1 Primary Financial Statements as the Source of Information for Company's Financial Analysis

1.1 Three Primary Financial Statements

A comprehensive and rigorous analysis of company's economic and financial situation always involves significant amount of information (of both financial and non-financial nature). However, the financial statements of an investigated company constitute by far the most important information source. The purpose of the full set of financial statements is to present the comprehensive picture of the company's **historical performance**.

The three primary financial statements comprise:

- **Income statement**, showing the company's revenues, expenses and profits (or losses) for a specified time interval (e.g. a year or a quarter).
- **Balance sheet**, showing the company's assets, liabilities and shareholders' equity at a given date (e.g. at the end of a year or at the end of a quarter).
- **Cash flow statement**, showing the company's main sources of cash inflows and main directions of cash outflows in a specified time interval.

A full financial report of a company (e.g. its annual report) includes also **statement of changes in shareholders' equity** and notes to the financial statements. Statement of changes in shareholders' equity presents the breakdown of the change of company's total shareholders' equity into its main driving factors (e.g. proceeds from issued shares, retained earnings, dividends paid or revaluations of assets). Most of the information offered by the statement of changes in shareholders' equity may be found elsewhere in a financial report. Thus, this financial statement

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will not be discussed in this textbook. In contrast, **notes to the financial statements** (also called **financial statement footnotes**) provide invaluable and detailed information about the individual items of company's revenues, expenses, assets and liabilities. Therefore, they are very important in financial statement analysis. Thus, the notes to the financial statements will be discussed in Chapter 2.

The following sections of this chapter discuss the content of the three primary financial statements (i.e. income statement, balance sheet and cash flow statement), while the following chapter deals with notes to the financial statements. However, these readings do not provide a detailed discussion of the foundations of financial statement preparation (such as matching principle or double-entries principle), which are covered by the accounting textbooks. Instead, the author's intention is to focus on those accounting issues which are particularly relevant for a financial statement user (rather than for an accountant).

1.2 Separate and Consolidated Financial Statements

Before discussing primary financial statements it is legitimate to explain the distinction between separate and consolidated financial statements. Generally speaking, **separate (stand-alone) financial statements** report financial results of a single company, while **consolidated financial statements** present financial results of a group of related companies, composed of a parent company and its subsidiary companies (i.e. the companies over which the parent company holds a control). The consolidated financial statements report the results of a group of separate legal entities as if they are a single company (Dodge, 1996; Flower & Ebbers, 2002).

Suppose that Company A owns shares in a shareholders' equity of other four companies, as illustrated on Chart 1.1.

For accounting purposes companies B, C, D and E are typically classified as follows (Tennent, 2018):

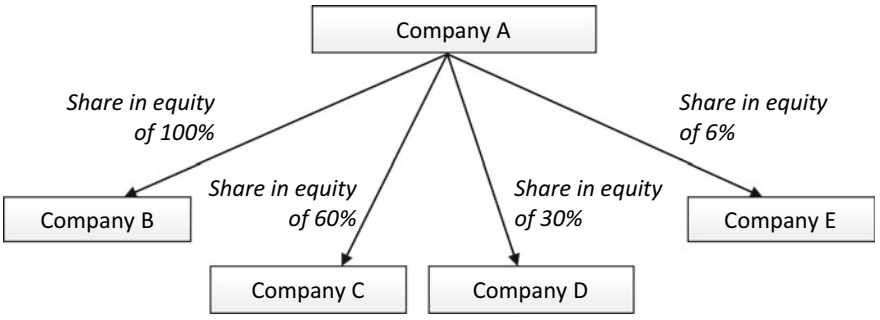

Chart 1.1 Hypothetical example of a group of companies (*Source* Author)

- Companies B and C are controlled by Company A, because of its majority interest in their shareholder's equities (thus B and C are called **subsidiaries**, while A is their **parent company**).
- Company D is considered to be under significant influence (but not a control) by Company A, because of A's significant (although minority) shareholding in D's equity (thus, D is called an **associated company** or **affiliated company**).
- Company E is considered to be out of significant influence from Company A, because of A's relatively small interest in E's equity (consequently, shares in E possessed by A are classified as **financial instruments**).

Basically, **control** is assumed when parent company holds more than 50% of voting rights on shareholder's meeting of its subsidiary, while **significant influence** is assumed when a company owns between 20 and 50% of voting rights. The shareholdings below 20% are deemed to be lack any significant influence. However, these are just simplified principles and accounting standards (such as IFRS) provide much more detailed guidance on classifying individual equity investments as controlled subsidiaries, associated (affiliated) companies or financial instruments. On the ground of these guidelines companies often claim to control other entities despite owning less than 50% of voting rights (e.g. thanks to voting agreements with other shareholders or significant dispersion of other shareholders), or they state lacking control despite possession of more than 50% of voting rights (e.g. due to specific legal regulations). Moreover, a percentage of shareholding is not necessarily equal to percentage of voting rights, due to existence of preference shares which may grant, for example, two voting rights per one share. However, for a simplicity of a following discussion, we assume that in the case of the relationships depicted on Chart 1.1 the percentage of shareholding is equal to percentage of voting rights and constitutes the only factor which is to be considered in stating the existence or lack of control and significant influence.

Distinction between control, significant influence and other equity investments is very important for financial reporting. This is so because any company that holds controlling interests in other entities prepares two types of financial reports: separate and consolidated financial statements. In separate (stand-alone) financial statements the individual line items contain only the amounts attributable to a parent company. For example, a separate income statement of Company A would include only revenues, expenses and taxes of Company A itself, while its balance sheet would contain only individual line items of its own assets and liabilities. Thus, generally speaking, none of the revenues, expenses, assets and liabilities of companies B, C, D and E would be included in A's separate financial statements.

In contrast, the individual line items of consolidated financial statements contain aggregated revenues, expenses, assets, liabilities and cash flows of a parent company and all of its controlled entities (subsidiaries), after adjusting for any intra-group transactions (i.e. transactions between parent and its subsidiaries or between individual subsidiaries). Thus, a consolidated income statement of Company A would sum revenues, expenses and taxes of A, B and C, while its balance

sheet would sum assets and liabilities of these three companies (with consolidation adjustments for the financial effects of transactions between A, B and C). The non-controlled entities, however, are treated differently. The financial results of affiliated company D are reported in only one line item of A's income statement (containing A's proportional share in D's profits or losses) and in only one line item of A's balance sheet (containing A's proportional share in D's net assets). The financial results of company E (which is neither under control nor under significant influence), in turn, are not directly reflected in A's consolidated financial statements. Instead, A treats its shares in E as financial instruments and either periodically revalues them to fair value (if possible) or report them at historical cost. However, it is important to keep in mind that these are very general rules and that specific equity investments may be treated differently under different accounting standards and in different circumstances.

To sum up, in the A's consolidated financial statements:

- All individual line items would contain the sums of respective amounts from separate financial statements of A, B and C, adjusted for intra-group transactions (if any) between A, B and C (this is called a **full consolidation**).
- A's share in D's profits (or losses) and in D's net assets would be reflected in only one item of A's consolidated income statement and one item of A's consolidated balance sheet, respectively (this is called an **equity method consolidation**).
- A's investment in E's shares would be either periodically revalued to fair value or held at its historical cost (without any direct reflection of E's financial results in A's consolidated statements).

Referring to the consolidation of accounting numbers of companies B and C, by company A, it is important to note that financial results of subsidiaries are always fully consolidated with financial results of the parent company, regardless of the parent's share in the equity of these controlled entities. Thus, the full consolidation of B and C by A entails summing full amounts of all items of assets, liabilities, revenues, expenses and cash flows of A and both its subsidiaries (with adjustment for effects of intra-group transactions), regardless of the fact that A possesses 60% interest in C's equity (and thus there are other parties entitled to participate in C's economic achievements). In such cases, these non-controlling (minority) shareholders of a subsidiary are reflected in only one item of A's consolidated income statement and only one item of A's consolidated balance sheet (without any reference to it in a consolidated cash flow statement). This issue will be discussed with more details later in the chapter.

Generally speaking, in case of companies that hold a control over other entities (i.e. form groups of companies), a financial statement analysis is conducted on the basis of their consolidated financial statements. In contrast, companies which do not have any subsidiaries do not prepare consolidated financial statements. As a result, their financial performance is evaluated on the ground of their separate financial reports.

1.3 Content of an Income Statement

1.3.1 What Is an Income Statement?

The **income statement** (also called **statement of profit or loss** or **statement of operations**) presents the financial results of a company in a specified interval of time, e.g. year, quarter or month. It presents the company's revenues, expenses and earnings (or losses).

Table 1.1 presents an example of consolidated income statement of Volkswagen Group, for fiscal years 2007 and 2008. Later in this book the abbreviation "VW" will be used for Volkswagen Group.

From an analytical point of view the main levels of the income statement cover:

- Basic operating results: net sales, cost of goods sold, general and administrative expenses, gross profit on sales, profit on sales.
- Other operating income and other operating expenses (including extraordinary and one-off items).
- Financial income and financial expenses.
- Pre-tax earnings, income taxes (current and deferred) and net earnings.

Table 1.1 Consolidated income statement of Volkswagen Group for fiscal years 2007 and 2008

In EUR million	Note	2007	2008
Sales revenue	**1**	**108,897**	**113,808**
Cost of sales	2	92,603	96,612
Gross profit		**16,294**	**17,196**
Distribution expenses	3	9,274	10,552
Administrative expenses	4	2,453	2,742
Other operating income	5	5,994	8,770
Other operating expenses	6	4,410	6,339
Operating profit		**6,151**	**6,333**
Share of profits and losses of equity-accounted investments	7	734	910
Finance costs	8	1,647	1,815
Other financial result	9	1,305	1,180
Financial result		**392**	**275**
Profit before tax		**6,543**	**6,608**
Income tax income/expense	10	2,421	1,920
Current		*2,744*	*2,338*
Deferred		*−323*	*−418*
Profit after tax		**4,122**	**4,688**
Minority interests		2	−65
Profit attributable to shareholders of Volkswagen AG		4,120	4,753

Source Annual report of Volkswagen Group for fiscal year 2008

In the case of **groups of companies** (composed of the controlling entity and its subsidiaries), the consolidated net earnings are broken down into:

- Net earnings attributable to shareholders of the parent company.
- Net earnings attributable to non-controlling interests.

1.3.2 Basic Operating Results

The first line item on the top of the income statement is usually **sales revenue**, which is also being called net sales or turnover. Sales revenues cover the revenues obtained from selling products or services distributed or manufactured by the company. They should include only revenues from the primary (core) business operations. In the case of VW, these are mainly the sales of cars parts and related services (e.g. car repairs).

Cost of sales, also called **cost of goods sold**, covers the expenses incurred for the manufacture or purchase of the products or services sold in the period. These costs:

- Include only costs which are directly attributable to the products or services sold (e.g. raw materials, direct labor) or indirectly attributable to these products or services (e.g. depreciation of production lines, electric power consumed by production departments, indirect labor, etc.).
- Do not include any costs related to the purchase or manufacture of inventories at hand.
- Do not include basic and recurring operating costs, which are incurred in relation to a general administration of the company (i.e. general and administrative expenses) as well as to its sales operations (selling expenses).

In the VW's case, the cost of sales includes mainly expenses incurred on a manufacture of vehicles and parts (together with related services), which were sold in a period.

A difference between sales revenue and cost of sales results in **gross profit**, also called **gross margin** or **gross profit on sales**. This line item informs about the profit of the business, in calculation of which only the revenues and costs related to the products and services sold have been accounted for. In the case of Volkswagen Group, the gross profit is the difference between revenues obtained mainly from sales of vehicles, parts and services, and the expenses related for manufacturing those very vehicles (omitting non-manufacturing expenses, such as administrative and selling costs).

Administrative expenses, also called **general and administrative expenses**, cover the costs related to the general functioning of the company, which are repeatedly incurred but cannot be reasonably attributed to any specific products, services

or business segments. The examples are costs of accounting, marketing (but not distribution), HR and IT departments, depreciation of a company's headquarter, salaries of the managing board, maintenance of laboratories, etc.

Distribution expenses, also called **selling costs** or **selling expenses**, capture all costs related to a company's sales operations. The examples are salaries and commissions of the sales representatives, transportation of goods sold to customers or printing and distributing sales catalogues.

A difference between gross profit and administrative and distribution expenses results in **profit on sales**. Some companies disclose it as a separate line item on the face of their income statement, while in the case of other entities (including VW) it is not presented and thus must be computed by an analyst.

Gross profit and profit on sales are considered as the most fundamental and sustainable sources of corporate earnings. This is so because they are generated from recurring and core business operations (like manufacturing and selling vehicles) and are expected to be continued in the future.

It is important to note that under most accounting standards (including IFRS) companies have two alternative options for reporting their basic operating expenses on the face of the income statement. Majority of corporations (including Volkswagen Group) classify those expenses **by function**, that is according to where in the company (i.e. in which functional areas of its core business operations) these expenses were incurred. Typically such classification distinguishes between three broad functional areas in which operating costs are generated: manufacturing or merchandising operations (where costs of sales relate to), sales operations (where distribution expenses are incurred) and administrative operations (where general and administrative expenses occur). Alternatively, the basic operating expenses may be classified and reported **by nature**, where the focus is on the type of a given cost (e.g. raw materials and energy consumption, employee salaries, rental fees, depreciation and amortization, etc.) rather than on where it was incurred.

1.3.3 Other Operating Income and Other Operating Expenses

Other operating income (also called **other operating revenues**) and **other operating expenses** (also called **other operating costs**) capture those income and expense items, which are indirectly related to the company's main operations.

The examples of commonly met other operating income are:

- Gains on sales of property, plant and equipment (e.g. the uses production lines).
- Reversals of write-downs of assets (e.g. impaired inventories or doubtful receivable accounts).
- Received compensations (e.g. from insurance companies).
- Government grants other than related to fixed assets.

The examples of common other operating expenses are:

- Losses on sales of property, plant and equipment.
- Impairment write-downs of assets.
- Restructuring provisions.
- Paid compensations and fines (e.g. for customer claims).

While basic operating results relate directly to the company's core business operations, the other operating income and other operating expenses are only indirectly linked to these operations. For instance, if the core business of Volkswagen Group is defined as designing, manufacturing and selling vehicles (and related services), then:

- All costs of designing and developing its models of vehicles are included in administrative expenses.
- All costs of producing the cars sold in the period (including raw materials, spare parts, salaries of assembly line workers, etc.) are included in cost of sales.
- All costs of marketing and distributing the manufactured cars are included in distribution expenses.

In contrast, other operating results relate to income and expense items which can be considered "side-effects" of the core business operations. They are indirectly related to the core operations, but are not part of them. As such, these income and expense items often have a one-off or extraordinary nature, which means that they are not expected to be steadily recurring in the foreseeable future. But even if they recur, this usually happens irregularly and at monetary amounts that are difficult or impossible to predict.

For example, a company might follow a strategy of replacing any old manufacturing machine (by a new one) after no more than ten years of service (e.g. to maintain its intended output quality, which tends to deteriorate as the asset gets older and older). Suppose that this company owns a ten-year-old production line, with a carrying (book) value of 1,000 EUR. It intends to sell that old line and replace it by a new one. If a typical useful life of such assets is, say, 15 years, then perhaps some other manufacturer may be interested in purchasing this used production line and continue using it (by another five years). The asset's book value of 1,000 EUR does not mean that its market value also equals 1,000 EUR. Instead, the company may be able to sell its old production line for more or less than its carrying amount. If the production line is disposed of for, say, 1,500 EUR, then the company earns a one-off gain amounting to 500 EUR (i.e. a difference between the asset's sale price and its book value). Such a gain should not be included in sales revenues, since it could significantly distort a picture of the company's financial results and growth prospects.

Table 1.2 Hypothetical impact of sale of a fixed assets on revenues growth

Amounts in EUR	2019	2020	Change y/y
Sales revenues from sales of company's products	5,000	4,700	−6%
Gain from sale of a production line	0	500	–
Total operating revenues	5,000	5,200	+4%

Source Author

Suppose that our hypothetical company's operating revenues look as shown in Table 1.2. In 2020 its recurring revenues from sales of products declined by 6%. However, in the same year the company gained 500 EUR from a disposal of its used production line, which constitutes a non-recurring income (at least in the near future). If such a one-off gain is included in sales revenues, then a false picture of the company's development emerges, showing the seeming growth of revenues by 4%. It would have a misleading impact on an analysis of the company's trends of revenues and earnings.

A fictional example presented above illustrates a relevance of presenting gains and losses, which are only indirectly related to core business operations (and usually have a non-recurring or unusual nature), in separate line items of the income statement. Thanks to this the sales revenues on the top of the income statement are stripped out from distorting effects of much more irregular (than sales of products) other operating gains and losses. However, not all of the items commonly included within other operating income and other operating expense are similarly non-recurring as sales of fixed assets. For instance, the other operating costs may include impairment write-downs of receivable accounts, i.e. amounts of money owed to the company by its customers (from credit sales). If a given firm offers extended payment terms to its customers, it faces a risk of a non-collection of some of the resulting trade receivable accounts. When some of those accounts indeed become doubtful (i.e. bearing a significant risk of non-collection), then their carrying amounts are written down, with a resulting loss often included in other operating expenses. If those doubtful accounts are ultimately collected in later periods, then their prior write-downs are reversed and a resulting gain is included in other operating income. However, unlike gains or losses on sales of fixed assets, the losses from doubtful receivables are expected to recur as long as the company continues offering its extended payment terms. The same applies to write-downs (and their reversals) of inventories. In such cases treating write-downs of assets as non-recurring, particularly if they materially affect total operating profit, may dramatically distort findings of the company's profitability analysis. Furthermore, individual items included in other operating results differ significantly in terms of their impact on corporate financial liquidity. While some of the other operating gains and losses have a non-cash nature (e.g. write-downs of assets or restructuring provisions), other items may affect the company's cash flows (e.g. received government grants or fines paid to customers).

One of common analytical errors is a mechanical treatment of non-cash items of other operating results (such as write-downs of assets) as negligible from the point of view an evaluation of corporate profitability (Burgstahler et al., 2002). It is often incorrectly assumed that these items reflect one-off and non-cash events and do not impact the company's financial standing. However, such an uncritical neglect of those items of income (particularly if their monetary amounts are material) is a mistake, due to the following reasons:

- Impairment write-downs of assets, as well as their reversals, are subjective and based on multiple assumptions which are often very difficult to verify.
- Write-downs of assets often constitute an evidence of a managerial ineffectiveness (e.g. in planning inventory levels, production capacity or granting credit terms to customers) and managerial errors committed in prior periods.

Consequently, if other operating income and other operating expenses significantly affect a given company's reported earnings, they should be scrutinized diligently, item-by-item (on the basis of information disclosed in notes to financial statements, which will be discussed in Chapter 2), with the focus on the following issues (Cready et al., 2012; Fan et al., 2010; Smith, 1992):

- Relative impact (on earnings) of those items of other operating results which have a non-recurring nature (as compared to more regularly occurring items).
- Relative significance of those items of other operating results which have a non-cash nature.
- Relative impact (on earnings) of those items of other operating results which are particularly vulnerable to subjective managerial judgments and estimates (as compared to items which are more objective or based on formal underlying documents).

An analysis of impact of other operating results on corporate earnings will be illustrated in Chapter 2, with the use of Volkswagen Group's accounting numbers.

A difference between other operating income and other operating expenses gives other operating result, while a sum of profit on sales and other operating result gives **operating profit**. It is interpreted as income earned (or loss incurred) on all business activities which are directly and indirectly related to core business operations.

