

MBA Finance Pre-Course

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Introduction:

We will try to cover: some basic financial literacy, some financial data sources, some basic statistics and accounting for finance, some math exercises and applications to finance, a group case

The plan (definitely subject to change!)

- Today: mostly generic finance knowledge and data sources
- Tuesday: financial data (stock market statistics and accounting)
- Wednesday: algebra and math
- Thursday: bringing it all together

There will be MANY exercises for you to do during the class. You can ONLY learn by doing.

Ask questions!!! This is your pre-course. It is meant for people who know nothing or very little about finance.

If you do not ask questions:

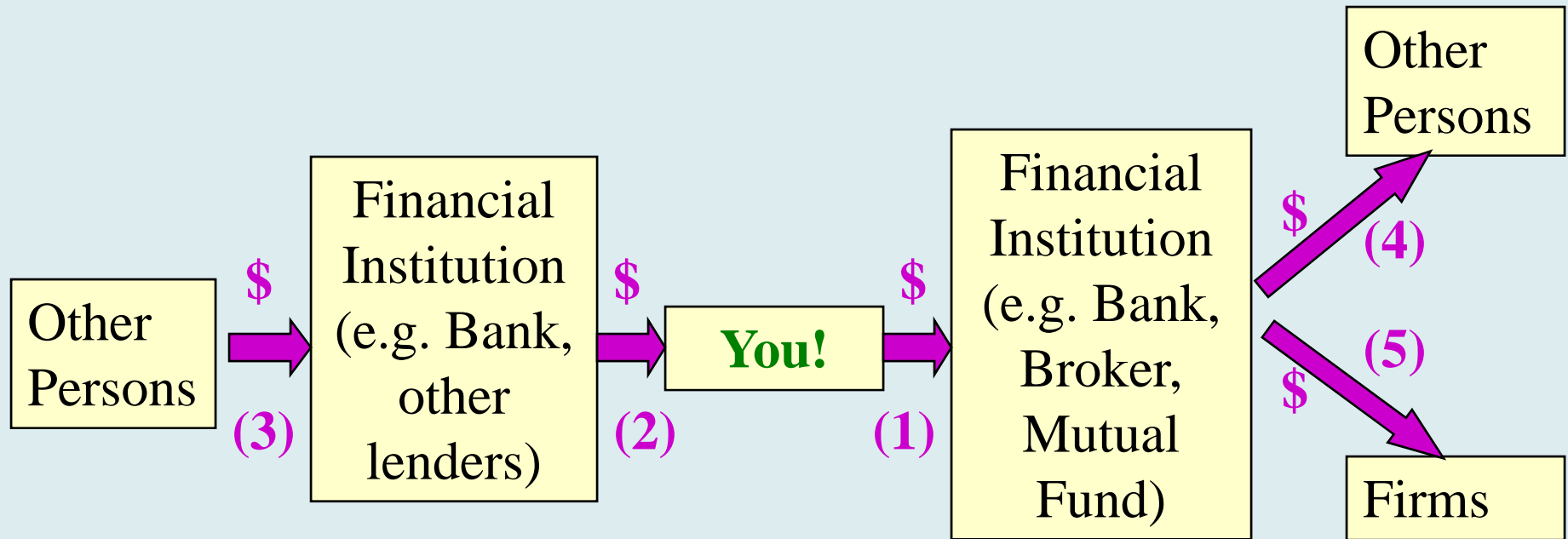
- 1) You will not learn a lot
- 2) The class will be boring
- 3) I will start picking on people

What is Finance all about

The term 'finance' concerns many *more-or-less* connected areas

- Personal Finance
- Corporate Finance
- Asset Pricing (Stocks, Bonds, Futures, Options, ...)
- Financial Institutions and Regulations
- Mergers and Acquisitions
- Risk Management
- International Finance
- Banking
- Trading

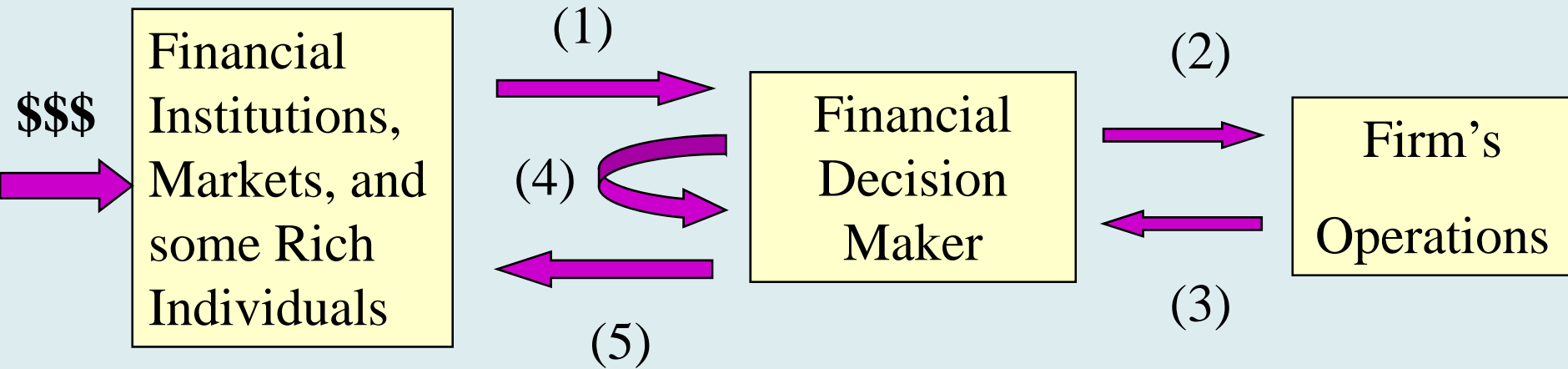
Overview over Financial Markets and Functions



