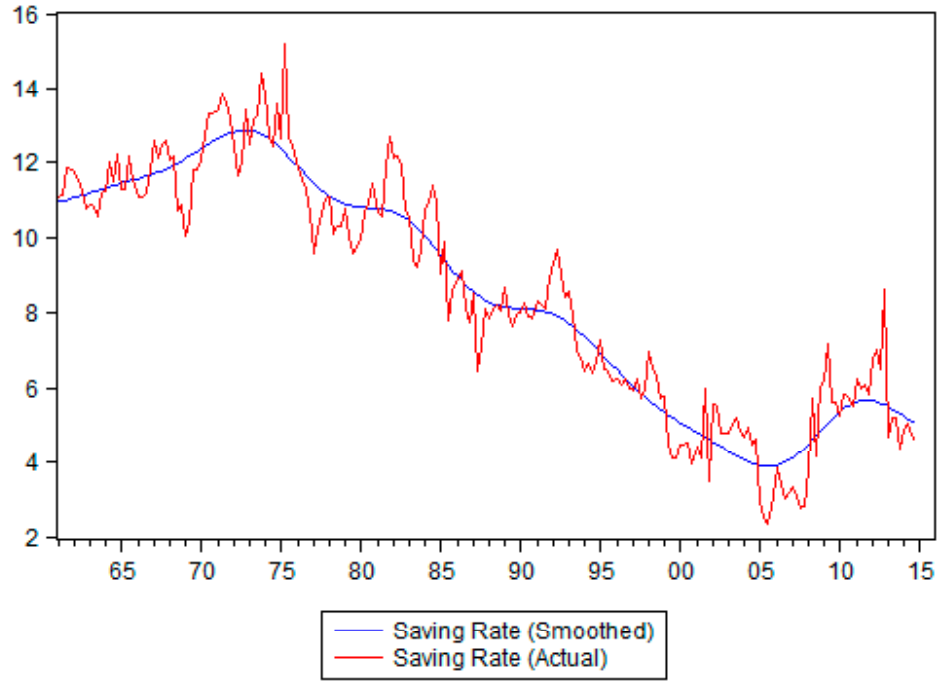
MFx – Macroeconomic Forecasting

IMFx

U.S. Household Saving Rate and the Great Recession

Main Course Assignment

U.S. Household Saving Rate, 1976-2014



Stylized Facts

- Downward trend in the saving rate till 2008
- Financial crisis, which started in 2007, may have reversed that trend

Transitory or Permanent?

- **Basic issue:** Will the saving rate return to its pre-2008 level?

- Equivalent to asking whether there has been a structural break in the consumption relationship on or around 2008Q1

Assignment

- Develop an empirical model for forecasting aggregate consumption using data up to 2007Q4

- Use the model to forecast consumption (and the saving rate) during 2008Q1 – 2014Q3

Assess Forecasting Performance

- Assess whether your model can predict actual consumption (and thus the saving rate) from 2008:1 onwards

Dataset (I)

- The data set can be found in the EViews workfile **M1_Data**, pagefile **USA_CY**

- It is quarterly data, spanning 1947Q1 to 2014Q4

Dataset (II)

Key variables:

- Real Consumption (**rc**)
- Real Disposable Income (**rdy**)
- Real Household Net Worth (**rnw**)
- Unemployment Rate (proxy for uncertainty, **unemp**)
- Confidence Index (forward looking proxy for confidence, **consumer_sentiment**)

Suggested Approach (I)

- Using data up to 2007Q4, develop an empirical model for the long-run behavior of household consumption

- Be sure to allow for the properties of the data when doing so (i.e., whether the data are stationary or non-stationary)

Suggested Approach (II)

- Using your preferred long-run model as a base, develop a model to predict actual consumption

Suggested Approach (III)

- Connect your short-run model to the saving rate using the following formula linking aggregate real consumption to the saving rate:

$$saving\_rate = 100 * (rdy - (rc + ((gov\_transfers + interest\_payments)/y\_deflator)))/rdy$$

Suggested Approach (IV)

- Once you are satisfied with your empirical model, assess its out-of-sample forecasting performance

Suggested Approach (V)

- If your final model can predict the actual behavior of the saving rate during 2008Q1 – 2014Q3…

- There is strong evidence that the financial crisis has not changed saving behavior permanently

Hints

- Start by explaining long-run movements in real consumption using real disposable income and real disposable net worth

- Also, changes in the confidence level and the unemployment rate tend to drive *short-run* movements in consumption (and thus saving)

Inspect Before You Regress!

- Plot the consumption-disposable income ratio against the ratio of net-worth to disposable income
- This will reveal interesting features about the relationship between consumption and income
- Look for changes in the relationship (especially before 1976) and changes in the variability of the underlying variables

Lastly…

- A detailed statement of the assignment can be found in M1_Assignment.pdf

- A suggested solution will be provided at the end of the course