1.3.4 Financial Result

In a structure of an income statement, the operating profit is typically followed by financial results. These are the results generated by a given company's activities that are not related to its operating business. Instead, they typically cover two broad categories of income-affecting items:

- Financial results of equity or debt investments, other than into shares in the equity of subsidiaries (e.g. interests earned on Treasury or corporate bonds, interest earned on bank deposits, dividends received, gains or losses on derivative instruments).
- Financial costs related to the company's debt (e.g. interest paid or owed to banks).

Within the financial result section of its income statement, Volkswagen Group includes three line items:

- Share of profits and losses of equity-accounted investments.
- Finance costs.
- Other financial result.

The first of these items presents the VW's share in the accounting profits earned by its associated companies (including joint ventures). These are entities that are not controlled by VW, usually due to the VW's minority share in their shareholders' equity. However, these entities are deemed to be significant influenced by VW (a circumstance which is usually assumed when an equity interest exceeds 20%). Financial statements of those associates cannot be fully consolidated line-by-line with VW's statements, because of lacking control. However, VW is entitled to participate in these companies' profits. Thus, the associates' earnings which are attributable to Volkswagen Group are accounted for in this single line item of its consolidated income statement. For instance, suppose that the company holds 30% share in the equity of its affiliated company, which reports net earnings of 1,000 EUR in a period. The VW's monetary share in the affiliate's earnings ($30\% \times 1{,}000$ EUR $= 300$ EUR) is added to its consolidated earnings, as share of profits and losses of equity-accounted investments. It must be kept in mind, however, that this item of the VW's consolidated income statement shows the company's share in reported accounting profits (or losses) of its associates (and not the actual cash dividends received from them).

Finance costs reported by Volkswagen Group are probably composed of interest costs associated with the company's debts owed to creditors (banks, bondholders, etc.). Likewise, from a face of its income statement we can only hypothesize that "*other financial result*" includes profits earned by Volkswagen Group on its financial investments (other than into shares of associated entities). However, obtaining more detailed insights on these issues requires digging into Note 9 to the company's financial statements. In light of a significant positive contribution of "*other financial result*" into the VW's profit before tax, the content of that note will be scrutinized in Chapter 2.

1.3.5 Income Taxes

A difference between an operating profit and a financial result gives **profit before tax**, also labeled as **gross earnings** or **pre-tax earnings**. This is a number that takes into account all basic operating results, other operating results and financial results. It may be interpreted as an income which a company would be able to distribute to its shareholders (as dividends) if it is exempt from income taxes. However, corporate earnings are taxable and income statement must account for income taxes.

As we might see in the VW's income statement, its entire income tax expense is broken down into two separate (but related) numbers: current income tax and deferred income tax. This is so because firms apply differing accounting principles for their financial reporting (for which VW applies International Financial Reporting Standards) and for income tax purposes (for which individual companies, forming the entire Volkswagen Group, apply tax regulations effective in their respective tax jurisdictions). Consequently, any company's taxable income may significantly deviate from its reported profit before tax (also called **book earnings**), as presented in its income statement. In other words, reported pre-tax earnings do not constitute a basis for calculating and settling corporate income taxes. It is even not uncommon that a company incurs a tax loss while reporting positive pre-tax earnings (or the reverse: it may report a pre-tax loss while having positive taxable income).

A detailed discussion of common discrepancies between taxable income and book earnings (book-tax differences) lies beyond the scope of this book. Therefore, only a brief introduction to those issues will be offered below.

Generally speaking, discrepancies between taxable income and book earnings may be classified as:

- Either permanent differences,
- Or temporary differences.

Permanent book-tax differences are associated with the following types of revenues and expenses:

- Accounting revenues that are not taxable—for instance, in some tax jurisdictions an interest earned on Treasury or municipal bonds is tax-free (and as such, it is included in financial income in income statement, while not giving a rise to an income tax).
- Accounting expenses that are not tax deductible—for instance, in most countries penalty fines for environmental pollution do not reduce a taxable income (and as a result, any company penalized by such fines will have to report them, usually within other operating expenses, but will not be able to subtract them from its taxable income).
- Taxable revenues that are not accounting revenues—for example, in some tax jurisdictions a taxable profit from a sale of an asset is computed on the ground

of that asset's estimated fair market value (instead of its actual sales price), if the former is higher (and as a result, when a firm sells an asset at a price that falls below its fair value, than an excess of the latter over the former is part of a taxable income, while it is not included in revenues in income statement).
- Tax-deductible costs that do not constitute accounting expenses—for example, in many countries intangible assets with indefinite useful lives, such as acquired brands, may be amortized for tax purposes (decreasing taxable income), while under IFRS they are reported at historical cost and not amortized (and consequently, they are not expensed in income statement, while being included in a computation of the taxable income).

Permanent book-tax differences are therefore associated with:

- Either those items of revenues and expenses that are reported in an income statement but are not (and will never be) taken into account in a computation of a taxable income,
- Or those items of revenues and expenses that are accounted for in the computation of a taxable income but are not (and will never be) reported in the income statement.

In contrast, **temporary book-tax differences** reflect:

- Either those items of revenues and expenses that are reported in an income statement in a current period but are taken into account in a computation of a taxable income in a different period,
- Or those items of revenues and expenses that are included in the taxable income in a current period but are reported in the income statement in a different period.

Some common examples of the temporary book-tax differences are:

- Depreciation of property, plant and equipment—firms may apply different depreciation periods (useful lives) for financial reporting and for tax purposes (e.g. a company may depreciate its production line in its financial statements throughout its estimated useful life of ten years, while depreciating it for tax purposes throughout a shortest period allowed by tax regulations, e.g. five years).
- Advance payments received from customers—in many tax jurisdictions, prepayments received from customers, for ordered goods or services, are taxed when obtained, while for financial reporting purposes a recognition of these revenues may be deferred until the ordered goods or services are delivered (and as a result, these advance revenues are recognized earlier for income tax settlements than in financial reporting).
- Interest income earned on zero-coupon bonds—the interest on zero-coupon bonds, although not collected until maturity, is accrued and reported as financial

income during the bond holding period, while it is taxed only when bonds are redeemed.
- Impairment write-downs of inventories—write-downs associated with impairments of inventories are presented in income statement as other operating costs, while they become tax-deductible only when a related inventory is actually sold.

The temporary book-tax differences constitute a basis for estimating **deferred income tax**, as shown in income statement. This is a purely accounting number and as such it has no any direct relationship with actual income taxes, paid by a company in a given period. Only **current income tax** is related to actual corporate taxable income. In the Volkswagen Group's case, the deferred taxes were negative in both 2007 and 2008. Consequently, a total income tax reported in the company's income statement was lower than actual income taxes paid. It means that income taxes, paid by all entities within the entire Volkswagen Group, exceeded hypothetical income taxes that would have been paid if the VW's consolidated profit before tax equaled its taxable income.

A diligent investigation of current and deferred income taxes constitutes an advanced topic of a financial statement analysis. Divergences between taxable income and reported pre-tax earnings (particularly if book earnings significantly exceed taxable income) are a powerful tool in evaluating quality and comparability of reported profits. As such they are useful in detecting earnings manipulations and "creative accounting" practices. These issues, however, reach beyond the scope of this book. An interested reader may find a more detailed discussion (accompanied by multiple real-life examples) in more advanced texts (e.g. Welc, 2020).

1.3.6 Net Earnings

Bottom lines of an income statement are reserved for **net earnings**, also called **profit after tax** or **after-tax earnings**. They are computed as a difference between profit before tax and income tax expense (both current and deferred). However, in this section of their income statements firms often report three numbers (instead of just one):

- Total net earnings.
- Net earnings attributable to shareholders of a parent company.
- Net earnings attributable to non-controlling (or minority) interests.

A necessity of providing these three numbers results from procedures of financial statement consolidation. Majority of larger corporations operate as groups of companies, composed of a parent company and its subsidiaries. However, in many cases, the parent company is not the only shareholder of its subsidiaries. Instead, it

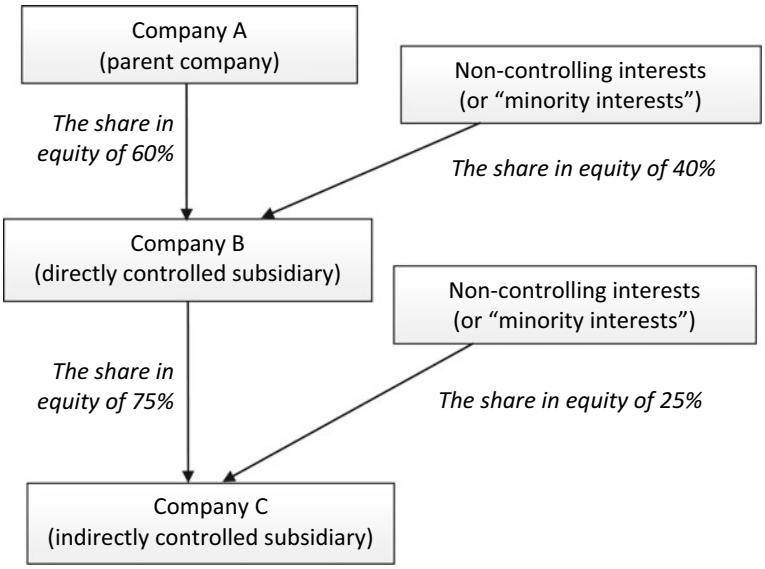

Chart 1.2 Hypothetical example of the relationships between a parent company, its subsidiaries and the minority (non-controlling) interests (*Source* Author)

may control its subsidiary by owning, for instance, 60% interest in its shareholders equity. A remaining 40% of shares may be owned by other shareholders (e.g. stock market investors). A fictional example of a simple structure of this kind is depicted on Chart 1.2.

In a case of a structure of relationships as depicted on Chart 1.2, a parent company A controls its directly controlled subsidiary B, thanks to owning 60% of shares in its equity. Company B, in turn, directly controls company C, thanks to holding 75% of shares in its shareholders' equity. Accordingly, it can be concluded that A indirectly controls C.

In such a case, according to principles of a financial statement consolidation, company A fully consolidates financial results of both companies B and C. It means that in A's consolidated income statement all individual line items of income statements of both its subsidiaries (i.e. their sales revenues, costs of sales, operating profits, etc.) are added in full amounts to the respective numbers reported in the parent's separate income statement. If, for instance, separate net earnings of A, B and C are 2,000 EUR, 1,000 EUR and 400 EUR, respectively, then the reported consolidated total net earnings of A amount to 3,400 EUR (provided that there were no any intra-group transactions between A, B and C, that would have to be adjusted for on consolidation). However, a control held by A over B and C does not entail an entitlement to fully participate in their earnings, when those earnings are distributed to shareholders as dividends. Out of 1,000 EUR of B's net earnings, only 600 EUR is attributable to A, according to A's 60% interest in B's equity. A remaining 400 EUR is attributable to B's non-controlling shareholders. Likewise,

Table 1.3 Consolidated net earnings of company A (resulting from shareholding relationships depicted on Chart 1.2)

Amounts in EUR	
Net earnings for the reporting period	**3,400**
Attributable to:	
Shareholders of the parent company[a]	2,780
Non-controlling interests	620

[a]A's separate net earnings (2,000 EUR) + B's net earnings attributable to A (600 EUR) + C's net earnings attributable to A (180 EUR)
Source Author

only 45% of C's net earnings is attributable to A, because A's indirect interest in C's equity is 45% [= 60% × 75%]. Thus, C's net earnings attributable to A's shareholders amount to 180 EUR [= 45% × 400 EUR]. As a result, a net earnings section of A's consolidated income statement would look as depicted in Table 1.3.

A high share of non-controlling interests in total consolidated net earnings may erode a credibility and usefulness of consolidated income statements. This is so because in such a circumstance an analyst lacks an information about where the individual line items of the consolidated income statement (e.g. revenues or operating profit) are generated: on a parent company level or by its non-wholly owned subsidiaries. It stems from the fact that total consolidated net earnings constitute the only one income statement item in which case a share of non-controlling interests is disclosed.

In both 2007 and 2008 a share of minority interests in the VW's total consolidated net earnings was immaterial. Thus, it was not a major issue from the point of view of a general credibility and reliability of the VW's consolidated income statements reported for those two years. In 2008 the share of minority interests in consolidated net earnings was negative, which means that a profit after tax attributable to VW's shareholders exceeded a total fully consolidated profit after tax. Apparently Volkswagen Group controlled and consolidated one or more non-wholly owned subsidiaries that incurred after-tax losses in 2008.

1.3.7 Components of Corporate Total Income Excluded from Income Statement

In a financial statement analysis, it is important to be aware that some accounting standards (including IFRS) permit or require an exclusion of some elements of a company's total income from its net earnings reported in an income statement. Instead, these elements of income are recognized directly in equity and may be reported in a supplementary statement, which is called **statement of other comprehensive income**. For instance, since 2009 IFRS require all items of income and expense recognized in a period to be included in:

- Either a **single statement of comprehensive income** (where both net earnings as well as other comprehensive income are reported in a single statement),
- Or in two separate statements, comprising a separate **income statement**, that includes components of profit or loss, and a second statement commencing with profit or loss and reporting **other components of comprehensive income**.

If any company chooses the former option, then it does not report a separate income statement. Instead, it reports the statement of comprehensive income, which shows all items typically reported in an income statement (e.g. revenues, expenses, net earnings), as well as gains and losses that are recognized directly in equity. In contrast, a company which selects the latter option reports its total income for a period in two separate statements: (i) an income statement that ends with net earnings and (ii) a statement of other comprehensive income that discloses all gains and losses recognized directly in equity.

Under IFRS the components of other comprehensive income, which are excluded from a calculation of net earnings, include:

- Changes in the fair value of available-for-sale investments recognized directly in equity.
- Cash flow hedges deferred in equity.
- Asset revaluation gains (recognized in accordance with IFRS 16).
- Foreign currency gains and losses on translation of the financial statements of net investments in foreign operations recognized directly in equity.
- Actuarial gains and losses deferred in equity.

Accounting for asset revaluation gains will be illustrated with more details later in the chapter. A detailed discussion of the remaining four components of other comprehensive income lies beyond a scope of this textbook (and more detailed readings may be found in IFRS textbooks). However, in a financial statement analysis, it is important not to overlook an impact of other comprehensive income on company's total income and equity, if significant. Particularly, an analysis of a company's profitability (discussed in Chapter 3) should not ignore non-negligible losses excluded from net earnings and recognized directly in equity.

In 2007 and 2008 Volkswagen Group reported its total comprehensive income in two separate statements: an income statement and statement of comprehensive income. The latter was reported under this label since 2009 (and until 2008 a company called it a Statement of Recognized Income and Expense of Volkswagen Group). Despite a change of its name (and minor shifts in an order of information disclosed) done in 2009, a general content of this statement stood virtually intact. However, for illustrative purposes, the VW's statement of comprehensive income is presented here in its more recent format, extracted from a company's Annual Report for 2009. This is depicted in Table 1.4.

As might be seen, VW's profit after tax (which was reported in a lower part of the income statement) is repeated at the top of the statement of comprehensive income. In its consolidated income statement for 2008 (depicted in Table 1.1

Table 1.4 Consolidated statement of comprehensive income of Volkswagen Group for fiscal years 2008 and 2009

In EUR million	2008	2009
Profit after tax	**4,688**	**911**
Exchange differences on translating foreign operations:	2,421	1,920
Fair value changes recognized in other comprehensive income	*−1,445*	*917*
Transferred to profit or loss	*–*	*57*
Actuarial gains/losses	190	−860
Cash flow hedges:		
Fair value changes recognized in other comprehensive income	*1,054*	*683*
Transferred to profit or loss	*−1,427*	*−908*
Available-for-sale financial assets (marketable securities):		
Fair value changes recognized in other comprehensive income	*−330*	*200*
Transferred to profit or loss	*100*	*71*
Deferred taxes	145	216
Share of profits and losses of equity-accounted investments recognized directly in equity, after tax	−188	30
Other comprehensive income	**−1,901**	**406**
Total comprehensive income	**2,787**	**1,317**
Of which attributable to:		
Shareholders of Volkswagen AG	*3,310*	*1,138*
Minority interests	*−523*	*179*

Source Annual report of Volkswagen Group for fiscal year 2009

earlier in the chapter), the company reported total profit after tax of 4,688 EUR million. The same number appears as a first line item in its statement of comprehensive income and is then reconciled with the company's total comprehensive income, amounting to 2,787 EUR million. A difference between profit after tax and total comprehensive income amounted to 1,901 EUR million in 2008 and was labeled as other comprehensive income. A negative number reported in this line item means that the company's profit after tax, reported in its income statement, exceeded its total comprehensive income. An extent of that discrepancy is definitely significant. It also means that the company's total net wealth grew in 2008 by less than what could have been concluded from its income statement itself.

1.4 Content of Balance Sheet

1.4.1 What Is a Balance Sheet?

An income statement, discussed in a preceding section, informs about corporate earnings (meant as a difference between different categories of revenues and expenses) in a given period, such as year, quarter or month. Thus, the income statement offers an insight into business results in a specific period. In contrast, a **balance sheet**, which is also called a **statement of financial position**, is focused on a specific date, such as the end of a year or the end of a quarter. As such, the balance sheet is sometimes described as a "photograph" of the company's wealth, taken at a given point in time.

The balance sheet discloses carrying (book) amounts of a given firm's assets, liabilities and shareholders' equity. It looks at the state of the company's wealth from two complementary perspectives:

- **An assets side**—what types of assets a given entity owns and what their book values are.
- **A financing side**—what sources of funds the company uses in funding its assets.

Generally speaking, corporate assets may be funded from two broad classes of funds:

- A company's own funds, called **shareholders' equity** (as its name suggests, this is a capital channeled to firms by its owners).
- External funds, called **liabilities and provisions** (these funds are provided by non-shareholders and are expected to be repaid in the future).

By definition, both sides of the balance sheet must have equal total amounts, since all corporate assets must have some source of funding. This is illustrated on Chart 1.3.

On a "right-hand side" of their balance sheets, companies often report shareholders' equity first (in an upper part of the balance sheet), followed by a presentation of individual classes of provisions and liabilities. However, from a

Long-term (non-current) and short-term (current) assets (i.e. assets that a company holds)		Equity and liabilities (i.e. sources of assets' funding)
Total assets	**=**	**Total liabilities and shareholders' equity**

Chart 1.3 Model balance sheet of a company (*Source* Author)

perspective of its economic substance, the equity reflects a hypothetical residual claim to corporate assets, on the part of the company's owners, after all creditors' claims (i.e. liabilities) are settled. Accordingly, in the following sections, the assets will be discussed first, followed by the liabilities and the shareholders' equity.

1.4.2 Classes of Assets

Assets controlled by any company may be classified as:

- Either **fixed assets**, also called long-term assets or noncurrent assets, or
- **Current assets**, also called short-term assets.

Fixed assets are expected to generate economic benefits in more than one operating cycle. Here **the operating cycle** is meant as a time interval from purchasing the raw materials or saleable merchandise to selling the finished goods or services or merchandise to customers. For instance, in the Volkswagen Group's case, the entire operating cycle consists of the following sequential phases:

- Purchasing raw materials and vehicle parts from suppliers.
- Processing raw materials and parts in manufacturing operations (e.g. assembling cars), during which the purchased materials and parts are gradually converted into work-in-progress inventories and ultimately into finished goods (i.e. vehicles that are ready to be sold).
- Selling the finished goods (vehicles ready to be used) to the company's customers, e.g. to car dealers or directly to their end users.

If Volkswagen Group purchases or manufactures an asset that it expects to use by longer than one operating cycle (e.g. a new production line, an office building or a patent for a new model of car), it classifies it in its balance sheet as a fixed (noncurrent) asset. In contrast, if a given asset is expected to be consummated within a one operating cycle (e.g. raw materials purchased to produce cars), it is classified as current asset.

