# CHAPTER 14

# FINANCIAL STATEMENT MODELING

1. (B) $6,400

Explanation

| | Dec. 31, 2016 | 2017 Forecast | 2017 EBIT |
|---|---|---|---|
| Property-Liability | 32,567 | 33,544 | 5,702.48 |
| Everystate Financial | 3,928 | 3,928 | 707.04 |
| Corporate and Other | 39 | 40 | 9.15 |
| Consolidated revenues | $ 36,534 | $ 37,512 | $ 6,419 |

Forecast revenue for Property-liability = 1.03 x 32,567 = $33,544

Forecast EBIT for property-liability = 0.17 x 33,544 = 5,702.48

(Module 14.2, LOS 14.g)

**Related Material**

SchweserNotes - Book 2

2. (A) decrease.

Explanation

Increases in PP&E will increase invested capital, while higher depreciation expense will reduce earnings. Both factors will reduce the return on invested capital.

(Module 14.1, LOS 14.d)

**Related Material**

SchweserNotes - Book 2

3. (B) TV Stream is unlikely to have a large degree of pricing power and below average profitability due to threat of new entrants.

Explanation

| Force | Factors | Condition |
|---|---|---|
| Threat of substitutes | Broadcast TV and DVD media are cost-effective substitutes. | Unfavorable |
| Rivalry | There are several companies in the industry and TVStream has a 25% market share. | Neutral |

| | | |
|---|---|---|
| Bargaining power of suppliers | The content must be purchased from the major networks and movie studios. | Unfavorable |
| Bargaining powers of buyers | Customers are fragmented and the base consists largely of individual subscribers. | Favorable |
| Threat of new entrants | Major TV networks are in position to launch their own streaming service using existing technologies. | Unfavorable |

There is clearly a high threat of new entrants and high bargaining power of suppliers, both of which make the industry relatively unattractive.

(Module 14.2, LOS 14.j)

**Related Material**

SchweserNotes - Book 2

4. (A) **Earnings projections should be based on the most recent earnings for growing companies as it reflects the current state of the economy.**

**Explanation**

The most recent earnings figure may not sustainable. Even growing companies may face a downturn due to changes in the industry. The most recent data is not necessarily the most appropriate.

(Module 14.2, LOS 14.n)

**Related Material**

SchweserNotes - Book 2

5. (A) **$37,590**

**Explanation**

| | 2017 Forecast | Dec. 31, 2016 |
|---|---|---|
| Property-Liability | 33,544 | 32,567 |
| Everystate Financial | 4,007 | 3,928 |
| Corporate and Other | 39 | 39 |
| Consolidated revenues | $37,590 | $36,534 |

(Module 14.2, LOS 14.k)

**Related Material**

SchweserNotes - Book 2

6. (A) **144%**

**Explanation**

Combined sales in 20X1 = 88.9.

Combined sales in 20X3 = 97.5 + 433 = 530.5

Annual growth rate = $[530.5 / 88.9]^{1/2} - 1 = 1.44$ or 144%

(Module 14.1, LOS 14.a)

**Related Material**

SchweserNotes - Book 2

7. (B) **$5,231,000.00**

**Explanation**

| | |
|---|---|
| Number of customers 2011 | = $20,050,000/$225 = 89,111 |
| Number of customers 2013 | = $20,155,000/$218 = 92,454 |
| SG&A per customer 2013 | = $5,240,000/92,454 = $56.68 |
| CAGR customers using past two years | = $(92{,}454/89{,}111)^{1/2}$–1 = 1.86% |
| Forecasted number of customers 2014 | = 92,454 × 1.0186 = 94,172 |
| Forecasted SG&A per customer 2014 | = $56.68 × (1–0.02) = $55.54 |
| Forecasted SG&A 2014 = $55.54 x 94,172 | **= $5,230,637** |

(Module 14.1, LOS 14.d)

**Related Material**

SchweserNotes - Book 2

8. (A) **Both companies will experience the same decrease in gross margin.**

**Explanation**

| | Tooboola GmbH | Tooboola Forecast | Portentona GmbH | Portentona Forecast |
|---|---|---|---|---|
| Sales | 100% | **100%** | 100% | **100%** |
| Cost of Goods Sold **(x 1.10)** | 38% | **41.8%** | 48% | **52.8%** |
| Gross Margin | 62% | **58.2%** | 52% | **47.2%** |
| SG & A **(×1.05 )** | 40% | **42.0%** | 20% | **21.0%** |
| Depreciation | 5% | **5.0%** | 15% | **15.0%** |
| Operating Margin | 17% | **11.2%** | 17% | **11.2%** |

Tooboola's gross margin drops 3.8% to 58.2%. This is a relative drop of 6.1%. Portentona's gross margin drops 4.8% to 47.2%. This is a relative drop of 9.2%. (Module 14.2, LOS 14.k)

