### Module 1

**Framework for Analysis and Valuation**

**QUESTIONS**

**Q1-1.** Organizations undertake four major activities: planning, financing, investing, and operating. Financing is the means a company uses to pay for resources. Investing refers to the buying and selling of resources necessary to carry out the organization’s plans. Operating activities are the actual carrying out of these plans. Planning is the glue that connects these activities, including the organization’s ideas, goals and strategies. Financial accounting information provides valuable input into the planning process, and, subsequently, reports on the results of plans so that corrective action can be taken, if necessary.

**Q1-2.** Ultimately the value of any asset is the present value of future benefits, primarily cash flows. In order to determine the value of an asset today, we must first understand the nature and timing of the future cash flows. Thus, we start with a forecast of future cash flows or future income streams and use these forecasts as input into a valuation model.

**Q1-3.** The four main financial statements are: income statement, balance sheet, statement of stockholders’ equity, and statement of cash flows. The income statement provides information about the company’s revenues, expenses and profitability over a period of time. The balance sheet lists the company’s assets (what it owns), liabilities (what it owes), and stockholders’ equity (the residual claims of its owners) as of a point in time. The statement of stockholders’ equity reports on the changes to each stockholders’ equity account during the period. The statement of cash flows identifies the sources (inflows) and uses (outflows) of cash, that is, where the company got its cash from and what it did with it. Together, the four statements provide a complete picture of the financial condition of the company.

**Q1-4.** The balance sheet provides information that helps users understand a company’s resources (assets) and claims to those resources (liabilities and stockholders’ equity) as of a given *point in time*.

**Q1-5.** The income statement covers a *period of time*. An income statement reports whether the business has earned a net income (also called profit or earnings) or incurred a net loss. Importantly, the income statement lists the types and amounts of revenues and expenses making up net income or net loss.

**Q1-6.** The statement of cash flows reports on the cash inflows and outflows relating to a company’s operating, investing, and financing activities over a *period of time*. The sum of these three activities yields the net change in cash for the period. This statement is a useful complement to the income statement, which reports on revenues and expenses, but which conveys relatively little information about cash flows.

**Q1-7.** Retained earnings (reported on the balance sheet) is increased each period by any net income earned during the period (as reported in the income statement) and decreased each period by the payment of dividends (as reported in the statement of cash flows and the statement of stockholders’ equity). Transactions reflected on the statement of cash flows link the previous period’s balance sheet to the current period’s balance sheet. The ending cash balance appears on both the balance sheet and the statement of cash flows.

**Q1-8.** External users and their uses of accounting information include: (a) lenders for measuring the risk and return of loans; (b) shareholders for assessing the return and risk in acquiring shares; and (c) analysts for assessing investment potential. Other users are auditors, consultants, officers, directors for overseeing management, employees for judging employment opportunities, regulators, unions, suppliers, and appraisers.

**Q1-9.** The quality of our financial forecasts depends on 1) a solid understanding the business environment and in adjusting and assessing financial information and 2) forecast assumptions that are both realistic and achievable.

**Q1-10.**The five forces (according to Professor Michael Porter) are (A) industry competition, (B) buyer power, (C) supplier power, (D) product substitutes, and (E) threat of entry.

**Q1-11.**SWOT stands for Strengths and Weaknesses (both are internal factors) Opportunities and Threats (both external factors).

**Q1-12.**Seagate’s independent auditor is EY LLP. The auditor expressly states that “our responsibility is to express an opinion on these financial statements based on our audits.” The auditor also states that “these financial statements are the responsibility of the company’s management.” Thus, the auditor does not assume responsibility for the financial statements.

**Q1-13.**While firms acknowledge the increasing need for more complete disclosure of financial and nonfinancial information, they have resisted these demands to protect their competitive position. Corporate executives must weigh the benefits they receive from the financial markets as a result of more transparent and revealing financial reporting against the costs of divulging proprietary information to competitors and others.

**Q1-14.**Subsidiaries are not necessarily owned 100% -- control can usually be effectuated if the parent owns more than 50%. When a non-wholly owned subsidiary earns income, the total net income is apportioned between the parent (the controlling interest) and the remainder (the non-controlling interest).

**Q1-15.**False.The parent includes 100% of the subsidiary’s revenue and expenses (line by line) in order to calculate consolidated net income. Then, the 20% of the net income that is attributable to the non-controlling interest, is reported separately. The effect is to add 80% of the net income but not line by line as the question asks.

**Q1-16.** Oracle Corporation’s share of the reported consolidated net income of $9,017 million is $8,901 million, which is included in retained earnings.The difference of $116 million is the non-controlling interest share of consolidated net income. That amount is not “earned” by Oracle’s shareholders and therefore not included in retained earnings.

**Q1-17.** Financial accounting information is frequently used in order to evaluate management performance. The return on equity (ROE) and return on assets (ROA) provide useful measures of financial performance as they combine elements from both the income statement and the balance sheet. Financial accounting information is also frequently used to monitor compliance with external contract terms. Banks often set limits on such items as the amount of total liabilities in relation to stockholders’ equity or the amount of dividends that a company may pay. Audited financial statements provide information that can be used to monitor compliance with these limits (often called *covenants*). Regulators and taxing authorities also utilize financial information to monitor items of interest.

**Q1-18.** Managers are vitally concerned about disclosing proprietary information that might benefit the company’s competitors. Of most concern, is the “cost” of losing some competitive advantage. There traditionally has been tension between companies and the financial professionals (especially investment analysts) who press firms for more and more financial and nonfinancial information.

**Q1-19.** Net income is an important measure of financial performance. It indicates that the market values the company’s products or services, that is, it is willing to pay a price for the products or services enough to cover the costs to bring them to market and to provide the company’s investors with a profit. Net income does not tell the whole story, however. A company can always increase its net income with additional investment in something as simple as a bank savings account. A more meaningful measure of financial performance comes from measuring the level of net income relative to the investment made. One investment measure is the balance of stockholders’ equity, and the comparison of net income to average stockholders’ equity (ROE) is a fundamental measure of financial performance.

**Q1-20.** Mostly true. Managers can influence cash flow but it is more challenging that influencing GAAP-based (accrual measures) because the latter are rife with estimates and professional judgment. This makes opportunistic accruals more challenging for auditors to verify and for investors to detect.

**MINI EXERCISES**

**M1-21. (10 minutes)**

All three types of business activities will be affected.

* Additional CAPEX of $23 billion will increase investing activities. The company will acquire additional property and equipment.
* Operating activities will likely increase because the additional equipment is to either expand or improve on the company’s footprint. All things equal, this will increase the number of customers or perhaps increase revenue per customer.
* Financing activities will likely increase. The additional CAPEX will need to be financed either by owners or nonowners.

**M1-22. (10 minutes)**

|  |  |
| --- | --- |
| **Financial-statement users** | **Questions** |
| 1. Current shareholders | 2. Will the company have enough cash to pay dividends? |
| 1. Company CEO | 4. Will there be sufficient profits and cash flow to pay bonuses? |
| 1. Banker | 5. Will the company have enough cash to repay its loans? |
| 1. Equity analyst | 1. What is expected net income for next quarter? |
| 1. Supplier | 3. Has the company paid for inventory purchases promptly in the past? |

**M1-23. (10 minutes)**

a. Answer: $176,130 million

Explanation:$ millions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Assets** |  | **=** | **Liabilities** | **+** | **Equity** |
| $258,848 |  |  | $176,130 |  | $82,718 |

b. Answer: NONOWNERS

Explanation: Microsoft receives more of its financing from nonowners ($176,130 million) than from owners ($82,718 million).

c. Answer: 32%

Explanation: Owner financing is 32% of its total financing ($82,718 million / $258,848 million). Nonowners finance 68% of Microsoft’s total assets.

