Equity

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Tor Vergata University

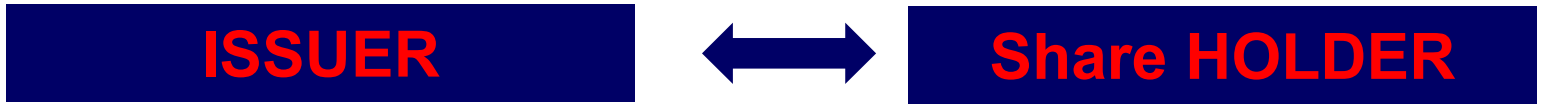
Why are they issued?

They are issued to supply/collect capital by a corporation.

Common Stock Certificate

Investing in Equity: Introduction

The purchase of shares/stocks gives the investor the status of shareholder (owner of a corporate) and implies the investment in risk capital.



Corporate that needs to collect Risk Capital

Owner

The rights of a shareholder: 1

Ownership gives common stockholders certain rights and privileges that bondholders do not have.
In particular, unlike bondholders common shareholders can VOTE:

- **to select members of the *board of directors*;**
- **on major issues facing the firm, such as mergers and other important issues (for example: a change in corporate goals).**

The rights of shareholder: 2

Shareholder have also financial rights:

i. **repayment of capital in case of liquidation of the company;**
ii. **payment of dividend.**

However capital repayment and dividends are subordinated to the fact that bondholders have already received their cash flows (coupon payments and capital borrowed):

- **dividend can be distributed only if the company have profits (meaning that all passive interests have been paid);**
- **the capital is repaid only if the sale of the company's assets made it possible to repay the capital borrowed by the bondholders.**

A particular type: preferred stocks

Shareholder of preferred stocks have

i. **Less voting rights;**
ii. **More financial rights (for example: *in case of liquidation they are reimbursed before the common stocks*).**

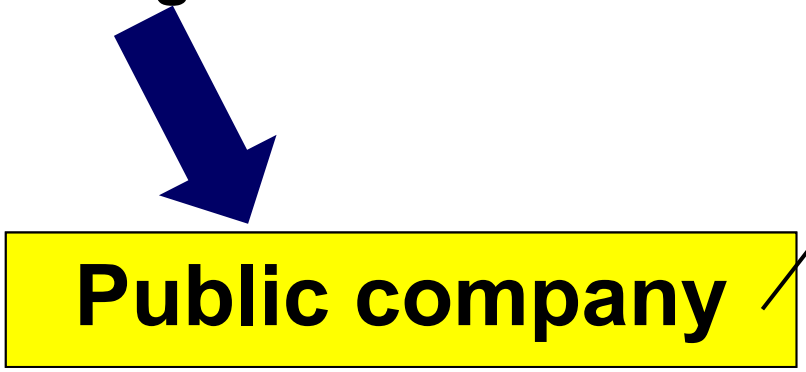
These stocks area less liquid than the common stocks.

Why investing in stocks?

i. Investing with the only purpose to make a profit
ii. (In addition to profit purposes), to control a company

In the first case, even a small investment is enough.

In the second case, only a high percentage of participation can guarantee control of a company.



Equity holdings are highly fragmented, so with a 15% you can control a company

The shareholder profits

i. **dividends**
ii. **capital gain, that is the difference between the purchase price and the sale price**

The shares, unlike the bonds, do not have a maturity and therefore the only way to disinvest is to sell the shares on the Stock Exchange.

If the shares are not listed on a Stock Exchange, the disinvestment is generally very complicated.

Equity: Valuation

From the bond valuation……..

Pricing of Financial Assets

- **Pricing of Financial asset is based on a <u>BASIC RULE</u>:**

Asset Price = Present Value of future cash flows

$$P = \sum_{t=1}^{n} \frac{E(CF_t)}{(1+r)^t}$$

Where:

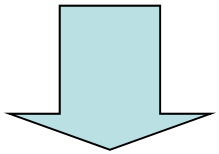
***P* = Asset Price**

E*(CF_t) = Cash Flow that the asset is expected to pay at time *t

***r* = Fair return required by the investor (the discount rate)**

Stock: Pricing Problems

- **Maturity uncertain**
- **Cash flow (dividend) unknown**
- **Timing of cash flows unknown**



