Lecture 7. Financial markets: Equity market in details

International finance and globalization

Major Types of Financial Instruments

| Debt | Equity | | | | | |
|--|---|--|--|--|--|--|
| | Preferred Stock | Ordinary (Common) Stock | | | | |
| Repayment of principal/face/par and interest (coupon) | Guaranteed (fixed) dividends | Claim on future profits (Dividends) Not obliged to make periodic payments | | | | |
| Have a maturity date (when face value is paid) | Do not have a maturity date | | | | | |
| The least volatile price -> lower capital gain/losses | More volatile price -> more capital gain/losses | The most volatile price -> the most capital gain/losses | | | | |
| Prior claims in case of default | Receive payments after debt holders in case of default | Junior claims in case of default (after debt and preferred stock) | | | | |
| Least risky | More risky | Most risky | | | | |
| No voting rights | No voting rights (usually) | Have voting rights (usually) | | | | |
| Tax deductible (coupons) | Not tax deductible (dividends) | | | | | |

Equity

Introduction: Methods of Equity Valuation



Market Capitalization of the Company = Equity value = $P_{sh} x$ #shares (e.g. Apple has Mcap of \$1.1 trln as of 28 Sep 2018)



Equity Value $(E) = P_{sh} \times \#$ shares outstanding

- **P**_{sh} Fair Price per Share
- gst Rate of stable growth of dividends
- DPS Dividends per share (DPS=DIV/# shares outstanding)
- TV Terminal Value (shows how much money we would get for the stock if we are to sell it in year N)
 Since equity doesn't have maturity, you should assume that dividends lasts forever and apply Gordon growth formula to calculate the value.
- **i** Discount rate (return on other stocks with the same level of risk)

DDM: Example 1

a) Calculate fair price of the following common stock:
it is expected to distribute a dividend of \$100 per share next year. After that, dividends are expected to grow at rate of 20% for two years and thereafter dividends are expected to grow with 10% growth forever.
Assume that alternative expected rate of return on equity is 15%.
b) Compare your fair price with market price.

$$P_{fair} = \frac{100}{(1+0.15)^1} + \frac{120}{(1+0.15)^2} + \frac{144}{(1+0.15)^3} + \frac{\frac{144(1+0.1)}{0.15-0.1}}{(1+0.15)^3}$$

Lecture 7

Equity

DDM: Example 2

Consider following stocks:

- (A) it is expected to distribute a dividend of \$ 10 per share.
- (B) it is expected to pay a dividend of \$ 5 per share next year. Thereafter, dividend is expected to grow annually at 4% forever.
- (C) it is expected to disburse a dividend of \$10 per share next year. Thereafter, dividend is expected to grow at 20% for five years and then it settles at that level, i.e. no growth.

If the expected rate of return on equity is 10% for A, B and C, which of these three stock you find more valuable?

Answer

| Price of A, P_A $P_B = D_1/(r-g) =$ | = D/r = 100 = 5/(.104) = 83 | 3.3 | | | | | | | |
|--|--------------------------------|---------------|---------------------------------|-------------------------|--------------------------|-----------------|-----------------|------------------------------------|---------------------------------------|
| Year | 1 | 2 | 3 | 4 | 5 | 6 | ••• | T | ••• |
| Div for C | 10 | 12 | 14.4 | 17.28 | 20.74 | 24.88 | | 24.88 | 24.99 |
| P _{C fair} = | $\frac{10}{(1+0.1)^1} +$ | 12 (1+0.1) | $\frac{1}{1}$ + $\frac{1}{(1)}$ | $\frac{14.4}{(+0.1)^3}$ | $+\frac{17.28}{(1+0.1)}$ | $\frac{1}{1}$ + | 20.74 (1+0.1 | $\frac{4}{1)^5} + \frac{1}{(1)^5}$ | $\frac{\frac{24.00}{0.1}}{(1+0.1)^5}$ |

