INVESTMENT MANAGEMENT

Introduction to the Portfolio Approach

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Types of IM Firms

- By **Type of the Organization**
- By **Target Market**
- By **Type of Investment Strategy**

Types of IM Firms: Organizations

- **Pension Funds**

  Corporate, Government or Private Pension Plans

- **Investment Funds**

  USA: Mutual Funds (Fidelity, Vanguard, Putnam, etc.)

  UK: Unit Trusts

  France: SICAV

  Ukraine: PIFs (Dragon, Millenium, Concorde, Parex, etc.)

- **Hedge Funds**

  Soros Fund Management, LTCM, etc.

Types of IM Firms: By Market

- **Equities (= Stocks)**
  Domestic/International, Public/Private, Large/Small
- **Fixed Income Securities**
  Bonds (Government, Corporate, Municipal), ABS, etc.
- **Real Estate**
  Commercial/Residential
- **Commodities**
  Oil, Timber, Metals, Agricultural Commodities, etc.

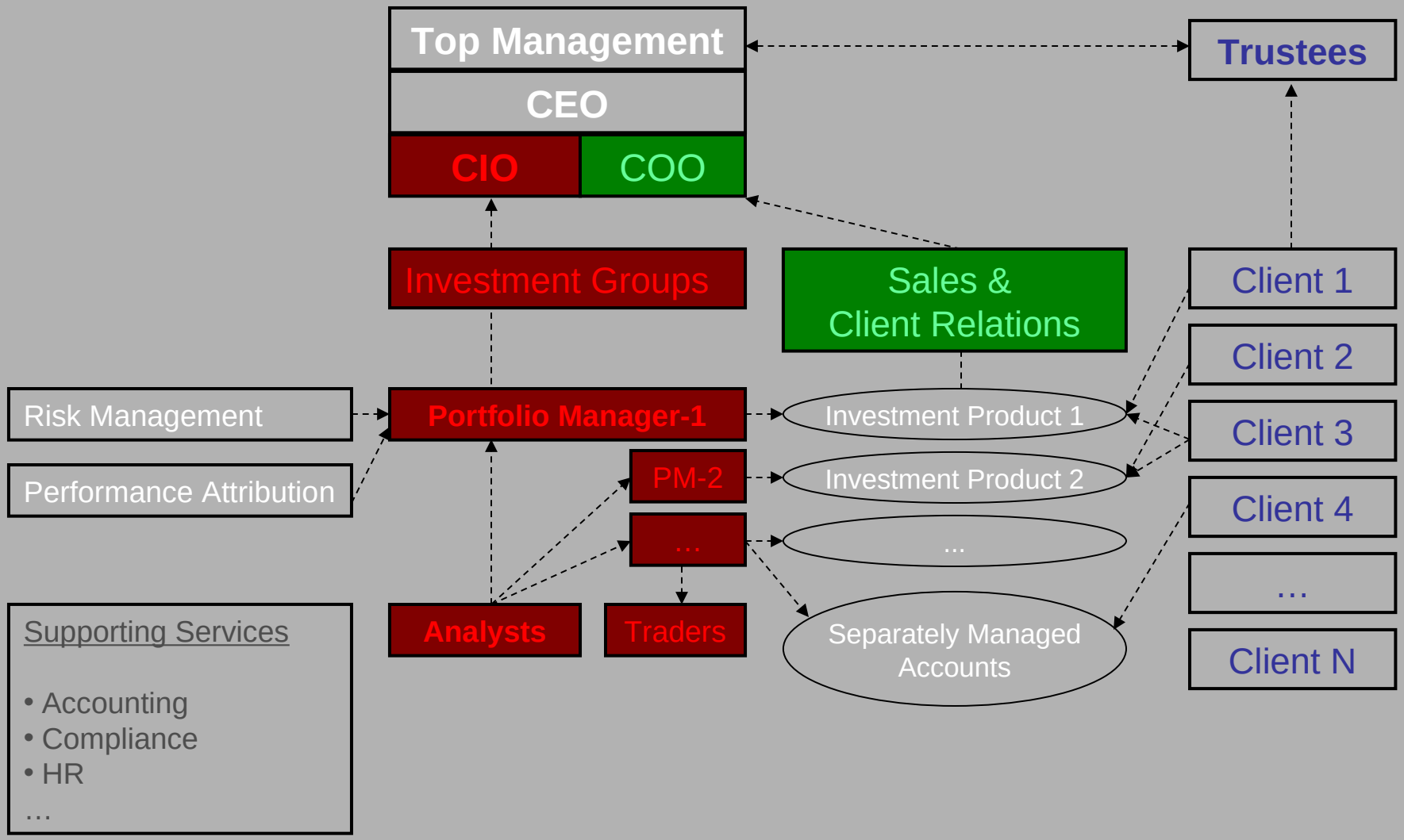
Types of IM Firms: By Strategy

- **Passive (Indexers)**
  Goal: Match Benchmark's Performance

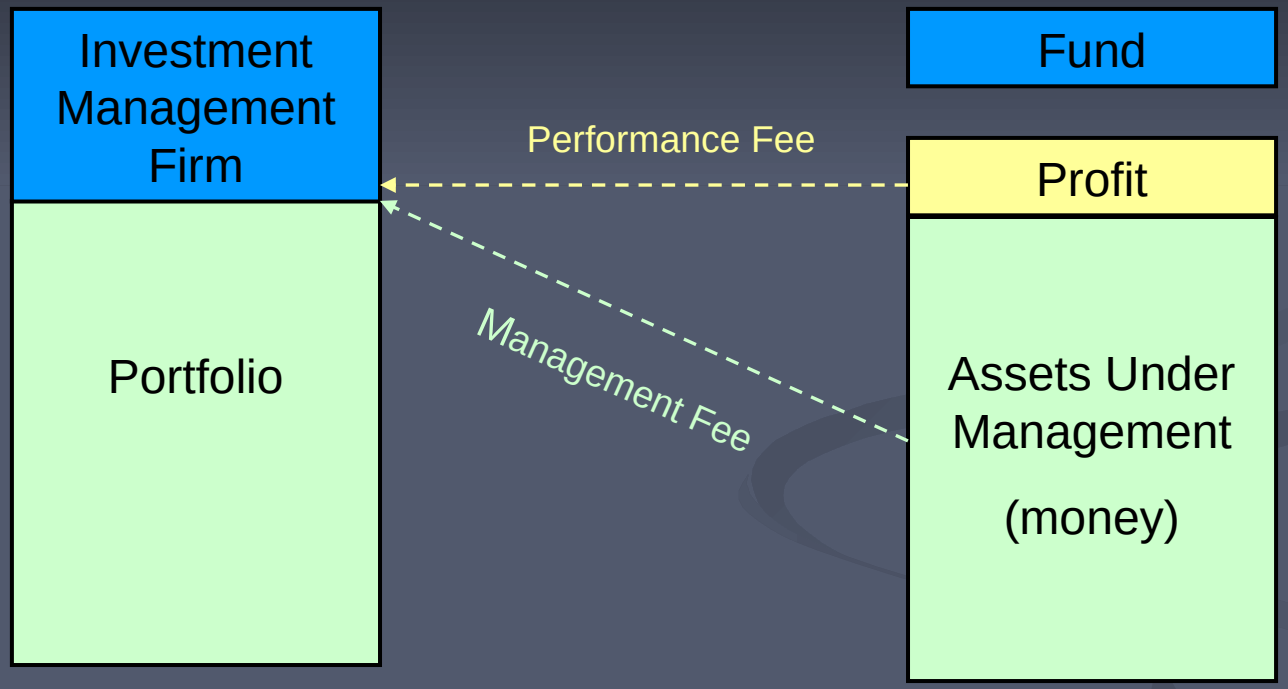
- **Active**
  Goal: Beat Benchmark's Performance by identifying undervalued securities and timing the market

- **Alternative Strategies**
  Macro, Event Arbitrage, Market Neutral, etc.

Investment Management Business



Fees in Investment Management



Exercise: Objective

Mandate:

Construct the **minimum risk** 2-stock portfolio from 3 stocks: Ford, GM and Pepsico (for 2005)

Step 1. Eliminate one stock.

