Read
&
Understand

# Basics of Accounting

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# Abbreviations

| | |
|---|---|
| AG | Aktiengesellschaft |
| AGB | General Terms and Conditions of Order (in Germany) |
| AktG | Stock Corporation Act |
| BGB | German Civil Code |
| CSS | (Operating) Cost Statement Sheet |
| EStG | German Income Tax Act |
| etc. | et cetera |
| ff. | continuing |
| FIFO | First in, First out |
| GmbH | Limited Liability Company |
| GmbHG | GmbH-Law |
| HGB | German Commercial Code |
| i.e. | In example |
| IFRS | International Financial Reporting Standards |
| KG | Kommanditgesellschaft |
| LIFO | Last in, First out |
| No. | Number |
| MU | Monetary unit |
| OHG | Offene Handelsgesellschaft (=Open Trading Company) |
| Par. | Paragraph |
| PoA | Principles of Accounting |
| P&L | Profit and loss |
| PubIG | Publicity Act Germany |
| p. | Page |
| Sec. | Section |
| US GAAP | United States Generally Accepted Accounting Principles |
| VAT | Value Added Tax |

## I. Levels of business activity

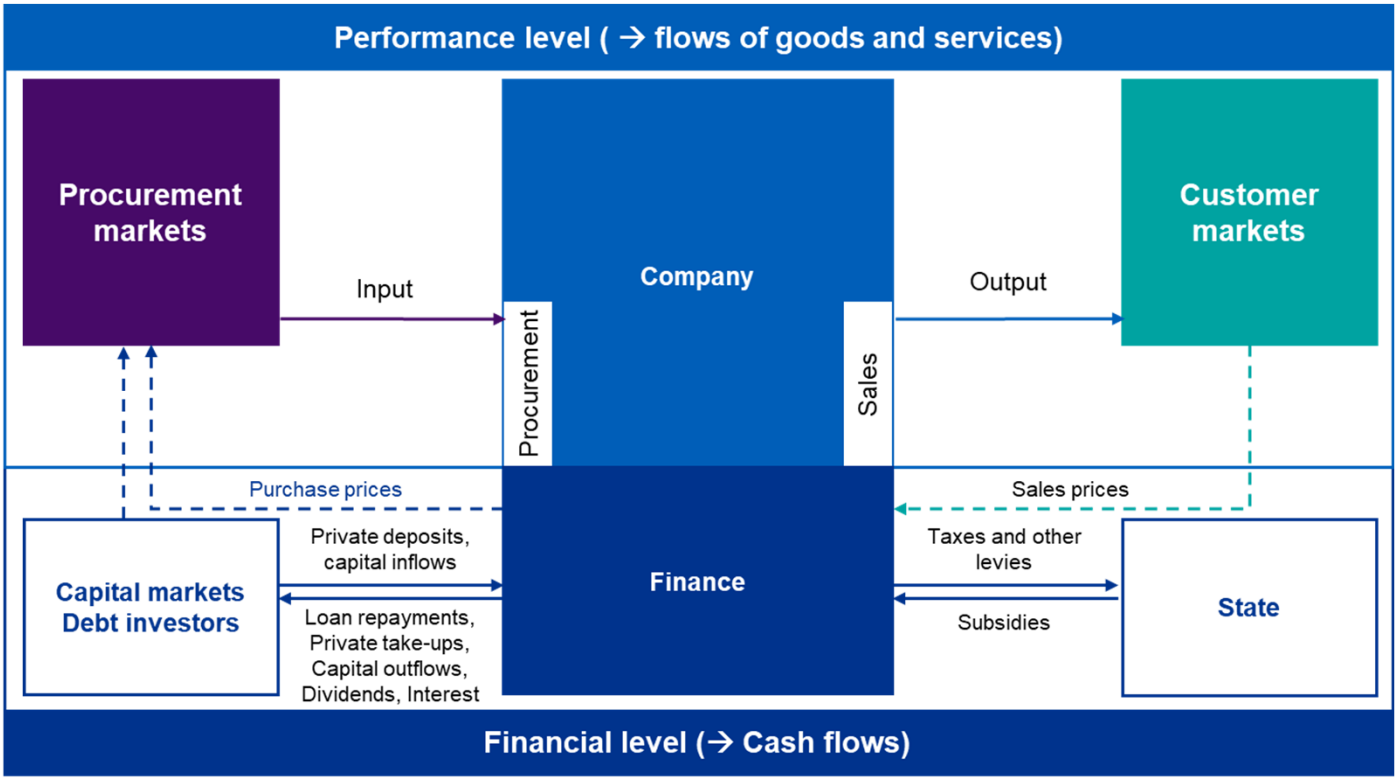
A company's relationship with its environment can be presented as an **input-output system** in which the company procures the necessary input factors such as machinery, materials, personnel or information, transforms them into marketable products or services within the corporate sphere (production/performance creation process) and then sells them on the market (output).

In this model view, different **transaction levels** can be distinguished:

At the **performance level**, the process of converting input factors into the corresponding output (production/performance creation process) and the associated added value are considered.

In the opposite direction to the flows of goods and services, there are the corresponding **cash flows**; the procurement of factors of production triggers **cash outflows**; the sale of produced or delivered goods/services leads to **cash inflows**.

Cash flows are linked to the **performance level** and the **financial level** of the company: the task of the financial sector is to provide the financial resources necessary to procure the factors of production. In particular, the time lag between the use of funds and the resulting return of funds resulting from the performance utilization must be compensated and thus a trouble-free production/performance creation process must be ensured. There are close interdependencies between the level of performance and the financial level; both levels influence each other and can limit each other.

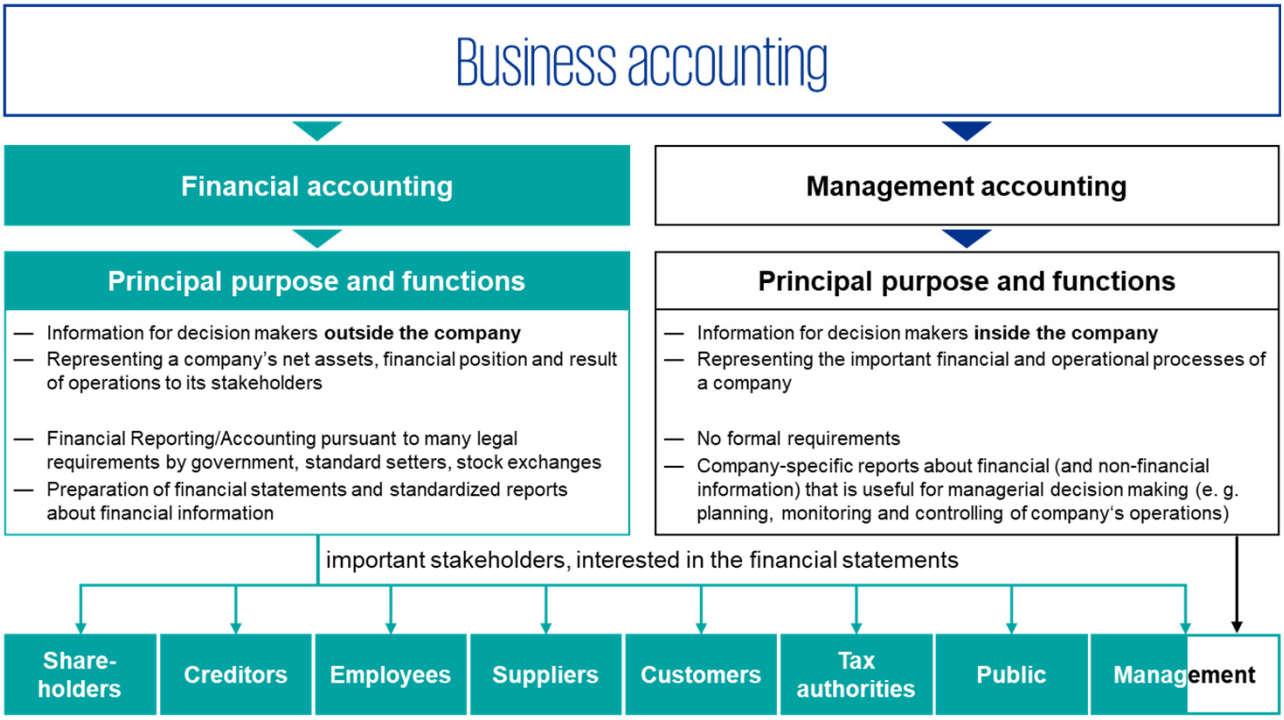


## 1. Purpose of information

### a) Addressees of information

It is clear from the diverse relationships in which a company has a relationship with its environment that different groups of people (**stakeholders**) are interested in its economic development. In order to satisfy their need for information, it is necessary to record and account for the flows of goods, services and capital in terms of quantity and value in a period. In the sense of appropriate information, it makes sense to choose between internal and external addressees.

**Internal stakeholders** include management and personnel. Creditors, suppliers and customers, shareholders and the tax authority may be mentioned as **external interested parties**.



### b) Purpose and function of accounting

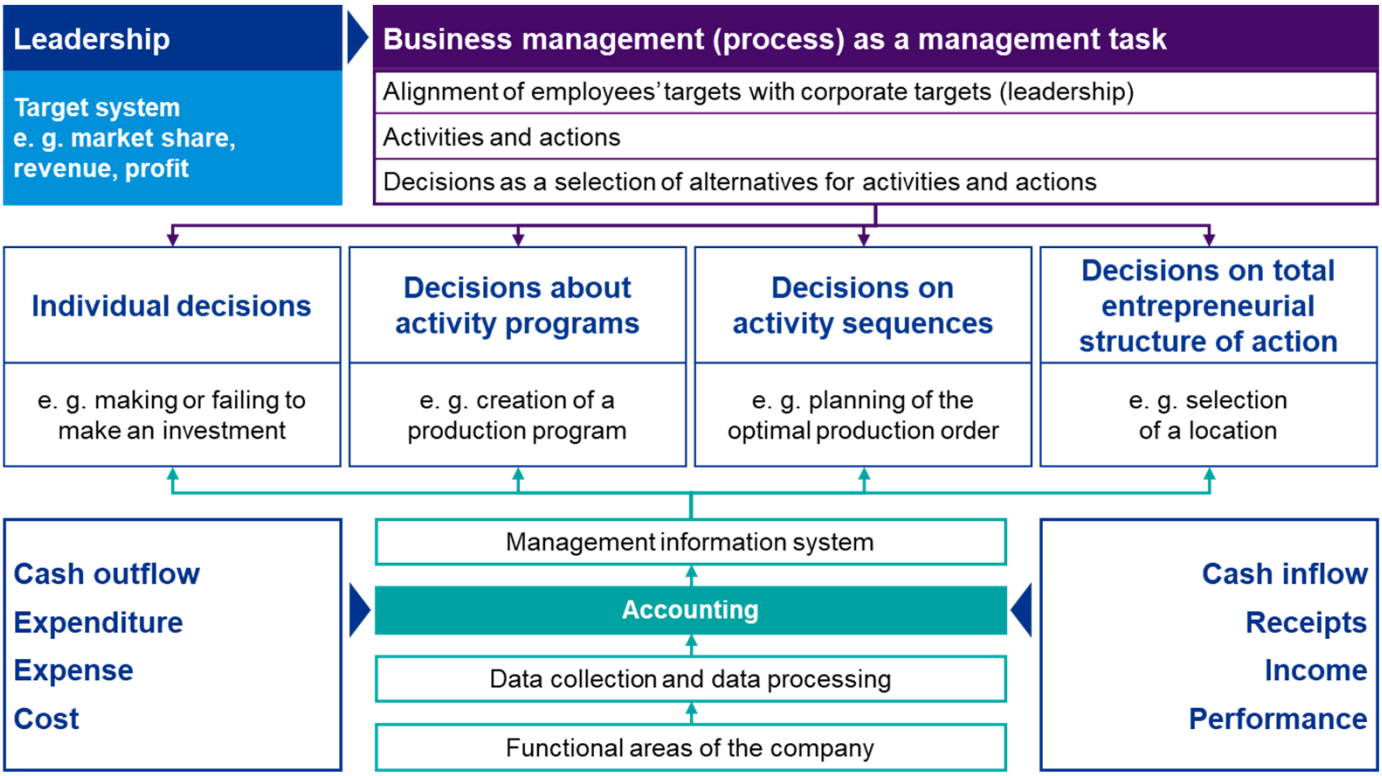
In addition to the various recipients of information, the design of the **information system** must also consider different objectives to be pursued with the information obtained:

The accounting objective of **documentation** includes the timely and objective recording of all business transactions on the basis of supporting documents (=vouchers, receipt, invoices, contracts, …). The records are also the basis for further evaluations.

The accounting objective of **accountability** is the focus of external accounting; it results from statutory or also contractual provisions. External interested parties such as shareholders, creditors and the tax authority must be informed of the company's net assets, financial position and results of operations **(=assets, financial and earnings position)** at least once a year in the form of the financial statements.

First and foremost, the data provided by the information system is required by management to **plan and manage** the company. With the help of the available information, internal and external developments are forecasted in the planning process and business decisions are made on this basis. In this context, the objective of control is the short-term adaptation or implementation of the plan, in particular the aspect of the coordination of activities through coordinated targets and the aspect of employee motivation.

Finally, the information system also serves the objective of control. It must always enable management to monitor the key targets, profitability, solvency and willingness to pay (liquidity) for the transaction levels of the entity presented above. External recipients, on the other hand, are particularly interested in controlling profitability and liquidity.



## 2. Calculation variables and information generation

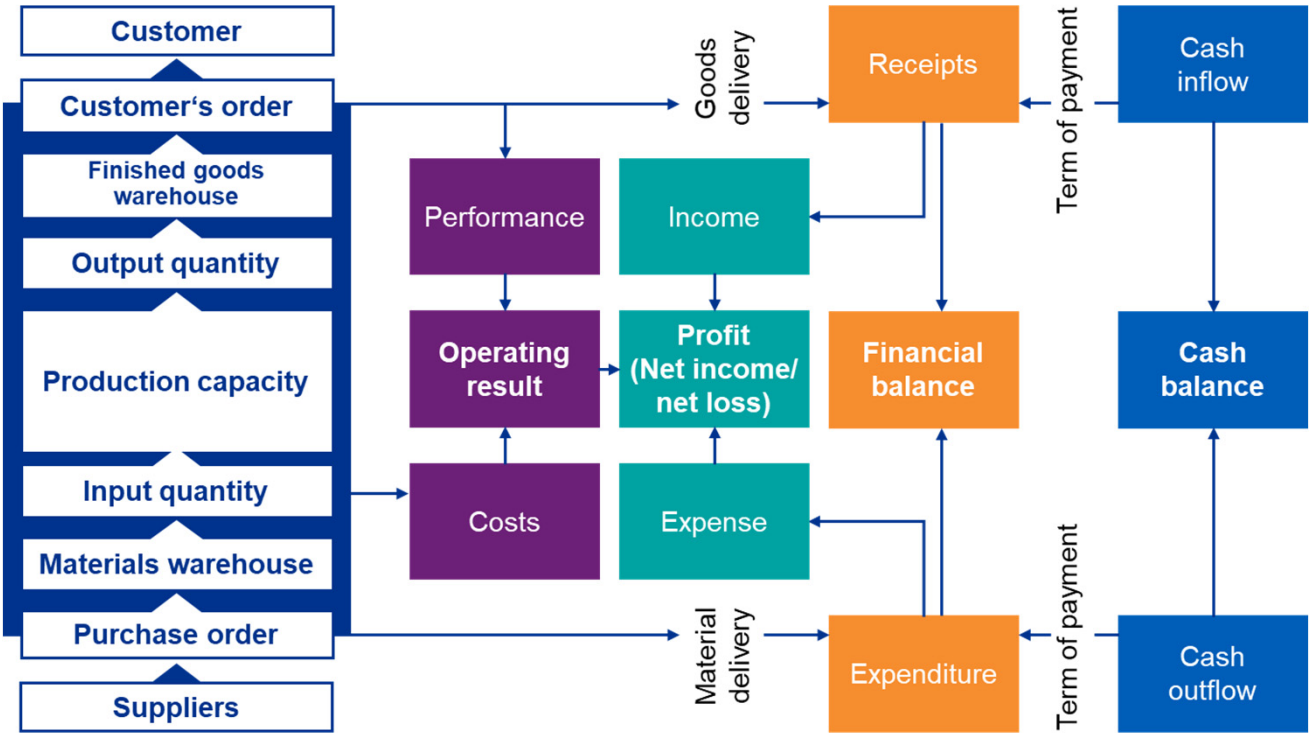
The task of the information system is to map the business processes as realistically as possible and thus to provide information that can serve as a **decision-making** aid for a needer. The respective requirements for the decision-making relevance of the relevant information depend on the transaction level to be mapped, the information recipient concerned, and the accounting objective pursued. These determinations indicate which calculation variables and which accounting system are most appropriate for the respective decision-making situation.

### a) Calculation variables

Depending on the transaction level shown, the following calculation variables are distinguished:

The term pair of **cash inflows** (=deposits, proceeds) and **cash outflows** (=disbursements, payouts, cash payments, withdrawals) refers to the payment level of the company and covers the movement of liquid funds. A payment transaction therefore always touches a cash account, the **cash balance** (=payment balance) changes.

**Receipts** (=incomings, income, earnings, proceeds, takings, incomings, revenue) and **expenditures** (=outgoings), on the other hand, include not only cash and cash equivalents, which include not only liquid assets but also short-term receivables less short-term liabilities. An expenditure and a cash outflow can therefore be identical, as in the case of a cash payment, but an expenditure is also available if no payment is made, but a liability arises (analogously applies to receipts from the creation of a trade receivables). The corresponding business target for cash inflows/cash outflows or receipts/expenditures is **liquidity** and therefore representing the **financial balance**.

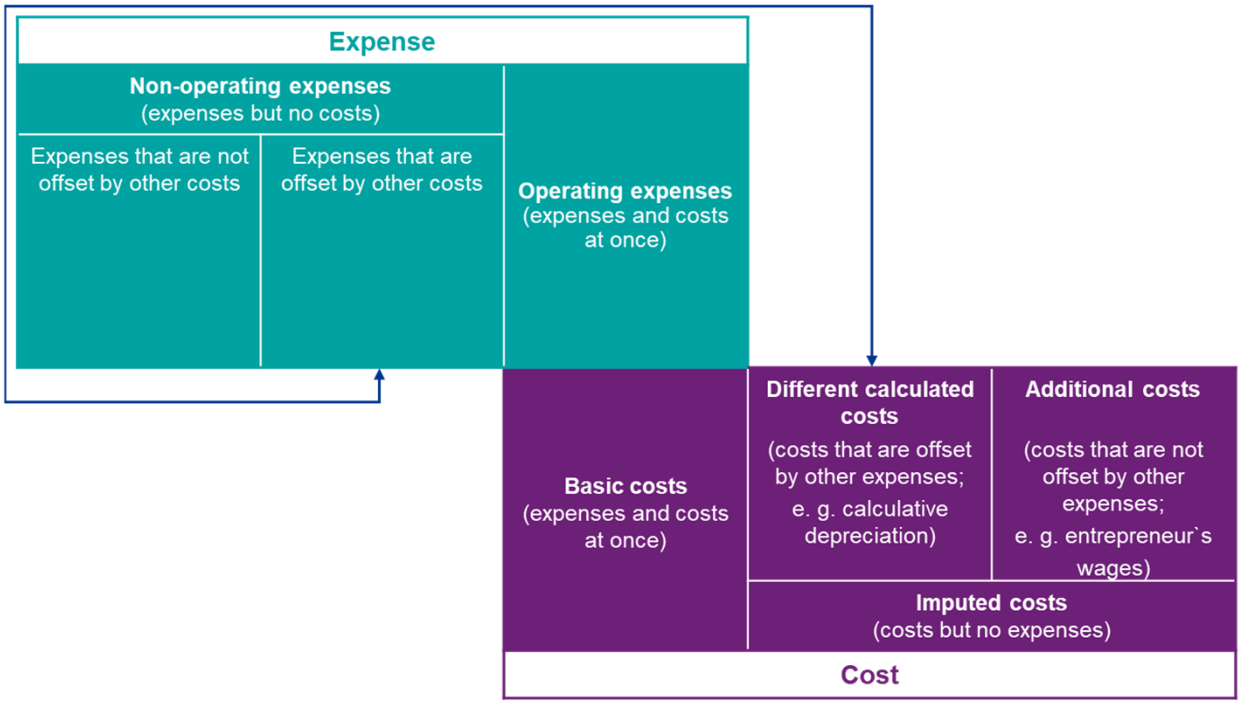


## II. Accounting as an information system

If a company now wants to determine its success for a period, such as a financial year, it may only compare the expenditures relating to that financial year with the corresponding receipts. For example, in December of the financial year t1 prepaid rents for January t2 do burden the following financial year t2, whereas December t1 rents, which are to be transferred only in January t2, are already included in the result of the financial year t1. In this sense, accrued (related to an accounting period) expenditures/receipts are called **income/expenses**, their balance gives the **net asset change** as the **net profit or loss** of the financial year. The corresponding business target is **profitability**, in which the profit of the period resulting from the difference between expenses and income is compared to the capital invested.

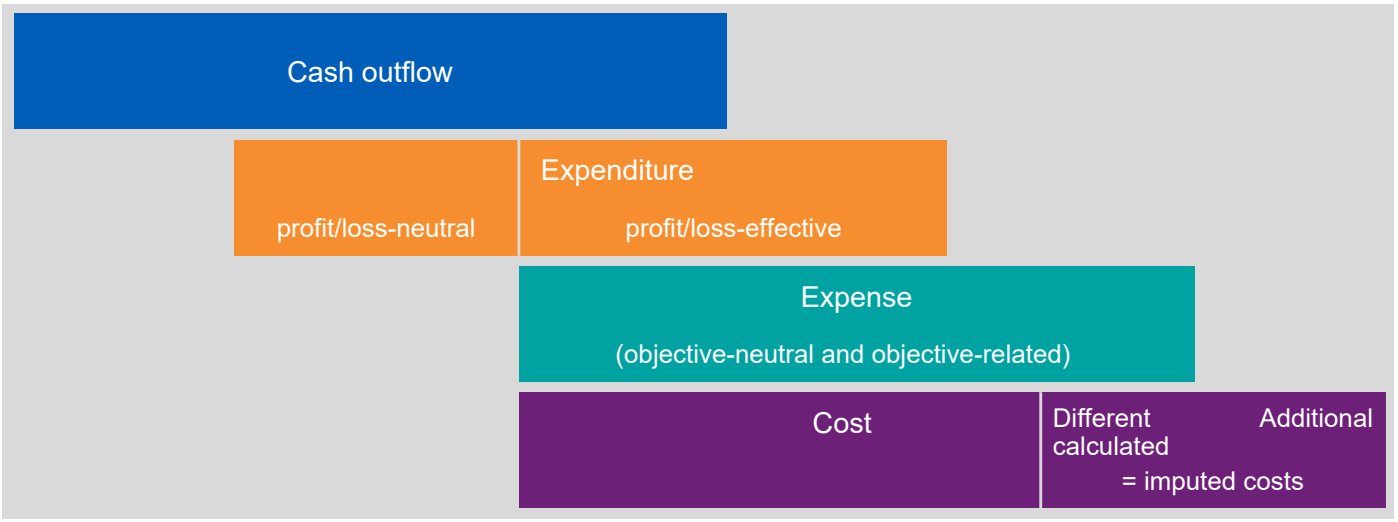
Expenses and income are **cash-effective variables**, since they represent the change in the monetary assets; they relate to the financial level of the company. At the performance level, on the other hand, it is not the cash-effective changes in net assets that are of interest, but only the performance-related consumption/costs or production/production processes. As a cost, one defines the monetarily assessed increase in value due to providing goods and services, and **performance** represents the monetarily assessed increase in value due to providing goods and services. The balance of costs and performance gives the **operating result**. The business target is the **profitability**, which measures the value ratio of performance to costs.

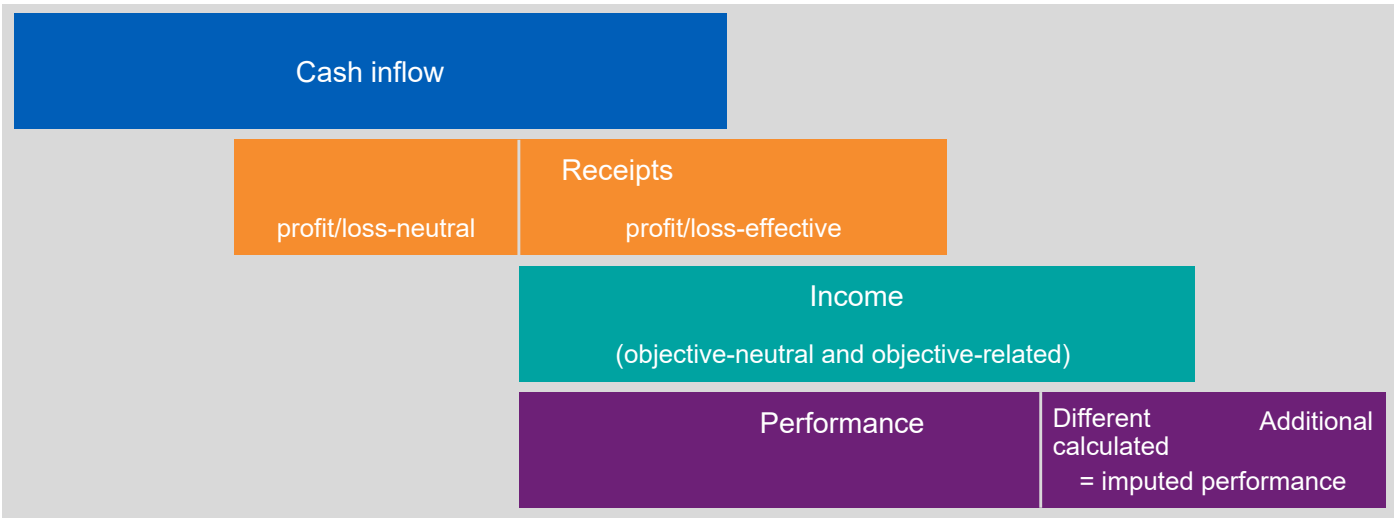
The difference between financial and performance levels is clear from the fact that business objective-neutral expenses, such as losses from securities transactions of a production company, are not costs to be considered in the operating result. On the other hand, so-called **imputed variables** (=calculative variables) do not represent expenses of the same amount: additional calculative costs (e. g. entrepreneur's wages) are not offset at all, different calculated costs correspond to the amount not corresponding to the corresponding expenses(e. g. calculative depreciation).



