ECO 6353 - Coding Assignment

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1 Identification of the Bugs

1.1 Model Parameters

- The value of ρ, which is 0.9 was not specified among the model parameters.
  - To solve this, we have add $\rho = 0.9$ to the parameters.

1.2 Income Grid Setup

- Omission of linspace in the Income Grid set-up.
  - To solve this, we have to replace "xxxxxxx" with "linspace".

1.3 Asset Grid Setup

- Exclusion of the P matrix.
  - To solve this, we have create a matrix for P.

1.4 VFI Preallocations and Tolerances

- The initial value function, V_0 is set to NaN values.
  - To solve this, we have to set V_0 to zeros.

- Wrong specification of $a^{'}$ by setting it equal to c

  To solve this, we have to set $a^{'}$ to it value from the budget constraint given.

1.5 Main VFI Loop

- The $V_{candidate}$ is set equal to NaN values.
  - To solve this, we have set $V_{candidate}$ to zeros.

- The inclusion of repmat(...) in the main loop.

  To solve this, we have to delete repmat(...) from the main loop.

- The V_0 is set equal to $V_{candidate}$ instead of V_1.

  To solve this, we have to set V_0 equal to V_1.

2 Explanations

2.1 Setting the borrowing constraint to zero.

When the borrowing constraint is set to zero, it restricts the household to consume from only current period income and assets. This will affect consumption smoothing because households cannot borrow to smoothing their consumption when their hit by financial hardships. As a matter of fact, this could also trigger precautionary savings in order to smoothing future consumption.

2.2 Doubling the parameter for relative risk aversion.

When the parameter for relative risk aversion is doubled, the household would become more risk averse which means that they would like to hold more safer assets as insurance for future uncertainties. This could also lead to more precautionary savings and decrease in current level of consumption.