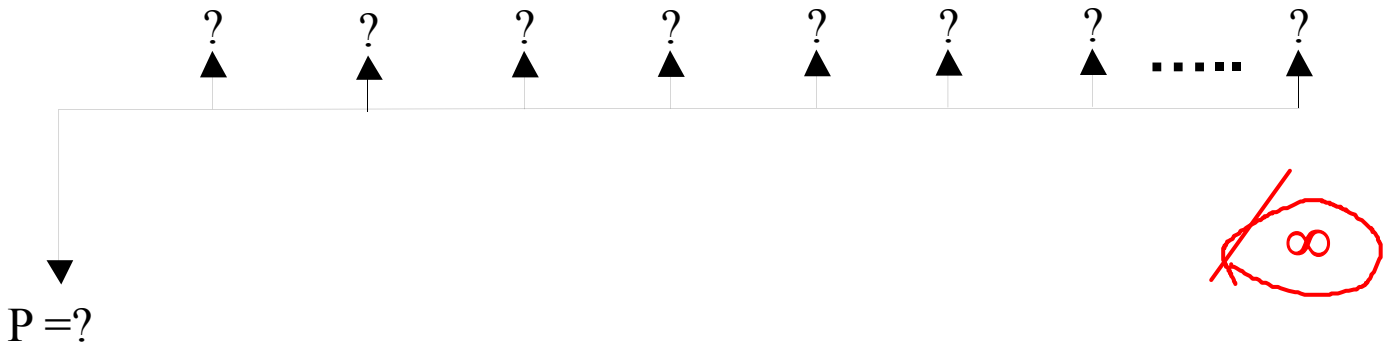
These problems hugely affect the stock valuation

Equity Pricing

Suppose we need to price the following stock:

T = Maturity = no maturity
dividend frequency = yearly (if paid)
Dividend Value = unknown

So, the financial structure of the stock is the following:



- **In order to price the stock, we need to estimate the future cash flows and we need to discount them choosing a discount rate (the *fair return*).**

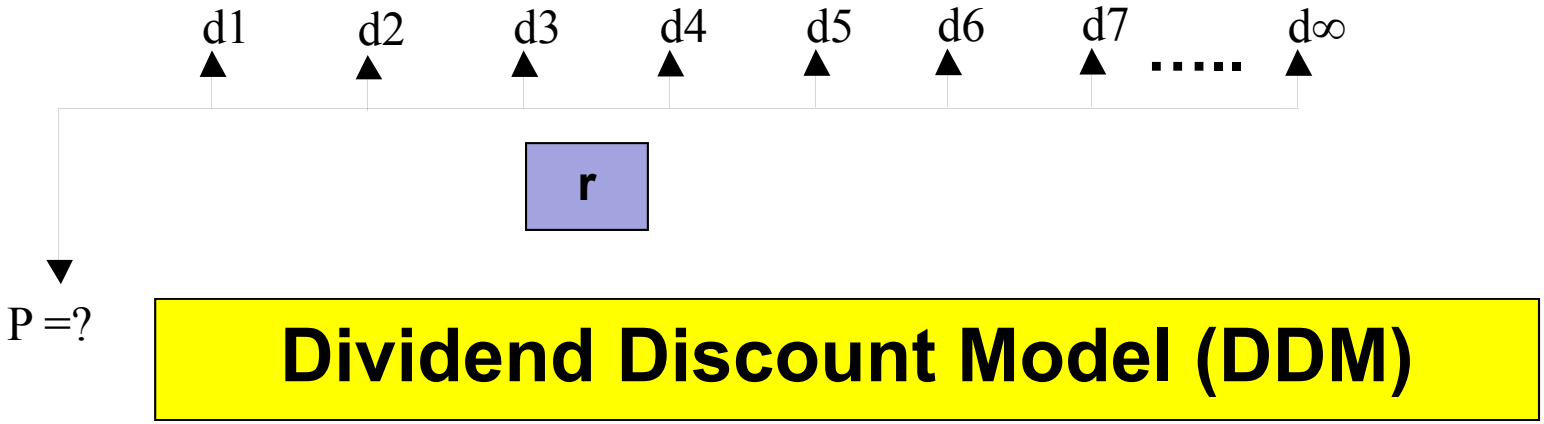
... much more difficult than valuing a bond

- **Cash flows are not known: they must be estimated**
- **We don't have a yield curve to estimate the discount rate.**

But, if you:

- **estimate all the future dividends paid by the company;**
- **estimate the discount rate able to measure the fair return required by the investor**

You can calculate the equity price as the present value of dividends……..