**M1-24. (10 minutes)**

1. Answer: 1, 3, and 4.
2. Answer: $3,306 million

Explanation:

$ millions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Assets** | **=** | **Liabilities** | **+** | **Equity** |
| $12,901 |  | $9,595 |  | $3,306 |

1. Answer: Nonowners.

Explanation: Best Buy received $9,595 million from nonowners which is larger than the $3,306 million from owners.

1. 74.4%

Explanation: $9,595 million / $12,901 million = 74.4%

**M1-25. (15 minutes)**

($ millions)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Assets | = | Liabilities | + | Equity |
| Hewlett-Packard | $106,882 |  | $78,731 |  | (a) $28,151 |
| General Mills | $21,712 |  | (b) $16,405 |  | $5,307 |
| Target | (c) $40,262 |  | $27,305 |  | $12,957 |

*Levels of Owner vs. Nonowner Financing.* The percent of owner financing for each company follows:

Hewlett-Packard 26.3% ($28,151 million / $106,882 million)

General Mills 24.4% ($5,307 million / $ 21,712 million)

Target 32.2% ($12,957 million / $ 40,262 million)

Target has the highest percentage of owner financing. General Mills and HP are financed with roughly the same proportions of nonowner financing, with General Mills having slightly more.

**M1-26. (15 minutes)**

1. Answer:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Assets** |  | **Liabilities** |  | **Equity** |
| $24,156.4 |  | $22,980.6 |  | $1,175.8 |

1. Answer: $24,156.4=$22,980.6+$1,175.8
2. Answer: 4.9%

Explanation: $1,175.8 / $24,156.4 = 4.9%

**M1-27. (20 minutes)**

Answer:

|  |  |
| --- | --- |
| **Symantec Corp.** | |
| **Statement of Retained Earnings** | |
| **For Year Ended March 30, 2018** | |
| *$ millions* |  |
| Balance, start of year | $ (761) |
| Net income (loss) | 1,138 |
| Cash dividends | (49) |
| Balance, end of year | $ 328 |
|  |  |

**M1-28. (20 minutes)**

a. BS and SCF f. BS and SE

b. IS g. SCF and SE

c. BS h. SCF and SE

d. BS and SE i. IS

e. SCF

**M1-29. (10 minutes)**

There are many stakeholders impacted by this business decision, including the following (along with a description of how):

* You as a Manager—your reputation, self-esteem, and potentially your livelihood could be negatively impacted.
* Creditors and Bondholders—credit decisions based on inaccurate information could occur.
* Shareholders—buying or selling shares based on inaccurate information could occur.
* Management and other Employees of your company—repercussions of your decision extend to all other employees. Also, a decision to record these revenues suggests an environment condoning dishonesty.

Indeed, your decisions can affect many more parties than you might initially realize. The short-term benefit of meeting Wall Street’s expectations could have serious long-term ramifications.

**M1-30. (15 minutes)**

Apple—product differentiation and barriers to entry due to technological advantages and legal

Walmart—buyer power due to size and cost leader

Pfizer—product differentiation arising from specific compounds and barriers to entry due to technological advantages and legal

Uber—none, low barriers to entry and product is essentially undifferentiated

American Airlines—some competitive advantage due to barriers to entry arising from significant capital expenditures and government regulation

UPS—none, product is essentially undifferentiated

McDonald’s—buyer power due to size and cost leader

**M1-31. (25 minutes)**

|  |  |  |
| --- | --- | --- |
| (in millions) | **Medtronic** | **Boston Scientific** |
| Total assets, start of fiscal year | $91,393 | $20,999 |
| Total assets, end of fiscal year | 99,857 | 19,042 |
| Average total assets | 95,625 | 20,021 |
| Net income (consolidated) | 3,095 | 1,671 |
| Revenue | 29,953 | 9,823 |

|  |  |  |
| --- | --- | --- |
|  | **Medtronic** | **Boston Scientific** |
| Return on assets (ROA) | 3.2% | 8.3% |
| Profit margin (PM) | 10.3% | 17.0% |
| Asset turnover (AT) | 0.31 | 0.49 |

1. Answer: Boston Scientific

Explanation: Boston Scientific’s ROA is 8.3% which is more than twice that of Medtronic.

1. Answer: As compared to Boston Scientific, Medtronic has a weaker profit margin and a weaker asset turnover.

**M1-32. (15 minutes)**

1. An investor is investing in MGM Resorts International, which is publicly traded. Therefore, the operations of the entire, consolidated entity is of importance. The investor would find total net income of $583,894 most relevant.
2. Net income attributable to MGM Resorts International / Net income = $466,772 / $583,894 = 79.9%
3. Total MGM Resorts International stockholders' equity / Total stockholders' equity

= $6,512,283/ $10,469,791= 62.2%. The controlling shareholder is MGM Resorts International itself, it owns shares in other entities, including MGM China.

1. Dividends received by MGM Resorts International $44 million / Total dividends paid $78 million = 56.4%. This is greater than 50% and thus MGM Resorts International has the controlling interest in MGM China.

**M1-33. (15 minutes)**

Debt / EBITDA of 1.91 is consistent with a Moody’s credit rating of Aaa.

FCF / Debt of 33% is consistent with a Moody’s credit rating between Baa (28.2%) and A (35.7%).

EBITDA / Interest expense of 15 is consistent with a Moody’s credit rating between Aa (20.7) and Aaa (12).

**EXERCISES**

**E1-34. (15 minutes)**

1. Target’s inventories consist of the product lines it carries: clothing, electronics, home furnishings, food products, and so forth.
2. Target’s Property and Equipment assets consist of land, buildings, store improvements such as lighting, flooring, HVAC, store shelving, shopping carts, and cash registers.
3. Although Target sells some of its merchandise via its Website, the majority of its sales activity is conducted in its retail locations. These stores represent a substantial and necessary capital investment for its business model.

**E1-35. (20 minutes)**

1. Answer

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ($ millions) | **Assets, start**  **of year** | **Assets, end**  **of year** | **Liabilities, start**  **of year** | **Liabilities,**  **end**  **of year** | **Stockholders' Equity, end of year** |
| Advanced Micro Devices | $3,552 | $4,556 | $2,956 | $3,290 | $1,266 |
| Intel Corp | $123,249 | $127,963 | $54,230 | $53,400 | $74,563 |

Explanation

AMD assets: $4,556 - $1,004 = $3,552. AMD liabilities: $2,956 + $334 = $3,290.

AMD equity: $4,556 - $3,290 = $1,266

Intel assets: $123,249 + $4,714 = $127,963. Intel liabilities: $53,400 + $830 = $54,230

Intel equity: $127,963 - $53,400 = $74,563

1. Answer: AMD $4,054 Intel = $125,606

Explanation

AMD: ($3,552 + $4,556) / 2 = $4,054

Intel: ($123,249 + $127,963) / 2 = $125,606

1. Answer: Intel

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Assets,**  **end of year** | **Stockholders' Equity, end of year** | **Stockholders' Equity / Assets** |
| Advanced Micro Devices | $4,556 | $1,266 | 28% |
| Intel | $127,963 | $74,563 | 58% |

**E1-36. (15 minutes)**

External constituents use accounting information from financial statements to answer questions such as the following:

1. *Shareholders* (investors), ask questions such as:

1. Are the company’s resources adequate to carry out strategic plans?
2. Are the company’s debts appropriate in amount given the company’s existing assets and plans for growth?
3. What is the current level of income (and what are its components)?
4. Is the current stock price indicative of the company’s profitability and level of debt?

