ECON 1550: International Finance

Models in Economics

Bottom line to remember

"All models are wrong, some models are useful"

Example: Uncovered Interest Parity (UIP)

$$R_\$ = R_¥ + \frac{E^e_{\$/¥} - E_{\$/¥}}{E_{\$/¥}}$$

- Does not fit the data well

- We can still use it to determine $E_{\$/¥}$ given $R_\$$, $R_¥$, and $E^e_{\$/¥}$

- Combined with goods and money market equilibrium, we can understand (some or all) effects of monetary policy on $E_{\$/¥}$

Example: UIP (continued)

$$R_\$ = R_\yen + \frac{E^e_{\$/\yen} - E_{\$/\yen}}{E_{\$/\yen}} + rp$$

- How much did we miss? Add an error term and call it **risk premium**

- If rp is independent of monetary policy, we did not miss anything

- If rp depends on monetary policy, we still captured one channel

Types of Variables

Endogenous • Explained within the model

Exogenous • Taken as given
• Not explained by the model

Parameters • Exogenous; do not depend on policy

Types of Equations

Identities
- Hold by definition or construction

Behavioral
- Capture behavior that we include in a model
- Hold by assumption

Equilibrium conditions
- Supply equals demand
- Hold by "economic logic"

Solving a Model, Solving for a Variable

- "Solving for a variable" means expressing that variable in terms of exogenous variables only

- "Solving a model" means solving for all endogenous variables

Example 1

Exogenous variables	
Variable	Description
T	taxes
Y	income
c_1	marginal propensity to consume

Endogenous variables			
Variable	Description	Equation	Type of equation
C	consumption	$C = c_1 Y_D$	behavioral
Y_D	disposable income	$Y_D \equiv Y - T$	identity

**Solution
and
Intuition**

Example 2

Exogenous variables

Variable	Description
C	consumption
Y	income
c_1	marginal propensity to consume

Endogenous variables

Variable	Description	Equation	Type of equation
T	taxes	$Y_D \equiv Y - T$	identity
Y_D	disposable income	$C = c_1 Y_D$	behavioral

**Solution
and
Intuition**

Example 2

	Exogenous variables
Variable	Description
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	Endogenous variables		
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Solution and Intuition

Shocks

- Changes in exogenous variables

- Including changes in parameters

- Usually unforeseen, unforeseeable, or random