

# FE570 Financial Markets and Trading

## Lecture 1. Introduction

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# Outline

- 1 Logistics
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- 4 Exams & Grades
- 5 A Brief History of the Morden Market
  - The “Ancient Market”?
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  - The Beginning of Electronic Market
  - The Advent of Algorithmic Trading
  - Direct Market Access - DMA
  - Into the Dark?
- 6 Trading Game
  - Questions to be Discussed

- **Instructor:** Steve Yang, Babbio 536,  
steve.yang@stevens.edu
- **Style:** Socratic teaching based on asking and answering questions to stimulate critical thinking and to illuminate ideas.
- **Class Time:** Lectures on Tuesday 06:00PM-09:30PM  
*McLean218A*
- **Office Hours:** Wednesday 10:00AM-11:00AM at Babbio 536
- **Prerequisites:** None

- **Topics:**

This course offers an overview of modern financial markets for various securities (equities, FX, and fixed income), different types of traders, orders, and market structures, market microstructure models used for describing price formation in for the various markets including inventory models and information-based models and models of limit-order markets. It also introduces several typical trading strategies including trend, momentum, and oscillator-based strategies, arbitrage trading strategies, as well as the methods of deriving and back-testing these trading strategies.

Students are required to learn the basics of R statistical computing language, and be able to analyze financial data using the models learned from this course.

## ● Textbooks:

- + Joel Hasbrouck, **Empirical Market Microstructure**, Oxford University Press, 2007
- + Larry Harris, **Trading and Exchanges: Market Microstructure for Practitioners**, Oxford University Press, 2002
- + Anatoly B. Schmidt, **Financial Markets and Trading: An Introduction to Market Microstructure and Trading Strategies**, John Wiley & Sons, Inc., Hoboken, New Jersey.

**You will be learning R Statistical Package through out the course. You can find the resources at:**  
**<http://www.r-project.org/> [Click CRAN to select a mirror site that is close to you. Instructions for running R on PC will be demonstrated in class.]**

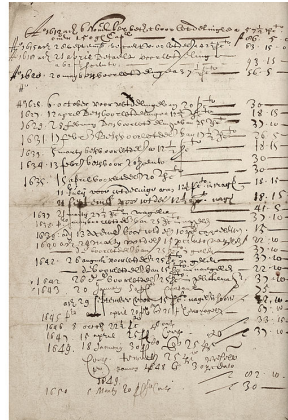
Week	Topics	Reading	Assignment
1	Introduction to Financial Markets		
2	Modern Financial Markets and Trading Mechanism	J. Hasbrouck [1,2], L. Harris [4, 5]	HW1
3	Orders, Market Structure and Brokers	L. Harris [6, 7]	
4	Liquidity, Volatility, and Regulation	L. Harris [18, 19]	
5	The Roll Model of Trade Prices	J. Hasbrouck [3,4]	HW2
6	Index and Portfolio Markets	L. Harris [23, 24]	
7	Inventory Models	A.Schmidt[3]	
8	Information-based Models	A.Schmidt[4]	
9	Empirical Market Microstructure	A.Schmidt[6]	HW3
10	Mid-term Exam		EXAM-I
11	Technical Trading Strategies	A.Schmidt[10]	
12	Arbitrage Trading Strategies	A.Schmidt[11]	
13	Optimal Order Execution	A.Schmidt[13]	HW4
14	Back-testing of Trading Strategies	A.Schmidt [12]	
15	Final Exam		EXAM-II

# Exams & Grades

**Grades:** Homework Assignments - 40%; Mid-term - 30%;  
Final - 30%.

**Exams:** Two Exams. (Mid-term) EXAM I: October 16 -  
(Tuesday). (Final) EXAM II: December 11 - (Tuesday).  
These exams will consist of short questions, and data analysis  
using R.

**Exam must be taken at these times No Exceptions!!!!!!**

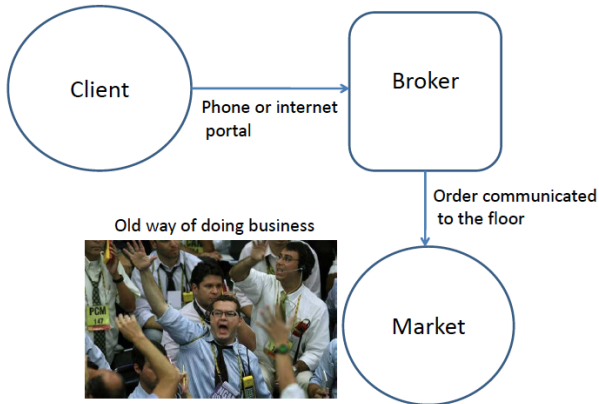


**Figure:** The Dutch East India Company (founded in the year of 1602) was also the first joint-stock company to get a fixed capital stock and as a result, continuous trade in company stock occurred on the Amsterdam Exchange.



