Financial Markets
Econ 173A: Mgt 183

Capital Markets & Securities
Financial Instruments

• Money Market
  – Certificates of Deposit
  – U.S. Treasury Bills
  – Money Market Funds

• Bond Market
  – U.S Treasury Notes & Bonds
  – Other Sovereign Debt
  – State & Municipal Bonds
  – Corporate Bonds

• Equity Market
  – Common Stock
  – Preferred Stock

• Derivative Market
  – Options
  – Futures

• Other
  – Swaps
  – Pass-Thru’s
The Financial System

Suppliers of capital
- Households with savings
- Firms with cash

Intermediaries
- Banks
- Pension funds
- Mutual funds
- Insurance companies

Securities Markets

Users of capital
- Firms that want to invest
- Governments that want to spend
- Households that want to buy a house
Capital Markets

• To help to finance Companies
  1. Annual Working Capital increases = $150 Billion
  2. Annual Capital Expenditures “CAPEX” = $900 Billion

= $1,050 Billion

• Source of funds:
  1. Annual Earnings = ($900 Billion)
     GAP $150 Billion
  2. New Debt Issued ($450 Billion)
  3. Shares of Equity repurchased = $300 Billion
The Role of Capital Markets

• Three Principal Functions

  – **Economic Function**: facilitate the transfer of money between savers and borrowers.

  – **Continuous Price Function**: provides a liquid market where prices are available moment to moment.

  – **Fair Pricing Function**
Stock Returns

• **Stock Returns**: take into account both price changes and dividend income

  – Over past 50 years, stock returns have ranged from:

    + 48% in 1954 to
    
    - 34% in 1974 and 2008

  – Stock returns over past 50 years have averaged around 11%

  – From 1998 through mid-’03, DJIA averaged 1.7%
## DJIA annual Returns since 2003

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning Value</th>
<th>Ending Value</th>
<th>Gain</th>
<th>Yearly Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>8341.63</td>
<td>10453.92</td>
<td>2112.29</td>
<td>25.32%</td>
</tr>
<tr>
<td>2004</td>
<td>10453.92</td>
<td>10783.01</td>
<td>329.09</td>
<td>3.15%</td>
</tr>
<tr>
<td>2005</td>
<td>10783.01</td>
<td>10717.50</td>
<td>-65.51</td>
<td>-0.61%</td>
</tr>
<tr>
<td>2006</td>
<td>10717.50</td>
<td>12463.15</td>
<td>1745.65</td>
<td>16.29%</td>
</tr>
<tr>
<td>2007</td>
<td>12463.15</td>
<td>13264.82</td>
<td>801.67</td>
<td>6.43%</td>
</tr>
<tr>
<td>2008</td>
<td>13264.82</td>
<td>8776.39</td>
<td>-4488.43</td>
<td>-33.84%</td>
</tr>
<tr>
<td>2009</td>
<td>8776.39</td>
<td>10428.05</td>
<td>1651.66</td>
<td>18.82%</td>
</tr>
<tr>
<td>2010</td>
<td>10428.05</td>
<td>11577.51</td>
<td>1149.46</td>
<td>11.02%</td>
</tr>
<tr>
<td>2011</td>
<td>11577.51</td>
<td>12217.56</td>
<td>640.05</td>
<td>5.53%</td>
</tr>
<tr>
<td>2012</td>
<td>12217.56</td>
<td>13104.14</td>
<td>886.58</td>
<td>7.26%</td>
</tr>
<tr>
<td>2013</td>
<td>13104.14</td>
<td>16469.99</td>
<td>3365.85</td>
<td>25.69%</td>
</tr>
<tr>
<td>2014</td>
<td>16469.99</td>
<td>17804.80</td>
<td>1228.14</td>
<td>7.41%</td>
</tr>
</tbody>
</table>

**Average Return:** 5.95%

**Standard Deviation:** 16.02%
Advantages of Stock Ownership

1. Provide opportunity for higher returns than bonds.

2. Over past 50 years, stocks averaged 11% and high-grade corporate bonds averaged 6%.

3. Good inflation hedge since returns typically exceed the rate of inflation.

4. Easy to buy and sell stocks.
5. Price and market information is easy to find in financial media.

6. Unit cost per share of stock is lower than for bonds.
Disadvantages of Stock Ownership

- Stocks are subject to many different kinds of risk:
  - Business risk
  - Financial risk
  - Market risk
  - Event risk
- Difficult to predict which stocks will go up in value due to wide swings in profits and general stock market performance
- Low current income – Dividends - compared to other investment alternatives
Common Stock Values

