“I would not give a fig for the simplicity on this side of complexity, but I would give my right arm for the simplicity on the far side of complexity.”

Oliver Wendell Holmes Jr.
Accounting Versus Finance

Today

Accounting → Finance

Goals

- Develop practical understanding of some of the more common investment vehicles and concepts in today’s financial world.
- Develop a practical understanding of the risks associated with each of these investment vehicles.
- Learn a few techniques to manage investment risk.
- Discuss active versus passive management.

Schedule

- Section 1 - Understanding Global Capital Markets
- Section 2 - Risks With Investing in Capital Markets
- Section 3 - Measuring Investment Risk
- Section 4 - Managing Investment Risk
- Section 5 - Active versus Passive Management
Section 1 - Global Capital Markets

- Capital Markets
- Bonds (domestic, international, TIPS)
- Stocks (domestic, international)
- Currencies
- Economic Sectors
- Indexes
- ETFs
- Investment Companies
- REITs

Household Needs

2008

X buying power ➔ maintain ➔ grow ➔ Y buying power

2028

Global Capital Markets provide a vehicle for households to shift their spending to some point in the future and to potentially increase their spending power.

Inflation

U.S. Inflation

1971 to 2007 Average - 4.68%
1983 to 2007 Average - 3.11%
Since inflation is at play capital appreciation is required to grow our assets to maintain spending power.

I. If we only want to maintain spending power then we just need to keep pace with inflation. This can be done very safely for example, through U.S. government backed instruments called TIPS.

II. However, if we would like to increase our spending power then we need to grow our capital at a higher rate than inflation. The only investments that provide a probability of outpacing inflation are risky.

nobody gets a free lunch

Financial Cycle

- Business Sector
  Primary Need: Raise funds

- Government Sector
  Primary Need: Raise funds

- Household Sector
  Primary Need: Invest funds

Financial Markets

- Money Markets
  Short, liquid, very low risk

- FOREX Markets
  Facilitate trading of foreign exchange

- Capital Markets
  Long term, risky securities

- Long Term Fixed Income Markets
  Corporate Bonds
  Municipal Bonds
  Mortgage Backed Securities

- Equity Markets
  Common Stock
  Preferred Stock

- Derivatives Markets
  Options
  Swaps

- Money Markets
  T-Bills, CDs, Commercial Paper

- Fixed Income Markets
  T-Bonds and Notes
  Corporate Bonds
  Municipal Bonds
  Mortgage Backed Securities

- Equity Markets
  Common Stock
  Preferred Stock

- Derivatives Markets
  Options
  Swaps
Why cover bonds?

- Bonds are used extensively in engineering retirement plans.
- They can provide a risk buffer in portfolios.
- Play bigger role when portfolio morphs to an income generator from a growth model.
- Sovereign debt provides safety!

Bonds - First instrument in Capital Markets

Bonds - low correlation to stocks

Bonds = How They Work

Investor acts as a bank to the government, municipality, or corporation.

$1000

6 months 1 year 18 months 2 years

$25 $25 $25 $1025
Bonds - Main Attributes

- **Face Value (par value):** amount repaid when the bond matures.
- **Maturity Date:** date when the final coupon payment is made and the face value is returned to lender.
- **Coupon Rate:** annual interest rate paid by the bond issuer to the investor.
- **Coupon:** \( \text{Coupon} = (\text{Coupon Rate} \times \text{Face Value}) \)

**Example**

Bonds - Issuers

- **Government Treasuries**
  - **T-Notes:** 2 to 10 year maturity.
  - **T-Bonds:** 10+ years maturity.
  - Tax exempt: State & Local
  - **NOTE:** T-Bills not included because they are short term and not subject to interest rate risks.
- **Municipal**
  - Tax exempt: Federal & State & Local
- **Corporate**
  - Tax exempt: None

