Foundations of Finance Thought

“Putting It All Together, Bit by Bit”

Finance: concerned with the efficient management of financial resources in an operational and market environment of risk and return
These Chinese symbols have something to say that we would do well to remember. The first symbol represents danger, the second stands for opportunity. The Chinese define risk as the combination of danger and opportunity. Greater risk, according to the Chinese, means we have greater opportunity to do well, but also greater danger to do badly.
Risk and Return Tradeoff

Concerned with the efficient management of financial resources in an operational and market environment of risk and return.
1. **Medium of Exchange** - eliminates the need for barter system

2. **Unit of Account** - common denominator for measuring the value of goods and services

3. **Store of Value** - allows money to retain its value until it is needed to purchase goods and services
Creating Money

When thus coined in large quantities, this paper currency is circulated in every part of the Great Khan’s dominions; nor dares any person, at the peril of his life, refuse to accept it in payment. All his subjects receive it without hesitation, because, wherever their business may call them, they can dispose of it again in the purchase of merchandise they may require; such as pearls, jewels, gold, or silver. With it, in short, every article may be procured.

Polo, The Travels of Marco Polo
Creating Money

<table>
<thead>
<tr>
<th>Deposit</th>
<th>$1,000</th>
<th>$900</th>
<th>$810</th>
<th>$729</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% Reserved by bank</td>
<td>-$100</td>
<td>-$90</td>
<td>-$81</td>
<td>-$72.90</td>
</tr>
<tr>
<td>Amount available for lending</td>
<td>$900</td>
<td>$810</td>
<td>$729</td>
<td>$656.10</td>
</tr>
</tbody>
</table>

Total Deposits = Total Money Supply ($3,439.00)
• The Federal Reserve controls the money supply.

• Government regulates financial institutions.

• The FDIC and NCUA insure deposits.
### How the Federal Reserve affects the Economy

<table>
<thead>
<tr>
<th>Economic Activity</th>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rates</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Money Supply</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
</tbody>
</table>

Federal Action:
- Decrease Reserve Requirement
- Increase Reserve Requirement
How the Federal Reserve effects the Economy Continued

<table>
<thead>
<tr>
<th>Economic Activity</th>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rates</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Money Supply</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
</tbody>
</table>

Buy Government Securities  
Sell Government Securities

Federal Action
### How the Federal Reserve Effects the Economy Continued

<table>
<thead>
<tr>
<th>Economic Activity</th>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rates</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Money Supply</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
</tbody>
</table>

Lower Discount Rate | Raise Discount Rate

Federal Action
How the Federal Reserve effects the Economy Continued

- **Economic Activity**
  - Increase
  - Decrease

- **Interest Rates**
  - Decrease
  - Increase

- **Money Supply**
  - Increase
  - Decrease

- **Lower Margin Requirements**
- **Raise Margin Requirements**

**Federal Action**
Banking Services

Percentage of companies that use various banking services

Source: Board of Governors of the Federal Reserve System.
Money and Financial Institutions

Copyright © 1984 by The New York Times Company
Reprinted by permission.
Reasons for Changing Banks

• Relocation
• Poor customer service
• High fees
• Better interest rates
• Errors
• Difficulty negotiating
• Products offered
Financial Management

**Goal:** Maximize owners’ wealth

**By:**

1. Managing investments to yield the greatest return given the company’s mission and assumed risk.
2. Financing the acquisition of those investments with the lowest costs of funds.
3. Managing cash flows by efficient uses and sources of funds.
“The three divisions of liquidity-preference which we have distinguished above may be defined as depending on (i) the transactions-motive, *i.e.* the need for cash for the current transaction of personal and business exchanges; (ii) the precautionary-motive, *i.e.* the desire for security as to the future cash equivalent of a certain proportion of total resources; and (iii) the speculative-motive, *i.e.* the object of securing profit from knowing better than the market what the future will bring forth. As when we were discussing the marginal efficiency of capital, the question of the desirability of having a highly organized market for dealing with debts presents us with a dilemma. For, in the absence of an organized market, liquidity-preference due to the precautionary-motive would be greatly increased; whereas the existence of an organized market gives an opportunity for wide fluctuation in liquidity preference due to the speculative-motive.”

