JRE300H1S– Foundations of Accounting and Finance –Assignment 1

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PROJECT PART 1: INTEL OVERVIEW

I. Intel's Operating Industry

Intel is recognized as one of the technology giants of our time. They are mostly known for their semiconductor chips but now have grown to compete in the computer hardware industry in general. Alongside being one of the biggest computer hardware corporations in the world, they also have divisions within the company working on the software side of technology.

Table 1.1 Industry Classification

Industry	**Source**
Semiconductor Industry	2018 Annual Report and Form 10-K (Intel Annual Report, 2019)
Microprocessor Chip Manufacturing Industry	Ibisworld
Semiconductors & Semiconductor Equipment	GICS® (S&P Global)

II. Intel's Company Strategy and Corporate Relations

As a company, Intel tries to be an industry leader in technological evolution. They strive to produce great quality products and services that enhance user experiences to create an interconnected world (Intel Annual Report, 2019). More specifically, the Intel group indicates they want to produce the best microprocessors, lead in the development of "Artificial Intelligence" and be the main provider in the evolving data world (Intel Annual Report, 2019). They also seek to be corporate leaders in sustainability, diversity and inclusivity. Intel is considered to be the top the industry and has been a powerhouse for some time.

Table 1.2 Intel's Customer, Suppliers and Competitors (Intel Annual Report, 2019)(Intel Responsibility, 2019)

Customers	Suppliers	Competitors
Computer manufacturers ● Dell, Lenovo, Hewlett Packard Cloud service providers Communication equipment manufacturers	Mineral/Metals Mining corporations Cisco Systems Microsoft Lenovo	Advanced Micro Devices (AMD) NVIDIA Corporation Samsung International Business Machines (IBM)

An important event for Intel in 2018 is their introduction of the 9th generation Intel "Core" i9 processors whose goal is to further advance technology (Intel Annual Report, 2019), push

computing power and engage users and gaming enthusiasts. This event is very important as the introduction of a new product will increase sales, revenue and market capitalization which impacts the various financial statements of the company.

III. Intel's Biggest Risk Factors

The biggest risk faced by a company that is in the technology hardware business is from competitors that innovate quicker and better, especially even more risky if they are beaten in the area they make the most revenues from. For example, Intel makes around 52% of its revenue from its "Client Computing Group" (CCG) which focuses on providing electronic hardware (Intel Annual Report, 2019), such as components in computers, phones and tablets. As this accounts for a majority of their revenues, becoming obsolete in this area due to competitor improvements can majorly impact their profitability. In the technology industry, with many different groups continuously striving to achieve better products and consumers being captivated with newer and better performing products makes for a fad-like consumer behaviour. Recently, AMD has improved its processors performance better than that of Intel's while also maintaining affordable prices to reach a greater range of consumers. AMD continues to announce new processing technology, as well as other companies. Redirecting Intel's customers to other competitors would impact Intel's revenues, sales, therefore experience a decrease in profits.

IV. Financial Reporting Objectives

Intel aims to illustrate the health and stability of its company over recent years through its financial reporting. This aids in informing Intel's various stakeholders to keep the company relevant and competitive by continuing to hold the trust of its shareholders and to attract new investors.

Table 1.4 Stakeholder Identification

Key Stakeholder	**Stakeholder Interests**
Customers	-Products that are current -High-quality microprocessors (compared to for example AMD)
Shareholder	-Share Price -Dividends -Future Growth Potential
Employees	-Company stability -Salary
Suppliers	-Future partnership/deals -Long term business relationship -Profitability

V. Examples of Conceptual Framework for Financial Reporting

Full Disclosure Principle: Use of Notes

One of the qualitative requirements for the conceptual framework for financial reporting is a faithful representation that is complete and neutral. As seen in Figure 1 below Intel makes use of notes accompanying their financial statements to disclose additional information to achieve this requirement.