2. *Creditors*, ask questions such as:

1. Does the business have the ability to repay its debts as they come due?
2. Can the business take on additional debt?
3. Are current assets sufficient to cover current liabilities?

3. *Employees*, ask questions such as:

1. Is the business financially stable?
2. Can the business afford to pay higher salaries?
3. What are growth prospects for the organization?
4. Will the company be able to pay my pension when I retire?

**E1-37. (15 minutes)**

|  |  |  |
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| **Norfolk Southern Inc.** | | |
| **Consolidated Statements of Changes In Retained Income** | | |
| Beginning Balance at Dec. 31, 2015 | $ 10,191 |
| Net income | 1,668 |
| Dividends on Common Stock | (695) |
| Share repurchases | (731) |
| Other | (8) |
| Ending Balance at Dec. 31, 2016 | 10,425 |
| Net income | 5,404 |
| Dividends on Common Stock | (703) |
| Share repurchases | (945) |
| Other | (5) |
| Ending Balance at Dec. 31, 2017 | 14,176 |
| Net income | 2,666 |
| Dividends on Common Stock | (844) |
| Share repurchases | (2,639) |
| Other | 81 |
| Ending Balance at Dec. 31, 2018 | $ 13,440 |

1. True.

Explanation: Norfolk Southern did repurchase shares each year. This is shown as a subtraction because shares repurchased *decrease* the amount of owners’ investment in the company.

**E1-38. (20 minutes)**

1. Answer: Yes

Explanation: Norfolk Southern was profitable during 2018 as evidenced by its positive net profit margin of 23.3%.

1. Answer: 2017

Explanation: The 2018 profit margin is nearly half of the PM in 2017: 23.3% versus 51.2%.

1. Answer: Positive

Explanation: Norfolk Southern’s productivity measure (asset turnover) increased slightly from 0.299 in 2017 to 0.318 in 2018. This indicates that assets are generating a slightly higher level of sales than in the prior year. This is a positive development.

1. Answer: 2018 7.4% 2017 15.3%.

Explanation: ROA = Profit margin × asset turnover.

2018 ROA = 23.3% × 0.318 = 7.4%.

2017 ROA = 51.2% × 0.299 = 15.3%.

1. Answer: 1.

Explanation: We do not have sufficient information to assess 3 and 4 so they are not true. Productivity improved in 2018 so 2 is false. 1 is correct because 2017’s PM is double 2018’s PM, causing 2018’s ROA to be half that of 2017.

**E1-39. (15 minutes)**

Answer: 7.05%

Explanation

|  |  |  |
| --- | --- | --- |
| Return on assets (ROA) | = | Net income / Average assets |
|  | = | $564 / [($8,115 + $7,886) / 2] |
|  | = | 7.05% |

**E1-40. (20 minutes)**

*a.* Creditors are an important group of external stakeholders. They are primarily interested in the ability of the company to generate sufficient cash flow in order to repay the amounts owed. Stockholders are another significant stakeholder in the company. They are primarily interested in the company’s ability to effectively raise capital and to invest that capital in projects with a rate of return in excess of the cost of the capital raised, that is, to increase the value of the firm. Regulators such as the SEC and the tax authorities, including the IRS and state and local tax officials, are important constituents that are interested in knowing whether the company is complying with all applicable laws and regulations.

*b.* Generally Accepted Accounting Principles (GAAP) are the various methods, rules, practices, and other procedures that have evolved over time in response to the need to regulate the preparation of financial statements. They are primarily set by the Financial Accounting Standards Board (FASB), a private sector entity with representatives from companies that issue financial statements, accounting firms that audit those statements, and users of financial information. Other bodies that contribute to GAAP are the AICPA, the EITF, and the SEC.

*c.*  Financial information provides users with information that is useful in assessing the financial performance of companies and, therefore, in setting stock and bond prices. To the extent that these prices are accurate, the costs of the funds that companies raise will accurately reflect their relative efficiency and risk of operations. Companies that can utilize capital more effectively will be able to obtain that capital at a reasonable cost and society’s financial resources will be effectively allocated.

*d.*  First, the preparation of financial statements involves an understanding of complex accounting rules and significant assumptions and considerable estimation. Second, GAAP allows for differing accounting treatments for the same transaction. And third, auditors are at a relative information disadvantage vis-à-vis company accountants. As the capital markets place increasing pressures on companies to perform, accountants are often placed in a difficult ethical position to use the flexibility given to them under GAAP in order to bias the financial results or to use their inside information to their advantage.

**E1-41. (20 minutes)**

*a.* Answer: 136.5%

Explanation: ROE = Net income / Average stockholders’ equity

= $4,518.3 million / [($5,450.1 million + $1,169.5 million) / 2] = 136.5%

1. Answer: Increase

Explanation: The repurchase of common stock reduces the denominator (average stockholders’ equity). The outflow of cash for the repurchase, however, reduces net income by the return on the cash that is forgone. Generally, the reduction in the denominator is greater than that for the numerator, and consequently ROE increases. That is one of the reasons cited for share repurchases.

1. Answer: 65.3%

Explanation: Equity would have been $1,169.5 million + $7,208.7 million

= $8,378.2 million

ROE = $4,518.3 million / [($5,450.1 million + $8,378.2 million) / 2] = 65.3%

**E1-42. (20 minutes)**

Debt / EBITDA = $17,581 / $7,819 = 2.248 which is consistent with a Moody’s credit rating ranging from A to Baa

FCF / Debt = $123 / $17,580 = 1% which is consistent with a Moody’s credit rating lower than C

EBITDA / Interest expense = $7,819 / $588 = 13.298 which is consistent with a Moody’s credit rating ranging from Aaa to Aa

**PROBLEMS**

**P1-43. (40 minutes)**

1. Answer 2018: 8.9% 2017:12.7%

Explanation 2018 ROE = $6,670 / [($72,496 + $77,869) / 2] = 8.9%

2017 ROE = $9,862 / [($77,869 + $77,798) / 2] = 12.7%

1. Answer: 2018:3.1% 2017: 4.9%

Explanation 2018 ROA = $6,670 / [($219,295 + $204,522) / 2] = 3.1%

2017 ROA = $9,862 / [($204,522 + $198,825) / 2] = 4.9%

1. Answer: 2018: 1.3% 2017: 2.0%

Explanation 2018 PM = $6,670 / $510,329 = 1.3%

2017 PM = $9,862 / $495,761 = 2.0%

1. Answer: 2018: 2.41 2017: 2.46

Explanation 2018 AT = $510,329 / / [($219,295 + $204,522) / 2] = 2.41

2017 AT = $495,761 / [($204,522 + $198,825) / 2] = 2.46

1. Answer: 1

Explanation: Profit in dollar terms fell and PM decreased from 2% to 1.3%, while small in absolute terms, this is a considerable decrease proportionately. Asset productivity (AT) weakened but not considerably, making choice 2 incorrect. The level of revenue and assets is a factor but not the best explanation, making choices 3 and 4 incorrect.