## II. Accounting as an information system

The following illustrations show the **relationship between** the different **calculation variables** shown:

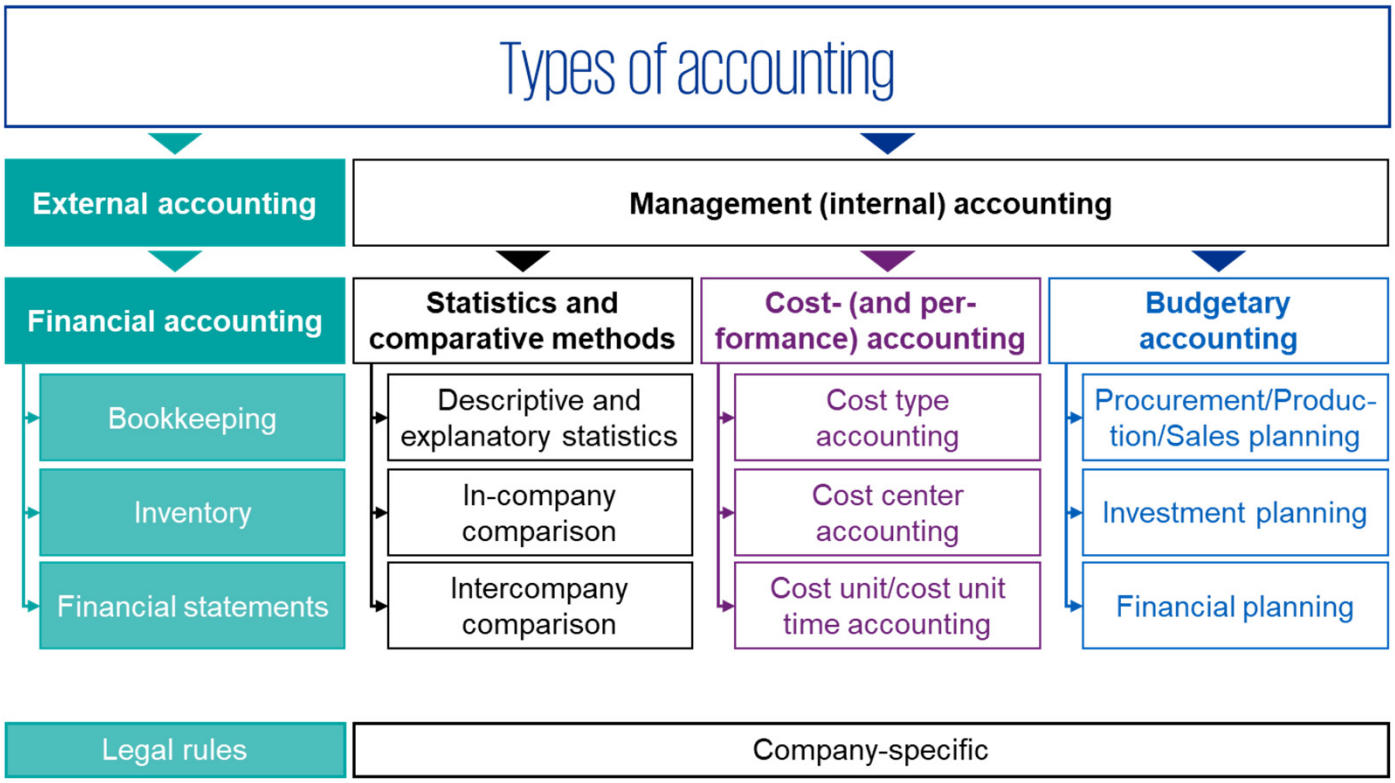


### b) Types of accounting

In order to be able to provide the appropriate information, different systems are needed, which together form the accounting system. Depending on the addressee, internal and external accounting systems can become different.

The most important data basis for this is financial accounting. Companies today typically use integrated computer systems to ensure data security and consistency between the different accounting systems.



**Internal Accounting**

Internal accounting includes cost and performance accounting, investment and financing planning, and operating statistics. Since these accounting systems are for internal purposes only, primarily for the information of management, the company is completely free in the design of these accounting systems and is not subject to any conditions.

**Cost and performance accounting** refers to the performance level of the company and is accordingly a calculative accounting system. The information it provides is primarily for short-term business management. From the dominant aspect of economic efficiency, information is needed which (regardless of the associated payments) allows an assessment of the value ratio of input factors to the production performance achieved.

In the context of **actual cost accounting**, the accounting objective of the documentation is tracked by recording and evaluating the actual costs actually incurred in the previous accounting period.

In the calculation of **planned costs**, on the other hand, future costs and services are linked: for planning purposes, in the so-called **forecast calculation** the actual expected costs and performances are used to forecast the future operating result.

The **standard cost accounting**, on the other hand, generates information for business management: For the purpose of target and employee management, it is not the most probable, but the desired costs and performances, so-called **target costs**, which are the most favorable at optimum operating capacity.

In the area of controlling costs and performances, a **deviation analysis** can then be carried out by comparing the actual amounts with the target amounts.

Traditionally, the actual accounting process for the preparation and evaluation of the required information has developed into four types of cost accounting: **cost type accounting, cost center accounting, cost unit accounting** (or job order cost accounting) **and cost unit time accounting**.

**Cost type accounting** is used to record and group all factor consumptions of an accounting period by cost type. It is the prerequisite for the cost type to be distributed among the responsible functional areas in **cost center accounting**. **Cost unit accounting**, on the other hand, covers the cost types in terms of use by unit. Cost unit accounting records the costs for a single product unit, and the **cost unit time accounting** considers the costs incurred for the total number of units of a product type within a period. Depending on the extent of the cost allocation, a distinction is made between **full cost** and **partial cost calculations**. It is customary to include the proceeds in the cost unit time accounting and thus to arrive at a short-term income statement.

In contrast to cost and performance accounting, the **budgetary accounting,** e. g. **investment and financing planning,** is based on cash inflows/cash outflows or receipts/expenditures and thus serves to plan and control the cash-effective period success. As a rule, medium- to long-term capital requirements and the required capital coverage are considered.

The **statistics and comparative methods** are used to describe and control internal processes.

## II. Accounting as an information system

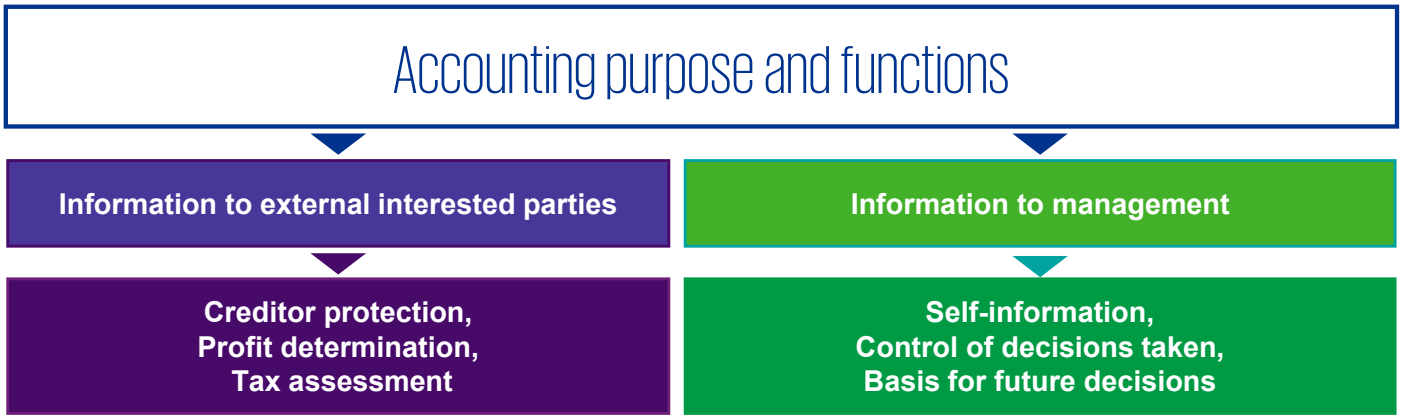
### External accounting

The dominant objective of external accounting is to provide outsiders with some insights by documenting business development. This applies in particular to shareholders or shareholders and creditors who provide capital to the company but usually have little influence over company policy. External accounting is intended to provide information enabling a vulnerable group of persons to exercise their control function. In addition to the current ones, potential shareholders and creditors also have an interest in information in order to substantiate their planned investment decision/credit assessment. Probably the most important information in the external financial statements relates to the company's performance, the creditworthiness of the company (**creditor protection function**) and the amount of the company's distributable profit (**profit determination function**). Since, as a rule, the company's profit is transferred to the tax base, considering other provisions, the profit determination function is also related to the **tax measurement function**.

However, the external financial statements also contain important information for **the management of the company**. First, it serves to provide self-information about the financial position of the company. Based on the development of company profits and assets, the decisions taken can be controlled. In addition, the status of the company serves as a basis for decision-making for future business policy.

On the one hand, it follows from the above objectives that only objectified information can be published in the financial statements, i.e., **data from the previous accounting period**, and not the development planned by management for the coming year.

On the other hand, this need for information relates primarily to the development of company assets, i.e., to the financial level. External accounting therefore does not reflect performance-related monetarily assessed changes at the performance level, as is the case with cost accounting, but all changes in assets.



## 3. Basics of accounting

### a) Accounting requirements

The accounting shall serve the two accounting objectives described above.

**Documentation** means to capture

— all economically significant transactions (business transactions)

— between the creation and liquidation of the company

— chronological, systematic, complete and regular

— in numerical values

and map it.

On the basis of the data collected, the **accountability** results in the

— periodic determination of assets and liabilities

— periodic determination of equity

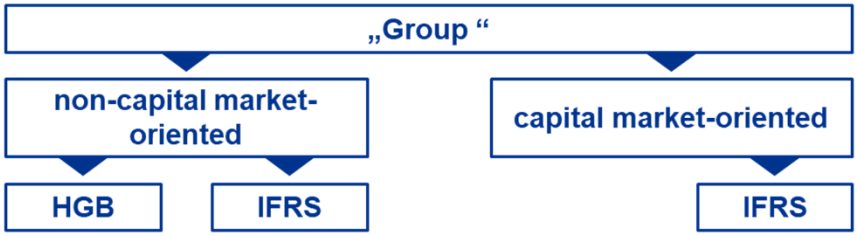
— periodic determination of success

— presentation of the earnings situation.

Accounting is a period calculation that fully records the period between two cut-off dates and finally shows it in an annual financial statements. According to the **German Commercial Code (HGB)** financial statements consist of a **balance sheet** and an **income statement**, in the case of corporations and certain partnerships supplemented by an **annex**, the so-called **notes to the financial statements**. The balance sheet as a point-of-time calculation shows the company's assets and liabilities as stock sizes for the corresponding balance sheet date. The income statement is period-related and represents all expenses and income for the accounting period under consideration as flows. With expenses and income, the various sources of the annual success become visible. They explain the change in stock sizes compared to the previous year. According to the German Commercial Code (HGB) the financial statements for medium-sized and large companies are supplemented by a **management report**.

In comparison to the HGB, the financial statements in accordance with **International Financial Accounting Standards (IFRS)** consist of a statement of financial position (=balance sheet), a statement of comprehensive income, a statement of changes in equity, a statement of cash flows and the notes.

The following illustration compares the **components of the consolidated financial statements** in accordance with HGB and IFRS:




| | | | | |
|---|---|---|---|---|
| Balance sheet | mandatory | mandatory | Statement of financial position | mandatory |
| Income statement | mandatory | mandatory | Statement of comprehensive income[b] | mandatory |
| Statement of changes in equity | mandatory | mandatory | Statement of changes in equity | mandatory |
| Statement of cash flows | mandatory | mandatory | Statement of cash flows | mandatory |
| Notes | mandatory | mandatory | Notes | mandatory |
| Management report | mandatory | -[a] | Management report | -[a] |

Note:
(a) mandatory only according to local regulation (i. e. Germany)
(b) Ohter comprehensive income does not exist according german legislation

### b) Accounting-relevant business transactions

The objectives of the accounts also give rise to the range of transactions to be recorded: documentation and accountability do not require the presentation of all transactions, but only those that lead to a change in the amount and/or composition of the net assets. Changes in net assets are of primary interest in providing information to the users of financial statements.

The transactions to be covered in this sense, which are subject to accounting, initially cover all goods movements between the company and its environment. In these cases, the change in assets is based on a so-called **disposal transaction**, where the buyer and seller transfer ownership of an asset by agreement and handover (Section 929 of the German Civil Code).

A business transaction subject to posting is also present for pure payment transactions between the company and its environment, or when a service is received or provided.

Disposal transactions often precede **obligation transactions**. In it, both parties agree to provide a particular commitment: the supplier undertakes to for the delivery of goods/services, the customer for payment of these goods/services. In principle, these are not transactions that are subject to bookings (**pending business**). Only under certain conditions and depending on the respective accounting system (i.e., HGB, IFRS, US GAAP) can these transactions also lead to transactions subject to bookings.

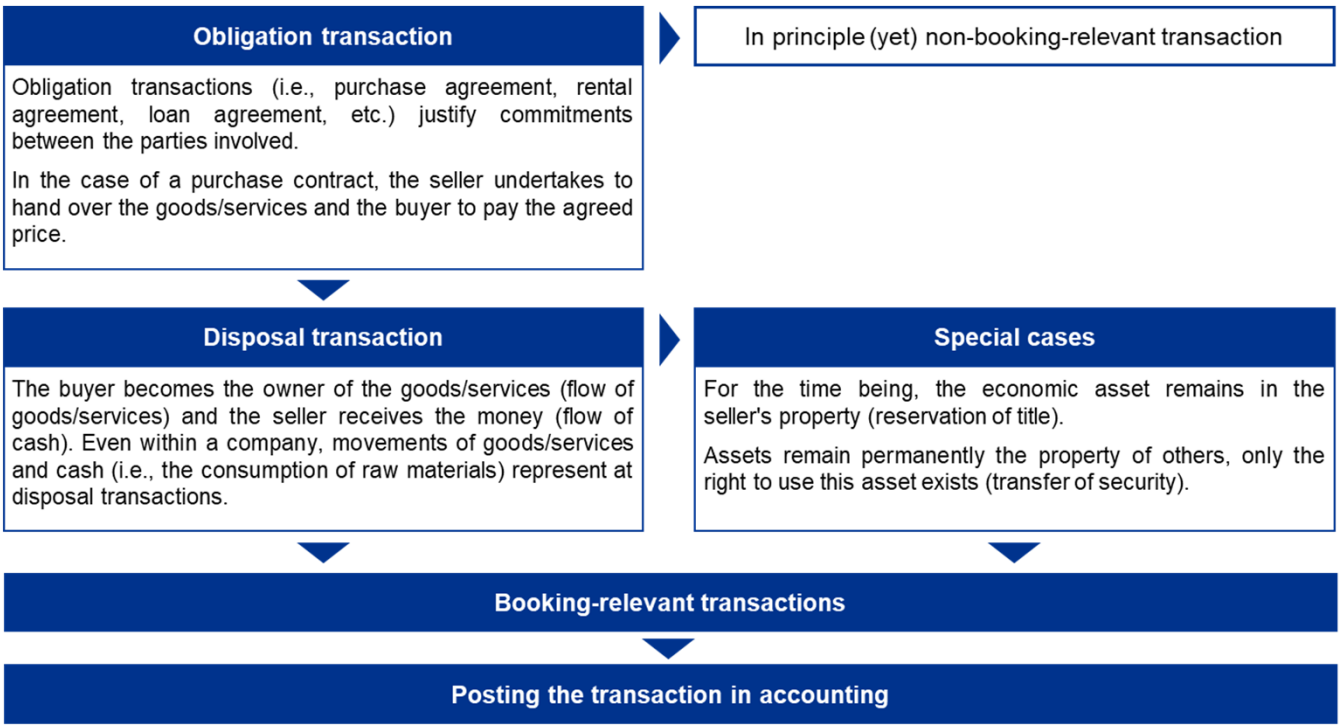
## II. Accounting as an information system

However, changes in assets subject to bookings are not always based on the transfer of legal property just described. For the imputation of an asset to the assets of a company, it is sufficient, irrespective of the legal ownership, if it has the actual power of disposal over the asset and thus the economic property. This case is, for example, in the case of goods transferred to security or property purchased subject to retention of title; both are shown as assets on the asset side of the company's balance sheet.

Furthermore, a booking obligation is also triggered in the event of a change in the composition of the net assets. Such changes maybe based on external transactions when money is withdrawn from the bank account and deposited into the company's coffers, or on transactions within the corporate sphere, such as the conversion of raw materials into finished products within the production process. Changes in the composition of net assets can be posted either simultaneously, i.e., due to material withdrawal slips, or subsequently if the stock changes are accounted for after a physical inventory.

Finally, there is a change in the company's assets even if the assets or liabilities of an enterprise have to be devalued or revalued due to internal or external influences. Such a revaluation is necessary, for example, if a debtor is insolvent and the claim against him becomes unrecoverable or if a machine explodes.

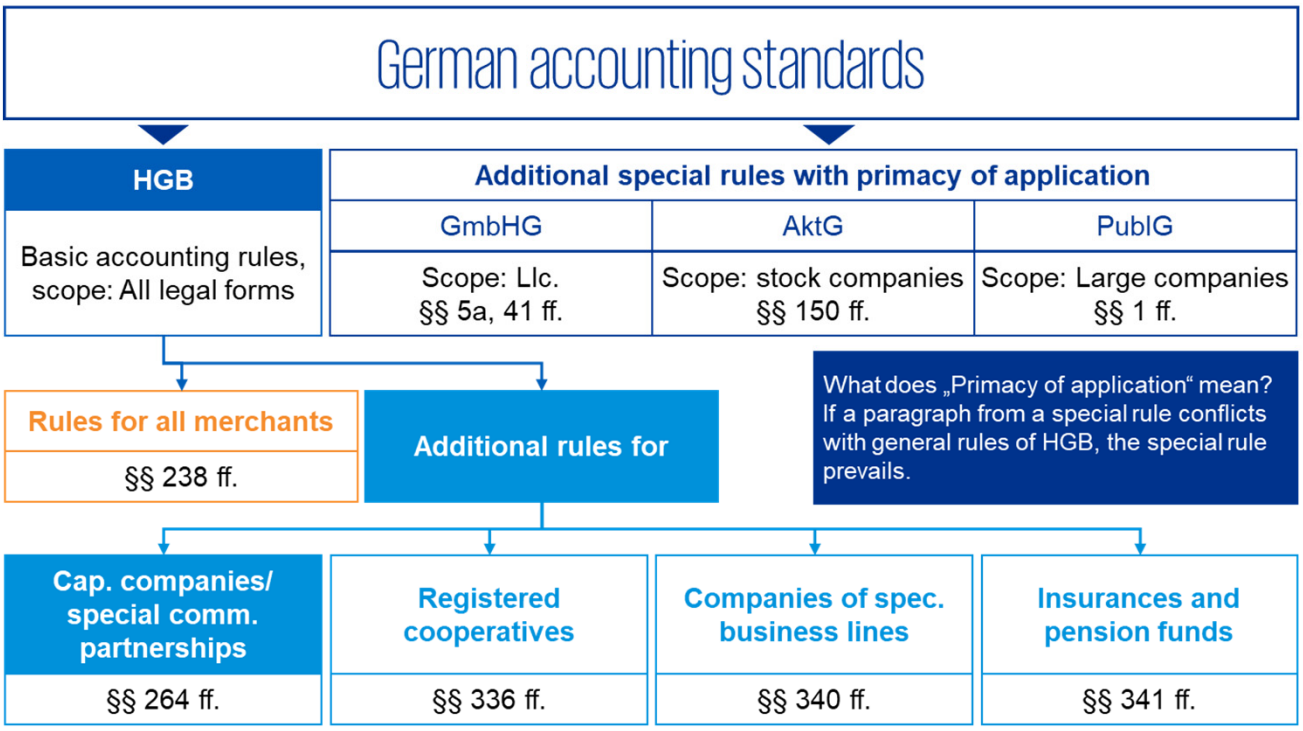
**In summary**, a **business transaction** subject to booking must be quantifiable in monetary quantities and lead to a change in net assets or its composition.



## III. Legal framework for financial accounting

The need for protection of external interested parties, in particular regarding the profit determined and distributable in the financial statements, results in the need to regulate the **disclosure** of the financial statements by means of statutory provisions beyond the creation of the group of persons subject to accounting and the formal structure and content. The relevant **accounting rules** depend on the accounting system and are codified in the applicable regulations (i.e., HGB, IFRS, US GAAP; Specific features are explained in the relevant accounting literature and in the opinions of the standard setters). In addition, group guidelines are often applied in which parent companies set guidelines for their subsidiaries on the applicable accounting standards or on the actual exercise of certain voting rights. Tax requirements may also have to be considered in financial accounting, such as in connection with the electronic transmission of the tax balance sheet and profit and loss account to the tax office (e-balance sheet).

The accounting regulations of the German Commercial Code (HGB) are supplemented by legal form-specific provisions in the special laws for public limited companies, companies with limited liability and cooperatives. In addition, there are sector-specific regulations such as for credit institutions, insurance companies and transport companies.



## 1. Principles of accounting

The overarching accounting objectives of **documentation** and **accountability** also require a regulation on the **form** and **content** of the accounts in order to ensure a certain level of clarity with regard to the assessment and comparability of financial statements. The general **principles of accounting (PoA; German: GoB)** are reflected in all accounting systems. While they are partly regulated by law in accordance with the German Commercial Code (HGB), the conceptual principles and the essential principles of accounting in accordance with IFRS are, for example, regulated in the so-called "Framework".

Whenever there is no special provision for accounting for a transaction, the general PoA of the respective accounting system must be taken into account. The PoA is therefore an **indeterminate legal concept**, which is always chosen as a criterion for assessment if there are no specific substantive standards.

The PoA were originally determined **inductively**: regular accounting was the practice that corresponded to the constant practice of honorable merchants. The problem with the inductive derivation of the PoA is obvious that the merchants themselves can determine in what form they intend to fulfil their public duty to account.

In modern literature on accounting law and jurisprudence, the **deductive** determination of the PoA dominates, which is derived from the interpretation of the wording of the law, the meaning of the work and the history of its origins.

In fact, experts in practice, science and case-law have the task of interpreting what corresponds to the PoA in individual cases.

### a) Framework Principles

#### Principle of completeness

In addition to the complete recording of all accounting matters, all assets and liabilities as well as all identifiable risks in the financial statements, the balance sheet date principle must be adhered to. According to the **balance sheet date principle**, all transactions must be recorded at a specific date (closing of the financial year). In principle, all asset must be activated (=capitalized) if it is self-usable. Liabilities shall be passivated in the case of a legal or economic obligation which is an economic burden and is quantifiable. If the obligation is therefore not secure or can only be quantified in a bandwidth, a provision shall be made.

In the case of information that is made known after the balance sheet date but during the period of preparation of the financial statements, a distinction must be made between information that brightens the value and the information that is justified in terms of value. **Value-enhancing** information refers to events that have already become known at the balance sheet date and are subsequently known or which have a better knowledge; these must be considered in the financial statements (i.e., obtaining knowledge in March when the financial statements are drawn up, that insolvency proceedings were opened with a customer in December of the previous year's financial year, against whom the company has claims). **Value-based** information refers to circumstances that occurred after the balance sheet date (i.e., decrease in procurement prices in January of raw materials that were placed in stock in December) and therefore, apart from certain reporting requirements in the notes or management report, are not to be considered in the financial statements.

### Principle of accuracy/neutrality

In accordance with the **principle of accuracy**, the entries in books and in such records must be carried out **correctly, in a timely** and **orderly manner**. The **principle of accuracy** must be understood as an objective and verifiable concept of registrations and information. A lack of **verification** of the information would lead to subjective interpretations and would not allow the addressees of the annual accounts to assess the reliability of the information provided. It is also important according to the **principle of neutrality** that the information used for accounting purposes are neutral, meaning free of management bias.

### Principle of transparency and understandability

The financial statements must be transparent and understandable. This concerns the structure of the balance sheet and the statement of income and the relevant designation of the individual items.

## b) Accrual principles

### Principle of prudence - principle of realization and imparity

Basically, it is important to be cautious. The prudence principle is specified by the principle of realization and imparity. The **principle of realization** states that profits may not be recognized on the balance sheet until they are confirmed and realized by an act of turnover. On the other hand, according to the **principle of imparity**, losses must not be anticipated only with their realization, but already at the time of their creation.

These basic principles are to be illustrated by a simple example: in December, a company produced a product at 100 MU production costs, stored it and will sell it in January next year at 150 MU; in the balance sheet for the 31.12. the company may activate the 100 MU, since the profit of 50 MU has not yet been confirmed by the sale, i.e., has been realized. If, on the other hand, it has purchased raw materials at 150 MU, the replacement/market price of which at the balance sheet date is only 100 MU, it must show the loss von 50 MU, even though it has not yet consumed or sold the raw materials, i.e., has not yet realized the loss.

### Principle of accrual according to substance and time

According to the periodization principle, all expenses and income are attributable to the respective financial year, when they were caused, and must be considered regardless of the date of payments. After that, the income is allocated to the expenses that contributed to the realization of the income in the period. Period-related expenses and income are attributable to the period's pro rata temporis.