Dividend Discount Model (DDM)

DDM: The Gordon Model

- Given the need to estimate a number of dividends equal to infinite, the DDM can not be applied in practice.
- In order to simplify the application of the model, Gordon suggests assuming that dividends grow at a constant rate "g" (growth rate).
- For example, given the expected dividend of 2€ at time t_1, assuming a 3% growth rate, the dividend at time t_2 is assumed to be 2.06€ [=2×(1+3%)]; the dividend at time t_3 is assumed to be 2.122€ [=2,06×(1+3%)].
- Under this (strong and unlikely) assumtion, The fair price P can be calculated as follows:

$$P = \frac{D_1}{(r-g)}$$

Gordon Model: Example

Suppose we need to price a stock given the following information:

Next expected dividend = D_1= 2€

Expected growth rate = g = 1,5%

Fair return = r = 7%

$$P = \frac{D_1}{(r-g)} = \frac{2€}{(7\% - 1{,}5\%)} = 36{,}36€$$

Equity Valuation:
Practice is different from Theory

- **For stock valuation, analysts rarely use the Dividend Discount Model.**
- **So that, despite the academic relevance, this model is fairly ignored in practice.**
- **Analysts generally use:**
  - **different "*discounted cash flow*" models;**
  - **models based on *ratios (for example price earning ratio).***

Equity Valuation:
Practice is different from Theory

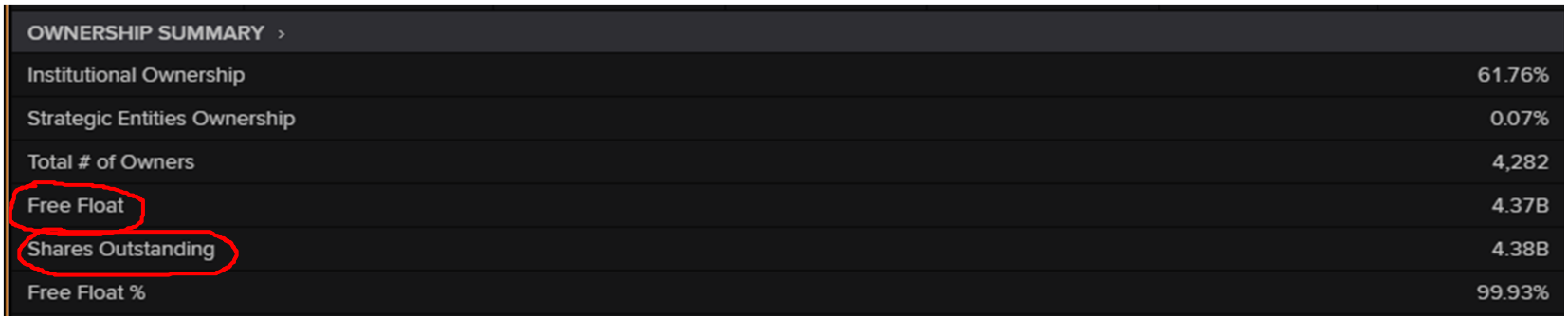
- By applying together different models, analysts arrive at the estimate of a fair price, P*
- This P* is then compared with the market price (P_{mkt})

If $P_{mkt} < P^*$ the stock is underpriced, it is possible to buy a stock on the Exchange at a lower price than the one considered fair → **Buy**

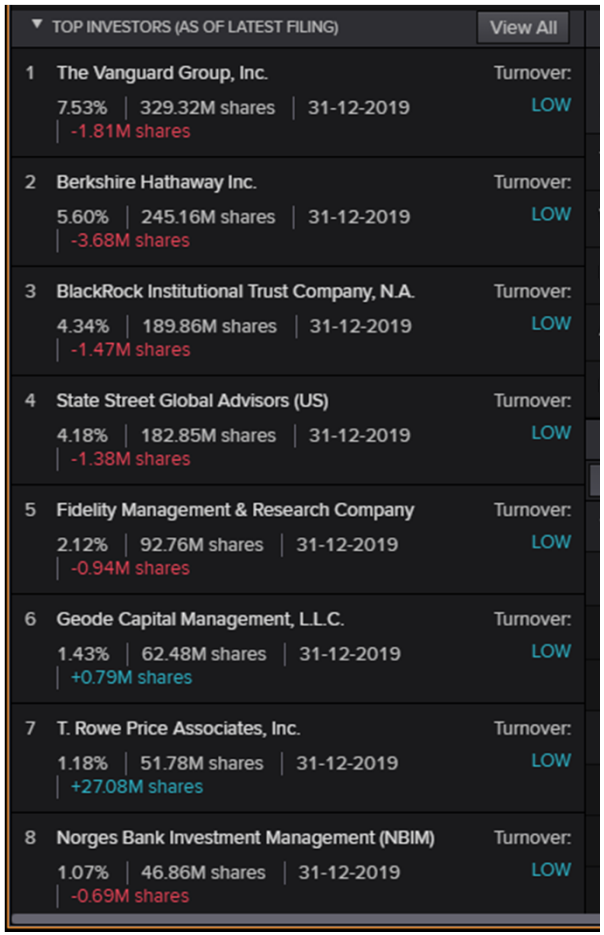
If $P_{mkt} > P^*$ the stock is overpriced, it is possible to sell a stock on the Exchange at a higher price than the one considered fair → **Sell**