**P1-44. (30 minutes)**

|  |  |
| --- | --- |
| **General Mills** | |
| **Income Statement ($ millions)** | |
| **For the year ended May 27, 2018** | |
| Revenues | 15,740.4 |
| Cost of goods sold | 10,312.9 |
| Gross profit | 5,427.5 |
| Expenses | 3,207.2 |
| Income before taxes | 2,220.3 |
| Income tax expense | 57.3 |
| Net income | 2,163.0 |
|  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **General Mills** | | | | |
| **Balance Sheet ($ millions)** | | | | |
| **May 27, 2018** | | | | |
| Cash | $399.0 |  | Liabilities | $24,131.6 |
| Noncash assets | 30,225.0 |  | Stockholders' equity | 6,492.4 |
| Total assets | $30,624.0 |  | Total liabilities and equity | $30,624.0 |
|  |  |  |  |  |

|  |  |
| --- | --- |
| **General Mills** | |
| **Statement of Cash Flow ($ millions)** | |
| **For the year ended May 27, 2018** | |
| Cash from operating activities | $2,841.0 |
| Cash from investing activities | (8,685.4) |
| Cash from financing activities ($5,445.5 + $31.8) | 5,477.3 |
| Net increase (decrease) in cash | (367.1) |
| Cash, beginning year (= $367.1 + $399.0) | 766.1 |
| Cash, ending year | $399.0 |
|  |  |

1. Answer: 8.2%

Explanation

ROA = Net income / Average assets = $2,163 / [($30,624.0 + $21,812.6) / 2] = 8.2%

1. Answer: 13.7%

Explanation

PM = Net income / Revenue = $2,163 / $15,740.4 = 13.7%

1. Answer: 0.60

Explanation

AT = Revenue / Average assets = $15,740.4 / [($30,624.0 + $21,812.6) / 2] = 0.60

**P1-45. (30 minutes)**

|  |  |
| --- | --- |
| **Five Below** | |
| **Income Statement ($ thousands)** | |
| **For the year ended February 2, 2019** | |
| Revenues | $1,559,563 |
| Cost of goods sold | 994,478 |
| Gross profit | 565,085 |
| Expenses | 373,278 |
| Income before taxes | 191,807 |
| Income tax expense | 42,162 |
| Net income | $149,645 |

b.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Five Below** | | | | |
| **Balance Sheet ($ thousands)** | | | | |
| **February 2, 2019** | | | | |
| Cash | $251,748 |  | Liabilities | $337,170 |
| Noncash assets | 700,516 |  | Stockholders' equity | 615,094 |
| Total assets | $952,264 |  | Total liabilities and equity | $952,264 |

c.

|  |  |
| --- | --- |
| **Five Below** | |
| **Statement of Cash Flow ($ thousands)** | |
| **For the year ended February 2, 2019** | |
| Cash from operating activities | $184,133 |
| Cash from investing activities | (39,472) |
| Cash from financing activities | (5,582) |
| Net increase (decrease) in cash | 139,079 |
| Cash, beginning year | 112,669 |
| Cash, ending year | $251,748 |
|  |  |

1. Answer: 18,2%

Explanation: ROA = Net income / Avg assets=$149,645 / [($952,264+$695,708)/2] =18.2%

1. Answer: 9.6%

Explanation PM = Net income / Revenue = $149,645 / $1,559,563 = 9.6%

1. Answer: 1.89

Explanation AT = Revenue / Avg assets = $1,559,563 / [($952,264 + $695,708) / 2] = 1.89

1. Answer: 27.9%

Explanation

ROE = Net income / Average equity = $149,645 / [($615,094 + $458,558) / 2] = 27.9%

**P1-46. (30 minutes)**

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| --- | --- |
| **J M Smucker Co** | |
| **Income Statement ($ millions)** | |
| **For the year ended April 30, 2018** | |
| Revenues | $7,357.1 |
| Cost of product sold | 4,521.0 |
| Gross profit | 2,836.1 |
| Expenses | 1,497.5 |
| Net income | $1,338.6 |
|  |  |

1. To solve this we can start with the balance sheet numbers we know for 2018 and solve for the missing number.

|  |  |
| --- | --- |
|  | **2018** |
| Total assets | ?? |
| Total liabilities | $7,410.1 |
| Total equity | $7,891.1 |

2018 Total assets = $7,891.1 + $7,410.1 = $15,301.2.

Then, we can determine current versus long-term as follows:

Long-term assets = $15,301.2 - $1,555.0 = $13,746.2.

Current liabilities = $7,410.1 - $6,376.3 = $1,033.8.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **J M Smucker Co** | | | | |
| **Balance Sheet ($ millions)** | | | | |
| **April 30, 2018** | | | | |
| Current assets | $1,555.0 |  | Current liabilities | $1,033.8 |
| Long-term assets | 13,746.2 |  | Long-term liabilities | 6,376.3 |
|  |  |  | Total liabilities | 7,410.1 |
|  |  |  | Stockholders' equity | 7,891.1 |
| Total assets | $15,301.2 |  | Total liabilities and equity | $15,301.2 |
|  |  |  |  |  |

|  |  |
| --- | --- |
| **J M Smucker Co** | |
| **Statement of Cash Flow ($ millions)** | |
| **For the year ended April 30, 2018** | |
| Cash from operating activities | $1,218.0 |
| Cash from investing activities | (277.6) |
| Cash from financing activities | (914.6) |
| Net increase (decrease) in cash | 25.8 |
| Cash, beginning of year | 166.8 |
| Cash, end of year | $ 192.6 |

1. Answer: 8.7%

Explanation ROA = Net income / Avg assets = $1,338.6 / [($15,301.2 + $15,639.7) / 2] = 8.7%

1. Answer: 18.2%

Explanation PM = Net income / Revenue = $1,338.6 / $7,357.1 = 18.19%

1. Answer: 0.48

Explanation AT = Revenue / Average assets = $7,357.1 / [($15,301.2 + $15,639.7) / 2] = 0.48

1. Answer: 18.2%

Explanation ROE = Net income / Avg equity = $1,338.6 / [($7,891.1 + $6,850.2) / 2] = 18.16%

**P1-47. (15 minutes) Abbott Labs**

1. We calculate % change in revenue as follows: (Revenue year 2 / Revenue year 1) – 1.

|  |  |  |
| --- | --- | --- |
| Year | Revenue | % change |
| 2004 | 19,680 |  |
| 2005 | 22,288 | 13.3% |
| 2006 | 22,476 | 0.8% |
| 2007 | 25,914 | 15.3% |
| 2008 | 29,528 | 13.9% |
| 2009 | 30,765 | 4.2% |
| 2010 | 35,167 | 14.3% |
| 2011 | 38,851 | 10.5% |
| 2012 | 39,874 | 2.6% |
| 2013 | 21,848 | -45.2% |
| 2014 | 20,247 | -7.3% |
| 2015 | 20,405 | 0.8% |
| 2016 | 20,853 | 2.2% |
| 2017 | 27,390 | 31.3% |
| 2018 | 30,578 | 11.6% |
| 2019 | 31,904 | 4.3% |

1. In 2012, the most current year change is from 2010 to 2011, which is 10.5%. To forecast 2012 revenue, we start with 2011 revenue and increase by 10.5%, as follows: $38,851 × (1 + 10.5%) = $42,922.
2. In 2012, the average of the five prior years, is 11.6% (2007 through 2010). We forecast 2012 revenue as follows: $38,851 × (1 + 11.6%) = $44,516.
3. Both forecasts yielded 2012 revenue that was too high. It seems that the prior year’s growth was a better predictor of revenue in 2012.
4. Revenue in 2013 plummets. It could be that the company sold off a unit in order to get value for the shareholders. That could be good news in the long run. Or, it could be that a very profitable product line has dropped off significantly due to some external causes such as regulatory intervention or product failure.
5. If Abbott announced the acquisition in advance, then we can adjust our revenue estimates to accommodate the increase in sales after the merger. If the target company is public, we can use their 10-K to estimate the effect on the post-merger revenues at Abbott.