Stock evaluation

Stocks market evaluation

Lecture 7



Stock evaluation

Stocks market evaluation

| Analyze Equity Security Menus | Equity • DES • | a HEL | P DESK 🔄 🏠 🚺 🛱 🤅 ? |
|---|------------------------------|-----------------------|----------------------|
| IBM US \$ 185.97 -1.29 | B185. | 97 / 186.00 | 2×1 |
| At 11:57 Vol 1.632.735 | 186.26P H 186.95 | 7 185.59N | Val 304.324M |
| IBM US Equity 98 Report | 99) Feedback | Page 1/4 | Description: Profile |
| 1) Profile 2) Issu | ue Info 3) | Ratios | 4) Revenue & EPS |
| INTL BUSINESS MACHINES CORP | | | 6) IT Services (CCB) |
| International Business Machines Corpora | ation (IBM) provides com | puter solutions three | ough the use of |
| advanced information technology. The C | Company's solutions inclu | ide technologies, s | ystems, products, |
| services, software, and financing. IBM of | offers its products through | its global sales a | nd distribution |
| organization, as well as through a varie | ty of third party distribute | ors and resellers. | BBGID |
| BBG000BLNNH6] | | | |
| i) Price Chart (GP) | 8) Earn (ERN) 9) Est (EE | 12) Corpora | te Info |
| - MAR | Date Aft-mkt (C) 01 | /21/14 13) www.ibr | n.com |
| man parting an 200 | P/E | 11.90 Armonk, N | Y, United States |
| 1 man has a m | Est P/E 12/13 | 11.03 Empls 43 | 0,000 (09/30/13) |
| 180 V M 180 | T12M EPS (USD) | 15.62 [4] Manager | ment (MGMT) |
| | Est EPS | 16.87 15) Virginia | M Rometty "Ginni" |
| 2013 27 | Est PEG | 1.26 Chairman | /President/CEO |
| Px/Chg 1D (USD) 185.9679/69% | | 16) Jeanette | Horan |
| 52 Wk H (03/15/13) 215.90 | N Dividend (DVD) | Chief Inf | ormation Officer |
| 52 Wk L (10/17/13) 172.57 | Ind Gross Yield | 2.04% 17) John E I | (elly III |
| YTD Change/% -1.602/-0.85% | 5Y Net Growth | 14.26% Senior VI | /Dir:Research |
| Mkt Cap (USD) 201,934.1M | Cash 11/06/13 | 0.95 18) 12M Tot | al Ret (TRA) -2.51% |
| Shrs Out/Float 1,085-9M/1,084-4M | | Beta vs | SPX 0.95 |
| SI/% of Float 25.9M/2.39% | | 20) Deposita | ary Receipts |
| Days to Cover 5.6 | | Active Rec | eipts 6 |

Relative Valuation: Most Commonly used Multiples



Relative Valuation: Step by step procedure

- Search for comparable companies Criteria: Sector, Business Model, Geography, Margin (range), Market Capitalization (range)
- 2. Calculate required multiple for each of these companies
- 3. Take median multiple across the companies
- 4. Compare multiple of your company VS this median

Example:

Assume we want to value a retail company that has operations in Russia with P/E=16 and EV/EBITDA=7.

| Company | Mcap, \$ m | P/E '19E | EV/EBITDA '19E | | |
|---------|------------|----------|----------------|--|--|
| X5 | 9,190 | 15.2 | 6.5 | | |
| Magnit | 7,671 | 17.9 | 6.8 | | |
| Lenta | 1,637 | 9.1 | 5.3 | | |
| O'KEY | 436 | 15.8 | 5.4 | | |
| Median | | 15.5 | 6.0 | | |

According to P/E and EV/EBITDA our company is **Overvalued**=> Sell it!

