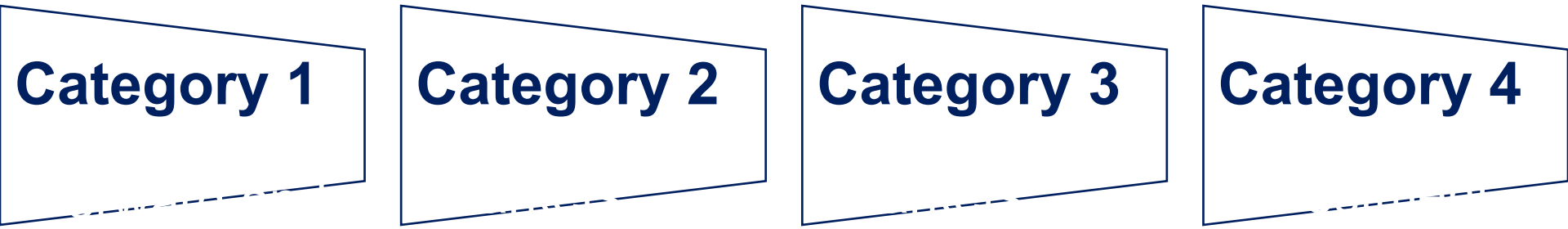
# MARKET ORGANIZATION & STRUCTURE

# WHAT ARE THE MAIN FUNCTIONS OF THE FINANCIAL SYSTEM?

- Save money for future use
- Borrow money for current use
- Raise equity capital
- Manage risks
- Exchange assets for immediate and future deliveries
- Trade on information

# HOW ARE MARKETS CLASSIFIED?



- Public offering: Initial public offering (IPO)
- Public offering: Seasoned offering
- Private placement
- Shelf registration
- DRPS or DRIPS
- Rights offering

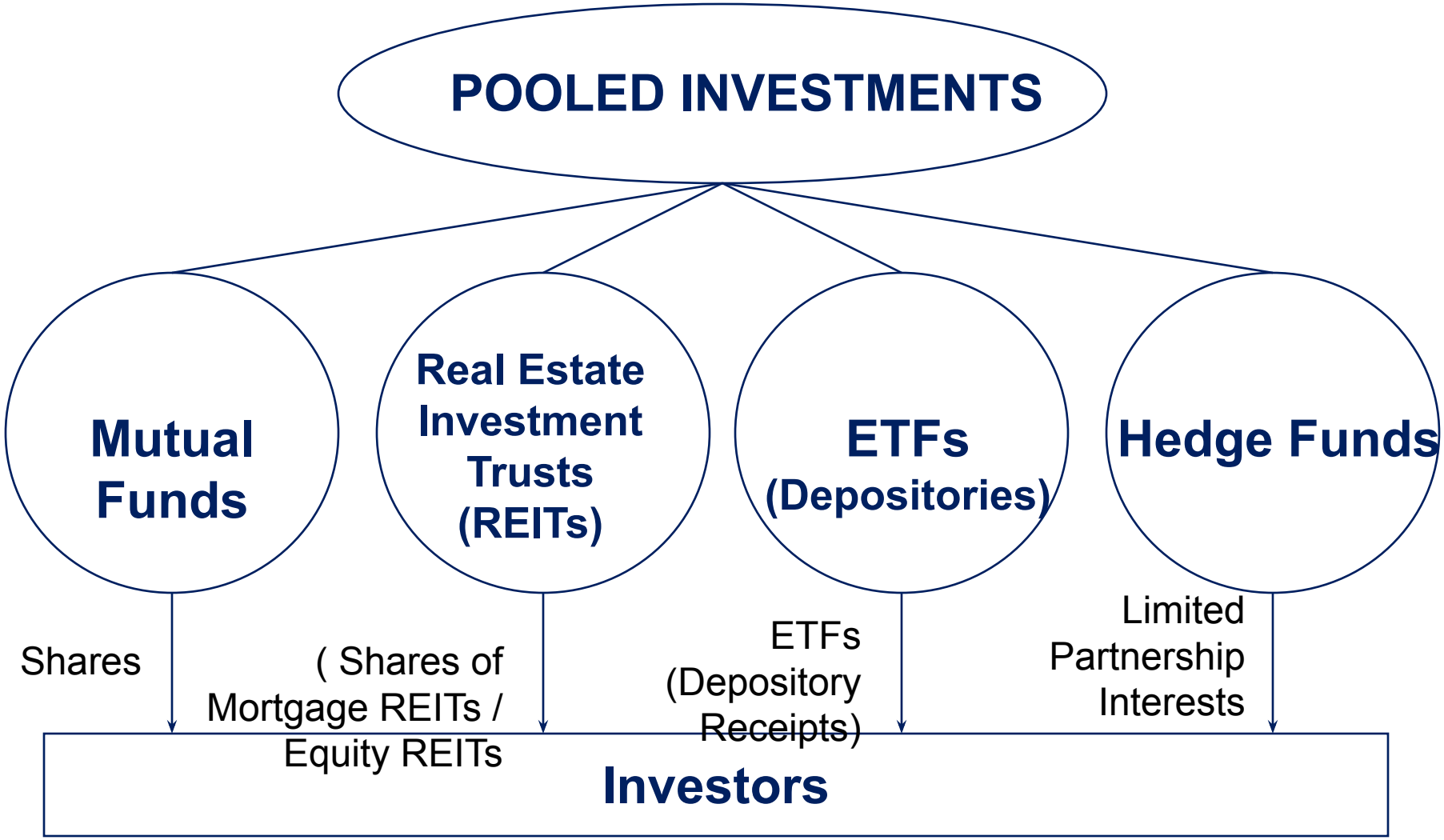
# HOW DO SECONDARY MARKETS SUPPORT PRIMARY MARKETS?