**P1-48. (20 minutes)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Winnebago industries**  **Statement of Stockholders’ Equity**  **For Year Ended August 25, 2018** | | | | | |
| **$ thousands** | **Contributed Capital** | **Treasury**  **Stock** | **Retained Earnings** | **Accum. Other Comp. Income** | **Total Stockholders’ Equity** |
| August 26 , 2017 | $106,289 | $(342,730) | $679,138 | $ (1,023) | $441,674 |
| Issuance of stock | 5,822 |  |  |  | 5,822 |
| Repurchase of stock |  | (4,644) |  |  | (4,644) |
| Net income |  |  | 102,416 |  | 102,416 |
| Other comp. income (loss) |  |  |  | 1,915 | 1,915 |
| Dividends |  |  | (12,738) |  | (12,738) |
| August 25, 2018 | $112,111 | $(347,374) | $768,816 | $ 892 | $534,445 |
|  |  |  |  |  |  |

P1-49. (30 minutes)

($ thousands)

1. Answer: 2018: 12.9% 2017: 14.6%

Explanation:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **2018** | **2017** | **2016** |
| Net income | $ 208,542 | $ 205,876 |  |
| Total assets | 1,743,157 | 1,498,677 | $1,324,147 |
| Average Total assets | 1,620,917 | 1,411,412 |  |
| ROA = Net income / Average Total assets | 12.9% | 14.6% |  |

1. Answer: 2018: 8.1% 2017: 9.3%

Explanation

|  |  |  |
| --- | --- | --- |
|  | **2018** | **2017** |
| Net income | $ 208,542 | $ 205,876 |
| Sales | 2,566,863 | 2,221,427 |
| Profit margin = Net income / Sales | 8.1% | 9.3% |

1. Answer: 2018: 1.58 2017: 1.57

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
|  | **2018** | **2017** | **2016** |
| Sales | $ 2,566,863 | $ 2,221,427 |  |
| Total assets | 1,743,157 | 1,498,677 | $ 1,324,147 |
| Average Total assets | 1,620,917 | 1,411,412 |  |
| Asset turnover = Sales / Average Total assets | 1.58 | 1.57 |  |

1. Answer: Profit margin

Explanation: Logitech’s profit margin decreased by 120 basis points in 2018 from 9.3% to 8.1% while asset turnover was essentially flat from 2017 to 2018.

1. Answer: 2018: 21.9% 2017: 25.5%

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
|  | **2018** | **2017** | **2016** |
| Net income | $ 208,542 | $ 205,876 |  |
| Equity | 1,050,557 | 856,111 | $ 759,948 |
| Average Equity | 953,334 | 808,030 |  |
| ROE = Net income / Average Equity | 21.9% | 25.5% |  |

1. Answer: Increase

Explanation: The repurchase of common stock reduces both the numerator (net income) and denominator (stockholders’ equity) of the return on equity calculation. Repurchases reduce net income by the forgone profit on the cash that is used to buy the stock on the open market. This is likely very small in the current economic environment. Generally, the denominator effect dominates: its reduction is greater than the reduction of the numerator. Therefore, it is reasonable to predict that Logitech’s repurchase would increase ROE.

**P1-50. (30 minutes)**

($ millions)

1. Answer: Feb 2019: 7.0% Feb 2018: 5.5%

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Feb. 02, 2019** | **Feb. 03, 2018** | **Jan. 28, 2017** |
| Net income | $ 564 | $ 437 |  |
| Total assets | 7,886 | 8,115 | $ 7,858 |
| Average Total assets | 8,001 | 7,987 |  |
| ROA = Net income / Average Total assets | 7.0% | 5.5% |  |

1. Answer: Feb 2019: 3.6% Feb 2018: 2.8%

Explanation

|  |  |  |
| --- | --- | --- |
|  | **Feb. 02, 2019** | **Feb. 03, 2018** |
| Net income | $ 564 | $ 437 |
| Sales | 15,860 | 15,478 |
| Profit margin = Net income / Sales | 3.6% | 2.8% |

1. Answer: Feb 2019: 1.98 Feb 2018 1.94

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Feb. 02, 2019** | **Feb. 03, 2018** | **Jan. 28, 2017** |
| Sales | $15,860 | $ 15,478 |  |
| Total assets | 7,886 | 8,115 | $ 7,858 |
| Average Total assets | 8,001 | 7,987 |  |
| Asset turnover = Sales / Average Total assets | 1.98 | 1.94 |  |

1. Answer: Both

Explanation: Nordstrom’s profit margin increased by 80 basis points in fiscal year ended February 2019 from 2.8% to 3.6% and asset turnover increased marginally from 1.94 to 1.98.

1. Answer: Feb 2019: 61.0% Feb 2018: 47.3%

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Feb. 02, 2019** | **Feb. 03, 2018** | **Jan. 28, 2017** |
| Net income | $ 564 | $ 437 |  |
| Equity | 873 | 977 | $ 870 |
| Average Equity | 925 | 924 |  |
| ROE = Net income / Average Equity | 61.0% | 47.3% |  |

1. Answer: Increase

Explanation: The large negative balance decreases Equity, the denominator in the ROE ratio and so the ROE is higher as a result.

**P1-51. (20 minutes)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Capri Holdings ($ millions)** | |  | **Five Below ($ thousands)** | |
|  | **2018** | **2017** |  | **2018** | **2017** |
| Sales | $ 4,718.6 | $ 4,493.7 |  | $ 1,559,563 | $ 1,278,208 |
| Cost of sales | 1,859.3 | 1,832.3 |  | 994,478 | 814,795 |
| Gross profit | 2,859.3 | 2,661.4 |  | 565,085 | 463,413 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Capri Holdings ($ millions)** | |  | **Five Below ($ thousands)** | |
|  | **2018** | **2017** |  | **2018** | **2017** |
| Sales | $ 4,718.6 | $ 4,493.7 |  | $ 1,559,563 | $ 1,278,208 |
| Gross profit (from part a) | 2,859.3 | 2,661.4 |  | 565,085 | 463,413 |
| Gross profit margin % | 60.6% | 59.2% |  | 36.2% | 36.3% |



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Capri Holdings ($ millions)** | |  | **Five Below ($ thousands)** | |
|  | 2018 | **2017** |  | **2018** | **2017** |
| Net income | $ 592.1 | $ 551.5 |  | $ 149,645 | $ 102,451 |
| Average equity | 1,805 | 1,794 |  | 536,826 | 394,982 |
| ROE | 32.8% | 30.7% |  | 27.9% | 25.9% |

1. Answer : 3

Explanation Kors / Jimmy Choo / Versace brand loyalty and the nature of luxury goods, in general, create the opportunity for Capri to premium price its clothes and accessories. While costs of these goods is not low, the mark up can be significant because customers are willing to pay for the brand name and perceived status that comes with these labels.

