CHAPTER 6

**THE ECONOMIC BALANCE SHEET AND AN OVERVIEW OF CASH FLOW BASED VALUATION MODELS**

## LEARNING OBJECTIVES

1. The concept of an economic balance sheet and how it differs from a GAAP balance sheet.
2. How to create an economic balance sheet.
3. How to relate each of the five components of the economic balance sheet to the appropriate cash flow stream.
4. An overview of five valuation models.
5. That all five of the valuation models produce identical results given identical assumptions.
6. Why the models use different cash flow streams.

## TRUE/FALSE QUESTIONS

1. The GAAP balance sheet is a statement showing the estimated fair values of all items that represent an economic asset or liability for the firm, along with the implied value of the firm’s equity.

**(easy, L.O. 1, Section 1, false)**

1. Economic balance sheets differ from GAAP balance sheets in three important respects.

**(moderate, L.O. 1, Section 1, true)**

1. Core operations are assets and liabilities that are central to the business which can be easily separated from each other without affecting the cash-generating ability of the entity.

**(moderate, L.O.1, Section 1, false)**

1. The value of core operations is estimated in the aggregate, line-by-line, on the economic balance sheet.

**(moderate, L.O. 1, Section 1, false)**

1. During major litigation, stock returns can be associated with turning points in the case.

**(easy, L.O. 1, Section 1, true)**

1. Commitments and contingencies are classified as nonoperating.

**(moderate, L.O. 2, Section 1, true)**

1. The difference between the fair value of the core operations and its book value is likely to be very large.

**(moderate, L.O. 2, Section 1, true)**

1. An analyst can value any of the components of the economic balance sheet as a present value.

**(moderate, L.O. 3, Section 1, true)**

1. The economic balance sheet illustrates a fundamentally important concept: The total value of all claims is equal to the total value of all assets they claim.

**(difficult, L.O. 4, Section 2, true)**

1. Estimates are generally better than the assumptions on which they are built due to more in-depth analysis.

**(difficult, L.O. 4, Section 2, false)**

1. In the dividend discount model, the value of common equity (*COMEQUITY*) is estimated indirectly.

**(difficult, L.O. 4, Section 2, false)**

1. The residual income model relies on the idea that the value of any security is the present value of cash flows that securities are expected to generate.

**(moderate, L.O. 5, Section 2, false)**

1. An analyst using identical assumptions will obtain the same value for common equity no matter which of the five valuation models are used.

**(moderate, L.O. 5, Section 2, true)**

1. The residual income model is the most widely used model in practice.

**(moderate, L.O. 4, Section 2, false)**

1. In the adjusted present value model (APV), the free cash flows are discounted to the present using the hypothetical cost of common equity the firm would have if it had no leverage.

**(difficult, L.O. 4, Section 2, true)**

## MULTIPLE CHOICE QUESTIONS

1. An economic balance sheet differs from a balance sheet prepared under GAAP. Which item below is incorrect relative to this statement?

a. Economic balance sheet items are classified in a different way than under GAAP.

b. The economic balance sheet includes all items that are conceptually assets or liabilities.

c. The economic balance sheet uses fair value for all items.

d. Economic balance sheets have recognition tests like GAAP balance sheets.

**(moderate, L.O. 1, Section 1, d)**

1. Economic balance sheet items are classified according to:

a. whether they relate to the firm’s core operations, debt claims, and common equity claims, for examples

b. whether the items are assets or liabilities

c. whether the items are short- or long-term assets or liabilities

d. whether the items use historical or fair market valuations

**(moderate, L.O. 1, Section 1, a)**

1. Assets that a company could separate from the rest of its business without any ill effects are known as:

a. core operating assets

b. short-term assets

c. nonoperating assets

d. long-term assets

**(moderate, L.O. 1, Section 1, c)**

1. Which item below is considered **both** a GAAP and common economic balance sheet item?

a. employee stock options

b. proceeds from a bank certificate of deposit

c. contingent liabilities

d. expected proceeds from a lawsuit

**(moderate, L.O. 1, Section 1, b)**

1. Several things must be done to a GAAP balance sheet to convert it to an economic balance sheet. Which item below would **not** be considered part of this process?
2. The balance sheet is reorganized around economic balance sheet classifications.
3. Only stock transactions recognized under GAAP are included on the economic balance sheet.
4. All economic assets and liabilities are included whether they are recognized under GAAP or not.
5. The analyst’s best estimates of fair values are used on the economic balance sheet.

