Multinational Company Analysis

Deliverables:
PowerPoint presentation (in PPTX, PPT, or PDF format),
Excel file with company data and all relevant computations,
The group presentation
Peer-evaluation

Due date: see Canvas for details

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The objective of the project is to learn:

1) Where to find and download financial statements and other data of a multinational company.
2) How to analyze financial statements by computing financial ratios and interpret them.
    a. Dupont decomposition
    b. Common size income statement computation
    c. Asset management ratios
    d. Debt management ratios
3) How to value company using Discounted Cash Flow model (DCF):
    a. Working capital and capital expenditure calculations;
    b. Calculations of Free cash flows;
    c. Computation of Total Intrinsic value of an enterprise,
    d. Computation of Total Intrinsic value of Equity and Intrinsic value of equity per share.

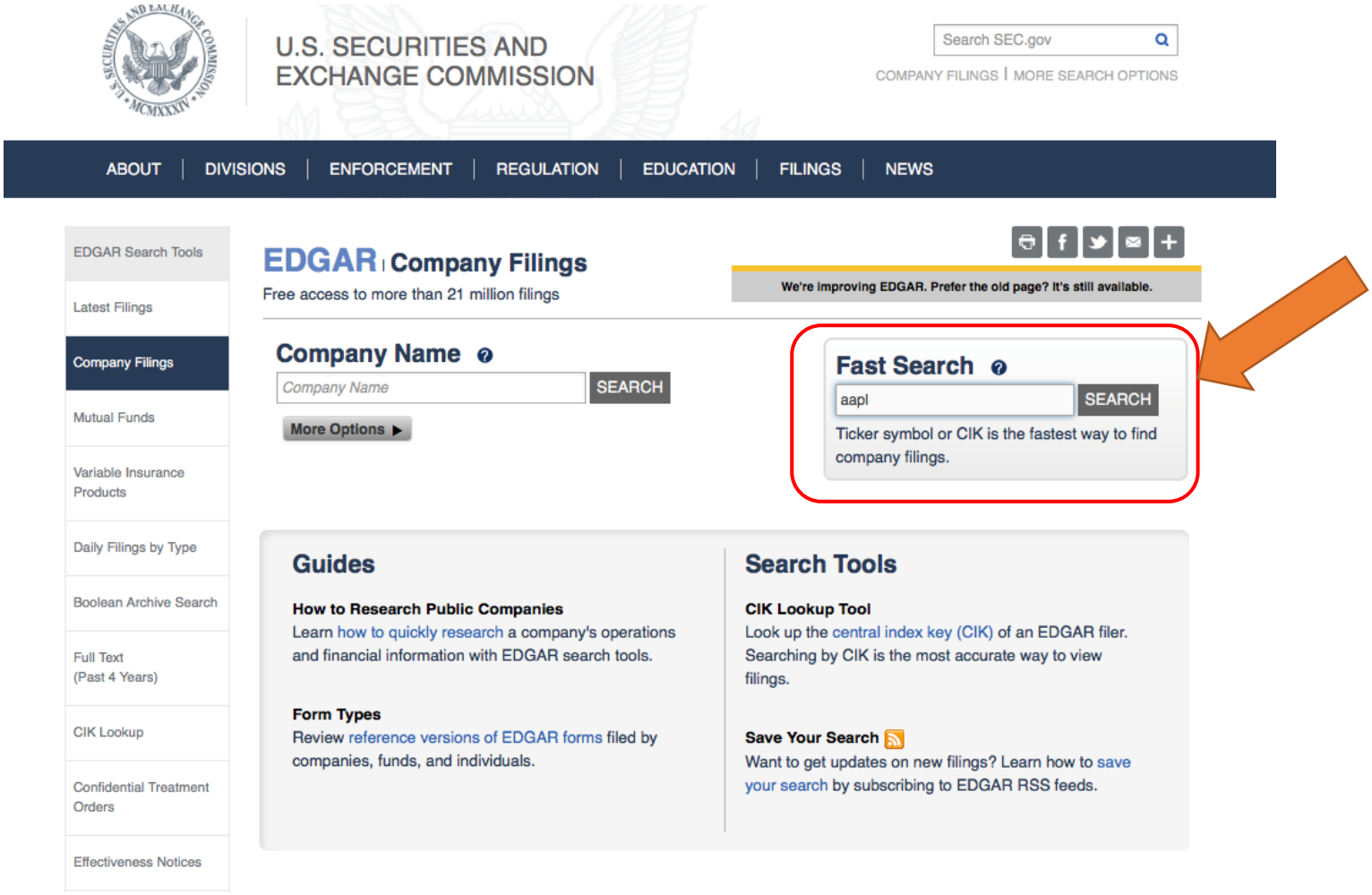
The final step of the project is to compare the computed intrinsic value per share to the actual market price per share.