If $P_{mkt} \approx P^*$ the stock is correctly priced, no reasons for selling or buying → **Hold**


AAPL.O
Apple Inc | Trading
AAPL.O APPLE IN...
Updated: 21-Apr-2020 08:52:08
Trading TOV
United States | NSQ | Phones & Handheld Devices
276.930000 c USD -5.87 -2.0757 % Vol 32,503,750 CAM 61 CCR 95
Overview
News & Research
Price & Charts
Estimates
Financials
ESG
Event
Ownership
Debt & Credit
...
PRICE PERFORMANCE
Open 277.95
Prev. Close 282.80
Bid / Ask 277.02 / 277.25
VWAP 279.1129
Turnover USD 9.07B
Volume 32,503,750
Short Interest 0.893%
YTD -5.69%
Beta (5Y Monthly) 1.149
Mkt Cap - Default USD 1.212T
PE (LTM) 21.872
Div Yield 1.112%
DR BRL AAPL34.SA (1:0.1)
DR Type --
DR Bank --
AAPL.O : 276.93
282.00
281.00
280.00
279.00
278.00
276.93
10:00
12:00
13:30
15:00
Today
5D
3M
6M
1Y
5Y
YTD
No Benchmark
Last
52Wk: 170.270
03-Jun
327.850
29-Jan
Daily
Next Earn Report: 30-Apr-2020
Free Float 4.37B
Outstanding 4.38B
IPO Date 12-Dec-1980
Asset Type Ordinary Share
Share Class --
Lot Size 100
5 yr CDS 28.22 bps
Δ Today 0.32%
Δ 1 Week -0.11
TOP BROKERS
Today
5 Days
10 Days
20 Days



OWNERSHIP SUMMARY ›	
Institutional Ownership	61.76%
Strategic Entities Ownership	0.07%
Total # of Owners	4,282
Free Float	4.37B
Shares Outstanding	4.38B
Free Float %	99.93%



TOP INVESTORS (AS OF LATEST FILING) View All

1	The Vanguard Group, Inc.	7.53% | 329.32M shares | 31-12-2019 | -1.81M shares	Turnover: LOW
2	Berkshire Hathaway Inc.	5.60% | 245.16M shares | 31-12-2019 | -3.68M shares	Turnover: LOW
3	BlackRock Institutional Trust Company, N.A.	4.34% | 189.86M shares | 31-12-2019 | -1.47M shares	Turnover: LOW
4	State Street Global Advisors (US)	4.18% | 182.85M shares | 31-12-2019 | -1.38M shares	Turnover: LOW
5	Fidelity Management & Research Company	2.12% | 92.76M shares | 31-12-2019 | -0.94M shares	Turnover: LOW
6	Geode Capital Management, L.L.C.	1.43% | 62.48M shares | 31-12-2019 | +0.79M shares	Turnover: LOW
7	T. Rowe Price Associates, Inc.	1.18% | 51.78M shares | 31-12-2019 | +27.08M shares	Turnover: LOW
8	Norges Bank Investment Management (NBIM)	1.07% | 46.86M shares | 31-12-2019 | -0.69M shares	Turnover: LOW

AAPL.O | Apple Inc | Recommendations & Target Price

AAPL.O APPLE IN...

United States | NSQ | Phones & Handheld Devices

276.930000 c USD -5.87 -2.0757 % Vol 32,503,750 CAM 61 CCR 95

Updated: 21-Apr-2020 08:58:37
Recommendations & Target Price REC

Overview | News & Research | Price & Charts | Estimates | Financials | ESG | Event | Ownership | Debt & Credit | ...