- **Low transaction costs**
- **Small price concessions**


# HOW ARE ASSETS CLASSIFIED?

- **Assets**
  - **Securities**
  - **Currencies**
  - **Contracts**
  - **Commodities**
  - **Real assets**

- HOW ARE SECURITIES CLASSIFIED?
  - **Fixed income**
  - **Equities**
  - **Pooled investments**
  - **Public**
  - **Private**


POOLED INVESTMENTS
Mutual Funds
Real Estate Investment Trusts (REITs)
ETFs (Depositories)
Hedge Funds
Shares
( Shares of Mortgage REITs / Equity REITs
ETFs (Depository Receipts)
Limited Partnership Interests
Investors

# WHAT POSITIONS CAN I TAKE IN AN ASSET?

- Long positions
  - Assets or contracts are owned
  - Position benefits from price appreciation
- Short positions
  - Assets not owned are sold or contracts are sold
  - Position benefits from a decrease in price

# HOW ARE CONTRACTS CLASSIFIED?

- **Forward contracts**
- **Futures contracts**
- **Swap contracts**
- **Option contracts**
- **Other contracts (REPO)**

# HEDGING WITH FORWARD CONTRACTS

**Farmer needs TO SELL wheat to the miller at a future date.**

- Risk: the price of wheat decreases.
- The farmer is currently long wheat in the spot market (needs to sell it in the future).
- The farmer hedges the spot market position by **selling wheat forward.**

**Miller needs TO BUY wheat from the farmer at a future date to sell to bakers.**

- Risk: the price of wheat increases.
- The miller is currently short wheat in the spot market (needs to buy it in the future).
- The miller hedges the spot market position by **buying wheat forward.**

# FUTURES VERSUS FORWARD CONTRACTS

- **FUTURES CONTRACTS**
  - Standardized
  - Clearinghouse guarantees performance
  - Strong secondary markets
- **FORWARD CONTRACTS**
  - Customized
  - Counterparty risk
  - Typically held to maturity

# SWAP CONTRACTS

- Swap contracts
  - Interest rate
  - Commodity
  - Currency
  - Equity

# OPTION POSITIONS AND THEIR UNDERLYING RISK EXPOSURES

| **Strategy** | **Option position** | **Exposure to underlying risk** |
|---|---|---|
| Buy call | Long | Long |
| Sell call | Short | Short |
| Buy put | Long | Short |
| Sell put | Short | Long |

# REPURCHASE AGREEMENTS (REPO)

**Direct Repurchase Agreements (Direct REPO):** one party sells securities to another with an agreement to repurchase them at a specified date and price