Step 2. Assign weights to the remaining two stocks.

No need for calculations!

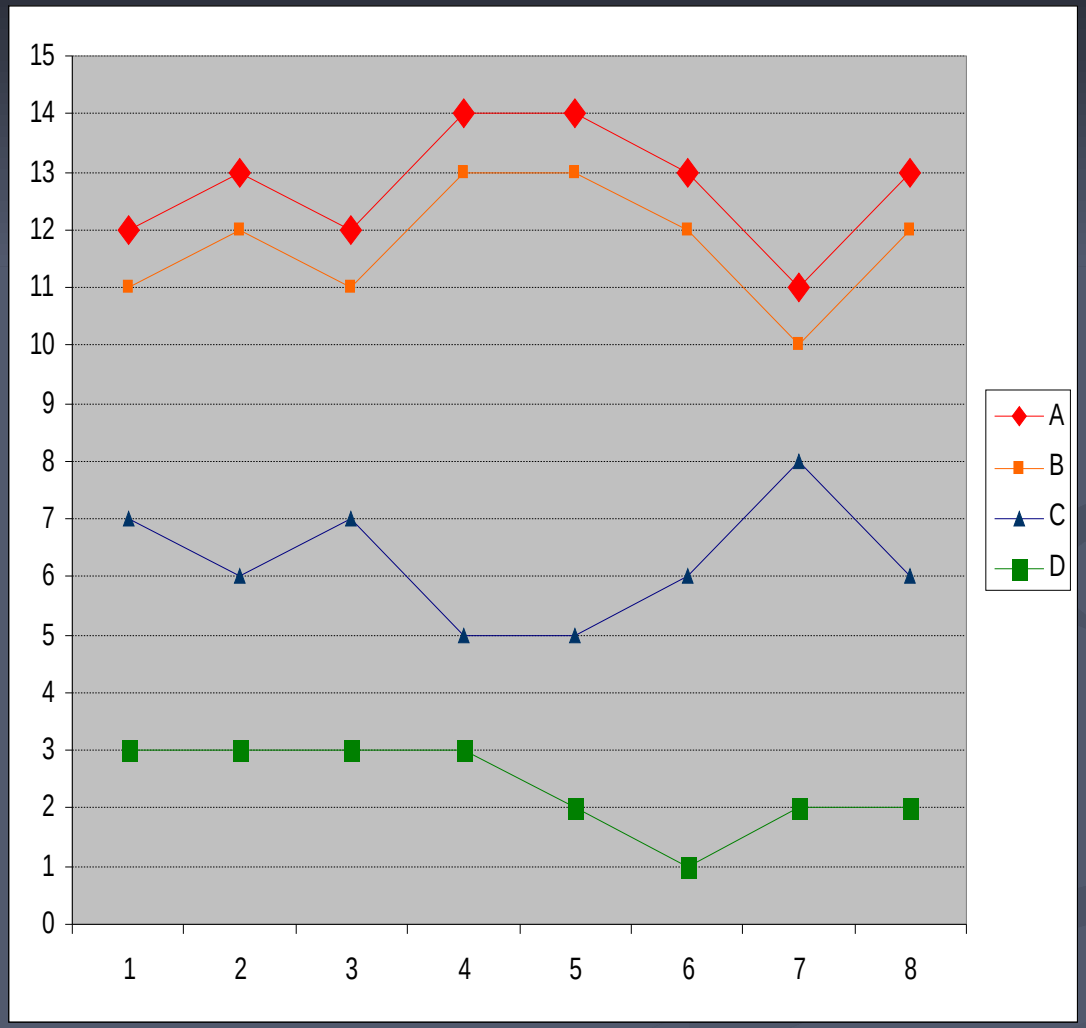
Just think logically and make intuitive guesstimate.

