# Money in the Utility Function
## Advanced Macro

Pavel Solís

CIDE

2025

## Introduction

- In RBC model, all variables are measured in real terms
- We now introduce money in model; two common ways to do it
    - Cash in advance - CIA (Clower, 1967)
        - Assumption: Money needs to be used to buy consumption goods
        - Rationale: Nothing in model explains why money is used
        - Modeling implication: Additional constraint
    - Money in the utility function - MIUF (Sidrauski, 1967)
        - Assumption: Money provides some service to the economy
        - Rationale: Save time, insurance against shocks, reduce search costs
        - Modeling implication: Additional argument in utility function

# Introduction

- In RBC model, all variables are measured in real terms
- We now introduce money in model; two common ways to do it
    - Cash in advance - CIA (Clower, 1967)
        - Assumption: Money needs to be used to buy consumption goods
        - Rationale: Nothing in model explains why money is used
        - Modeling implication: Additional constraint
    - Money in the utility function - MIUF (Sidrauski, 1967)
        - Assumption: Money provides some service to the economy
        - Rationale: Save time, insurance against shocks, reduce search costs
        - Modeling implication: Additional argument in utility function
- **Main finding**: Money is neutral

## Assumptions

- Same assumptions about economy as in RBC model
- Same assumptions for HHs and firms as before, except for utility function
- Utility function in period $t$ is of the form

$$U(C_t, \frac{M_t}{p_t}, H_t)$$

  where $M_t/p_t$ are real money balances
- New parameters: $D$ for real money balances and $h_0$ for labor
- Additional shock: Growth rate of money supply
- Model and handout have same structure as before