It must be kept in mind, therefore, that a primary criterion for an inclusion of a given asset into one of these two categories (i.e. fixed assets or current assets) is **a function** served by that particular asset within a given firm, instead of the asset's physical features. Accordingly, a ceramic tiles furnace will be treated as a fixed (non-current) asset by a ceramic tiles manufacturer (which will use it in manufacturing tiles for many years), while an identical furnace will be classified as a current asset by an entity specialized in a wholesale sale of industrial machinery (which will intend to sell the furnace in few weeks).

1.4.3 Classes of Fixed (Non-current) Assets

As was noted above, the fixed assets are those corporate assets in which case the economic benefits are consummated by a given business in the course of multiple (more than one) operating cycles, that is in the long run. They include the following broad categories of assets:

- Property, plant and equipment (including assets used under lease contracts).
- Intangible assets.
- Long-term investments and long-term receivable accounts.
- Long-term prepaid expenses and deferred tax assets.

Property, plant and equipment (PP&E) include long-term physical ("touchable") assets, used in a given company's operations. Within their PP&E firms often include assets that they own, as well as those that are used under lease contracts. They may include, for instance, land, buildings (both used in manufacturing as well as for selling and administrative purposes), production machinery, warehousing equipment, transportation vehicles, hardware, etc. Such non-current assets may be:

- Either **ready to be used** (in which case they are depreciated, except for a land) or
- **Under construction** (not yet subject to periodic depreciation charges).

Typically, the following types of expenditures are included in **initial amounts of PP&E**:

- A price paid for a given asset (to purchase it or to manufacture it).
- Other expenditures directly attributable to the asset, such as site preparation or costs of the asset's transportation to the entity's facilities.
- Borrowing costs (i.e. interest cost) stemming from financial debts, borrowed to fund purchasing or constructing the asset (however, these costs increase the asset's initial amount only until it is ready for use, while later on they are expensed as incurred).

It must be noted, however, that only those PP&E-related expenditures, which are justified and reasonable, should be capitalized in a given asset's initial carrying amount. For example, if the asset is damaged during its assembly or construction, then the resulting unplanned repair expenditures, incurred to bring it back to its original condition, should be expensed as incurred (i.e. should not be included in the asset's initial book value).

Carrying amounts of those assets included in PP&E, that are ready to be used, are recurringly decreased by periodic **depreciation charges** (except for a land, which is not subject to depreciation). The depreciation is an operating expense and is based on a depreciable value of an asset, that is a difference between its initial (or revalued) carrying amount and its estimated residual value (i.e. an

amount expected to be recovered on liquidation of the asset, e.g. via its sale). The depreciation charges may take the following common patterns:

- A **straight-line depreciation**, where an amount of the depreciation expense stays the same in any period.
- An **accelerated depreciation**, where the depreciation charges have relatively high amounts in early periods and decrease gradually as the time goes by.
- A **natural depreciation**, where the amounts of depreciation charges in individual periods are linked to output volumes in those periods (i.e. the higher/lower the output volume, the higher/lower the depreciation expense).

An impact of depreciation charges on an asset value is illustrated in Example 1.1.

Example 1.1 Impact of depreciation charges on carrying amounts of PP&E.

A company has purchased a new production machine for 10,000 EUR. An estimated average useful life of such a kind of machinery is 15–20 years. However, the company's intention is to use this particular asset by about ten years and then to sell it (e.g. to a low-cost competitor, who will be able to continue using it by another 5–10 years). The company estimated that an average market price of 10 years old machines equals 30% of their initial values. The company uses the straight-line depreciation schedule.

Here an initial book value (a purchase cost) of the machine amounts to 10,000 EUR. Its expected market value after 10 years of use equals 3,000 EUR (i.e. 30% of the initial value). Consequently, the resulting depreciable amount equals 7,000 EUR. The company intends to use the asset by ten years, which implies an annual depreciation charge amounting to 700 EUR [= 7,000 EUR/10 years]. According to these estimates:

- The depreciation expense (that will decrease the company's operating profit as part of cost of sales), in each year of the asset use, will amount to 700 EUR.
- The machine's carrying amount (included within PP&E on the company's balance sheet) will decline by 700 EUR each year and will amount to 9,300 EUR after one year, 8,600 EUR after two years, and so on.

Note that the depreciation period (ten years) is based on the company's own expectations, regarding a time interval during which the asset will be in use, instead of the asset's expected full physical life (15–20 years). Note also that the subjectively estimated asset's residual value, after ten years (i.e. 30% of its initial value), may have significant impact on reported amounts of PP&E as well as on periodic depreciation charges (and earnings).
Source Author.

Items included in property, plant and equipment are subject to periodic depreciation charges since when they are ready to be used. In earlier periods, when a given asset is under construction, it is not yet depreciated. Instead, its carrying amount increases in tune with incurred construction expenditures. Thus, a significant and fast-growing relative amount of corporate assets under construction (as compared to total PP&E) is often followed by a significant increase in the depreciation expense (that occurs after the assets under construction become ready to use) and sometimes a fall of reported earnings.

From a point of view of reliability and comparability of reported accounting numbers, the most crucial aspects related to reporting PP&E include:

- A given company's approach toward treating its PP&E as ready to use vs. under construction—the longer a company delays reclassifying its PP&E from under construction to ready to use, the more inflated the company's reported earnings may be (because of delayed asset's depreciation charges).
- A given company's approach toward estimating useful lives of its assets—the shorter the assumed useful lives, the more conservative the reported earnings tend to be (because of higher periodic depreciation charges).
- A given company's approach toward estimating residual values of its depreciable assets—the lower the estimated residual values, the more conservative the reported earnings tend to be (because of higher periodic depreciation charges).
- Depreciation methods applied to items of PP&E—an accelerated depreciation is considered to be relatively conservative, while a natural method is deemed the most aggressive one.
- A given company's accounting policy toward expensing vs. capitalizing its expenditures incurred on a maintenance of its PP&E—only those expenditures incurred during a given asset's lifetime, that increase its economic value (e.g. by improving an output quality or by boosting a capacity), should increase the asset's carrying amount (while other asset-related expenditures, particularly routine maintenance costs, should be expensed as incurred).
- A given company's policy toward revaluing its PP&E to fair values—IFRS permit periodical revaluations of tangible fixed assets to their estimated fair values, that may be aggressively used by some managers to aggressively boost carrying amounts of their companies' total assets and equities (as a result, a historical cost model for reporting PP&E is deemed more conservative than a revaluation model).

Intangible assets, often abbreviated to **intangibles**, are long-term non-financial assets without a physical substance ("untouchable"). They may include, for instance, brands, patents, software licenses, capitalized development costs, newspaper titles, copyrights, product formulas, etc. From an accounting point of view they may be classified as:

- Either having an indefinite (indeterminable) useful life (e.g. brands or goodwill) or
- Having definite useful life (e.g. patent valid for twenty years).

Under IFRS the intangible assets with definite useful lives are subject to periodic amortization, which is similar to a depreciation of PP&E. In contrast, the intangibles with indefinite useful lives are not amortized. Instead, they are kept in books at their historical cost and periodically (at least once a year) tested for an impairment.

From an analytical point of view, the intangible assets may also be classified as:

- **Independent from a business as a whole**, which means that they might be separated from a company and sold or rented to other entities (e.g. brands, patents, software licenses, newspaper titles, customer databases, etc.).
- **Not separable from a given business**, which means that they exist only within that particular company (e.g. customer relationships or goodwill).

It must be kept in mind that except for capitalized development costs (discussed with more details below), under IFRS only those intangibles may be capitalized on a given company's balance sheet that is purchased from other parties (either individually or as part of a business combination). Unlike in the case of PP&E, where expenditures incurred on creating new assets are treated as investments and capitalized in a balance sheet, the expenditures on creating internally developed intangibles (such as corporate brand or customer relationships) are expensed as incurred. In some circumstances, it may significantly erode an intercompany comparability of reported financial statements, since those firms that grow mainly by acquiring other entities may include intangibles purchased via such takeovers within their assets disclosed in the balance sheet. In contrast, companies that tend to develop intangibles internally, expense their intangibles-related expenditures as incurred (Healy et al., 2002; Lev & Zarowin, 1999; Wallman, 1995).

Under IFRS, capitalized development costs constitute an only exception from expensing (as incurred) the intangibles-related expenditures. Many companies regularly invest significant amounts of money on research and development (R&D) projects, such as on new drugs, business software or other product improvements. Volkswagen Group, for instance, continually invests in designing new models of cars as well as upgrading its older models. In contrast to most other accounting systems (e.g. U.S. GAAP), under IFRS some of such R&D expenditures are treated as investments and capitalized in a balance sheet as intangible assets (instead of being immediately expensed in an income statement). In later periods, after a given R&D project is successfully completed, those previously capitalized development costs are amortized (similarly as PP&E). According to IFRS 38, any R&D project conducted by a company must be divided into its research and development phases. All expenditures incurred in a research phase are expensed as incurred (i.e. reported as

operating costs in an income statement), while all development expenditures are capitalized in a balance sheet (and then amortized).

A key and problematic issue here is a distinction between a given project's research phase and its development phase. **Research** is defined as an original and planned investigation, undertaken with a prospect of gaining new scientific or technical knowledge and understanding. Generally speaking, a project is considered to be still in its research phase when it is at such an early stage, that it is not yet possible to make any reasonable predictions of probabilities of its technical or commercial success or failure. In contrast, **development** is defined as an application of research findings to design new or substantially improved materials, devices, products, processes, systems or services, before the start of commercial production or use (e.g. working on a prototype of a new model of car or testing the newly developed vaccine).

In practice, a distinction between research and development phases may be very fuzzy and subjective and consequently prone to accounting manipulations. Firms that spend significant amounts of funds on their R&D projects may be tempted to aggressively accelerate a reclassification of their individual projects from research to development phase (in order to capitalize more expenditures, instead of expensing them as incurred). An another subjective and problematic issue is an amortization of capitalized development costs. Unlike in the case of PP&E, where some reasonable ranges of expected useful lives can usually be determined (based, for example, on an average physical life of a given type of a machine or building), making any reasonable estimates of an expected useful life of a new software or a new model of car may be next-to-impossible (and thus heavily subjective).

A specific type of an intangible asset is **goodwill**, that results from business combinations (mergers or acquisitions of other businesses). Goodwill is typically recognized when one firm obtains a control over another one, by purchasing a controlling interest (usually above 50%) in its equity, for a price that exceeds an acquirer's share in a fair value of a target company's net assets (defined as a difference between fair value of the target's total assets and fair value of its liabilities). In other words, goodwill reflects an excess of an economic value of a target company's business as a whole (i.e. its value as an organized business) over a sum of estimated fair values of the target's net assets (Alfredson et al., 2009; Giroux, 2006). A computation of goodwill in a hypothetical business combination is illustrated in Example 1.2, on a basis of a very simple transaction whereby an acquirer obtains 100% equity interest in an another company, for a price paid in cash. The computation of goodwill resulting from a business combination is more complex when a control is obtained in return for a non-cash asset, such as the acquirer's shares (which must also be valued to fair value), and when a control is obtained by purchasing less than 100% share in the target's equity (since in such a case also non-controlling interests in the target's equity must be valued). However, a more detailed discussion of intricacies of an accounting for business combination lies beyond a scope of this textbook.

Example 1.2 A computation of goodwill in a business combination when an acquirer obtains 100% interest in a target company's equity.

A company named Acquirer invested in 100% of shares in equity of another entity, named Target. A price that the Acquirer paid to the Target's previous shareholders amounted to 100,000 EUR. On an acquisition date the Acquirer revalued the Target's net assets to their estimated fair values (from their prior book values). The Target's net assets look as follows:

Target's net assets at carrying amounts (in Target's books)		Target's net assets at estimated fair values	
Fixed assets	30,000	Fixed assets	35,000
Current assets	50,000	Current assets	65,000
Total assets (1)	80,000	Total assets (1)	100,000
Total liabilities (2)	40,000	Total liabilities (2)	40,000
Net assets [= (1) − (2)]	40,000	Net assets [= (1) − (2)]	60,000

Goodwill is calculated as a difference between a price paid for a controlling interest in the Target's equity and the Acquirer's proportional share in a fair value of the Target's net assets. Here, the Acquirer paid 100,000 EUR for 100% share in the Target's equity. Consequently, the goodwill recognized by the Acquirer in its consolidated balance sheet amounts to 40,000 EUR (i.e. the price paid, amounting to 100,000 EUR, less the Target's total net assets, at their estimated fair values amounting to 60,000 EUR).
Source Author.

Under IFRS (as well as under U.S. GAAP) the goodwill is classified as an intangible asset with an indefinite useful life. Accordingly, it is not subject to periodic amortization. Instead, it is regularly (at least once a year) tested for an impairment. In contrast, under some national accounting standards, the goodwill is recurringly amortized.

Generally speaking, in a financial statement analysis the intangible assets are considered as elusive and "soft" assets, which means that they tend to be featured by Barwise et al. (1989), Chan et al. (2001), Kothari et al. (2002), Penman (2009), Schauten et al. (2010):

- Relatively high uncertainty of future returns (as compared to most tangible assets).
- Relatively poor (as compared to most other assets) marketability, meant as a possibility to be quickly sold or rented if needed.
- Relatively unreliable and unverifiable (as compared to most other assets) carrying amounts (since it is generally much more difficult, also for auditors, to verify and estimate fair market values of unique assets such as brands or customer relationships, as compared to e.g. PP&E).

- Relatively high (as compared to most other assets) susceptibility to accounting manipulations (e.g. by overstating reported carrying amounts).

From a point of view of reliability and comparability of corporate financial statements, the most crucial aspects related to accounting for intangible assets include:

- A given company's approach toward capitalizing its development expenditures—the sooner the company reclassifies its R&D projects from research to development phase, the more inflated its reported earnings may be (because of the higher capitalized, and the lower expensed, R&D expenditures).
- A given company's approach toward estimating useful lives of its intangibles—the shorter the assumed useful lives, the more conservative reported corporate earnings tend to be (due to larger periodic amortization charges).
- A given company's approach toward revaluing net assets acquired in its business combinations—estimates of fair values are often very subjective (particularly in case of specialized and unique assets, such as heavy machinery) and consequently deliberate overstatements or understatements of their values may distort an acquirer's post-merger consolidated earnings.
- A given company's approach toward testing its intangible assets for impairments—the impairment testing of intangibles is similar in nature to valuing them, which makes it prone to the same reliability problems as in the case of asset revaluations.

Another broad categories of noncurrent assets are **long-term investments** and **long-term receivables**. Typically they include financial and non-financial assets, in which case the economic benefits are expected to be earned in the long run and which often are not related to the company's core business operations. They may include, for example:

- Long-term corporate or Treasury bonds, which a given company intends not to sell in a near future.
- Shares in equity of other entities (other than controlled subsidiaries), which a given company intends not to sell in a near future and which are accounted for either at their historical costs or by equity method.
- Investment properties, i.e. real-estate assets held for purposes of generating economic benefits from a rental or from an appreciation of market value (or both) which are not used by a given company in its core business operations.
- Long-term receivables from loans lent to other parties, e.g. employees, customers or other enterprises.

From an analytical point of view, it is important to be aware that individual assets, included within long-term investments and long-term receivables, may have

differing and non-comparable measurement bases, as well as varying impacts on corporate reported earnings. For instance:

- Investment properties may be reported at their current estimated fair values, with resulting gains or losses from revaluations included in a period's profit or loss (often within either other operating income or other operating expenses).
- Alternatively, the investment properties may be held at their historical costs, if it is not feasible or practicable to do regular revaluations of their fair values.
- Shares in non-public entities (i.e. companies not listed on any stock exchanges), over which a given company has neither control nor a significant influence (e.g. because of holding less than 20% equity interest), may be reported at their historical costs.
- Shares in public entities (listed on stock exchanges), over which a given company has neither control nor a significant influence, may be reported at their current fair values, with resulting gains or losses from revaluations included either directly in equity or in a period's profit or loss.
- Shares in equity of other entities, that are under a given company's significant influence (e.g. because of holding more than 20% but less than 50% interest in equity), are reported by an equity method of accounting.

Although carrying amounts of individual assets reported as long-term investments and receivables may be non-comparable (due to differing measurement bases), some of these assets are considered to be featured by relatively good marketability (as compared to PP&E and intangible assets). This relates particularly to investment properties, some long-term receivables (of a good credit quality) and shares of listed companies. They often may be sold and cashed relatively quickly, if a company needs money to increase its liquidity.

Long-term prepaid expenses are capitalized expenditures that will be treated as costs and expensed in an income statement in future periods (more than one year from a reporting date). A simple example is a rental fee paid in advance for several years. For instance, a company may rent an office building for five years and pay to its owner a total rental fee, amounting to 100,000 EUR, in advance. Although the company's cash balance has diminished by 100,000 EUR, a full payment should be treated as an expense (in an income statement) in a period when it is incurred. Instead, only 20,000 EUR (i.e. one fifth of an entire amount) should be expensed in the first year, while a remaining 80,000 EUR should be deferred to future periods (to the remaining four years). Generally speaking, in a financial statement analysis such long-term prepaid expenses are considered a kind of "soft" assets, featured by a relatively poor marketability (meant as a possibility to be quickly sold or rented if needed).

Deferred tax assets contain two tax-related classes of items:

- Likely economic benefits stemming from past temporary book-tax differences, expected to reverse in a future.

- Likely economic benefits offered by tax-loss carry-forwards, stemming from past income tax losses (i.e. negative prior taxable income), expected to be tax-deductible in a future.

Accounting for deferred taxes is an advanced topic that extends beyond a scope of this textbook. However, in a financial statement analysis, the deferred tax assets, similarly as intangibles and long-term prepaid expenses, are considered as "soft" assets, featured by a relatively poor marketability.

Table 1.5 presents an extract from the consolidated balance sheet of Volkswagen Group, depicting its fixed (noncurrent) assets, as at the end of fiscal years 2007 and 2008.

As may be seen, VW reports ten line items of its consolidated noncurrent assets. However, for a financial statement analysis, they may be more conveniently grouped into the following relatively homogenous classes:

- Intangible assets.
- PP&E (including property plant and equipment as well as leasing and rental assets).
- Long-term investments and receivables (including investment property, equity-accounted investments and other equity investments, financial services receivables, other receivables and financial assets, noncurrent tax receivables).
- Deferred tax assets.

Table 1.5 Consolidated noncurrent assets of Volkswagen Group, as at the end of fiscal years 2007 and 2008

In EUR million	Note	2007	2008
Noncurrent assets			
Intangible assets	12	6,830	12,291
Property, plant and equipment	13	19,338	23,121
Leasing and rental assets	14	8,179	9,889
Investment property	14	152	150
Equity-accounted investments	15	7,795	6,373
Other equity investments	15	548	583
Financial services receivables	16	27,522	31,855
Other receivables and financial assets	17	2,416	3,387
Noncurrent tax receivables	18	952	763
Deferred tax assets	18	3,109	3,344
		76,841	**91,756**

Source Annual report of Volkswagen Group for fiscal year 2008

The company's total noncurrent assets increased in 2008 by 19.4% (from 76,841 EUR million to 91,756 EUR million). The most material categories of VW's fixed assets are:

- Intangible assets, with a 13.4% share and a 80% y/y growth in 2008.
- Property plant and equipment, together with leasing and rental assets, with a 36% combined share and a 20% y/y growth in 2008.
- Financial services receivables (which due to their large carrying amounts are considered individually here, not as a component of all long-term investments), with a 34.7% share and a 15.7% y/y growth in 2008.