## c) Complementary principles

Only if annual accounts are comparable can users of annual accounts make their decisions on a sound basis (**principle of comparability/consistency**). This applies both to external addressees (i.e., potential investors in the context of their investment decision) and to internal address (i.e., management to support resource allocation). Two dimensions are distinguished:

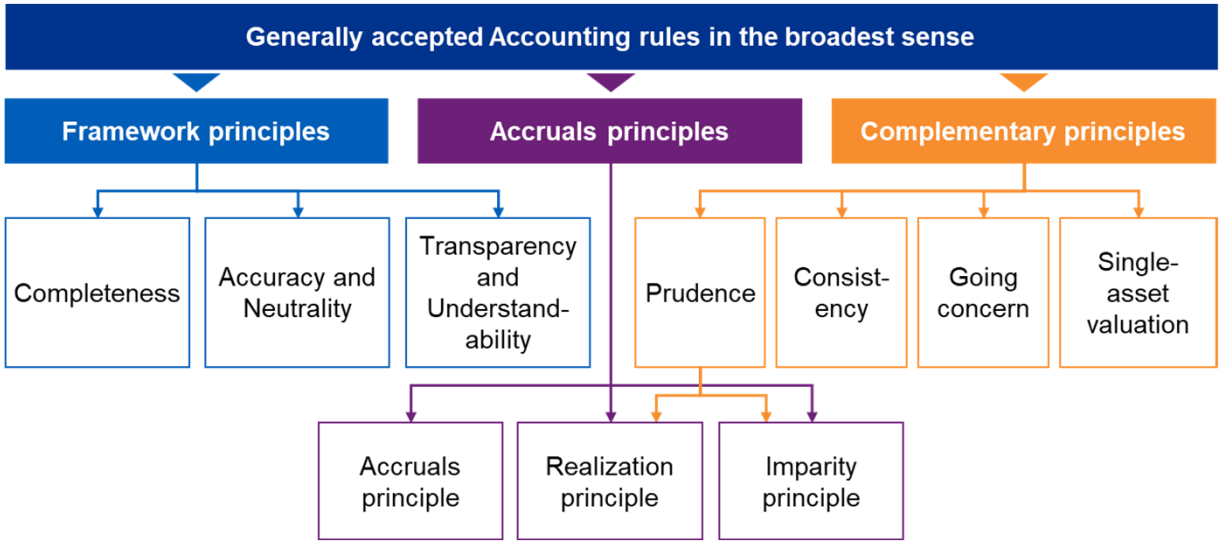
- **Formal consistency:** In order to ensure the comparability of annual accounts over time, the principles of balance sheet identification must be identical to those of the previous annual accounts in terms of recognition, valuation and presentation.

- **Material consistency:** Similar situations must be presented in the exercise of the same discretion and voting rights. This concerns the recognition of balance sheet items (consistency of recognition), presentation (consistency of presentation) and the application of valuation methods (consistency of valuation).

Additional complementary principles, which are general rules for the other PoA include both the **principle of going concern** of the company and the **principle of single asset valuation**.

### d) Other general principles

Often mentioned are also the **principle of pagatorics and the principle of economic efficiency.** According to the **principle of pagatorics**, assets and liabilities are to be mapped only with values based on payment transactions. According to the **principle of economic efficiency** the costs associated with the accounting and the preparation of the annual accounts should be proportionate to the benefit of the information derived from it. At the same time, however, "economic" behavior must not be used as a pretext to intentionally impair the significance of the financial statements, i.e., by a limited provision of data or evaluations.



## 2. Incorrect accounting and its consequences

Violations of laws, and in particular PoA, may occur both in the recording of transactions and in the preparation of the financial statements. Serious breaches of the accounting rules may result in the nullity of the annual accounts (i.e., within the meaning of Section 256 of the German Stock Corporation Act). Since null and void financial statements do not acquire legal effect, there is in principle an obligation to amend the financial statements. The change must be made either in the original incorrect or in the year-end financial statements for the period in which the error was detected.

The breach of the accounting obligation may also have criminal consequences: the failure to conduct or misconduct commercial books, the removal of documents subject to retention or the defective or indue balance sheet may result in criminal consequences in the event of the insolvency of the company.

In addition, fines may be expected in the event of administrative offences.

# B Double entry accounting system

## I. Organization of accounting

### 1. Posting document

The principle in the accounts is that no posting can be made **without a document (=voucher, posting document)**. In this way, the **complete documentation** of all transactions can be traced on the basis of appropriate documents, whereby documents can be available in both electronic and written form.

In **integrated accounting systems**, transactions can be triggered by employees in accounting or by customers or business partners.

A distinction can be made between **external and self-created documents:**

**External documents** are documents that document a movement of goods or funds between the company and its environment, i.e., invoices received, receipts, bank documents or letters received.

In doing so, an **external documents** usually has the following components:

— Company of the business partner

— Date of issue

— Type of transaction (i.e., purchase of material)

— Cause (i.e., material for production or overhead material)

— Amount.

**Own documents** are documents issued by the company itself for the documentation of a transaction which contains the same components. Examples include created (outgoing) invoices, credit memos to customers, material withdrawal slips, payrolls, private withdrawals, etc.

As a rule, the supporting documents are checked **for their factual and mathematical accuracy**, **pre-assigned, sequentially numbered** and stamped with a **posting stamp.**

### 2. Books of accounting

The posting of the various business transactions should be carried out in a **clear, transparent and verifiable** manner. This requires, in particular, a **temporal** and **factual** order of the bookings and any additional **explanations.**

The **journal** first records all business transactions according to their **chronological** sequence. Starting with the opening of the accounts, the current transactions for the financial year, the preliminary closing transactions and, finally, the closing transactions. In this way, the business transactions can be traced back in their origin and settlement. For this purpose, it is necessary that the information collected in the context of the pre-account assignment (date, document type and number, etc.) is recorded in the journal when the transaction is recorded.

The journal registers the transactions in the **general ledger** and in the **ancillary (=subsidiary) books**. Here they are posted according to **objective criteria** on the corresponding stock accounts **(balance sheet) and/or income account (income statement) (ledger accounts).** Thus, the status of the individual asset or debt items can be identified at any time. The general ledger must give an overview about the facts, while the individual transactions recorded in the ancillary books (usually mass transactions) serve to explain the facts recorded in an aggregate manner in the general ledger.

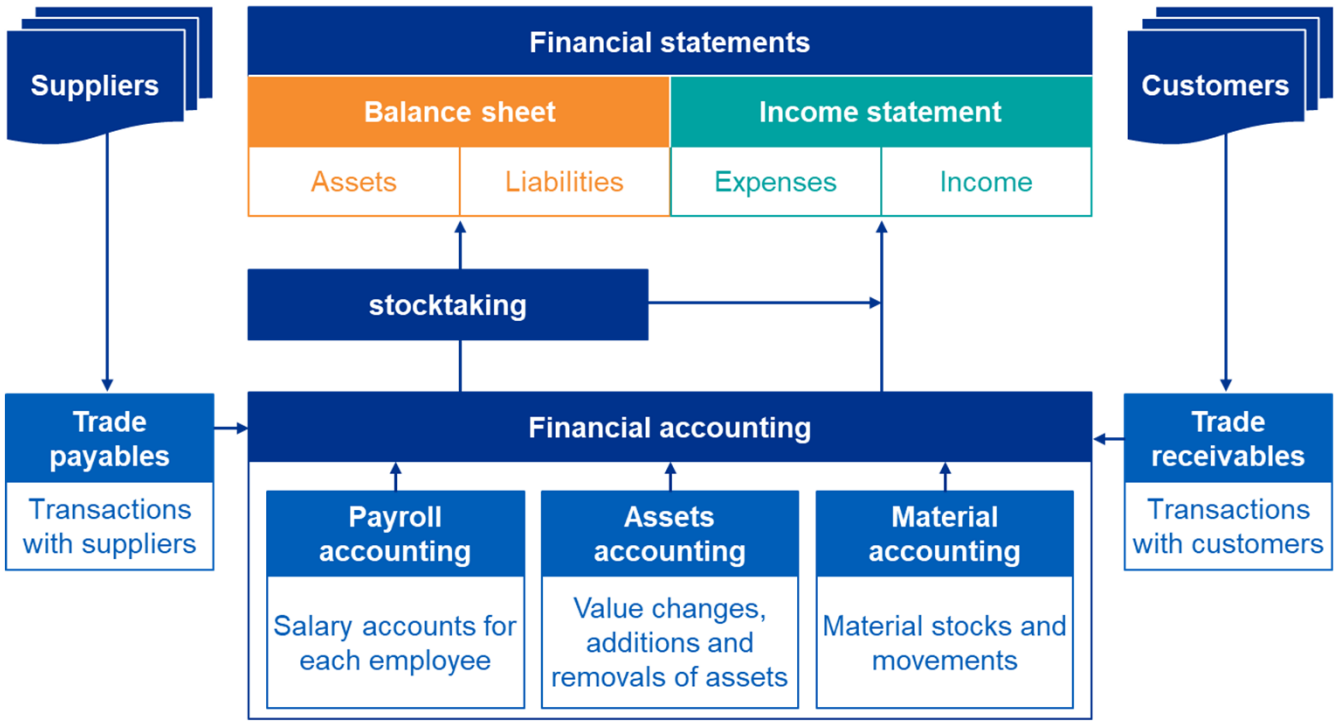
For example, **current account accounting** (open entries accounting) monitors business relationships with the various customers and suppliers (**personal accounts**). The corresponding general ledger accounts for "trade receivables" and "trade payables" do not show the extent of the receivables or payables to individual customers or suppliers. Thus, current account accounting serves the annual (mostly monthly) control of open items, payment dates and willingness to pay. In doing so, postings made must appear both on the general ledger and simultaneously on the customer's current account (**ancillary accounts**).

**Material (=inventory, stock) accounting** (i.e., inventory management system) is used to monitor the individual stocks in the accounts, which are only shown in a highly aggregated form in the general ledger. In inventory accounting, initial stock, additions or disposals are recorded in quantity for each item. This continuation of the book must be supplemented at least once a year by a physical inventory, the stock taking. This is intended to adjust the booked inventory to the actual stock that may differ due to incorrect bookings, shrinkage, theft, etc.

Accordingly, **assets accounting** covers both acquisition costs, acquisition time, expected useful life, depreciation and amortization, etc. as well as technical data of the various asset groups such as land, buildings, machinery, vehicles, etc. for each individual item of tangible assets.

In **payroll (=personnel) accounting**, all matters relating to staff, such as wage payments, social expenses or pension benefits, are determined and recorded. These are shown in the annual financial statements via the income-generating accounts of personnel expenses and the corresponding ledger accounts. In addition, in payroll accounting, also non-financial information (i.e., number of employees, remaining leave days, transfers) are collected, as these also have an impact on the annual financial statements.

In order to ensure proper accounting, **the consistency between general ledger and ancillary books** is required. The above mentioned "books" are regularly kept in computer systems.



## 3. Chart of accounts and account frameworks

In order for the various transactions to be recorded in a factual and temporally comprehensible order in the general ledger, the accounting of a company must be carried out in accordance with a **standardized account assignment system**. A so-called **accounting framework** is a uniform organization plan for accounts in accounting and is drawn up for each of the companies in an industry. An account framework ensures an even organizational order of the accounts and thus an even posting of transactions in the various companies in an industry. An account framework consists of account classes broken down according to certain principles based on the structure of the balance sheet; each account class is in turn divided into several account groups, these into account types and the account types finally into the individual account.

| | | |
|---|---|---|
| **Account class** | **0** | **Fixed assets and long-term capital** |
| **Account group** | **00** | **Land and buildings** |
| **Account type** | **000** | **Undeveloped land** |
| **Account** | **0000** | **Plot A** |

In German industry, two main account frameworks are used:

The **industrial account framework** of the Federal Association of German Industry is based on the structure of Sections 266 and 275 of the German Commercial Code (HGB). No distinction is made between merchants, personal trading companies or corporations.

| | |
|---|---|
| Class 0 | Intangible assets and property, plans and equipment |
| Class 1 | Financial assets |
| Class 2 | Current assets and accruals |
| Class 3 | Equity and provisions |
| Class 4 | Liabilities, value adjustments and accruals |
| Class 5 | Income |
| Class 6 | Operating expenses |
| Class 7 | Other expenses |
| Class 8 | Profitability |
| Class 9 | Free for cost and performance accounting/accrual accounting |

On the other hand, the community account framework of the industry divides the account classes according to the process classification principle.

The basic structure of the account framework can be adjusted according to the individual operational characteristics of the company. Changes are mainly the result of group-specific or international circumstances or from the implementation of amended legal requirements, including tax law (i.e., in the case of the **e-balance sheet**). Such an individual account system derived from the account framework applicable to the company is called a **chart of accounts**.

| | |
|---|---|
| Class 0 | Investment and capital accounts |
| Class 1 | Financial accounts |
| Class 2 | Neutral expenses and income |
| Class 3 | Materials |
| Class 4 | Cost types (operating expenses) |
| Class 5 | Cost centers |
| Class 6 | Cost centers |
| Class 7 | Cost objects - stocks |
| Class 8 | Cost objects - performances |
| Class 9 | Closing (operating, neutral and total result; final balance sheet account) |

## 4. Accounting systems

According to their field of application, the **commercial** and **cameralistic** accounting can be distinguished.

The system of **cameralistic**, which is based on the state budget, is completely unsuitable for commercial purposes, as it is based on receipts and expenditures and thus lacks a compelling link between the statement of assets and income.

**Simple commercial accounting** (“receipts-expenditure accounting") records actual payment transactions, i.e., cash transactions or settlements with customers or suppliers. From the general ledger of simple commercial accounting, neither an inventory nor a profit account is derivable, a success calculation is only possible by comparing net assets, which in turn is based solely on an inventory calculation.

The income statement account missing from these schemes is taken into account in the **double entry accounting** system, which is required for most companies and is considered exclusively below.

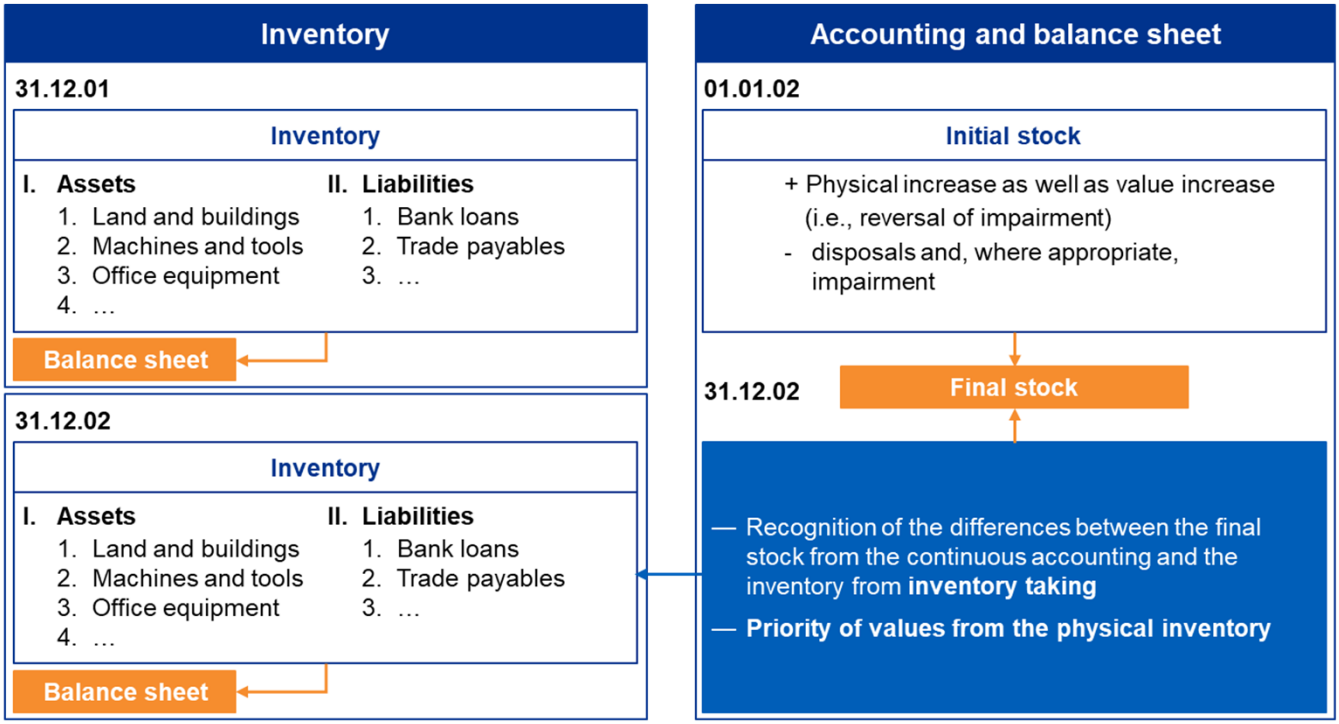
## 1. Inventory taking and Inventory

### a) Inventory taking

The basis of any regular accounting is an **inventory taking of the assets (=stock taking)** at the beginning and end of the financial year. This inventory covers all assets and liabilities of the company, each of which is to be recorded individually according to its type (designation), quantity (number of units, weight, length, etc.) and value (in MU as of the reporting date) on a given date.

The **physical inventory taking** is carried out by a quantitative intake of all physical assets by counting, measuring, weighing, etc. In addition, the **book inventory** determines all debts and intangible assets (i.e., rights) based on accounting records and supporting documents.

The physical (quantitative) inventory taking of the stock (i.e., raw materials, auxiliary materials and consumables, inventories, etc.) requires careful preparation and execution. First, the inventory manager draws up the recording plan, in which the individual inventory areas and their personal assignment, the required recording forms, guidelines and aids and the timing are determined; certain supervisors, i.e., inventory managers, if necessary, also the auditor, are to check the inventory taking in samples in order to ensure the regularity of the inventory taking.



**Inventory procedure**

In principle, the inventory should be carried out at the end of a financial year. Due to the considerable amount of work and time involved, which often results in a company breakdown, various inventory simplification procedures have been developed in practice:

In the case of **extended cut-off stocktaking**, the inventory must be carried out promptly within a certain short period before or after the cut-off date; in this case, additions and disposals made between the date of the stock-taking (= cut-off date) must be updated or recalculated to the reporting date in terms of quantity and value.

In the case of **pre-/post-prelaid stocktaking**, the physical inventory of the assets must normally be within a certain period before and after the reporting date (=balance sheet date) (i.e., 2 months), whereby the different asset groups can be recorded at different times. The stock recognized on the day of the physical inventory is reconciled in quantity and value to the reporting date. The requirements for reconciliation to the balance sheet date are significantly higher than for the extended cut-off stocktaking.

The **permanent stocktaking** enables an inventory of stocks based on the stock books without simultaneous physical recording. A prerequisite for this method is that for each individual item of stocks, each addition and disposal by type and quantity is continuously recorded in the inventory accounting. At any time, but at least once a year, physical inventory must be carried out to verify whether the target stock of the inventory accounting corresponds to the actual stock or, if necessary, needs to be corrected.

Finally, the stock of the assets may also be determined by type, quantity and value by means of recognized **mathematical-statistical methods** based on sampling. The procedure must comply with the principles of accounting. The value of the inventory drawn up in this way must be equivalent to the value of an inventory drawn up based on a physical inventory. Recognized mathematical-statistical estimation methods are mainly two groups of procedures, the free mean method and the bound procedures. Sub-groups of the bound procedures are the

— Estimate of differences

— Ratio estimate

— Regression estimation.

**Valuation simplification procedure**

The assets physically recorded in the inventory must be valued; in principle, the principle of single asset valuation applies to this. However, under certain **conditions, simplification** procedures can be used:

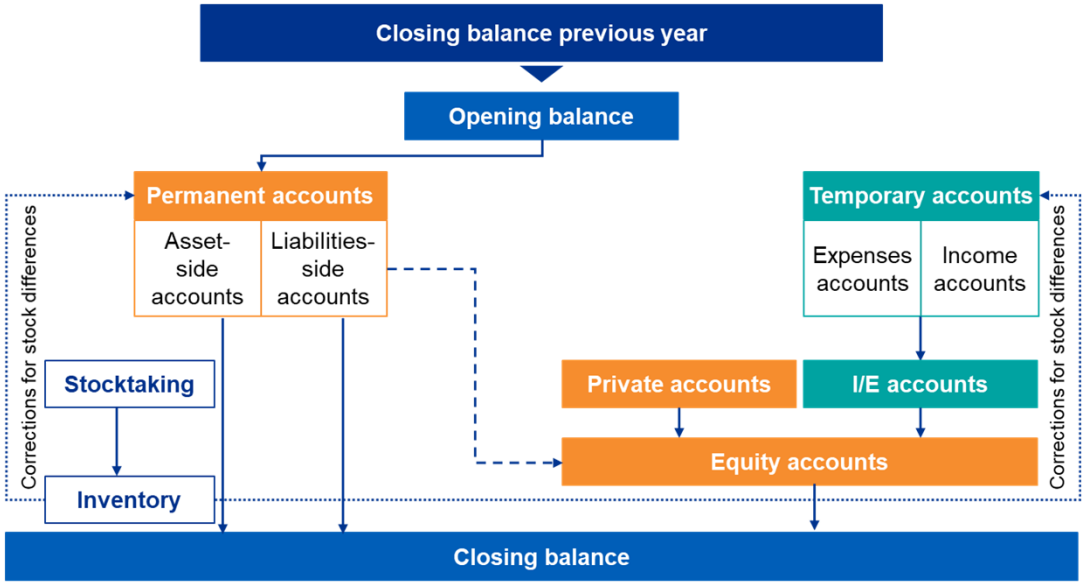
In the **fixed value procedure**, a physical inventory is only required on every third balance sheet date. In between, tangible assets and raw materials, auxiliary materials and consumables which are regularly replaced and whose total value is of secondary importance to the enterprise may be valued at a constant quantity and value, provided that their stock is subject to only minor changes in its size, value and composition.

A **group value procedure** may be eligible for similar assets of the stock and other similar or approximately equivalent current assets. In doing so, the corresponding objects are grouped together and valued at the weighted average.

## II. Double entry accounting

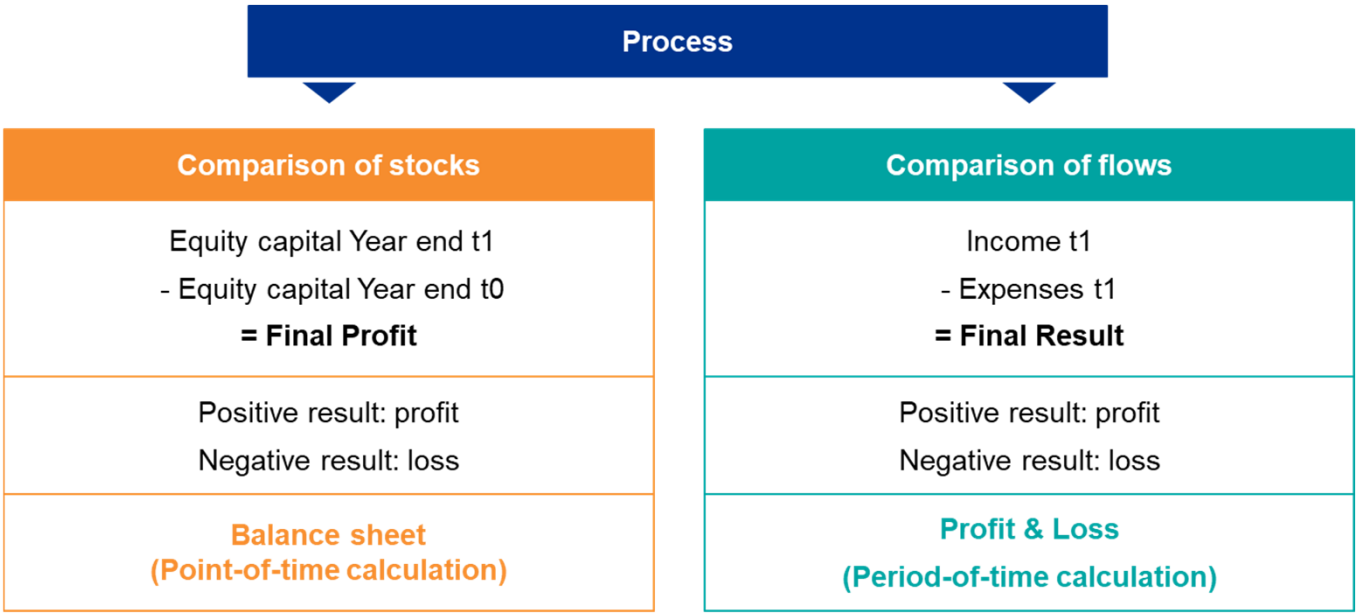
### b) Inventory

At the beginning of his trade and thereafter annually, each merchant is obliged to compile the stocks determined by the stock taking into a special inventory. An inventory shall mean a detailed list of all assets and liabilities of a merchant at a given date, which must be drawn up independently of the accounts. Assets are usually sorted according to their **liquidity** in an inventory, i.e., by the **time limit** in which they can be converted into money, distinguishing between the **non-current assets** of a company to which all assets (i.e., buildings and machinery) serving the business are accounted for and the **current assets**, which cover all assets remaining in the company only for the short term (i.e., raw materials, finished products or funds). On the liabilities side, a distinction is made between equity and debt capital.



## II. Double entry accounting

The difference between assets and liabilities is the **company's net assets or equity**. If one now compares the net assets of two consecutive financial years, the increase or decrease in equity results in the **profit or loss** of the financial year.

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## II. Double entry accounting

| Inventory as of 31.12.x1 | |
|---|---|
| Bank deposits | 2.170 |
| Bank loan | 8.000 |
| 700 dowels | 461 |
| 1 company car | 11.500 |
| 5,000 nails | 300 |
| Cash | 220 |
| 1 shelf | 884 |
| 600 screws | 200 |
| 3 desks | 600 |
| 6 chairs | 400 |
| 2 carpets | 1.400 |
| 1 counter | 800 |
| Trade payables | 890 |

This example illustrates the link between physical stock taking and the final inventory and the calculation of the net assets/equity.