• **Market Capitalization**: the overall current value of the company in the stock market
  – Total number of shares outstanding multiplied by the market value per share

• **Investment Value**: the amount that investors believe the stock should be trading for, or what they think it’s worth
  – Probably the most important measure for a stockholder
Current Income from Stocks versus Bonds

The coupon yield on high-grade corporate bonds

The dividend yield on stocks
Market Capitalization

- Small-Cap Stocks: under $1 billion
- Mid-Cap Stocks: $1 billion to $5 billion
- Large-Cap Stocks: more than $5 billion
Types of Stock

- **Small-Cap Stocks**: small companies with market capitalizations less than $1 billion
  - Provide opportunity for above-average returns (or losses)
  - Short financial track record
  - Erratic earnings
  - Not widely-traded; liquidity is issue
Types of Stock (cont’d)

- **Mid-Cap Stocks**: medium-sized companies with market capitalizations between $1 billion and $5 billion
  - Provide opportunity for greater capital appreciation than Large-Cap stocks, but less price volatility than Small-Cap stocks
  - Long-term track records for profits and stock valuation
  - “Baby Blues” offer same characteristics of Blue Chip stocks except size
  - Examples: Wendy’s, Barnes & Noble, Petsmart, Cheesecake Factory
Types of Stock (cont’d)

- **Large-Cap Stocks**: large companies with market capitalizations over $5 billion
  - Number of companies is smaller, but account for 80% to 90% of the total market value of all U.S. equities
  - Bigger is not necessarily better
  - Tend to lag behind small-cap and mid-cap stocks, but typically have less volatility
  - Examples: AT&T, General Motors, Microsoft
The Reward/Risk Trade-off

- Intermediate-Term Government Bonds: 5.4
- Long-Term Corporate Bonds: 5.5
- T-bills: 3.8
- Inflation: 3.2
- Large Company Stocks: 13.3
- Small Company Stocks: 17.6

Arithmetic Mean Return vs. Standard Deviation (%)

Department of Economics
UC San Diego School of Management
Types of Markets

- **Direct Search Market:** Buyers and sellers seek each other directly and transact directly.

- **Brokered Market:** A market where an intermediary (a “broker”) offers search services to buyers and sellers, e.g. a real estate agent.

- **Dealer Market:** A market where traders specializing in particular commodities buy and sell assets for their own accounts.

- **Auction Market:** A market where all traders in a good meet to buy or sell an asset.
Financial Markets

• Financial markets are traditionally segmented into:

  – Money markets
    • Include short-term highly liquid and relatively low risk debt instruments.

  – Capital markets
    • Include longer term relatively riskier securities.
Primary and Secondary Markets

• **Primary market:** market for trading newly issued securities. Usually *underwritten* by an investment bank.

• **Secondary markets:** Markets where securities are bought and sold on the large *Exchanges* after the original issuance. i.e. the IPO.
Auction vs. Dealer Market Model

**Auction Market**
- Floor-based
- Single Specialist
- Order-driven
- Trade halts

**Dealer Market**
- Screen-based
- Competing Market Makers
- Quote-driven
Third Markets

- **Third markets**: Trading of exchange-listed securities, usually in *Blocks*, among institutional investors and broker/dealers for their own accounts (not as agents for buyers and sellers). The **Upstairs Market**.

- **Fourth markets**: direct trading of large blocks of securities between institutional investors through a computer network.
Fixed Income Securities & Rates

• Fixed
  – CDs – bank time-deposits
  – Paper – unsecured, trade-able company debt
  – Acceptances – bank promises
  – Eurodollars - $ denominated foreign bonds
  – Repos, Reverse Repos – of treasury debt
  – Treasuries – bills, notes, bonds

• Rates
  – Prime Rate
  – Fed Funds Rate
  – LIBOR, HIBOR
  – TED Spread : LIBOR less the 3-month Treasury yield
TED Spread

Denominated in basis points (bps). Historically 10 to 50 bps – average 30 bps

A rising TED spread indicates shrinking liquidity – an indicator of perceived credit risk:
- T-bills are considered risk-free
- LIBOR reflects the credit risk of lending banks.