Each group will be assigned a multinational company to analyze. You don't select a company by yourself.

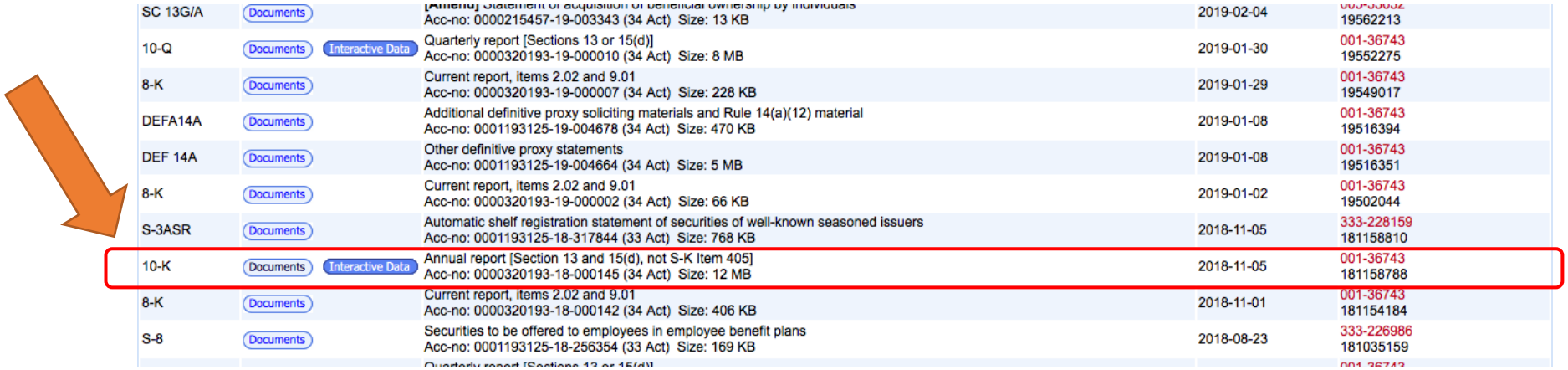
Where to find and download financial statements and other data of a multinational company.