Bonds - From Corporations

- You are a creditor to the bond issuer.
- You are not an equity owner so you do not have any voting rights.
- You stand in front of shareholders in bankruptcy.
<table>
<thead>
<tr>
<th>Common Stock - Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Why issue stock to the public?</strong></td>
</tr>
<tr>
<td>• Corporations issue to raise capital.</td>
</tr>
<tr>
<td>• Owners take their companies public to diversify their holdings.</td>
</tr>
<tr>
<td><strong>Advantages over Bonds (from corp perspective)</strong></td>
</tr>
<tr>
<td>• No interest payments like bonds.</td>
</tr>
<tr>
<td>• Doesn’t have to pay a dividend.</td>
</tr>
<tr>
<td><strong>Disadvantages over Bonds (from corp perspective)</strong></td>
</tr>
<tr>
<td>• Need to compound share value at a higher rate than bonds</td>
</tr>
<tr>
<td>• Disclosure and accountability to public</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Common Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor becomes equity owner in company.</td>
</tr>
<tr>
<td>• Entitles owner of stock to one vote per share in voting matters*.</td>
</tr>
<tr>
<td>• Entitles owner of stock to share in financial benefits. (dividends)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preferred Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pays a dividend into perpetuity. (bond like)</td>
</tr>
<tr>
<td>• No voting rights. (bond like)</td>
</tr>
<tr>
<td>• Not contractually obligated to pay dividend (stock like)</td>
</tr>
<tr>
<td>• Investors stand in front of common stock holders and behind bond holders in bankruptcy.</td>
</tr>
<tr>
<td>• Corporations that buy preferreds of other companies only pay taxes on 30% of dividend income. (nice advantage for corporate investors. Not for individuals!)</td>
</tr>
</tbody>
</table>

**Example**
**International Stock - Overview**

- ADRs - American Depositary Receipts
  - Give U.S. investors vehicle for owning equity in foreign companies.
  - Big bank e.g. JP Morgan, holds actual stock in custody account in the home market. Bank issues ADRs in U.S. against custody account.
  - Dividends are subject to exchange rate risk.
  - [www adr.com](http://www.adr.com)

**Currencies**

- Kind of like stock ownership in a country.
- If economy is running well then investors move capital to country and demand drives up exchange rate.
- On the flip side - if inflation is rising fast investors are running for the exits and supply drives down exchange rate.
- Long protracted cycles.


**Currencies - $ vs. €**

[http://research.stlouisfed.org/fred2/series/EXUSEU?cid=95](http://research.stlouisfed.org/fred2/series/EXUSEU?cid=95)
Terminology - Economic Sectors

- Consumer Discretionary - automotive, household durables
- Consumer Staples - food, beverages, tobacco
- Utilities - electric, gas, water, independents
- Telecommunication Services - fixed line, cellular, wireless
- Materials - commodity related manufacturing
- Information Technology - software & services
- Industrials - heavy machinery, aerospace
- Health Care - manufacture healthcare equip, services
- Financials - banks, insurance
- Energy - exploration, production, energy services


Economic Sectors

Tend to outperform the broad market


http://personal.fidelity.com/products/funds/content/sector/cycle.shtml

Terminology - Asset Classes

- Stocks
- Bonds
- Real Estate
- Private Equity
- Hedge Funds
- Commodities
- Currencies
Indexes

Composites created to track a subject matter.

U.S. Broad

DOW Industrials - 30 blue chip stocks, price weighted, since 1928.
S&P 500 - 500 U.S. large cap companies, since 1957.
NASDAQ - Composite of 3000+ U.S. and Intl. companies listed on Nasdaq.

International

U.K - FTSE 250 - between 101st and 350th largest companies on LSE.
Germany - DAX - 30 largest German companies traded on Deutsche Boerse.
France - CACI - 40 most significant values among 100 largest on Euronext.
Russia - RTS - 50 most liquid Russian stocks traded on RTS.

http://markets.ft.com/markets/overview.asp
http://www.quintec.de/index.php?id=103

Indexes

MSCI (Morgan Stanley Capital International)

❖ Producing indices since 1969.
❖ Most widely used global benchmarks.

