BA 311 – Money and Banking

LEARNING OUTCOMES

- LO 1 – Be able to describe money and the role of money and the banking system in conveying value.
- LO 2 – Understand economic interaction in determining asset prices and interest rates.

FINANCIAL RISK AND MONEY

Why does money have any value at all?

- Because people believe it does
- When this belief fails – financial crises ensue

Some countries have given up their own money due to these concerns (Dollarization or Currency Pegs)

Other countries have banded together for a common currency (European Union) to facilitate trade, investment and stability

HOW DO WE SPEND MONEY?

The Payment System is made up of multiple elements

- Currency
- Checks
- Electronic Payments (ACH, wire)
- Stored Value Cards
- Debit Cards
- E-Money (PayPal, Bitcoin, etc)
- Credit Cards (not in the money supply – a loan)

WHO ACTS IN THE PAYMENT SYSTEM?

- Consumer
- Consumer's Bank
- Clearing mechanism (ACH, Fedwire System, Card Networks) ("the rails")
- Seller's Bank
- Seller

HOW DO WE MEASURE MONEY IN THE ECONOMY?

The Money Supply

- M1 – Currency, checking accounts and traveler's checks (about 20% of the money supply)
- M2 – Savings accounts, small CD's, money market mutual funds (about 80% of the money supply)

HOW DO WE MEASURE MONEY IN THE ECONOMY?

The Money Supply

- M1 – Currency, checking accounts and traveler's checks (about 20% of the money supply) – most liquid (cash & cash equivalents)
- M2 – Savings accounts, small CD's, money market mutual funds (about 80% of the money supply) – less liquid (may have transaction costs to turn to M1)

WHO IS IN CHARGE OF THE BANKING SECTOR & MONEY SUPPLY?

The Federal Reserve (US Central Banking System)

- Clear Payments
- Set Monetary Policy – amount of M1 & M2 in the system – we will talk a fair bit about this ☺
- Emergency lender for banks (and others – 2008)
- Regulation of the banking system

CONWAY'S MAXIM

"Money has a time value. Time has a money value"

-Dr. Paul Conway

TIME VALUE OF MONEY

Two major measures of Time Value of Money:

- Present Value
- Future Value

CLASSICAL ASSET PRICING THEORY

Assets are classically valued on PV of ECF

Stock:

- Valued at expected future dividends
- Influenced by expected future earnings
- Generally a perpetuity using Gordon Growth Model

$$PV = D/(i - g)$$

Bonds:

- Values at expected future cash flows (YTM)
- Interest and Principal

CLASSICAL ASSET PRICING THEORY

Asset Pricing Theory makes several assumptions:

- Information is known and reflected in interest rates (market efficiency)
- Expected cash flow forecasts are rational
- Risk measurements are rational

CLASSICAL ASSET PRICING THEORY

Classic Asset Pricing Theory uses CAPM pricing model:

Required return = Risk-free return + Risk premium for systematic risk

$$r_j = r_{RF} + (r_M - r_{RF})\,\beta_j$$

The book uses i_{safe} and ϕ – this is the same as CAPM – but not as widely accepted notation.

CLASSICAL ASSET PRICING THEORY

What causes asset prices to change?

- Changes in expected income (cash flows)
- Changes in market interest rates (risk free and risk premium)
- Changes in the risk profile of the asset (β)

Required return = Risk-free return + Risk premium for systematic risk

$$r_j = r_{RF} + (r_M - r_{RF})\,\beta_j$$

CLASSICAL ASSET PRICING THEORY

How does Federal Reserve interest rate policy influence stock and bond prices?

- Fed raises Fed Funds rate
- Risk Free Rate rises
- Required Market return rises
- Economy tends to slow
- PV of ECF falls
- Prices Fall

CLASSICAL ASSET PRICING THEORY

What assets are impacted most by interest rate changes?

- Stocks & Other "Perpetuities" dependent on earnings
- Long Term Debt
- Short Term Debt

Why?

CLASSICAL ASSET PRICING THEORY

Bubbles

What is a "Asset Price Bubble"?

- Price exceeds the PV of the ECF of the asset

What are some examples of Asset Price Bubbles?

- 2008 Housing
- 17th Century Dutch Tulipmania
- 2001 Internet Stock

What signals should be looked at to analyze whether a bubble exists?

- Use CAPM Principles
- KPI's (P/E ratio, Price/Rent ratio, historical norms of earnings growth)

CLASSICAL ASSET PRICING THEORY

What happens when the party ends?

- Loss of confidence in the underlying value of the asset (may be rational or irrational)
- Far more sellers than buyers, creating a fall in prices and potential market liquidity crisis
- Tends to perpetuate itself – resulting in panic
- Government added "circuit breakers" and other regulations to slow impacts
- Often there are buying opportunities for those who can separate the wheat from the chaff (contrarian investing)

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INTEREST RATES

Real Rate versus Nominal Rate?

- What's the difference?
- Nominal rate is what we see. Real rate is what we actually get.
- Ex Ante vs Ex Post (lingua Latina)
- You buy based on ex ante expectations, you experience ex post results
- When can this pose a major problem or opportunity?