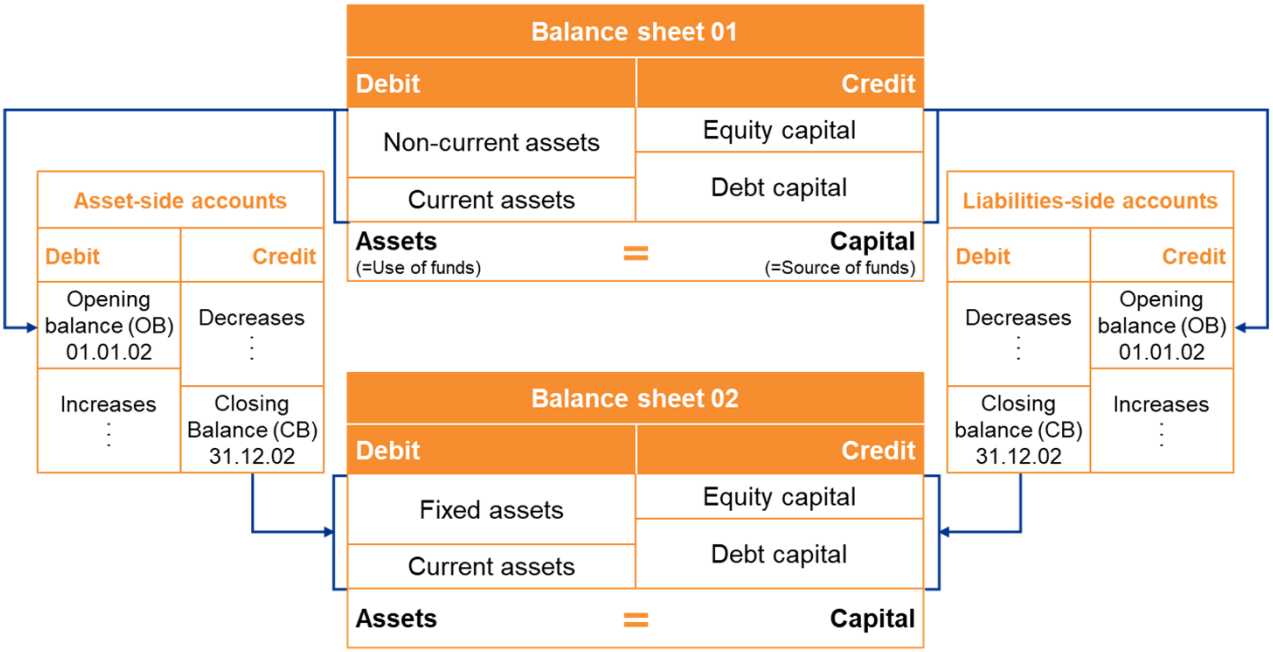
| Inventory as of 31.12.x1 | |
|---|---|
| **I. Assets** | |
| **1. Furniture** | |
| 1 shelf | 884 |
| 3 desks | 600 |
| 6 chairs | 400 |
| 2 carpets | 1.400 |
| 1 counter | 800 |
| | 4.084 |
| **2. Fleet** | 11.500 |
| **3. Were** | |
| 700 dowels | 461 |
| 5,000 nails | 300 |
| 600 screws | 200 |
| | 961 |
| **4. Liquid funds** | |
| Bank deposits | 2.170 |
| Cash | 220 |
| | 2.390 |
| | 18.935 |
| **II. Liabilities** | |
| 1. Bank loan | 8.000 |
| 2. Trade payables | 890 |
| | 8.890 |
| **III. Net** | |
| Assets Gegenstände | 18.935 |
| ./. Liabilities | |
| | 8.890 |
| = Net assets/equity | 10.045 |

## 2. Statement of financial position

In order to make the inventory clearer, a concise comparison of assets and liabilities in the form of a **balance sheet (=statement of financial position)** is drawn up at the beginning of the business activities and for the end of each financial year. According to the **balance sheet identity**, the final balance sheet of a financial year and the opening balance sheet for the following financial year are identical.

In order to develop a balance sheet from the inventory, the individual items of the inventory must be grouped; these are specified only by their value, not by quantity data. Instead of the usual staggered form for the inventory, assets and liabilities are presented in the balance sheet in account form. The **asset side** of the balance sheet shows the **use of funds** or **investment**, the **liabilities side** shows the origin of the funds **or financing**. Both sides of the balance sheet must show the same amount, with the difference between assets and liabilities, the so-called **balance**, shown on the liabilities side as equity or on the asset side as a shortfall not covered by equity.

In its aggregated form, the balance sheet is particularly meaningful in terms of the structure of assets and capital. On the asset side, the relationship between non-current assets and current assets, on the liabilities side from equity to debt, is of interest, which in turn allows conclusions to be drawn about the company's dependence on its creditors and the interest burden of using foreign funds. With a solid capital base, not only the investment capital, but also, if possible, a part of the working capital should be financed by equity and long-term debt.



## II. Double entry accounting

The form of the **balance sheet structure** used depends on the accounting systems used (i.e., HGB, IFRS, etc.).

The following breakdown of the consolidated statement of financial position of BMW Group represents a typical structure in **accordance with IFRS.**

| | | Group | | |
|---|---|---|---|---|
| in € million | Note | 2019 | 1.1.2019[1] | 31.12.2018[2] |
| **ASSETS** | | | | |
| Intangible assets | 21 | 11,729 | 10,971 | 10,971 |
| Property, plant and equipment | 22 | 23,245 | 22,163 | 19,801 |
| Leased products | 23 | 42,609 | 38,259 | 38,259 |
| Investments accounted for using the equity method | 24 | 3,199 | 2,624 | 2,624 |
| Other investments | | 703 | 739 | 739 |
| Receivables from sales financing | 25 | 51,030 | 48,313 | 48,313 |
| Financial assets | 26 | 1,370 | 1,010 | 1,010 |
| Deferred tax | 13 | 2,194 | 1,640 | 1,638 |
| Other assets | 28 | 1,325 | 847 | 847 |
| **Non-current assets** | | 137,404 | 126,566 | 124,202 |
| Inventories | 29 | 15,891 | 14,248 | 14,248 |
| Trade receivables | 30 | 2,518 | 2,546 | 2,546 |
| Receivables from sales financing | 25 | 41,407 | 38,700 | 38,700 |
| Financial assets | 26 | 5,955 | 6,675 | 6,675 |
| Current tax | 27 | 1,209 | 1,378 | 1,378 |
| Other assets | 28 | 11,614 | 9,749 | 9,749 |
| Cash and cash equivalents | | 12,036 | 10,979 | 10,979 |
| Assets held for sale | | – | 463 | 461 |
| **Current assets** | | 90,630 | 84,738 | 84,736 |
| **Total assets** | | 228,034 | 211,304 | 208,938 |
| **EQUITY AND LIABILITIES** | | | | |
| Subscribed capital | 31 | 659 | 658 | 658 |
| Capital reserves | 31 | 2,161 | 2,118 | 2,118 |
| Revenue reserves | 31 | 57,667 | 55,830 | 55,862 |
| Accumulated other equity | 31 | –1,163 | –1,338 | –1,338 |
| **Equity attributable to shareholders of BMW AG** | 31 | 59,324 | 57,268 | 57,300 |
| Minority interest | | 583 | 529 | 529 |
| **Equity** | | 59,907 | 57,797 | 57,829 |
| Pension provisions | 32 | 3,335 | 2,330 | 2,330 |
| Other provisions | 33 | 5,788 | 5,530 | 5,530 |
| Deferred tax | 13 | 632 | 1,762 | 1,773 |
| Financial liabilities | 35 | 70,647 | 66,744 | 64,772 |
| Other liabilities | 36 | 5,100 | 5,293 | 5,293 |
| **Non-current provisions and liabilities** | | 85,502 | 81,659 | 79,698 |
| Other provisions | 33 | 7,421 | 5,871 | 5,871 |
| Current tax | 34 | 963 | 1,158 | 1,158 |
| Financial liabilities | 35 | 46,093 | 39,260 | 38,825 |
| Trade payables | 37 | 10,182 | 9,669 | 9,669 |
| Other liabilities | 36 | 17,966 | 15,826 | 15,826 |
| Liabilities in conjunction with assets held for sale | | – | 64 | 62 |
| **Current provisions and liabilities** | | 82,625 | 71,848 | 71,411 |
| **Total equity and liabilities** | | 228,034 | 211,304 | 208,938 |

Source: Annual report BMW Group 2019

## II. Double entry accounting

This breakdown of the individual statement of financial position of BMW AG represents a typical structure in **accordance with HGB.**

**BMW AG Balance Sheet at 31 December**
→ 60

| in € million | 2019 | 2018 |
|---|---|---|
| ASSETS | | |
| Intangible assets | 405 | 252 |
| Property, plant and equipment | 12,473 | 11,976 |
| Investments | 3,762 | 3,559 |
| **Tangible, intangible and investment assets** | 16,640 | 15,787 |
| Inventories | 5,994 | 4,811 |
| Trade receivables | 964 | 947 |
| Receivables from subsidiaries | 16,698 | 8,570 |
| Other receivables and other assets | 3,513 | 3,595 |
| Marketable securities | 4,109 | 4,080 |
| Cash and cash equivalents | 6,757 | 6,542 |
| **Current assets** | 38,035 | 28,545 |
| **Prepaid expenses** | 58 | 535 |
| **Surplus of pension and similar plan assets over liabilities** | 1,086 | 668 |
| **Total assets** | 55,819 | 45,535 |
| EQUITY AND LIABILITIES | | |
| Subscribed capital | 659 | 658 |
| Capital reserves | 2,210 | 2,177 |
| Revenue reserves | 10,564 | 10,103 |
| Unappropriated profit available for distribution | 1,646 | 2,303 |
| **Equity** | 15,079 | 15,241 |
| **Registered profit-sharing certificates** | 28 | 28 |
| Pension provisions | 205 | 214 |
| Other provisions | 8,784 | 7,824 |
| **Provisions** | 8,989 | 8,038 |
| Liabilities to banks | 511 | 545 |
| Trade payables | 5,751 | 5,560 |
| Liabilities to subsidiaries | 21,777 | 12,670 |
| Other liabilities | 187 | 285 |
| **Liabilities** | 28,226 | 19,060 |
| **Deferred income** | 3,497 | 3,168 |
| **Total equity and liabilities** | 55,819 | 45,535 |

Source: Annual report BMW Group 2019

## 3. Equity

Equity represents the funds made available by the legal owners. The **accounting equity** is the balance of the company's assets and liabilities. It is a **residual size** which cannot be determined regardless from the valuation of the other balance sheet items. In contrast to debt capital, which is known by **profit-independent payment entitlements** of creditors (repayment of a nominal amount or interest on the capital left) the equity covers **profit-dependent payment entitlements**. In addition, however, mixed forms (hybrid capital) between equity and debt financing (i.e., deposits of silent partners, profit-sharing rights, option bonds, profit bonds) also occur in practice. Equity can be contributed to the company in several ways. Financing by withholding profits is **internal-financing.** When capital is raised by the existing shareholders is called **self-financing**. If, on the other hand, new shareholders bring capital into the company, it is called **equity financing**. In addition, **contributions in kind** may also be made.

Equity is divided into **subscribed capital** and **reserves**, whereby reserves are basically fed from deposits or profit accumulations. Due to the peculiarities in the different accounting systems, only the equity components are presented here in accordance with German law, however similar concepts and regulations exist in other countries as well.

### a) Concept of equity under German law

Pursuant to paragraph 266(3) of the German Commercial Code (HGB), corporations must divide the item "equity" into the following subheadings:

— **Subscribed capital:**

Pursuant to paragraph 272 (1) of the German Commercial Code (HGB), the subscribed capital is the capital (entered in the commercial register) to which the **shareholders' liability** for the liabilities of the company to creditors is limited. The subscribed capital is referred to as **share capital** in a limited liability company (GmbH) and must amount to at least EUR 25,000; in the case of a public limited company (AG), the **share capital** represents the subscribed capital, the statutory minimum amount is EUR 50,000. In order to show the liability amount of the corporation, the subscribed capital must always be shown in the balance sheet **at nominal amount (=face value)**.

Outstanding deposits on the subscribed capital that have not yet been claimed are according to Paragraph 272 (1) of the German Commercial Code (HGB) to be deducted from the item "Subscribed capital" and the remaining amount (subscribed capital less outstanding deposits not claimed) to be referred to as "**claimed capital**". Deposits claimed but not yet paid in, on the other hand, must be shown separately on the assets side under the receivables and identified accordingly.

Annual profits or losses must also not affect the amount of subscribed capital.

— **Capital reserve:**

Pursuant to paragraph 272 (2) HGB, the following are to be shown as capital reserves:

1. The amount obtained in the event of the issuance of shares, including purchases, above the nominal amount (premium/agio).
2. The amount obtained when issuing convertible bonds and option rights to acquire shares.
3. The amount of co-payments made by shareholders in return for a preference for their shares.
4. The amount of other co-payments that shareholders make into equity.

— **Retained earnings (=revenue reserves):** In accordance with paragraph 272 (3) HGB, only amounts that were generated from the result in the financial year or a previous financial year may be shown as retained earnings.

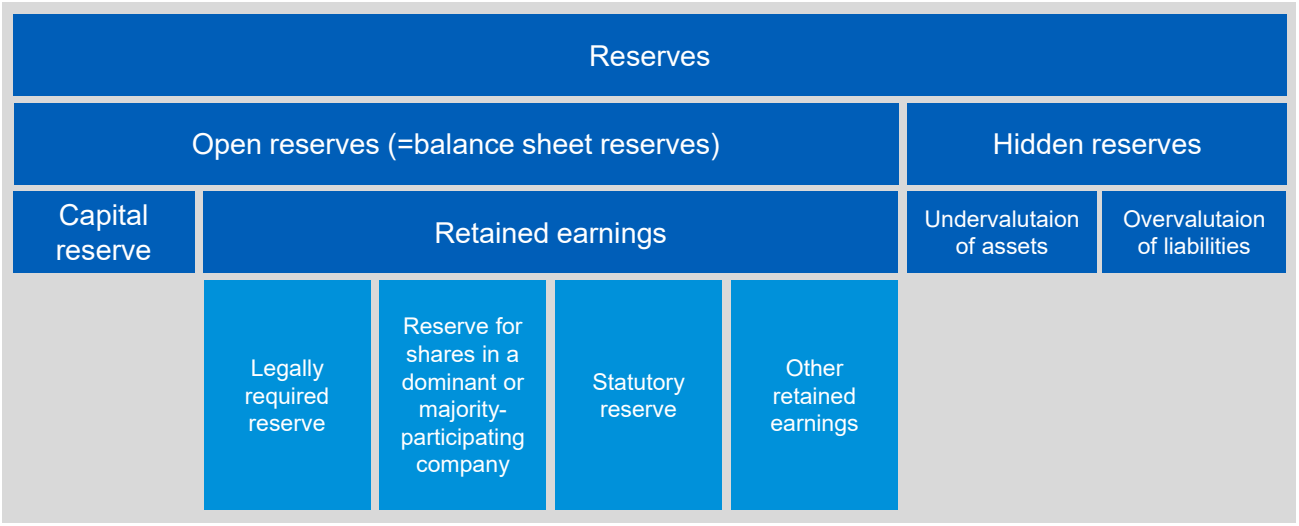
  – **Legally required reserves** must be created annually in the case of public limited liability companies in accordance with paragraph 150 of the German Stock Corporation Act (AktG) in the amount of 5% of the annual surplus reduced by any loss carryforward, until the statutory and capital reserves together reach at least 10% or a higher share of the share capital determined in its statute. Thus, the German Stock Corporation Act forces a reserve to be set up to cover possible losses. There is no corresponding legal obligation for the GmbH to set up reserves.

  – **Reserve for shares in a dominant or majority-participating company:** Pursuant to paragraph 272(4) HGB, an amount corresponding to the shares reported on the assets side of the balance sheet must be entered in this reserve in respect of companies which control the accounting company, or which have a majority shareholding in the accounting company. The reserve may only be dissolved if these shares are sold, issued or redeemed or if a lower amount is set on the asset side.

  – **Statutory Reserves:** Statutory reserves include those retained earnings for which a company is obliged to create based on its partnership agreement, its statutes or its statutes.

  – **Other retained earnings:** The other retained earnings constitute a summary item for those amounts in the annual result which are not attributable to any of the other items in the retained earnings. Pursuant to paragraph 58 of the German Stock Corporation Act (AktG), public limited companies can place up to 50% of net income in the other retained earnings. A loss carryforward as well as the amounts to be entered in the statutory reserve must be deducted.

Capital and retained reserves are referred to as "**open reserves**" as they are disclosed as sub-items of equity. A distinction must be made between so-called "**hidden reserves**", which result from the undervaluation of assets or overvaluation of debt. Hidden reserves are partly enforced by the statutory valuation regulations when, for example, the principle of prudent valuation requires valuation at acquisition or production costs despite higher cut-off dates. In some cases, however, valuation choices also give the possibility of creating hidden reserves, for example in determining the level of production costs or in the case of the full depreciation of low-value fixed assets.



**Special features of personal trading companies**

The HGB contains only a few provisions for accounting for equity capital in personal trading companies. In accordance with paragraph 264a HGB, limited partnerships must comply with the regulations for corporations. However, the equity capital must be broken down in deviation from the corporations in accordance with paragraph 264c(2) sentence 1 HGB as follows:

— **Capital accounts:** At least one capital account is held for each shareholder, but in practice at least two or more capital accounts. The capital accounts of the personally liable shareholders as well as those of the limited partners can be combined into one item.

The allocation of shareholder accounts to equity or debt capital is not always easy in practice. According to IDW RS HFA 7, equity capital is only available in the case of partnerships if the funds provided are available as a loss coverage potential.

— Even under international regulations (i.e., IFRS), special rules apply to the classification of shareholders' capital contributions. The deferral criteria for debt and equity depend on whether the accounting company is obliged to repay the capital or to pay a fixed remuneration and thus the capital is to be classified as a financial liability. This applies in particular to partnerships, since repayments or severance payments are to be made on a regular basis in the event of the termination of a partner.

— **Reserves:** Reserves may be shown separately if they have been created on the basis of social agreements.

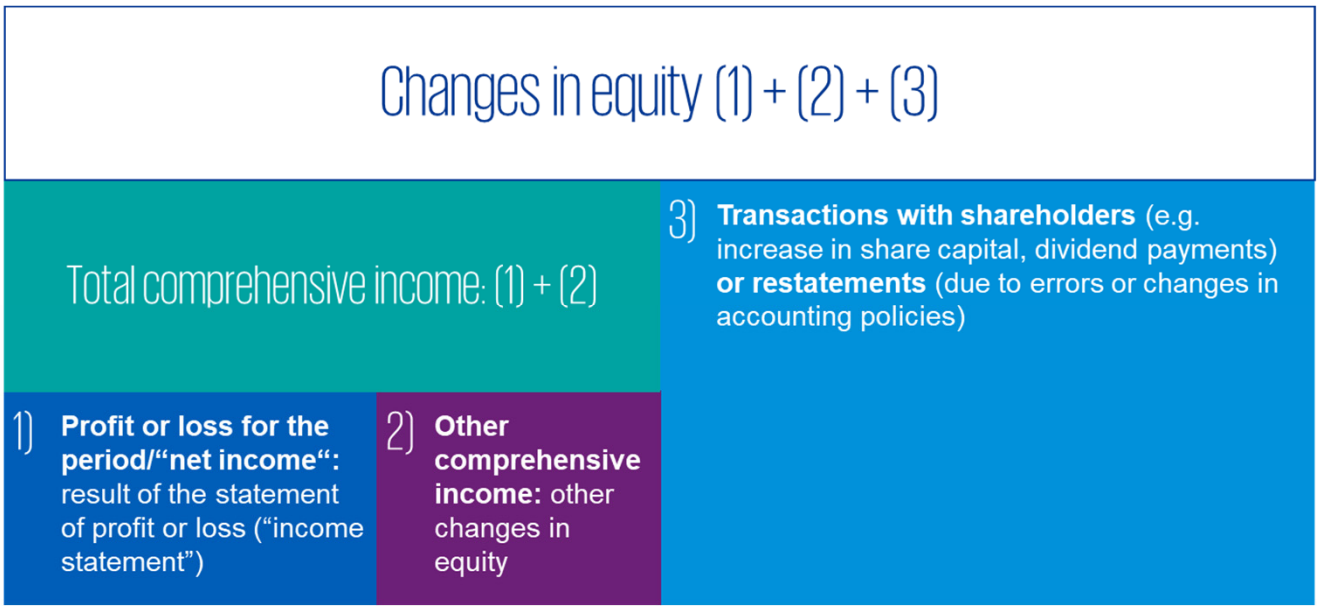
— **If necessary, profit carryforward/loss carryforward**

— **If applicable, net income/net loss for the year**

Unless otherwise stipulated in the company statute, profit shares are already credited to the shareholders' capital accounts when the annual accounts are drawn up, so that net income for the year is no longer reported separately on the balance sheet. However, it is often agreed in the partnership agreement that the shareholders' meeting must decide on the appropriation of profits. In this case, net income or net profit shall be shown.

**b) Concept of equity under IFRS**

Although the basic equity sub-items under IFRS are comparable to those under HGB, the differences are in the details. Above all, the option under IFRS to make postings directly to equity with no impact on profit or loss under certain circumstances (i.e., other comprehensive income – concept) leads to separate equity items that are not to be discussed further here.



## 4. Statement of profit or loss and other comprehensive income

### a) Statement of profit or loss

Expenses and income are accounted for in the statement of profit or loss (=income statement). The income statement includes a systematic presentation of the expense and income items. Typical expense accounts are raw materials, auxiliary materials and consumables, depreciation, wages and salaries, interest expenses, rents, etc., typical income accounts are revenue, commission income, interest income, etc. At the end of an accounting period, the income statement shows the profit and loss for the period (net profit/net loss for the year).

The profit and loss account is drawn up in **a staggered form**, whereby the **total cost and the cost-of-sales method** can be chosen.

In contrast to the account form, the staggered form has the advantage that the result can be more clearly broken down into operating and financial results by deducting the respective expenses from the corresponding income.

**Total and cost-of-sales methods** differ in the allocation of the expenses and income shown. In this process, the presentation in the **total cost method** is based on the typical cost types (material, personnel, etc.) that accrue in the company and takes these into account in full according to their occurrence. However, since not all goods/services produced by the company lead to revenue at the end of the year (i.e., inventories produced in stock) a correction is made by the item **"Changes of the stock of unfinished and finished products"** (as well as "capitalized own services") with regard to the costs attributable to the revenue generated in terms of earnings. In the **cost-of-sales method**, on the other hand, the costs are allocated in line with the operational functions (manufacturing, distribution, etc.) and only the costs attributable to actual revenues are recorded. As a result, both methods always lead to the same net profit for the period.

The objective of the **total cost method** is to present the total operating performance of a period.

| Total cost method | Cost of sales method |
|---|---|
| Revenues | Revenues |
| +/- Changes in the stock of unfinished and finished products | - Production costs of the services sold |
| + capitalized own services | - Sellling and distribution costs |
| - Operating expenses (material, personnel, depreciation/amortization) | - General administrative costs |
| + Other operating income | + Other operating income |
| - Other operating expenses | - Other operating expenses |
| Operating result (=EBIT in a broader sense) | Operating result (=EBIT in a broader sense) |
| + Financial income | + Financial income |
| - Financial expenses | - Financial expenses |
| Financial result | Financial result |
| EBT | EBT |
| - Income taxes | - Income taxes |
| Net profit/loss | Net profit/loss |

## II. Double entry accounting

Irrespective of the form of presentation chosen, the result **of earnings before tax (EBT)** results in both representations. This consists of two parts, the so-called **operating result** and the **financial result**.

The operating result includes the expenses and income resulting from the actual business activities, i.e., operating expenses and income. The **financial result**, on the other hand, includes income and expenses from the company's financial investments or capital gains.

In the end, the income statement closes with the **net income/net loss**, i.e., net profit or loss (=net result) for the period.

**b) Statement of other comprehensive income**

While the HGB only knows the classic income statement, the income statement according to IFRS is expanded to include the so-called **other comprehensive income**.

**Two forms of presentation** are possible under IFRS. Either as a **single statement of profit or loss and other comprehensive income**, with profit or loss and other comprehensive income presented in two sections. Or according to the two-statement approach as a **separate statement of profit or loss** and a **statement of comprehensive income**, immediately following the statement of profit or loss and beginning with profit or loss.

However, the special features of IFRS will not be discussed further below.

The following breakdown of the consolidated statement of comprehensive income of BMW Group represents a typical structure in **accordance with IFRS.**

| in € million | Note | 2019 | 2018[1] |
|---|---|---|---|
| Net profit | | 5,022 | 7,064 |
| Remeasurement of the net defined benefit liability for pension plans | 32 | –1,254 | 935 |
| Deferred taxes | | 387 | –217 |
| Items not expected to be reclassified to the income statement in the future | | –867 | 718 |
| Marketable securities (at fair value through other comprehensive income) | | 42 | –30 |
| Derivative financial instruments | | –706 | –1,381 |
| Costs of hedging | | 125 | –620 |
| Other comprehensive income from equity accounted investments | | –3 | –157 |
| Deferred taxes | | 171 | 674 |
| Currency translation foreign operations | | 544 | 192 |
| Items that can be reclassified to the income statement in the future | | 173 | –1,322 |
| Other comprehensive income for the period after tax | 19 | –694 | –604 |
| Total comprehensive income | | 4,328 | 6,460 |
| Total comprehensive income attributable to minority interests | | 107 | 90 |
| Total comprehensive income attributable to shareholders of BMW AG | 31 | 4,221 | 6,370 |

[1] Prior year's figures adjusted due to a change in accounting policy in connection with the adoption of IFRS 16; see note 6 to the Group Financial Statements.

Source: Annual report BMW Group 2019

## 5. Relationship between statements of profit or loss and of financial position

The net profit or loss (=net result) ultimately represents the change in the equity of the statement of financial position according to HGB, whereas under IFRS the total comprehensive income represents the change in the equity.

However, it must be borne in mind that the financial statements – at lease in the case of the individual financial statements of a company - may be drawn up in most countries either before or after the appropriation of earnings. This scheme has an impact on both the presentation of equity in the statement of financial position and the net result in the statement of profit or loss. If the financial statements are presented **before the appropriation of earnings** is made, the statement of financial position basically contains two components of earnings in equity:

— **Profit carryforward/loss carryforward**: A profit carryforward results if a positive result (=net profit) of the previous year has not been used in full or if a loss carryforward to whom a negative previous year's result (=net loss) has not been offset.

— **Net profit/net loss**: When the annual financial statements before the appropriation of profits are drawn up, the net result as measured in the statement of profit or loss is shown in the statement of financial position as a net profit or loss for the year.

If the financial statements are drawn up **after the appropriation of earnings**, the items "Profit carryforward/loss carryforward" and “Net profit/net loss" are replaced in the statement of financial position of the items “**Unappropriated profit available for distribution”**. A loss or loss carryforward shall be included in these items, but a separate explanation shall be made in this respect.