**(moderate, L.O. 2, Section 1, b)**

1. In an economic balance sheet, core operations:
2. are estimated in the aggregate using a valuation model
3. are estimated individually using a valuation model
4. are excluded so the analyst can create a conservative balance sheet
5. are excluded since core operations are valued under GAAP

**(moderate, L.O. 2, Section 1, a)**

1. Which item below appears only on the economic balance sheet?

a. current portion of long-term debt

b. accounts receivable

c. deferred revenue

d. employee stock options

**(moderate, L.O. 2, Section 1, d)**

1. What method would **not** be used to value a joint venture when preparing an economic balance sheet?
2. preparing a separate cash flow valuation
3. obtaining an appraisal
4. the market value of the joint venture
5. the historical cost of the joint venture

**(moderate, L.O. 2, Section 1, d)**

1. When preparing an economic balance sheet, common equity is valued:
2. as a “plug figure” to make the balance sheet balance
3. at the fair market value of the corporation’s stock
4. based on an appraisal of common equity components
5. based on an appraisal of common equity in the aggregate

**(moderate, L.O. 2, Section 1, a)**

1. Which of the following economic balance sheet elements results in a cash outflow for the firm?

a. collections of receivables

b. core operations

c. other capital claims

d. nonoperating net assets

**(easy, L.O. 3, Section 1, c)**

1. The components of the economic balance sheet can be linked to a firm’s cash flows. Core operations generate what are known as:

a. free cash flows

b. other capital cash flows

c. nonoperating cash flows

d. debt service

**(moderate, L.O. 3, Section 1, a)**

1. Questions arise about how to distinguish among the five components of the economic balance sheet. Practically speaking, the way any particular item is classified is less important than the consistency between the classification decision and:

a. the future value of the related cash flow stream

b. the present value of the related cash flow stream

c. the method used in its valuation

d. the categorization of its cash flows

**(difficult, L.O. 3, Section 1, d)**

1. There are several cash flow valuation models used by analysts today. These models may estimate the value of common equity directly or indirectly. Of the models listed below, the model that makes a direct estimate of the value of common equity is the:

a. adjusted present value model

b. residual income model

c. flows-to-equity model

d. dividend discount model

**(difficult, L.O. 4, Section 2, d)**

1. The model that values the cash flows available to equityholders after the firm services its debt and other capital streams is known as:

a. flows-to-equity model

b. free cash flow model

c. adjusted present value model

d. dividend discount model

**(moderate, L.O. 4, Section 2, a)**

1. The cash flows valuation model that is the most widely used in practice is the:

a. dividend discount model

b. flows-to-equity model

c. free cash flow model

d. residual income model

**(moderate, L.O. 4, Section 2, c)**

1. The model that is derived directly from the dividend discount model and bases the valuation of variables on book values and earnings amounts is the:

a. free cash flows model

b. residual income model

c. flows-to-equity model

d. adjusted present value model

**(difficult, L.O. 4, Section 2, b)**

1. It is true that an analyst using identical assumptions will arrive at the same value for common equity no matter which of the five cash flow models is used. The models differ from the standpoint of:

a. providing an estimate of the firm’s value

b. how the computations are done

c. what factors about a firm are highlighted in the process

d. how the computations are done and what factors about a firm are highlighted in the process

**(moderate, L.O. 6, Section 2, d)**

1. The valuation model that focuses on the cash flows that would be available to fund the dividend stream rather than the dividend stream itself is the:

a. free cash flow model

b. adjusted present value model

c. flows-to-equity model

d. dividend discount model

**(moderate, L.O. 2, Section 2, c)**

1. The \_\_\_\_\_\_\_\_\_\_ model gives us the value of core operations by calculating the present value of free cash flow at the weighted-average cost of capital.