Altogether, these three categories made up 84.1% of the VW's total noncurrent assets, as at the end of fiscal year 2008. A significant share of PP&E in total noncurrent assets seems entirely logical, in light of a profile of the VW's core business operations (i.e. manufacturing of vehicles). Likewise, a moderate share of intangible assets in a breakdown of the company's total noncurrent assets seems rather justifiable (although from a balance sheet itself we cannot obtain any knowledge about what types and quality of intangibles a company owns). In contrast, such a significant share of financial services receivables may seem somewhat surprising. As the name suggests, these are some receivable accounts related to the VW's financial services. However, VW is a car manufacturer, instead of a financial services company. Therefore, it could be expected to report significant trade receivables (within current assets), rather than long-term financial services receivables. Such a material share as well as a monetary amount of the company's financial services receivables call for a more detailed scrutiny of this item, aimed at investigating:

- What exactly those receivables are and what their origin is.
- Whether it is justified for a car manufacturer to report such a significant amount of receivables related to financial services.
- How these financial services receivables should be treated in a financial statement analysis.
- What the monetary amounts as well as time-series trends of those receivables may tell about the company's financial situation.

The VW's balance sheet alone does not offer any plausible answers to the issues raised above. However, the second-to-left column of Table 1.5 informs that a more detailed information, about the company's financial services receivables, may be found in Note 16 to its financial statement. Accordingly, this note will be investigated in Chapter 2. Likewise, it is unclear what the company means by leasing and rental assets, without referring to respective notes to its financial statements. There may be two possibilities here:

- Either these are assets owned by other entities (lessors) but used by Volkswagen Group under lease contracts (or rental contacts similar in substance to the lease), or
- These are assets owned by the company itself but used by other entities under lease contracts (or rental contacts similar in substance to the lease).

In the former case, the leasing and rental assets would most probably include items of PP&E that the company leases and uses for manufacturing, distributive or administrative purposes. In the latter case, these could be, for example, Volkswagen own vehicles (but also other assets owned by the company) leased out to other entities.

The other line items of the company's noncurrent assets inform us that:

- The company does not own any significant (in monetary terms) investment properties, so their fair value estimates should not significantly affect its reported earnings.
- Although at the end of fiscal year 2008 equity-accounted investments constituted less than 7% of Volkswagen Group's total noncurrent assets, a period-to-period change in their monetary amount (that fell by 1,422 EUR million) could have a potentially material impact on the company's earnings, reported for 2008.
- Other noncurrent assets combined (i.e. other equity investments, other receivables and financial assets, noncurrent tax receivables and deferred tax assets) constituted less than 9% of the VW's total noncurrent assets, as at the end of fiscal year 2008 (so their impact on the company's financial situation seems at most limited).

1.4.4 Classes of Current (Short-Term) Assets

Current assets are those corporate assets in which case economic benefits are expected to be consummated by a company in a course of its single operating cycle. They include:

- Inventories.
- Short-term receivable accounts (including short-term debt investments).
- Short-term equity investments.
- Short-term prepaid expenses.
- Cash and cash equivalents.
- Assets held for sale.

Inventories include physical assets, purchased from other entities or manufactured by a company, with an intention to sell them, either without any further

processing (in case of merchandising companies, such as retail or wholesale businesses) or after processing by a company (in case of manufacturing and some service companies).

From an analytical point of view, the inventories may be classified into four main categories:

- Non-processed inventory: raw materials and supplies.
- Semi-processed inventory: work-in-progress (also called work-in-process).
- Processed inventory: finished goods and merchandise.
- Prepayments for inventories ordered.

Raw materials are held by manufacturing and some service companies and are intended to be used in a production of their finished goods or services. For instance, in VW's case, they may include plastics, metals, spare parts, oils, screws, tires, glass and so on, which will be used in its manufacturing processes. **Supplies** are also inventories that are not intended to be sold. However, in contrast to raw materials, they are usually intended to be used in a company's operations other than manufacturing. They may include, for example, inventories consummated by a given company's administrative or selling departments (e.g. printing paper, water and soap for employees, inventory of a fuel to a fleet of cars used by sales representatives, etc.). Raw materials and supplies are held within this category until they are either forwarded to manufacturing processes (raw materials) or consummated (supplies).

Work-in-progress (or **work-in-process**) means goods or services that have already been partially processed by a company (unlike raw materials) but are not yet ready to be sold. For example, if manufacturing of a car takes, say, six weeks on average (from consuming raw materials to obtaining a completed new car), then the partially produced cars, after three or four weeks in production, are classified as work-in-progress. These inventories are not yet ready to be sold, since they cannot be used by their end users.

Finished goods are those inventories of manufacturing businesses that have already gone through all production operations. Their manufacturing processes have been completed and thus they are ready to be sold and then used by their users. Inventories are held within this category since the moment when they leave manufacturing departments until they are sold (when their carrying amount is transferred from inventory in a balance sheet to cost of sales in an income statement). **Merchandise** is a counterpart of finished goods in case of retail or wholesale businesses. For instance, when companies like Tesco or Walmart purchase consumer goods, to put them on shelves and offer in their stores, they typically do not intent to perform any further processing of those purchased items. Accordingly, from their point of view those inventories constitute their "finished goods", from when they are bought. Thus, they typically label such inventories as the merchandise.

A final class of inventories captures **prepayments**. When a given firm orders inventories from its suppliers (regardless of whether these are raw materials, supplies or merchandise) and transfers any money in advance, then those prepaid amounts are included in its inventories (despite the fact that the company has not yet been supplied the physical inventories). Later on, when those ordered products are delivered to the company, its earlier prepayments are reclassified to a respective category of physical inventories (i.e. raw materials, supplies or merchandise).

The inventories are initially recorded in books at their historical costs. This means that:

- Carrying amounts of raw materials, supplies and merchandise are based on their purchase prices, increased by legitimate expenses incurred on bringing them to their current condition and location (such as transportation costs, insurance fees or costs of packaging and repackaging).
- Carrying amounts of work-in-progress inventories include their direct manufacturing costs (such as raw materials and direct labor consumed), as well as their legitimate indirect manufacturing overheads (such as allocated depreciation, electric energy consumed by production departments or indirect labor), incurred to date.
- Carrying amounts of finished goods include their direct manufacturing costs, as well as their legitimate indirect manufacturing overheads, incurred from when raw materials are forwarded to production departments until the finished goods are completed (are ready to be sold).

In case of work-in-progress inventories as well as finished goods, carrying amounts should include only that part of the indirect manufacturing overheads that corresponds to a typical (normal) levels of a capacity utilization. In contrast, indirect manufacturing costs that reflect an unused output capacity (which usually occurs when production volumes are temporarily abnormally low) should be expensed as incurred (instead of being capitalized in carrying amounts of inventories). An illegitimate capitalization of excess indirect unit manufacturing costs in a carrying amount of inventory constitutes one of the common techniques of overstating earnings (Welc, 2020).

In later periods (i.e. after an initial recognition) the individual items of inventories should be reported in a corporate balance sheet at either their **historical costs** (i.e. for how much they have been purchased or manufactured) or **net realizable values** (i.e. for how much they could be currently sold, less any costs-to-sell), whichever is lower (with some exceptions discussed below). This principle constitutes a manifestation of a conservative approach to reporting assets and earnings. If realizable values of inventories (e.g. their current market prices) exceed their historical costs, then those inventories should be reported at their historical costs. In contrast, when the realizable values fall below the historical costs (which is called an **impairment of inventory**), then carrying amounts of inventories should be written down to their estimated realizable values, with a loss resulting from such a revaluation reported in an income statement (usually as other operating

expenses). Delays in writing down the impaired inventories constitute one of the common techniques of overstating earnings (Welc, 2020).

Some accounting systems (including IFRS) allow for exceptions from the lower-of-cost-and-net-realizable-value principle, discussed above. These exceptions relate primarily to those commodity-like inventories that are featured by easily observable, objective and reliable market prices, such as some agricultural products or mineral resources. In such cases, after satisfying some required conditions, inventories may be periodically revalued to their fair values (based on observable market prices), with resulting revaluation gains and losses reported in an income statement. It is important to note that in such circumstances a recognition of a gain from holding inventories with rising market prices may be accelerated and reflected in the income statement before the inventories are sold (unlike in case of inventories accounted for in accordance to the lower-of-cost-and-net-realizable-value principle, under which profits are recognized only when inventories are sold).

From a point of view a financial reporting quality, the most crucial issues related to accounting for inventories include:

- A given company's approach toward capitalizing (vs. expensing as incurred) its costs of unused capacity—the higher portion of costs of the unused capacity a company capitalizes in carrying amounts of its inventories (instead of expensing them through an income statement), the more overstated its current earnings and inventories may be (increasing a probability of future inventory write-downs).
- A given company's approach toward physical inventory counts—the more regular and rigorous the physical inventory counts (which are required by most accounting standards), the lower a risk of reporting non-existing (e.g. stolen) or damaged inventories.
- A given company's approach toward writing down its impaired inventories—illegitimately long delays in writing down impaired inventories or unreasonably optimistic estimates of their realizable values result in overstated earnings and carrying amounts of inventories (increasing a probability of future inventory write-downs).

In case of manufacturing and merchandising businesses, the abuses in accounting for inventories constitute one of the main areas of a "creative accounting" and earnings manipulations (Welc, 2020).

Short-term receivable accounts (also called **short-term receivables** or **current receivables**) represent future monetary inflows, expected to be received from other entities or persons, in the course of the next twelve months (or, in case of trade receivables, within one operating cycle, if it is longer than one year). From an analytical point of view, they may be categorized as:

- **Operating receivables**, that stem from a given company's recurring core business activities and are expected to demonstrate a continuous turnover (i.e. to rise/fall in tune with growing/contracting sales). They typically include:

  - trade receivables, resulting from sales with deferred payment terms granted to customers (credit sales),
  - some receivables from suppliers (e.g. stemming from accrued but not yet collected purchase rebates, linked to volumes of purchases of raw materials of merchandise from suppliers),
  - some tax-related receivables (e.g. resulting from tax rebates or tax reliefs accrued but not yet collected), related to the company's recurring operations,
  - some receivables from derivative instruments (e.g. currency forward contracts), resulting from the company's actions aimed at hedging its operating cash flows (e.g. hedging against a foreign currency risk that affects its trade receivables, stemming from export sales settled in foreign currencies).
- **Non-operating receivables**, that do not stem from core business activities and as such are not expected to recur regularly and predictably, e.g.:
  - receivables from short-term investments in corporate or Treasury bonds or bills (they may also include long-term financial instruments, such as 10-year bonds, if a given company intends to sell them on the market in a near future, instead of holding them to maturity),
  - receivables from loans granted to other entities or private persons (other than for financing customer purchases of the company's products or services),
  - employee-related receivables (e.g. receivables from short-term loans granted to employees),
  - some receivables from suppliers (e.g. resulting from agreed-upon but not yet collected penalty fees for delays in deliveries),
  - some tax-related receivables (e.g. resulting from tax reliefs accrued but not yet collected, related to company's non-recurring operations),
  - current portion (i.e. collectible in the course of the following twelve months) of payments related to long-term receivable accounts (e.g. current portion of a five-year loan granted to an employee),
  - some receivables from derivative instruments (e.g. currency futures), resulting from the company's speculative investments (i.e. unrelated to its hedging activities),
  - receivables from government grants,
  - receivables from insurance compensations.

A distinction between operating and non-operating short-term receivables is very relevant for a financial statement analysis and particularly for simulating a given company's future liquidity and cash flows. This is so because the operating receivables are expected to stay positively correlated with the company's revenues and as such they are expected to "roll-over", as long as the company continues its operating activities (i.e. they tend to continue growing if the company continues increasing its sales, and to fall in tune with falling sales). In contrast, the non-operating receivables tend to "live on their own", in a sense that their changes from period to period (e.g. repayments) typically do not follow changes of a scope of the company's core business operations.

The receivable accounts (including short-term debt investments) are usually initially recorded in books at their historical costs (there are, however, some exceptions from this principle, when the receivables are initially recognized at their estimated fair values). For instance, if a company sells its products for a net price (i.e. after subtracting any rebates and value-added or sales taxes) of, say, 1,000 EUR, and grants to its customer a 30-day deferred payment term, then initially (on a transaction day) it records a net sales amounting to 1,000 EUR (in its income statement) and correspondingly raises a carrying amount of its trade receivables by the same 1,000 EUR. However, under some accounting standards (including IFRS), when a deferred payment term is relatively long (e.g. more than 180 days), then sales revenues and accompanying trade receivables are required to be booked at their discounted values, lower than their nominal monetary amounts (but this is rarely met in practice).

In the following periods (i.e. between an initial recognition of a receivable account and its collection), short-term receivables, depending on their type, may have varying and non-comparable measurement bases, as well as differing impacts on reported corporate earnings. For example:

- Short-term debt investments with observable market prices (e.g. Treasury bonds), that are intended to be sold on the market before their maturities, may be reported at their current market values, with resulting gains or losses from their periodic revaluations included in a period's profit or loss (usually within financial income).
- Alternatively, other short-term debt investments may be intended to be held to maturity, and if they become redeemable in the course of the following twelve months, they may be accounted for by a so-called amortized cost (which is unrelated to current swings of their market prices).
- Trade receivables or short-term employee-related receivables are usually carried at their historical costs, adjusted for their estimated impairment write-downs (if any) as well as reversals of prior write-downs, with the resulting losses from write-downs and gains from their reversals included in a period's other operating expense and other operating income, respectively.

Although carrying amounts of individual classes of short-term receivables may be incomparable (due to varying measurement bases), most of these assets are usually considered to be featured by a relatively easy marketability (as compared to e.g. inventories). This relates particularly to trade receivables, stemming from prior sales to customers with a good credit quality, as well as to short-term investments in debt instruments traded on liquid markets. They usually may be cashed (collected or sold) relatively quickly and easily, if a given company needs money to increase its liquidity.

However, some classes of short-term receivables are featured by their high vulnerability to subjective judgments and accounting manipulations. This relates particularly to those receivables in which case write-downs (impairments of value) must be subjectively estimated, such as trade receivables, loans granted to other

entities and investments in debt instruments not listed on any liquid markets. Furthermore, many techniques of inflating reported earnings, particularly via overstated or prematurely recognized sales revenues (e.g. by reporting fictitious sales), are related to short-term receivables. Consequently, from a perspective of a financial statement reliability, the most crucial issues, related to accounting for receivable accounts, include:

- A given company's approach toward a revenue recognition—the more aggressively (e.g. prematurely or fraudulently) the company recognizes sales revenues in its income statement, the more overstated its earnings and receivable accounts tend to be.
- A given company's approach toward writing down its impaired receivable accounts—illegitimately long delays in writing down impaired receivables or unreasonably optimistic estimates of their realizable values result in overstated earnings and carrying amounts of receivable accounts (increasing a probability of future impairment write-downs).

Several common techniques of overstating earnings by overstating receivable accounts are discussed with details in books devoted to financial accounting misstatements (Welc, 2020).

Another category of current assets captures **short-term equity investments**. They usually include shares in equity of other firms, typically listed on stock markets (and less commonly non-listed companies), intended to be sold in a near future. Similarly as in a case of short-term debt investments, if their market prices are observable and are formed on the actively traded (liquid) markets, and if they are intended to be sold on the market in a near future, they are reported at their current market values (with resulting gains and losses from their periodic revaluations included in a period's profit or loss, usually in financial income).

Short-term prepaid expenses represent capitalized prior expenditures that will be treated as costs in the following twelve months. Accordingly, they are similar in nature to long-term prepaid expenses, except for an expected timing of their expensing in an income statement. Common examples of the short-term prepaid expenses include:

- Rental fees paid in advance for the whole year.
- Asset's insurance fees paid in advance for the whole year.
- Regular expenditures on a maintenance or repairs of a manufacturing machine, that are incurred once a year (for instance, during a seasonal trough of an output volume) but bring their economic benefits throughout the entire year (when the output is manufactured with the use of that machine).
- Recurring expenditures on a mandatory safety testing of fixed operating assets (e.g. airplanes or cars), that are incurred once a year but bring their economic benefits throughout the entire year.

Similarly as in a case of long-term prepaid expenses, in a financial statement analysis the short-term prepaid expenses are deemed "soft" assets, featured by a relatively poor marketability (meant as a possibility to be quickly sold or rented, when needed).

Cash and cash equivalents are defined as cash on hand, demand bank deposits and short-term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value. Examples of cash equivalents include short-term money market securities and short-term bank deposits.

Assets held for sale, in a nutshell, include assets that a given company has ceased to use in its operating activities and which are intended to be disposed of. Often, this line item captures assets previously reported as noncurrent ones (in prior periods, when they were used in operations), that were later on reclassified into this category. Most accounting standards require a fulfillment of some conditions, for an item to be reclassified from noncurrent assets to assets held for sale. For instance, under IFRS the following conditions must be met for an item to be reported as held for sale (IFRS 5):

- Management is committed to a plan to sell.
- The asset is available for immediate sale.
- An active program to locate a buyer is initiated.
- The sale is highly probable within twelve months of classification as held for sale.
- The asset is being actively marketed for sale at a sale price reasonable in relation to its fair value.
- Actions required to complete the plan indicate that it is unlikely that plan will be significantly changed or withdrawn.

Noncurrent assets classified as held for sale (and as such included in current assets) are no longer subject to periodic depreciation charges. Instead, they are reported at the lower of carrying amount and fair value less costs to sell. Therefore, for an analyst it is important to be aware that some firms may aggressively abuse reclassifications of their fixed assets from noncurrent ones (where they are depreciated) to assets held for sale (where they are no longer subject to depreciation), by pursuing artificial activities aimed at artificially satisfying the above conditions for the reclassification. A resulting reduction in a depreciation expense may artificially boost reported earnings. Thus, if a given company reports assets held for sale with a suspiciously high share in its total assets, then the underlying reasons, a nature of these assets and a probability of their disposal should be scrutinized diligently (based on a respective note).

Table 1.6 contains an extract from consolidated balance sheet of Volkswagen Group, depicting its current (short-term) assets as at the end of fiscal years 2007 and 2008. As might be seen, VW reports eight line items of its consolidated current assets. For a financial statement analysis, they may be preliminarily grouped into the following relatively homogeneous classes:

Table 1.6 Consolidated current assets of Volkswagen Group, as at the end of fiscal years 2007 and 2008

In EUR million	Note	2007	2008
Current assets			
Inventories	19	14,031	17,816
Trade receivables	20	5,691	5,969
Financial services receivables	16	24,914	27,035
Other receivables and financial assets	17	6,653	10,068
Current tax receivables	18	500	1,024
Marketable securities	21	6,615	3,770
Cash and cash equivalents	22	10,112	9,474
Assets held for sale	23	–	1,007
		68,516	**76,163**

Source Annual report of Volkswagen Group for fiscal year 2008

- Inventories.
- Short-term receivables (including trade receivables, financial services receivables, other receivables, financial assets and current tax receivables).
- Short-term investments (including marketable securities).
- Cash and cash equivalents.
- Assets held for sale.

The above categorization is only a preliminary one and it should be checked with the use of a relevant information, extracted from respective notes to the company's balance sheet. This is so because the balance sheet itself does not offer an information detailed enough to enable a definite categorization. For instance, there are two line items that include some financial instruments. The first one is "*Other receivables and financial assets*" and the another one is "*Marketable securities*". From the face of the balance sheet, we cannot make any inferences about what types of financial assets (e.g. debt vs. equity investments) are included in these line items. Thus, it is justified to study a content of the relevant notes (i.e. Notes 17 and 21). Likewise, there is no any line item on the VW's balance sheet that refers to its short-term prepaid expenses. It does not necessarily mean that the company does not have any such capitalized expenses, since they may be included within some other line item.