The net profit/loss is used by a corporation at the following scheme:

| | Net profit/net loss |
|---|---|
| +/- | Profit carryforward/loss carryforward from the previous year |
| + | Withdrawals from capital or retained earnings |
| - | Settings in retained earnings |
| = | Unappropriated profit available for distribution |
| - | Profit distribution |
| = | Profit carryforward/loss carryforward for the following year |

## II. Double entry accounting

The following breakdown of the consolidated statement of profit or loss and the statement of financial position of the **individual financial statements of BMW AG** represents a typical example, when the statements are drawn up **after appropriation of earnings**.

**BMW AG Income Statement**
→ 59

| in € million | 2019 | 2018 |
|---|---|---|
| Revenues | 84,691 | 78,355 |
| Cost of sales | –70,178 | –63,841 |
| **Gross profit** | 14,513 | 14,514 |
| Selling expenses | –3,979 | –4,078 |
| Administrative expenses | –2,776 | –2,803 |
| Research and development expenses | –5,528 | –5,859 |
| Other operating income* | 1,295 | 2,184 |
| Other operating expenses* | –2,526 | –1,158 |
| Result on investments | 1,858 | 2,344 |
| Financial result | 39 | –1,452 |
| Income taxes | –767 | –872 |
| **Profit after income tax** | 2,129 | 2,820 |
| Other taxes | –22 | –19 |
| **Net profit** | 2,107 | 2,801 |
| Transfer to revenue reserves | –461 | –498 |
| **Unappropriated profit available for distribution** | 1,646 | 2,303 |

**BMW AG Balance Sheet at 31 December**
→ 60

| in € million | 2019 | 2018 |
|---|---|---|
| EQUITY AND LIABILITIES | | |
| Subscribed capital | 659 | 658 |
| Capital reserves | 2,210 | 2,177 |
| Revenue reserves | 10,564 | 10,103 |
| Unappropriated profit available for distribution | 1,646 | 2,303 |
| Equity | 15,079 | 15,241 |

Source: Annual report BMW Group 2019

## II. Double entry accounting

**Profit appropriation competences of the Executive Board and the Supervisory Board**

- positive net result for the year
- ./. Compulsory adjustment to the reserve required by law
- ./. Compulsory adjustment to the statutory reserves
- ./. Compulsory adjustment to the reserve for shares in a dominant or majority -participating company
- Residual net result for the year
- ./. optionally setting to the other retained earnings up to a maximum of half
- + Profit carryforward from the previous year

**Profit-appropriation competences of the Annual General Meeting**

- Net profit reported in the financial statements
- Decision for the flat-rate formation of a profit carry-forward
- The formation of a loss carryforward becomes relevant only in the event of negative net result for the year
- Decision for a differencing appropriation
  - Distribution to shareholders (dividends)
  - Setting to the other retained earnings
  - Profit carryforward for the following financial year

**Profit appropriation competences of the Executive Board and the Supervisory Board**

- positive net result for the year
- ./. Loss carryforward from the previous year
- ./. Compulsory adjustment to the reserve required by law
- ./. Compulsory adjustment to the statutory reserves
- ./. Compulsory adjustment to the Reserve for shares in a dominant or majority -participating company
- Residual net income for the year
- ./. optionally setting to the other retained earnings up to a maximum of half

**Profit-appropriation competences of the Annual General Meeting**

- Net profit reported in the financial statements
- Decision for the flat-rate formation of a profit carry-forward
- The formation of a loss carryforward becomes relevant only in the event of negative net result for the year
- Decision for a differencing appropriation
  - Distribution to shareholders (dividend)
  - Setting to the other retained earnings
  - Profit carryforward for the following financial year

## 6. Technique of double entry accounting

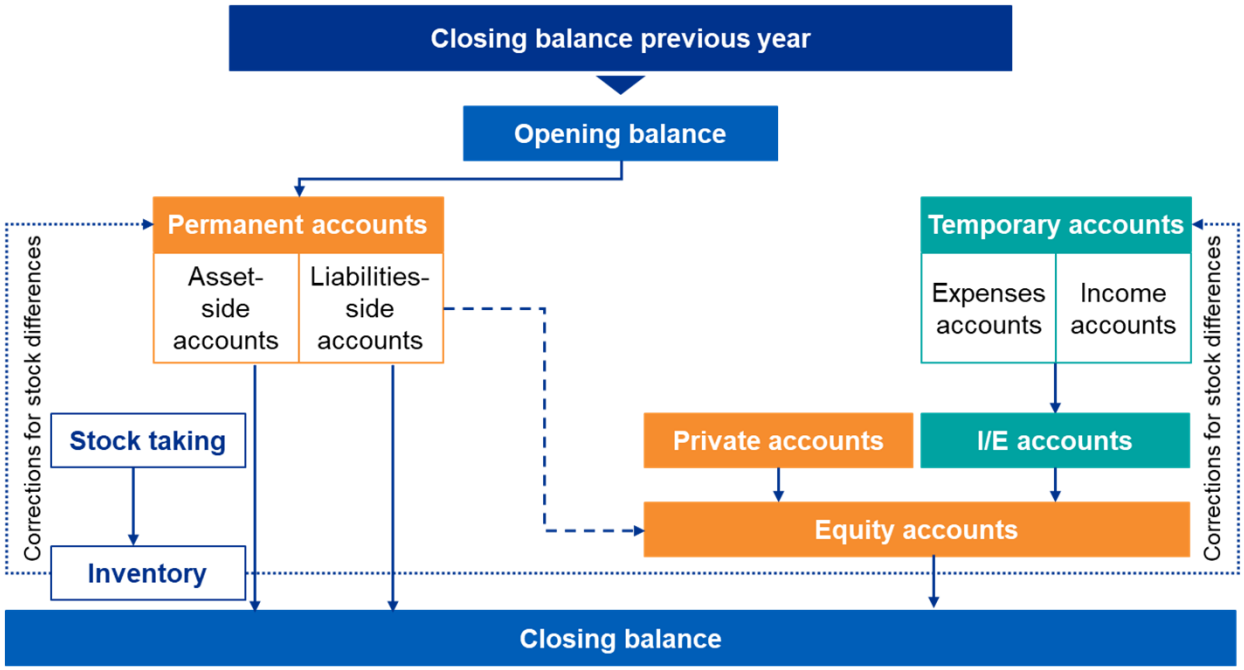
### a) Posting record

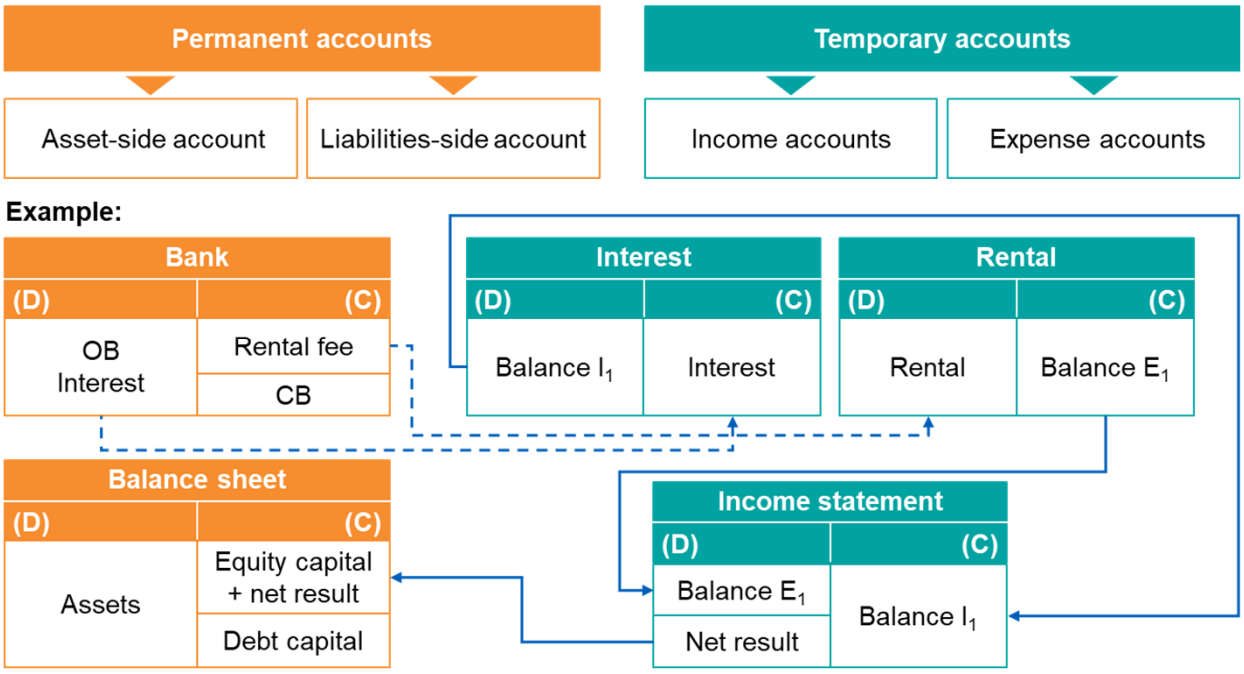
The basic principle of **double entry bookkeeping** is based on the fact that a business transaction always forces posting and counter-posting of the same amount. Therefore, the posting of a transaction always affects (at least) two accounts. The posting record characterizes the underlying transaction by starting with the debit posting and closing with the credit posting, i.e., the posting record always is balanced in terms of amount. The basic structure of a posting record is therefore

**Debit (to) Credit**

Posting business transactions changes the account balances to (at least) two accounts.

Depending on whether these are accounts of the balance sheet (**permanent accounts**) or accounts of the income statement (**temporary accounts**), there are different effects on the accounts. Postings that only affect the balance sheet's permanent accounts usually lead to **income-neutral changes (=income non-affecting, profit-neutral, result-neutral are used alternative used expressions)** in assets/debt items. On the other hand, transactions that affect temporary accounts usually lead to changes in net profit/loss and thus to changes in equity. When distinguishing between permanent and temporary accounts, it should be noted that the **permanent accounts** are transferred to the opening balance sheet of the following period due to the balance sheet context with the respective stocks and values of the final balance sheet. The **temporary accounts**, on the other hand, only include the postings of a period, i.e., at the end of the period, these accounts are all closed against net profit/loss of the year and set to zero, so that these accounts do not have values at the beginning of the following period.






**b) Opening balance sheet**

At the beginning of the financial year, the **opening balance sheet** exists. This opening balance sheet (identical to the final balance sheet of the previous year) is changed by the **business transactions** of the new financial year. As a rule, the balances of the **final balance sheet** are automatically transferred to the opening balance sheet of the new financial year (balance sheet continuity). When an opening balance sheet is drawn up for the first time, the inventory forms the balance sheet basis.

| Opening balance sheet account | | | |
|---|---|---|---|
| **Asset-side** | | | **Liabilities-side** |
| Non-current assets | 15,584 | Equity | 10,045 |
| Inventories | 961 | Non-current liabilities | 890 |
| Cash | 2,390 | Bank loans | 8,000 |
| **Total** | **18,935** | **Total** | **18,935** |

### c) Changes to the balance sheet

In the case of income-neutral transactions, i.e., transactions which only affect the balance sheet accounts, the following four options must be distinguished in the double entry bookkeeping system:

In the case of an **asset swap**, only the asset side of the balance sheet is affected by replacing one asset with another. For example, if raw materials are purchased for 100 MU in cash, the stock of raw materials increases by 100 MU and at the same time the cash balance decreases by 100 MU.

Similarly, in the case of a **liabilities swap**, the portfolio of one liability item decreases and another increases; this is the case, for example, when a short-term trade payable is converted into a loan liability (**debt restructuring**).

If a transaction addresses both sides of the balance sheet, the balance sheet is either extended or shortened:

In the case of an **asset-liability increase or a balance sheet extension**, the addition of an asset is offset by the creation of a liability. An example is the purchase of raw materials on target/credit (**credit purchase**).

In the case of an **asset-liability reduction or a balance sheet shortening**, the disposal of an asset is offset by a repayment of a liability item, for example in the case of the cash payment of a liability in which both the cash and the debt (liability) decrease.

The individual transactions are recorded through **permanent accounts** that are assigned to balance sheet items. The **permanent account** is a two-sided ledger in which the additions are posted on one side and the subtractions on the other. The sides "Debit" and "Credit" have grown historically.

| Debit | Credit |
|---|---|

On which side of the respective permanent account the opening balance and the additions or subtractions are to be posted depends on whether it is an **asset-side or a liabilities-side account**: If an account shows an asset, i.e., if it is a permanent account that includes an asset item listed on the asset side of the balance sheet, then the opening balance and the additions are to be posted on the debit side, the subtractions are to be posted on the credit side. Conversely, for permanent accounts that show the liabilities on the liabilities-side of the balance sheet, the opening balance and the additions are to be posted on the credit side, the subtractions are to be posted on the debit side. At the end of the financial year, the comparison of the debit and credit sides for each permanent account results in a final result, the **balance of the account**. The balance is always on the smaller side of the account, i.e., for asset-side accounts on the credit side (**debit balance**), for liabilities accounts on the debit side (**credit balance**).

In accordance with the four typical balance sheet changes shown above, the changes caused by a business transactions on the permanent accounts can also be distinguished in changes within the asset-side or the liabilities-side, as well as in changes in permanent accounts that affect both the asset- and liabilities-side. In the following, the corresponding posting record is presented for each of these cases, based on the above examples; in particular, attention must be paid to the difference between asset-side and liabilities-side accounts, since in the case of an asset-side account, the additions are recorded on the debit side and the subtractions on credit side, while in the case of a liabilities-side account, the subtractions are recorded on the debit-side and the additions on the credit-side.

## II. Double entry accounting

| | Changes in assets structure | Changes in liabilities structure |
|---|---|---|
| Constant total sum | Assets swap | Liabilities swap |
| Changing total sum | Balance extension | |
| | Balance shortening | |

| | No change in total sum | | Change in total sum | |
|---|---|---|---|---|
| | **Assets swap**<br>Changes in assets structure | **Liabilities swap**<br>Changes in capital structure | **Balance extension**<br>Increase on both sides of the balance sheet | **Balance shortening**<br>Decrease on both sides of the balance sheet |
| **Profit neutral balance change**<br>(no change in equity through gains or losses in value; changes in equity only in capital transactions with owners) | **i.e. Buying current assets on cash** | **i.e. Conversion of current liabilities into non-current liabilities**<br>**Repayment of debts with additional equity** | **i.e. Buying a machinery on credit** | **i.e. Repayment of liabilities from commercial accounts** |
| **Profit affecting balance change**<br>(change in equity through gains or losses in values) | | **i.e. Increase of provisions** | **i.e. Receipt of a rentals** | **i.e. Consumption of material** |

**Assets swap**

Purchase of raw materials for 100 MU in cash.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Raw materials | 100 | | Cash | 100 |

The asset-side account “raw materials" increases (debit), the asset-side account "Cash" decreases (credit).

**Liabilities swap**

Conversion of a short-term trade payables into a bank loan amounting to 1,000 MU (i.e., by payment of the supplier invoice via current account credit at bank).

| Debit | | to | Credit | |
|---|---|---|---|---|
| Trade payables | 1,000 | | Bank loans | 1,000 |

The liabilities-side account "trade payables" decreases by 1,000 MU (debit), the liabilities-side account "Bank Loans" increases by 1,000 MU (credit).

**Asset-liability increase or balance sheet extension**

Purchase of inventories worth 500 MU on target (payment will be made later).

| Debit | | to | Credit | |
|---|---|---|---|---|
| Raw materials | 500 | | Trade payables | 500 |

The asset-side account “raw materials” increases (debit), while the liabilities-side account “Trade payables” increases by 500 MU (credit).

**Asset-liability reduction or balance sheet shortening**

Cash payment of an invoice from a supplier over 200 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Trade payables | 200 | | Cash | 200 |

The liabilities-side account "Trade payables" decreases by 200 MU (debit), at the same time the asset-side account "Cash" decreases by 200 MU (credit).

The posting records shown in the examples are so-called **single posting records**, because only one account is addressed on both the debit and credit sides. In the case of a **composite posting record**, on the other hand, more than one account is addressed on one or both sides; however, it is important that, as with simple posting record, the sum of the amounts posted on the various accounts in debit and credit must be the same.

**Composite posting record**

Raw materials are purchased for 1,000 MU, with 100 MU cash and 900 MU paid immediately by bank transfer resulting in a bank loan.

| Debit | | to | Credit |
|---|---|---|---|
| Raw materials | 1,000 | Cash | 100 |
| | | Bank loans | 900 |

The asset-side account "raw materials" increases by 1,000 MU (debit), the asset-side account "Cash" decreases by 100 MU and the liabilities account "Bank Loans" increases by 900 MU (credit).

**d) Final balance sheet**

During the financial year, the various transactions have resulted in changes in assets and liabilities that have been reflected in the respective permanent accounts.

Taking into account the accounting for the results presented and the transactions described, the following account balances are obtained:

| Raw materials (asset-side account) | | | |
|---|---|---|---|
| Opening balance | 961 | | |
| 1. Posting record | 100 | | |
| 2. Posting record | 500 | | |
| 3. Posting record | 1,000 | | |
| | | Closing balance | 2,561 |
| **Total** | **2,561** | **Total** | **2,561** |

## II. Double entry accounting

| Cash (asset-side account) | | | |
|---|---|---|---|
| Opening balance | 2,390 | | |
| | | 1. Posting record | 100 |
| | | 4. Posting record | 200 |
| | | 5. Posting record | 100 |
| | | Closing balance | 1,990 |
| **Total** | **2,390** | **Total** | **2,390** |

| Trade payables (liabilities-side account) | | | |
|---|---|---|---|
| | | Opening balance | 890 |
| 2. Posting record | 1,000 | 3. Posting record | 500 |
| 4. Posting record | 200 | | |
| Closing balance | 190 | | |
| **Total** | **1.390** | **Total** | **1,390** |

| Bank loans (liabilities-side account) | | | |
|---|---|---|---|
| | | Opening balance | 8,000 |
| | | 2. Posting record | 1,000 |
| | | 5. Posting record | 900 |
| Closing balance | 9,900 | | |
| **Total** | **9,900** | **Total** | **9,900** |

At the end of each financial year, the changes for each asset-side and liabilities-side account are determined using the following formula:

Final balance = opening balance + additions - subtractions

## II. Double entry accounting

The final balance is the balance of an account and is used on the lower side of the account to settle the account. The balance for asset-side accounts is regularly on the credit side, for liabilities-side accounts on the debit-side.

According to the double-entry bookkeeping, a reverse posting is also required for the closing of the permanent accounts. This offsetting is made on the so-called **final balance sheet account** of the balance sheet, which takes up the final balances of the permanent accounts. This means that at the end of the financial year, the permanent accounts are condensed back into a single account, the final balance sheet account, by posting the closing balances of the permanent accounts to the final balance sheet account. These postings are made automatically by modern computer systems.

The posting records are:

**Final balance sheet account to asset-side account**

The closing balance of an asset-side account appears on the debit side of the final balance sheet account and is posted on the credit side of the asset-side account.

**Liabilities-side account to final balance sheet account**

The closing balance that appears on the debit side of a liabilities-side account is posted to the credit side of the final balance sheet account.

| Final balance sheet account | | | |
|---|---|---|---|
| **Asset-side** | | | **Liabilities-side** |
| Non-current assets | 15,584 | Equity | 10,045 |
| Inventories | 2,561 | Non-current liabilities | 190 |
| Cash | 1,990 | Bank loans | 9,900 |
| **Total** | **20.135** | **Total** | **20.135** |

The actual final balance sheet is derived from the final balance sheet account in a final step. The allocation of the final balances to balance sheet and income statement items creates the annual financial statements.

### e) Income neutral and income affecting changes to the capital

**Income neutral changes**

In the transactions presented so far, the income statement and thus the net result that changes the equity account were not affected. Items on one side of the balance sheet were either exchanged or the balance sheet was reduced or shortened, but these were always purely changing in the balance sheet structure.

In the presentation of stock taking and inventory, it has already been pointed out that the success of an enterprise can be determined by a comparison of net assets at the beginning and end of a reporting period, which is nothing more than a comparison of the existing equity. In addition to the income affecting changes in equity, there are also non-income affecting changes in equity that do not affect the company's income.

Income non-affecting transactions with **the shareholders** may be the reason for changes in the equity account. The shareholder may contribute additional equity to the company (i.e., by means of a capital increase) or withdraw equity capital from the company (i.e., in the form of a dividend or distribution). These changes are posted directly to an equity account without touching the income statement.

The shareholder of a limited liability company invests an amount of 1,000 MU by means of a cash capital increase.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bank | 1,000 | | Share capital | 1,000 |

Especially in the **International Accounting** in addition to transactions with shareholders and/or shareholders, there are **other issues**, which are recognized directly in equity in an income-neutral manner.

**Income affecting changes**

The actual company's success results from the company's performance creation process, in which sales-ready products are produced or other services are rendered and sold by transforming the respective production factors. In contrast to the business transactions dealt with so far, which have only resulted in a reallocation within the balance sheet, the sale of goods or services results in a positive or negative change in value between the sales price and the price of the factors of production used. This means that in the event of an income affecting transaction, the remuneration for the operating performance is greater or less than the value of the factors employed, and, in this respect, a positive or negative success is achieved.

**The following example** should make clear the difference between income neutral and income affecting business transactions:

A trading company buys goods for 100 MU cash.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Inventories (balance sheet) | 100 | | Cash (balance sheet) | 100 |

There is an income neutral exchange of assets.

**Variant 1: Sale with profit**

The company sells these goods for 200 MU cash.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Cash (balance sheet) | 200 | | Revenues (income statement) | 200 |
| Use of goods (income statement) | 100 | | Inventories (balance sheet) | 100 |

This jump in value leads to an income affecting transaction that changes the company's net profit for the year and thus the company's equity, in which case equity is increased by 100 MU (revenues 200 MU minus 100 MU).

**Variant 2: Sale with loss**

The company sells these goods for 50 MU cash.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Cash (balance sheet) | 50 | | Revenues (income statement) | 50 |
| Use of goods (income statement) | 100 | | Inventories (balance sheet) | 100 |

A business transaction that is income affective therefore also exists if the company can only resell the goods for 50 MU, resulting in a loss resulting in a reduction in equity of 50 MU (revenues 50 MU minus use of goods 100 MU).

A business transaction that results in a profit or loss increases or decreases the company's net result and thus has an impact on the company's equity at least at the end of the period. In practice, however, it is not possible to determine the corresponding individual success for each transaction and to attribute it to the equity account due to the problem of attribution that cannot be solved. A proper assessment of the individual success of a business transaction would require that all positive and negative success components can be attributed to the individual business transaction. For example, the goods must be packaged and shipped, which results in changes in the turnover of other accounts (i.e., packaging material on the stock account), and the costs of sales and management of the company (i.e., personnel expenses) would also have to be transferred to the individual transactions.

In order to avoid this attribution problem, one does not determine the success of each individual business transaction, but only the **overall success** of a period. For this purpose, the income account or **profit and loss account** is spun off from the equity account as a sub-account; all (income-affecting) equity reductions on the one hand and all (income-affecting) equity gains on the other hand are recognized on this account. It should be noted that this is always the sum of the transactions of a period, the equity account itself remains unaffected by these periodic transactions. As shown above, income-affective equity reductions are referred to **as expenses, equity gains as income**. This means, on the one hand, that these are pagatorial (financial) variables; on the other hand, receipts or expenditures must be periodized in order to determine a meaningful net profit for the period.

## II. Double entry accounting

The need for **periodization** becomes clear using the example of depreciation: If the company buys a machine for 10,000 MU, then these 10,000 MU are expenditures of the corresponding accounting period. In terms of booking, there is an asset exchange between the machine account and the bank account that is profit-neutral. Only the proportion of expenditure of 10,000 MU that is actually "consumed" as an expense in a reporting period in the form of depreciation is income-affecting. The corresponding posting record for a 5-year straight-line depreciation is:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Depreciation (Income statement) | 2,000 | | Machinery (balance sheet) | 2,000 |

For the sake of clarity, however, expenses and income are not posted directly into the profit and loss account but are classified according to factual considerations and recorded on own income and expense accounts. The selection of accounts depends on whether the company uses the total cost or cost of sales method. Since expenses and income change equity, they are posted to the income accounts on the same side, on which equity reductions or equity gains are posted, i.e., expenses on the debit side, income on the credit side. According to the **clearing ban** (no balance, gross principle), netting of similar expenses and income (i.e., rental expenses and rental income) is generally prohibited; i.e., expense accounts contain in principle only debit transactions and income accounts only credit transactions. Postings on the other side, in the case of expense accounts of the credit and income accounts of the debit side, are only for corrective purposes, i.e., for cancellation postings (reversal of a transaction due to incorrect posting).

The booking technique itself and the corresponding posting records are identical to the posting of income non-affecting transactions.

The company pays its office rents of 5,000 MU.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Rental expenses (income statement) | 5,000 | | Bank (balance sheet) | 5,000 |

The company receives rental income of 5,000 MU.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bank (balance sheet) | 5,000 | | Rental income (income statement) | 5,000 |

## II. Double entry accounting

The balances of the expense and income accounts are closed through the profit and loss account, where their balance results in the profit or loss of the reporting period, which changes the equity in the balance sheet accordingly.

The corresponding posting records are:

Profit and loss account to expense accounts

Income accounts to profit and loss account

The equity account itself remains unaffected during the reporting period. Only at the end of the period does the equity account take the counter transactions of the balances and provide information about the change in equity in a compressed form only at the closing of the sub-accounts (i.e., subscribed capital, capital reserve, profit and loss account) at the end of the period.

| **Capital account** | |
|---|---|
| Withdrawals | Deposits |
| | Balance (net withdrawals) |
| **Total** | **Total** |

| **Net income** | |
|---|---|
| Expenses | Income |
| Balance (net profit/net income) | |
| **Total** | **Total** |

| **Equity account** | |
|---|---|
| | Opening stock |
| Net withdrawals | Net income |
| **Total** | **Total** |

## II. Double entry accounting

Corporations initially post net income in the income statement to a balance sheet profit account. A profit carryforward from the previous year is also posted to this account.

Profit and loss account to balance sheet profit account

Profit carryforward to balance sheet profit account

If (at least partially) the appropriation of profits is used in the old financial year, the (preliminary) allocation of the annual result is posted to the legal reserves and, where appropriate, to statutory or other retained earnings.