1. Download data from the SEC.gov
    a. Click on <Company Filings>

b. Type in your company ticker symbol in Fast search window

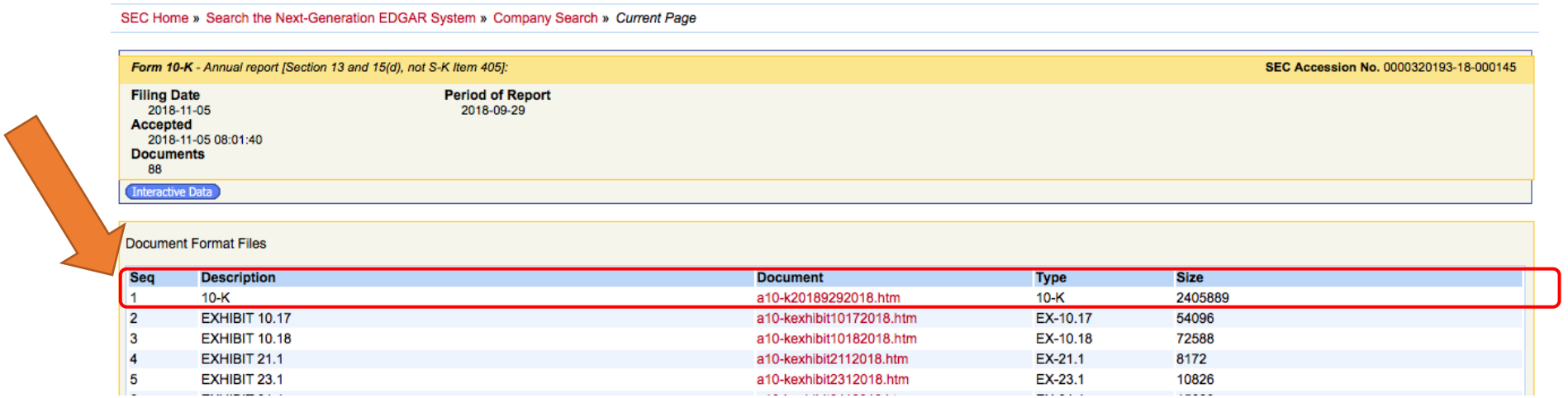


2. Look for the most recent 10-K



SC 13G/A	Documents	[Amend] Statement of acquisition of beneficial ownership by individuals Acc-no: 0000215457-19-003343 (34 Act) Size: 13 KB	2019-02-04	19562213
10-Q	Documents Interactive Data	Quarterly report [Sections 13 or 15(d)] Acc-no: 0000320193-19-000010 (34 Act) Size: 8 MB	2019-01-30	001-36743 19552275
8-K	Documents	Current report, items 2.02 and 9.01 Acc-no: 0000320193-19-000007 (34 Act) Size: 228 KB	2019-01-29	001-36743 19549017
DEFA14A	Documents	Additional definitive proxy soliciting materials and Rule 14(a)(12) material Acc-no: 0001193125-19-004678 (34 Act) Size: 470 KB	2019-01-08	001-36743 19516394
DEF 14A	Documents	Other definitive proxy statements Acc-no: 0001193125-19-004664 (34 Act) Size: 5 MB	2019-01-08	001-36743 19516351
8-K	Documents	Current report, items 2.02 and 9.01 Acc-no: 0000320193-19-000002 (34 Act) Size: 66 KB	2019-01-02	001-36743 19502044
S-3ASR	Documents	Automatic shelf registration statement of securities of well-known seasoned issuers Acc-no: 0001193125-18-317844 (33 Act) Size: 768 KB	2018-11-05	333-228159 181158810
10-K	Documents Interactive Data	Annual report [Section 13 and 15(d), not S-K Item 405] Acc-no: 0000320193-18-000145 (34 Act) Size: 12 MB	2018-11-05	001-36743 181158788
8-K	Documents	Current report, items 2.02 and 9.01 Acc-no: 0000320193-18-000142 (34 Act) Size: 406 KB	2018-11-01	001-36743 181154184
S-8	Documents	Securities to be offered to employees in employee benefit plans Acc-no: 0001193125-18-256354 (33 Act) Size: 169 KB	2018-08-23	333-226986 181035159

3. Download 10-K in "HTML" format and in Excel format
   a. For HTML version click on Documents



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Form 10-K *- Annual report [Section 13 and 15(d), not S-K Item 405]:* **SEC Accession No.** 0000320193-18-000145