a. residual income

b. free cash flow

c. adjusted present value

d. flows-to-equity

**(moderate, L.O. 4, Section 2, b)**

35. One valuation model that uses the “unlevered cost of equity,” which is generally higher than the weighted-average cost of capital, results in a lower value for core operations. This cash flow model is the:

a. free cash flow model

b. adjusted present value model

c. dividend discount model

d. flows-to-equity model

**(moderate, L.O. 4, Section 2, b)**

36. Cash flow models either directly or indirectly value the cash flow stream resulting from dividends. If the model is direct in its approach, it will:

a. value the cash flows available to equityholders, irrespective of whether cash flows are paid in dividends

b. forecast the expected dividend stream that the common equity will generate and calculate its present value

c. use an equation to arrive at the present value of common equity by estimating or observing the values of the other amounts in the economic balance sheet

d. calculate the present value of the weighted-average cost of capital

**(difficult, L.O. 4, Section 2, b)**

## ESSAYS

37. Explain the main differences between an economic balance sheet and a balance sheet prepared according to GAAP.

Suggested solution:

There are three main differences between an economic balance sheet and one that is prepared under GAAP. The first difference is that economic balance sheets are classified in a different way than GAAP balance sheets. Second, economic balance sheets include items that are assets or liabilities from a conceptual (not actual) standpoint. Third, economic balance sheets use different valuation methods than what is required under GAAP.

Regarding classification, economic balance sheets do not typically use the GAAP classification of assets, liabilities, and common equity. Economic balance sheet items are classified based on whether they relate to a firm’s core operations, nonoperating net assets, debt claims, other capital claims, or common equity items.

The economic balance sheet also includes items recognized as assets and liabilities that would not be recognized using GAAP recognition tests. Such items include contingent assets, contingent liabilities, and employee stock options. In a valuation, such items do impact the firm’s worth as viewed by the stock market, such as the award of a lawsuit settlement, payment in settlement of a lawsuit, or the exercising of employee stock options.

Items found on economic balance sheets may be valued using any number of methods, which may or may not be permitted under GAAP. Generally, the economic balance sheet shows amounts at their fair values, or the true underlying economic value of an asset or liability. For example, core operations will be shown at the fair value based on a valuation model, not book value. This means that the difference between fair values and book values will, most likely, be great. Items such as investments may use established market values.

**(moderate, L.O. 1, Section 1)**

38. Discuss the relationship between the components of the economic balance sheet and a firm’s cash flows.

Suggested solution:

The components of the economic balance sheet generally include cash inflows into or cash flows out of a firm. Core operations and nonoperating net assets generate cash inflows, while items such as debt claims, common equity claims, and other capital claims require cash outflows from the firm.

Cash flows from core operations are called free cash flows. This is defined as the net of normal operating inflows such as sales and collecting receivables, less normal operating outflows such as the cost of sales and general and administrative expenses. Nonoperating net assets produce nonoperating cash flows. Examples of nonoperating cash flows include interest and dividend income, rental income, and settlements from lawsuits.

Cash outflows for the firm include debt claims, which is called debt service. Examples of debt service include the payments of interest and principal on debt. Other capital claims generate what is called capital cash flows. An example of such a capital cash flow is dividends, which is defined to include net cash transactions with equityholders.

**(moderate, L.O. 3, Section 1)**

39. Comment on the differences and similarities of the five cash flow models.

Suggested solution:

In general, each of the five cash flow models highlights different factors about a firm. This is due to the fact that each model uses different calculations to value the cash flow stream. The dividend discount model directly values the present value of dividend cash flows. The flows to equity model value the cash flows available to equityholders after the firm services its debt and other capital items. The free cash flow model values only the free cash flow from core operations. The adjusted present value model differs from the free cash flow model by valuing the discounted cash flows to the present value of the “unlevered cost of equity,” a hypothetical cost of common equity a firm would have if it had no leverage. The residual income model uses variables in its valuation formula that are based on book values and earnings amounts.

Another difference is that only the dividend discount model directly estimates the value of common equity by forecasting the expected dividend stream that a firm’s common equity will generate and calculating the present value of the stream. The other four models estimate the value of the firm’s common equity indirectly by estimating or observing values of the other amounts in the economic balance sheet and then arriving at common equity by way of equation. In these four models, core operations and nonoperating net assets are added together and then debt claims and other capital items are subtracted, resulting in an amount for common equity.

In terms of similarities, all five cash flow models will produce identical results if the analyst uses identical assumptions. There is no one model that is “better” than another in this regard. The model chosen by the analyst will depend on which factors need to be brought to light in the valuation analysis of a firm.

**(moderate, L.O. 4 & 5, Section 2)**