Widening TED spread is a sign that lenders believe default risk on interbank (counterparty) loans is increasing.\(^1\)

2007 average 150 – 200 bps
September 2008 > 300 bps
10/10/2008 465 bps
Inflation? Or Deflation?

The problem is losing dollar strength.

Most people get this wrong.

The effects are similar:
Prices go up – but the cause is subtly different.

The weakening dollar due to the extreme moves by the Fed undermine American’s buying power but strengthen, albeit artificially, America’s selling power.
Bonds

• Debt Security – corporate or government borrowing
• Also called a *Fixed Income* Security
• *Covenants or Indenture* define the contract (this can be complex)
• 2 types of Payments:
  - interest
  - principal
• Interest payments are the *Coupon*
• Principal payment is the *Face*
Treasury Bills, Notes, & Bonds

• Bills – 90 days to 6 months
• Notes – 1 year up to 10 years
• Bonds – to 30 years
• Bond & Note: **Face** (denomination) of $1,000; quotes in $100’s
• Bills: **Face** = $10,000. Discounted and quoted at Yield.
• Bond & Note: **Coupon** (rate) paid semi-annually
• Prices quoted in points (of face) + $\frac{1}{32}$
• No default / *credit risk*
<table>
<thead>
<tr>
<th>Maturity</th>
<th>4/9/2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>2yr AA</td>
<td>0.50</td>
</tr>
<tr>
<td>2yr A</td>
<td>0.70</td>
</tr>
<tr>
<td>5yr AAA</td>
<td>1.80</td>
</tr>
<tr>
<td>5yr AA</td>
<td>2.05</td>
</tr>
<tr>
<td>5yr A</td>
<td>2.18</td>
</tr>
<tr>
<td>10yr AAA</td>
<td>3.10</td>
</tr>
<tr>
<td>10yr AA</td>
<td>3.33</td>
</tr>
<tr>
<td>10yr A</td>
<td>3.59</td>
</tr>
<tr>
<td>20yr AAA</td>
<td>3.99</td>
</tr>
<tr>
<td>20yr AA</td>
<td>4.32</td>
</tr>
<tr>
<td>20yr A</td>
<td>4.64</td>
</tr>
<tr>
<td>Maturity</td>
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<tr>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>3 Month</td>
<td>3.36 %</td>
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<tr>
<td>6 Month</td>
<td>3.23 %</td>
</tr>
<tr>
<td>2 Year</td>
<td>3.53 %</td>
</tr>
<tr>
<td>3 Year</td>
<td>3.82 %</td>
</tr>
<tr>
<td>5 Year</td>
<td>4.41 %</td>
</tr>
<tr>
<td>10 Year</td>
<td>4.84 %</td>
</tr>
<tr>
<td>30 Year</td>
<td>5.43 %</td>
</tr>
</tbody>
</table>

**Bond Basics**

- **Fixed Income Securities**: A security such as a bond that pays a specified cash flow over a specific period.

**Fixed Income Securities vs. Common Stock**

- **Bonds**
  - Fixed Claim
  - High Priority on cash flows
  - Tax Deductible
  - Fixed Maturity
  - No Management Control

- **Hybrids (Combinations of debt and equity)**

- **Common Stock**
  - Residual Claim
  - Lowest Priority on cash flows
  - Not Tax Deductible
  - Infinite life
  - Management Control
Bond Analysis

• Characteristics –
  – Types: mortgage, callable, convertible, senior or subordinated, floating rate, zero coupon.
  – Denomination (Par value) Face
  – Coupon, Dates of Coupon Payments
  – Sinking Funds?
  – Credit Rating

• Pricing – present value of future cash flows
• Yields:
  – Coupon yield = C / Price
  – YTM = the DR that makes the NPV of CF’s = 0
  – RCYTM = Compound all CFs to Term and do CAGR

• Sensitivity to Time, i.e. maturity
• Sensitivity to changes in interest rates
Pick the Federal Reserve Bank Chairmen

Click Glenn Hubbard for the parody
What’s the problem with the Fed balance sheet?

Not it’s size. But the quality of the assets.

The largest piece of the pie is pass-thru-securities (pass thru’s from sub-prime mortgages) CDO’s.

No one knows the real value of this balance sheet.

Did the Fed violate the Federal Reserve Act of 1913 by adding lower than Federal government backed securities?