**P1-52. (30 minutes)**

1. Answer: 2018: 17.8% 2017: 16%

Explanation

|  |  |  |
| --- | --- | --- |
| $ millions | **2018** | **2017** |
| Net income | $ 5,924.3 | $ 5,192.3 |
| Assets, start of year | 33,803.7 | 31,023.9 |
| Assets, end of year | 32,811.2 | 33,803.7 |
| Average assets | 33,307.5 | 32,413.8 |
| ROA = Net income / Average assets | 17.8% | 16.0% |

1. Answer: 2018: 28.2% 2017: 22.8%

Explanation

|  |  |  |
| --- | --- | --- |
| $ millions | **2018** | **2017** |
| Net income | $ 5,924.3 | $ 5,192.3 |
| Sales | 21,025.2 | 22,820.4 |
| Profit margin (PM) = Net income / Sales | 28.2% | 22.8% |

1. Answer:2018: 0.63 2017: 0.68

Explanation

|  |  |  |
| --- | --- | --- |
| $ millions | **2018** | **2017** |
| Sales | $21,025.2 | $22,820.4 |
| Assets, start of year | 33,803.7 | 31,023.9 |
| Assets, end of year | 32,811.2 | 33,803.7 |
| Average assets | 33,307.5 | 32,413.8 |
| Asset turnover (AT) = Sales / Average assets | 0.63 | 0.70 |

1. Answer: Profit margin

Explanation McDonald’s ROA increased from 2017 to 2018 because profitability increased during the year (from 22.8% to 28.2%) and the increase in profitability was sufficient to outweigh the decrease in productivity (from 0.70 to 0.63).

**P1-53. (30 minutes)**

1. Answer: 2016: 15.4% 2017: 13.7% 2018: 14.4%

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
| $ millions | **2016** | **2017** | **2018** |
| Net income | $ 5,058.0 | $ 4,869.0 | $ 5,363.0 |
| Assets, start of year | 32,883.0 | 32,906.0 | 37,987.0 |
| Assets, end of year | 32,906.0 | 37,987.0 | 36,500.0 |
| Average assets | 32,894.5 | 35,446.5 | 37,243.5 |
| ROA = Net income / Average assets | 15.4% | 13.7% | 14.4% |

1. Answer: 2016: 16.8% 2017:15.4% 2018:16.4%

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
| $ millions | **2016** | **2017** | **2018** |
| Net income | $ 5,058.0 | $ 4,869.0 | $ 5,363.0 |
| Sales | 30,109.0 | 31,657.0 | 32,765.0 |
| Profit margin (PM) = Net income / Sales | 16.8% | 15.4% | 16.4% |

1. Answer: 2016: 0.92 2017: 0.89 2018: 0.88

Explanation

|  |  |  |  |
| --- | --- | --- | --- |
| $ millions | **2016** | **2017** | **2018** |
| Sales | $30,109.0 | $31,657.0 | $32,765.0 |
| Assets, start of year | 32,883.0 | 32,906.0 | 37,987.0 |
| Assets, end of year | 32,906.0 | 37,987.0 | 36,500.0 |
| Average assets | 32,894.5 | 35,446.5 | 37,243.5 |
| Asset turnover (AT) = Sales/Average assets | 0.92 | 0.89 | 0.88 |

1. Answer: Both

Explanation 3M’s ROA decreased from 15.4% in 2016 to 13.7% in 2017 because profitability margin decreased during the year (from 16.8% to 15.4%). Compounding this was the decrease in asset productivity (AT) (from 0.92 to 0.89). Thus, both factors decreased the ROA.

1. Answer: Profit margin

Explanation 3M’s ROA increased from 13.7% 2017 to 14.4% in 2018 because profitability grew during the year (from 15.4% to 16.4%) and the increase in profitability was sufficient to outweigh the very slight decrease in productivity (from 0.89 to 0.88).

**P1-54 (35 minutes)**

**(NOTE: Students need to access the Power BI dashboard available at the publisher’s website to answer these questions. They cannot be answered from the graphics printed in the textbook, alone.)**

1. To answer the questions, hover over the appropriate spot on the PowerBI graphic on the left and read the pop-out boxes that appear.
2. Assets in 2017 are $56,669 million, the largest in the 10-year period.
3. In general, Thermo Fisher’s asset grew steadily over the period. In 2015 assets dipped and then decreased slightly again in in 2018.
4. Liabilities track assets very closely. Equity increased smoothly during the period with no sharp increases or decreases.
5. Liabilities exceeded equity in four of the ten years: 2014, 2016, 2017 and 2018.
6. To answer the questions, hover over the appropriate spot on the middle graphic and read the pop-out boxes that appear.
7. Net income more than doubled from 2009 to 2017, from $850M to $2,225M.
8. Revenue grew each year in the 10-year period.
9. In 2014, revenue increased $4 billion from about $13 billion to $17 billion. While revenue increased nearly that much in 2018, it was on a larger base, so proportionately the 2014 increase was the largest.
10. In $ millions: 2017 profit margin = $2,225 / $20,918 = 10.6%.

2018 profit margin = $2,838 / $24,358 = 12.1%. Profit margin is larger in 2018.

1. In 2018, the company’s market cap $89,991 million.
2. To answer the questions, hover over the appropriate spot on the graphic on the right and read the pop-out boxes that appear.
3. Operating cash flow was smallest in 2010, $1,498 million.
4. The red bar represents financing cash flows, The red bar is left of $0 in 4 years.
5. In 2014, investing cash flow is very large and negative. In the prior two years (2012 and 2013) and the next year (2015), investing cash flow fell to nearly $0.
6. The ROA for 2018 = $2,938 million / $56,232 million = 5.2%.
7. All three graphics show that 2014 was an unusual year. The negative investing cash flow is very large and corresponds to a significant increase in assets (left graphic) and revenue (middle graphic). One possible explanation is that Thermo Fisher acquired another company (investing cash flow), which immediately increased both assets and revenue.

**P1-55 (25 minutes)**

1. Answer: Twitter’s board of directors and shareholders

Explanation: Auditors work for the benefit of the shareholders and report directly to the board of directors, the elected representatives of the shareholders whose job it is to protect shareholder interests. It would not be appropriate for the external auditors to report directly to management because the auditors are examining management’s activities as described in the company’s financial statements. Reporting to the board preserves the auditor’s independence.

1. Answer: 1 and 4

Explanation:

Statement 1 is true because the nature of the independent auditors’ opinion is that the financial statements “present fairly, in all material respects, the financial condition of the company.” Because this is standard audit-report language, any deviations should raise a flag. “Present fairly” does not mean absolute assurance that the financials are error-free. It means that a reasonable person would conclude that the financial statements reasonably describe the financial condition of the company.

Statement 2 is not true because auditors are not responsible for detecting fraud. While audit procedures might detect fraud, the auditors do not express an opinion about fraud existence.

Statement 3 would be true if the word “misstatements” had read “material misstatements”

Statement 4 is true – PwC also rendered an opinion on the company’s system of internal controls. Internal controls are designed to insure the integrity of the financial reporting system and the preservation of the company’s assets. A well-functioning internal control system is a critical component of the company’s overall corporate governance system.

Statement 5 is not true because it would be impossible for PwC to examine MOST of the transactions. Instead, they audit critical areas and then use statistical techniques to look at a representational sample of transactions.

1. The opinion is unqualified.
2. 3

**P1-56. (20 minutes)**

1. Jack Dorsey made assertions that the Sarbanes-Oxley Act requires all CEOs and CFOs to make. In particular, Dorsey certified that:
   * He has read the financial reports.
   * The financial reports do not contain any significant (material) misstatement or omit to state a significant fact that should have been included. The financial reports are, therefore, complete.
   * The financial reports fairly present the financial condition of the company.
   * The company maintains a system of internal controls and those controls are functioning correctly.
2. Congress passed the Sarbanes-Oxley Act following a spate of corporate accounting scandals in the early 2000s. The impetus for the legislation was the belief that some CEOs and CFOs no longer assumed responsibility for the financial reporting of their companies. By requiring these high-ranking executives to personally certify to the items referenced in part *a* above, Congress wanted to encourage closer scrutiny of the financial reporting process at the highest levels of the company.
3. The Sarbanes-Oxley Act prescribes significant penalties for falsely certifying to the completeness and correctness of the financial reports. CEOs and CFOs face fines of up to $5 million and prison terms of up to 20 years. Additionally, should the company later restate its financial statements as a result of wrongful false reporting, the CEOs and CFOs may be required to forfeit any profits earned as a result of that reporting. This forfeiture has been labeled “disgorgement” in the financial press.