RECOMMENDATIONS & TARGET PRICE

Current Recommendation 2 BUY | Current Target Price $302.88 (+9.37%) | Current Long-Term Growth (LTG) 12.64%

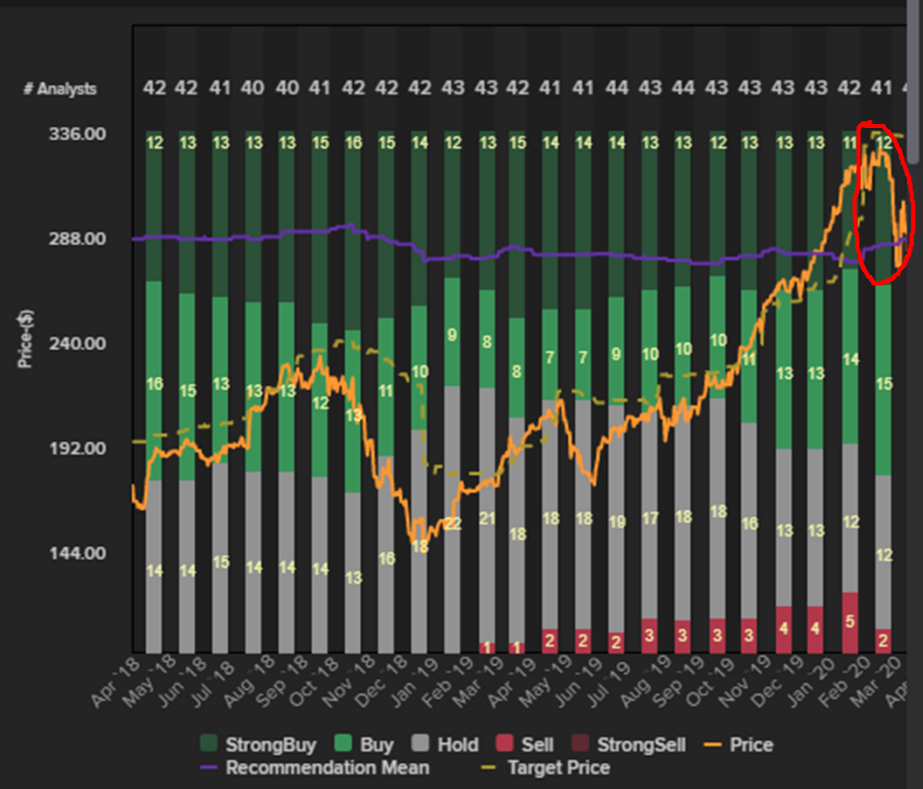
SUMMARY GRID

RECOMMENDATION SUMMARY

	Analysts Per level			
	21-Jan-2020	21-Feb-2020	21-Mar-2020	Current
1-StrongBuy	11	12	13	13
2-Buy	14	15	16	17
3-Hold	12	12	9	7
4-Sell	5	2	2	3
5-StrongSell	-	-	-	-
Rec Mean	**2.3**	**2.1**	**2.0**	**2.0**

PRICE TARGET SUMMARY

Price Target	Target			
	21-Jan-2020	21-Feb-2020	21-Mar-2020	Current
Median	$295.50	$350.00	$325.00	$300.00
Mean	$290.15	$333.31	$320.99	$302.88



RECOMMENDATION & PRICE TARGET DETAIL

Contributor	Analyst	Current Recommendation	Rec. Date	Review Date	Analyst Rec. Rating	Price Target	% Diff from	Price Tar

Equity Valuation: you saw just the top of the iceberg…..

****The analysis of these models, applied in practice, able to capture the fair value of a stock or a company is typical of the advanced courses of "Corporate Finance"***

Equity: Risk

Purpose

The purpose of this section is to offer an examination of the two relevant risks affecting the equity investment

Stocks: Risk Factors

Assume that we have to analyze a share denominated in euros.
These are the risk factors:

- Market (or Systematic) Risk;
- Specific Risk.

Market/Systematic Risk

This measure is a partial risk measure, as it "captures" only a portion of the overall risk of a stock.

Definition: “Market risk represents the sensitivity of a Stock to the performance of the market (in which the security is listed). In other words, market risk measures the variability of the stock attributable to the variability of the stock market”.

Risk Factor 1: Market Risk

Info:

a. June 29, 2012 at 11:05 am
b. Stocks **ENI** **e** **FIAT**

Eni	15,94	-0,56	
Fiat	3,728	-3,57	1

Nome	Ultimo Valore	Var %
FTSE MIB	13.349,93	-1,44

Reuters (06/29/2012): In April the *industrial production in Italy fell -1.9% on a monthly basis and -9.2% on an annual basis. A worse result than that expected by analysts*

A problem related to the overall market

Even Coronavirus impact on equity market is Systematic Risk

Beta

Market risk of a stock is quantified using the Beta (β).