Equity Valuation

| Company | Country | Currency | мс | EV | EBITDA | EBITDA | EV / | EV / Sales | P/E |
|------------------------------|---------|----------|-----------|---------|---------|--------|--------|------------|--------|
| | | | \$ M | \$ M | 17- '21 | margin | EBITDA | 2., 5 | - / - |
| APPLE INC | USA | USD | 1 077 653 | 948 510 | 7% | 30,6% | 11,7x | 3,6x | 18,2x |
| AMAZON.COM INC | USA | USD | 900 521 | 919 260 | 41% | 13,6% | 28,8x | 3,9x | 68,1x |
| BERKSHIRE HATHAWAY INC-CL A | USA | USD | 545 056 | 324 307 | n/a | 16,3% | 8,1x | 1,3x | 23,4x |
| TESLA INC | USA | USD | 42 585 | 53 243 | 570% | 7,9% | 32,8x | 2,6x | -38,9x |
| TWITTER INC | USA | USD | 21 364 | 18 399 | 40% | 36,6% | 17,3x | 6,3x | 40,2x |
| SNAP INC - A | USA | USD | 9 433 | 7 863 | n/a | -58,7% | -11,6x | 6,8x | -13,2x |
| SBERBANK OF RUSSIA PJSC | Russia | RUB | 62 052 | 42 367 | n/a | n/a | n/a | 1,4x | 5,0x |
| GAZPROM PJSC | Russia | RUB | 60 942 | 92 461 | 9% | 27,7% | 2,7x | 0,7x | 3,3x |
| NOVATEK PJSC-SPONS GDR REG S | Russia | USD | 54 593 | 56 507 | 5% | 35,4% | 13,9x | 4,9x | 15,8x |
| MAGNIT PJSC-SPON GDR REGS | Russia | USD | 6 785 | 8 453 | 9% | 7,1% | 5,9x | 0,4x | 10,5x |
| SISTEMA PJSC-REG S SPONS GDR | Russia | USD | 1 184 | 13 313 | 1% | 28,0% | 4,4x | 1,2x | n/a |

| | D. 14.4 | Closing Price | Share Price Performance | | | | | |
|------------------------------|----------------------|------------------|-------------------------|--------|--------|--------|--------------------|---------------|
| Company | Dividend Yield, % | | YTD | -12 м | -6 м | -3 м | V с -1 м | olatility 60D |
| APPLE INC | 1,22 | 223 | 31,8% | 43,7% | 32,5% | 18,7% | 0,8% | 21,58 |
| AMAZON.COM INC | 0,00 | 1 846 | 57,9% | 86,6% | 31,4% | 7,9% | -5,4% | 22,20 |
| BERKSHIRE HATHAWAY INC-CL A | 0,00 | 331 460 | 11,4% | 18,0% | 12,7% | 16,8% | 3,0% | 15,27 |
| TESLA INC | 0,00 | 250 | -19,8% | -30,1% | -16,6% | -19,2% | -5,2% | 78,07 |
| TWITTER INC | 0,00 | 28 | 17,4% | 57,9% | 0,3% | -39,6% | -7,5% | 62,71 |
| SNAP INC - A | 0,00 | 7 | -49,5% | -50,1% | -48,2% | -45,4% | -25,6% | 36,84 |
| SBERBANK OF RUSSIA PJSC | 9,17 | 192 | -14,8% | -1,2% | -25,3% | -15,4% | 9,7% | 36,34 |
| GAZPROM PJSC | 5,33 | 172 | 31,7% | 39,2% | 21,4% | 18,5% | 15,5% | 26,27 |
| NOVATEK PJSC-SPONS GDR REG S | 1,53 | 180 | 49,6% | 51,5% | 26,9% | 16,9% | 4,2% | 38,13 |
| MAGNIT PJSC-SPON GDR REGS | 3,53 | 13 | -51,3% | -66,8% | -29,4% | -24,2% | -5,2% | 39,39 |
| SISTEMA PJSC-REG S SPONS GDR | 0,00 | 2 | -41,2% | -47,6% | -37,4% | -14,1% | 8,1% | 32,70 |

Essential reading for Lecture 7:

- Buckle, M. and E. Beccalli Principles of banking and finance (UOL study guide) pp. 152-155, 26-30 (excluding The term structure of interest rates), 32-36
- 2. Brealey, Myers and Allen. Principles of Corporate finance. **pp. 74-86**
- Mishkin, F. and S. Eakins Financial Markets and Institutions. (Addison Wesley) Chapter 13