



Financial Literacy with Mr. 401(k)
Winter Term 2024 - 2025
January 23, 2025

Owning & Owing Stuff

Class 16: Equity and Net Worth – Understanding Wealth



Recap: Important Financial Terms



Income

Making Money



Expenses

Spending Money



Profit (Loss)

= Income - Expenses



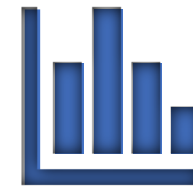
Assets

The Stuff You Own



Liabilities

The Stuff You Owe



Equity

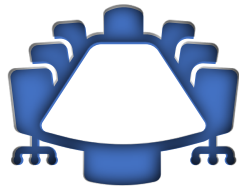
= Assets - Liabilities



**The net worth or
value of what you own (your
assets) after subtracting what
you owe (your liabilities)**

Equity

Any 'Entity' Can Build (or Destroy) Equity in the Stuff they Own



Corporations



Governments



People



Class Discussion

*Why is it
important to
know your equity
when you think
about your
financial
situation?*



Class Discussion

How might understanding your equity help you make decisions about things you own, like a cell phone, a video game console, or a car?

Relationship Among Assets, Liabilities, and Equity



$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

This is the fundamental financial accounting equation.

The Fundamental Accounting Equation to Solve for Equity



$$\text{Equity} = \text{Assets} - \text{Liabilities}$$

Practical Application



A student borrowed some money to purchase a bicycle. The bicycle's current value is \$500. The student has been making payments on the borrowed amount and still owes \$200.

1) What is the asset?

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- 2) **How much is the asset worth?**

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- 1) What is the asset?
- 2) How much is the asset worth?
- 3) **What is the liability?**

Practical Application

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- 1) What is the asset?
- 2) How much is the asset worth?
- 3) What is the liability?
- 4) **How much is owed on the liability?**

Practical Application

A student borrowed some money to purchase a bicycle. The bicycle's current value is \$500. The student has been making payments on the borrowed amount and still owes \$200.

- 1) What is the asset?
- 2) How much is the asset worth?
- 3) What is the liability?
- 4) How much is owed on the liability?
- 5) **How much equity does the student have?**

Equity in a Car

\$40k purchase price. \$10k down payment. \$30k loan at a 6% annual interest rate for 7 years = loan payment \$438 / month



Equity

=



Asset

Car:

-



Liability

Auto Loan:

Equity in a Car

\$40k purchase price. \$10k down payment. \$30k loan at a 6% annual interest rate for 7 years = loan payment \$438 / month



=



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Equity

Asset

Car:
\$40,000

Liability

Auto Loan:
\$30,000

Equity in a Car

\$40k purchase price. \$10k down payment. \$30k loan at a 6% annual interest rate for 7 years = loan payment \$438 / month



=



-



Equity

**\$10,000 or
25.0%**

Asset

Car:
\$40,000

Liability

Auto Loan:
\$30,000

Equity in the Car After 1 Year



Equity

=



Asset

Car:

-



Liability

Auto Loan:

Equity in the Car After 1 Year



Equity

=



Asset

Car:

-



Liability

Auto Loan:

\$26,444

Equity in the Car After 1 Year*



Equity

=



Asset

Car:
\$31,992

-



Liability

Auto Loan:
\$26,444

* Presumes Asset Depreciation Rate Per: <https://www.omnicalculator.com/finance/car-depreciation>

Equity in the Car After 1 Year*



=



-



Equity

**\$5,548 or
17.3%**

Asset

Car:
\$31,992

Liability

Auto Loan:
\$26,444

* Presumes Asset Depreciation Rate Per: <https://www.omnicalculator.com/finance/car-depreciation>



Class Discussion

The car loan was being paid down, so how did the equity in the car get destroyed?