Exercise: Construct minimum risk 2-stock portfolio

	INPUTS				GOAL:
	F	GM	PEP		
Risk	28.9%	42.7%	11.8%		

Correlations	F	GM	PEP		Suggest 3 stock weights:
F	1.00	0.62	0.19		Weight(F) = ? %
GM	0.62	1.00	0.12		Weight(GM) = ? %
PEP	0.19	0.12	1.00		Weight(PEP) = ? %

Correlation



Corr (A, B) = +1

Corr (A, C) = -1

Corr (A, D) = 0

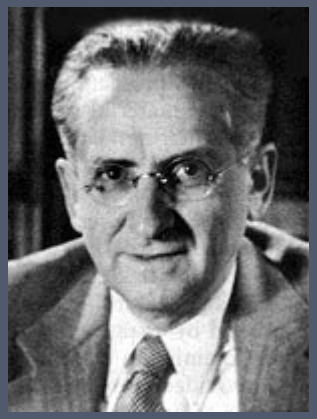
Exercise: Solution

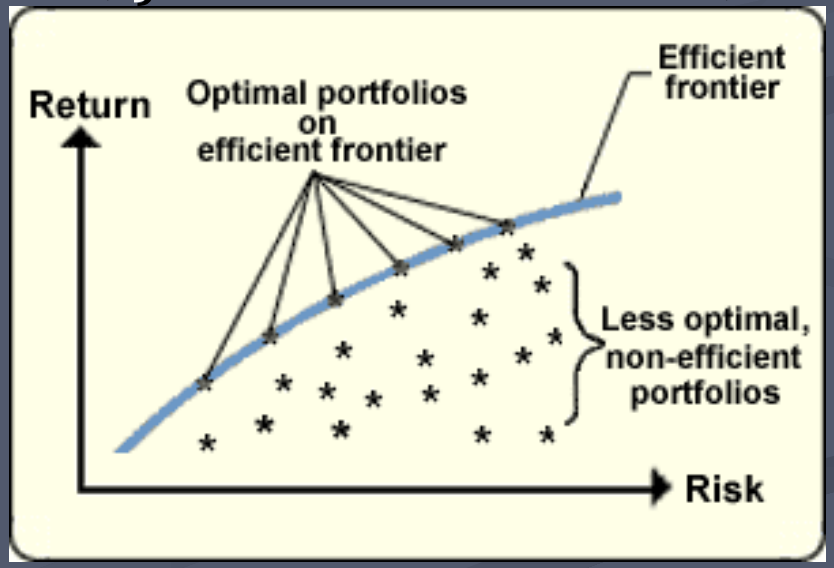
	INPUTS			SOLUTION
	F	GM	PEP	Minimum risk:
Risk	28.9%	42.7%	11.8%	11.5%
Correlations	F	GM	PEP	Portfolio weights:
F	1.00	0.62	0.19	Weight(F) = 9 %
GM	0.62	1.00	0.12	Weight(GM) = 0 %
PEP	0.19	0.12	1.00	Weight(PEP) = 91 %

Risk and Return of Investments

Harry Markowitz - 1990 Nobel Prize laureate
for “pioneering work in the theory of financial economics”

- Markowitz, H. M. (1952, Journal of Finance), Portfolio Selection.





The Investment Process

- *Investment Philosophy*
- *Development of Investment Strategy*
- *Investment Process Implementation*

Investment Philosophy

Fundamental questions of the investment philosophy:

- Why your market is not efficient?
- Why the inefficiencies will persist?
- What are the pricing implication of the inefficiencies and how your investment process exploits them to generate profits?

Batterymarch Financial Management, Inc.

” We believe that the key to added value is a
(1) **disciplined investment process** that incorporates
(2) **rigorous stock selection**,
(3) **effective risk control** and
(4) **cost-efficient trading**.
The process is customized by region and sector.”