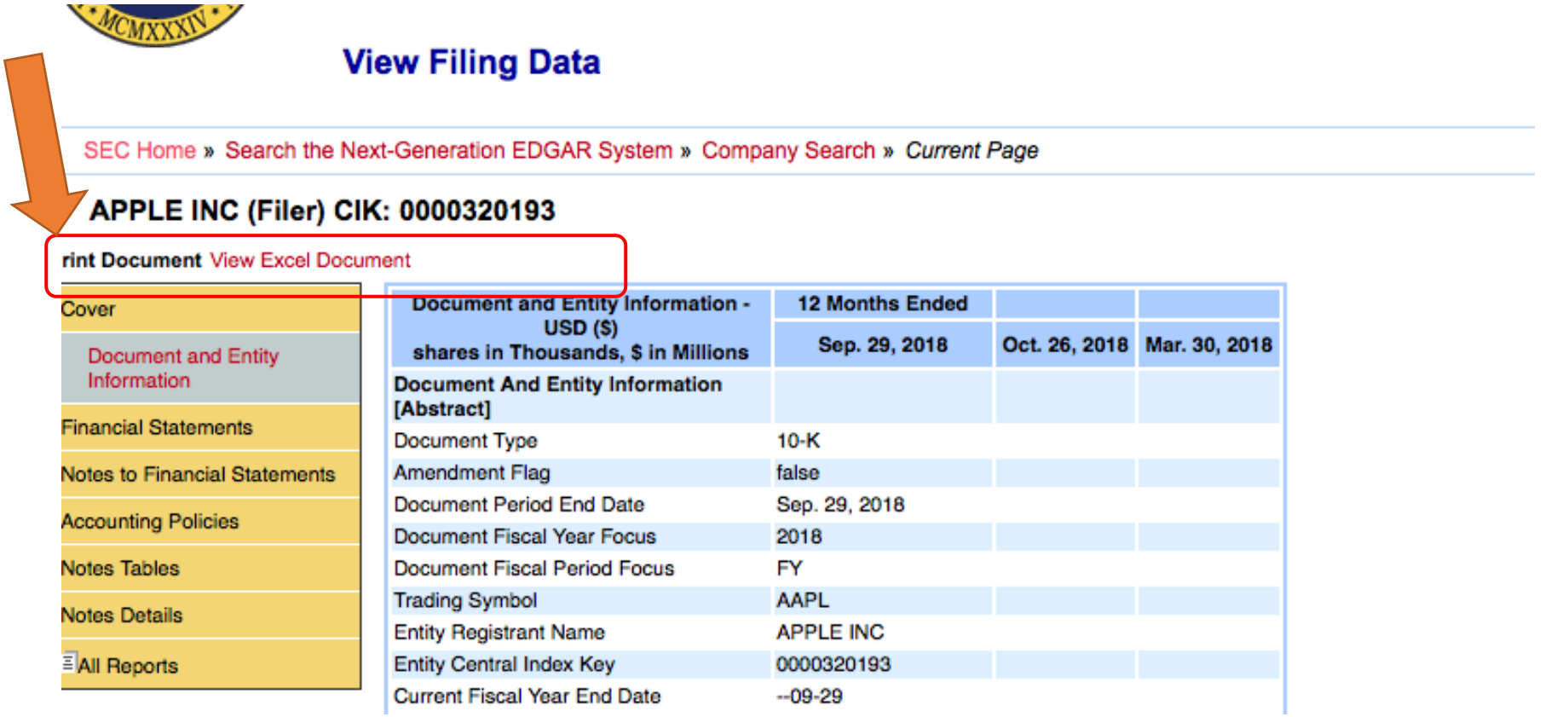
Filing Date
2018-11-05
Accepted
2018-11-05 08:01:40
Documents
88
Period of Report
2018-09-29

Interactive Data

Document Format Files

Seq	Description	Document	Type	Size
1	10-K	a10-k20189292018.htm	10-K	2405889
2	EXHIBIT 10.17	a10-kexhibit10172018.htm	EX-10.17	54096
3	EXHIBIT 10.18	a10-kexhibit10182018.htm	EX-10.18	72588
4	EXHIBIT 21.1	a10-kexhibit2112018.htm	EX-21.1	8172
5	EXHIBIT 23.1	a10-kexhibit2312018.htm	EX-23.1	10826

   b. For the Excel version click on <Interactive data> and then on <View Excel Document>



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APPLE INC (Filer) CIK: 0000320193

rint Document View Excel Document

- Cover
- Document and Entity Information
- Financial Statements
- Notes to Financial Statements
- Accounting Policies
- Notes Tables
- Notes Details
- All Reports

Document and Entity Information - USD ($) shares in Thousands, $ in Millions	12 Months Ended		
	Sep. 29, 2018	Oct. 26, 2018	Mar. 30, 2018
Document And Entity Information [Abstract]			
Document Type	10-K		
Amendment Flag	false		
Document Period End Date	Sep. 29, 2018		
Document Fiscal Year Focus	2018		
Document Fiscal Period Focus	FY		
Trading Symbol	AAPL		
Entity Registrant Name	APPLE INC		
Entity Central Index Key	0000320193		
Current Fiscal Year End Date	--09-29		

4. Market (area, products), and segment data and information about Foreign exchange risk is in 10-K (see below)

Apple Inc.