- (1) you might invest money, say in a savings account or mutual fund
- (2) you might also borrow money, say as a mortgage or student loan
- (3) of course, financial institutions get their money from other persons
- (4) in turn, your money is also given by institutions to other persons ...
- (5) ... or to firms

This process is called financial intermediation.

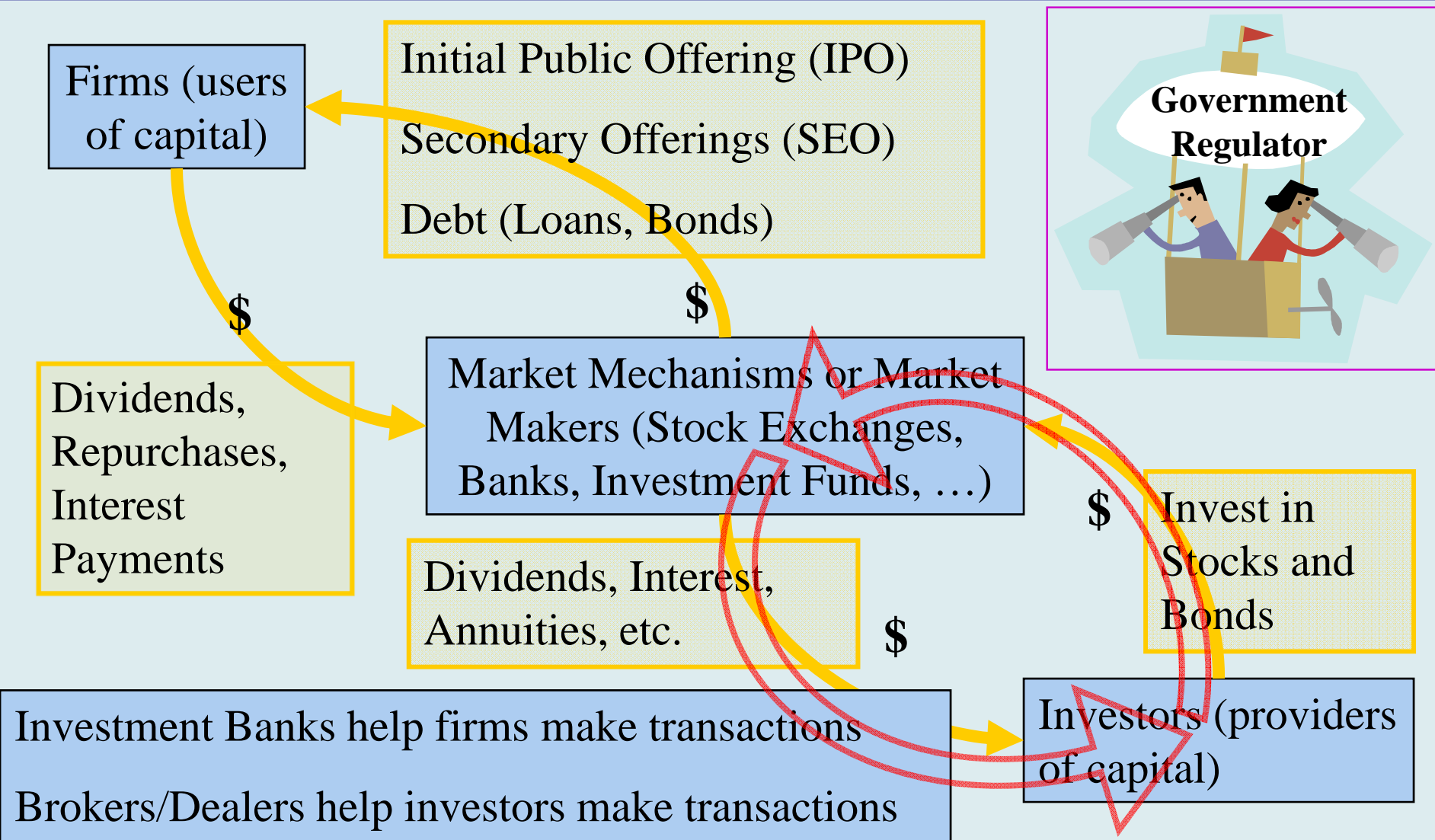
Corporate Finance: What Is Going On?



