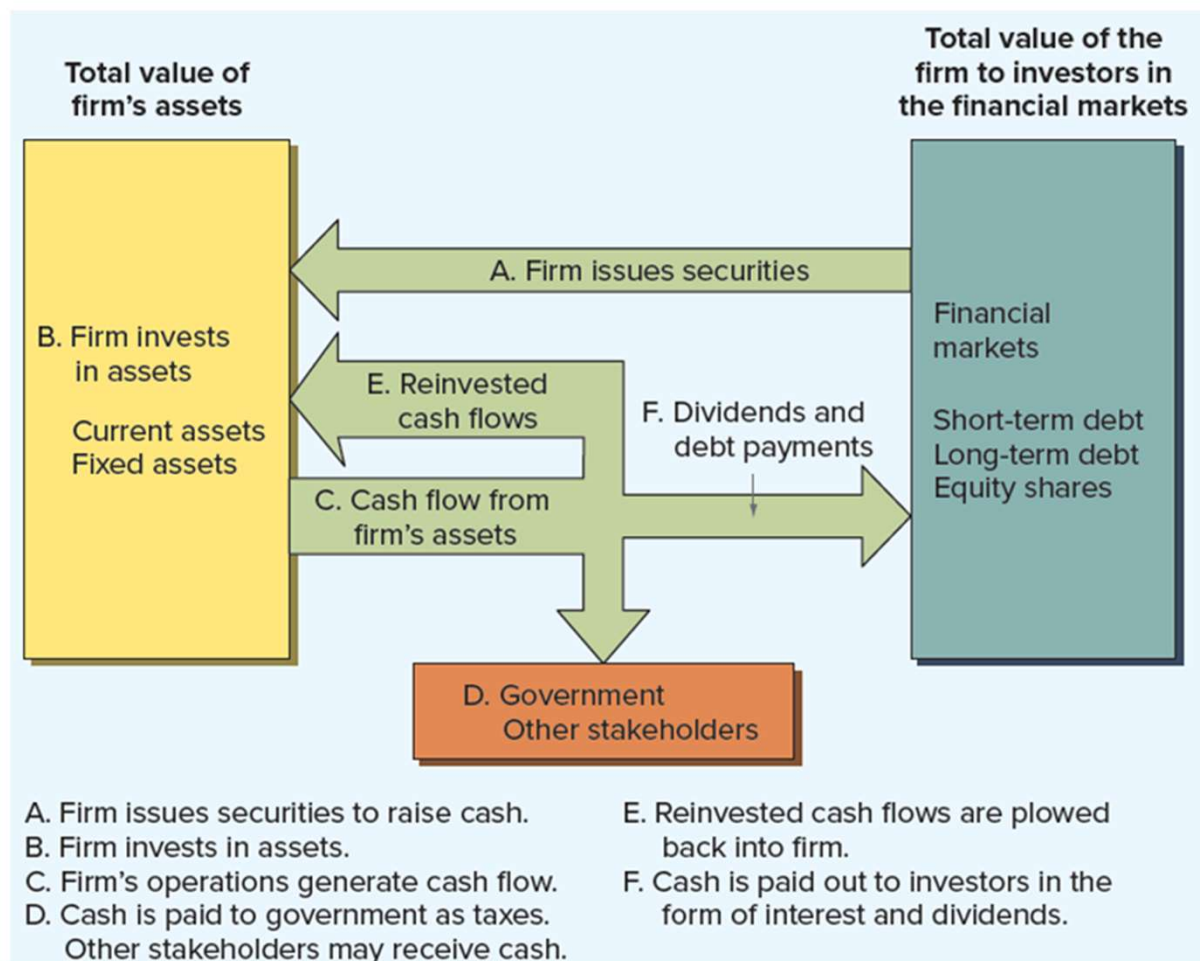


Cash Flows Between the Firm and the Financial Markets



Overview

- Introductions
- Purpose of the Course and How I'm/We're Going to Run It
- Expectations
- The Building Blocks of Finance

Introductions

Introduction

Ph.D. in Finance, IU – 1996

Have gone back and forth between academia (IUPUI, University of Michigan, University of North Carolina, Harvard Business School) and industry (JPMorgan Chase, Hong Kong Shanghai Bank, USAA Bank/Insurance Company).