MSCI EAFE - Europe, Australasia, Far East - 21 Developed Markets - Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, ...
MSCI EM - 25 Emerging Markets - Argentina, Brazil, Chile, China, Egypt, India, Jordan, Korea, Morocco, Pakistan, Poland, Russia, ...

MSCI Austria MSCI Belgium MSCI Germany MSCI Japan
MSCI Singapore MSCI Switzerland MSCI Spain MSCI Italy


Exchange Traded Funds

ETFs - Market traded index tracking portfolios.

❖ Available in U.S. since 1993
❖ Stated objective - e.g. track energy sector
❖ Passively managed - employ no selection skill
❖ Trade just like stocks - daily bid/ask spread
❖ Very different from open end mutual funds
❖ Tax efficient
❖ Low management fees - range .1% to .8%
Exchange Traded Funds

Created by...
- Standard & Poors - StateStreet Global Advisors
- Barclays - iShares
- PowerShares
- Vanguard
- WisdomTree
- Rydex
- ProFunds

Exchange Traded Funds

Use of ETFs
- Used to participate in growth of a country, sector, broad asset class e.g. commodities, real estate.
- You believe consumer discretionary sector in general will continue to grow but consumers might get tired of McDonalds in favor of Panera Bread.
- Reduce exposure to risks of single shares.
- Asset allocation construction.

Exchange Traded Funds

<table>
<thead>
<tr>
<th>Broad U.S. Equity Mkts</th>
<th>Countries Equity Mkts</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td>EWG Shares Germany</td>
</tr>
<tr>
<td>iShares</td>
<td>跟踪MSCI德国指数</td>
</tr>
<tr>
<td>DIA</td>
<td>EWG Shares France</td>
</tr>
<tr>
<td>PowerShares</td>
<td>跟踪MSCI法国指数</td>
</tr>
<tr>
<td>EWQ Shares</td>
<td>EWG Shares Italy</td>
</tr>
<tr>
<td>S&amp;P 500 Growth</td>
<td>跟踪MSCI意大利指数</td>
</tr>
<tr>
<td>EDF Shares</td>
<td>DBC Shares</td>
</tr>
<tr>
<td>S&amp;P 500 Value</td>
<td>德意志银行商品指数</td>
</tr>
</tbody>
</table>

International
- EMU Shares
-跟踪MSCI EAFE - 澳大利亚,奥地利...
- GPF Shares
-跟踪MSCI EM - 阿根廷,巴西,中国,俄罗斯...
Exchange Traded Funds

Registered Investment Companies

Mutual Funds

Offer open-end mutual funds, closed-end funds, and unit investment trusts (UITs) that are regulated by the Investment Company Act of 1940.

Act mainly requires disclosure of financial health to the public.

Act also regulates conflicts of interest between investment companies and exchanges as well as brokers.

Monitored by SEC.

www.ici.org

Mutual Funds

Managed by investment advisor or committee.

Have investment policy defined in prospectus.

Not traded on exchanges.

Shares are purchased and redeemed with investment company at the close of each day at NAV.

Investors own a share of fund not the underlying securities.

**NAV - Net Asset Value**

\[
NAV = \frac{(\text{total value of securities}) - (\text{liabilities})}{\text{number of fund shares outstanding}}
\]
Mutual Funds
- Money Market Funds
- Equity Funds
- Bond Funds
- International Funds
- Balanced Funds
- Income Funds
- Index Funds

Closed End Funds
- Have IPOs.
- Trade on exchanges.
- No expense associated with creating or redeeming shares.
- No loads.
- Must hold stockholder meetings.
- File quarterly with SEC.

Real Estate Investment Trusts
- REITS - similar to closed-end funds. Tax status for a company that invests in real estate that can eliminate corporate taxation.
- Must distribute 90% or more of income to investors.
- Income passes through entity to investors.
- Public and Private. More private than public.
- 2005 - 200 public, 800 private.
- International REITs - Available in Germany, Bulgaria, Japan, U.K., Singapore, ...
- Exchange traded - available through mutual funds, closed-end, ETFs

www.nareit.com
www.ncreif.com