The company's total current assets increased in fiscal year 2008 by 11.2% (i.e. from 68,516 EUR million to 76,163 EUR million). The most significant categories of VW's current assets were:

- Inventories, with their 23.3% share and 27% y/y growth in 2008.
- Short-term financial services receivables, with their 35.5% share and 8.5% y/y growth in 2008.

- Other receivables and financial assets, with their 13.2% share and 51.3% y/y growth in 2008.
- Cash and cash equivalents, with their 12.4% share and 6.3% y/y decline in 2008.

Altogether, those four classes made up 84.4% of the VW's total current assets, as at the end of fiscal year 2008. A significant share of inventories in total current assets seems entirely logical, in light of a profile of the VW's core business operations (i.e. manufacturing of vehicles). Likewise, a material share of the combined liquid financial assets (cash and cash equivalents, other receivables and financial assets), in a breakdown of the company's total current assets, seems rather justifiable and reflecting the company's liquidity management. However, similarly as in the case of noncurrent assets, such a high share of financial services receivables may seem somewhat surprising, for a car manufacturer (and not a financial services company). Typically non-financial firm are expected to report significant trade receivables, rather than financial services receivables. However, in the Volkswagen Group's case, in both fiscal years 2007 and 2008 the reported carrying amount of the short-term financial services receivables was more than fourfold larger than the reported value of its trade receivables (and combined amounts of noncurrent and current financial services receivables were more than nine times more valuable than the trade receivables). Clearly, such a significant share as well as a monetary amount of the company's total financial services receivables call for a more detailed scrutiny of this asset category, based on a respective note (i.e. Note 16).

The other line items of the company's current assets inform us that:

- The company does not own any significant (in monetary terms) current tax receivables.
- The company does not report any significant (in monetary terms) assets held for sale, so their suspended depreciation charges seem not to pose any concern.
- Although at the end of fiscal year 2008 the VW's marketable securities made up less than 5% of its total current assets, a period-to-period change in their carrying amount (that fell by 2,845 EUR million) could have a potentially material impact on its earnings, reported for 2008 (consequently, it is recommendable to scrutinize an information offered in Note 21).

1.4.5 Classes of Liabilities

Liabilities represent obligations to other entities and persons. Colloquially, they are meant as external sources of capital, borrowed from other parties. Regardless of their types, their common feature is that they will have to be settled in future periods, by sacrificing some of a given company's resources (e.g. by paying cash or by transferring some non-financial assets to creditors). Unlike shareholders'

equity (discussed later in the chapter), the creditors' claims against a firm, resulting from its liabilities, are generally unconditional on the company's financial results. Thus, generally speaking, corporate liabilities are "payable" regardless of whether a given business is profitable (and generates positive cash flows) or not.

There exist various classes of corporate liabilities. However, for a financial statement analysis, it is important to understand that accounting definitions of liabilities may differ from the economic ones. Some items, reported in a balance sheet as liabilities, may not have a substance of an obligation (although accountants classify them as liabilities), while at the same time there may exist some pure economic obligations that are not reported in a balance sheet. Consequently, a diligent financial statement analysis often requires substantial time and effort, devoted to scrutinizing the nature and amounts of corporate liabilities.

From an analytical point of view, all corporate liabilities may be classified according to the following six criteria (among others):

- Classification by an origin:
  - Operating liabilities (payables),
  - Financial liabilities.
- Classification by a balance-sheet presence:
  - On-balance sheet liabilities,
  - Off-balance sheet liabilities.
- Classification by a relevance of subjective assumptions and estimates:
  - Document-backed liabilities,
  - Provisions for liabilities.
- Classification by a probability of occurrence:
  - Liabilities and provisions,
  - Contingent liabilities.
- Classification by a way in which liabilities are to be settled:
  - Monetary obligations,
  - Deferred revenues.
- Classification by a maturity:
  - Long-term liabilities,
  - Short-term liabilities.

A distinction between operating payables and financial (non-operating) liabilities is similar as in the case of receivable accounts:

- **Operating payables** stem from a given company's recurring core business activities and are expected to demonstrate a repeating turnover (i.e. to grow in tune with growing sales and to decline in tune with falling sales), e.g.:
  - Payables to suppliers of raw materials, resulting from prior purchases with deferred payment terms, offered by a company's suppliers.
  - Payables to employees, resulting from accrued but not yet paid salaries.
  - Tax-related liabilities, resulting from accrued but not yet paid income and other taxes, related to the company's recurring operations.

  - Some liabilities resulting from derivative instruments (e.g. currency forward contracts), resulting from the company's actions aimed at hedging its operating cash flows (e.g. hedging against a currency risk exposure, linked to trade receivables that stem from export sales and that are settled in foreign currencies).
- **Financial (non-operating) liabilities** do not stem from the core business activities and as such are not expected to closely follow changes of a scope of a given company's operations, e.g.:
  - Liabilities resulting from bank loans (borrowings).
  - Liabilities resulting from corporate bonds issued by a company.
  - Liabilities resulting from loans borrowed from other entities or private persons.
  - Some liabilities from derivative instruments (e.g. currency futures), resulting from the company's speculative investments (i.e. unrelated to its hedging activities).
  - Some tax-related liabilities, resulting from accrued but not yet paid income and other taxes, unrelated to the company's recurring core business operations (e.g. income taxes payable, resulting from gains on sale of speculative derivative instruments).
  - Liabilities related to penalty fines sentenced by courts or other regulatory bodies (e.g. for an environmental pollution).

Similarly as in the case of receivable accounts, a distinction between operating and non-operating liabilities is relevant for a financial statement analysis, as well as for simulating a given company's future cash flows and liquidity position (Nissim & Penman, 2003). This is so because the operating payables tend to stay positively correlated with corporate sales (or more generally, a company's scale of operations) and as such they are expected to go on "rolling over", as long as the company continues its operating activities. In other words, the operating payables tend to go on growing as long as the company continues increasing its sales, while they tend to fall in tune with contracting sales. In contrast, period-to-period changes in non-operating liabilities are driven by agreed-upon terms and conditions of their underlying borrowings (e.g. loan contacts between a company and its bank) and do not closely follow a changing a scope of business operations.

Example 1.3 Long-term rental as an example of an off-balance sheet liability (under U.S. GAAP and IFRS until 2019).

A company named User rented a selling space (e.g. in a shopping mall) for five years from its owner, named Owner. The User has been offered the following terms and conditions:

- An annual rental fee, amounting to 1.0 EUR million annually, if the rental is non-cancellable and non-transferable.

- An annual rental fee, amounting to 1.2 EUR million annually, if the User decides to retain an option of canceling the rental or sub-renting the property (to other users) before its expiration.

Accordingly, a total five-year rental fee amounts to 5.0 EUR million if the User abandons the cancelation option, while it amounts to 6.0 EUR million if the User prefers to retain the more flexible terms (permitting cancelation or sub-rental to other parties).

The User is quite certain that it will occupy the rented space for at least five following years. Thus, it decides to select the cheaper option. In such a case, the User bears a five-year *non-cancellable* liability to the Owner, with a total nominal value amounting to 5.0 EUR million. However, under some accounting standards (other than IFRS and U.S. GAAP since 2019) this liability is not reported on the face of the User's balance sheet, due to the following arguments:

- From a legal point of view, the rented selling space is not owned by the User (which means that the User cannot freely sell it or even sub-rent it), and therefore, it should not be included within its assets.
- If the User's total assets do not change as a result of the rental contract, then its equity and liabilities should not be affected as well (to keep both sides of its balance sheet in a balance), meaning that the rental-related long-term liabilities, totaling 5.0 EUR million, should not appear on a right-hand side of the User's balance sheet.

In this scenario, the User would transfer 1.0 EUR million annually to the Owner. This expenditure would be expensed in an income statement (as a selling expense). An information about a monetary amount of the remaining future rental payments (4.0 EUR million after one year, 3.0 EUR million after two years, and so on) would be disclosed only in a respective note to the User's financial statements.
Source Author.

Classification of corporate liabilities by their balance-sheet presence distinguishes between **on-balance sheet liabilities** and **off-balance sheet liabilities**. The former capture all obligations that are reported on a face of a balance sheet. In contrast, the latter class includes all obligations (typically of a financial nature) that are not reported in a balance sheet (even though they often must be settled unconditionally in future periods and may have material amounts). The most common types of the off-balance sheet liabilities are operating leases and rental-related obligations. Although in some accounting systems (e.g. under IFRS and U.S. GAAP until 2019) they are not reported in a balance sheet, most accounting standards require extensive disclosures (in notes to financial statements) about basic terms

and monetary amounts of significant off-balance sheet liabilities. A nature of a hypothetical off-balance sheet liability is illustrated in Example 1.3.

The off-balance sheet liabilities (if material), such as those illustrated in Example 1.3, should never be overlooked in a financial statement analysis, since they may be very dangerous for a company's financial liquidity. Their exclusion from a balance sheet may make a company looks less indebted than it actually is. In case of an unforeseen deterioration of its economic environment (e.g. a sudden fall of demand for its products), the entity may be left with an unused rented capacity (e.g. empty selling space in its closed stores) while still having to settle regular rental fees. For example, suppose that the User in Example 1.3 was overly optimistic and it had to shut down its store located in the rented property, after two years in business. In such circumstance, the company would no longer generate any revenues from its rented space (neither revenues from sales of its own products nor revenues from sub-renting the property to other entities), while still having to pay 3.0 EUR million in total for the unused capacity. Thus, any material off-balance sheet liabilities should be thoroughly investigated (with the use of an information disclosed in respective notes) in a financial statement analysis.

Another classification of liabilities differentiates **document-backed liabilities** from **provisions for liabilities**. Carrying amounts of the former, although subject to estimates, are typically based on a relatively objective and verifiable information included in underlying documents, such as contracts with suppliers, bank loan agreements, invoices received or legal regulations. For instance, suppose that a hypothetical airline has purchased a new airplane from its manufacturer. Its agreed-upon price amounts to 100 EUR million, of which 50 EUR million is payable on a delivery day, while 30 EUR million is to be settled after one year from the delivery and the remaining 20 EUR million after two years. After receiving the airplane from its manufacturer the purchaser will recognize it in its fixed assets and will transfer 50 EUR million to the vendor. The remaining 50 EUR million will be reported as a liability, at its discounted value (given that this is a long-term obligation). Since nominal monetary amounts of future payments are discounted to their current values, an appropriate discount rate must be estimated first. Thus, a resulting carrying amount of the liability will not be fully immune to some subjective judgments and estimates. However, a majority of other inputs used in its estimation, such as the timing and monetary amounts of future payments, are objective and reflect the agreed-upon terms of the contract.

In contrast, provisions for liabilities capture highly probable obligations, in which case either a timing or a monetary amount (or both) of future payments is highly uncertain and must be estimated, usually with a substantial load of subjective judgments. A nature of a fictional provision for liability is illustrated in Example 1.4.

Other common examples of expected liabilities, where either the timing or the monetary amounts of future payments (or both) are highly uncertain, include:

- Future product warranty costs—for instance, if a car manufacturer sells 10,000 units of a new car, with a three-year warranty for a product quality, it cannot precisely determine its future expenditures on warranty services (instead, those likely future expenditures may only be estimated with a high dose of uncertainty).
- Future product returns—for instance, if a clothing retailer offers a specified time during which its customers may unconditionally return purchased but unused products, it cannot precisely determine its future cash outflows for the returned goods.
- Future mandatory expenditures on dismantling or removing a given company's worn out fixed assets—for instance, a mining company may be required (by law) to restore a site in the future (when its mine is liquidated), with a future restoration expenditure being highly uncertain.
- Future income taxes payable, resulting from prior temporary book-tax differences, expected to reverse in the future (reported as **deferred tax provisions** or **deferred tax liabilities**).

Majority of provisions for liabilities are highly vulnerable to an estimation uncertainty. Consequently, any analyst should be aware that firms may often artificially manipulate their estimates, by taking subjective assumptions, aimed at reporting "targeted" carrying amounts of provisions. Changes in provisions, in turn, affect reported earnings. Thus, if an investigated company reports suspiciously high or low provisions for liabilities (or significant period-to-period changes in provisions), then a reasonableness of their underlying assumptions should be scrutinized (based on disclosures available in respective notes).

Example 1.4 Jubilee employee benefits as an example of a provision for liability.

A company approved a new employee motivation program, whereby any employee, who will work for the company for at least ten consecutive years (since his or her employment be the company), will be granted an extra bonus (payable in cash), with the following terms and conditions:

- The jubilee bonus will be payable to a given employee on a day following his or her tenth anniversary of a work for the company.
- A monetary amount of the bonus will be equal to a given employee's salary, earned in a month preceding his or her tenth anniversary of a work for the company.

Thus, after adopting such a "jubilee employee benefit" program, the company bears some potential employee-related liabilities. They should be reflected in its balance sheet at discounted values, given their long-term nature.

However, a discount rate is not a sole input that must be estimated, since the actual future payments, related to those obligations, will be affected by the following factors (among others):

- Future employee retention rates—only those employees will be entitled to benefit from the jubilee bonus, who will work for the company for at least ten consecutive years (and the company cannot precisely compute its future employee turnover rates, even though it knows well its current and past turnover rates).
- Future employee salaries—monetary amounts of future jubilee bonuses payable will be based on individual employees' future salaries, which in turn will be affected by multiple uncertain factors, such as a future inflation rate in a country.

Consequently, in order to obtain a carrying amount of its provision for the expected liabilities, resulting from the adopted "jubilee employee benefit" program, the company must estimate its uncertain future cash outflows (separately for individual future years) and then discount them, with an application of the estimated discount rates. Such probable obligations will be reported as provisions for liabilities, since the timing as well as the amounts of the future payouts are highly uncertain. In an extreme but imaginable case, it may ultimately turn out that the company will not have to pay any jubilee bonuses (if its employee turnover rates will be unusually high and all employees will leave the company before entitling to their jubilee bonuses). However, it may also turn out that almost all employees will benefit from their bonuses (if the company is a highly reputable employer).
Source Author.

Another criterion classifies liabilities and potential liabilities on the ground of estimated probabilities of future economic outflows from a company. The first category here consists of liabilities and provisions, in which case it is more likely than not that they will have to be settled somehow (even if the timing or the monetary amounts of future payments are uncertain). In contrast, **contingent liabilities** reflect potential obligations that may or may not turn into real payable obligations in the future. They are conditioned on some uncertain future events in which case a probability of an occurrence is deemed relatively low. The most common contingent liabilities are related to:

- Litigations—for instance, a company may be sued by its former employee (e.g. for an allegedly unpaid remuneration), or by its customer (e.g. for a health damage, allegedly caused by the company's products) or by its competitor (e.g. for violating a legally protected patent), with a resulting high uncertainty of an ultimate court sentence (giving a rise to a contingent liability that may turn into a payable obligation, if a company loses its litigation).

- Debt guarantees—for instance, a company may guarantee a repayment of a third party's debt (e.g. owed to its bank), by granting a signed promise to the creditor to repay that debt (in place of the actual debtor) in case when the debtor itself becomes insolvent.

The contingent liabilities are not yet payable and thus they are not presented in a balance sheet. However, they may become payable if the uncertain future events (e.g. final court verdicts) turn unfavorable for a company. Therefore, the contingent liabilities, if material, should never be overlooked in a financial statement analysis, since they may be very dangerous for a firm's sustainability. Furthermore, some techniques of overstating reported earnings and understating reported liabilities, via arranged artificial transactions with heavily indebted unconsolidated companies, are related to debt guarantees granted to those companies. This accounting gimmick is discussed with more details in other, more advanced books (Welc, 2020).

From a financial analysis perspective, it is also important to discriminate between **monetary obligations** and **deferred revenues** (also called **unearned revenues** or **deferred income**). The former capture liabilities that will have to be settled in the future and will require sacrificing some economic resources (either cash or some non-monetary assets). Majority of liabilities and provisions fall into this category. However, in a liability section of their balance sheets companies also include deferred revenues, which do not have a substance of true liabilities. Instead, they correspond to already received economic benefits (revenues or gains) in which case a recognition in an income statement has been deferred until later periods.

A good example of the deferred revenue is offered by an advance payment, received by a software company from its customer, after ordering a business software services, such as designing and implementing a management software customized to the customer's specific requirements. This is illustrated in Example 1.5. The circumstances assumed in this example call for deferring the received but unearned revenue, amounting to 500 EUR thousand (instead of recognizing it immediately as revenue in an income statement). Although the software company is not expected to return that money to its customer (quite the reverse, it may expect to receive another payments, after completing the underlying contract), this inflow of cash should be recognized as a revenue only in future periods when the contracted services are rendered. Otherwise, the recognized revenues would not match the incurred expenses, since the company would first recognize only revenues, amounting to 500 EUR thousand, while later on (i.e. in the following two years) it would book only its contract-related expenses, of 800 EUR thousand. Finally, after completing a contract, again only revenues, amounting to 500 EUR thousand, would be reported. Such a revenue recognition policy would significantly overstate the company's reported earnings at the beginning and end of a contract (when only contract revenues would be recognized).

The other examples of unearned revenues, which should be fully or partially deferred and reported as liabilities, include:

- Advance rental income—for instance, a property owner may receive an advance rental payment from a property user, for a two-year rental (in such a case a deferred revenue should be transferred, from deferred revenues to revenues in an income statement on a straight-line basis, throughout a two-year period).
- Government grant related to fixed assets—for instance, if a company is granted a subsidy for a purchase of a fixed asset, such as a production machinery, the obtained grant should either be deferred in liabilities and then recognized in an income statement (as the related asset is depreciated) or be deducted from the asset's carrying amount.

Example 1.5 Deferred revenues resulting from an advance payment received from a customer.

A software company won a contract under which it is ordered to design and implement a customized business software for an another company. The contract specifies the following terms and conditions:

- A total contract price amounts to 1.0 EUR million and covers a transfer of a software license (valued at 700 EUR thousand) and a fee for the after-sale consulting and training services, provided to the customer (valued at 300 EUR thousand).
- A deadline for designing and implementing a software has been set as twelve months from signing the contract.
- The after-sale consulting and training services will be provided in twelve-month time after implementing a software.
- Immediately after signing the contract the customer transfers to the software company an advance payment, amounting to 500 EUR thousand.
- A remaining part of the entire remuneration will be settled after completing the contract.

Accordingly, the agreed-upon time for performing the whole contract is 24 months. The software company estimated (before signing the contract) that its contract-related costs will amount to 800 EUR thousand, resulting in an expected gross profit of 200 EUR thousand.

According to the contract terms, the software company collects 500 EUR thousand immediately after entering the contract. Consequently, its assets will grow by that amount. However, the obtained advance payment should not be recognized as a revenue when received, since related services have not yet been rendered. Instead, it should be deferred (as deferred revenues in the liabilities section of a balance sheet) until later periods, in order to match contract revenues with its expenses. After completing the first stage of the contract (i.e. after designing and implementing the software), a respective part of these deferred revenues will be transferred to revenues, while

the remaining unearned revenues will stay deferred, until the time when the related consulting and training services are rendered.
Source Author.

It is worth noting that deferred revenues may constitute either an obligation to deliver some products or services, usually with expected profits (as in the case of advance payments), or a pure economic benefit, not requiring any future economic sacrifices (as in the case of many asset-related grants). Thus, their economic substance is significantly different from most other types of liabilities. However, the abuses in accounting for deferred revenues (by deliberately understating their values and prematurely reporting revenues) constitute one of the common techniques of earnings manipulations (Welc, 2020).

Finally, liabilities may be classified according to their maturities, as either long-term (noncurrent) or short-term (current) liabilities. **Short-term liabilities** are generally payable within a course of twelve months, following a reporting date, while **long-term liabilities** are payable after twelve months from that date. A distinction between the two is very important, since the sooner a given liability becomes payable, the stronger pressure on a corporate financial liquidity it may exert. This is so because it is usually easier to ensure an access to a sufficient amount of funds, needed for settling corporate obligations, when payment terms are relatively remote.