Multiple textbooks in print:

- *Investments*, 2nd Edition, with John Nofsinger, 2026 (forthcoming). Cengage Learning, Inc., Mason, Ohio.
- *Finance: Applications and Theory*, 2025 Evergreen Edition, with Marcia Cornett and John Nofsinger. McGraw-Hill/Irwin, Burr Hill, Illinois.
- *Introduction to R for Business*, 2nd Edition, 2020. dataDicts, Tobyhanna, Pennsylvania.

Introduction (cont.)

Multidisciplinary Action Projects (MAP) overseen at University of Michigan included:

- Investment strategy for endowment of Gift of Life Michigan.
- Real estate strategy for General Motors Corporation.
- Project strategy for electric outboard motors for Mercury Marine.
- Security analysis strategy for Applied Finance Group.
- Market opportunity analysis EFS Direct Payment Card (DPC) focused toward State Child Support payments for J.P. Morgan
- Strategic analysis for GE Wind Energy.
- Analysis of Web-based support of coffee markets for Exlm Ware.
- Evaluating e-learning training effectiveness for The MEDSTAT Group.
- Analysis of “Shadow IT” activities for FORD Information Technologies.

Introduction (cont.)

“The Rest of the Story”

- High School dropout
- Have taught pre-K, middle school, and high school
- ICBM nuclear missile launch officer (84-89)
- Online Santa during COVID
- Run two different businesses:
 - AFS – Finance textbooks
 - dataDicts – Data Science textbooks and consulting



Purpose of the Course and How I'm/We're Going to Run It

First Top Hat Question:

What area of Finance do you want to work in?

- A. Investments
- B. Commercial Banking
- C. Investment Banking
- D. Corporate Finance
- E. Real Estate
- F. Insurance
- G. Other/I Don't Know

Formulas in Finance

$$PV_0 = \frac{FV_t}{(1+r)^t} \left(\frac{FV}{PV} \right)^{1/t} - 1 = r$$

$$FV_t = PV_0(1+r)^t$$

$$PV_{\text{perpetuity}} = C/r$$

$$NPV = \frac{CF_0}{(1+r)^0} + \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_T}{(1+r)^T} = \sum_{t=0}^T CF_t \times \frac{1}{(1+r)^t}$$

Second Top Hat Question:

How did you solve problems in F370/F304?

- A. By hand
- B. With a calculator
- C. With Excel
- D. Other

How We're Going to Run This Class

Think of class meetings as providing “The Rest of the Story”

I will give you:

- Textbook assignments to read BEFORE class
- Versions of slides to take notes on and interactive problems/Excel spreadsheets to work DURING class
- Questions and problems to do AFTER class

My Expectations for You & Your Expectations for Me

Philosophy / Ground Rules

I'm here to help you succeed

- I enjoy teaching
- Not here to trick you or to show off what I know

Learning Finance is about deciphering story problems

- Words and precision matter
- Self-Advocate if you don't understand something I've said

I will treat you like adults/professionals

Attendance

I will NOT record attendance, but:

- Much of the material required to understand and execute the problems on the exams will be presented orally in class.
- This course is not really about the math, but more about the reasoning and thought processes that come during and after the math. The course will be difficult to complete successfully without being present to learn this reasoning and thought processes.
- You can't participate if you're not here.

Canvas Assignments

Homework Assignments:

- There to give you practice and to keep you current
 - For your benefit
 - For my benefit to see how I'm doing
 - Grade discussions
-
- Note that late assignments will not be accepted

Participation

3 Ways to Participate in Class

- asking and answering questions
- making comments
- sharing personal and professional experiences

2 Other Ways to Participate

- Office hours: We can discuss anything you like – class related or otherwise (e.g., work or current events)
- Email: Send me corrections/suggestions/questions
 - I reserve the right to answer your questions for the whole class

Note that Attendance \neq Participation

- Quality not Quantity

Name Cards

There are 120 of you across my sections, and I'll also be teaching 70 grad students during the second half of the term

Please use your Name Cards

It's unlikely I'll memorize all of your names, particularly if you don't speak in class, but I'd like to try

Grade Computation

Component	Weight
Exam 1	20%
Exam 2	20%
Final Project	15%
Final Exam	30%
Homework	10%
Engagement	5%
Total	100%

Exams

Three Exams, all “Open Book, Open Notes”

