

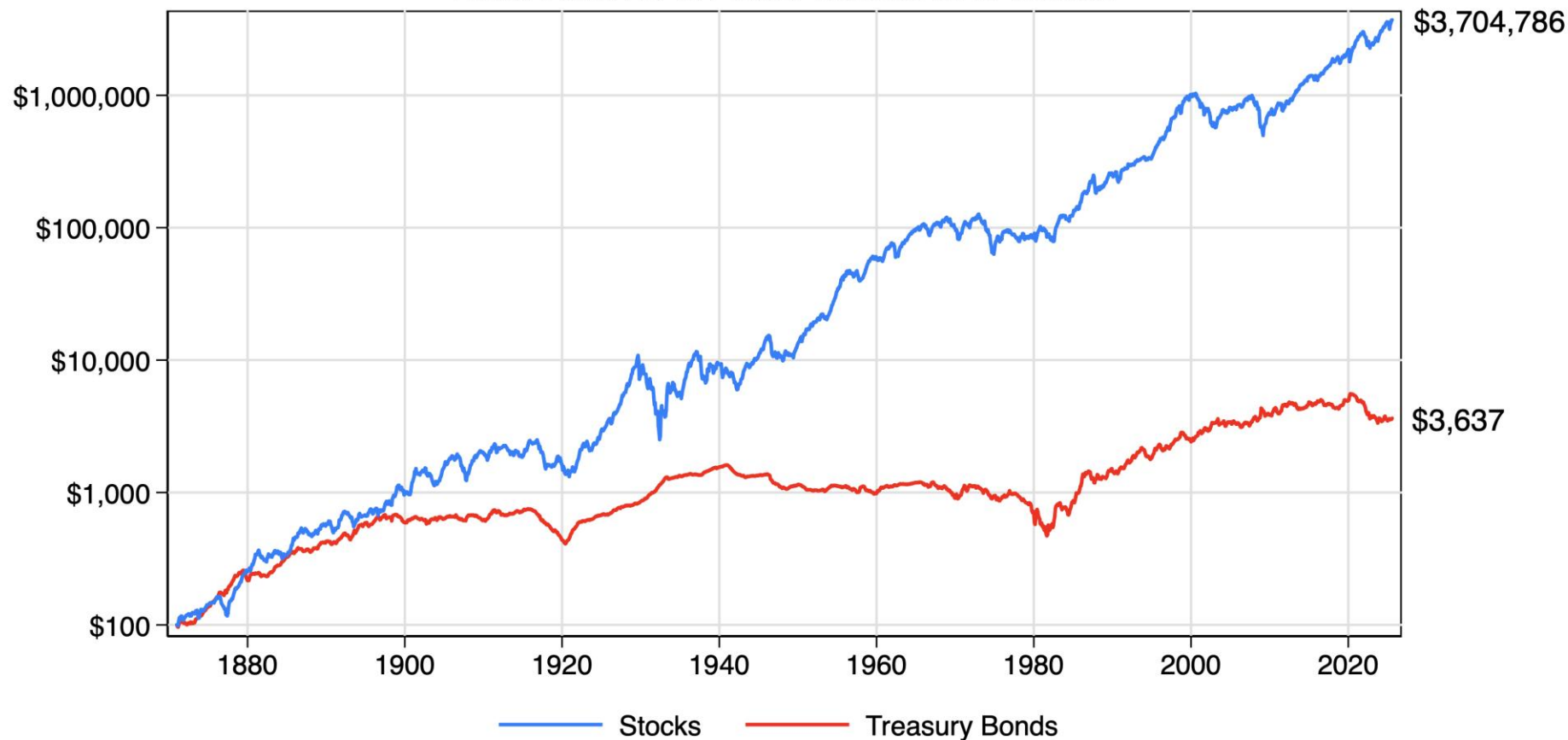
Foundations of Finance

Introduction and Corporate and Investor Objectives

Professor Luis Garvía Vega
Fall 2026

Risk and Return in Capital Markets

Real returns on U.S. stocks and bonds



Risk and Return

- ▶ If you invested \$100 in stocks in 1870, you would have \$3.7m today vs just \$3.6k if you invested in bonds (that's 1000x!)
 - ▶ These numbers are adjusted for inflation
 - ▶ But stocks are also much riskier
- ▶ Investors have earned ~6% more per year on stocks than bonds
 - ▶ This is called the equity premium
- ▶ Conversely, firms have paid ~6% more on equity than (safe) debt financing
- ▶ Our goal is to understand how firms and investors maximize returns while managing risk

For Today

- ▶ **Practical information about the class**
 - ▶ Class logistics
 - ▶ How we will work: recordings, repository, and AI
- ▶ **Overview of the class**
 - ▶ Outline of topics covered
 - ▶ The investor objectives
 - ▶ The corporate objectives