$$\beta_i < 1$$

Defensive Stock

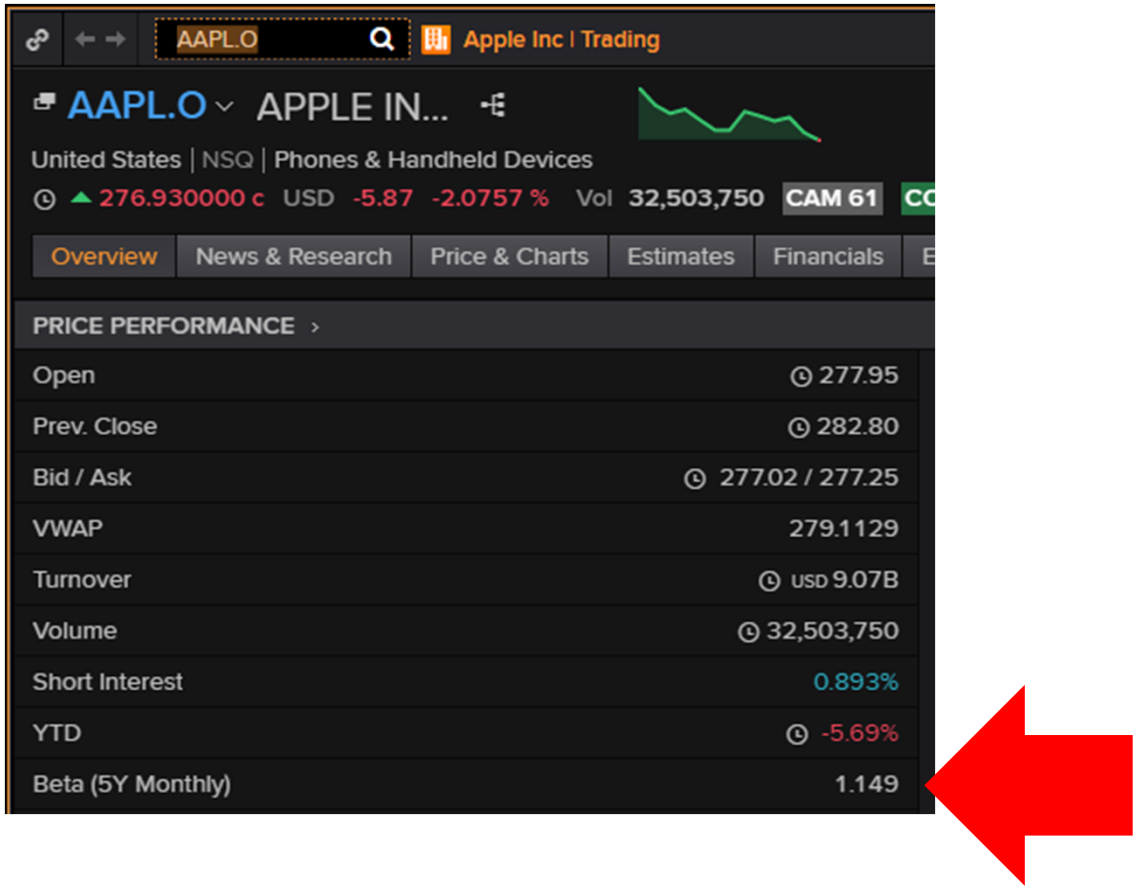
$$\beta_i = 1$$

Neutral Stock

$$\beta_i > 1$$

Aggressive Stock

Beta: Example



Beta: Example

Beta=1,149

This means that in case of a variation of the US stock market of -10%, Apple stock is expected to vary by -11.49%. $= -10\% \times 1.149$