Cash Flow & Daily Operations

Cash In
- Collections on sales
- Return from investments
- Receipts from loans

Cash Out
- Loan payments
- Asset purchases
- Taxes
- Supplies
- Payments to employees
- Payments to owners (dividends)
Excess Funds

Invest in highly liquid assets:
• T-bills
• Marketable securities
• Commercial paper
• Certificates of deposit
Short-term Financing

(maturity less than one year)

• Trade credit
• Promissory notes
• Family & friends
• Commercial banks
• Factoring accounts receivable
• Commercial paper
• Internal sources
(maturity greater than one year)

- **Retained Earnings**: corporate earnings not paid out as dividends.

- **Debt Capital**: borrowed funds that must be repaid.

- **Equity Capital**: funds raised through the sale of ownership in the firm.
<table>
<thead>
<tr>
<th>Internal</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reduce inventories</td>
<td>• Trade credit</td>
</tr>
<tr>
<td>• Collect old A/R</td>
<td>• Family &amp; friends</td>
</tr>
<tr>
<td>• Reduce costs</td>
<td>• Commercial banks</td>
</tr>
<tr>
<td></td>
<td>• Factoring</td>
</tr>
<tr>
<td></td>
<td>• Loans</td>
</tr>
<tr>
<td></td>
<td>• Bonds</td>
</tr>
</tbody>
</table>
United Airlines Bond
## Bond Characteristics

<table>
<thead>
<tr>
<th>Bond type</th>
<th>Par value</th>
<th>Maturity</th>
<th>Interest &amp; safety (risk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury bonds and notes</td>
<td>$1,000 $5,000 $10,000 $100,000 $1,000,000</td>
<td>Over 10 years for bonds, 2-10 years for notes</td>
<td>Treasury bonds and notes, safest of all bonds, since backed by government; lower interest rates than other bonds</td>
</tr>
<tr>
<td>Treasury bills</td>
<td>$10,000 up to $1,000,000</td>
<td>3 or 6 months or 1 year</td>
<td>No periodic interest; interest is the difference between discounted buying price and part paid at maturity; considered risk-free</td>
</tr>
<tr>
<td>Municipal bonds</td>
<td>$5,000 and up</td>
<td>1 month to 40 years</td>
<td>Lower interest rates than comparable corporate bonds due to tax-exempt status</td>
</tr>
</tbody>
</table>

*Foundations of Business Thought*
## Bond Characteristics Continued

<table>
<thead>
<tr>
<th>Bond type</th>
<th>Par value</th>
<th>Maturity</th>
<th>Interest and safety (risk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate bonds</td>
<td>$1,000</td>
<td>1 to 20 years</td>
<td>Riskier than government bonds, but greater potential for higher yields</td>
</tr>
<tr>
<td>Agency bonds</td>
<td>$1,000 to $25,000</td>
<td>30 days to 20 years</td>
<td>Marginally higher risk and higher interest rates than treasury bonds</td>
</tr>
</tbody>
</table>
Equity Capital Sources

Internal

Retained Earnings

External

Sale of Ownership (stock, partnership)

Venture Capital
Ringling Brothers Stock Certificate
Debt Financing - Bonds

- Secured or unsecured (debenture)
- Principal must be repaid at maturity of bond
- Interest due when specified

Equity Financing - Stocks

- Preferred or common
- Varying obligations to pay dividends
- Owner investment does not need to be repaid by the firm
“It is particularly worth remarking that in this gambling hell there are two classes of speculators who are so opposed to one another that they represent antipodes in their decisions and, as I believe, in their destinies. The first class consists of the bulls or the leifhebberen. They are those members of the exchange who start their operations by purchases, just as if they were lovers of the country, of the state, and of the company. They always desire a rise in the price of the shares; they hope that by reason of good news the market will be suddenly stirred up, and that prices will rise high rapidly. The second faction consists of the bears or the contremine. The bears always begin operations with sales.

The bulls are like the giraffe which is scared of nothing, or like the magician of the elector of Cologne, who in his mirror made the ladies appear much more beautiful than they were in reality. They love everything. …the bears, on the contrary, are completely ruled by fear, trepidation, and nervousness. Rabbits become elephants, brawls in a tavern become rebellions, faint shadows appear to them as signs of chaos.”