From an analytical point of view, it is important to be aware that various classes of liabilities may have very diverse and often non-comparable measurement bases, as well as differing impact on corporate reported earnings. For example:

- Operating liabilities, such as payables to suppliers or employees, are typically carried at their historical costs.
- Liabilities resulting from speculative investments, such as derivative contracts, are reported at their current fair values, with resulting revaluation gains or losses included in a period's profit or loss.
- Provisions for liabilities are recorded at their current estimated fair values.
- Financial debts, such as bank borrowings, may be accounted for by a so-called amortized cost.

Furthermore, various types of liabilities may differ significantly in terms of an extent to which their carrying amounts are sensitive to subjective judgments and assumptions. While book values of majority of operating payables are quite objective and based on underlying documents (such as invoices or contracts), accounting for provisions or deferred revenues may entail many more subjective assumptions (often not easily verifiable). Moreover, some material actual or potential liabilities may not be reported in a balance sheet (e.g. contingent liabilities), which may significantly complicate a financial statement analysis. Finally, numerous techniques of manipulating reported earnings are related to corporate liabilities. Thus, in a

financial statement analysis, the most crucial aspects related to accounting for liabilities include:

- A given company's assumptions taken when estimating carrying amounts of its liabilities and provisions for liabilities—the more optimistic assumptions (e.g. discount rates or future salaries) are taken, the more understated the reported liabilities may be (and the more overstated the current reported earnings may be).
- A given company's approach toward deferring unearned revenues—the more aggressively (e.g. prematurely) a firm recognizes its unearned revenues in its income statement (instead of deferring their justified portions to later periods), the more overstated its current reported earnings may be.
- A given company's approach toward using off-balance sheet liabilities—the higher is a relative share of the firm's off-balance sheet obligations in total liabilities, the more distorted a picture of its indebtedness (as presented in its balance sheet) may be.
- A relative share of contingent obligations in total liabilities (particularly if the former result from debt guarantees granted to other entities)—the higher the relative share of a firm's contingent liabilities in its total liabilities, the more distorted the picture of its indebtedness (as presented in its balance sheet) may be.

Table 1.7 contains an extract from consolidated balance sheet of Volkswagen Group, depicting its noncurrent and current liabilities, as at the end of fiscal years 2007 and 2008. As may be seen, the VW's total liabilities (reported on its balance sheet, i.e. excluding any off-balance sheet and contingent obligations) amounted to 130,531 EUR million [= 65,729 + 64,802] at the end of fiscal year 2008, after rising from 113,419 EUR million [= 57,351 + 56,068], as at the end of a previous year (a growth by 15.1% y/y). The company's total on-balance sheet liabilities were almost evenly distributed between their noncurrent and current portions.

The company's combined long-term and short-term financial liabilities constituted by far the most significant source of its external capital, with their share in total liabilities of 53.1% (as at the end of fiscal year 2008). The total financial liabilities grew in 2008 by 19.6% (or 11,388 EUR million in monetary terms). In light of such a high and rising share (as well as a significant monetary amount) of the VW's financial liabilities, it is clearly reasonable to investigate Note 25, in search of a more detailed information.

Total noncurrent and current provisions (including provisions for pensions, provisions for taxes and other provisions) amounted to 35,216 EUR million (as at the end of fiscal year 2008) and made up almost 27% of the company's total liabilities. Clearly, at this share (and a monetary amount), any changes in assumptions, taken by the company in estimating carrying amounts of its provisions, could have significant impact on its reported earnings and total liabilities. Thus, it seems legitimate to review respective notes to its financial statements, in a quest for some more

Table 1.7 Consolidated liabilities of Volkswagen Group as at the end of fiscal years 2007 and 2008

In EUR million	Note	2007	2008
Noncurrent liabilities			
Noncurrent financial liabilities	25	29,315	33,257
Other noncurrent liabilities	26	2,245	3,235
Deferred tax liabilities	27	2,637	3,654
Provisions for pensions	28	12,603	12,955
Provisions for taxes	27	2,275	3,555
Other noncurrent provisions	29	8,276	9,073
		57,351	**65,729**
Current liabilities			
Current financial liabilities	25	28,677	36,123
Trade payables	30	9,099	9,676
Current tax payables	27	98	59
Other current liabilities	26	7,084	8,545
Provisions for taxes	27	1,828	1,160
Other current provisions	29	9,282	8,473
Liabilities associated with assets held for sale	23	–	766
		56,068	**64,802**

Source Annual report of Volkswagen Group for fiscal year 2008

detailed disclosures that could enable an evaluation of a nature of these provisions, as well as reasonableness of their underlying assumptions.

The other line items of Volkswagen Group's liabilities inform us that:

- Other noncurrent liabilities, deferred tax liabilities, current tax payables and liabilities associated with assets held for sale did not have significant shares in the company's total liabilities (thus, their relevance for the VW's financial position was probably limited).
- Trade payables, that constitute one of the most recurring types of corporate liabilities, made up less than 10% of the VW's total liabilities.
- The company did not report any line item directly referring to its deferred revenues (however, they could have been included within some other line item, such as other current provisions).

1.4.6 Classes of Shareholders' Equity

Generally speaking, corporate assets may be financed from two broad categories of funds:

- Liabilities and provisions (provided by non-shareholders and expected to be repaid in future periods) discussed in the preceding section.
- A given company's own funds, called shareholders' equity (often abbreviated to an equity), poured to a firm by its shareholders (owners).

Shareholders' equity constitutes a very important source of an enterprise's capital (Stutely, 2007). Its relevance for a firm's functioning and survival will be illustrated later in this book. The equity is also called **net assets**, since it reflects a book value of a given company owner's residual claims against its assets, after all creditor's claims are satisfied. In other words, it informs about a book value of any business assets, that would remain for a distribution among its owners, after liquidating a company and settling all its liabilities.

From an economic perspective, the shareholders' equity may be classified according to the following criteria:

- Source of its origin, which differentiates between:
  - Paid-in capital (poured into a business at its inception and in later periods).
  - Undistributed (retained) income, earned by a firm in the past and not paid out as dividends.
  - Revaluation surpluses (from changes of values of corporate assets and liabilities, recognized directly in equity).
- Parties to which it is attributable, that is:
  - Shareholders of a parent company.
  - Non-controlling shareholders of in the parent's subsidiaries.

Any company's shareholders may pour their funds into it via two channels:

- Either directly from their own "pockets"—when an enterprise is formed and issues its initial shares, or in later periods, when it issues new shares (this form of the shareholders' equity is often called **paid-in capital**, or **subscribed capital**), or
- Indirectly, from profits earned by a business so far, but not distributed to its owners as dividends (this form of the shareholders' equity is called **retained earnings**).

Accordingly, the retained earnings include any company's undistributed past after-tax profits. For instance, suppose that in a given period a business generates 1,000 EUR of an after-tax profit. Its shareholders, that meet at Annual Shareholder's Meeting, have to make a decision on what to do with that profit: They may either distribute it among themselves (in a form of a dividend) or to leave it within the company (e.g. for reinvestment in its future operations or for repaying its debts). There exist at least three options that may be considered here:

- Either leaving the entire profit, amounting to 1,000 EUR, within the firm as its retained earnings, or

- Paying out the entire profit, amounting to 1,000 EUR, to the company's shareholders as a dividend (which would reduce the firm's cash balances, as well as its equity, by 1,000 EUR), or
- Leaving part of the profit (for example, 400 EUR) in retained earnings, while paying out the remaining amount (here 600 EUR) to the shareholders' "pockets".

In a latter scenario, the company's cash balances and equity would fall (after a dividend payment), by 600 EUR each, while an undistributed profit, amounting to 400 EUR, would stay included within the entity's shareholders' equity, as part of its retained earnings.

A third type of the shareholders' equity, according to its origin, is a **revaluation surplus**. This is a category of equity that corresponds to changes in carrying amounts of those corporate assets and liabilities, which, according to accounting regulations, are recognized directly in equity (instead of being recorded in an income statement). A good example is an upward revaluation of an item of PP&E under IFRS, when a given company applies a revaluation model of accounting for its PP&E (instead of a historical-cost model). Under the revaluation model, when a fair value of a given noncurrent asset diverges materially from its carrying amount, then the latter is revalued in a balance sheet to the former. Under IFRS, such an upward revaluation, (if it does not constitute a reversal of a prior downward revaluation), is to be recognized directly in equity and reported as other comprehensive income (however, a downward revaluation, if it does not constitute a reversal of a prior upward revaluation, should be passed through an income statement as other operating expense). The upward revaluation of PP&E is illustrated in Example 1.6.

The other examples of changes of carrying amounts of assets and liabilities, which under IFRS (and some other accounting standards) are recognized directly in equity and reported as other comprehensive income (instead of passing through an income statement), were provided in section "Components of Corporate Total Income Excluded from Income Statement" of this chapter. A detailed discussion of these elements of a company's total comprehensive income lies beyond the scope of this book (it is covered by textbooks addressing the application of IFRS). However, for a financial statement analysis, it is important to keep in mind that recognizing these items directly in equity may significantly distort the analysis of a company's profitability. This is so because significant upward or downward changes in a company's net wealth (e.g. from an appreciation or a fall of fair values of its assets), may be "hidden" outside a firm's income statement.

Example 1.6 Upward revaluation of property, plant and equipment (PP&E) under IFRS.

A company applies a revaluation model of accounting for its PP&E. At the end of a year, it ordered an independent appraisal of current fair values of individual items of its PP&E (which have never been revalued before). It has

turned out that the appraised fair values of its PP&E total 14,000 EUR, while their current book values sum up to 10,000 EUR. The company's statutory income tax rate is 25%, while its balance sheet before a revaluation looks as follows:

Assets		Equity and liabilities (E&L)	
PP&E	10,000	Equity	5,000
Current assets	15,000	Liabilities	20,000
Total assets	25,000	Total E&L	25,000

Under the revaluation model of accounting for PP&E the results of such an appraisal require revaluing the total carrying amount of the company's PP&E upward, by 4,000 EUR (from their current book value, amounting to 10,000 EUR). Consequently, its total assets increase by 4,000 EUR (to 29,000 EUR). Such an increase in asset's fair values, if not reflecting appraisal manipulations (overstatements), constitutes an economic gain. However, according to IFRS, this is not reported as a gain in an income statement. Instead, it is recorded directly in equity and liabilities as follows:

- A deferred-tax provision (part of liabilities) is boosted by an amount of a revaluation gain, multiplied by a company's effective income tax rate (here, 4,000 EUR $\times$ 25% = 1,000 EUR).
- A residual amount of the revaluation gain (here, 3,000 EUR) is recorded directly in equity, as a revaluation surplus.

As a result, a carrying amount of our company's equity would increase from 5,000 EUR to 8,000 EUR, without any revaluation gain appearing in its income statement. Its total liabilities and provisions, in turn, would grow to 21,000 EUR. Consequently, the company's post-revaluation balance sheet would look as follows:

Assets		Equity and liabilities (E&L)	
PP&E	14,000	Equity	8,000
Current assets	15,000	Liabilities	21,000
Total assets	29,000	Total E&L	29,000

The company's equity would from now contain a separate line item, reflecting a revaluation surplus, amounting to 3,000 EUR.
Source Author.

A second criterion for categorizing shareholders' equity discriminates between **equity attributable to shareholders of a parent company** and **equity attributable to non-controlling interests** (or **minority interests**). Similarly as in a case of net

earnings reported in an income statement, a necessity for separating these two classes of equity results from procedures of a financial statement consolidation, applied when a parent company is not a sole shareholder of its subsidiary, but controls it by owning, for instance, 60% interest the subsidiary's equity. A hypothetical example of such a relationship was presented on Chart 1.2 earlier in the chapter, where a parent company A held 60% shares in equity of its directly controlled subsidiary B, that in turn controlled a company C, by holding 75% shares in its equity (accordingly, it was concluded that company A indirectly controlled company C).

In such a case, according to the principles of a financial statement consolidation, company A fully consolidates financial results of both companies B and C. It means that in the A's consolidated income statement all individual line items of income statements of its both subsidiaries are added in full amounts to the respective numbers that appear on the parent's separate income statement. The same full consolidation rules apply to a consolidated balance sheet, where all individual assets and liabilities of both subsidiaries are added in full amounts to the respective numbers that appear on their parent's stand-alone balance sheet. However, a control of company A over companies B and C does not grant it an entitlement to be a sole beneficiary from economic benefits, attributable to net assets held by its controlled subsidiaries (e.g. when they are liquidated).

For example, if stand-alone net assets (i.e. a difference between total assets and total liabilities), of companies A, B and C, amount to 10,000 EUR, 4,000 EUR and 1,000 EUR, respectively, then the A's reported consolidated equity amounts to 15,000 EUR (provided that there were no any intra-group transactions between A, B and C, that would have to be adjusted for on consolidation). However, out of 4,000 EUR of company B's net assets, only 2,400 EUR is attributable to the company A, according to A's 60% interest in B's equity. A remaining 1,600 EUR is attributable to B's non-controlling shareholders. Likewise, only 45% of company C's net assets is attributable to company A, since A's indirect interest in the C's equity equals 45% [$= 60\% \times 75\%$]. Consequently, the company C's net assets, attributable to the company A's shareholders, amount to 450 EUR [$= 45\% \times 1{,}000$ EUR]. As a result, the equity section of A's consolidated balance sheet would look as depicted in Table 1.8.

Table 1.8 Consolidated shareholders' equity of company A, that reflects equity interests depicted on Chart 1.2 (earlier in the chapter)

Amounts in EUR	
Total consolidated shareholders' equity	**15,000**
Attributable to:	
Shareholders of the parent company[a]	12,850
Non-controlling interests	2,150

[a]A's separate net assets (10,000 EUR) + B's net assets attributable to A (2,400 EUR) + C's net earnings attributable to A (450 EUR)
Source Author

Table 1.9 Consolidated equity of Volkswagen Group, as at the end of fiscal years 2007 and 2008

In EUR million	Note	2007	2008
Equity	**24**		
Subscribed capital		1,015	1,024
Capital reserves		5,142	5,351
Retained earnings		25,718	28,636
Equity attributable to shareholders of Volkswagen AG		**31,875**	**35,011**
Minority interests		63	2,377
		31,938	**37,388**

Source Annual report of Volkswagen Group for fiscal year 2008

It should be kept in mind that high share of non-controlling interests in total consolidated equity may erode credibility and comparability of corporate consolidated balance sheets (Welc, 2020). This is so because in such circumstances an analyst lacks any information about a real proportional participation of a parent company in individual classes of assets and liabilities, reported in its consolidated balance sheet. It stems from the fact that total consolidated equity constitutes an only single line item of the consolidated balance sheet, for which an amount attributable to non-controlling interests is disclosed.

Table 1.9 contains an extract from consolidated balance sheet of Volkswagen Group, depicting the company's equity, as at the end of fiscal years 2007 and 2008. As may be seen, the VW's equity, attributable to its shareholders, grew in 2008 from 31,875 EUR million to 35,011 EUR million (an increase by 9.8% y/y). The company identified three line items of its equity attributable to its shareholders. Subscribed capital and capital reserves probably made up its entire paid-in capital (but to confirm it a more detailed information, from Note 24, is required). Noticeably, retained earnings constituted a major component of the company's total equity, with their share of 81.8% (in the equity attributable to shareholders of Volkswagen AG). Such a high share of the retained earnings is not uncommon for mature businesses that own portfolios of globally recognized brands and may boast long histories of their profitable core business operations.

In both years, a share of minority (non-controlling) interests in the VW's total consolidated shareholders' equity was rather low. However, both the share and their monetary amount rose noticeably in fiscal year 2008. A cause of such an increase in minority interests cannot be learned from a face of the balance sheet itself. However, it could have been brought about by any of the following factors:

- Either a significant increase in a carrying amount of net assets of those of all VW's subsidiaries, where the company holds less than 100% equity interest, or
- A significant increase of the minority investors' share in the equity of the VW's non-wholly owned subsidiaries (with a corresponding decrease of the VW's share), or

- A significant business combinations (takeovers) closed in fiscal year 2008, whereby Volkswagen Group obtained its control over other entities, by acquiring less-than-full interests in their equities.

Generally speaking, a breakdown of the VW's equity, as at the end of fiscal year 2008, does not suggest any concern. The retained earnings constitute a main component, while the share of minority interests stays rather low. Nevertheless, if an observed noticeable increase in the relative weight of the minority interests is continued in the future, it could significantly erode a reliability of the company's financial statement analysis.

1.5 Content of a Cash Flow Statement

1.5.1 What Is a Cash Flow Statement?

A third primary financial statement is a **cash flow statement**. Its main goal is to provide an information about a total change in a given company's cash and cash equivalents in a given period, as well as about individual major categories of corporate cash flows. A primary reason for not limiting a corporate financial reporting to an income statement and a balance sheet is their **accrual approach**.

The accrual basis of accounting means that transactions and other economic events are recorded in an income statement when they happen, regardless of a timing of related actual cash inflows and outflows. For instance:

- Sales revenues are recognized when product or service is delivered, while a related payment may be collected later on (in a case when a customer is offered a deferred payment term) or, alternatively, in earlier periods (when a customer transfers any advance payments).
- Inventory turns into cost of sales when a product is sold, while related payments for purchasing or manufacturing it may be incurred in earlier periods.
- An entire expenditure on a new item of property, plant and equipment may be incurred when it is purchased, while in an income statement it will be expensed via depreciation charges (that spread across multiple future periods).
- Obsolete inventories are written down (and expensed as part of other operating expenses) when their impairment is stated, while the related actual cash-based losses occur when those impaired goods are sold.

Divergences between timing of revenue and expense recognition in an income statement on the one side, and timing of related cash inflows and outflows on the other side, create a possibility of significant deviations of reported corporate earnings from generated cash flows (Reider & Heyler, 2003). It may happen that a business, that reports a net loss, actually increases its cash balances. In contrast, a firm that boasts allegedly high and fast growing accounting earnings may "burn"

its cash resources. Consequently, in a financial statement analysis, it is always recommendable to supplement an accrual-based information, disclosed in an income statement and a balance sheet, by a **cash-based** information, offered by a cash flow statement.

1.5.2 Three Classes of Corporate Cash Flows and Formats of a Cash Flow Statement

From a point of view of cash flows, an entire business activity of any enterprise may be broken down into three distinct areas (Hackel & Livnat, 1996):

- **Operating activities**—primary (core) business operations, such as manufacturing and selling vehicles in Volkswagen Group's case, retail sales of consumer goods by Tesco or rendering telecommunication services by T-Mobile.
- **Investing activities**—purchasing and selling noncurrent assets (PP&E, intangibles, real-estate investments, long-term investments in bonds or shares) or short-term financial assets, including all related costs and benefits (i.e. interest income received, dividends received or gains and losses on sales of these assets).
- **Financing activities**—activities related to corporate sources of funds (other than operating payables), including issues of equity capital, buy-backs of entity's own shares, payments of dividends, proceeds from borrowings, repayments of loans and interest payments.

The operating, investing and financing cash flows sum up to corporate total cash flows in a given period.

Most accounting standards allow for applying one of the two alternative formats of a cash flow statement. Namely, it may be prepared and presented under either direct or indirect method. However, reporting differences between these two alternative approaches affect only cash flows from operating activity (while investing and financing cash flows are identical under both methods). Under the direct method the gross amounts of individual items of operating cash flows (e.g. inflows of cash from sales revenues or payments to suppliers for purchases of inventories) are presented directly. In contrast, under the indirect method the operating section begins with a given company's profit, as reported in its income statement (i.e. resulting from its accrual-based accounting), which is then reconciled to the company's operating cash flows, by a series of adjustments. Since huge majority of corporations present their cash flows under the indirect format, in this textbook only this reporting approach will be discussed. Any readers interested in the direct method of presenting corporate cash flows may find relevant readings in accounting textbooks.