NOTE 21: COMMITMENTS AND CONTINGENCIES

COMMITMENTS

Leases

Portions of our real property and equipment are under operating leases that expire at various dates through 2028. Rental expense was $231 million in 2018 ($264 million in 2017 and $282 million in 2016).

(In Millions)	2019	2020	2021	2022	2023	2024 and Thereafter	Total
Minimum rental commitments under all non-cancelable leases[1]	$ 229	$ 181	$ 133	$ 101	$ 70	$ 121	$ 835

[1] *Includes leases with initial term in excess of one year.*

Other Commitments

Commitments for construction or purchase of property, plant and equipment totaled $9.0 billion as of December 29, 2018 ($12.1 billion as of December 30, 2017), a substantial majority of which will be due within the next 12 months. Other purchase obligations and commitments totaled approximately $3.2 billion as of December 29, 2018 (approximately $2.7 billion as of December 30, 2017). Other purchase obligations and commitments include payments due under various types of licenses and agreements to purchase goods or services, as well as payments due under non-contingent funding obligations. In addition, we have various contractual commitments with IMFT. For further information on these contractual commitments, see "Note 10: Investments."

Figure 1: Note Use In Report (Intel Annual Report, 2019)

Predictive Value

The Intel 2018 report also illustrates another fundamental qualitative characteristic of the conceptual framework by providing relevant information that has predictive value. As seen in Figure 2 Intel attempts to provide investors with relevant information on some future payments by estimating pension benefit plans until 2028.

ESTIMATED FUTURE BENEFIT PAYMENTS FOR PENSION BENEFIT PLANS

Estimated benefit payments over the next 10 years are as follows:

(In Millions)	2019	2020	2021	2022	2023	2024-2028
Pension benefits	$ 117	$ 111	$ 113	$ 115	$ 115	$ 603

Figure 2: Predictive Value in Report (Intel Annual Report, 2019)

Consistent Elements of Financial Statements

Intel also clearly uses elements in their financial statements that follow the conceptual framework. For instance, the balance sheet on page 67 is organized as expected with the categorization of assets, liabilities and equity. More elements can also be seen on page 65 in the statement of income with the expected format of income and expenses.

PROJECT PART 2: RATIO ANALYSIS

I. Liquidity, Solvent and Profitability Ratios

Table 2.1.1 Intel Liquidity Ratios

Ratio	**2018**	**2017**
Working Capital	$12,161 Million	$ 12,079 Million
Current Ratio	1.73	1.69
Inventory Turnover	3.74	3.44
Days in Inventory	97.65 days	106.19 days
Cash Current Debt Coverage	1.77	1.27
Receivables Turnover	10.54	11.19
Average Collection Period	34.63	32.61

Refer to Appendix A for full calculations

Table 2.1.2 Intel Solvency Ratios

Ratio	**2018**	**2017**
Debt/Total Assets	0.414	0.433
Free Cash Flow	$8,710 Million	$5,260 Million
Times Interest Earned	50.8x	32.5x

Refer to Appendix A for full calculations

Table 2.1.3 Profitability Ratios

Ratio	**2018**	**2017**
Profit Margin	0.297	0.153
Return on Assets	0.165	0.078
Asset Turnover	0.554	0.509
Return on Common Shareholders' Equity	0.282	0.139
Earnings Per Share(diluted)	4.48	1.99
Payout Ratio	0.263	0.528
Dividend Yield	0.026	0.023
Market Capitalization	$216,394.23 million	$216,998.16 million
Price/EPS	10.475	23.196

Refer to Appendix A for full calculations

II. Financial Health and Performance

Liquidity

By further examination of the seven liquidity ratios listed in the previous section, comments can be made on the ability of Intel Corporation's ability to meet short term needs for cash. A general decrease in current liabilities for Intel indicates satisfactory financial health of the company. Intel's large positive working capital and current ratio well above 1 is a good indicator of the company's ability to meet its liabilities. The company has seen a $86 million increase in their working capital from 2017 to 2018 proving strong growth and performance in that time period. A noticeable increase in cash current debt coverage from 1.77 to 1.27 is another clear indicator of improving liquidity. The strong improvement is even more evident in inventory liquidity measures through the increase in inventory turnover from 3.44 to 3.74 thus decreasing the days in inventory. Intel's liquidity ratios show good performance except the measures relating to liquidity of receivables. Receivables turnover has decreased in 2018 thus increasing the average collection period which is not ideal.