- Module A (20%)
 - Module B (20%)
 - Final Exam (30%)
 - Cumulative
 - Common Final across all F305 Sections
- Stand-alone Exams

Multiple Choice (no partial credit)

Excel will be required

The Valuation Project (15%)

Self-Selected Groups of 5

Select a company to value

- The more simple companies present the fewest complexities
 - Try to avoid firms that:
 - Do many different things (Conglomerates)
 - Have recently done a transformative acquisition
 - Have been in the news a lot

The Valuation Project

Do Not Pick companies from the following list:

- Meme Stocks
- Financial Companies
- Foreign Companies (i.e., companies that don't file in USD using US GAAP)
- Companies that aren't consistently profitable
- **Companies that you've already valued in other classes or workshops**

The Valuation Project

This is a THOUGHT EXERCISE, not a computational exercise

- The computations matter, but only after you've developed a rationale for the numbers you're using
- It is an ANALYSIS
- Your paper needs to explain WHY you did what you did, rather than HOW you did it

The Valuation Project

- Start Early
 - You can't get too far ahead though
 - Class material will facilitate your work
- Get your teams together
- Communicate with me on the firm you'd like to value
- The process can be iterative with me
 - As you read and learn, feel free to reach out if you see things you don't understand

The Valuation Project

Requires that you deal with some level of ambiguity

- The process is what matters
- You will have to make assumptions
 - There is no “right answer”

Homework (10%) and Engagement (5%)

Homework:

- Generally, one set of questions and problems per week.
- Primary explicit focus will be on repetition of numeric processes, but try to see the “trees in the forest” implicit topics, as well.

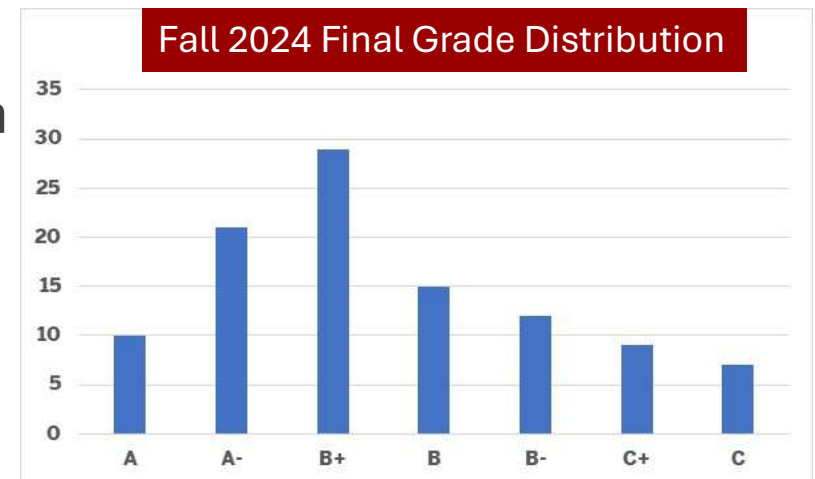
Engagement:

- Just answering Top Hat surveys is probably not going to be enough
- Ask questions!

The Curve

Finance Department policy dictates average score between 2.70 - 3.10 across both of my sections

- This works out to an average grade somewhere between a B- and a B.
- See histogram to right: grades are NOT normally distributed
- There will be students who miss out on a letter grade by < 1 point
- **Every point matters**
 - Participation!



Organization of the Course

Three Modules

Module A (few moving parts)

- Compute cash flows from accounting statements
- How to value assets
 - Applications: capital budgeting, project analysis

Module B (many moving parts)

- Financial statement analysis and projections
- Discounted Cash Flow valuation

Module C

- Compute the firm's cost of capital
- Impact of capital structure and shareholder return policies on valuation

Apologies / Plea for Patience

Things that will definitely happen:

- I'm new to both Top Hat and Connect, so please be patient with me as I get up to speed.
- I will try to avoid cultural references from before you were born, but ... bear with me.
- Stuff WILL come up during the semester requiring changes to the syllabus, though I'll try to keep such changes to a minimum.