- Essentially a loan backed by securities

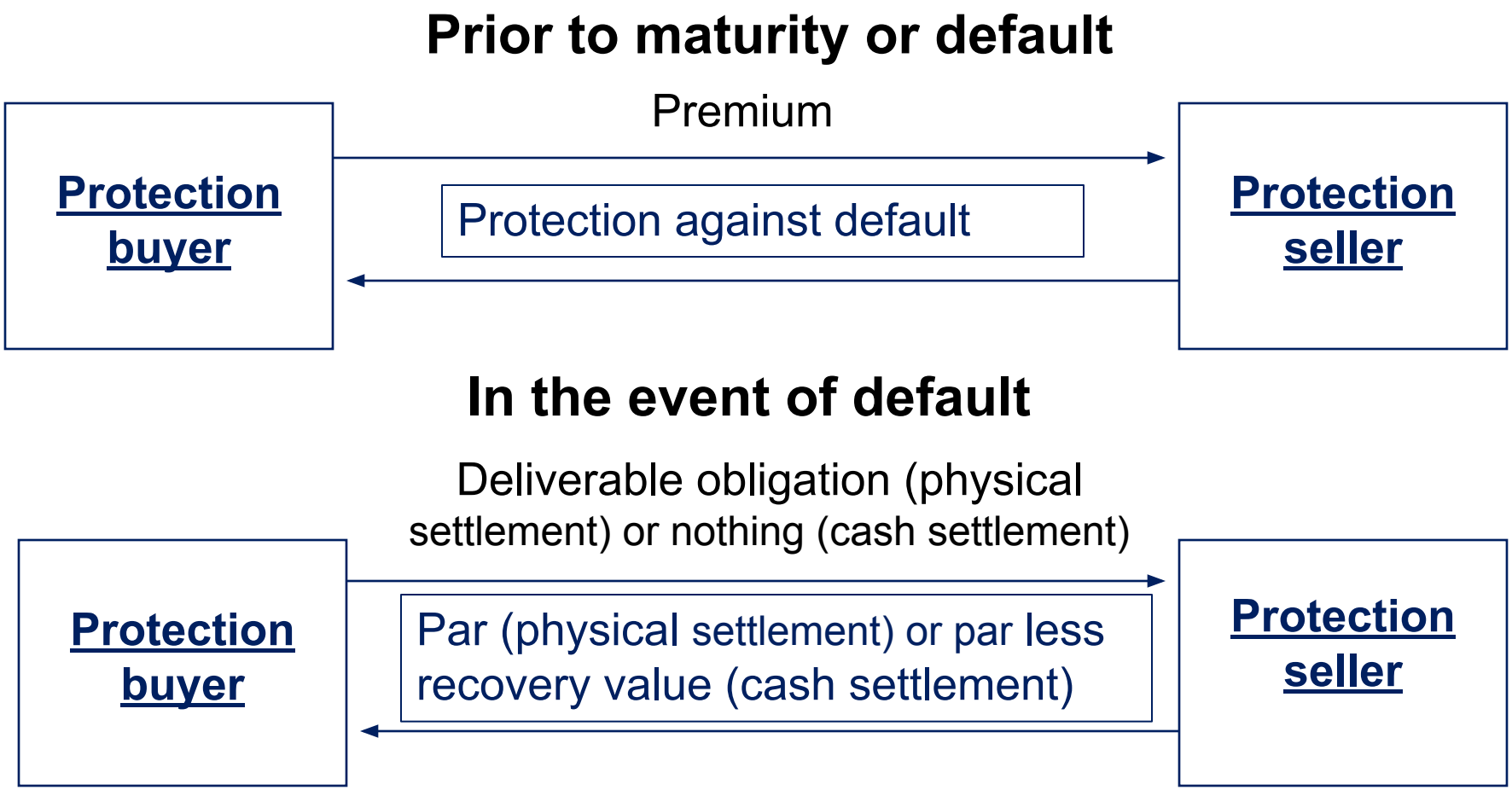
- **A reverse REPO** refers to the purchase of securities by one party from another with an agreement to sell them

  - Transactions amounts are usually for $10 million or more
  - Common maturities are from 1 day to 15 days and for one, three and six months
  - There is no secondary market for repos