Visualizing the Effects on Equity Based on Changes in Assets and Liabilities

| Assets (\$) | 1,000 | 1,000 | 900 | 800 | 700 | 600 | 500 | 400 | 300 | 200 | 100 | 0 |
|------------------|-------|-------|------|------|------|------|------|------|------|------|------|--------|
| | 900 | 900 | 800 | 700 | 600 | 500 | 400 | 300 | 200 | 100 | 0 | -100 |
| | 800 | 800 | 700 | 600 | 500 | 400 | 300 | 200 | 100 | 0 | -100 | -200 |
| | 700 | 700 | 600 | 500 | 400 | 300 | 200 | 100 | 0 | -100 | -200 | -300 |
| | 600 | 600 | 500 | 400 | 300 | 200 | 100 | 0 | -100 | -200 | -300 | -400 |
| | 500 | 500 | 400 | 300 | 200 | 100 | 0 | -100 | -200 | -300 | -400 | -500 |
| | 400 | 400 | 300 | 200 | 100 | 0 | -100 | -200 | -300 | -400 | -500 | -600 |
| | 300 | 300 | 200 | 100 | 0 | -100 | -200 | -300 | -400 | -500 | -600 | -700 |
| | 200 | 200 | 100 | 0 | -100 | -200 | -300 | -400 | -500 | -600 | -700 | -800 |
| | 100 | 100 | 0 | -100 | -200 | -300 | -400 | -500 | -600 | -700 | -800 | -900 |
| | 0 | 0 | -100 | -200 | -300 | -400 | -500 | -600 | -700 | -800 | -900 | -1,000 |
| | | 0 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1,000 |
| Liabilities (\$) | | | | | | | | | | | | |

Examples

- If you owe \$400 on assets worth \$500, you have \$100 in equity.
- If you owe \$500 on assets worth \$200, you have -\$300 in equity.
- If Assets > Liabilities, **Equity is Positive**
- If Assets < Liabilities, **Equity is Negative**

Equity in a House

\$500k purchase price. \$100k down payment. \$400k loan at a 7% annual interest rate for 30 years = loan payment \$2,611 / month



Equity

=



Asset
House:

-



Liability
Mortgage:

Equity in a House

\$500k purchase price. \$100k down payment. \$400k loan at a 7% annual interest rate for 30 years = loan payment \$2,611 / month



=



-



Equity

Asset

House:
\$500,000

Liability

Mortgage:
\$400,000

Equity in the House

\$500k purchase price. \$100k down payment. \$400k loan at a 7% annual interest rate for 30 years = loan payment \$2,611 / month



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Equity

**\$100,000 or
20.0%**

Asset

House:
\$500,000

Liability

Mortgage:
\$400,000

Equity in the House After 2 Years



Equity

=



Asset
House:

-



Liability
Mortgage:

Equity in the House After 2 Years



Equity

=



Asset

House:

-



Liability

Mortgage:

\$391,580

Equity in the House After 2 Years*



=



-



Equity

Asset

House:
\$530,450

Liability

Mortgage:
\$391,580

* Presumes 3% Annual Asset Appreciation Rate

Equity in the House After 2 Years*



=



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Equity

**\$138,870 or
26.2%**

Asset

House:
\$530,450

Liability

Mortgage:
\$391,580

* Presumes 3% Annual Asset Appreciation Rate



Class Discussion

If a student borrows \$100,000 to pay for college, and the student has no other assets, how much equity does the student have? What might students want to consider before taking student loans?

A collaborative workspace where several people are working on a business plan project. The scene is a top-down view of a wooden table covered with various documents, colorful sticky notes (pink, green, yellow), and a circular diagram with segments labeled 01 through 08. Hands are visible, interacting with the materials. In the background, there are office supplies like a white mug, a desk lamp, and a printer. The overall atmosphere is one of active collaboration and planning.

Business Plan Project

Customers Pay to Resolve a Problem

People part with their money only if
they can satisfy a **‘need’** or a **‘want’**

Money Mavericks

Objective: From your brainstorming of problems that people face day-to-day, identify the problem your group wants to solve. Does the problem have customers who are willing to pay for the problem to be solved? If yes, then you have identified a business concept to focus on.





Three Key Takeaways

1. Equity represents assets' net worth after subtracting liabilities.
2. When $\text{assets} > \text{liabilities}$, equity is positive; when $\text{assets} < \text{liabilities}$, equity is negative.
3. Equity can increase through asset appreciation; Equity can decrease through asset depreciation.



Where to Learn More

- [Finance For Teens & Young Adults: Achieve Financial Literacy, Don't Live Paycheck to Paycheck, Understand Your Relationship With Money, Look Forward To Your Financial Future & Make Money Work For You!](#) by Harlen Pierce
- [The Accounting Game: Learn the Basics of Financial Accounting - As Easy as Running a Lemonade Stand \(Basics for Entrepreneurs and Small Business Owners\)](#) by Darrell Mullis (Author), Judith Orloff (Author)
- Video: [What is Equity](#) by The Organic Chemistry Tutor