The Building Blocks of Finance

Organizing a Business

TYPES OF COMPANIES AND WHY THEY'RE USED

Main Types of Organizations

Sole Proprietorship

Partnership

Corporation

Sole Proprietorship

Troy Adair

DBA

Adair Financial
Services

- Owned by one person “doing business as...”
- Bears all costs
- Responsible for all taxes
- Taxed as an individual
- Keeps all after-tax profits
- Unlimited liability
- Equity limited to owner’s wealth

Advantages	Disadvantages
Fewest Regulations	Unlimited Liability
Owner Keeps All Profits	Growth and Financing Challenges
No One Else To Answer To (fewest “Agency Issues”)	Limited Life of the Business

Partnership

- Two or more people come together to set up a business, by pooling money and expertise
 - General Partners = Unlimited Liability
 - Limited Partners = Liability Limited to their investment
- Partnership agreement sets out mechanism for decision making, profit sharing, etc.
- Taxed at Individual Level
- *Each General Partner is liable for ALL the PSHP's debts*
- Equity limited to wealth of general partners

Advantages	Disadvantages
Partners Share Profits	Unlimited Liability for GPs
Easily Established / Low Regulation	Can have Growth and Financing Challenges
PSHP Agmt sets out conduct Few Agency Issues	Limited Life of the Business

Corporation

“Corporations are people, my friend.”
– Sen. Mitt Romney

- Owned by an unlimited number of shareholders
- Taxed as a separate entity
- Liability limited
- Transfer of ownership (i.e., sale of shares) is easy

Advantages	Disadvantages
Limited Liability for Shareholders	Agency Issues (Management, Board of Directors stand between shareholders and their asset)
Liquidity in Ownership	Regulations / Compliance Complexity
Less Complicated to Raise External Financing	Return of profits to shareholders as dividends creates Double Taxation

Special Cases

FYI

Limited Liability Companies (LLCs)

- Limits Liability of Partners
- Taxed as Partnership

S-Corporations

- 35 Shareholders or Less
- Taxed as Partnership
- Limited Liability of a Corporation

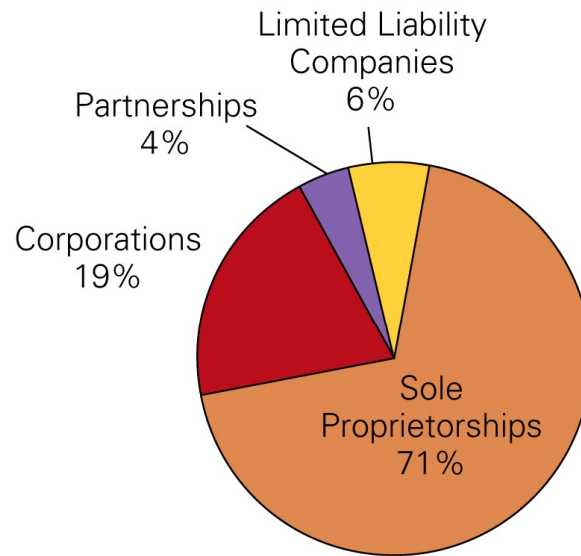
Limited Liability Company (LLC)

dataDicts, LLC

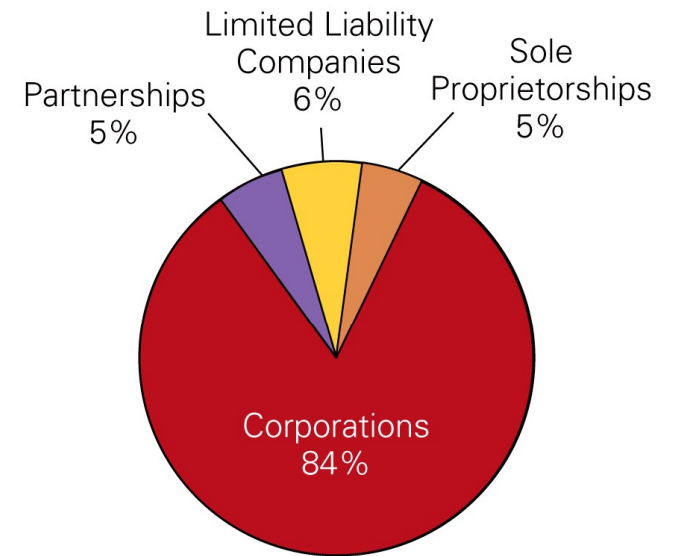
- Owned by a limited number of members
- Taxes are “passed through” to members
 - 100-member limit for LLCs that choose to be taxed as an S Corporation
- Liability limited
- Transfer of ownership is possible

Advantages	Disadvantages
Limited Liability for Members	Agency Issues (Management, Board of Directors stand between members and their asset)
Pass-through Taxation	Potential self-employment taxes
Less Complicated to Raise External Financing	Some limitations on raising external capital compared to corporations

Types of U.S. Companies by Ownership Structure



(a) Percentage of Businesses



(b) Percentage of Revenue

Goal of a Financial Manager

If you're running a business (your own or on behalf of others), what is your objective?