Balance sheet profit account to legal reserve,
statutory reserve, other retained earnings

All accounts are closed as subitems of equity through the final balance sheet account.

Legal reserve, statutory reserve, other retained earnings,
balance sheet profit account to final balance sheet account

A net loss for the year is reported in all of these within the equity. Next year, this item will be opened as a loss carryforward.

In the new fiscal year, the net profit is posted to a profit appropriation account.

Net profit to profit appropriation account

Depending on whether or not the balance sheet has already been drawn up taking into account (partial) the appropriation of profits, the final appropriation of profits must first be decided.

In the case of a limited liability company (i.e., in Germany: GmbH), the shareholders' meeting must be held within eight months (in the case of small companies within 11 months) of the determination of the financial statements and the use of the profit (paragraph 42a (2) GmbHG).

In the case of a public limited company (i.e., in Germany: AG), the annual General Meeting decides on the profit appropriation proposal of the Board of Management.

The decision on the appropriation of profits includes the dividend to be distributed, the transfer to the retained earnings and any profit carryforward.

profit appropriation account to other retained earnings,
profit carryforward, bank (dividend)

# C Posting of business transactions

## I. Basics of VAT

Most transactions in the supply and performance transactions of a company must consider **VAT (=value added tax)**, i.e., the following types of transactions are taxable:

— Deliveries of all kinds

— Other services, i.e., services, etc.

Several requirements must be observed in determining taxable transactions, in the design of the invoices identifying VAT and in the processing of VAT, in the case of cross-border transactions.

VAT is designed as so-called **excise** duty. This means that it is paid in full by the final consumer as a percentage of the benefit. Companies, on the other hand, are generally not economically burdened by VAT (exceptions exist, for example in the area of financial services companies), since they ultimately pass on the tax burden in their sales prices to final consumers. As a result, the company always must pay only the value added tax that it pays to the tax office, which is the difference between the procurement prices of the factors of use (i.e., goods) and their sales prices. Thus, when a service is sold (i.e., a sale of a product), the company achieves a sales price that contains a fixed percentage of sales tax. This VAT must be paid by the company to the tax office, but it can deduct from the VAT liability the tax paid itself when the factors are used, which is referred to as 'pre-tax'. The payment burden thus payable "net" by the company represents the VAT liability for the added value generated by the company's activities. An example illustrates this connection, with a VAT rate of 20% being assumed to be simplistic below.

| Level | Procurement cost (net) | Deductible Pre-tax | Sales price (net) | VAT to be paid | VAT (net) to be paid |
|---|---|---|---|---|---|
| **Farmer** | - | - | 200 | 40 | 40 |
| **Processors** | 200 | 40 | 400 | 80 | 40 |
| **Wholesalers** | 400 | 80 | 700 | 140 | 60 |
| **Retailers** | 700 | 140 | 1.200<br>1.440<br>(gross) | 240 | 100 |
| **Sum** | | **260** | | **500** | **240** |

The VAT charged to the consumer (240 MU) is the sum of the payment burden paid by the companies at the various stages and passed on to the customer concerned. For companies, VAT is only a continuous item, since the pre-tax paid at the time of procurement is deducted from their own VAT liabilities and thus reimbursed. The total payment burden is ultimately borne by the final consumer. Therefore, to the final consumer normally the purchase price, including VAT, is referred to whereas in business transactions between companies, price information without VAT is common.

From the company's point of view, the pre-tax is a receivable against the tax office, and VAT is a liability against the tax office. These receivables and liabilities must be recorded in the accounting system. The total payment burden shall be paid by the company to the tax office. If the pre-taxes of one month are higher than the own VAT liabilities, the tax office reimburses the excess.

## II. Process area procurement

### 1. Basics

**A trading company** buys its merchandise from a supplier and sells them to its customers without any further processing. On the other hand, a production company procures raw materials, auxiliary materials and consumables which are entered into a production process and then sold as finished products. For didactic reasons, the processes of a pure trading company should first be considered.

The **procurement process** involves the purchase of non-current assets as well as the current asset. While **non-current assets** are intended to serve the business in the longer term, the **current assets** are intended only for a short-term stay in the enterprise, as it is usually either consumed or resold. The procurement of **non-current assets** ranges from land and buildings to software, machinery and vehicles to office furniture.

In the case of a trading company, the procurement of **non-current assets** primarily concerns the purchase of goods whose repurchase is the business purpose of the company.

### 2. Procurement

#### a) Transactions without VAT

In the movement of goods, both the **assets accounts** are relevant **for the recording of inventories** (raw materials, auxiliary materials, consumables, finished products, finished products, goods) and the **income accounts** (use of goods, sales revenue) for the recording of procurement and sales transactions.

The **"Goods" account** records the opening balance from the balance sheet and all additions for the period on the debit side, the closing balance and any supplier returns on the credit side, respectively valued at acquisition cost (or production cost at production companies).

The so-called **use of goods** (withdrawals for sale) is also recorded on the debit side. During the period, this is continuously displayed on the separate income account "cost for goods sold" (or cost for goods or material expenses) and reflects the expense from the disposal/consumption of goods. At the same time, however, it also means a reduction of the inventory of the same amount and thus forms the balance of initial stock, additions and the final stock on the "Goods" account.

On the **revenue account**, the sale of goods is posted to sales prices on the credit side, possible customer returns, also at sales prices, on the debit side. The balance shows the revenue shown in the income statement. All transactions must be made net, i.e., without VAT.

<table>
<tr><th colspan="2">Goods (at cost)</th><th colspan="2">Revenue (at sales prices)</th></tr>
<tr><td>Initial stock</td><td>Supplier returns</td><td>Customer returns</td><td rowspan="4">Sales</td></tr>
<tr><td rowspan="3">Additions</td><td>Final stock</td><td rowspan="3">Balance = Revenues</td></tr>
<tr><td>Balance = Use of goods</td></tr>
</table>

## II. Process area procurement

| Use of goods (at costs) | |
|---|---|
| Withdrawals for sale | Customer returns |
| | Balance = Use of goods |

The **inventory of the goods account** is determined during the year by the constant update of the initial stock on the basis of additions, returns and the use of goods. The physical inventory at the end of the period is primarily used to provide a comparison of the book holdings with the stocks actually counted. This corrects errors in the recording of goods movements, detects shrinkage, i.e., due to theft. A possible adjustment of the book stock to the actual stock according to the physical inventory-taking (inventory difference) is determined by a offset posting to the income account "use of goods".

The transactions made during the year on additions and disposals of goods result in a book inventory of 4,000 MU. However, inventory at the end of the period results in a stock of 3,900 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Use of goods | 100 | | Goods | 100 |

In some textbooks, the **use of goods** is determined once a year only after the inventory taking as a balance from the initial stock, additions (=receipts) and final stock of the goods account and then posted as an expense. Although this approach is theoretically correct, it is rarely found in practice, since the company needs an ongoing overview of the existing stocks and the use of goods and therefore books the use of goods on an ongoing basis.

The result of the **income statement** is increased by the "revenue" as income, while the "use of goods" as an expense means a decrease in income. In this way, both the use of goods and a corresponding revenue are presented in the profit and loss account in full, i.e., **not offset** (gross).

The posting of trade in goods is illustrated in the following example. It should be noted that in most cases the procurement and sale of goods in the commercial sector is not carried out in cash, but **on credit**. In these cases, a liability to the supplier or a receivable against the customer shall be recorded. For didactic reasons, the presentation of the VAT transactions required in the predominant cases is initially waived.

Purchase of 100 units at the purchase price of 20 MU each without consideration of sales tax.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Goods | 2,000 | | Liabilities (Trade payables) | 2,000 |

Sale of 50 units at the selling price of 30 MU each, excluding VAT.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Receivables (trade receivables) | 1,500 | | Revenues | 1,500 |

Posting of the purchase of 50 units at the purchase price of 20 MU per unit.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Use of goods | 1,000 | | Goods | 1,000 |

In the case of an assumed initial stock of 500 MU, considering the above transactions, results the following goods account. The final stock of 1,500 MU was confirmed by the inventory. In the income statement, the net profit for the period is determined from revenue and the use of goods.

| Goods (at cost) | | | |
|---|---|---|---|
| **Debit** | | | **Credit** |
| Initial stock | 500 | Use of goods | 1,000 |
| Additions | 2,000 | Final Stock | 1,500 |

| Income statement | |
|---|---|
| Revenues | 1,500 |
| Use of goods | 1,000 |
| Net profit | 500 |

### b) Transactions with VAT

**VAT** is calculated on the basis of the net value of the corresponding delivery or other service, i.e., less any reductions in remuneration plus all ancillary costs, and must be shown separately on the invoice (to a company). VAT is a liability to the tax office and is a **liability account**.

The procurement of goods is posted on the basis of the incoming invoice, which shows the net value of the goods and the resulting **pre-tax**. The pre-tax is recorded on a separate "pre-tax" account. The pre-tax is a receivable against the tax office, the pre-tax account is an **asset account.**

For example, if a company purchases goods for a net value of 700 MU via bank transfer, the corresponding posting record is (VAT assumption = 20%):

| Debit | | to | Credit | |
|---|---|---|---|---|
| Goods | 700 | | Bank | 840 |
| Pre-tax | 140 | | | |

It should be noted that the pre-tax is also payable for various types of expenses, such as external repairs, office supplies, outgoing freight, etc.

Office materials worth 100 MU are procured net and recorded directly as expenses (VAT = 20%).

| Debit | | to | Credit | |
|---|---|---|---|---|
| Expenses for office supplies | 100 | | Cash | 120 |
| Pre-tax | 20 | | | |

## 3. Discounts, purchase costs, returns, price reductions and bonuses

The procurement or sale of goods and services, often involves other ancillary services, which must also be recorded in accounting terms.

### a) Pre-granted Discounts

Commercial quantity, special or reseller rebates, which are granted immediately upon issue of the invoice, constitute a **pre-granted discount** and are therefore usually not recorded separately in the accounts either during the procurement or sale of inventories. In both cases, the **net price** is posted directly.

### b) Purchase costs

The procurement of goods often incurs incidental costs, for example for freight, packaging, insurance, etc. These purchase costs increase the acquisition cost of the goods as **ancillary acquisition costs**. You can either post them to the corresponding goods account directly or to a corresponding separate asset-side account, such as "Purchase costs for merchandise". A separate recording increases the meaningfulness of financial accounting. In the case of a manufacturing company, the purchase costs could be recorded either in the raw materials, auxiliary and consumables account or separately in the raw materials reference account. At the withdrawal/consumption of goods the capitalized purchase costs also must be posted correspondingly.

A trading company buys goods worth 1,000 MU; in addition, 100 MU transport costs are incurred. It should be noted that pre-tax is also charged incidentally for costs (VAT = 20 %).

| Debit | | to | Credit | |
|---|---|---|---|---|
| Goods | 1,000 | | Bank | 1,320 |
| Purchase costs (permanent account) | 100 | | | |
| Pre-tax | 220 | | | |

Resale of the same goods for 1,200 MU:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Trade receivables | 1,440 | | Revenues | 1,200 |
| | | | VAT | 240 |

| Debit | | to | | Credit |
|---|---|---|---|---|
| Use of goods | 1,100 | | Goods | 1,000 |
| | | | Purchase costs (permanent account) | 100 |

In the practice part of the purchase costs will be directly as an expense recorded in separate accounts and considered at the end of a period as a percentage mark-up on the acquisition cost in the context of the valuation of the goods still in stock.

**c) Returns and price reductions (post-granted discounts)**

Returns and post-granted discounts are **retrospective reductions of the original acquisition cost**, because goods are returned, or the price of the goods is reduced retrospectively. This means that the original transaction must be reversed in the amount of the cost reduction. Since the net price is considered to be the basis of VAT, such a chargeback must also lead to a correction of the original tax amount.

If the company returns purchased goods to the supplier or receives, for example because the goods are affected by defects, a discount from the supplier, then the acquisition cost of the goods, the to be paid pre-tax and the corresponding liability have to be adjusted. Returns or discounts are therefore accountable as a chargeback, i.e., as a **cancellation booking**.

Original posting based on the invoice:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Goods | 1,000 | | Trade payables | 1,200 |
| Pre-tax | 200 | | | |

If 10% of the goods are returned, the above transaction must be cancelled at this amount.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Trade payables | 120 | | Goods | 100 |
| | | | Pre-tax | 20 |

### d) Bonuses

Bonuses are usually granted retrospectively as "loyalty" or "revenue bonuses" when **certain sales figures** are reached.

Bonuses received from the supplier lead to a subsequent reduction in the acquisition cost of the purchased goods. A direct **deduction from the originally posted acquisition cost** is only possible for the proportion of goods that are not yet has been sold. In this case, the value of the corresponding goods is determined by a credit posting on the **goods account reduced**. If, on the other hand, the goods for which the bonuses were granted are no longer in the stock, the received bonuses reduce the corresponding expenses for the **use of goods**. In this case, the "income from bonuses received" is reported at the end of the period as a reduction in expenses for goods (use of goods).

At the end of the financial year, the company received a bonus of 1% on the sales of the financial year. It has bought goods worth 120,000 MU including VAT, of which 10% is still in floor.

| Debit | | to | Credit |
|---|---|---|---|
| Trade payables | 1.200 | Goods | 100 |
| | | Income from bonuses received | 900 |
| | | Pre-tax | 200 |

Although the bonus is a "receivable" against the supplier, in practice the bonus is often recorded in the supplier's liability account (personal account). If this account turns at the end of the period by the bonus credit or other facts into a receivable against the supplier (in the liability account held as current account), a so-called debtor vendors is the result. The corresponding balance is reclassified as “other receivable” to the assets side of the balance sheet. This reclassification increases the liabilities shown on the balance sheet, as the negative supplier balances existing before the reclassification have reduced the existing liabilities. The identification of debtor vendors requires correct ancillary accounting (personal accounts, open item management).

Due to bonus claims against a supplier of 1,200 MU, which are only offset by delivery liabilities of 500 MU, a customer account (debitor vendor) is obtained. The balance is reclassified to the asset side of the balance sheet by means of the following posting record:

| Debit | | to | Credit |
|---|---|---|---|
| Other receivables | 700 | Trade payables | 700 |

### e) Cash discounts

The reasons for the bonuses, pre-granted and post-granted discounts discussed above arise from the movement of goods themselves, for example because a product is defective (post-granted discounts, price reduction), because a particularly large quantity was purchased (quantity discount) or because a certain turnover limit was reached within the quarter (sales bonus).

On the other hand, the cash discount is a discount which does not directly derive from the underlying sales transaction of goods but represents a **contractual remuneration for the early payment** of the **invoice**. The cash discount is expressed as a percentage of the invoice amount and is granted when an invoice is paid within a pre-arranged specific payment period. Otherwise, the full invoice amount must be paid. The discount can therefore be seen as a premium for the interest saving associated with early payment and a reduction in the risk of default. However, granting a discount under market conditions is very expensive or it is usually worthwhile to use a cash discount granted. The payment term "Payable in 10 days with 2% discount or 30 days net" corresponds to an annual interest rate of 36%.

In accounting terms, customer cash discounts are recorded in a separate account **"expense for granted cash discounts"** and supplier cash discounts in a separate account **"income from received cash discounts“**. In terms of content, a cash discount maybe regarded as an interest that is charged for the granting of credit when the full payment period is taken into account, or as a subsequent reduction in the net value of the goods. In the first case, the two accounts would have to be included directly in the income statement interest items. In practice, however, the two accounts are shown **as sub-accounts of the revenue or use-of-goods** account. The received cash discounts granted for goods already sold reduce the cost of the goods, i.e., for practical reasons, received cash discounts are posted directly as income in practice (and reported in the income statement as a reduction in the use of goods). At the end of the period, a percentage discount for received cash discounts on inventory is then made as part of the inventory valuation. The relevant statements in this paragraph on the discounts apply accordingly to bonuses received.

In any case, the use of a cash discount means a **correction of the VAT**. In this context, it should be noted that the cash discount can be posted net or gross, depending on whether the tax posting is made immediately upon payment or only at the end of the month.

When purchasing a product, a company first posts upon receipt of the incoming invoice:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Goods | 1,000 | | Liabilities | 1,200 |
| Pre-tax | 200 | | | |

**Alternative 1: Net booking**

If this invoice is now paid minus a 2% cash discount, the company will have a cash discount income, which will result in a correction of the pre-tax at the same time. In the case of the net transaction, this pre-tax correction is made directly at the time of payment.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Liabilities | 1,200 | | Bank | 1,176 |
| | | | Income from received discounts | 20 |
| | | | Pre-tax | 4 |

**Alternative 2: Gross booking**

When gross posting, the cash discount received is initially posted gross, i.e., including the corresponding pre-tax, to the account "received discounts".

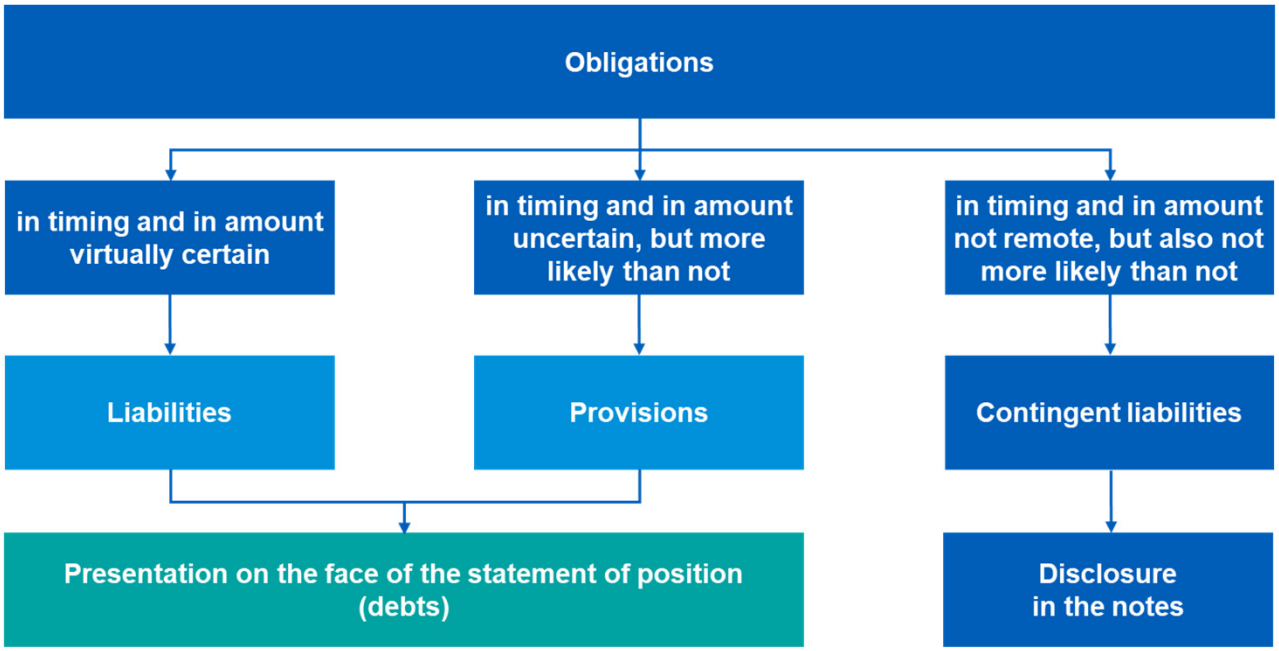
| Debit | | to | Credit | |
|---|---|---|---|---|
| Liabilities | 1,200 | | Bank | 1,176 |
| | | | Income from received discounts | 24 |

At the end of the period, this account o is corrected in summary for the pre-tax portion.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Income from received discounts | 4 | | Pre-tax | 4 |

## 4. Debts

Procurement operations result in counter-obligations (liabilities) as shown, as the company usually makes payment to the supplier only after receipt of the goods. In addition to liabilities, debts also include so-called provisions, which are to be valued at the end of a period. Contingent liabilities, in contrast, which are in timing and in amount not remote, but also not more likely than not, are disclosed in the notes.




### a) Liabilities

Supplier liabilities (trade payables) arise at the time of purchase on credit and must be valued at their **fulfillment amount**. This is the amount to be paid to meet the obligation. This can take the form of both cash and cash benefits. In general, the valuation of a monetary obligation is based on the agreed repayment amount of the liability.

In practice, there are usually no difficulties in assessing trade payables. The **amount of the liabilities** is already determined by the **ongoing accounting of procurement transactions**. In the case of long-term non-interest-bearing liabilities, reference is made to the statement in (c). If a liability (i.e., due to a limitation period of the claim) no longer must be paid, it must be deducted in income (i.e., income-affecting)

The valuation of provisions is more difficult.

### b) Provisions

Provisions are all debts of a company whose **occurrence or amount** is still **uncertain, but more likely than not** at the balance sheet date (end of the reporting period). The precise definition of the term of provision depends on the accounting standard used. This can be seen in the example of outstanding invoices at the balance sheet date, for which provisions are to be created in accordance with the HGB, while other liability is to be posted in accordance with IFRS.

All expenses are to be allocated to the corresponding income in accordance with the costs and on an accrual. This means that all future expenses are to be allocated to the period in which the associated income was incurred. In this sense, provisions for uncertain liabilities must be made for all future expenses that have been economically caused by income from past periods or which are no longer offset by sufficient income in subsequent periods. This liability obligation necessarily follows from the objective of accrual-based profit determination.

Examples of such future expenses, the economic causation of which is in the past period, are provisions for outstanding invoices in the procurement area as well as provisions for contractually guaranteed warranty services or for product liability in the sales area. In the latter two cases, the proceeds from the sale of the products were already realized in the past period. These revenues must now be attributed to the future costs of warranty services or product liability for these products, which are economically caused by the sale. By recording the corresponding expense in an estimated amount, the required anticipation or the debiting of the income statement of the previous period succeeds.

A systematic distinction must also be made between **factual** and **legal obligations**. While goodwill services, to which the company is economically obliged due to competitive pressure, constitute a de facto obligation, statutory warranty claims, and contractually agreed warranty services are to be added to the legal obligations.

## II. Process area procurement

In the current financial year, an enterprise has purchased goods worth 1,000 MU (net), but no invoice has yet been received at the balance sheet date. If the liability is still uncertain, a provision equal to the expected payment must be entered. However, only the net amount is initially recorded, since the right to a deduction of VAT tax requires the existence of the invoice

| Debit | | to | | Credit |
|---|---|---|---|---|
| Goods | 1,000 | | Provisions for outstanding invoices | 1,000 |

| Debit | | to | | Credit |
|---|---|---|---|---|
| Provisions for outstanding invoices | 1,000 | | Liabilities | 1,200 |
| Pre-tax | 200 | | | |

What is common to the cases mentioned so far are so-called **external commitments**. The obligations to settle outstanding invoices or to provide a guarantee constitute a contractual obligation, the obligation to guarantee/product liability, a public obligation under laws (i.e., BGB, Product Liability Act). If there is an external obligation, there is also a performance obligation at the same time. In this respect, the minimum objective of the existence of an obligation, which is required for a commercial liability obligation, is in principle applicable to external obligations.

In the sense of accrual-based profit determination, future expenses to be anticipated may also exist as purely **internal obligations**, i.e., as an obligation of the merchant towards himself. Such an internal obligation exists, for example, in the case of failure to carry out repairs, which are to be made up within a specified period in the following period. Whether such provisions are to be allowed for internal obligations depends on the applicable accounting standard.

In addition, **provisions for impending losses from pending transactions (provisions for onerous contracts)** must be taken into account in the financial statements. This type of provision necessarily follows from the principle of imparity and serves to anticipate future losses. Normally, the principle of non-accounting of a pending transaction applies. Assuming that the performance and consideration of a pending sales or procurement transaction are balanced, a pending transaction is not recognized on the balance sheet as long as none of the parties has acquired a right to the consideration through the provision of its own supply (principle of non-accounting of the undertaking business). For example, the order for a good does not trigger a booking, but only the goods receipt. This principle of non-accounting of pending transactions is breached at a time when the right to future consideration and the costs of the own service still to be provided no longer correspond and a surplus of commitments is threatened. An impending loss therefore results from the balance of the cost of one's own service and the value of the expected consideration.

It does not matter whether the loss results from a **sales or procurement transaction** or from a contract aimed at a **one-off service exchange** or a **permanent debt relationship**. Thus, the need to create an onerous contract provision may arise if a service has been offered at a certain price, but its own costs are expected to exceed those revenues. A typical example of losses due to permanent obligations are rented sales rooms that are no longer used for the remaining term of the lease or at least allow income below the rental expenses to be expected.

It should be noted, however, that a provision can only be used for impending losses, **not for lost profits**. Irrespective of the type of provision, it must be **dissolved** provided that the **reason for the provisioning has been omitted**.

For example, in November, a company has concluded a purchase agreement for 10,000 units of a trading product for 50 MU each for January of the next financial year and the possible sales price of these goods decreased from 60 MU to 55 MU by the balance sheet date, it may not constitute a provision for impending losses from pending transactions, since only the expected profit has decreased. If, on the other hand, the sales price falls to 45 MU, the company must already make the impending loss (5 MU per unit) at the balance sheet date.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Expenses for impending losses | 50,000 | | Provisions for impending losses from pending transactions | 50,000 |

Upon receipt of the merchandise in the following year, the company first posts as usual:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Merchandise | 500,000 | | Liabilities | 600,000 |
| Pre-tax | 100,000 | | | |

Since the value of the merchandise is now above the market price, a devaluation must be made. The resulting expenses were already recognized in the previous year on a period-by-period basis through the provisioning. Since there is no longer a pending transaction with the receipt of the merchandise, the provision is used by devaluation of the goods.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Provision | 50,000 | | Merchandise | 50,000 |

The above example also shows that, in such cases, a provision must in principle be passivated if no asset is available. However, as soon as such an asset exists, the devaluation of the asset always takes precedence, and an impairment charge is to be booked instead of a provision (expense on asset).

