

FINA 3070 Notes 4B

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1 When a (Listed) Company Needs New Capital

- Increase in “retained earnings”: without printing new bonds/shares, a company can keep dividend constant when net income increases, or even reduce dividend.
- Raise new capital
 - New borrowing
 - Private loans: not to be traded (e.g. bank loans)
 - Public bonds: tradeable (straight/simple bonds, convertible bonds)
 - New shares
 - Seasoned equity offering: already listed company
 - Ps. unseasoned equity offering: IPO, i.e. private company becomes public (listed) company

2 Debt Raising (Bond Issuing) By Listed Company

2.1 Private Placement (not our focus)

- “Small” amount of borrowing from small number of “selected lenders”.
- Raise loans from “commercial banks”, or “rich individuals / institutional investors”.
 - Common in both HK and US.
- Issue small number of bonds to investment banks to be resold to their clients.
 - Common in US, less common in HK.

2.2 GCO (General Cash Offer)

- Issue “many” new bonds to the public.
- Common in US, less common in HK.
- Investment banks serve as “underwriters” (receive spread/compensation from company).
- Public announcement (optional: approval by special meeting of shareholders).
- Book-building (demand book) by i-bank underwriters

- Invite many investors (small investors might not be invited).
- Road shows: presentation explaining characteristics of new bond (share), e.g. coupon rate, YTM etc.
- Collect “individual demand curves of each investor” → get aggregate demand curve.
- Decide offering price (i.e. printing price, issue price).
- Issuing new bonds have lower GCO costs than issuing new shares.

3 Book-Building: Slope of Individual and Aggregate Demand Curves

3.1 Individual Demand Curve Slope

- Information asymmetry and difficulty of valuing the common stock: the more severe info asymmetry, the steeper the slope.
- Investors that are more risk-averse (or with more capital constraint) have steeper slope. (Even if you lower the price, I'm still only willing to buy a small quantity.)
- Short sales constraints also steepen the slope.

3.2 Aggregate Demand Curve Slope

- Horizontal summation of different investors' slopes. (see Notes4B pp.6)

4 Bond Rating

4.1 Seniority Declining

- Bonds issued earlier (senior bonds) have less default risk than junior bonds, which are issued more recently. Reason: Suppose for a specific the cash flow of a company is low, the senior bond-holders will receive their payments first.
- Senior bonds have higher bond rating (e.g. AAA) than junior bonds (e.g. A).
- Subscribers (investors) of the latest batch are 'indifferent'. Because they pay a fair price (AA-grade price for AA-grade price bond).
- Seniority declining is more common, as early investors will demand this as a protection (to avoid being hurt later). Therefore, the outstanding bonds' price usually doesn't change even if new bonds are issued.
- However, the market price of the original batch (senior bonds) might still change (not because of the new bond issues, but because of the company's future performance).

4.2 If No Seniority Declining (Notes4B pp.12)

- The company is 'happy' (more borrowing value with AA-grade price; calculate rectangle area).
- The earlier shareholders are 'unhappy' (suffer capital loss).
- Subscribers (investors) of the latest batch are 'indifferent'. Because they pay a fair price (AA-grade price for AA-grade price bond).

4.3 Misc.

- If a firm issues more 'straight' bonds, the stock price usually doesn't change.
- Thus, raising new capital is considered 'neutral news'.

5 Equity Raising (Stock Issuing) By Listed Company

5.1 Placing / Private Placement

- A small number of new shares to a small number of big investors.
- Common in HK, less common in US.

5.2 GCO

- Lots of new shares to the public, through i-banks.
- Common only in US.

5.3 Rights Offering

- Lots of new shares issued on a 'pro rata (proportional) basis' to 'current' stockholders. (E.g. a current stockholder holding 1% of existing shares will subscribe to 1% of the newly shares to be issued.)
 - Current stockholders can also choose to 'give up' such right.
- The percentage ownership won't be affected by the newly issued stocks: important for closely-held companies (e.g. in HK, UK, Europe).
- No book-building necessary (the demand is fixed proportionally anyways.)
- One underwriter to subscribe to the shares given up by shareholders.

6 Private Placement

6.1 HK vs US

- The big investors & offering price (P_{issue}) are decided by a process of 'book-building'.
 - Likely in HK and US.
- The big investors are already selected by the company (e.g. close friends of controlling stockholder) with a much lower P_{issue} .
 - Possible in HK.

6.2 How V may change

- Suppose V_0 and P_0 stand for the true value and market price of a stock before a private placement issue, and V_1 and P_1 stand for the value and price afterwards.
- $V_0 = P_0$ and $V_1 = P_1$.
- True value (V_1) might change after the news of private placement issue.

6.2.1 Private placement as a good news

- If the big investor is knowledgeable and famous, e.g. Warren Buffet.
- If the 'issue price discount' is 'small' (the investor only asks for a small price discount). I.e. P_{issue} is only a bit below P_0 .
 - Probably because the investor has some insider info, e.g. factory visit.
- $P_1 = V_1 > P_0 = V_0$

6.2.2 Private placement as a bad news

- If the 'issue price discount' is big. I.e. P_{issue} is way below P_0 .
- $P_1 = V_1 < P_0 = V_0$
- A possible scenario in HK:
 - E.g. the investor is a close friend of the controlling stockholder, and receives the benefit of a big price discount – bad news for corporate governance; hurts other stockholders.