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Investment Strategy Development

- Valuation, Return Forecasting

  → Constructing a Security Selection Model

- Backtesting performance of the model: Computer simulation of the investment process using historical data

Investment Process Implementation

- **Computer execution of the productionalized model**
  (requires prior model estimation & new data feeds)
  => Stock Ranking in Your Investable Universe

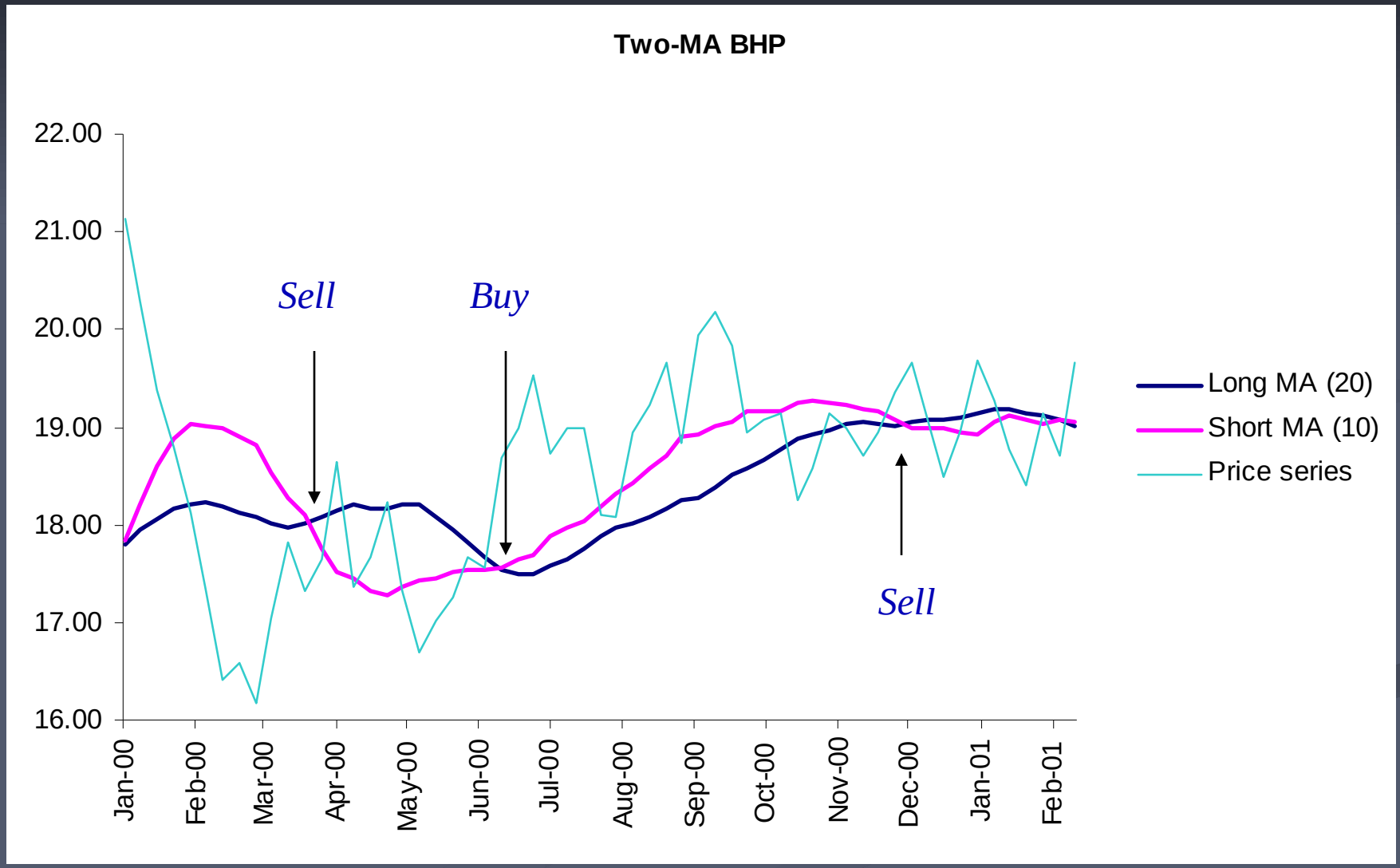
- **Portfolio construction**
  (requires optimizer, risk model, transaction cost model)
  => Weights of Stocks in Optimal Portfolio

- **Trading**
  => Execution of Portfolio Rebalancing

Strategy Improvements

- Investment model re-estimation
- Improvements of the portfolio construction process (better optimizer, better risk model, better transaction cost model, etc.)
- Performance attribution

Investment Strategy
Example: Two Moving Averages



The End!