Form 10-K

For the Fiscal Year Ended September 29, 2018

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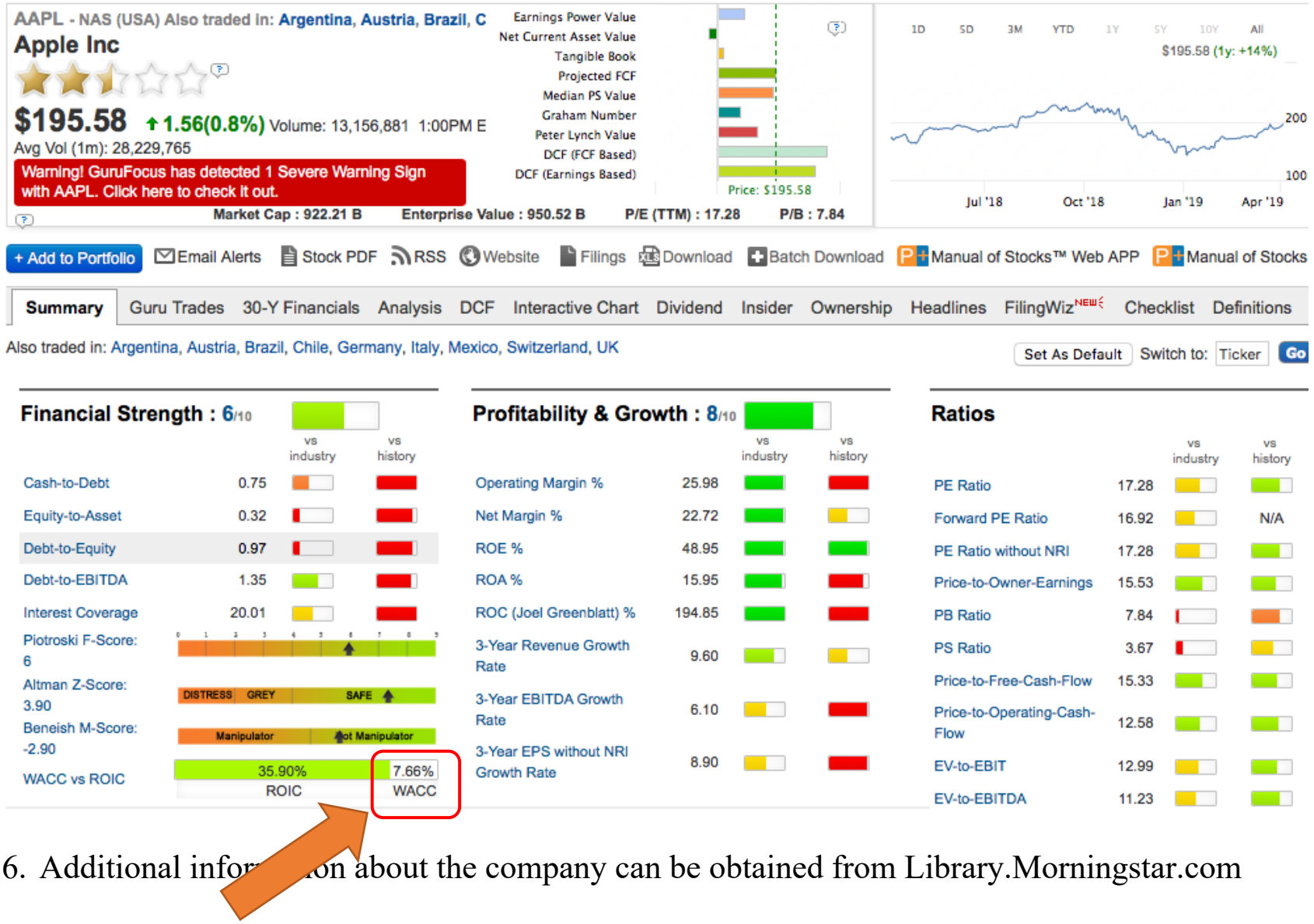
5. To get WACC for Valuation you go to Gurufocus.com, type in your company ticker symbol and search for WACC (see below)



6. Additional information about the company can be obtained from Library.Morningstar.com

For example, to get “Historical Sales data”.