In Corporate Finance, firms constantly make financial decisions:

- (1) Money raised from investors by selling financial assets
- (2) Money invested in real assets (some are intangible)
- (3) Money generated by operations
- (4) Money reinvested in the firm (retained earnings)
- (5) Money repaid (interest, dividends, etc.)

Financial Markets: What is Going On?



Note: wherever \$\$\$ flow, there is also Risk!

Here is what you need to be able to find:

- corporate data for individual firms
- stock price data for firms
- industry data
- capital market data (interest rates, index levels, exchange rates, ...)
- economic data (GDP, Inflation, ...)
- forecasts (firm level, industry, economy wide)

*I will only introduce you to a few free resources, so that you can understand what the data looks like and get started on doing 'research'.
You will still have to find a lot more on your own!*

There are many sources, and you should get comfortable with some of them. One is <http://finance.yahoo.com> (free), another might be <http://moneycentral.msn.com/> (free). There are more sources like www.bloomberg.com (free), etc.

Information that you will need to be able to find:

- 1) Company Profile (what does the firm do?)
- 2) Financial Statements (Income Statement, Balance Sheet, Cash Flows)
- 3) Summary Statistics (market cap., P/E ratio, Beta, Leverage, ...)
- 4) Competitors and the Industry (two or three main competitors)
- 5) SEC Filings, Insider Holdings/Sales, Ownership Data, ...

More Information that you will need to be able to find:

- 1) Current Stock Price
- 2) Historical Performance (past returns)
- 3) Comparable Information (Competitors, Industry, Market)
- 4) International Stock Returns (Toyota, Volkswagen, Nissan)

More Information that you will need to be able to find:

- 1) Domestic Interest Rates
- 2) Domestic Stock Indexes
- 3) Foreign Exchange Rates
- 4) International Interest Rates and Stock Indexes
- 5) Commodities Prices

[Yahoo!Finance](#) (US) and www.mscibarra.com (global equity index)

There are many sources. Contrary to Financial Data, most of this data is scattered around. Also, government sites are often poorly organized.

Information that you will need to be able to find:

- 1) Recent Domestic Economic Performance (GDP, Inflation, Employment, Savings Rates, ...)
- 2) International Accounts (Import/Export Balance, Capital Accounts, ...)
- 3) Current Consumer and Producer Attitudes
- 4) Similar data for other countries ...

<http://research.stlouisfed.org/fred2/> (US data), www.conference-board.org (US and International), and www.oecd.org (International)

Past Data is nice. However, finance is concerned with decisions that require estimating the future (firm cash flows, future interest rates, ...)

There are a lot of lousy forecasters out there. That is because there is very little cost to saying silly things and a large payoff to ‘correct predictions’. You have to pick the good forecasters. Why not just forecast by yourself? (One answer: you need someone to blame!)

Things you will need to find forecasts for:

- 1) Corporate Earnings, Growth, and Stock Returns
- 2) Industry Performance and Consolidation
- 3) Economic Performance (Inflation, Growth, Interest Rates, Exchange Rates, Tax Rates, International Growth Rates, ...)

[Yahoo!Finance](#) (corporate data), www.conference-board.org (US and International), “The Livingston Survey” (Google for it), www.oecd.com

More Information Sources

- 1) Finance Glossaries (help with technical terms)
 - (i) <http://finance.yahoo.com> (go to 'glossary')
 - (ii) <http://www.investopedia.com> (go to 'dictionary')

- 2) Academic Sites (no assurances, include some data and information)
 - (i) www.stern.nyu.edu/~adamodar/ (Aswath Damodaran, NYU)
 - (ii) www.financeprofessor.com (Jim Mahar, St. Bonaventure)
 - (iii) www.teachmefinance.com (Mark McCracken, independent)

- 3) The best source (?): a Bloomberg terminal

Some statistics and some financial data work

This is only a very simplified version of statistics – just enough to get going in finance!

In finance, we often need to make forecasts. Therefore, we need a way to ‘discipline’ our guess about the future.

Statistics are one way to discipline our guesses about the future

We are not assuming that the future will be like the past, but we will use ‘models’ to relate statistics to forecasts

Graphing Data

Let's get some data and try out our statistics. Get MSFT stock data and S&P500 index data from <http://finance.yahoo.com>

Note: for most statistics in finance, we need to convert the **prices** to **returns** [Return = $(P_1 - P_0) / P_0$]

In addition to statistics, sometimes it is nice to graph data to understand it better

Useful Graph Types

- 1) The Stock Price for MSFT (alone and versus the S&P500)
- 2) The Distribution of Returns for MSFT (a histogram)
- 3) A Scatter Diagram of MSFT returns versus S&P500 Returns

Activity 2

Activity 2: in groups of 2, find a US public company, download 2 years worth of historical stock prices (also download data for S&P500 index), compute basic statistics and draw pictures.

- 1) Do not use MSFT or Google
- 2) Use weekly prices to compute weekly returns $r = (P_1 - P_0) / P_0$
- 3) Compute average, median, std.dev., covariance, correlation, ...
- 4) Draw price graph (stock plus index), histogram (stock), scatter diagram (stock plus index)
- 5) Tell us something you learned about your stock