Overview of the financial system

- Land, factories, patents, educational capital are real assets.
- Traditional financial securities are legal claims on the cash flows generated by the real assets.
  - Debt has “fixed” promised payments.
  - The equity claim receives the remainder.
Example: the owner-occupied house

- **Debt**: the mortgage agreement calls for repayment of the amount borrowed plus interest.
- **Equity**: the owner gets a stream of in-kind benefits.
  - If the house is sold, the mortgage lenders have first claim on the proceeds (to repay the debt). The owner gets whatever is left.

<table>
<thead>
<tr>
<th>Real Assets</th>
<th>Liabilities + Net Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>House</td>
<td>Mortgage</td>
</tr>
<tr>
<td></td>
<td>Owner’s equity</td>
</tr>
</tbody>
</table>

Example: the corporation

- **Bank debt and loans** have fixed payments.
- **Stockholders** receive the remainder.

<table>
<thead>
<tr>
<th>Real Assets</th>
<th>Liabilities + Net Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Assets</td>
<td>Bank debt and bonds</td>
</tr>
<tr>
<td>Property, plant, equipment</td>
<td>Equity (common stock)</td>
</tr>
</tbody>
</table>
Blurring

- Conventional debt and equity claims can be customized in hybrid combinations.

- Example:
  - With a standard house mortgage, the owner receives the full appreciation when the house is sold.
  - With a *shared appreciation mortgage*, the lender gets a portion of the gain.

Transformation and repackaging

- Debt and equity claims can be used as building blocks, as the assets used as the foundation of other securities.

- In the transformation, we can modify
  - Cash payments
  - Timing
  - Marketability
  - Risk

... in ways that might make the new securities closer to investors’ needs
Example: SPY

- SPY is the ticker symbol for the Standard and Poor Depository Receipt (composite index).
- If you buy a share of the SPY, you are sharing in a portfolio of 500 stocks.
- This is a convenient way to invest in “the market”.

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares of Microsoft stock</td>
<td>Shares (ticker symbol SPY)</td>
</tr>
<tr>
<td>Shares of ExxonMobil stock</td>
<td></td>
</tr>
</tbody>
</table>

Example: Securitization

- Individual loans (student, mortgage, auto, credit card) are assembled in a pool
- The pool is the asset used as the foundation to construct debt- and equity-like securities.
- These new securities transform the risk and timing features of the original loans, making them more attractive to investors.
- This enhances the flow of capital into the loan markets and reduces borrowers interest rates.
The financial system: purpose #1

- Consumption shifting (in time)
- Classic intergenerational transfer
  - Young buy (consume) education, houses, cars financed by debt
  - Older people (indirectly) make the loans.
- If you don’t have a financial system, these transfers can only occur within a family or other social group.

The financial system: purpose #2

- Allocate capital
  - Prices and interest rates encourage investment in the most productive uses.
- The price of Google stock is high → Google can easily raise additional capital and undertake additional projects.
- The price of Citigroup stock is low → Citi would encounter difficulties raising additional capital.
Derivatives

- Like debt and equity, they are a basic type of security.
  - But they aren’t backed directly or indirectly by real assets.
- If I take a long position in a stock index futures contract, I can profit as if I invested in the stock.
  - But I never actually own it.

The financial system: purpose #3

- **Risk transfer (insurance)**
- Zero-sum game? Large profits and losses?
  - Google search: “financial market” + casino → over 70,000 hits
- Social purpose: individual risk reduction
  - With a wheat futures contract
    - A baker can lock in the price of flour (wheat) at a later maturity date.
    - A farmer can lock in the delivery price of a wheat crop.
The financial system: purpose #4

- **Produce and disseminate information**
- Public financial markets report the prices of securities.
- These prices reflect beliefs about the future.
  - “A security market aggregates information.”
- Stock prices are used as “signals” by individuals and governments.