**P1-57. (45 minutes)**

**(NOTE: Students need to access the Power BI app to answer these questions. They cannot be answered from the textbook information, alone.)**

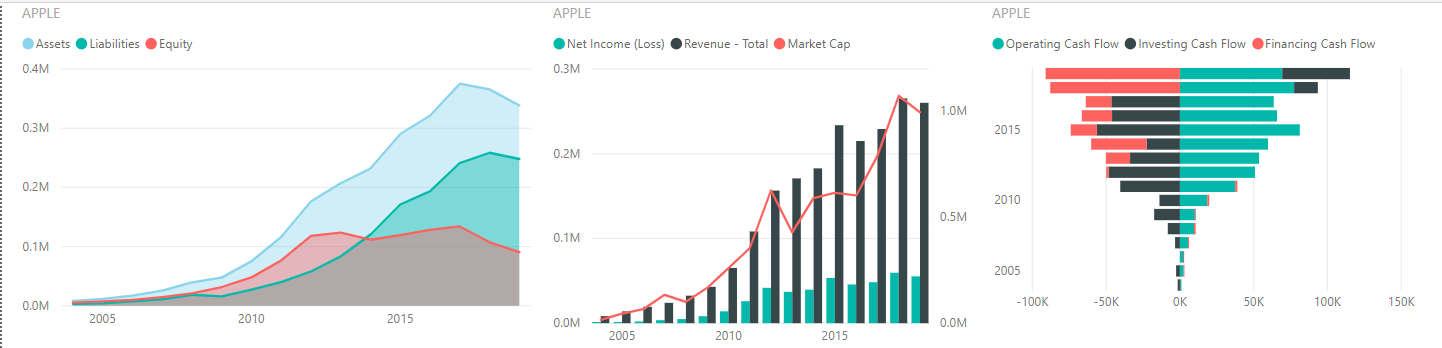
1. The Excel file includes Compustat variables in columns A through P for Apple and Thermo Fisher for 2004 through 2019. We define market cap as Common shares outstanding × Price Close – Fiscal year end or column O × column P. The table below shows the data for row 1: Thermo Fisher in 2004.

|  |  |  |
| --- | --- | --- |
| **Col.** | **Variable name** | **Value** |
| A | Global Company Key | 10530 |
| B | Data Date | 20041231 |
| C | Data Year - Fiscal | 2004 |
| D | Ticker Symbol | TMO |
| E | Company Name | THERMO FISHER SCIENTIFIC INC |
| F | Fiscal Year-end Month | 12 |
| G | Assets - Total | 3576.725 |
| H | Liabilities - Total | 911.175 |
| I | Total Shareholders' Equity | 2665.55 |
| J | Operating Cash Flow | 264.51 |
| K | Investing Cash Flow | 34.153 |
| L | Financing Cash Flow | -183.223 |
| M | Revenue - Total | 2205.995 |
| N | Net Income (Loss) | 361.837 |
| O | Common Shares Outstanding | 160.55 |
| P | Price Close - Fiscal year end | 30.19 |
| Q | Market Cap | 4847.0045 |

1. In Power BI,

* Upload the dataset.
* Graphic 1: Select Line Chart from the Visualizations panel.
* Drag and drop variables Assets, Liabilities, and Total shareholders’ equity to the Values field in the Visualizations panel.
* Add Data year to the Axis field in the Visualizations panel.
* Drag and drop Company name to the Filters panel and use the dropdown menu in the Filters panel, to choose Apple.
* Graphic 2: Select Line and Clustered Column Chart from the Visualizations panel.
* Drag and drop variables Net income, Revenue, Market Cap to the Values field in the Visualizations panel.
* Add Data year to the Axis field in the Visualizations panel.
* Drag and drop Company name to the Filters panel and use the dropdown menu in the Filters panel, to choose Apple.
* Graphic 3: Select Stacked Bar Chart from the Visualizations panel.
* Drag and drop variables Operating cash flow, Investing cash flow, and Financing cash flow to the Values field in the Visualizations panel.
* Add Data year to the Axis field in the Visualizations panel.
* Drag and drop Company name to the Filters panel and use the dropdown menu in the Filters panel, to choose Apple.

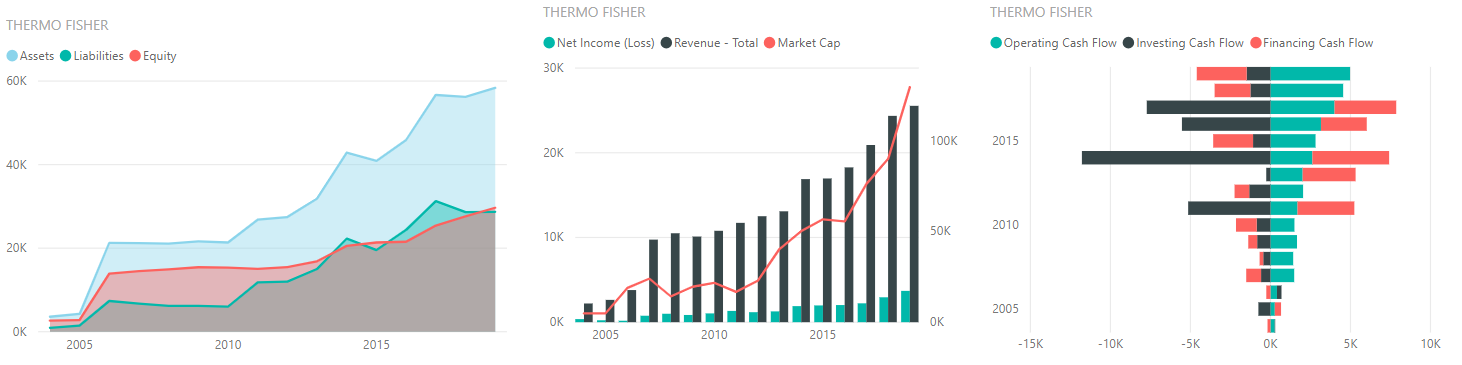
The three graphics should look something like this:



1. In Power BI,

* Copy each of the three Apple graphics
* Use the dropdown menu in the Filters panel, to choose Thermo Fisher.

The graphics will look like this:



Graphic 1: both companies’ balance sheets are growing steadily over time. TMO uses more equity than Apple does especially in later years in the series.

Graphic 2: both companies have increasing revenue, TMO’s is more smooth growth. Net income is proportionately smaller for TMO (the green bar is smaller than the black bar compared to the same two bars for AAPL). Apples’ market cap is more erratic but both companies have strong market cap growth during the period.

Graphic 3: Apple’s total cash flow grows fairly smoothly over the time series, TMO’s cash flow is rather erratic. Both companies have positive CFO each year. TMO has positive CFF in six of the years whereas Apple never does.

