under C2?*

Society at optimum weighs high prod agents more heavily.

-Distribution: Set  $R$  high

-Efficiency: Set  $R$  high if helps IC, else set  $R$  low

*Outcome?*

Depends on feasible distribution with income tax.

- Distribution: Tax low prod agents more

- Efficiency: Tax low prod agents more

! Over-reporting by low prod harder

Binding IC unlikely

## **Bottom line:**

More uniform taxation intuition (AS 1976)

Income tax schedule sufficiently  
unconstrained

Uniform commodity taxation optimal, even  
with distributional goals.

## **Consistent with:**

Golosov, Kocherlakota, Tsyvinski (2001).

Albanesi (2000) with no IC but restrictions  
on income tax schedule in Ramsey.

# Dynamic considerations

Erosa and Ventura (2000):

Environment:

- Inflation non-linear consumption tax
- Systematic productivity differences
- Idiosyncratic productivity shocks

Important effects of deviations from FR on saving behavior.

What is the interaction between capital taxation and inflation?