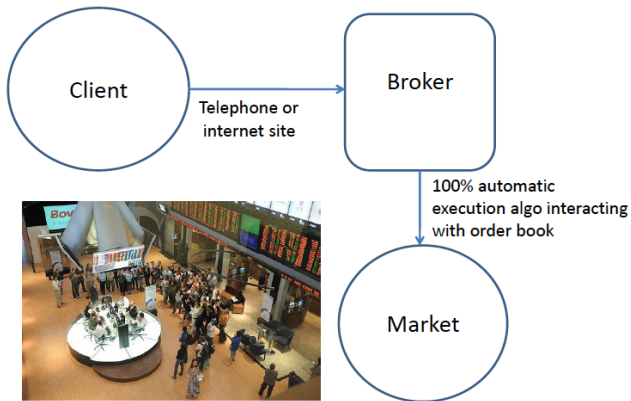
# The “Ancient Market”?

## 1. “Ancient” brokerage model



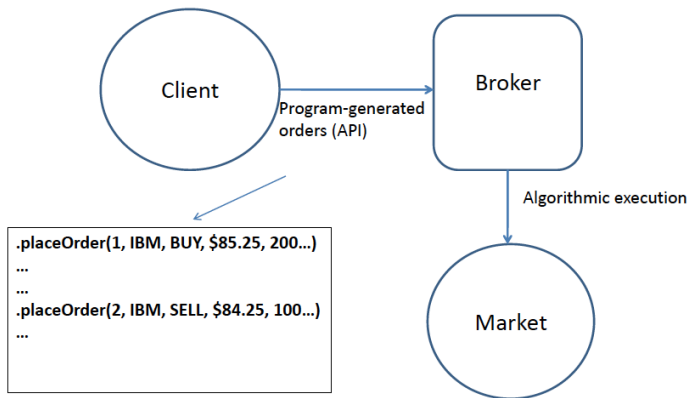
# The Beginning of Electronic Market

## 2. Electronic market



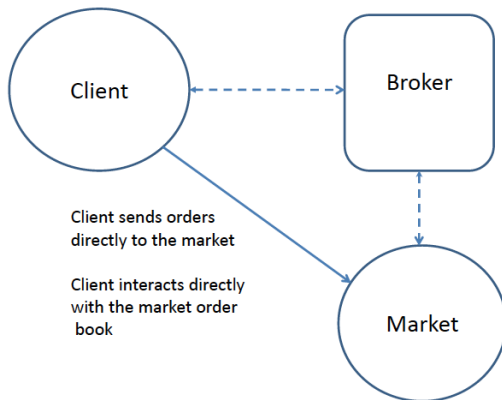
# The Advent of Algorithmic Trading

## 3. Electronic execution model with API



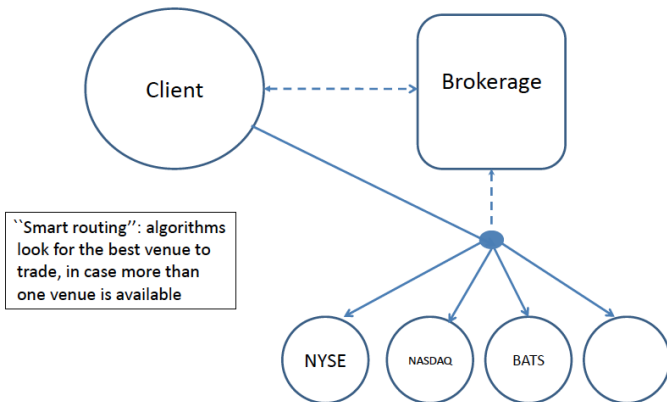
# Direct Market Access - DMA

## 4. Direct Market Access (DMA)



# Into the Dark?

## ECNs, Dark Pools, Multiple Execution Venues



# Trading Game

- In the second part of today's lecture, we will look at a simulated E-Mini S&P 500 market.
- Your first homework assignment will be based on the market data generated from this trading game. I will post the homework assignment after the class, and it will be due in two weeks.
  - 1: Open IE 64bit Browser
  - 2: Type in 155.246.5.114
  - 3: Follow the instructions

**HAVE FUN!!!**

# Questions to be Discussed

- Who are the players of the market?
- What are the key components of the markets?
- What are the rules people have to follow?
- What information do you need to know before you can make a trade?
- What else you do not know?