Class Logistics

- ▶ Please read the syllabus! I will alert you to any changes.
- ▶ Class meetings: Monday and Wednesday, 17:00–18:20 (room: see Albert)
- ▶ Midterm: Friday, October 16
- ▶ Final exam: during the final exam period (date TBD)
- ▶ Last class: December 2
- ▶ Contact: lg139@nyu.edu

Class Logistics

- ▶ **Office hours**
 - ▶ Monday and Wednesday, 16:00–17:00
- ▶ **Class website: <http://brightspace.nyu.edu>**
- ▶ **Available on the class site:**
 - ▶ All slides and any other readings
 - ▶ Problem sets and solutions
 - ▶ Practice exams and solutions
 - ▶ Class recordings and transcripts

Recordings and the Repository

- ▶ Every class is recorded — for transcription purposes only
 - ▶ *You can revisit any explanation, at any point in the semester*
- ▶ Transcripts, slides and materials live in the course repository
 - ▶ *A single source of truth for the course*
- ▶ Use it actively, not passively

AI as a Learning Tool

- ▶ You may use AI before and after class
 - ▶ *To prepare: summaries, explanations, extra worked examples*
 - ▶ *To reinforce: restate a concept in your own words and check it*
- ▶ We will occasionally use it in class as a demonstration
- ▶ AI is a tool, not a shortcut — understanding remains your responsibility
- ▶ Submitting AI-generated work as your own violates NYU's academic integrity policy

Readings

- ▶ The main class readings consist of the lecture slides
- ▶ Optional reading
 - ▶ *“Principles of Corporate Finance”, Brealey, Myers, Allen and Edmans (2025 Release) — cited as BMAE*
 - ▶ *Earlier editions are fine; section numbers vary slightly*
 - ▶ *Various articles posted on Brightspace*

Problem Sets

- ▶ Solving lots of problems is crucial!
- ▶ Four graded problem sets
 - ▶ PS1 — September 23 PS2 — October 7
 - ▶ PS3 — November 11 PS4 — November 30
- ▶ You may discuss the assignments in groups, but you must turn in your own solutions
 - ▶ Acknowledge any help you received
 - ▶ Show how you got your result
- ▶ Due before the end of the corresponding class. Late within 24 hours: $\frac{1}{2}$ credit. After 24 hours: no credit.

Calculators and Software

- ▶ You need a calculator for the problem sets and the exams. Bring it to class.
- ▶ A financial calculator is an advantage, but not required. Standard models include the HP 12C, HP 10B and TI BA II Plus.
- ▶ You will also need Excel for the problem sets.

Grading

- ▶ Course grade will be determined according to:
- ▶ Stern's guidelines: up to 35% receive an "A" or "A-"
- ▶ Missing any required component means failing the class

Component	Weight
Attendance, Participation	5%
Concept Questions	5%
Problem Sets	10%
Midterm Exam	35%
Final Exam	45%

Participation

- ▶ Attend all classes — attendance is taken at every session
- ▶ Before class: do the readings
- ▶ During class:
 - ▶ Take notes
 - ▶ Be interactive
- ▶ After class: complete the quiz

Immersion Portfolio

- ▶ NYU Madrid asks you to use the city as part of the course
- ▶ Take part in at least one “Mapping Madrid” activity, for example:
 - ▶ *Money Heist — led by me (Friday, 2 hours)*
 - ▶ *Visit to the Madrid Stock Exchange building*
 - ▶ *El Rastro · Books, Art and Coffee · Tetuán · Lavapiés*
- ▶ Submit a report as a Brightspace forum post, with photographs
- ▶ This is a required component, not an optional extra

Prerequisites

- ▶ The course is self-contained, but it assumes some background
- ▶ Required prerequisites
 - ▶ STAT-UB 103 or equivalent · ACCT-UB 1
 - ▶ ECON-UB 1, ECON-UA 2 or ECON-UA 5
- ▶ The course is quantitative: algebra, and statistics
 - ▶ Mean, variance, covariance, correlation (a review will be posted)
- ▶ Stay up to date: FT, WSJ, The Economist, Expansión

The Course Goals

- ▶ Introduction to the framework and tools of finance.
 - ▶ Learning the language of finance
- ▶ Derivation of fundamental theoretical results in finance.
- ▶ Application to real-world financial decisions.
 - ▶ Please send me articles/posts/tweets that illustrate topics from class. I will post on course website.
- ▶ Preparation for advanced finance courses.

