CHARTA LEARNING · LESSON NOTES

How equity is issued and traded

CFA Level I · Equity Investments

You will learn: Tell the primary market from the secondary market, work out dilution and the two meanings of a secondary offering, compare exchanges, dark pools and dealers, and measure liquidity with float, average daily volume, turnover and days to trade.

Running example: Examples follow a made-up food maker, Pinewood Foods: 80 million shares in issue, founder holds 20 million (25%), share price $15, market capitalisation $1,200 million. Figures are made-up round numbers.

1. Primary and secondary markets

- In the primary market a company sells new shares and keeps the cash. In the secondary market investors trade shares that already exist: the cash moves from buyer to seller, the company receives nothing however large the trade, and the number of shares does not change.
- The first sale of shares to the public is an initial public offering (IPO). A later sale of new shares by a public company is a seasoned (follow-on) offering. Underwriters (banks) gauge demand and help set the price.
- In a firm commitment the underwriter buys the whole issue and carries the risk; in best efforts it only tries to sell what it can. Either way it earns the underwriting spread. The underwriter resells; investors become the owners.
- The markets help each other: investors pay more for new shares if they can sell them later. A liquid secondary market lowers the cost of equity capital.

LIQUIDITY LOWERS THE COST OF CAPITAL (EXAMPLE 4: FLAT DIVIDEND $1.20 A YEAR, 20 MILLION NEW SHARES)

Price if investors accept 8%	1.20 ÷ 0.08	**$15.00**
Price if hard to sell (9%)	1.20 ÷ 0.09	**$13.33**
Gap per share; less raised	15.00 − 13.33; 20m × 1.67	**$1.67; $33.3m**

Watch out: Saying the secondary market raises money for the company.

2. Follow-on offerings, dilution and the block sale

- Dilution is a fall in existing holders' percentage ownership when new shares are issued, even if they sold nothing. It does not by itself lower the value of their stake unless the new shares are sold too cheaply, in which case value moves to the new buyers.
- Secondary offering has two meanings. A follow-on of new shares: the company is paid, the share count rises, existing holders are diluted. A block sale of existing shares by a large holder: the seller is paid, the company raises nothing, the share count is unchanged and nobody is diluted.
- Always ask who is selling and who gets the cash.

PINEWOOD (EXAMPLES 1 TO 3: 20M NEW SHARES AT $15, UNDERWRITING SPREAD 3%)

Gross proceeds; spread; cash to Pinewood	20m × $15; 3% × 300; 300 − 9	**$300m; $9m; $291m**
Founder's stake after (100m shares)	20m ÷ 100m	**20%, down from 25%**
Fair issue (fees ignored): value per share	(1,200 + 300) ÷ 100m	**$15.00; founder's stake $300m either way**
Cheap issue at $12: value per share; founder's stake	(1,200 + 240) ÷ 100m; 20m × 14.40	**$14.40; $288m (loss $12m)**
Fund sells 10m existing shares at $14	10m × $14	**$140m to the fund, $0 to Pinewood, founder still 20%**

3. Where shares trade: exchanges, dark pools, dealers

- On a line from open to private: exchange, alternative trading system (ATS, an electronic venue that matches orders but is not a full exchange), dark pool, dealer over the counter.
- An exchange runs a central order book: the bid is the highest price buyers will pay, the ask (offer) the lowest sellers will take, the gap is the bid-ask spread. It sets listing standards, publishes prices and is the main place where prices are discovered.
- A dark pool is a kind of ATS that trades listed shares and hides orders until after the trade, so a large order avoids market impact. Its price is borrowed from the displayed market, often the midpoint. Off-exchange venues are regulated, just less visible before the trade.
- Over the counter (OTC): no central order book; dealers stand ready to buy at their bid and sell at their ask with their own money, price negotiated deal by deal, usually for unlisted shares, with less transparency and wider spreads.
- As more volume goes dark, liquidity fragments and the displayed price carries less information.