Solvency

The solvency ratios provide a measure to examine Intel's ability to pay long term. The solvency ratios listed in the previous section all indicate financial health and desired improvement seen from 2017 to 2018. The percentage of assets provided by creditors has decreased by 1.9% and remains below 50%. While the free cash flow sees a big increase by $3450 million and the times interest earned, 50.8x in 2018, proves the company can continue to pay creditors long term. The solvency analysis shows great financial stability of Intel to continue its operations long term.

Profitability

Further examination of the profitability ratios demonstrates Intel Corporation's to generate earnings. Intel has a large market cap and recorded its highest EPS in 2018 that demonstrates its strong profitability. It's return on equity increased with only small share buybacks, and its profit margin and asset turnover increased which indicates Intel has possibly become more efficient in the past year, improving its profitability from previous years.

PROJECT PART 3: INDUSTRY COMPARISON

I. Comparisons with AMD Relevant Ratios

Table 3.1 AMD and Intel Comparison Ratios (Advanced Micro Devices, 2019)

Ratio	**AMD 2018**	**Intel 2018**
Working Capital	$1,556 Million	$12,161 Million
Current Ratio	1.78	1.73
Inventory Turnover	4.77	3.74
Cash Current Debt Coverage	0.017	1.77
Profit Margin	0.052	0.297
Asset Turnover	1.421	0.554
Price/EPS Ratio	57.688	10.475
Market Capitalization	$18,127.72 Million	$216,394.23 million
Debt/Total Assets	0.722	0.414
Free Cash Flow	-$129 Million	$8,710 Million
Times Interest Earned	3.58x	50.8x

Refer to Appendix B for full calculations

Liquidity

Evident from the table above, the working capital available to Intel is much larger than that of AMD. This allows Intel to have a larger amount of money to conduct business operations, venture into new projects while also having a cushion to pay their short-term dues, which provides Intel with an advantage over their competitors. Next, the current ratio of AMD is slightly higher than Intel indicating that they have safety against short-term debts. Inventory turnover is higher in AMD indicating that inventory is liquidated quickly, which is very important for a corporation in the technology industry which is progressing very quickly and as a result products lose value. Lastly, the cash current debt coverage for Intel was higher than AMD indicating that Intel has safety to fulfill their short-term commitments using cash. AMD's ratio shows that they don't hold most of their current assets as cash. This indicates that AMD relies heavily on, for example, account receivables to be fulfilled and inventory to be liquidated in order to meet short-term debts.

Solvency

From the ratios listed in Table 3.1, it is evident that AMD falls behind in all measures in 2018. They have a high percentage of assets provided by creditors according to the 72.2% debt-to-total assets ratio. The negative free cash flow indicates AMD's inability to generate enough cash in 2018 to support its business activities. This may be because AMD is geared towards investments for the future as they purchase plant, property and equipment (long-term assets). The times interest earned measurement reveals Intel is a significantly more reliable company in its ability to make interest payments long term.

Profitability

AMD has a much smaller market capitalization than Intel, and earns far less in revenue and controls less total assets. It's profit margin is much smaller than Intel as the majority of its gross income is lost to research and development. However, despite being a smaller company, it is able to make more efficient use of its assets than Intel. It also has a much higher price to EPS ratio indicating it may not be profitable currently, but investors have high growth expectations in the future.