### c) Discounting provisions/liabilities

In part, the accounting standards stipulate that debts with a **residual maturity of more than 12 months** must be **discounted** over their (residual) life. The interest rate to be used is determined by the accounting standard to be applied. The following shows the entry and subsequent posting for a discounted provision:

Expenses for a court proceedings of 200 MU are expected to be incurred in about 2 years at the end of financial year t3. At the end of the year t1, it is to be booked if the discounted provision amount is 180 MU:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Other operating expenses | 180 | | Provisions | 180 |

At the end of the financial year t2 (discounted provision amount still amounting to 189 MU):

| Debit | | to | | Credit |
|---|---|---|---|---|
| Interest expense from compounding provisions | 9 | | Provisions | 9 |

At the end of the financial year t3 (when using the provision):

| Debit | | to | | Credit |
|---|---|---|---|---|
| Interest expense from compounding provisions | 11 | | Provisions | 11 |

| Debit | | an | | Credit |
|---|---|---|---|---|
| Provisions | 200 | | Bank | 200 |

### d) Down payments

Down payments are often required for **large-scale orders or long-term customer-specific production**. In accounting terms, a distinction must be made between down payments made and down payments received.

A cash deposit constitutes a **claim against the supplier**, which embodies a claim to an agreed delivery or service and does not constitute a claim for money. The time of delivery/performance creation therefore falls into a future period.

The "Deposit Payments" account is therefore an **asset-side account**, on which additions are posted on the debit-side, and disposals on the credit-side

If the company makes a down payment of 48,000 MU gross for a large-scale goods shipment, the posting record is:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Advance payments made | 40,000 | | Bank | 48,000 |
| Pre-tax | 8,000 | | | |

After receipt of the final invoice with a total of 90,000 MU plus VAT, the posting record is:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Goods | 90,000 | | Advance payments made | 40,000 |
| Pre-tax | 10,000 | | Liabilities | 60,000 |

It is important that the pre-tax tax is only booked for the amount already paid (and taxed) (in the example for 50,000 MU).

## 5. Accruals

The principle of accrual-based profit determination requires that all **cash outflows or cash-inflows** that lead to **expenses or income** only in the following periods be transferred to the subsequent periods by means of accrual - deferred charges/prepaid expenses accrual (**asset-side accruals**) or deferred revenue accrual (**liabilities-side accruals**). As a **transitory item**, they have the task of keeping the payments made and received in advance in the old period to be profit-neutral. The reversal of the accruals will result in income or expenses in the subsequent periods.

## II. Process area procurement

Examples of asset-side accruals are **rents paid in advance**, insurance premiums, etc.

On 1st September, the rental of MU 10,000 per month for the next half-year will be paid in advance for the leased business premises. Sales/pre-tax should not be accrued.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Rental expenses | 60,000 | | Bank | 60,000 |

At the end of the financial year, the prepayment of the rental for January and February must be deferred

| Debit | | to | | Credit |
|---|---|---|---|---|
| Asset-side accrual entries | 20,000 | | Rental expenses | 20,000 |

In the following year, the active accrual item is dissolved in profit or loss.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Rental expenses | 20,000 | | Asset-side accrual entries | 20,000 |

In practice, the recruitment and dissolutions in the accruals were regularly made during the year in order to have meaningful accounting information in monthly/quarterly reports.

Accordingly, income from the old period representing income for the following period is delimited (at the latest) on the balance sheet date.

The landlord of the above example posts in the old financial year:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bank | 60,000 | | Rental income | 60,000 |

At the end of the year, he must post an accrual for the rental income, which only represents the rental income of the coming year and report it on the balance sheet.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Rental income | 20,000 | | Liabilities-side accruals | 20,000 |

In the new financial year, the liabilities-side accrual item is dissolved in profit or loss.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Liabilites-side accruals | 20,000 | | Rental income | 20,000 |

The requirement for accruals of accounts necessarily arises from the general principles of accounting, according to which the prepaid expenditure or receipts must be attributed to their consideration. In the case of prepaid rents, the rental expense must be in accordance with the corresponding consideration, in this case, in accordance with the use of the rental rooms, periodized. Conversely, the rental income is to be attributed to the own obligation to provide the rental rooms.

The recognition of accruals is limited by objectification, depending on the accounting standard, by the fact that expenditure or receipts before the balance sheet date is to be accrued for only if they represent expenses or income for a certain period after that date. In the case of typical accrual cases such as rent, interest and insurance payments, the period of consideration can be precisely determined, and the value of the consideration is relatively clear. On the other hand, expenditure on an advertising campaign from which the company expects to increase substantial sales for the next period may often not be carried over to the next period as an expense by means of active accruals. No specific period can be specified for the expected consideration, and it is even uncertain whether earnings expectations will be met at all. The value of advertising expenditure is not sufficiently specified in that it would justify the creation of an accruals item.

## 6. Other receivables and other liabilities

The **principle of accrual-based profit determination** also imply the requirement to impute expenses and income to a period irrespective of the corresponding payments. Payments that become expenses or income (of the new period) only after the balance sheet date are transferred to the following period by means of accruals.

In a mirror image, **expenses or income** from the period under review that result in expenditure or receipts only after the balance sheet date must be **anticipated**.

The anticipation of "certain" future expenses (or income) is affected by the **passivation of a debt** (or the recognition of an "other claim"). In this way, the expenditures in the future period are already recognized in the income statement of the old period.

The payroll taxes still to be paid for the month of December will not be paid until January of the following year. Accordingly, the expense is recognized in the current financial year on an accrual-by-period manner and at the same time other liabilities are recognized in the balance sheet.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Wages and salaries | 30.000 | | Other liabilities | 30.000 |

The other liability is debited in the following year with the bank transfer (income neutral).

| Debit | | to | Credit | |
|---|---|---|---|---|
| Other liabilities | 30,000 | | Bank | 30,000 |

Accordingly, income from the old period that only leads to payments in the new period is recognized as "other receivables".

A company that operates the lease of buildings only as an ancillary activity and the rental payment for the month of December is received only in the following year, posts:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Other receivables | 40,000 | | Rental income | 40,000 |

When payment is received in the new financial year, it credits the receivable (income-neutral):

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 40,000 | | Other receivables | 40,000 |

## 1. Basics

In the previous section, the transactions typically associated with the procurement (and sales) of goods were presented using the example of a trading company. A **production company** also procures the factors of production required to produce the products and sells the finished products; these processes are generally posted in the same way.

In contrast to a pure trading company, the production company does not sell the goods procured in an unchanged state but produces new products by **combining the various factors of production**. The main permanent factors of production of industrial production are usually human labor, which includes both executing and dispositive activities, and equipment, i.e., tools and machinery.

Raw materials, auxiliary materials and consumables are used in the actual production process, which are transformed into products.

**Raw materials** are the substances which are processed, and which are included as the main component in the finished product (i.e., leather in a shoe factory). **Auxiliary materials** also enter the finished product but are only included as an ancillary component of the raw materials (i.e., yarn for sewing the shoe). **Consumables (Supplies)** are not part of the finished product but are consumed during the manufacturing process by using the equipment (i.e., electricity, oil and lubrication for the sewing machines).

To produce shoes, the raw material leather worth 800 MU is taken, which was recently purchased on credit.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Raw materials | 800 | | Trade payables | 960 |
| Pre-tax | 160 | | | |

| Debit | | to | | Credit |
|---|---|---|---|---|
| Expenses for raw materials | 800 | | Raw materials | 800 |

If, to put simply, a commercial company's success results from the comparison of expenditure on the use of goods and the revenue from sales of goods, a production undertaking must compare all the costs incurred **in the production of the products** with the turnover of those products. Types of expenditure as diverse as the consumption of raw materials, auxiliary materials and supplies, production wages and salaries, as well as reductions for the operational wear and tear of the plants are incurred.

Planning, documentation and control of the operational production process are the responsibility of internal accounting, especially cost and performance accounting. Accounting, on the other hand, only shows the financial result of this process by juxta looking the expenses incurred against the income generated.

To this end, it is necessary to make use of some results of the cost and performance calculation, which make it possible to offset the various expenses to the manufactured products (calculation costs). Only then can the required postings be made in accounting.

## 2. Calculation of production costs using the cost statement sheet (CSS)

### a) Cost type accounting

The **distribution of the costs incurred during production** among the respective cost centers and, finally, the corresponding cost objects, i.e. the products produced, is the main objective of cost accounting.

For this purpose, the total costs are first recorded in the **cost type calculation** and broken down into different cost types, so that a meaningful distribution of costs is possible (see in the example **cost statement sheet** column 1 shown below). The basic idea of any cost allocation is the causation principle, according to which each costing object is to be charged to the costs that its production has caused. Depending on the accounting objective, however, the causation principle may require a different type of cost allocation and thus also the preparation of the cost types; under circumstances, costs must be broken down according to various criteria in order to allow for a flexible evaluation.

In the case of short-term planning decisions, which must be based on a given stock of means of production, it makes sense to divide costs into fixed and variable components, depending on their behavior in the event of changes in employment. **Variable costs** change their amount with a change in the production quantity, so they are also relevant for short-term sales decisions. **Fixed costs** are independent of employment as costs of operational readiness. They are important for long-term decisions concerning production capacity.

Instead of the relevance of the decision, the distinction between **individual and overhead costs** focuses on the accountability of costs to the products produced. Production material, production wages and special costs of production can be recorded directly as **individual costs** by means of material withdrawal certificates or payrolls and pay slips and can be attributed directly to the cost objects. Final cost objects are usually the individual finished products. On the other hand, **overheads** cannot be levied on a single product because all products are incurred jointly, for a department or for the enterprise. Overhead costs typically include overhead material, administrative costs, especially salaries of employees who do not work in production, and imputed costs.

**Imputed costs** deliberately deviate from the paid costs (i.e., the actual payment flows) and serve to consider lost profits (opportunity costs) or future costs in the product calculation. For example, imputed interest indicates the interest income that could have been generated if the capital employed had been used as an alternative. Imputed depreciation, on the other hand, is made on the (possibly higher) replacement value in contrast to the depreciation on the balance sheet. The aim is to be able to build up the necessary reserves by depreciation by the replacement date of the fixed asset. For this purpose, the higher imputed depreciations are often used in the calculations of cost and performance calculations.

If the **causation principle** is interpreted narrowly, overheads cannot necessarily be attributed directly to a finished product. Nevertheless, for many purposes (i.e., cost control or price calculation) it is necessary **to allocate** all the **costs incurred**, not just the individual costs, to the products. It should already be pointed out at this point that it is also necessary in principle, when accounting for self-created/created products, to activate them with their individual and pro rata overheads in order to keep the manufacturing process profit-neutral and to ensure an accrual-based profit determination.

### b) Cost center accounting

The costs processed in the cost type calculation are distributed among the various cost centers in the next step in the cost calculation(see **cost statement sheet (CSS)** columns 2-9, lines 1-11). A cost center is a part of a **company** that should be as uniform as possible in terms of function as well as its cost structure. In this sense, **five costs areas** are usually distinguished, which are then further broken down into cost centers:

- The **general costs area** is usually preceded by operational functions and includes general services such as energy supply, fleet, company fire brigade, canteen, etc. (see cost statement sheet columns 2-4).
- In the **material costs area** (see cost statement sheet column 5), the entire materials management is summarized, which could again be further divided into the cost centers procurement, material inspection and storage.
- Depending on the production process, the **production costs area** comprises different production sites, which in turn are differentiated into production main and production auxiliary costs (see cost statement sheet columns 6+7 for a division of the production headquarters).
- All functions of corporate management such as finance, accounting, etc. are combined as **administrative costs areas** (see cost statement sheet column 8).
- Finally, the **distribution costs area** includes the functions associated with the sale of the products, such as warehousing, marketing, sales and shipping (see cost statement sheet column 9).

Cost-object accounting is carried out in practice by means of an **operating costs statement sheet**, which shows in the first column the costs compiled in the cost types calculation and in the following columns all the cost centers of the company. The aim is to transfer these costs to the cost centers according to certain attribution criteria.

In order to distribute costs, the individual costs directly attributable to the individual cost objects would not have to be shared between the cost centers. This is done only in order to fully record for control purposes the costs incurred in a cost center and as will be shown later, because the **individual costs** (see the following cost statement sheet line 20-23) are used as a reference for the distribution of **overhead costs**.

The (cost object) overheads can now either be distributed directly to the cost centers as **individual cost center costs**, or they must be transferred to the cost centers as **cost center overheads** based on certain allocation keys. In the distribution of some cost types, the performance of a cost center (i.e., quantities or working hours) can be used as a direct allocation key, otherwise indirect allocation keys (i.e., the room of a cost center as the key for the pro rata heating costs) must be used. The overheads distributed in this first step among the individual cost centers are the **primary overheads** (see cost statement sheet line 11).

## III. Process area production/performance creation

| Columns | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| Line | Cost Centers | Figures of the cost-type calculation | Pre-cost points | | | Final cost points | | | | |
| | Cost types | | General (auxiliary) cost centers | | Production auxiliary center | Material-center | Production main Centers | | Administrative center | Distribution-center |
| | | | I | II | | | A | B | | |
| **I. Capture of the primary cost types (lines 1 - 10)** | | | | | | | | | | |
| 1 | Overhead costs wages | 4,000 | 400 | 500 | 1,000 | 800 | 200 | 200 | 600 | 300 |
| 2 | Salaries | 7,500 | 400 | 300 | 300 | 1,200 | 500 | 300 | 2,500 | 2,000 |
| 3 | Social Benefits | 1,150 | 80 | 80 | 130 | 200 | 70 | 50 | 310 | 230 |
| 4 | Overhead costs Material | 3,000 | 400 | 200 | 400 | 200 | 500 | 600 | 400 | 300 |
| 5 | Maintenance | 250 | 10 | 20 | 40 | 20 | 60 | 70 | 20 | 10 |
| 6 | Energy | 180 | 20 | 10 | 20 | 20 | 40 | 40 | 20 | 10 |
| 7 | Rent | 400 | 20 | 30 | 30 | 40 | 60 | 50 | 100 | 70 |
| 8 | Insurance | 140 | 10 | 10 | 20 | 10 | 30 | 40 | 10 | 10 |
| 9 | Imputed Depreciation | 500 | 30 | 50 | 60 | 60 | 100 | 110 | 50 | 40 |
| 10 | Imputed. Interests | 130 | 10 | 20 | 20 | 10 | 30 | 20 | 10 | 10 |
| 11 | Sum of the primary cost types (lines 1-10) | **17,250** | **1,380** | **1,220** | **2,020** | **2,560** | **1,590** | **1,480** | **4,020** | **2,980** |
| **II. Levy of the general (auxiliary) costs (Lines 12 - 15)** | | | | | | | | | | |
| 12<br>13 | Levy position 1 (Column 2) | | -1.380 | +100 | +300 | +400 | +200 | +200 | +100 | +80 |
| 14<br>15 | Levy position 2 (Column 3) | | | -1.320 | +200 | +300 | +200 | +220 | +300 | +100 |
| 16 | **Subtotal** | **17.250** | **-** | **-** | **2.520** | **3.260** | **1.990** | **1.900** | **4.420** | **3.160** |

## III. Process area production/performance creation

| Columns | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| Line | Cost Centres / Cost types | Figures of the cost-type calculation | Pre-cost points: General (auxiliary) cost centers I | Pre-cost points: General (auxiliary) cost centers II | Pre-cost points: Production auxiliary centers | Final cost points: Material-centre- | Final cost points: Production main centers A | Final cost points: Production main centers B | Final cost points: Administrative center | Final cost points: Distribution-center |
| **III. Levy of the production auxiliary costs (Lines 17 + 18)** | | | | | | | | | | |
| **16** | **Subtotal** | **17.250** | **-** | **-** | **2.520** | **3.260** | **1.990** | **1.900** | **4.420** | **3.160** |
| **17** | | | | | -2.520 | | | | | |
| **18** | | | | | | | 1.500 | 1.020 | | |
| **19** | **Total cost of final cost points** | **17.250** | | | **-** | **3.260** | **3.490** | **2.920** | **4.420** | **3.160** |
| **IV. Determination of surcharge rates/surcharge basis** | | | | | | | | | | |
| **20** | a) Material individual costs | | | | | 20.000 | | | | |
| **21** | b) Manufacturing wages | | | | | | 3.000 | 5.000 | | |
| **22** | c) Manufacturing costs[(a)] | | | | | | | | 37.670[(a)] | 37.670[(a)] |
| **23** | d) Actual surcharge | | | | | 16,3% | 116,3% | 58,4% | 11,7% | 8,4% |

Note: (a) Total line 20 + columns 6 and 7 of line 21 + columns 5-7 of line 19

In a second step, the so-called **secondary overheads** are then charged in the form of a cost center levy (see cost statement sheet lines 12-19). This is necessary because the costs incurred in the pre-cost centers, i.e., the general cost centers, manufacturing auxiliary sites, etc., do not lead to directly marketable services, but also accrue as in-house services for the main cost centers material, production, administration and distribution. In proportion to the services provided for the main cost centers, they must therefore be broken down as secondary overheads and included in the calculation of the total cost of the finished products.

With the help of the cost statement sheet, all primary and secondary overheads are distributed among the **company's main cost centers** (final cost points) directly responsible to produce the sales products. The cost breakdown required in this process deliberately violates the principle of individual allocation in order to allocate as much of the costs as possible, albeit quite flat, to the individual cost **centers** (and ultimately to the various cost objects).

The sum of the overhead costs of a main cost center is now compared in a final step to an appropriate **reference value** in order to determine the respective rate of surcharge or allocation of this **cost** center (see cost statement sheet lines 20-23).

In the material area, material costs are generally chosen as the **reference value**, in the production area the individual labor costs or the hours worked. This means that a proportional dependence of overheads is assumed to be based on the individual **costs**. The basis for the additional costs of administration and distribution are, as a rule, the calculation of production costs, which consist of the individual costs of materials and production, plus the overheads to be added pro rata at the calculated set-off rates.

**c) Cost unit (time) accounting**

In the context of cost center accounting, a uniform **overhead surcharge rate** is determined for each main cost unit by putting the corresponding overheads in relation to the individual costs. This surcharge indicates the percentage of additional pro rata overheads to be borne by a product for which individual costs have been incurred in a certain amount.

With the help of these surcharge rates, the costs passed on to the material, production, administrative and distribution centers in the cost center calculation can now be offset against the various cost objects. In this way, **the cost unit accounting** can calculate the imputed production costs of a single finished product by dividing the individual and overhead costs of a product type by the number of pieces, in order to be able to make, for example, price policy decisions, manufacturing process comparisons or make-or-buy decisions. It is also important to assess the cost of production for the valuation of self-created/created installations and stocks of finished and unfinished products/services which must be capitalized on the balance sheet at production cost.

However, in the context of a **cost unit time accounting**, the costs incurred in a period can also be derived in the same way for the cost objects.

In the case of both forms of cost object accounting, the calculation of the imputed production costs is carried out in accordance with the method of surcharge calculation, in which the material or individual production costs are the pro rata overheads in the amount of the surcharge rates determined in the cost statement sheet. However, if based on the imputed production costs, the costs are derived by supplementing the pro rata administrative and **distribution overheads**, it must be borne in mind that at least the distribution overheads are not incurred for the quantities produced in a period but for the products **sold**. This may be identical to the quantity produced, but products can be produced than sold. In these cases, stocks of unfinished or finished products will be increased or stocks from the last period will be disposed. It should also be noted that, although distribution costs may be included in the calculation costs, they are in no case part of the production costs in accordance with financial accounting.

It should be noted that, as already mentioned, the stock changes are also valued at production costs in the sense of the surcharge scale shown above.

As far as **administrative costs** are concerned, it is not clear whether they are primarily attributable to the goods produced or sold; they are also referred to the imputed costs of sales, in order to be able to form a uniform rate of surcharge for administrative and distribution overheads.

| | | |
|---|---|---|
| | **Material individual costs** | **1.000** |
| + | Material overheads (80% according to CSS) | 800 |
| **=** | **Materials** | **1.800** |
| + | Manufacturing individual costs (=wages) | 2.000 |
| + | Manufacturing overheads (100% according to CSS) | 2.000 |
| **=** | **Costs** | **4.000** |
| **=** | **Costs of goods produced (production costs)** | **5.800** |
| + | Stock reductions | 1.000 |
| – | Stock increases | 2.000 |
| **=** | **Costs of sales** | 4.800 |
| + | Administrative overheads (10% according to CSS) | 480 |
| + | Distribution overheads (10% according to CSS) | 480 |
| **=** | **Costs of goods sold** | **5.760** |

Note: %-rates are assumptions for this example; CSS = cost statement sheet

### d) Production costs in accordance with financial accounting

The cost calculation of production costs according to the calculation procedure was presented in the previous section, and its importance for the valuation of self-created/created assets (self-created/created installations and finished products) was also pointed out.

However, the different objectives of cost accounting and financial accounting reveal some **differences** about the financial accounting and cost accounting cost calculation concepts. This means that for financial accounting purposes only these costs may be included in the valuation, which at the same time represent expenses. Imputed costs may not be considered in the cost of production in financial accounting. The limitation to costs equal to expenses is explained by the requirement to record the manufacturing process in a profit-neutral manner. Only if the actual costs incurred are used to determine the production costs can these be kept profit-neutral by capitalizing. Imputed costs deviating from actual expenses would have resulted in earnings in the amount of the difference.

The respective **accounting standard specifies** which **cost components** are to be included in the production costs. On a regular basis, these are all material and manufacturing costs (individual and overhead costs) including other expenses due to manufacturing (special costs, depreciation, administrative costs of manufacturing). Distribution costs may not be included in the production costs on a regular basis.

## III. Process area production/performance creation

| Production costs according to HGB | Inclusion | |
|---|---|---|
| | mandatory | optional |
| **Materials** | | |
| Material individual costs | ● | |
| Material overheads | ● | |
| **Manufacturing** | | |
| Manufacturing individual costs (mainly manufacturing wages) | ● | |
| Special individual costs of production | ● | |
| Manufacturing overheads, including depreciation of manufacturing equipment | ● | |
| **Administrative overheads** | | ● |
| **Benefits** | | |
| Expenditure on social institutions of the company | | ● |
| Expenditure on voluntary social benefits | | ● |
| Expenses for occupational pensions | | ● |
| **Pagatorial interest on debt capital** | | |
| interest on debt that is specifically used to finance the production of an asset | | ● |

## 3. Production process

### a) Determination of success without changes in stock

The method of surcharge calculation in cost accounting and the **determination of the production costs in financial accounting** is only **necessary** for the purposes of financial accounting if **self-produced products** have been **shown** on the balance sheet and therefore must be valued at production costs. This is particularly the case for production companies, but also, for example, for self-created/created installations, which must be capitalized at their cost of production.

For the accounting record of the production process of products, the valuation of individual products at production cost is not **necessary** if the **quantity** produced in the period corresponds to the quantity sold and there are no stocks left in stock at the end of the period. The various expense types are posted against the respective stock account during the period, i.e.,

| Debit | to | Credit |
|---|---|---|
| Expenses on raw materials | | Raw materials (balance sheet) |

or

| Debit | to | Credit |
|---|---|---|
| Wages | | Bank |

At the same time, revenues are recognized as income from sales.

| Debit | to | Credit |
|---|---|---|
| Trade receivables | | Revenues |
| | | VAT |

## III. Process area production/performance creation

At the end of the period, the expenses incurred are compared with the revenues generated.

A company has produced 10 computers in one period and sold them for 3,000 MU a piece. 5,000 MU of manufacturing materials, 10,000 MU wages, 2,000 MU of social expenses and 3,000 MU administrative costs were incurred. During the period, expenses and revenues are posted.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Trade receivables | 36,000 | | Revenues | 30,000 |
| | | | VAT | 6,000 |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Expenses on raw materials | 5,000 | | Raw materials | 5,000 |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Wages | 10,000 | | Bank | 15,000 |
| Social expenses | 2,000 | | | |
| Administrative expenses | 3,000 | | | |

The total income statement for the period is as follows:

| Income statement | |
|---|---|
| Revenues | 30,000 |
| Increase in stock | - |
| Raw materials | 5,000 |
| Wages | 10,000 |
| Social expenses | 2,000 |
| Administrative expenses | 3,000 |
| **Result for the period** | **10.000** |

**b) Determination of success with changes in stock**

However, the operating success can only be determined by simply comparing the operating expenses and the revenues of a period if the produced is at the rate with the quantity sold.

As a rule, however, there are either

— more products than sold (**increase in stock**) or

— fewer products than sold (**reduction in stock**).

These changes in stock must also be considered when determining the operating result. Where more products have been produced than sold, revenue may be attributed to the revenue for accrual-based profit calculation only the expenses necessary to produce the quantity sold. The additional expenses has been incurred for the creation of an additional stock (**increase in stock**) and must accordingly be offset against this performance. This means that an **increase in the stock of unfinished or finished products** means an **income for the company**.

The operational significance of an increase in stock lies in the fact that it represents an advance for the new period in which higher revenues can then be achieved without further production expenses. However, the principle of realization prohibits the statement of future turnover before they are made, i.e., before they are confirmed by the actual sale. This means that the income component 'increase in stock' may not be valued at the expected sales prices of the products, otherwise a success equal to the differences between the production costs and the higher future sales price would already be realized as a result of the increase in stock. On the contrary, the process of increasing the stock must be kept profit-neutral: This is achieved by assessing the existing products at their cost of production and show only at this level an income from "Stock increase".

In this way, the recognized expenses relating to the non-sold products are offset by the income component ‘increase in stock’ of the same amount and thus achieve the neutrality of earnings. At the same time, the stock of products is capitalized on the balance sheet and valued at (financial accounting) production costs.

For the example above, it is now assumed that only 9 of the 10 computers produced have been sold. The production cost of a computer is 2,000 MU.

Due to the continuous postings of stock changes during the year, the increase in the number of computers in the amount of 2,000 MU is increased at the balance sheet date.

The finished products are capitalized in the balance sheet and compensate for the production-related reductions in the stock of raw materials, financial resources, etc. The increase in stocks neutralizes the expenses incurred in the production of the computer, which has not yet been sold.

| Income statement | |
|---|---|
| Revenues | 27,000 |
| Increase in stock | 2,000 |
| Raw materials | 5,000 |
| Wages | 10,000 |
| Social expenses | 2,000 |
| Administrative expenses | 3,000 |
| **Result for the period** | **9.000** |

The result is 1,000 MU lower than for sales of all 10 computers, since only 9 computers could achieve a profit of 1,000 MU per piece, whereas the non-sold computer was recorded in an income-neutral manner.

A **reduction in stock** is recognized as **an expense** in the same way. If more products are sold than produced in a period, not only the revenues generated for the products produced in that period may be attributed to the expenses generated for the products produced in that period, but in addition the production costs of the units produced in the previous period must be considered, since these production costs have been neutralized in the previous period by the inventory increase accounting.