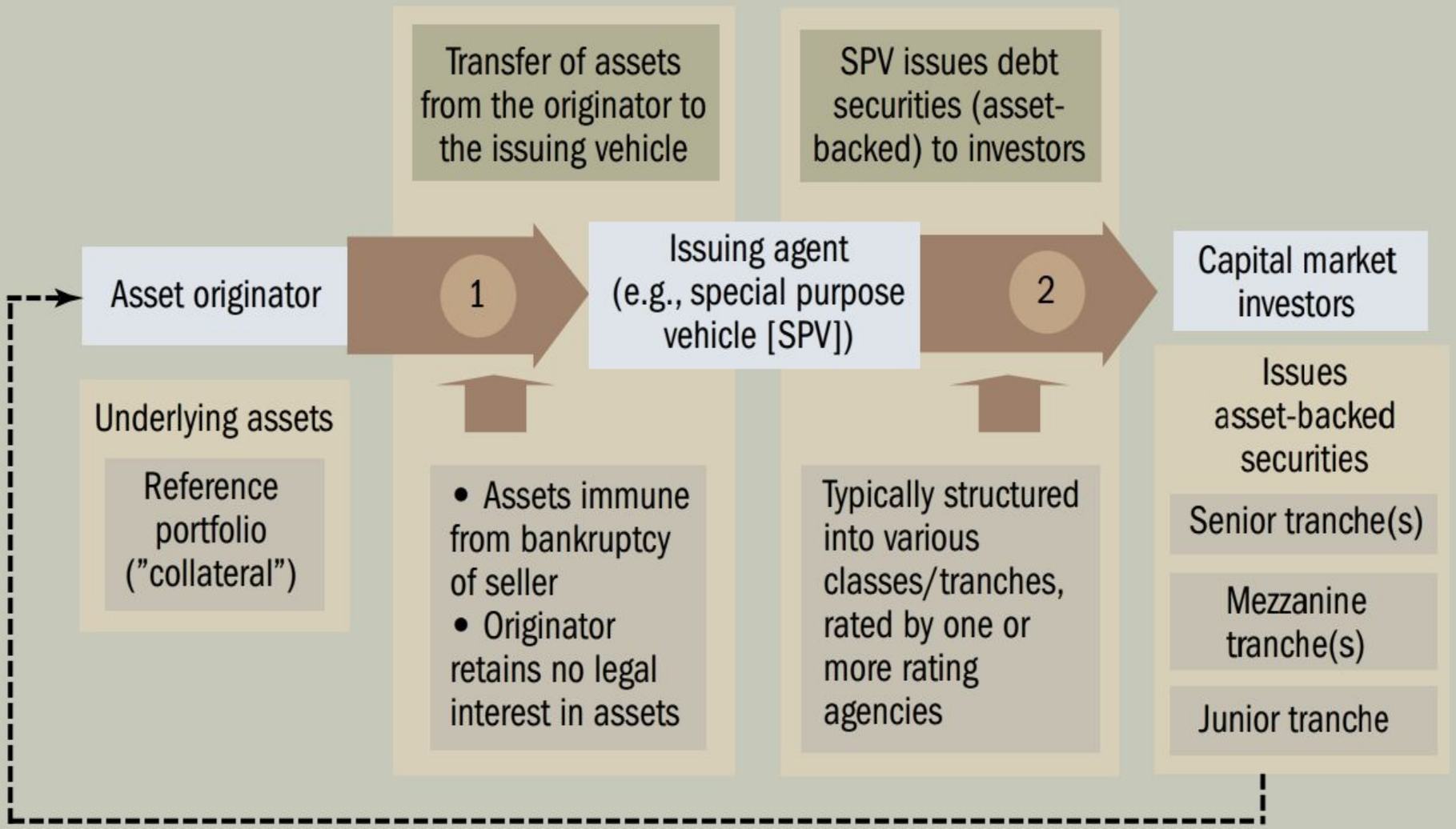
# INSURANCE

- Parties willing to bear risk
- Buyers of insurance contracts

# CREDIT DEFAULT SWAPS (CDS)



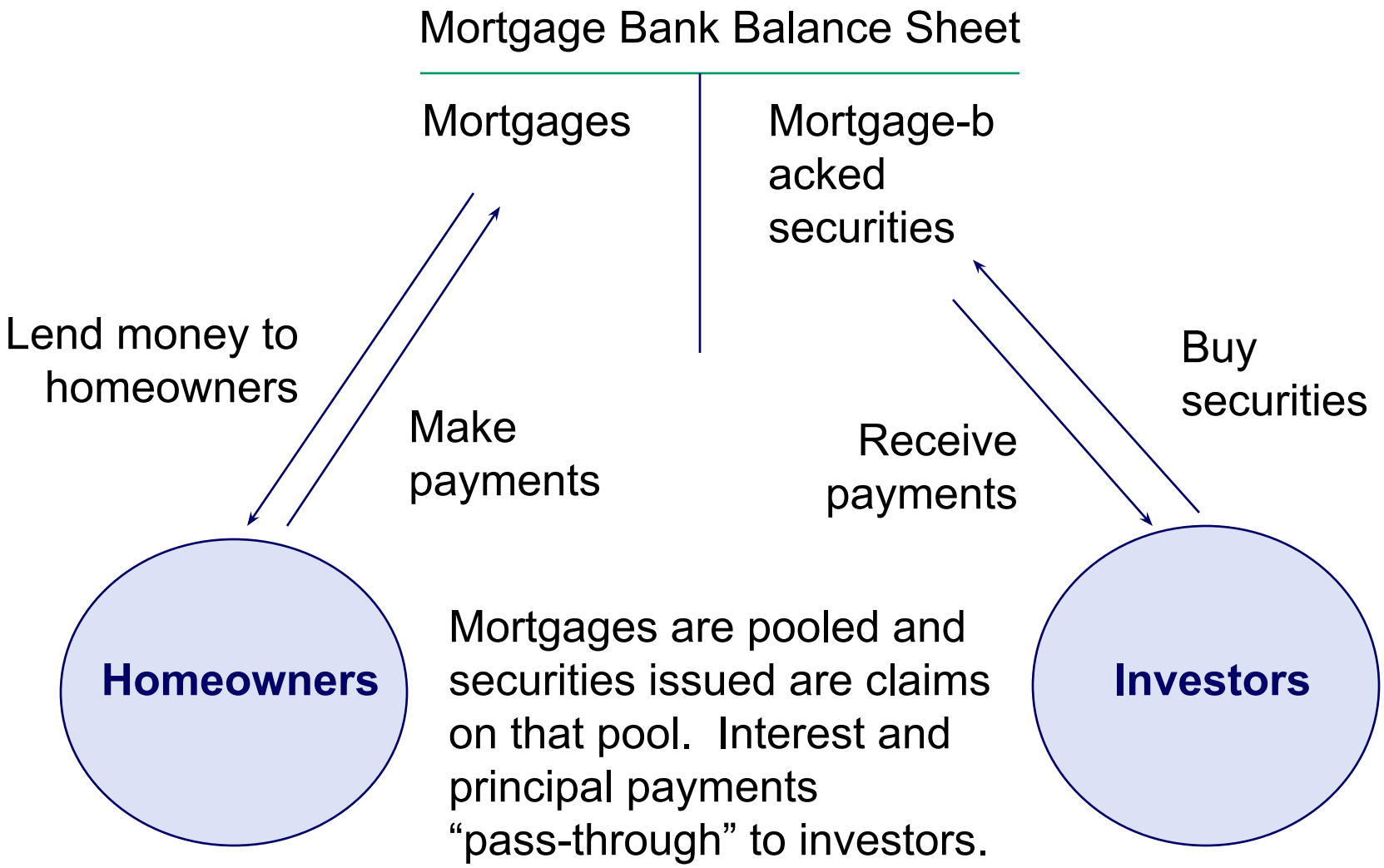
# How securitization works



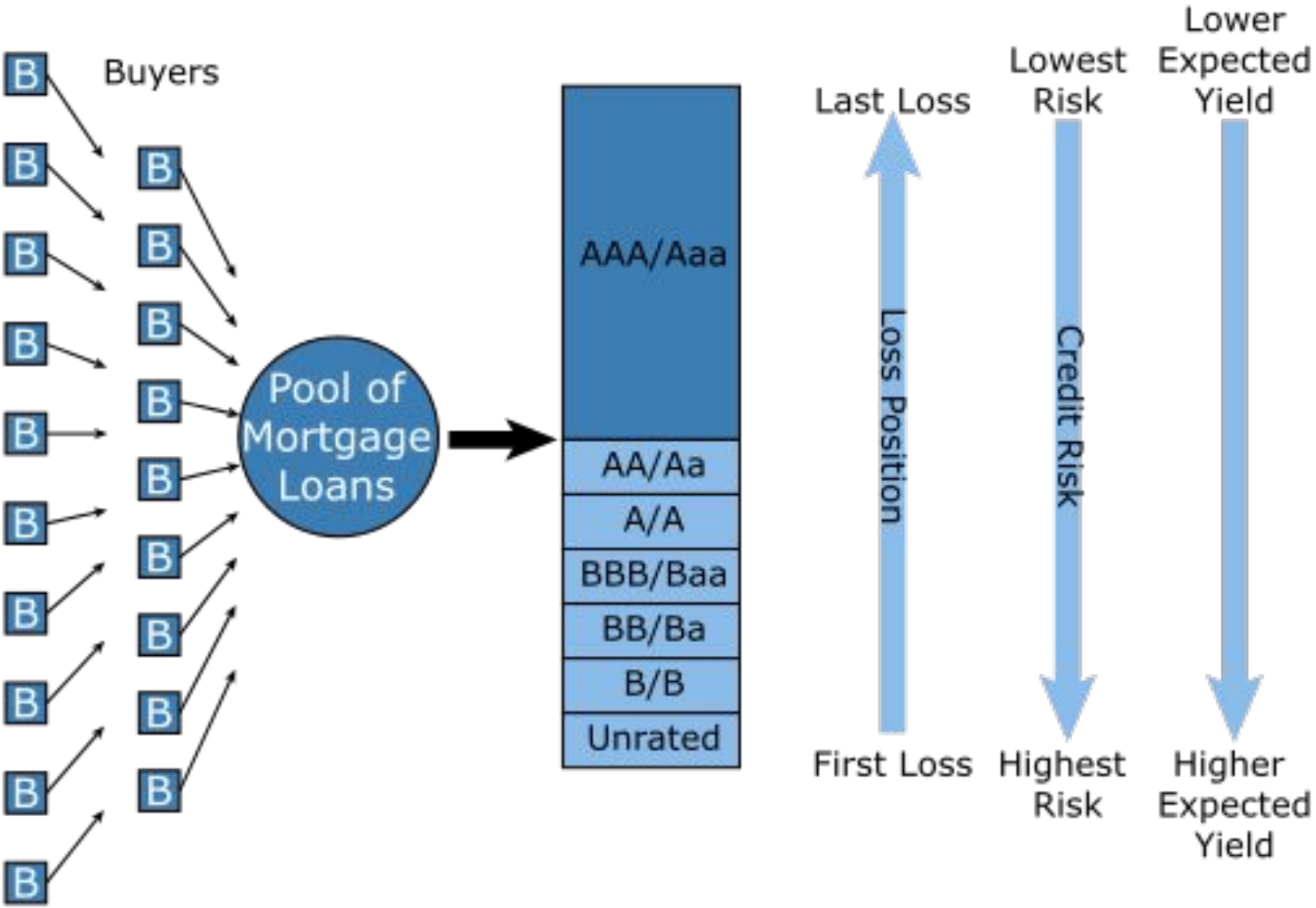



*Source: http://debtproff.info/securitization-of-debt-pdf.html*

# EXAMPLE OF SECURITIZATION



# Different Risk and Return for Different Investors




 *Source: http://awesome-b5.website/loan-to-value-definition-mortgage-backed*

# TERMINOLOGY FOR LEVERED POSITIONS

- Buying on margin
- Margin loan
- Call money rate
- Initial margin requirement
- Maintenance margin requirement
- Margin call
- Leverage ratio

# EXAMPLE: COMPUTING TOTAL RETURN TO A LEVERAGED STOCK PURCHASE

A buyer buys stock on margin and holds the position for exactly one year, during which time the stock pays a dividend. For simplicity, assume that the interest on the loan and the dividend are both paid at the end of the year.