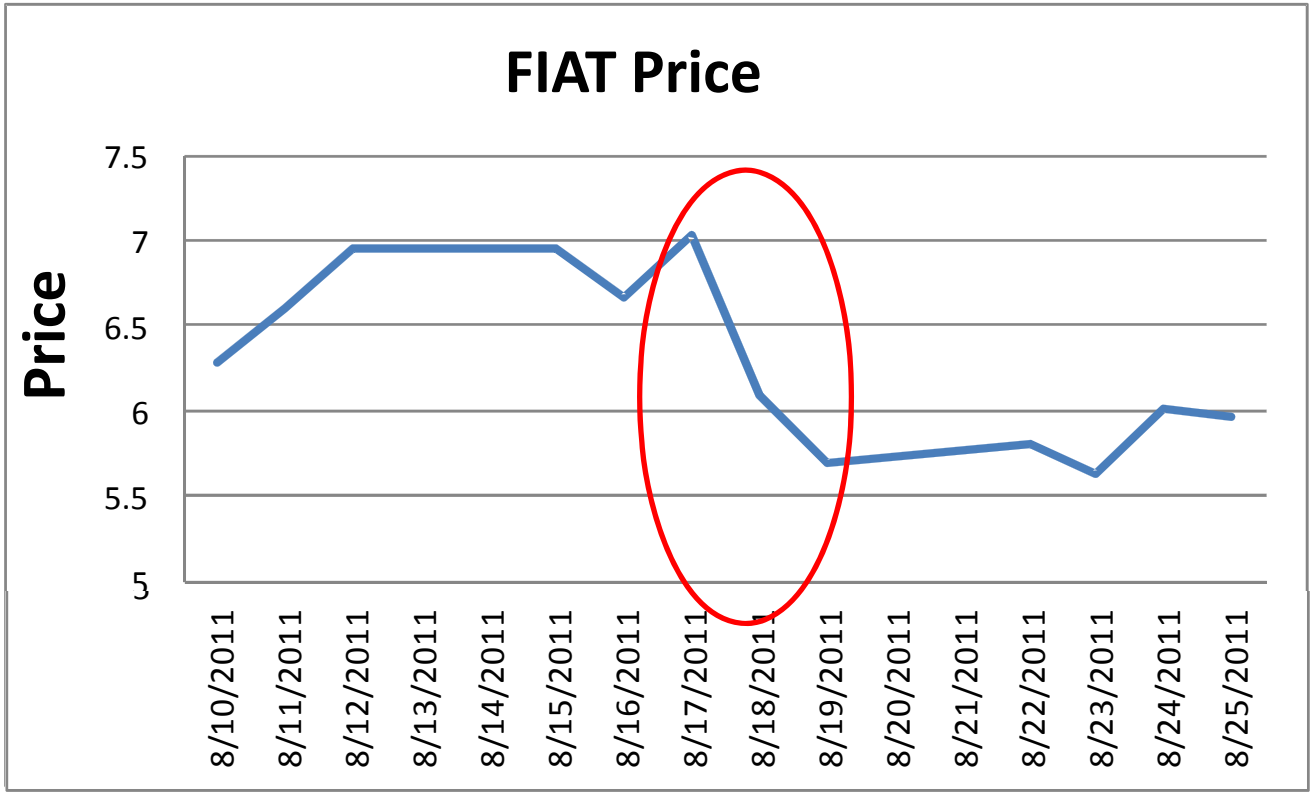
This means that in case of a variation of the US stock market of +10%, Apple stock is expected to vary by +11.49%.

Risk Factor 2

Info:

a. **August 17, 2011**

b. **FIAT**



-19% in two days

Risk Factor 2

The Brasilian Effect (Il Sole 24 Ore Website)

Fiat has lost market share and has had to surrender the scepter of market leader to Volkwagen.