**IFRS APPLICATIONS**

**I1-58. (20 minutes)**

a.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **(currency in millions)** | **Assets** | **=** | **Liabilities** | **+** | **Equity** |
| OMV Group | € 36,961 |  | € 21,619 |  | (a) €15,342 |
| Ericsson | SEK 268,761 |  | (b) SEK 180,991 |  | SEK 87,770 |
| BAE Systems | (c) £30,364 |  | £24,746 |  | £5,618 |

1. Answer: OMV Group

Explanation: Owner Financing = Equity / Assets

|  |  |
| --- | --- |
| OMV Group (Austria) Euros millions | 41.5% |
| Ericsson (Sweden) SEK millions | 32.7% |
| BAE Systems (UK) pounds millions | 18.5% |

1. Answer: BAE Systems

Explanation: Nonowner Financing = Liabilities / Assets

|  |  |
| --- | --- |
| OMV Group (Austria) Euros millions | 58.5% |
| Ericsson (Sweden) SEK millions | 67.3% |
| BAE Systems (UK) pounds millions | 77.3% |

**I1-59. (25 minutes)**

1. Answer: 2018: 9.6% 2017: 4.7% 2018: -0.7%

Explanation:

|  |  |  |  |
| --- | --- | --- | --- |
| € millions | **2018** | **2017** | **2016** |
| Net profit (Loss) | 3,298.0 | 1,486.0 | (230.0) |
| Assets, start of year | 31,576.0 | 32,112.0 | 32,664.0 |
| Assets, end of year | 36,961.0 | 31,576.0 | 32,112.0 |
| Average assets | 34,268.5 | 31,844.0 | 32,388.0 |
| ROA = Net income / Average assets | 9.6% | 4.7% | -0.7% |

1. Answer: 2018: 14.4% 2017: 7.3% 2016: -1.2%

Explanation:

|  |  |  |  |
| --- | --- | --- | --- |
| € millions | **2018** | **2017** | **2016** |
| Net profit (Loss) | 3,298.0 | 1,486.0 | (230.0) |
| Sales | 22,930.0 | 20,222.0 | 19,260.0 |
| Profit margin (PM) = Net income / Sales | 14.4% | 7.3% | -1.2% |

1. Answer: 2018: 0.67 2017: 0.64 2016: 0.59

Explanation:

|  |  |  |  |
| --- | --- | --- | --- |
| € millions | **2018** | **2017** | **2016** |
| Sales | 22,930.0 | 20,222.0 | 19,260.0 |
| Assets, start of year | 31,576.0 | 32,112.0 | 32,664.0 |
| Assets, end of year | 36,961.0 | 31,576.0 | 32,112.0 |
| Average assets | 34,268.5 | 31,844.0 | 32,388.0 |
| Asset turnover (AT) = Sales / Average assets | 0.67 | 0.64 | 0.59 |

1. Answer: Both

Explanation OMV’s ROA increased from -0.7% in 2016 to 4.7% in 2017 because profitability margin improved during the year (from -1.2% to 7.3%). Compounding this was the increase in asset productivity (AT) (from 0.59 to 0.64). Thus, both factors increased the ROA.

1. Answer: Both

Explanation OMV’s ROA increased from 7.3% in 2017 to 14.4% in 2018 because profitability increased during the year (from 7.3% to 14.4%) and the increase in profitability was augmented by the increase in productivity (from 0.64 to 0.67).

1. Answer: 2018: 22.2% 2017: 10.5% 2016: -1.6%

Explanation:

|  |  |  |  |
| --- | --- | --- | --- |
| € millions | **2018** | **2017** | **2016** |
| Net profit (Loss) | 3,298.0 | 1,486.0 | (230.0) |
| Equity, start of year | 14,334.0 | 13,925.0 | 14,298 |
| Equity, end of year | 15,342.0 | 14,334.0 | 13,925 |
| Average equity | 14,838.0 | 14,129.5 | 14,111.5 |
| ROE = Net income / Average equity | 22.2% | 10.5% | -1.6% |

**ANALYSIS DECISION POINTS**

**D1-60.** **(30 minutes)**

Financing can come from a number of sources, including operating creditors, borrowed funds, and the sale of stock. Each has its strengths and weaknesses.

1. Operating creditors – operating creditors are merchandise and service suppliers, including employees. Generally, these liabilities are non-interest bearing. As a result, companies typically use this source of credit to the fullest extent possible, often stretching payment times. However, abuse of operating creditors has a significant downside. The company may be unable to supply its operating needs and the damage to employee morale might have significant repercussions. Operating credit must, therefore, be used with care.
2. Borrowed funds – borrowed money typically carries an interest rate. Because interest expense is deductible for tax purposes, borrowed funds reduce income tax expense. The taxes saved are called the “tax shield.” The deductibility of interest reduces the effective cost of borrowing. The downside of debt is that the company *must* make principal and interest payments as scheduled. Failure to make payments on time can result in severe consequences – creditors have significant legal remedies, including forcing the company into bankruptcy and requiring its liquidation. The lower cost of debt must be balanced against the fixed payment obligations.
3. Sale of stock – companies can sell various classes of stock to investors. Some classes of stock have mandatory dividend payments. On other classes of stock, dividends are not a legal requirement until declared by the board of directors. Consequently, unlike debt payments, some dividends can be curtailed in business downturns. The downside of stock issuance is its cost. Because equity is the most expensive source of capital, companies use it sparingly.

**D1-61. (30 minutes)**

Each of the three primary financial statements provides a different perspective on the company’s financial performance and condition.

1. Income statement. The income statement provides information on the company’s sales, expenses, and net income or loss. Profitability indicates that the company’s goods or services are valued by the market, that is, customers are willing to pay a price that is sufficient to cover the costs of providing those goods and/or services together with an adequate return on invested capital. Further, the income statement is prepared on an accrual basis, where revenues are recognized when “earned” and expenses when “incurred.” Accountants do not wait for cash to be received or paid to record revenues and expenses. Consequently, management is able to communicate some of its private information about expected cash inflows or outflows through its recording of revenues and expenses. Presumably this information is valuable to financial statement readers because the income statement provides information about the economic profit of the company.
2. Balance sheet. The balance sheet reports the resources available to the company and how the company obtained those resources (the sources). The balance sheet also reveals asset categories (providing insight into management’s investment philosophy) and the manner in which management has financed its operations (the relative use of debt versus equity). Efficient management of the balance sheet is critical to financial performance and careful analysis of the balance sheet can provide clues into the effectiveness of the company’s management team and the viability of the company within the context of its industry.
3. Statement of cash flows. Cash is important to a company’s continued operations. Debts must be paid in cash and employees typically only accept cash in payment of their services. Companies must generate positive cash flow over the long run in order to survive. The income statement, prepared on an accrual basis, does not directly provide information about cash flows. But the statement of cash flows does, and, for that reason, it is a critical financial statement. The statement of cash flows tells us the sources of cash and how cash has been used. In particular, the statement reports operating, investing and financing cash flows. From the statement we can infer whether the company’s sources of cash are long-term or transitory. This is important to forecasting future cash flows. In addition, the uses of cash provide insight into management’s investment philosophy, which can be a valuable input into our evaluation of management and valuation of the company.

**D1-62. (30 minutes)**

*Transparency* is the degree to which the financial statements accurately and completely portray the financial condition of the company and the results of its operating activities. Transparent financial statements are timely and provide all the information required to effectively evaluate the financial performance of the company. Accuracy, timeliness, and completeness are important to financial statement readers who seek financial information that is relevant and reliable. Transparency became a central issue in financial reporting following the accounting scandals of the early 2000s, when analysts believed too many financial statements lacked transparency.

Balancing companies’ desire to issue transparent financial statements is their need to protect proprietary information. Markets are very competitive, and the information disclosed to investors and creditors is also disclosed to the company’s competitors. Most critical is information relating to the company’s strategic direction. Even historical information, however, provides insight into the relative profitability of the company’s operating units that can be effectively utilized by future competitors.

There has traditionally been tension between companies and the financial professionals (especially investment analysts) who press firms for more and more financial and nonfinancial information.