1.5.3 Operating Cash Flows

Under International Financial Reporting Standards, an operating section of a cash flow statement begins with pre-tax earnings, that are then adjusted to arrive at the **operating cash flows** (also labeled as **cash flows from operating activities**). Under some other accounting standards, the operating section begins with net earnings (instead of pre-tax earnings). However, these minor differences do not significantly affect a general comparability and usefulness of corporate cash flow statements.

Generally speaking, there exist three broad groups of factors that may be responsible for discrepancies between accounting earnings, as reported in an income statement (i.e. resulting from accrual-based accounting) and operating cash flows. They include:

- Non-cash revenues, expenses, gains and losses, taken into account in a computation of corporate earnings (e.g. depreciation and amortization, various provisions, gains or losses from revaluations of carrying amounts of assets, profits or losses from equity-accounted investments in associated entities).
- Cash revenues, expenses, gains and losses, that affect pre-tax earnings but relate to investing or financing activities (e.g. interest paid, interest received, dividends received, realized foreign currency gains and losses).
- Changes in non-cash operating current assets (inventories, operating receivables, prepaid expenses) and operating payables (including deferred revenues).

Usually the most significant (in monetary terms) adjustments of pre-tax earnings to operating cash flows include:

- **Depreciation and amortization**—components of operating expenses that lower reported earnings without any simultaneous cash outflows. An actual cash outflow, related to a fixed asset investment, occurs when it is purchased (not when it is depreciated or amortized). Consequently, depreciation and amortization charges must be added back to accounting earnings, to arrive at operating cash flows.
- **Unrealized gains and losses from foreign currencies**—if a given company holds foreign currencies or if it has receivables or liabilities denominated in foreign currencies, then it revalues their carrying amounts periodically, to account for any changes in exchange rates. Such revaluations result in unrealized gains (e.g. when a carrying amount of a given liability, denominated in a foreign currency, falls as a result of favorable exchange rate movements) or unrealized losses (e.g. when a carrying amount of a foreign currency-denominated receivable account decreases, as a result of an exchange rate depreciation), which are reported in an income statement. However, such non-cash gains and losses must be subtracted and added back, respectively, to accounting earnings, to arrive at cash flows.
- **Realized gains and losses from foreign currencies that are unrelated to an operating activity**—a company may report foreign currency gains or losses,

that have already been cashed (e.g. when a receivable account was collected or a liability settled), but which are not related to its operating activities (instead, they may be attributable to investing or financing activity). For example, a company may issue corporate bonds denominated in foreign currencies. Realized gains or losses, related to interest and principal payments, do affect the company's cash flows. However, such realized gains and losses relate to its financing activities, so they must be subtracted and added back, respectively, to its accounting earnings, to arrive at operating cash flows.

- **Interest earned and interest paid**—similarly as in the case of foreign currency gains and losses, a company may report unrealized or realized interest income or interest expenses. Unrealized interest income and interest expense must be subtracted and added back, respectively, to reported earnings, to arrive at cash flows. Realized interest earned or interest paid, in turn, may be related to investing and financing activities, respectively, so it must be excluded from operating cash flows (and reclassified to either investing or financing cash flows).
- **Share in profits and losses of associated companies (and other equity-accounted investments)**—if a given company applies an equity method of accounting for its investments in associates (and joint ventures), it recognizes non-cash profits and losses, attributable to its equity interests in these entities. However, they may include non-cash items. They are also related to the company's investing activities. Accordingly, they should be excluded from operating cash flows.
- **Gains and losses on disposals of noncurrent assets**—if a given company disposes of its fixed asset (e.g. an office building or production machinery), it recognizes a gain or loss that reflects a difference between its proceeds from a disposal and an asset's carrying amount. Such gains and losses are unrelated to an operating activity, so they should be excluded from operating cash flows (and only actual cash proceeds from an asset's sale should be reported within investing cash flows).
- **Changes in provisions for liabilities**—provisions for expected liabilities constitute a component of corporate expenses, that lower reported earnings without any current cash outflows. Their reversals, in turn, boost reported earnings without any current cash inflows. Consequently, accounting earnings should be adjusted for any changes in such non-cash provisions, to arrive at cash flows.
- **Changes in write-downs of assets**—similarly to provisions, impairment write-downs of assets (e.g. for obsolete inventory, doubtful receivables or impaired fixed assets) constitute a component of corporate expenses, that lower reported earnings without any current cash outflows. In contrast, their reversals increase reported earnings, without any simultaneous cash inflows. Accordingly, accounting earnings should be adjusted for changes in non-cash write-downs of assets, to arrive at cash flows.
- **Changes in inventories, operating receivables and prepaid expenses**—increases in balances of non-cash operating current assets tie up corporate cash (without an immediate impact on reported earnings), while their decreases

release cash. Consequently, changes in these non-cash operating assets must be accounted for, when adjusting accrual-based earnings to operating cash flows.

- **Changes in operating payables and deferred revenues**—in contrast to non-cash operating current assets, increases in operating payables and deferred revenues boost corporate cash balances, while their decreases drain a given firm's cash. Therefore, any changes in amounts of operating payables and deferred revenues must be accounted for, when adjusting accrual-based earnings to operating cash flows.

Table 1.10 contains an extract from consolidated cash flow statement of Volkswagen Group, depicting its operating cash flows generated in fiscal years 2007 and 2008. As may be seen, the VW's total operating cash flows (abbreviated to OCF further in the text) amounted to 10,799 EUR million in 2008, after falling by 31% from a preceding year. In both periods under investigation the company's OCF exceeded its reported consolidated profit before tax by a substantial margin.

The main factors, responsible for a stated excess of OCF over reported profit, included depreciation and amortization charges (totaling 8,406 EUR million in fiscal year 2008), reported under three separate line items:

- Depreciation and amortization expense.
- Amortization of capitalized development costs.
- Depreciation of leasing and rental assets and investment property.

In turn, the main items that eroded the company's OCF included:

Table 1.10 Consolidated operating cash flows (abbreviated to OCF) of Volkswagen Group in fiscal years 2007 and 2008

In EUR million	2007	2008
Profit before tax	6,543	6,608
Income taxes paid	−1,172	−2,075
Depreciation and amortization expense	5,435	5,191
Amortization of capitalized development costs	1,843	1,392
Impairment losses on equity investments	180	32
Depreciation of leasing and rental assets and investment property	1,780	1,823
Gain on disposal of noncurrent assets	32	347
Share of profit or loss of equity-accounted investment	−71	−219
Other non-cash income/expense	−11	765
Change in inventories	−1,856	−3,056
Change in receivables (excluding financial services)	−942	−1,333
Change in liabilities (excluding financial liabilities)	2,244	815
Change in provisions	1,657	509
Cash flows from operating activities	**15,662**	**10,799**

Source Annual report of Volkswagen Group for fiscal year 2008

- Income taxes paid.
- Change in inventories.
- Change in receivables.

A contribution of other individual line items to the Volkswagen Group's total OCF may have been considered weak to moderate.

It is worth noting that the company presents its amortization of capitalized development costs separately from its amortization of other intangible assets. Capitalized development costs correspond to very specific and "soft" intangible assets, while their amortization has a significant weight in the VW's total OCF. Thus, disclosing their amortization in a separate line item seems legitimate. This issue will be discussed with more details in the following chapters.

It is also worth noting that at that time the company excluded financial services receivables from changes in its receivables reported within its operating cash flows. This means that it treated its financial services receivables as a non-operating item (i.e. not resulting from its core business operations), despite their significant share in the company's total assets. This issue (of whether treating financial services receivables as non-operating was legitimate) will be discussed with more details in the following chapters of this book.

1.5.4 Investing Cash Flows

From an economic perspective, **investing cash flows** (also labeled as **cash flows from investing activities**) include three types of business activities:

- Long-term investments in non-financial assets, related to a given company's core business operations, such as property, plant and equipment or intangible assets.
- Long-term equity investments, related to a given company's core business operations, such as controlling interests in other entities (mergers and acquisitions) or non-controlling interests (investments in associated entities).
- Long-term and short-term equity, debt or non-financial investments, unrelated to core business operations, such as expenditures on Treasury bonds, corporate bonds, loans granted to other entities, short-term equity investments or investment properties.

A distinction between the above three categories of activities is important in a diligent scrutiny of a level and breakdown of corporate cash flows. The first two categories of investing cash flows are related to a core business activity and are incurred in order to maintain or extend a given company's future operations, by either its direct investments in tangible and intangible fixed assets (aimed at

enabling future organic growth) or through business combinations or other equity investments into strategically related businesses (e.g. takeovers of competitors or suppliers). Accordingly, these investments are typically aimed at boosting future corporate operating cash flows. In contrast, a third category of investing cash flows is much more discretionary and reflects a given firm's policy toward investing its excess cash balances (into assets unrelated to its core business operations).

Investing cash outflows usually include:

- Expenditures incurred on purchases, construction and assembly of new items of PP&E, intangible assets and investment properties.
- Expenditures incurred on improvements (or repairs) of already existing items of PP&E, intangible assets or investment properties.
- Loans granted to other entities or private persons, if they are unrelated to a given company's operating activities.
- Expenditures incurred on purchases of equity shares in other entities.
- Investments into other securities (e.g. bonds or derivatives).

Investing cash inflows typically include:

- Proceeds from disposals of items of PP&E, intangible assets and investment properties.
- Collected repayments of loans, granted before to other entities or private persons.
- Proceeds from disposals of shares in equity of other entities.
- Proceeds from disposals (or redemptions) of other financial instruments.
- Dividends received from other entities.
- Interest received (e.g. from bank deposits or government bonds).
- Other investment income (e.g. received rental fees, related to investment properties).

However, it must be noted that under IFRS entities have some flexibility in terms of including dividends received and interest received either within operating cash flows or within investing ones. Thus, it is important to be aware that various firms may include the same types of cash inflows (related to dividends and interest income receives) in different sections, with a resulting distorting impact on an intercompany comparability of reported cash flow statements.

Table 1.11 contains an extract from consolidated cash flow statement of Volkswagen Group, depicting its investing cash flows reported for fiscal years 2007 and 2008. As may be seen, the company's total investing cash flows (abbreviated to ICF further in the text) had negative total amounts in both investigated periods. This is quite a typical pattern for most healthy and still growing businesses, that recurringly spend more (on their operating assets) than what they receive from their disinvestments.

A breakdown of Volkswagen Group's investing cash flows informs us that:

Table 1.11 Consolidated investing cash flows (ICF) of Volkswagen Group in fiscal years 2007 and 2008

In EUR million	2007	2008
Acquisition of property, plant and equipment, and intangible assets	−4,638	−6,883
Additions to capitalized development costs	−1,446	−2,216
Acquisition of equity investments	−1,238	−2,597
Disposal of equity investments	14	1
Change in leasing and rental assets and investment property	−2,763	−3,055
Change in financial services receivables	−3,588	−5,053
Proceeds from disposal of noncurrent assets (excluding leasing and rental assets and investment property)	185	93
Change in investments in securities	−1,742	2,041
Change in loans	−596	−1,611
Investing activities	**−15,812**	**−19,280**

Source Annual report of Volkswagen Group for fiscal year 2008

- A majority of individual line items had negative amounts, with change in investments in securities being the only significant item that had a positive contribution (and only in fiscal year 2008).
- The company did not obtain any material cash inflows from disinvestments of its noncurrent assets and equity investments.
- The most significant (in monetary terms) expenditures were incurred on PP&E and intangible assets.
- The company incurred material expenditures on other tangible and intangible fixed assets, such as capitalized development costs, leasing and rental assets and investment properties.
- The second largest (in monetary amounts) item of the company's investing outflows were financial services receivables (which may seem somewhat surprising).
- The company was also engaged in some lending activity (loans) other than corresponding to its financial services business.

Again, it seems worth noting that Volkswagen Group presented its expenditures on capitalized development costs separately from other intangible assets. Additions to capitalized development costs constituted more than 10% of the company's total ICF, aggregated for fiscal years 2007 and 2008. Accordingly, reporting them in a separate line item was legitimate.

It is also worth noting that the company's investments in financial services receivables had a significant contribution (almost 25%) into its total ICF, aggregated for fiscal years 2007 and 2008. However, as was noted before, the company excluded those financial services receivables from its operating receivables and thus treated them *implicite* as unrelated to its core business operations.

1.5.5 Financing Cash Flows

Financing cash flows (also labeled as **cash flows from financing activities**) are associated with corporate sources of capital, other than operating payables. Generally speaking, cash inflows and outflows, that relate to two broad classes of capital, fall into this section of a cash flow statement:

- Cash flows that correspond to changes in shareholders' equity.
- Cash flows that correspond to changes in financial (non-operating) liabilities, also called borrowings or debts.

Accordingly, financing cash inflows typically include:

- Proceeds from an issuance of new equity shares.
- Proceeds from bank loans and other borrowings (financial debts).
- Proceeds from an issuance of corporate bonds.

Financing cash outflows, in turn, usually include:

- Payments to shareholders, related to buy-backs of a given company's own shares.
- Dividend payouts.
- Repayments of bank loans and other borrowings.
- Payments related to redemptions of corporate bonds (issued in prior periods).
- Repayments of lease-related liabilities.
- Interest expense paid as well as other expenditures (e.g. bank commissions), related to corporate financial debts.

Under IFRS, entities have some flexibility in terms of whether they include their interest paid within operating cash flows or, alternatively, within their financing cash flows. Accordingly, similarly as in a case of interest income and dividends received (that may be included within either operating or investing cash flows), it is important to be aware that various firms may include the same type of cash outflows (e.g. interest payments) in different sections of their cash flow statements, with a resulting distorting impact on an intercompany comparability of those statements.

Table 1.12 contains an extract from consolidated cash flow statement of Volkswagen Group, depicting the company's financing cash flows generated in fiscal years 2007 and 2008. As may be seen, the VW's total financing cash flows (abbreviated to FCF further in the text) had positive amounts in both investigated periods, with a huge increase observed in 2008. By far the most significant contribution to the company's financing cash flows came from its financial liabilities, particularly its corporate bonds (with considerable proceeds received from bond issuances, as well as large expenditures incurred on bond repayments) and other financial liabilities. In contrast, cash flows related to the VW's shareholders (i.e. capital

Table 1.12 Consolidated financing cash flows (FCF) of Volkswagen Group in fiscal years 2007 and 2008

In EUR million	2007	2008
Capital contributions	211	218
Dividends paid	−497	−722
Capital transactions with minority interests	–	−362
Other changes	−12	−3
Proceeds from issue of bonds	9,516	7,671
Repayment of bonds	−8,484	−8,470
Change in other financial liabilities	93	9,806
Finance lease payments	−40	−15
Cash flows from financing activities	**787**	**8,123**

Source Annual report of Volkswagen Group for fiscal year 2008

contributions and dividends paid) had a much more moderate impact on the company's total financing cash flows. In fiscal year 2008 the company also reported some payments related to its capital transactions with minority interests (i.e. with non-controlling shareholders of the VW's subsidiaries), probably related to the company's acquisitions of shares in equity of its subsidiaries (from their minority shareholders).

1.5.6 Net Cash Flows

In theory, a period-to-period change in an amount of cash and cash equivalents, as reported in a given company's balance sheet, should be equal to a sum of its operating, investing and financing cash flows. In practice, however, these numbers may diverge from each other (although they should be reconciled in the cash flow statement or in respective notes to financial statements). There may exist several reasons for such discrepancies, of which the most commonly met ones relate to the effects of currency translation as well as to an inclusion of some cash and cash equivalents in assets held for sale.

For example, suppose that a hypothetical company reports its financial results in EUR, but it holds all of its cash balances on bank deposits denominated in USD. Suppose also that a total amount of its cash, held on its bank accounts at the ends of two consecutive reporting periods, stood intact and amounted to 1,000 USD, while in the meantime the EUR/USD exchange rate changed from 1.00 EUR to 1.20 EUR. In such a circumstance, in its balance sheet the company would report a cash balance, amounting to 1,000 EUR [= 1,000 USD × 1.00 EUR] as at the end of the first period and 1,200 EUR [= 1,000 USD × 1.20 EUR] as at the end of the following period. Thus, a period-to-period change in a carrying amount of cash and cash equivalents, inferred from the company's balance sheet, would amount to 200 EUR. However, there were no any real cash inflows of that amount. Instead, an increase in a reported cash balance reflects a pure currency translation effect. Since a primary purpose of a cash flow statement is to present a breakdown

of corporate cash inflows and outflows, it is adjusted for such non-cash currency translation effects.

An another common cause of the observed discrepancies between changes in cash, as seen in a balance sheet and in a cash flow statement, is an inclusion of some cash and cash equivalents within assets held for sale. Suppose that a hypothetical company intends to dispose of its controlling interests in one of its subsidiaries. In such a case it reclassifies all assets of that subsidiary, to a single line item of its consolidated balance sheet, labeled as assets held for sale. Thus, if the subsidiary holds any cash balances, they will be excluded from the parent's consolidated cash and cash equivalents and included within its assets held for sale. However, a resulting decrease in a carrying amount of the parent's reported consolidated cash balances is driven by a reclassification of its subsidiary to assets held for sale (instead of any real cash outflows). Since a primary goal of a cash flow statement is to present a breakdown of corporate cash inflows and outflows, it is adjusted for such non-cash reclassification effects.

Table 1.13 contains an extract from consolidated cash flow statement of Volkswagen Group, summing up the company's total net cash flows in fiscal years 2007 and 2008. As may be seen, a net change in cash and cash equivalents had a positive amount in 2007 and negative amount in 2008. In both periods the company spent significant amounts on its investing activities. Also, in both years its cash generated by operating activities was insufficient to cover all of its investing expenditures (particularly in fiscal year 2008). However, positive cash flows from financing activities (primarily resulting from an increasing indebtedness) enabled investing more than the amounts generated on operations, without any significant drainage of the company's total cash balances.

It is also worth noting that a net change in cash and cash equivalents in fiscal year 2008, as reported in the Volkswagen Group's cash flow statement (i.e. −471 EUR million), differed from a change in cash and cash equivalents, as inferred from the company's consolidated balance sheet (presented in Table 1.6 earlier in the chapter). Cash and cash equivalents, reported on the VW's balance sheet, amounted to 10,112 EUR million and 9,474 EUR million, as at the end of 2007 and 2008, respectively. Accordingly, the balance sheet-based period-to-period change

Table 1.13 Consolidated net cash flows of Volkswagen Group in fiscal years 2007 and 2008

In EUR million	2007	2008
Cash and cash equivalents at beginning of period	**9,367**	**9,914**
Cash flows from operating activities	15,662	10,799
Investing activities	−15,812	−19,280
Cash flows from financing activities	787	8,123
Effect of exchange rate changes on cash and cash equivalents	−90	−113
Net change in cash and cash equivalents	**547**	**−471**
Cash and cash equivalents at end of period	**9,914**	**9,443**

Source Annual report of Volkswagen Group for fiscal year 2008

in cash and cash equivalents amounted to −638 EUR million. A resulting discrepancy, amounting to 167 EUR million, did not stem from any exchange rate effects, since they were already taken into account in a bottom part of the company's cash flow statement. Perhaps an explanation of its origin may be found in Note 23 to the Volkswagen Group's financial statements, which offers some additional insights into a composition of the company's assets classified as held for sale.