Purchase price $20/share  Sale price $15/share

Shares purchased 1,000  Leverage ratio 2.5

Call money rate 5%  Dividend $0.10/share

Commission $0.01/share

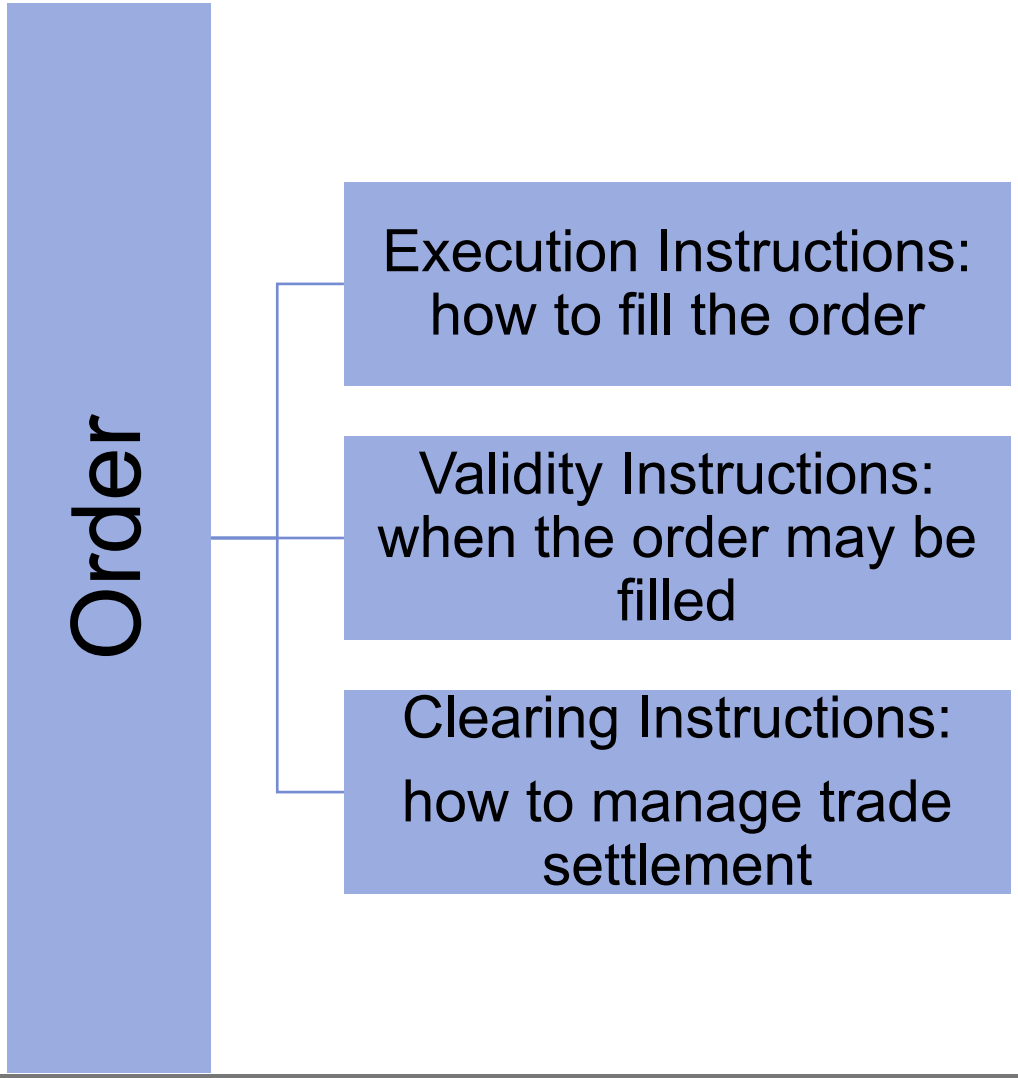
1. What is the total return on this investment?

2. Why is the loss greater than the 25 percent decrease in the market price?

# EXAMPLE: MARGIN CALL PRICE

A trader buys stock on margin posting 40 percent of the initial stock price of $20 as equity. The maintenance margin requirement for the position is 25 percent. Below what price will a margin call occur?