**Related Material**

SchweserNotes - Book 2

Janet Smith has gathered the following information for the Power Tools Manufacturer market in the U.S. and this is part of the first phase of analyzing the businesses in the industry. The following issues are relevant:

1. Raw material and component purchases consist mainly of plastics (for casing) and motors (for power). Some hardened steel is required to make drills and bits.
2. Access to a reliable and efficient source of supply is critical, especially with regard to the electric motor.
3. Two manufacturers in the U.S. produce over 90% of the electric motors for the U.S. markets.
4. Workers in the industry have a strong and well-organized union. As a result, the rate of compensation growth is a cause for concern, as is the associated health and pension benefits accruing to the work force.
5. Industry revenues have tended to track the fluctuations of the wider economy.
6. Sales growth in the industry has been 5% compounded annually over the past eight years.
7. Non-U.S. sales grew 10% compounded annually over the last eight years.
8. The rate of growth in home ownership and new home starts is directly related to the future volumes of power tool sales.
9. The three largest global producers of power tools control 80% of the U.S. markets, down from 85% five years ago.
10. Economies of scales are critical to efficient and cost effective use of manufacturing resources.
11. High capital expenditure is required to maintain plant and equipment.
12. The major areas for competition for all the manufacturers are price and delivery times, these are the critical areas of concern for the major retail outlets.
13. China has become the third largest global market for power tools, and significant production facilities in this market have led to the potential for major export growth to the U.S. In other industries, Chinese producers have been able to match and often better local producers on price and delivery times.
14. 75% of sales in the U.S. market are made through 12 major retail chains. They are always looking for ways to reduce the price they pay to manufacturers.
15. Sales of power tools is highly seasonal due to customer buying patterns often related to the weather.
16. Consumers are looking for value for money but surveys indicate that they are not only looking for the lowest price. They do value quality and surprisingly the look of the product is more important than many thought.

17. Taking a broad view of the markets, it is difficult to envisage alternative products and technologies playing a significant role in the development of the market for the foreseeable future.

9. (A) This force is strong due to comment (14).

**Explanation**

Strong as per statements (14).

(Module 14.2, LOS 14.j)

**Related Material**

SchweserNotes - Book 2

10. (B) This force is strong due to comments (2), (3), and (4).

**Explanation**

Strong as per statements (2), (3), and (4).

(Module 14.2, LOS 14.j)

**Related Material**

SchweserNotes - Book 2

11. (C) This force is average due to comments (10), (11), and (13).

**Explanation**

Average as statements (10) and (11) reduce the strength and (13) increases it.

(Module 14.2, LOS 14.j)

**Related Material**

SchweserNotes - Book 2



12. (C) This force is weak due to comment (17).

**Explanation**

Weak as per statement (17).

(Module 14.2, LOS 14.j)

**Related Material**

SchweserNotes - Book 2

13. (C) An analyst will conclude that economies of scale are present in the industry if the larger company has higher revenues and a higher gross profit margin.

**Explanation**

Economies of scale are evidenced by larger companies displaying larger gross margins. Having a larger revenue figure and a larger gross profit does not necessarily imply a larger margin.

(Module 14.1, LOS 14.c)

**Related Material**

SchweserNotes - Book 2

14. (C) **Lorson's bottom-up approach predicts the highest revenue for 2014.**

**Explanation**

Market growth and market share approach (method 1)

| | |
|---|---|
| 2013 market share | 1,408/17,606 = 8.00% |
| 2013 total market growth | 17,606/17,450 - 1 = 0.89% |
| 2014 total market | 17,606 x 1.0089 = 17,763 |
| **2014 revenue Symphonica** | **17,763 x 8.00% = 1,421** |

(Alternatively, as market share is static, revenue growth = market growth = 0.89%)

Growth relative to GDP model (method 2)

| | |
|---|---|
| 2013 nominal GDP growth | 16,451/16,400 - 1 = 0.31% |
| **2014 revenue Symphonica** | **1,408 x 1.0032 = 1,412** |
| Bottom-up (method 3) | |
| 2013 revenue growth | 1,408/1,375 - 1 = 2.4% |
| **2014 revenue Symphonica** | **1,408 x 1.024 = 1,442** |

(Module 14.1, LOS 14.b)

**Related Material**

SchweserNotes - Book 2

15. (B) **The time horizon should be independent of the average holding period for a stock.**

**Explanation**

The holding period should be considered. An average annual turnover of 25% is consistent with a holding period of 4 years (1/0.25).

(Module 14.2, LOS 14.m)

**Related Material**

SchweserNotes - Book 2

16. (C) **17.6%**

**Explanation**

Given the growth forecasts, Cynbo's forecasted profit before tax, taxes and profit after tax are 583.50, 102.65, and 480.86 respectively.