- Maximize Revenue?
- Minimize Cost?
- Maximize Market Share?
- Maximize the value of the stock?
- Maximize your own compensation?
- Maximize what you return to the owners?

Goal of a Financial Manager

The primary objective of the financial manager is to

Maximize the wealth of shareholders

What challenges does this present when stated in this way?

Goal of a Financial Manager

Questions you should ask:

- Maximize over what period?
- Maximize now at the expense of future value?
- Wealth in what form?
 - Cash returned? Share price?
- Are there no other parties at interest?
 - Communities in which the corporation operates?
 - Employees?

How to Maximize Shareholder Wealth

Choose projects with the highest, positive NPV

Choose a capital structure that minimizes the cost of capital

Return excess cash to shareholders

- When the company doesn't have better uses* for the cash

* “Better uses” is defined as projects that exceed the Internal Required Rate of Return

Investing & Financing Decisions

Investment decisions: Which real assets should the firm acquire?

- What projects should the company undertake?
 - Should we buy machine A or machine B?
 - Should we acquire XYZ or not?

Financing & Payout decisions: How to raise money to fund the investments?

- Should we borrow or issue stocks to fund investments?
- Should we return money to shareholders as dividends? If so, how much?

Both investment decisions and financing decisions impact firm's value

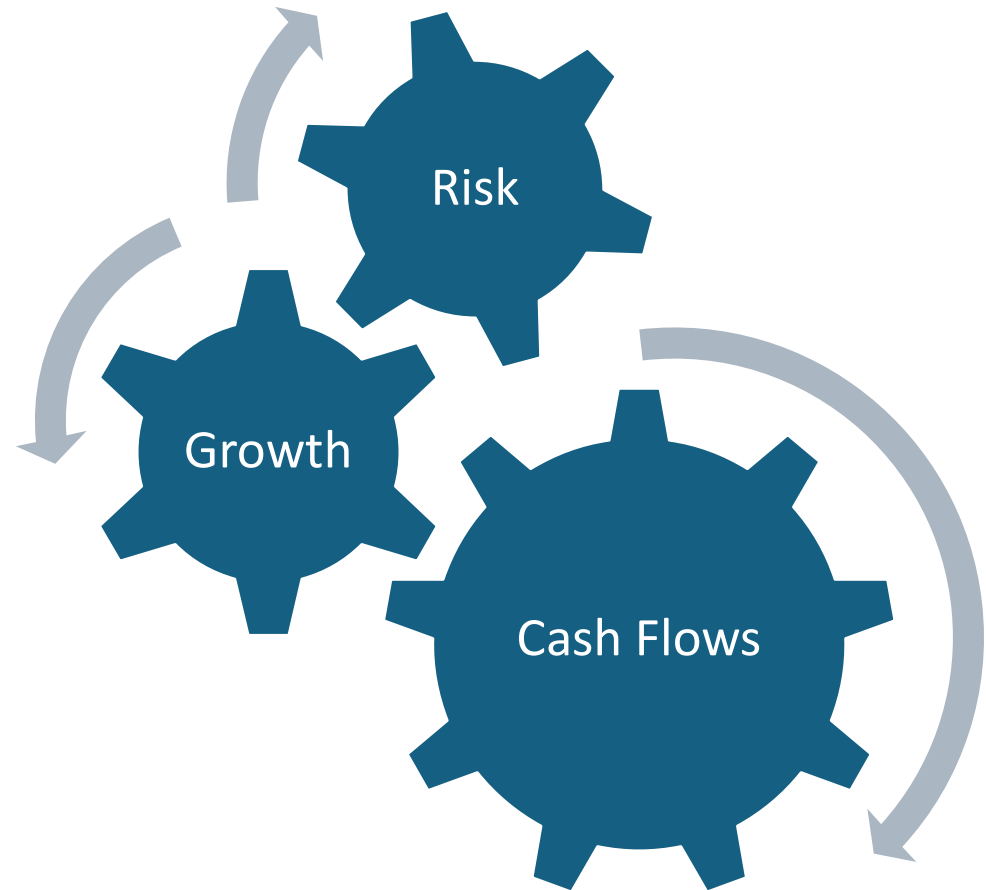
- Investing choice impacts value through cash flow
- Financing decision impacts value through cost of capital