1.6 EXERCISE—Preliminary Review of Income Statement, Balance Sheet and Cash Flow Statement of Lumentum Holdings

1.6.1 Tasks and Questions

Based on the consolidated financial statements, included in the annual report of Lumentum Holdings Inc. for fiscal year ended June 30, 2018, conduct a preliminary review of the company's income statement, balance sheet, and cash flow statement:

1. **Preliminary review of the company's income statement for fiscal years 2016, 2017, 2018:**
   (i) Did the company's **sales revenues** grow or contract in the analyzed three years? What was the percentage change of its revenues between fiscal years 2016 and 2018?
   (ii) Was the company's **gross profit on sales** changing in tune with changes of revenues (i.e. growing when revenues grew/falling when revenues fell)? What was the percentage change of the company's gross profit on sales between fiscal years 2016 and 2018 (if it grew, then was its growth faster or slower than the revenue growth)?
   (iii) Was the company's **profit on sales** [$=$ *Gross profit* $-$ *R&D expenses* $-$ *Selling, general and administrative expenses*] changing in tune with changes of revenues (i.e. growing when revenues grew/falling when revenues fell)? What was the percentage change of the company's profit on sales between fiscal years 2016 and 2018 (if it grew, then was its growth faster or slower than the revenue growth)?
   (iv) Did the company's **operating profit** differ significantly from its **profit on sales**? If yes, then in which periods the difference was particularly significant? In which of the three years (if any) was the operating profit higher than profit on sales?
   (v) Was the company's **operating profit** changing in tune with changes of revenues (i.e. growing when revenues grew/falling when revenues fell)? What was the percentage change of the company's gross profit on sales between fiscal years 2016 and 2018 (if it grew, then was its growth faster or slower than the revenue growth)?

(vi) Did the company's **pre-tax profit** (income before income taxes) differ significantly from its **operating profit**? If yes, then in which periods the difference was particularly significant? In which of the three years (if any) was the pre-tax profit higher than operating profit?

(vii) Were the company **net (after-tax) earnings** negative in any of the three investigated years? If yes, then what was the main factor responsible for the incurred loss?

2. **Preliminary review of the company's balance sheet for fiscal years 2017 and 2018:**

(i) Did the company's **total assets** grow or fall between the analyzed two years? What was the percentage change of its total assets between the end of fiscal years 2017 and 2018?

(ii) Does the company own more **current assets** or **noncurrent assets**?

(iii) What was the company's most valuable (in terms of its book value reported on the balance sheet) individual asset class at the end of fiscal year 2017 and at the end of fiscal year 2018?

(iv) Does the company hold significant (i.e. more than 10% of total assets) non-cash operating current assets, i.e. **inventories** and **receivable accounts**?

(v) What was the company's most valuable (in terms of its book value reported on the balance sheet) individual class of **noncurrent (fixed) assets**, as at the end of fiscal year 2017 and at the end of fiscal year 2018?

(vi) Did the company's **total equity** grow or fall between the analyzed two years? What was the percentage change of its total equity between the end of fiscal years 2017 and 2018? Did the **equity** grow faster or slower than **total assets**?

(vii) Were the company's **retained earnings** positive or negative at the end of both investigated years? Did the book value of retained earnings grow or fall between the ends of both analyzed years? What was the share of retained earnings in total equity at the end of fiscal year 2018 (did it exceed 20%)?

(viii) Did the company's **total liabilities** grow or fall between the analyzed two years? What was the percentage change of its total liabilities between the end of fiscal years 2017 and 2018? Did the **liabilities** grow faster or slower than **total assets**?

(ix) Did the company have any financial debts (borrowings), i.e. non-operating liabilities, at the end of both investigated fiscal years?

(x) What was the company's most valuable (in terms of its book value reported on the balance sheet) individual class of **current (short-term) liabilities**, as at the end of fiscal year 2017 and at the end of fiscal year 2018?

(xi) What was the company's most valuable (in terms of its book value reported on the balance sheet) individual class of **noncurrent (long-term) liabilities**, as at the end of fiscal year 2017 and at the end of fiscal year 2018?

3. **Review of the company's operating cash flows (OCF) in fiscal years 2016, 2017, 2018:**
   (i) Did the company reported negative **operating cash flows** (always a "red flag", if negative) in any of the three investigated fiscal years?
   (ii) Did the company's **operating cash flows** grow or fall in the analyzed three years? What was the percentage change of its OCF between fiscal years 2016 and 2018?
   (iii) What was a total monetary contribution (summed for the three analyzed years) of **depreciation and amortization** into the Lumentum's total operating cash flows (also summed for all three years)? Was this contribution significant?
   (iv) What was a total monetary contribution (summed for the three analyzed years) of **changes in receivables** into the Lumentum's total operating cash flows (also summed for all three years)? Was this contribution significant?
   (v) What was a total monetary contribution (summed for the three analyzed years) of **changes in inventories** into the Lumentum's total operating cash flows (also summed for all three years)? Was this contribution significant?
   (vi) What was a total monetary contribution (summed for the three analyzed years) of **changes in payables** into the Lumentum's total operating cash flows (also summed for all three years)? Was this contribution significant?
   (vii) What was a contribution of **net change in working capital** [= *Change in Receivables* + *Change in Inventories* + *Change in Payables*] into the Lumentum's total operating cash flows in its last fiscal year (2018)? Was this contribution significant?
4. **Review of the company's investing cash flows (ICF) in fiscal years 2016, 2017, 2018:**
   (i) Were the company's **investing cash flows** positive or negative in the three investigated fiscal years?
   (ii) Could the company's cumulative **capital expenditures (CAPEX)** on operating fixed assets be fully funded from its operating cash inflows (i.e. were the summed operating cash inflows in all three years higher than the summed expenditures on operating fixed assets in the same three years)?
   (iii) Did the company incur any significant investing expenditures on **financial (non-operating) assets** in the investigated fiscal years? Did the company report any significant proceeds from disposals of such non-operating assets in the same three periods?
5. **Review of the company's financing cash flows (FCF) in fiscal years 2016, 2017, 2018:**
   (i) Were the company's **financing cash flows** positive or negative in the three investigated fiscal years?

(ii) If the company's cumulative (i.e. summed for all three years) financing cash flows were positive, than what was a single most significant contributor to those positive FCF?
(iii) Did the company obtain any significant proceeds from issuance of new equity shares in the investigated three fiscal years?
(iv) Did the company make any significant dividend payouts in the investigated three fiscal years?

6. **Review of the structure of the company's total cash flows in fiscal years 2016, 2017, 2018:**
   (i) Were the company's **total cash flows** (i.e. sums of operating, investing and financing cash flows) positive or negative in the three investigated fiscal years?
   (ii) If the company's total cash flows were positive in the investigated three years, then by how much (in monetary terms) they boosted the Lumentum's cash balances between the beginning of its fiscal year 2016 and the end of its fiscal year 2018?
   (iii) Which of the **eight combinations of cash flows** (i.e. Scenarios 1–8 discussed in the chapter) was representative for the Lumentum Holdings in its three investigated fiscal years? Was it consistent with the company's business profile, revenue growth and total asset growth?

1.6.2 Answers

1. **Preliminary review of the company's income statement for fiscal years 2016, 2017, 2018:**
   (i) The Lumentum's sales revenues grew systematically in the analyzed three years. They rose by 38.2% (i.e. from 903.0 USD million to 1,247.7 USD million) between fiscal years 2016 and 2018.
   (ii) Yes, gross profit on sales rose in tune with growing revenues. Between fiscal years 2016 and 2018 it increased by 55.8% (i.e. from 277.3 USD million to 432.1 USD million), so its growth was faster than the revenue growth.
   (iii) The company's profit on sales [= *Gross profit − R&D expenses − Selling, general and administrative expenses*] in fiscal year 2016 amounted to 18.9 USD million [= 277.3 – 141.1 – 117.3] and in fiscal year 2018 it amounted to 147.1 USD million [= 432.1 – 156.8 – 128.2]. Accordingly, it rose almost sevenfold, in tune with rising sales revenues (but much faster than revenues).
   (iv) Operating profit in fiscal years 2016, 2017 and 2018 amounted to 11.5 USD million, 47.6 USD million and 139.9 USD million, respectively. In the same three years, the Lumentum's profit on sales amounted to 18.9 USD million, 59.6 USD million and 147.1 USD million, respectively. Accordingly, in all three investigated periods the profit on sales exceeded

operating profit. But the discrepancies between these two profit levels were not very significant.

(v) Yes, operating profit rose in tune with growing revenues. Between fiscal years 2016 and 2018 it increased from 11.5 USD million to 139.9 USD million. Accordingly, it rose more than tenfold, in tune with rising sales revenues (but much faster than revenues).

(vi) Yes, it did differ significantly in fiscal year 2017, when the company reported pre-tax loss amounting to 59.8 USD million, despite generating operating profit of 47.6 USD million (but in the adjacent two years the differences between these profit numbers were not very significant). However, in none of the analyzed three years the pre-tax earnings exceeded the operating profit.

(vii) Yes, the company incurred a net (after-tax) loss in its fiscal year 2017. The main factor responsible for it was the huge "*Unrealized loss on derivative liabilities*" which depressed earnings in that period by as much as 104.2 USD million (while in the remaining two years it contributed insignificantly to the reported earnings).

2. **Preliminary review of the company's balance sheet for fiscal years 2017 and 2018:**

(i) The company's total assets grew between the analyzed two years, by 28.3% (i.e. from 1,232.9 USD million to 1,581.5 USD million).

(ii) The company holds more current assets (as compared to noncurrent ones), since they constitute 71.3% of total assets (= 1,127.2 USD million/1,581.5 USD million), as at the end of fiscal year 2018.

(iii) The Lumentum's most valuable (in terms of book value) individual asset class, as at the end of fiscal year 2017 was "*Short-term investments*". One year later the most valuable class was "*Cash and cash equivalents*".

(iv) Yes, at the end of fiscal year 2019 receivable accounts constituted more than 10% of total assets, since their share equaled 12.5% (= 197.1/1,581.5). Also inventories constituted almost 10% of total assets at the end of fiscal year 2018 (= 153.6/1,581.5), while one year before their share in total assets stood at 11.8% (= 145.2/1,232.9).

(v) The Lumentum's most valuable (in terms of book value) individual class of noncurrent (fixed) assets, as at the end of both fiscal years 2017 and 2018, was "*Property, plant and equipment*".

(vi) The company's total equity grew between the analyzed two fiscal years, by as much as 49.7% (i.e. from 618.8 USD million to 926.1 USD million). Accordingly, the equity rose faster than total assets.

(vii) While the Lumentum's retained earnings had a positive book value at the end of fiscal year 2018, their value one year before was negative. Positively, the value of retained earnings rose significantly between the ends of both analyzed years. As a result, the share of retained earnings in total equity, as at the end of fiscal year 2018, stood at 18% (= 166.4/926.1), i.e. still less than 20%.

(viii) The company's total liabilities grew between the analyzed two fiscal years, but by only 7.1% (i.e. from 578.3 USD million to 619.6 USD million). Accordingly, the total liabilities rose slower than total assets.

(ix) Yes, the company had financial debts (borrowings) in the form of "*Convertible notes*", amounting to 317.5 USD million and 334.2 USD million as at the end of fiscal years 2017 and 2018, respectively.

(x) The Lumentum's most valuable (in terms of book value) individual class of current (short-term) liabilities, as at the end of both fiscal years 2017 and 2018, was "*Accounts payable*".

(xi) The Lumentum's most valuable (in terms of book value) individual class of noncurrent (long-term) liabilities, as at the end of both fiscal years 2017 and 2018, was "*Convertible notes*".

3. **Review of the company's operating cash flows (OCF) in fiscal years 2016, 2017, 2018:**

(i) No, the company had positive operating cash flows in each of the three investigated fiscal years.

(ii) Yes, the company's **operating cash flows** grew in the analyzed three years? By almost 186% (i.e. from +86.6 up to +247.5 USD million) between fiscal years 2016 and 2018.

(iii) The total monetary amount (summed for all three analyzed years) of **depreciation and amortization** is the sum of three-year depreciation expense of 175.6 USD million [= 47.4 + 54.2 + 74.0] and three-year amortization of intangibles of 17.2 USD million [= 7.2 + 6.8 + 3.2], resulting in 192.8 USD million [= 175.6 + 17.2] in total. Since the total OCF across the same three periods amounted to 419.1 USD million [= 86.6 + 85.0 + 247.5], the depreciation and amortization made up as much as 46% [= 192.8/419.1] of total OCF. So, clearly, the contribution of depreciation and amortization into operating cash flows was significant.

(iv) The total monetary contribution of changes in receivables was negative and amounted to −48.4 USD million [= −21.8 + 4.2 – 30.8]. It was a significant "consumer" of the Lumentum's cash, since the cumulative increase of receivables (by 48.4 USD million) exceeded 10% of the company's total OCF in those three years (i.e. 419.1 USD million).

(v) The total monetary contribution of changes in inventories was negative and amounted to −52.5 USD million [= −3.1 – 41.7 – 7.7]. It was a significant "consumer" of the Lumentum's cash, since the cumulative increase of inventories (by 52.5 USD million) exceeded 10% of the company's total OCF in those three years (i.e. 419.1 USD million).

(vi) The total monetary contribution of changes in payables was positive and amounted to +16.8 USD million [= 28.9 – 16.9 + 4.8]. So it positively contributed to operating cash flows, but this contribution was not very significant, since the cumulative increase of payables (by 16.8 USD million) made up less than 5% of the company's total OCF in those three years (i.e. 419.1 USD million).

(vii) The Lumentum's **net change in working capital** [= *Change in Receivables* + *Change in Inventories* + *Change in Payables*] was negative in its last fiscal year and amounted to −33.7 USD million [= −30.8 – 7.7 + 4.8]. It was a significant "consumer" of the Lumentum's cash, since the net increase in working capital (by 33.7 USD million) exceeded 10% of the company's total OCF in its last fiscal year (i.e. 247.5 USD million).

4. **Review of the company's investing cash flows (ICF) in fiscal years 2016, 2017, 2018:**
   (i) The company's total **investing cash flows** were negative in all three investigated fiscal years.
   (ii) The Lumentum's cumulative **capital expenditures (CAPEX)** on operating fixed assets, summed for all three years, amounted to −313.3 USD million [= −82.0 – 138.1 – 93.2], as compared to its cumulative (summed for all three years) positive operating cash flows of to 419.1 USD million [= 86.6 + 85.0 + 247.5]. So, yes, the company's cumulative CAPEX could be fully funded from its operating cash inflows.
   (iii) Yes, in its last two fiscal years the company spent significant amounts on "*Purchases of short-term investments*" (more than 0.9 USD billion, cumulatively) and it also obtained significant "*Proceeds from maturities and sales of short-term investments*" (0.6 USD billion in the most recent fiscal year).
5. **Review of the company's financing cash flows (FCF) in fiscal years 2016, 2017, 2018:**
   (i) The company's total **financing cash flows** were positive in all three investigated fiscal years.
   (ii) The single most significant contributor to the Lumentum's positive FCF was proceeds from the issuance of convertible notes, which amounted to as much as 442.3 USD million in fiscal year 2017.
   (iii) No, the company did not report any significant proceeds from issuance of new equity shares in the investigated three fiscal years.
   (iv) The company made some dividend payouts in all three investigated three fiscal years, but their amounts were rather insignificant, since they totaled only 2.1 USD million [= −0.5 – 0.9 – 0.7].
6. **Review of the structure of the company's total cash flows in fiscal years 2016, 2017, 2018:**
   (i) The company's **total cash flows** (i.e. sums of operating, investing and financing cash flows) were positive in all three investigated fiscal years.
   (ii) The company's total cash flows (i.e. sum of operating, investing and financing cash flows) boosted the Lumentum's cash balances, between the beginning of its fiscal year 2016 and the end of its fiscal year 2018, by as much as 382.8 USD million [= 142.6 + 115.8 + 124.4], as may be seen in the line item "*Increase in cash and cash equivalents*".
   (iii) In all three investigated fiscal years, the Lumentum Holdings had a combination of positive operating cash flows, negative investing cash flows and positive financing cash flows. Accordingly, the structure of the company's cash flows was representative for Scenario 3, which is "*a common combination among profitable, fast growing and capital-intensive businesses*".

This cash flow structure seems consistent with the company's business profile (manufacturer of smartphone components, belonging to growing and fast-changing high-tech industry), as well as with its growing revenues (which rose by 38.2% between fiscal years 2016 and 2018) and growing total assets (which rose by 28.3% in the last two fiscal years).

References

Alfredson, K., Leo, K., Picker, R., Loftus, J., Clark, K., & Wise, V. (2009). *Applying International Financial Reporting Standards.* Wiley.

Barwise, P., Higson, C., Likierman, A., & Marsh, P. (1989). *Accounting for Brands.* London Business School and the Institute of Chartered Accountants in England and Wales.

Burgstahler, D., Jiambalvo, J., & Shevlin, T. (2002). Do Stock Prices Fully Reflect the Implications of Special Items for Future Earnings? *Journal of Accounting Research, 40*, 585–612.

Chan, L. K. C., Lakonishok, J., & Sougiannis, T. (2001). The Stock Market Valuation of Research and Development Expenditures. *Journal of Finance, 56*, 2431–2456.

Cready, W. M., Lopez, T. J., & Sisneros, C. A. (2012). Negative Special Items and Future Earnings: Expense Transfer or Real Improvements? *The Accounting Review, 87*, 1165–1195.

Dodge, R. (1996). *Group Financial Statements*. Chapman & Hall.

Fan, Y., Barua, A., Cready, W. M., & Thomas, W. B. (2010). Managing Earnings Using Classification Shifting: Evidence from Quarterly Special Items. *The Accounting Review, 85*, 1303–1323.

Flower, J., & Ebbers, G. (2002). *Global Financial Reporting*. Palgrave Macmillan.

Giroux, G. (2006). *Earnings Magic and the Unbalance Sheet. The Search for Financial Reality.* Wiley.

Hackel, K. S., & Livnat, J. (1996). *Cash Flow and Security Analysis*. Irwin.

Healy, P. M., Myers, S. C., & Howe, C. D. (2002). R&D Accounting and the Tradeoff Between Relevance and Objectivity. *Journal of Accounting Research, 40*, 677–710.

Kothari, S. P., Laguerre, T. E., & Leone, A. J. (2002). Capitalization versus Expensing: Evidence on the Uncertainty of Future Earnings from Capital Expenditures versus R&D Outlays. *Review of Accounting Studies, 7*, 355–382.

Lev, B., & Zarowin, P. (1999). The Boundaries of Financial Reporting and How to Extend Them. *Journal of Accounting Research, 37*, 353–385.

Nissim, D., & Penman, S. H. (2003). Financial Statement Analysis of Leverage and How It Informs About Profitability and Price-to-Book Ratios. *Review of Accounting Studies, 8*, 531–560.

Penman, S. H. (2009). Accounting for Intangible Assets: There Is Also an Income Statement. *A Journal of Accounting, Finance and Business Studies, 45*, 358–371.

Reider, R., & Heyler, P. B. (2003). *Managing Cash Flow: An Operational Focus.* Wiley.

Schauten, M. B. J., Stegink, R., & De Graaff, G. (2010). The Discount Rate for Discounted Cash Flow Valuations of Intangible Assets. *Managerial Finance, 36*, 799–811.

Smith, T. (1992). *Accounting for Growth: Stripping the Camouflage from Company Accounts.* Century Business.

Stutely, R. (2007). *The Definitive Business Plan: The Fast-Track to Intelligent Business Planning for Executives and Entrepreneurs.* FT. Prentice-Hall.

Tennent, J. (2018). *Guide to Financial Management*. Profile Books.

Wallman, S. M. H. (1995). The Future of Accounting and Disclosure in an Evolving World: The Need for Dramatic Change. *Accounting Horizons, 9*, 81–91.

Welc, J. (2020). *Reading Between the Lines of Corporate Financial Reports: In Search of Financial Misstatements*. Palgrave Macmillan.