The Course Outline

1. The corporate and investor objectives, and financial markets
2. The time value of money and the DCF framework
3. Bond valuation and interest rate risk
4. Equity valuation
5. Capital budgeting and project evaluation
6. Risk, return and portfolio theory
7. The CAPM and the cost of capital
8. Market efficiency
9. Capital structure and payout policy
10. Options
11. M&A and restructuring

Investor Objectives

- ▶ Finance is based on few simple axioms
- ▶ Three axioms about investor behavior
 - ▶ Investors prefer **more to less**
 - ▶ Investors are **risk averse**
 - ▶ Investors prefer payoffs **sooner rather than later**
- ▶ One about markets:
 - ▶ No arbitrage condition (“no free lunch”): Financial markets are highly competitive

Axiom 1: Investors Prefer More to Less

- ▶ Other things being equal, would you rather have
 - ▶ \$100
 - ▶ \$200
 - ▶ Indifferent

- ▶ Why?

Axiom 2: Money in Future is Worth Less

- ▶ What would you rather have?
 - ▶ \$100 now
 - ▶ \$100 in a year
 - ▶ Indifferent

- ▶ Why?

Axiom 3: Investors are Risk Averse

- ▶ Would you rather have
 - ▶ \$100 for sure
 - ▶ \$200 with 50% chance, \$0 otherwise
 - ▶ Indifferent

- ▶ Why?

Axiom 4: No Arbitrage Condition

- ▶ Financial markets are highly competitive $\Rightarrow$ all riskless profit opportunities are traded away.
- ▶ Suppose you observe the following prices:

Item	Price
Big Mac	\$4
Soda	\$2
Fries	\$3
Toy	\$2
Happy Meal	\$10

- ▶ If fast food market worked like financial markets, what is the riskless arbitrage you could undertake?

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- ▶ If fast food market worked like financial markets, what is the riskless arbitrage you could undertake?
- ▶ Answer: Buy a Happy Meal, sell its constituent parts

No Arbitrage Condition-Example 2

- ▶ Suppose analysts have uncovered the following pattern in the data:

Stock	Rain	Shine
Parasol Co	-10%	20%
Umbrella Co	20%	-10%

- ▶ You can borrow and lend at 4% interest rate
- ▶ How can you make a sure profit with zero initial cash outlay?
 - ▶ A. Buy Parasol, sell Umbrella
 - ▶ B. Buy Parasol, buy Umbrella
 - ▶ C. Buy Parasol, buy Umbrella and borrow at 4%

No Arbitrage Condition-Example 2

- ▶ Let's write out the payouts in dollar terms:

Stock	Today	Rain	Shine
Parasol Co			
Umbrella Co			
Borrow			
Profit/loss			

- ▶ Should we expect this to last?
- ▶ What will happen if the interest rate is 5%?

No Arbitrage Condition-Example 2

- ▶ Let's write out the payouts in dollar terms:

Stock	Today	Rain	Shine
Parasol Co	-100	90	120
Umbrella Co	-100	120	90
Borrow	200	$-200 \times 1.04 = -208$	$-200 \times 1.04 = -208$
Profit/loss	Total CF=0	$210 - 208 = 2$	$210 - 208 = 2$

- ▶ Should we expect this to last? No. In an efficient market, all the gains will be arbitrated away
- ▶ What will happen if the interest rate is 5%? At 5%, the arbitrageurs will only break even

Price and Value

- ▶ Price is what the market asks. Value is what the asset is worth to you.
- ▶ Almost everything in this course is a way of computing value
 - ▶ *Discount the cash flows you expect, at a rate that reflects their risk*
- ▶ In a competitive market, arbitrage pushes price towards value
- ▶ When price and value diverge, one of three things is true
 - ▶ *You are wrong about the cash flows, or wrong about the risk*
 - ▶ *Or you have found an opportunity — and so, probably, has someone else*

Corporate Objectives

- ▶ A corporation is a legal entity with limited liability. Why?
- ▶ Its objective is to maximize value for its investors
 - ▶ It does so by engaging in contracts with other entities such as employees, customers, suppliers, and other corporations
- ▶ Investors typically delegate control of operations to a manager, whose objective is to maximize the value of the corporation
 - ▶ This value is reflected in financial markets
- ▶ Sometimes there are agency conflicts – managers may act in their own self interest or that of some investors over others, which destroys value
 - ▶ The aim of corporate governance is to mitigate these conflicts
- ▶ Efficient financial markets and corporate governance align the objectives of investors and managers

Finance in the Real World

- ▶ Every topic in this course is happening right now in the market
- ▶ Interest rates are set in a political and institutional context
 - ▶ *Central bank independence is not a technicality — it is priced*
 - ▶ *Watch the Fed and the ECB, and watch how markets respond*
- ▶ We will connect each block of theory to current events
- ▶ Send me articles and charts that illustrate what we cover

Summary

- ▶ Read the syllabus and note the important dates
- ▶ Three assumptions about investor behaviour: more to less, risk aversion, sooner rather than later
- ▶ One assumption about markets: no arbitrage
- ▶ Risk and return are linked — that link is the spine of this course
- ▶ Next class: Financial Instruments (BMAE 13.1–13.3)