II. Types of Investors Attracted by Intel and AMD

Intel's earnings per share is much higher and price to EPS ratio is much lower than AMD. In the past couple of years, Intel has been much more profitable, earned more revenue, and paid out more in dividends to its investors than AMD. In 2018, Intel had its highest revenue and earnings per sharing. Also, looking at the cash flow statements, Intel's financing and investing cash flow has been negative. This sign shows that Intel is in the mature stage in the company life cycle as it is issuing dividends and paying down debt. It is no longer in the growth stage that may attract growth investors. Therefore Intel would attract income investors.

AMD currently shows lower signs of profitability and would be less attractive to income investors. Its earnings per share was negative until recently and is still much lower than Intel's returns but its price to earnings per share is much greater which indicates investors have high growth expectations in the future (since it's current EPS is little). AMD doesn't provide dividends to its investors. However, AMD would attract growth investors. It's net income was at a loss from 2016-2017 and was only positive in 2018 because it had focused most of the gross margin into research and development. Research and development investment is a sign the company is focusing on growth. In 2016, the financing cash flow was negative because AMD issued over $1 billion in stocks and notes. This can indicate AMD was raising capital to finance investments. Although Intel and AMD are in the same industry, AMD's current market cap is much smaller indicating it has room to grow.

Therefore, Intel would primarily attract income investors whereas AMD would attract growth investors.

III. Intel 2018 Performance

A ratio used is the quality of earnings ratio. Quality of earnings ratio is $\frac{Operating\ Net\ Cash}{Net\ Income}$ and Intel's ratio is 1.398 which indicates high quality earnings. In previous years, the ratio was 2.302 in 2017 and 2.114 in 2016.

Intel earned more net cash from operating activities than previous years, so although the quality of earnings ratio decreased, it was because the net income increased by almost the same amount as the net cash from operating activities. In 2018, net sales increased despite decreases in operating expenses which demonstrates Intel's improved efficiency. This is from reducing marketing, general, and administrative spending by $1.6 billion over two years, thus the lower operating expenses are sustainable. Another point is Intel income improved from lower tax provisions compared to 2017. This is likely sustainable because Intel benefited from tax reform introduced in December 2017 which will continue to exist. One possible concern is how sustainable is Intel's increased net revenue because it jumped 13% from 2017 to 2018. However 32% of Intel's revenue was from their DataCenter group (which increased by $4 billion or 22%) and the DataCenter group's revenue from cloud providers is up 40%. As the cloud computing industry continues to grow, Intel can expect to increase revenue from the DataCenter group.

There are also changes in account receivables and inventory. An increase in account receivables can indicate more revenue or slow collections. Given Intel's record net revenue in 2018, the increase in account receivables is from more revenue. Changes in inventory are shown on the balance statement and cash flow statement. Intel has increased inventory, so given record sales, they expect to build on that in 2019.

Overall, Intel showed good quality of earnings which they hope to maintain in 2019. Only concerns for future earnings are growing competitors such as AMD.

References

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Appendix A: Ratio Calculations

Working Capital = Current Assets - Current Liabilities

2018. $28,787 Million - $16,626 Million = $12,161 Million

2017. $$29,500 Million - $ 17,421 Million = $12,079 Million

Current Ratio= $\frac{Current\ Assets}{Current\ Liabilities}$

2018. $\frac{\$28{,}787\ Million}{\$16{,}626\ Million} = 1.73$

2017. $\frac{\$29{,}500\ Million}{\$17{,}421\ Million} = 1.69$

Inventory Turnover = $\frac{Cost\ of\ Sales}{Inventory}$

2018. $\frac{\$27{,}111\ Million}{\$7{,}253\ Million} = 3.74$

2017. $\frac{\$23{,}692\ Million}{\$6{,}893\ Million} = 3.44$

Days in Inventory = $\frac{365}{Inventory\ Turnover}$

2018. $\frac{365}{3.74} = 97.65\ days$

2017. $\frac{365}{3.44} = 106.19\ days$

Cash Current Debt Coverage = $\frac{Cash\ used\ by\ operating\ activities}{Current\ Liabilities}$