7. You will need to use the 10-K in Excel format to calculate all necessary ratios.

How to analyze financial statements by computing financial ratios and interpret them.

8. Focus your attention on Consolidated Balance Sheet (BS), Consolidated Income Statement (IS), and Consolidated Statement of Cash Flows (SCF).

9. You will be performing all calculations in the 10K file in Excel format on the sheet of Consolidated Income Statement (aka Consolidated Operating Income). This is one of the files you are going to submit.

10. In the Excel file re-arrange and re-name sheets if needed as follows:
    a. Sheet1 = Consolidated Balance Sheets
    b. Sheet2 = Consolidated Income Statement
    c. Sheet3 = Consolidated Statement of Cash Flows
    d. Re-arrange data in financial statements (BS, IS, and SCF) from oldest to newest (usually in the BS and IS the information presented from Newest to Oldest order).
    e. Leave all other sheets in the Excel file but move them after the first three sheets
    f. Do all your calculations on the “Consolidated Income Statement” sheet.

g. Reference all cells that you use in your calculations (KEEP the formulas so I can verify your calculations, if you provide only answers, without calculations you will receive zero credits)

11. Start with Dupont Decomposition for last 3 years (for example see Apple excel file with calculations).

$$ROE = Net\ Profit\ Margin \times Total\ Asset\ Turnover \times Equity\ Multiplier$$

$$ROE = \frac{NI}{Sales} \times \frac{Sales}{Total\ Assets} \times \frac{Total\ Assets}{Common\ Equity}$$

Analyze changes in the main Dupont ratios over time and provide your comments. I am interested in your interpretation of trends in ratios and reasoning.

12. Then construct Common size income statement by dividing each line item in Consolidated Income Statement by Sales or Revenues and analyze three main ratios (the trends): Gross Profit Margin, Operating Profit Margin, and Net Profit Margin over time.

$$Gross\ Proft\ Margin = \frac{Gross\ Profit}{Sales}$$

$$Operating\ Proft\ Margin = \frac{Operating\ Profit}{Sales}$$

$$Net\ Proft\ Margin = \frac{Net\ Income}{Sales}$$

13. Analyze changes in Asset management by calculating the following ratios: AR Turnover, Inventory Turnover, Fixed Assets Turnover over last 2 years. Build charts and provide you interpretation.

$$AR\ Turnover = \frac{Sales}{AR}$$

$$Inventory\ Turnover = \frac{COGS}{Inventory}$$

$$Fixed\ Assets\ Turnover = \frac{Sales}{Fixed\ Assets}$$

$$DSO = \frac{AR}{Sales} \times 365$$

14. Analyze changes in Debt management by calculating following ratios over last 2-3 years (depending on data availability):

$$Total\ Debt\ /Assets = \frac{Long_term\ debt + Short_term\ debt}{Total\ Assets}$$

$$\frac{Long_term\ Debt}{Equity} = \frac{Long_Term\ Debt}{Total\ Sharehodlers\ Equity}$$

$$Times\ Interest\ Earned = \frac{Operating\ Income\ (or\ EBIT)}{Interest\ Expense}$$

Build a chart and provide your interpretation of historical changes in ratios.