7 GCO: General Cash Offer

- Stock price usually 'drops' on the (equity) GCO announcement: the stock demand curve 'shifts' down (slope unchanged). day. However, as previously mentioned, there's no price drop if it's straight-bond GCO.
 - 'Capital raising' itself is neutral news. It's 'printing new shares' that has an adverse effect on stock price.
- Aggregate demand curve is (almost) horizontal: because there's a lot of investors to be horizontally summed.

7.1 EPS (Earning Per Share) Dilution (value reduction): An Incorrect Concept

- Intuitively, people may think that EPS will drop after issuing new shares, consequently leading to a drop of stock market price P .
- In reality, share price "may or may not" change – it depends on the EPS expected by the market:
 - Expected EPS will actually increase if the market believes that new shares are used for +NPV projects, because earnings may go up. (Similarly, EPS will drop if market believes the project is -NPV).

7.2 Information asymmetry scenarios

7.2.1 Stock market timing

- Suppose the company needs new long-term capital. Will it choose to issue new shares GCO or new bonds GCO?
- It depends on the timing!
 - If the market stock price is lower than manager's insider true value estimation: it's better to issue new bonds.
 - If the market stock price is higher than manager's insider true value estimation: then of course it's better for the company to issue new shares.
- Therefore, the share price will drop on the announcement of new shares GCO – the public now knows that the market stock price is higher than true value.
- So technically, the manager doesn't have that much of an advantage with insider info.

7.2.2 New capital as working capital or to finance +NPV projects

- If the new capital needed by the company is for working capital (i.e. to keep the business running):
 - Issue new shares; avoid extra coupon burden.
- If the new capital is for financing +NPV projects:
 - Either new shares or bonds are fine.

7.3 How much is the value drop upon shares GCO announcement?

- The amount of value drop depends on “how severe the info asymmetry” is.
- In US, on average:
 - 3% for industrial companies (more fluctuating profits)
 - 0.9% for utilities companies: e.g. electricity, energy. (Regulated, less info asymmetry)
- If HK allows shares GCO, the price drop should be even bigger – HK has more severe info asymmetry

8 Rights Offering

8.1 Quick Review...

- Lots of new shares issued on 'pro rata basis': percentage ownership remain constant.
- Current stockholders can also choose to 'give up' such right.
- Common in HK & Europe because of closely-held companies. (Not common in US.)
- No book-building necessary.
- One underwriter to subscribe to the shares given up by shareholders.

8.2 Two type of rights offering

1. “Rights issue” with rights market: stockholder can sell rights, in addition to exercising or giving up.
2. “Open offer” without rights market: stockholder can only either exercise or give up.

8.3 Timeline & rundown

- Announcement fo rights offering + shareholders’ special meeting
- Ex-rights day (ca. 1 month after announcement)
 - Price before rights offering: P_c cum-rights shares.
 - Price after rights offering: P_e ex-rights shares.
- Rights market begin till end (< 2-week duration)
- Closing date for exercising rights (ca. 2 months after announcement)
 - [def] exercising rights: sending the rights to the company, paying the exercise price, and receiving new shares.

8.4 P_e Calculation: Ex-rights adjustment in stock price

8.4.1 Method 1. Textbook approach

- Given rights issue ratio (e.g. 1-to-8), P_c cum-rights price, and exercise price (i.e. offer price, issue price, subscription price). Find P_e ex-rights share price (i.e. fair value of share on ex-rights day).
- Calculation rationale: An investor has one of two ways to own 9 shares, and they should have the same cost.
 - Method 1: Buy 8 cum-rights shares (becoming a ‘current investor’ with rights) and subscribe 1 new share by exercising right = $8 \cdot P_c + \text{exercise price}$
 - Method 2: Buy 9 ex-right shares = $9 \cdot P_e$
 - In an efficient market, the two methods must have “same cost”.
 - Therefore, $P_e = \frac{8 \cdot P_c + \text{exercise price}}{9}$

8.4.2 Method 2. Balance-sheet approach

- Assume the same ratio, cum-rights price etc. from the example above, plus the following data:
 - Original num of shares outstanding = 8M
- Our deduction:
 1. Original total market value of equity = $8M \cdot P_c$
 2. Proceeds from new rights shares = $1M \cdot P_e$
 3. Final total market value of equity = $8M \cdot P_c + 1M \cdot P_e$
 4. Final num of shares outstanding = 9M
 5. Ex-rights price $P_e = (3.) / (4.) = \frac{8M \cdot P_c + 1M \cdot P_e}{9M}$

8.5 Value of a right

- Now that we have P_e (ex-rights stock price), the value of a right = P_e – exercise price.
- Alternatively, value of a right = $(P_c - P_e) \cdot 8$

8.6 Two scenarios of ignoring a right

8.6.1 Possible in HK:

- Simply ignore, receive no extra cash payment.

8.6.2 In UK (Europe):

- Motivation: to protect shareholders with rights but plans to ignore.
- The ignored shares will be placed to a “new shareholder”, who will pay the “value of the ignored right” to the original shareholder with rights.