A discussion about the Amsterdam Stock Exchange in Joseph De La Vega, Confusion De Confusiones (1688)

*Foundations of Business Thought*
Market Direction

Bull

Bear

Foundations of Business Thought
## The American Bubble

### Foundations of Business Thought

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T</td>
<td>179</td>
<td>335</td>
<td>87.0</td>
<td>197</td>
<td>70</td>
</tr>
<tr>
<td>Bethlehem Steel</td>
<td>57</td>
<td>140</td>
<td>146.8</td>
<td>78</td>
<td>7</td>
</tr>
<tr>
<td>General Electric</td>
<td>129</td>
<td>396</td>
<td>207.8</td>
<td>168</td>
<td>8</td>
</tr>
<tr>
<td>Montgomery Ward</td>
<td>133</td>
<td>466</td>
<td>251.4</td>
<td>49</td>
<td>3</td>
</tr>
<tr>
<td>NCR</td>
<td>51</td>
<td>127</td>
<td>151.2</td>
<td>59</td>
<td>6</td>
</tr>
<tr>
<td>RCA</td>
<td>94</td>
<td>505</td>
<td>434.5</td>
<td>28</td>
<td>2</td>
</tr>
</tbody>
</table>
1 KD = $3.75 (1988)
The 30 stocks in the Dow Jones Industrial Average as of July, 1999, are:

<table>
<thead>
<tr>
<th>Stock Name</th>
<th>Stock Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AlliedSignal Inc.</td>
<td>Aluminum Co. of America</td>
</tr>
<tr>
<td>American Express Co.</td>
<td>AT&amp;T Corp.</td>
</tr>
<tr>
<td>Boeing Co.</td>
<td>Caterpillar Inc.</td>
</tr>
<tr>
<td>Chevron Corp.</td>
<td>Citigroup Inc.</td>
</tr>
<tr>
<td>Coca-Cola Co.</td>
<td>DuPont Co.</td>
</tr>
<tr>
<td>Eastman Kodak Co.</td>
<td>Exxon Corp.</td>
</tr>
<tr>
<td>General Electric Co.</td>
<td>General Motors Corp.</td>
</tr>
<tr>
<td>Goodyear Tire &amp; Rubber Co.</td>
<td>Hewlett-Packard Co.</td>
</tr>
<tr>
<td>International Business Machines Corp.</td>
<td>International Paper Co.</td>
</tr>
<tr>
<td>J.P. Morgan &amp; Co.</td>
<td>Johnson &amp; Johnson</td>
</tr>
<tr>
<td>McDonald’s Corp.</td>
<td>Merck &amp; Co.</td>
</tr>
<tr>
<td>Minnesota Mining &amp; Manufacturing Co.</td>
<td>Philip Morris Cos.</td>
</tr>
<tr>
<td>Procter &amp; Gamble Co.</td>
<td>Sears, Roebuck &amp; Co.</td>
</tr>
<tr>
<td>Union Carbide Corp.</td>
<td>United Technologies Corp.</td>
</tr>
<tr>
<td>Wal-Mart Stores Inc.</td>
<td>Walt Disney Co.</td>
</tr>
</tbody>
</table>
An Early Statement Regarding the Efficient Market Hypothesis

“We are assuming that the existing market valuation, however arrived at, is uniquely correct in relation to our existing knowledge of the facts which will influence the yield of the investment, and that it will only change in proportion to changes in the knowledge; though, philosophically speaking, it cannot be uniquely correct, since our existing knowledge does not provide a sufficient basis for a calculated mathematical expectation. …for if there exist organised investment markets and if we can rely on the maintenance of the convention, an investor can legitimately encourage himself with the idea that the only risk he runs is that of a genuine change in the news over the near future, as to the likelihood of which he can attempt to form his own judgement, and which is unlikely to be very large. For, assuming that the convention holds a good, it is only these changes which can affect the value of his investment, and he need not lose his sleep merely because he has not any notion what his investment will be worth ten years hence.”

A Modern Statement Regarding the Efficient Market Hypothesis

“An efficient capital market is one in which stock prices fully reflect available information. …because information is reflected in prices immediately, investors should only expect to obtain a normal rate of return. Awareness of information when it is released does an investor no good. The price adjusts before the investor has time to trade on it.”

Stephen Ross, Randolph Westerfield, and Jeffrey Jaffe, Corporate Finance (1999)
An Early Statement Regarding Agency Theory

“The directors of such (joint stock) companies, however, being the managers rather of other people’s money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their mater’s honour, and very easily give themselves a dispensation from having it.”

Adam Smith, An Inquiry Into the Nature and Causes of the Wealth of Nations (1776)
A Modern Statement Regarding Agency Theory

“We define an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. If both parties to the relationship are utility maximizers there is good reason to believe that the agent will not always act in the best interests of the principal. …it is generally impossible for the principal or the agent at zero cost to ensure that the agent will make optimal decisions from the principal’s viewpoint.”