How to value company using Discounted Cash Flow model (DCF):

15. Calculate Free Cash Flows using data for the most recent year available in 10-K.

$$FCF = NI + Interest(1 - T) + D\&A - \Delta NWC - CapEx$$

Where,

- ***NI*** is Net Income which can be found in the IS.
- ***Interest*** expense can be found in the IS (seldom) or in the SCF under "Cash paid for Interest" or similarly titled item
- ***T*** is the company's ***average tax rate***, sometime can be found in 10-K or calculated using "Income before provision for income tax" and "Provision for income taxes"

$$Average\ Tax\ rate = \frac{Provision\ for\ income\ taxes}{Income\ before\ provision\ for\ income\ tax}$$

- ***D&A*** is Depreciation and Amortization which represent non-cash expenses and can be found in IS or SCF. Sometimes Depreciation may be included as a portion of Cost of Goods Sold (then see footnote in IS).
- $\Delta \boldsymbol{NOWC}$ – is a change in Net Operating Working Capital (you will need to compute it)

For example, additional investment in Net Operating Working Capital in 2019 can be calculated as follows:

$$\Delta NOWC_{2019-2018} = NOWC_{2019} - NOWC_{2018}$$

Net Working Capital requirements in any year can be calculated as follows:

$$NOWC_{Year} = Operating\ CA_{Year} - Operating\ CL_{Year}$$

Operating Current Assets (CA)	Operating Current Liabilities (CL)
• Operating Cash • Accounts receivable (AR) • Inventory • Prepaid expenses (income taxes etc)	• Accounts payable (AP) • Accrued expenses • Deferred income (unearned revenues)

- ***Operating Current assets*** are short-term assets related to business operations. To calculation OCA we exclude current assets related to financing and/or assets held for sales (marketable securities) from total current liabilities.
- ***Operating Current liabilities*** are total short-term liabilities related to business operations. To calculation OCL we exclude liabilities related to financing (current potion of long-term borrowings, capital lease obligations, short-term borrowings, current deferred taxes etc.) from total current liabilities.
- ***CapEx*** stands for capital expenditures that you may find in the Consolidated Statement of Cash Flows under "Payments for acquisition of property, plant and equipment".

16. Enterprise valuation

Applying DCF model we can calculate the Intrinsic Value of an enterprise (Total Intrinsic Value).

$$\boldsymbol{Total\ Intrinsic\ Value\ = Instrinsic\ value\ of\ Equity + Total\ Debt - Excess\ cash}$$

$$\boldsymbol{Intrinsic\ value\ of\ equity\ = Total\ Intrinsic\ Value - Total\ Debt + Excess\ Cash}$$

Excess cash includes non-operating cash, marketable securities, short-term investments (from the Balance sheet). Sometimes the entire amount of cash is considered non-operating if determining excess cash is problematic (no marketable securities and etc).

Total Intrinsic value of an Enterprise equals **Present Value** of all future Free Cash Flows to the Firm.

$$\boldsymbol{Total\ Intrisic\ Value} = \sum_{t=1}^{\infty} \frac{\boldsymbol{FCFF_t}}{(\boldsymbol{1 + WACC})^t}$$

Since it is impossible to estimate an infinite number of FCFF that company will generate in the future, you can assume that FCFF will grow at a constant long-term growth rate "g". The growth rate can be found on Gurufocus.com or in company's 10-K in HTML format (in the excel file and in your presentation make a note about where did you find the growth rate: for example you can provide URL for the web site or page number in company's 10-K where you found it). If the growth rate is not available anywhere, then you can estimate it as a geometric average growth rate of Sales (or Revenues) over last 5 years, or geometric average growth of FCF for last 5 years. Common assumption is g=4.5%.

$$\boldsymbol{Total\ Intrinsic\ Value} = \frac{\boldsymbol{FCFF_0(1 + g)}}{\boldsymbol{WACC - g}}$$

Where,

- WACC is weighted average cost of capital (that you found earlier on gurufocus.com).
- $FCFF_0$ is the FCF computed in Step 15.
- g is a long-term growth rate.