Effective tax rate = 102.65/583.50 = 17.60%

| | Current PBT | Growth Rate | E(PBT) | Tax Rate | Tax | Eat |
|---|---|---|---|---|---|---|
| Mazat | 350 | 5% | 367.50 | 15% | 55.13 | 312.38 |
| Napat | 200 | 8% | 216.00 | 22% | 47.52 | 168.48 |
| **Total** | **550** | | **583.50** | | **102.65** | **480.86** |

(Module 14.1, LOS 14.d)

**Related Material**

SchweserNotes - Book 2

17. (B) **Forecasted depreciation rates are usually based on historic information whereas forecasted capital expenditure is usually based on forecasted data.**

**Explanation**

Depreciation rates are usually taken from historic disclosures regarding rates used in prior periods. Capital expenditure is usually forecast using analysts' judgment regarding future needs for PPE.

(Module 14.1, LOS 14.f)

**Related Material**

SchweserNotes - Book 2

18. (A) **Intra-industry rivalry and threat of substitutes.**

**Explanation**

Increased selling expenses are consistent with an investment in building brand loyalty, which is an appropriate response to a threat of substitutes and intra-industry competition. By spending more on advertising, Deluxe can build brand loyalty, thus improving its competitive position versus rival toy makers and alternative products.

(Module 14.2, LOS 14.i)

**Related Material**

SchweserNotes - Book 2

19. (A) **8.36%**

**Explanation**

Average gross debt = (3,398 + 3,658)/2 = $3,528

Interest rate = 2016 interest / average debt = 295/3528 = 8.36%

(Module 14.1, LOS 14.d)

**Related Material**

SchweserNotes - Book 2

20. (C) **has low barriers to exit.**

**Explanation**

Pricing power is most likely to be low in industries that are fragmented, have limited growth potential, have high barriers to exit, have high fixed costs, and in industries where the product offerings are essentially identical.

(Module 14.2, LOS 14.i)

**Related Material**

SchweserNotes - Book 2

21. (C) $510,785.

Explanation

| | |
|---|---|
| Number of phone covers sold | 11,044 |
| Cannibalization rate | 25% |
| Number of camera sales lost | 11,044 x 25% = 2,761 |
| **Revenue lost** | **2,761 x $185 = $510,785** |

(Module 14.2, LOS 14.l)

**Related Material**

SchweserNotes - Book 2

22. (C) Mendoza is forecasting growth of using a 3.5% top-down approach.

Explanation

Mendoza is using a top-down approach as he is modeling revenue by starting with a forecast of the entire economy.

The predicted growth rate is 1% higher than nominal GDP rate = 1% + 1.5% + 1% = 3.5%.

(Module 14.1, LOS 14.a)

**Related Material**

SchweserNotes - Book 2

23. (A) $621 million

Explanation

Combined sales for 20X3 = (97.5 + 433) x (1.30) = $690

Bemax's share = 0.90 x 690 = $620.69

(Module 14.1, LOS 14.b)

**Related Material**

SchweserNotes - Book 2

24. (A) 99%

Explanation

Combined sales for 20X2 = 92.3 + 54 =146.3

Combined sales for 20X3 = 97.5 + 43 = 530.5

Increase in sales for both products in 20X3 = 530.5 – 146.3 = $384.20

Increase in sales for Bemax = 433 – 54 = $ 379

Percentage of combined growth attributable to Bemax = 379/384.20 = 98.65%

(Module 14.1, LOS 14.a)

**Related Material**

SchweserNotes - Book 2

25. (C) **$318 million.**

**Explanation**

| | 2013 $millions | 2014E $millions | 2015E $millions | 2016E $millions |
|---|---|---|---|---|
| **Sales** | **935** | **954** | **973** | **993** |
| Capex (% sales) | | 2.5% | 2.5% | 2.5% |
| Capex ($m) | | 24 | 24 | 25 |
| Depreciation (% sales) | | 1.5% | 1.7% | 1.9% |
| Depreciation ($m) | | 14 | 17 | 19 |
| **Net PPE** | **295** | **305** | **312** | **318** |

(Module 14.2, LOS 14.g)

**Related Material**

SchweserNotes - Book 2

26. (A) **23%**

**Explanation**

New sales (including tax) = 1500 x (1 — 0.075) x (1 + 0.10) = 1526.25

Sales tax = (1526.25 / 1.10) x 10% = 138.75

Net sales = 1387.50

Due to 7.5% reduction in units sold, COGS will decline to 630 x (1 — 0.075) = 582.75

Selling expenses currently are 8% of sales.

New selling expense = 1526.25 x 0.08 = 122.10

Administrative expenses are fixed at 330.

Operating profit = 1387.50 — 582.75 — 122.10 — 330 = $352.65, which is 23.11% of $1526.25.

(Module 14.2, LOS 14.l)

**Related Material**

SchweserNotes - Book 2