# COMPARE AND CONTRAST EXECUTION, VALIDITY, AND CLEARING INSTRUCTIONS

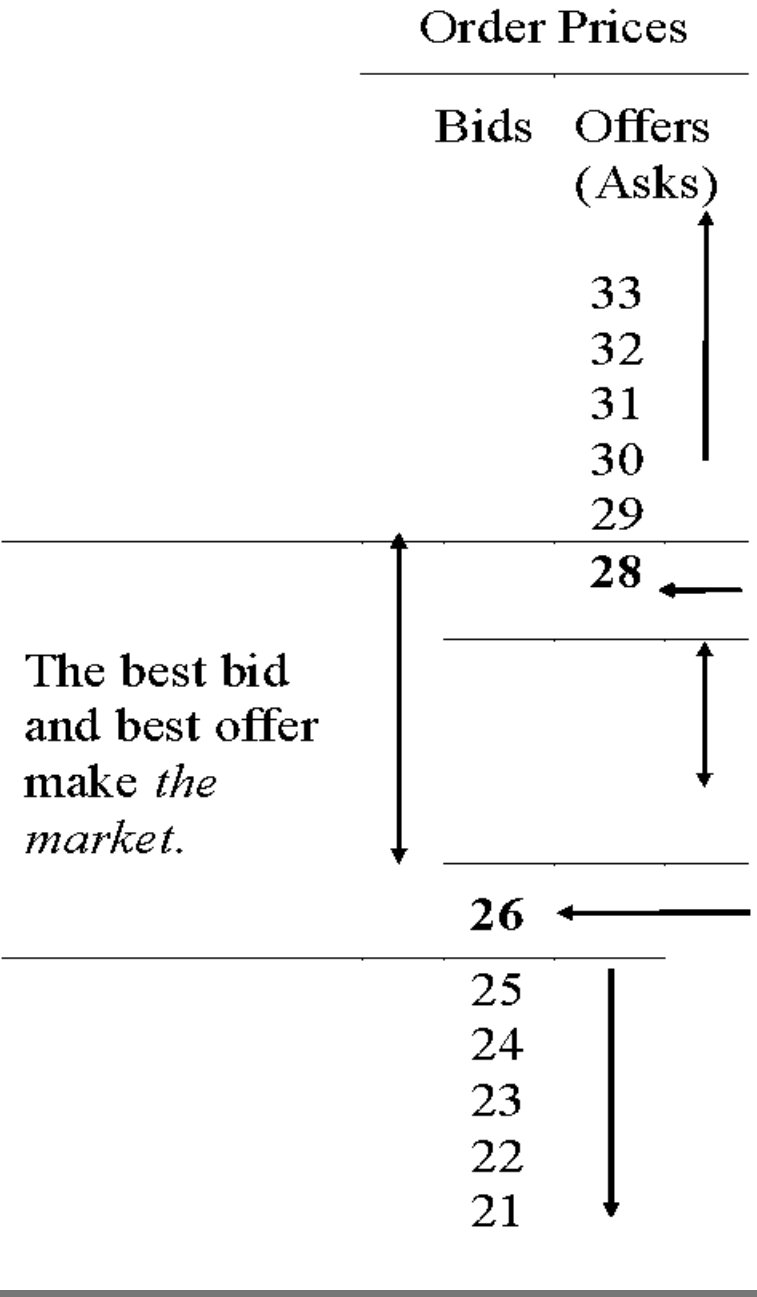


# EXECUTION INSTRUCTIONS

- **Execution instructions** specify how to trade
- **A MARKET ORDER** instructs the broker to execute the trade immediately
- **A LIMIT ORDER** places a **minimum execution price on sell orders** and a **maximum** execution price on **buy** orders

- Execution instructions about *volume of trade*: **all-or-nothing orders**: execute only if the whole order can be filled. Orders can specify the minimum size of the trade
- *Trade visibility* can also be specified. **Hidden orders** are those for which only the broker or exchange knows the trade size
- Trades can also specify *displace size*, where some of the trade is visible to the market, but the rest is not (**Iceberg orders**)

# LIMIT ORDER BOOK: "26 BID, OFFERED AT 28"




The least aggressively priced sell orders are far from the market.

These sell orders are *behind the market.* We also say that they are *away from the market.*

The *best offer* is *at the market.*

The space between the current best bid and offer is *inside the market.* If a new limit order arrives here, it *makes a new market.*

The *best bid* is *at the market.*

These buy orders *are behind the market.* We also say that they are *away from the market.*

The least aggressively priced buy orders are *far from the market.*

# VALIDITY INSTRUCTIONS

- Day order
- Good-till-cancelled order (GTC)
- Immediate-or-cancel order (IOC)
- Good-on-close order
- Good-on-open order
- Stop orders (stop-loss orders): stop-sell orders and stop-buy orders

# STOP ORDERS (STOP-LOSS ORDERS)

# CUTION MECHANISMS

**ORDER-DRIVEN MARKETS**

- Order-matching systems run by an exchange (all orders of both buye

**QUOTE-DRIVEN MARKETS**

- Customers trade with dealers
- Almost all bonds and currencies and most spot commodities
- Eg.: Bloomberg, TradeWeb

**HYBRID MARKETS**

- NYSE, Nasdaq

**BROKERED MARKETS**

- Brokers arrange trades
- Trading in unique instruments

# ORDER-DRIVEN MARKETS

- ORDER PRECEDENCE HIERARCHY
  - Price priority
  - Secondary precedence rules

# WHAT ARE THE CHARACTERISTICS OF WELL-FUNCTIONING FINANCIAL SYSTEM?

- **Well-functioning financial system**
  - Completeness
  - Operationally efficient
  - Informationally efficient

# WHAT ARE THE OBJECTIVES OF MARKET REGULATION?

- Control fraud
- Control agency problems
- Promote fairness
- Set mutually beneficial standards
- Prevent exploitation
- Insure liabilities are funded

# SUMMARY

- Main functions of the financial system
- Classifications of assets and markets
- Financial intermediaries
- Long and short positions
- Leveraged positions
- Execution, validity, and clearing instructions
- Market and limit orders
- Primary and secondary markets
- Quote-driven, order-driven, and brokered markets
- Characteristics of a well-functioning market
- Objectives of market regulation