Drivers of Value

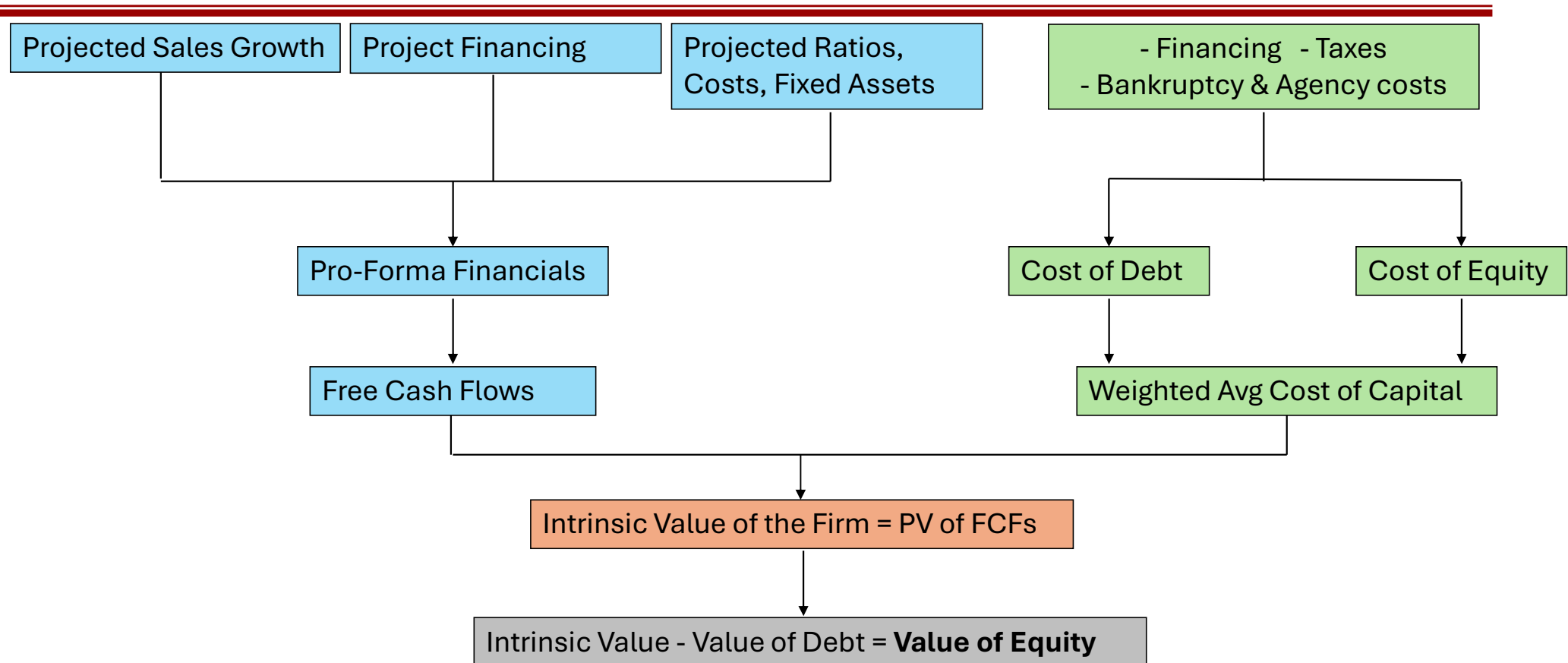
Investment
decisions affect
future cash flows

Financing
decisions affect
cost of capital

We will analyze the interaction between:



The Road Map



Conclusion

This course requires ***ORGANIZATION***

- Organization of Thought
- Organization of Data

What we are going to do is sometimes not intuitive. It requires practice.

We are on the same team