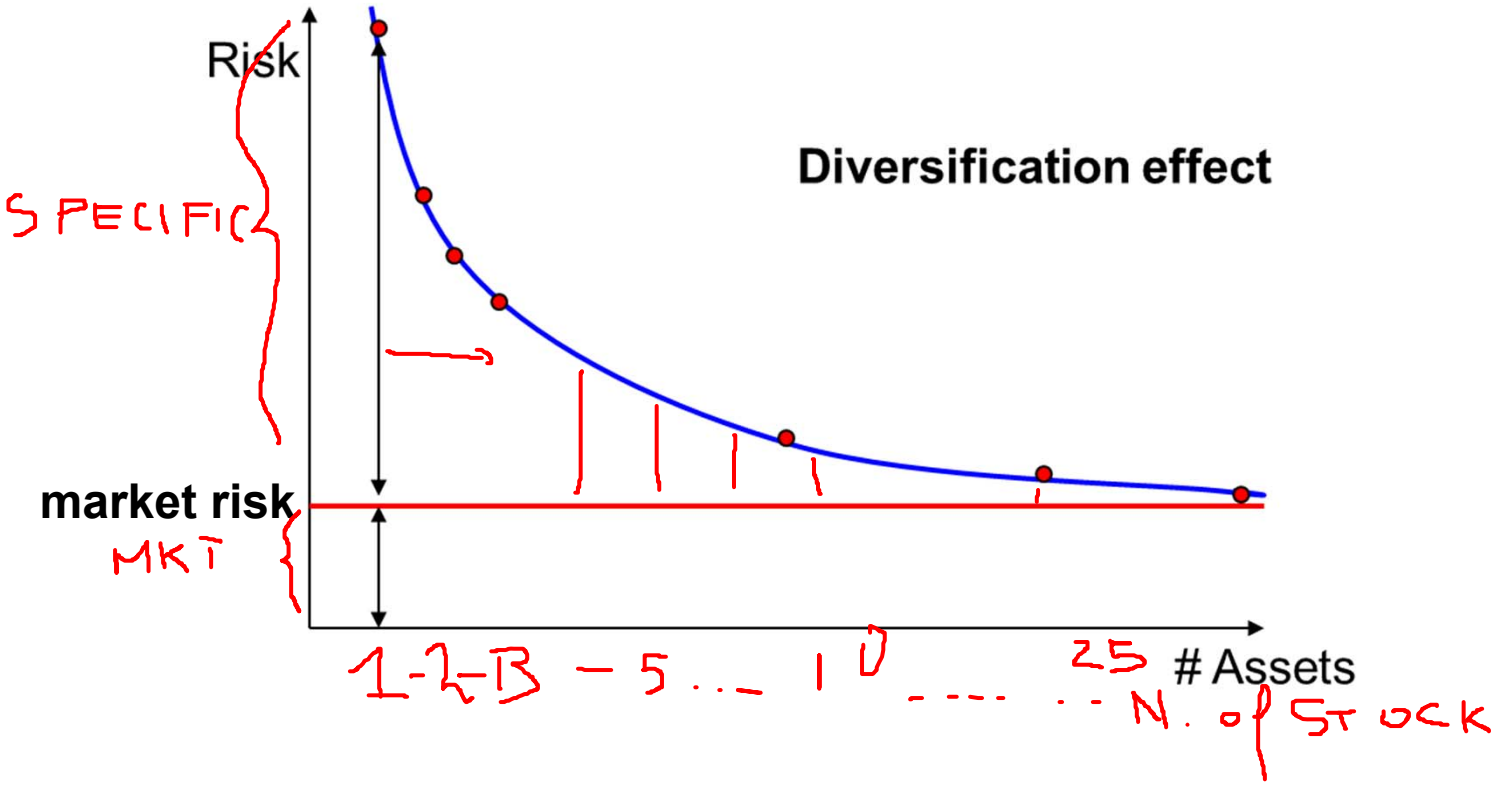
Risk Factor 2: Specific Risk

This measure is also a partial risk measure, as it "captures" only a portion of the overall risk

Definition: “Specific risk represents the risk explained by specific elements of the company (for example: quality of management, sector to which it belongs, operational efficiency, level of debt, etc.)”.

A synthetic measure capable of quantifying the specific risk doesn’t exist.

Systemic Risk Vs Specific Risk



If the specific risks can be reduced by investing in different assets the market risk can not, and represents the risk of a well diversified portfolio.

Further information on Equity: Market Value or capitalization

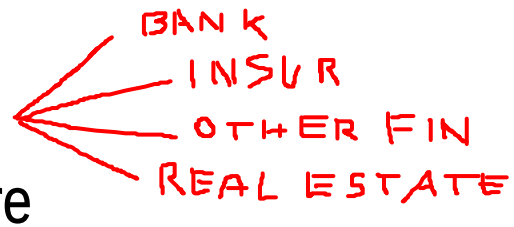
The total value of the shares issued by a company is called Market Value or Capitalization.

It is calculated as the product between the market price of a stock and the number of stocks issued

Further information on Equity: Sector

Each stock can be attributed to 10 macro-sectors:

1. Information Technology
2. Telecommunication
3. Energy
4. Financials
5. Health Care
6. Consumer Discretionary
7. Consumer Staples (Basic Consumer)
8. Materials
9. Industrials
10. Utilities



Further information on Equity: Country

There are many Stock Exchanges, but they can be grouped in five macro regional areas:

1. North America (USA + Canada)
2. Europe (only developed markets) WESTERN
3. Pacific (developed markets: Japan + Hong Kong + Singapore + Australia + New Zealand)
4. Emerging Markets (Asia + Eastern Europe & Middle East + Latin America + Africa) ⇒ BRIC = Brasil-Russia-India-Cina
5. Frontier Markets (which that are too small, risky, or illiquid to be labeled as emerging markets)

Each stock exchange can be included in one of these areas

Further information on Equity: Style

Stocks can be categorized in term of style:

1. VALUE: they have good earnings compared with their Price, so that these stocks have already a “Value”.
2. GROWTH: they have poor earnings if compared with their price, but the market expect a future growth of earnings and other fundamentals of the company. The high price is justified by future growth prospects.

Each stock is today Growth or Value

https://www.msci.com/constituents

Further information on Equity: Size

Stocks can be categorized in term of Size:

1. LARGE CAP.
2. SMALL CAP.