In the excel file you need to compute **two Intrinsic values** of an enterprise: one using the growth rate that you found (or estimated as mentioned above) and the second one using the commonly assumed growth rate of 4.5%. Same applies to intrinsic value per share.

$$\textbf{Total Intrinsic Value}_1 = \frac{\boldsymbol{FCFF_0(1 + g_{estimated})}}{\boldsymbol{WACC - g_{estimated}}}$$

$$\textbf{Total Intrinsic Value}_2 = \frac{\boldsymbol{FCFF_0(1 + 0.045)}}{\boldsymbol{WACC - 0.045}}$$

If you cannot compute Total intrinsic value because to the growth rate > WACC, then report ***Total Intrinsic Value$_2$*** instead of ***Total Intrinsic Value$_1$.***

Notes on the long-term growth rate:

1) Growth rate (g) can never be greater than WACC, otherwise the TV (or the Intrinsic Value of Enterprise) will be negative.
2) If your growth rate is greater than WACC, make a note in the excel file and estimate Enterprise intrinsic value using only commonly assumed growth rate (g=4.5%).
3) If commonly assumed growth rate is also greater than WACC, then make a note in the excel file that "commonly assumed growth rate cannot be used to estimate the TV since it is greater than WACC". Next, you will need to figure out what growth rate does the market use in estimation of the price per share. For that, you will need to change growth rate manually to a number that will result in the intrinsic value per share that is as close as possible to the actual price on that date. In your presentation report the found growth rate, after noting that estimated growth rate and commonly assumed growth rates could not be used.

This is a "quick and dirty" valuation method, which means it can be used only for approximation.

$$\boldsymbol{Intrinsic\ value\ per\ share} = \frac{\boldsymbol{Intrinsic\ value\ of\ equity}}{\boldsymbol{Number\ of\ shares\ outstanding}}$$

$$\boldsymbol{Intrinsic\ value\ per\ share_1} = \frac{\boldsymbol{Total\ Intrinsic\ value_1 - Total\ Debt + Excess\ Cash}}{\boldsymbol{Number\ of\ shares\ outstanding}}$$

$$\boldsymbol{Intrinsic\ value\ per\ share_2} = \frac{\boldsymbol{Total\ Intrinsic\ value_2 - Total\ Debt + Excess\ Cash}}{\boldsymbol{Number\ of\ shares\ outstanding}}$$

In your PowerPoint file report and compare ***Intrinsic Value per share$_1$*** and **Actual Price Per share** on the date when Balance Sheet was created.

To find the **actual price per share on a specific date**:

1) Go to https://finance.yahoo.com
2) Input company's ticker symbol in the search field
3) Click on the "Historical Data"
4) Input the desired date in the "Time period" field.
5) Click "Apply" button

17. **Deliverables**.

a. Each group has to submit the PowerPoint file with presentation and the Excel file with company's financial statements and all calculations. <u>One submission of the PowerPoint File and the Excel file per team</u>.

   Important! Excel file has to contain formulas with cell references and not just resulting numbers. In other words, I have to be able to see how you computed ratios, FCF, NWC and etc. Do not copy numbers, rather reference cells with numbers in your formulas.

b. Each student must submit a MS Word file with peer-evaluation form via Canvas. In the form you need to list full names of your team members with his/her contribution percentage [0-100%], where 0% means a team member did not participate and did not contribute any work to the project (computational part and presentation); 100% - team member actively participated and contributed to each part of the project. More instructions are available in Canvas.

   Due dates for deliverables can be found in Canvas.

Your presentation should contain next slides:

- Company Overview:
  - 5 Year Trends
  - Main Products and services
  - Geographic revenue distribution
  - Geographic revenue distribution
  - Interesting facts

- Company Financial Performance:
  - Dupont decomposition
  - Income Statement Performance
  - Asset management
  - Debt management

- Company valuation:
  - Calculation of FCF, Total Intrinsic Value, Intrinsic Value of Equity per share
  - Equity valuation slide
  - Conclusion about equity valuation
- Slides on Company foreign currency exposure hedging policy: %% of hedges, maturity of exposure, instruments used for hedging

Presentation requirements:

1) Presentation time 7-8 minutes, 20 slides maximum.
2) Your team will have to narrate each slide and provide interpretation of company performance: financial ratios and etc.
3) For presentation example see *Sample company presentation - Top Widgets SA.pptx*
4) For excel file layout example see *Apple 2017 Financials_NF.xlsx*
5) Apple 10K in HTML is also provided for your references.