2018. $\frac{\$29{,}432\ Million}{\$\ 16{,}626\ Million} = 1.77$

2017. $\frac{\$22{,}110\ Million}{\$\ 17{,}421\ Million} = 1.27$

Receivables Turnover = $\frac{Net\ Revenue}{Accounts\ Receivables}$

2018. $\frac{\$\ 70{,}848\ Million}{\$\ 6{,}722\ Million} = 10.54$

2017. $\frac{\$\ 62{,}761\ Million}{\$\ 5{,}607\ Million} = 11.19$

Average Collection Period = $\frac{365}{Receivables\ Turnover}$

2018. $\frac{365}{10.54} = 34.63$

2017. $\frac{365}{11.19} = 32.61$

DEBT TO TOTAL ASSETS = $\frac{Total\ Liabilities}{Total\ Assets}$

2018. $\frac{\$25037+\$17421+\$4069+\$3046+\$3791\ Million}{\$123249\ Million} = 0.433$

2017. $\frac{\$25098+16626+2049+4897+1665+2646\ Million}{\$127963\ Million} = 0.414$

Free Cash Flow = *Net cash provided (used) by operating activities − Net capital expenditures − Dividends paid*

2018. $\$29,432\ million - \$15,181\ million - \$5,541\ million = \$8,710\ million$

2017. $\$22,110\ million - \$11,778\ million - \$5,072\ million = \$5,260\ million$

NOTE: In the course slides and textbook the Free Cash Flow includes the subtraction of Dividends Paid while the 2018 Annual Report does not include dividend paid. Will follow the course definition of Free Cash Flow.

Times Interest Earned = $\frac{Earnings\ Before\ Interest Expense\ and\ Income\ Tax Expense\ (EBIT)}{Interest\ Expense}$

2018. $\frac{\$23317+\$468\ Million}{\$468\ Million} = 50.8$

2017. $\frac{\$20352+\$646\ Million}{\$646\ Million} = 32.5$

Profit Margin $= \frac{Net\ Earnings}{Net\ Sales} = \frac{Net\ Income}{Net\ Revenue}$

2018 $Profit\ Margin = \frac{21053}{70848} = 0.297$

2017 $Profit\ Margin = \frac{9601}{62761} = 0.153$

Return on Assets $= \frac{Net\ Earnings}{Average\ Total\ Assets} = \frac{Net\ Income}{Total\ Assets}$

2018 $Return\ on\ Assets = \frac{21053}{127963} = 0.165$

2017 $Return\ on\ Assets = \frac{9601}{123249} = 0.078$

Asset Turnover $= \frac{Net\ Sales}{Average\ Total\ Assets} = \frac{Net\ Revenue}{Total\ Assets}$

2018 $Asset\ Turnover = \frac{70848}{127963} = 0.554$

2017 $Asset\ Turnover = \frac{62761}{123249} = 0.509$

$Return\ on\ Common\ Shareholder's\ Equity = \frac{Net\ Earnings - Preferred\ Dividends}{Average\ Common\ Shareholders'\ Equity} = \frac{Net\ Earnings - Preferred\ Dividends}{Total\ shareholders'\ equity - Preferred\ shares}$

2018 $Return\ on\ Common\ Shareholder's\ Equity = \frac{21053 - 0}{74563 - 0} = 0.282$

2017 $Return\ on\ Common\ Shareholder's\ Equity = \frac{9601 - 0}{69019 - 0} = 0.139$

Earnings per Share (diluted)

2018 $Earnings\ per\ Share\ (diluted) = 4.48$

2017 $Earnings\ per\ Share\ (diluted) = 1.99$

Payout Ratio $= \frac{Cash\ Dividends}{Net\ Earnings} = \frac{Payment\ of\ dividends\ to\ stockholders}{Net\ Income}$