VENUES IN NUMBERS (EXAMPLES 5 AND 6)

Sell 400,000 shares; displayed bid 14.95 for 16,000	400,000 ÷ 16,000	**25 times the displayed bid**
Dark pool midpoint (offer 15.05)	(14.95 + 15.05) ÷ 2	**$15.00, $0.05 better**
Saved on the 250,000 shares filled	250,000 × 0.05	**$12,500; 150,000 left for the exchange**
Pinewood spread (14.95 / 15.05)	0.10 ÷ 15.00	**$0.10, 0.67%**
Lakeside Mills, dealer (9.70 / 10.30)	0.60 ÷ 10.00	**$0.60, 6.00%**
Round trip, 10,000 shares	Pinewood $1,000; Lakeside $6,000	**6 times**

Watch out: Confusing a dark pool (listed shares) with OTC (usually unlisted); thinking a dark pool discovers prices itself.

4. Liquidity: float and trading volume

- Liquidity is how easily a position can be bought or sold without moving the price. It depends on how many shares are free to trade and how many change hands on a typical day.
- Float = shares outstanding less shares held and not for sale (directors and founders, a government, a strategic partner, investors under a lock-up, a period after listing when holders agree not to sell). Index providers often weight by float.
- Average daily volume (ADV) = total volume ÷ trading days (days the market was open, not calendar days). Leave out unusual days, such as an index rebalancing day, which flatter ADV. Turnover = ADV ÷ float, the fraction of tradable shares that changes hands on a typical day.
- Other gauges: a narrow bid-ask spread, deep depth at the best prices (shares offered), high turnover, small price impact of a big order. No single gauge tells the whole story.

> **Float = outstanding − not for sale; ADV = total volume ÷ trading days; Turnover = ADV ÷ float**

PINEWOOD FLOAT, ADV AND TURNOVER (EXAMPLE 7)

Float (insiders 24m, strategic 12m, lock-up 4m)	100 − 24 − 12 − 4	**60m (60%), worth $900m**
ADV, all 20 days (27m shares)	27m ÷ 20	**1.35m (flattered)**
ADV without the 8m rebalancing day	(27 − 8) ÷ 19	**1.00m**
Turnover per day	1.00m ÷ 60m	**1.67%**

Watch out: Using shares outstanding instead of float; a bigger company is not automatically more liquid.

5. Days to trade

- Days to trade says how long it takes to buy or sell a whole position. You cannot trade a whole day's volume without swamping the market, so you choose a participation rate: the fraction of ADV you trade each day.
- A larger rate means fewer days but more price impact; a smaller rate is gentler on price but leaves you exposed to news for longer. There is no right answer, only a choice between speed and cost. Do not compare two answers without checking the rate.

> **Days to trade = position ÷ (participation rate × ADV)**

A FUND SELLS 1.2M PINEWOOD SHARES (EXAMPLE 8, ADV 1.00M)

Shares per day at 25% of ADV	25% × 1.00m	**250,000**
Days to trade	1.2m ÷ 250,000	**4.8 days**
At 10% / 50% of ADV	1.2m ÷ 100,000; 1.2m ÷ 500,000	**12 days / 2.4 days**
With the flattered ADV 1.35m	1.2m ÷ 337,500	**3.6 days (misleading)**

Watch out: A busy one-off day will not be there when the fund really needs to sell.

Key takeaways

- Primary market: the company sells new shares and gets the cash. Secondary market: investors trade and the company gets nothing.
- Dilution cuts the percentage, not necessarily the value; a cheap issue price moves value to new buyers.
- A secondary offering can be new shares (company paid) or an existing holder's block (seller paid): ask who sells and who is paid.
- Exchange: price discovered. Dark pool: price borrowed. OTC dealer: price negotiated, usually unlisted shares and wider spreads.
- Float = outstanding − not for sale; turnover = ADV ÷ float; remove one-off days from ADV.
- Days to trade = position ÷ (participation rate × ADV).

Quick check

1. 40m shares in issue; investor owns 8m; company issues 10m new shares. New stake?
   Answer: 8 ÷ 50 = 16%, down from 20%.
2. Which venue trades listed shares but hides the order until after it trades?
   Answer: A dark pool.
3. Position 600,000 shares; ADV 400,000; trade 20% of ADV. Days to trade?
   Answer: 600,000 ÷ (20% × 400,000) = 7.5 days.