2018 $Payout\ Ratio = \frac{5541}{21053} = 0.263$

2017 $Payout\ Ratio = \frac{5072}{9601} = 0.528$

Dividend Yield $= \frac{Dividend\ per\ share}{Market\ price\ per\ share} = \frac{Dividend\ per\ share\ of\ common\ stock,\ declared\ and\ paid}{Closing\ share\ price\ as\ of\ the\ last\ trading\ day\ of\ the\ calendar\ year}$

2018 $Dividend\ Yield = \frac{1.20}{46.93} = 0.026$

2017 $Dividend\ Yield = \frac{1.0775}{46.16} = 0.023$

Market Capitalization $= Share\ Price \times Number\ of\ Shares$

$= Last\ trading\ day\ closing\ share\ price \times Weighted\ average\ basic\ shares\ of\ common\ stock\ outstanding$

2018 $Market\ Capitalization = \$46.93 \times 4611 = \$216394.23$

2017 $Market\ Capitalization = \$46.16 \times 4701 = \$216998.16$

Price/EPS $= \frac{Share\ price}{Earnings\ per\ share} = \frac{Closing\ share\ price\ as\ of\ the\ last\ trading\ day\ of\ the\ calendar\ year}{Earnings\ per\ share\ (diluted)}$

2018 $Price/EPS = \frac{46.93}{4.48} = 10.475$

2017 $Price/EPS = \frac{46.16}{1.99} = 23.196$

Appendix B: AMD Ratio Calculations

Working Capital = Current Assets - Current Liabilities

2018. $3,540 Million - $1,984 Million = $1,556 Million

Current Ratio= $\frac{Current\ Assets}{Current\ Liabilities}$

2018. $\frac{\$3{,}540\ Million}{\$1{,}984\ Million} = 1.78$

Inventory Turnover = $\frac{Cost\ of\ Sales}{Inventory}$

2018. $\frac{\$4{,}028\ Million}{\$845\ Million} = 4.77$

Cash Current Debt Coverage = $\frac{Cash\ used\ by\ operating\ activities}{Current\ Liabilities}$

2018. $\frac{\$34\ Million}{\$1{,}984\ Million} = 0.017$

Profit Margin $= \frac{Net\ Earnings}{Net\ Sales} = \frac{Net\ Income}{Net\ Revenue}$

$2018\ Profit\ Margin = \frac{337}{6475} = 0.052$

Asset Turnover $= \frac{Net\ Sales}{Average\ Total\ Assets} = \frac{Net\ Revenue}{Total\ Assets}$

$2018\ Asset\ Turnover = \frac{6475}{4556} = 1.421$

Price/EPS $= \frac{Share\ price}{Earnings\ per\ share} = \frac{Closing\ share\ price\ as\ of\ the\ last\ trading\ day\ of\ the\ calendar\ year}{Earnings\ per\ share\ (diluted)}$

$2018\ Price/EPS = \frac{18.46}{0.32} = 57.688$

Market Capitalization $= Share\ Price \times Number\ of\ Shares$

$= Last\ trading\ day\ closing\ share\ price \times Basic\ shares\ used\ in\ per\ share\ calculation$

$2018\ Market\ Capitalization = \$18.46 \times 982 = \$18,127.72$

DEBT TO TOTAL ASSETS = $\frac{Total\ Liabilities}{Total\ Assets}$

2018. $\frac{\$1984+\$1114+\$192\ Million}{\$\ 4{,}556\ Million} = 0.722$

Free Cash Flow = *Net cash provided (used) by operating activities − Net capital expenditures − Dividends paid*

2018. $\$34\ million - \$163\ million = -\$129\ million$

Times Interest Earned = $\frac{Earnings\ Before\ InterestExpense\ and\ Income\ TaxExpense\ (EBIT)}{Interest\ Expense}$

2018. $\frac{\$451\ Million}{\$126\ Million} = 3.58$