It is now to be assumed that the company of the above example will produce again 10 computers under the following period under the same conditions but will sell 11 computers.

This means that the computer shown in the previous year's balance sheet as a stock of finished products is deducted as a decrease in inventory.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Decrease in stock | 2,000 | | Finished products | 2,000 |

| GuV | |
|---|---|
| Revenues | 33,000 |
| Increase in stock | 2,000 |
| Raw materials | 5,000 |
| Wages | 10,000 |
| Social expenses | 2,000 |
| Administrative expenses | 3,000 |
| **Result for the period** | **11.000** |

The peridode result is higher than in the original case without changes in stocks (section a) because the sale of another computer would result in an additional profit of 1,000 Ge.

### c) Total cost method and cost of sales method

Total cost method and cost of sales method differ in the amount of expenses and income shown on the face of the income statement.

The aim of the **total cost method**, which is mainly applied in Germany, is to present the **total operating performance of a period**. In addition to the revenue from the products sold, the changes in the stock of finished and unfinished products as well as the own services for capitalized self-created/created installations are also reported as a success. The latter two items are valued at production costs. **Total income is compared with the total expenses for the period**, broken down by type of expenses. The periodic result is obtained according to the following scheme:

| | |
|---|---|
| | **Revenues of the products sold** |
| + | Capitalized own services |
| +/– | Changes in stocks |
| + | Other operating income |
| **=** | **Total income for the period** |
| – | Total expenses |
| **=** | **Net result for the period** |

The **cost of sales method**, on the other hand, is intended to document the success of the sales market by juxtaposed only the income and expenses of the services sold. This means that the costs incurred on the products sold are deducted from the revenue.

Expenses on non-sold products which form part of the cost of production of assets to be capitalized shall be recognized in profit or loss only during the periods at the time of the sale of the related products. Expenses are not recorded according to the type of expenses, but by the products for which they were incurred. Total cost method and cost of sales method therefore differ not only in terms of the amount of expenses and income presented, but also in terms of their **structure**, whereby the total cost method follows the expenses type structure, and the cost of sales method follows the functional structure (cost of sales, distribution costs, administrative costs ...).

The cost of sales method eliminates the need to assess changes in stocks, but the **cost of production of the products sold** for a period must be determined.

| | |
|---|---|
| | **Revenues** |
| – | Production costs of the sold products (cost of goods sold =”COGS”) |
| – | Distribution costs |
| – | General administrative costs |
| **=** | **Net result for the period** |

Since any changes in stock are treated in a profit-neutral manner, the same net profit for the period must result in both methods. In summary it looks like follows:

| Total cost method | Cost of sales method |
|---|---|
| Revenues | Revenues |
| +/- Changes in the stock of unfinished and finished products | - Production costs of the services sold |
| + capitalized own services | - Sellling and distribution costs |
| - Operating expenses (material, personnel, depreciation/amortization) | - General administrative costs |
| + Other operating income | + Other operating income |
| - Other operating expenses | - Other operating expenses |
| Operating result (=EBIT in a broader sense) | Operating result (=EBIT in a broader sense) |
| + Financial income | + Financial income |
| - Financial expenses | - Financial expenses |
| Financial result | Financial result |
| EBT | EBT |
| - Income taxes | - Income taxes |
| Net profit/loss | Net profit/loss |

## 4. Inventory valuation

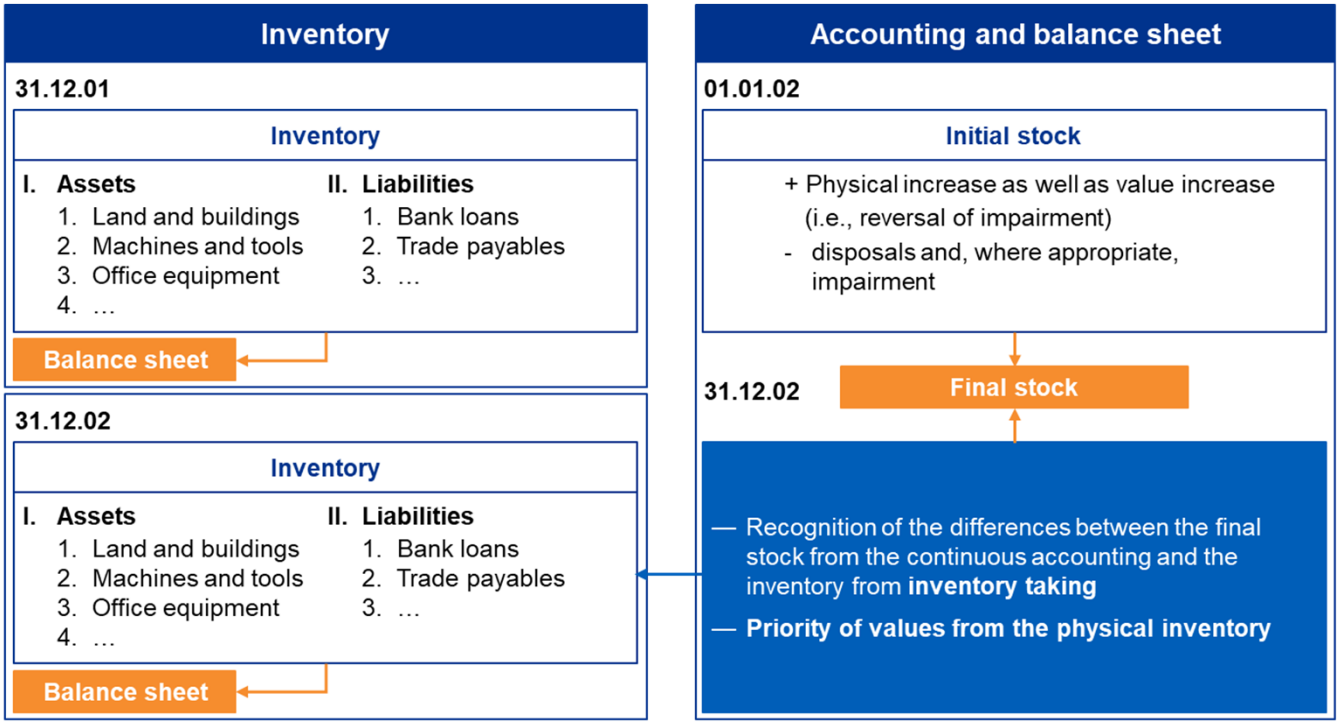
Several steps are required to assess the inventories of current assets at the end of the period.

### a) Determination of quantity (=inventory/stock taking)

First, the inventory taking must determine which stocks are still in stock. This actual stock must be linked to the quantity account able to match the book's inventory. Any small amounts due to incorrect postings, theft, etc. are considered as stock differences to be booked out.

According to the inventory accounting, the transactions made during the year on receipt and withdrawal of raw materials result in a book stock of 30,000 MU. However, only raw materials worth 29,700 MU are recorded during inventory taking at the end of the period.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Expenses on raw materials | 300 | | Raw materials | 300 |



### b) Initial valuation

However, since the physical inventory only determines a quantity size, a second step is to determine the value with which the existing stocks are to be valued.

If, in the simplest case, the valuation of the initial stock and all receipts at the **same acquisition or production cost** is carried out, the final quantity stock must also be valued with these costs.

The valuation of the stock is more problematic if the corresponding inventories **fluctuate** during the **period, with acquisition or production costs**. In this case, it is usually no longer possible to prove in detail at the end of the period at what values the stocks still in stock have been received (=identity principle). For this purpose, the inventories would have to be stored according to the respective acquisition or production costs, which is too expensive in practice. For this reason, the accounting standards for the valuation of similar assets provide for valuation simplification procedures, which may vary according to the relevant standard. In practice, different valuation methods have developed, each based on a different consumption **assumption**.

The following two methods differentiate according to the order of access:

**LIFO (=Last in, first out)**

This collective valuation method **assumes** that **the last purchased or manufactured items** of the stock are **consumed first**. The final stock according to the inventory is therefore composed of the initial stock and the first receipts and is valued at the corresponding prices or costs. This assumption may, in certain cases, correspond to reality, for example, when the newly acquired coals are deposited in a coal warehouse on the quantity already stored and the withdrawals are also removed from above.

However, the decisive factor in the LIFO process is that, in times of rising prices, the stock is valued at the lowest possible value at the balance sheet date.

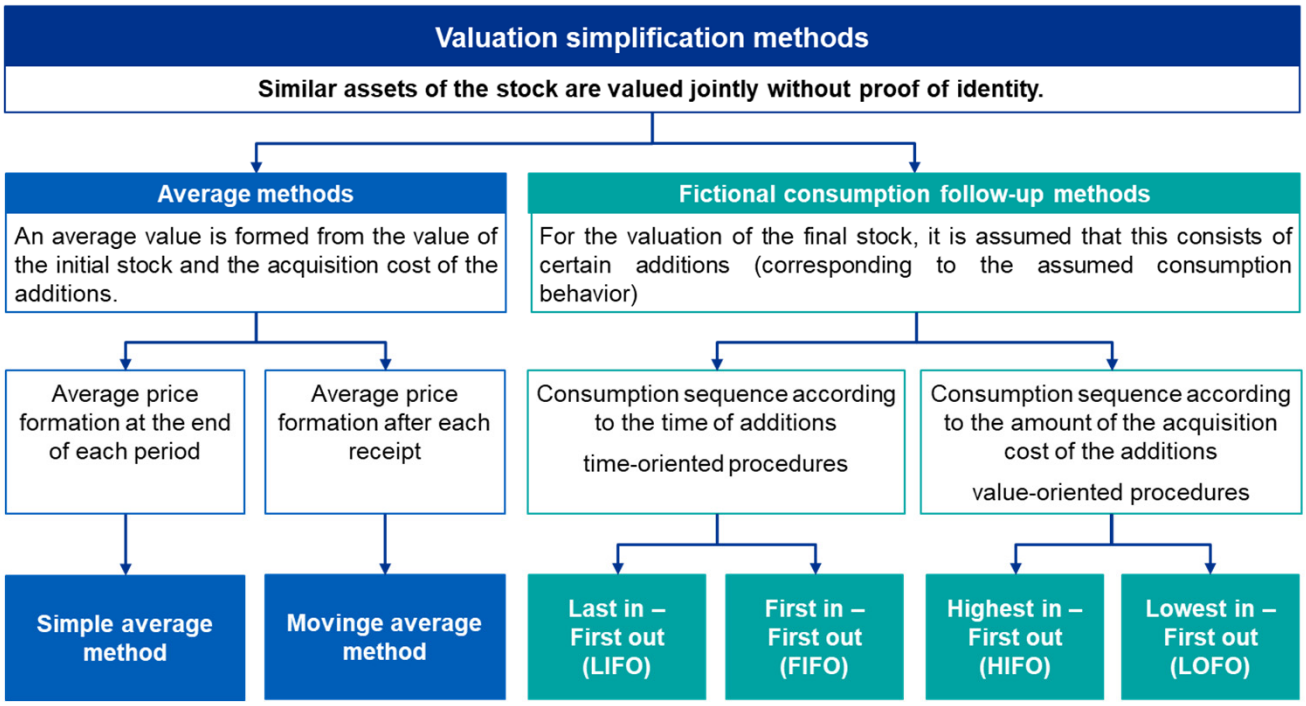
**FIFO (=First in, first out)**

The FIFO method assumes that the **first inventories received** are consumed **first**. Accordingly, the final stock is valued with the values of the last receipts. This valuation method corresponds to the actual consumption sequence, i.e., for perishable goods and for storage forms such as silos for cement or plastic granules, in which the receipts are refilled at the top, but the outlets are taken below.

With rising prices, the Fifo method leads to a correspondingly high valuation of the final stock.

The importance of the different valuation procedures for the valuation of the use of goods and the final stock of goods is to be illustrated by a simple example.

## III. Process area production/performance creation



| | Quantity | Price MU/kg | Total price in MU |
|---|---|---|---|
| **Initial stock** | **25,000** | 0,40 | 10,000 |
| Addition | 5,000 | 0,50 | 2,500 |
| Disposal | 8,000 | | |
| Addition | 13,000 | 0,60 | 7,800 |
| Disposal | 15,000 | | |
| Disposal | 2,500 | | |
| Addition | 7,500 | 0,48 | 3,600 |
| **Final stock** | **25,000** | | |
| | | | **23,900** |

## Lifo Method

| | | |
|---|---|---|
| Final stock: | 25,000 kg * 0.40 MU/kg | = 10,000 MU |
| Use of goods: | 23,900 MU – 10,000 MU | = 13,900 MU |

## Fifo Method

| | | | |
|---|---|---|---|
| Final stock: | 7,500 kg * 0.48 MU/kg | = | 3,600 MU |
| | + 13,000 kg * 0.60 MU/kg | = | 7,800 MU |
| | + 4,500 kg * 0.50 MU/kg | = | 2,250 MU |
| | 25,000 kg | | 13,650 MU |
| Use of goods: | 23,900 MU – 13,650 MU | = | 10,250 MU |

## Average method

In the **average method**, an average procurement price or cost rate is determined from the receipts weighted with their respective acquisition or production costs.

In the **simple average method**, an average price or cost rate for the entire settlement period is firs t determined from the stock and all receipts, with which the final stock and the use of material are then measured.

In the **moving average method**, on the other hand, each disposal is valued at an average price or cost rate relevant at that time. This means that in the moving average method, the average prices or cost rates for the valuation of disposals or final stock change during the reporting period according to the changes in the respective acquisition or production costs.

**Simple average method**

| | Quantity | Price MU/kg | Total price in MU |
|---|---|---|---|
| Initial stock | 25,000 | 0.40 | 10,000 |
| Addition | 5,000 | 0.50 | 2,500 |
| Addition | 13,000 | 0.60 | 7,800 |
| Addition | 7,500 | 0.48 | 3,600 |
| | **50,500** | | |
| | | | **23,900** |

$$\frac{23{,}900 \text{ MU}}{50{,}500 \text{ kg}} = 0.47327 \text{ MU/kg}$$ → Average purchase price

| | | |
|---|---|---|
| Final stock: | 25,000 kg * 0.47327 MU | = **11,831.75 MU** |
| Use of goods: | 23,900 MU – **11,831.75 MU** | = 12,068.25 MU |

**Moving average method**

| | quantity | (average) Price MU/kg | Total price in MU |
|---|---|---|---|
| **Initial stock** | **25,000** | 0.40 | 10,000 |
| Addition | 5,000 | 0.50 | 2,500 |
| Stock | 30,000 | 0.4166 | 12,500 |
| Disposal | 8,000 | 0.4166 | 3,333 |
| Stock | 22,000 | 0.4166 | 9,166 |
| Addition | 13,000 | 0.60 | 7,800 |
| Stock | 35,000 | 0.48476 | 16,967 |
| Disposal | 15,000 | 0.48476 | 7,271 |
| Stock | 20,000 | 0.48476 | 9,695 |
| Disposal | 2,500 | 0.48476 | 1,212 |
| Stock | 17,500 | 0.48476 | 8,483 |
| Addition | 7,500 | 0.48 | 3,600 |
| **Final stock** | **25,000** | **0.4833** | **12,083** |
| Use of goods: | 23,900 MU – 12,083 MU | | = 11,817 MU |

The example shows that the value of the final stock and according to the use of goods depends on the valuation method used. Thus, the merchant has a certain **margin of man oeuvre in the valuation of his stocks** and thus, considering the effect of the valuation of the use of goods on the profit and loss account, in the determination of profit or loss.

However, **this margin of assessment** is significantly reduced by the following accounting principles:

The **principle of continuity** requires that a valuation method once applied must also be maintained in the following annual accounts and may be deviated from only in justified exceptional cases.

Although it is not necessary, in principle, for the imputed sequence of consumption to be consistent with the actual consumption sequence, it must not be **manifestly incorrect**, as would be the LIFO procedure in the case of perishable goods.

### c) Follow-up valuation

At the end of the period, this final stock, valued at cost of acquisition or production, must be examined for lower values. **The requirement of the lowest value test** arises from the prudence principle enshrined in the general principles of accounting. If the values (i.e., current market price/replacement costs) are below the acquisition or production costs of inventories assumed based on the consumption follow-up assumption at the end of the period, these must be impaired to the lower values of the balance sheet date. Depending on the consumption follow-up method used, there may be different impairment requirements at times of rising or falling price levels at the end of the period. While in LIFO and other valuation methods, i.e., significant devaluation is likely in times of falling price levels, a devaluation may occur, especially in the case of FIFO despite rising price levels (see example below).

An example is used to illustrate the meaning of the **strict lowest value principle**:

| | Quantity | Price MU/kg | Total price in MU |
|---|---|---|---|
| **Initial stock** | **25,000** | 0.40 | 10,000 |
| Addition | 5,000 | 0.50 | 2,500 |
| Disposal | 8,000 | | |
| Addition | 13,000 | 0.60 | 7,800 |
| Disposal | 15,000 | | |
| Disposal | 2,500 | | |
| Addition | 7,500 | 0.48 | 3,600 |
| **Final stock** | **25,000** | | |
| | | | **23,900** |

| | | |
|---|---|---|
| If the LIFO method has been assumed for consumption during the financial year, the value of the final stock is as follows: | | |
| | 25,000 kg * 0.40 MU | = 10,000 MU |
| On the other hand, the value of the final stock according to the FIFO method is: | | |
| | 7,500 kg * 0.48 MU | = 3,600 MU |
| | + 13,000 kg * 0.60 MU | = 7,800 MU |
| | + 4,500 kg * 0.50 MU | = 2,250 MU |
| | | **13,650 MU** |

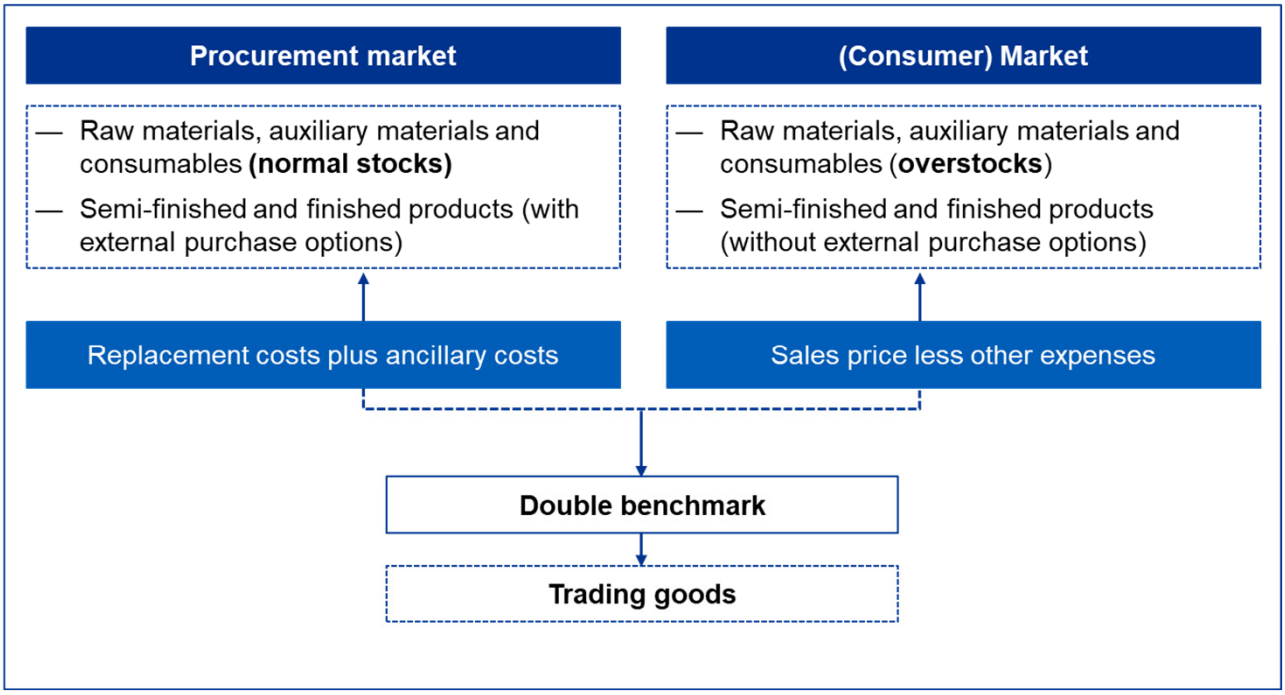
If the market price of the last addition of 0.48 MU/kg still applies on the balance sheet date, no devaluation of inventories would be required according to the LIFO method. However, inventories are not likely to be attributed to the value of 12,000 MU (25,000 units • 0.48 MU) when using the Lifo method.

If, on the other hand, the inventory has been determined using the FIFO method, inventories must be depreciated by 1,650 MU to 12,000 MU according to the strict lowest value principle.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Use of goods | 1,650 | | Goods | 1,650 |

The **strict lowest value principle** also results in devaluation requirements in the event of overstocks of inventories in order to cover future costs of warehousing and management, interest losses arising from the capital commitment or also risks of a technical-economic nature (faultiness, technical obsolescence of stocks, change in fashion or taste, breakage, etc.) to which no more revenues are compared. In addition to considering significant individual devaluation requirements (i.e., devaluation of inventories classified as defective during inventory), it is common practice to make flat-rate discounts due to **high ranges** or **lack of movements (agility)**. The **range determination** examines what period is likely to be needed to reduce the stocks of individual items. In this process, the consumption of the last period is usually used. The **movement**, on the other hand, considers the limited usability due to obsolescence or undoing demand. As a result, the item concerned is depreciated by an appropriate percentage.

Exactly how the lower value is determined depends on the nature of the inventories and the respective accounting standards. I.e., according to **IFRS** the lower value is defined for inventories as the **net realizable value**, which is only orientated to the (consumer) market; in contrast to IFRS when determining the lower values, one must consider the procurement and customer market in accordance with **HGB** as illustrated:



## 5. Provisions in the production area

While the basic explanations for provisioning have already been presented in the procurement process area, a special form of onerous provision during the production process is to be explained at this point. Onerous provisions are formed, among other things, for **recognizable risks arising from pending transactions over assets that do not yet exist or do not fully exist**. However, since a devaluation of inventories takes precedence over an onerous provision, an impairment loss must be made for the part of the asset already accounted for.

The following example is intended to clarify this connection:

| | | |
|---|---|---|
| | **Production costs already incurred** | **12,000** |
| + | Production costs still to be incurred | 20,000 |
| **=** | **Total production costs** | **32,000** |
| – | Sales proceeds | 18,000 |
| **=** | **Uncovered production costs** | **14,000** |
| – | Impairment of production costs | 12,000 |
| **=** | **Provision for impending losses from pending transactions** | **2,000** |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Changes in the stock of unfinished services | 12,000 | | Unfinished services | 12,000 |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Other operating expenses | 2,000 | | Provisions | 2,000 |

## 6. Services

The **importance** of services **has grown steadily** in practice. The service sector now accounts for around two-thirds of Germany's gross domestic product. For this reason, the accounting of some business transactions that are typical of services is now to be examined. Services are increasingly also provided by manufacturing companies as complementary services, such as consulting, maintenance or training.

In contrast to production, the use of materials plays a subordinate role in services. The consumption of working capital extends, for example, to office materials from a tax consultant, care items at a nursing service or fuel consumption at a logistics company. On the other hand, **the focus of the value added** is the **use of human resources**, which is represented by personnel costs. The accounting of use of material and personnel costs is no different from a traditional commercial or production company and is detailed elsewhere.

For the provision of a tax advisory service, the employee of a tax consulting company needs 10 hours, whereby the company considers personnel costs, office materials, pro rata rent, proportional write-off on property, plant and equipment, electricity, etc. expenses in the amount of 1,000 MU. These expenses are offset by revenues of 1,200 MU after settlements in accordance with the agreed hourly rate of 120 MU.

The tax consulting company books:

| Debit | | to | Credit |
|---|---|---|---|
| Various expense accounts | 1,000 | Bank | 1,000 |

| Debit | | to | Credit |
|---|---|---|---|
| Trade receivables | 1,440 | Revenues | 1,200 |
| | | VAT | 240 |

## III. Process area production/performance creation

Like the accounting of unfinished products in the production sector, accounting for **unfinished services** may also be required at the end of the period. These must be assessed in the amount of the costs already incurred for the service to be provided.

The above-mentioned tax advisor prepares a comprehensive tax report for the client, which has not yet been completed at the end of the financial year. So far, expenses amounting to 4,500 MU have been incurred.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Unfinished services | 4,500 | | Changes in the stock of unfinished services | 4,500 |

As with the stock valuation, even in the case of unfinished services, the **strict lowest value principle** is to be observed.

The total budget agreed for the expert report with the client is 7,000 MU. Renegotiation is not possible. However, it is foreseeable that 3,000 MU will still be incurred until completion. The expected loss in the amount of 500 MU can already be anticipated by devaluing the unfinished service.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Changes in the stock of unfinished services | 500 | | Unfinished services | 500 |

Also in the area of services is the **mediation of transactions** or contracts, for which the intermediary receives a sales commission.

In addition to the sale of cars, a car dealer also offers its customers the provision of appropriate liability or casco insurance, which is often used by customers. For this mediation activity, he receives from the insurance company a commission of 1,500 MU in the current financial year. It should be noted that insurance commissions are generally exempt from VAT.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bank | 1,500 | | Revenues | 1,500 |

## 1. Basics

The process areas of procurement and production already presented are followed by sales of purchased or manufactured inventories, which are leading to revenues. Many transactions that have already been described on the procurement side are now to be viewed in a mirror image on the sales side with regard to their accounting record.

## 2. Sales

### a) Transactions without VAT

The basic classification of the recording of inventory movements through the procurement and production of inventories has already been described in detail in the two preceding sections on the procurement and production process areas. For a better illustration, the basics of booking business transactions in the sales area were already explained.

| Revenue | | |
|---|---|---|
| **Debit** | **(at sales prices)** | **Credit** |
| Customer returns | | Sales |
| Balance = Revenues | | |

The sale of goods is recorded on the **revenue account**, which is by nature a pure **income account (=temporary account)**. On the credit side, sales are recorded at their sales prices and reduced on the debit side by possible customer returns. In addition, bonuses, discounts and other revenue reductions are frankly deducted from the revenue (expenses for bonuses granted or discounts). With the sale of the inventories, a claim against the customer (=**trade receivables**) is regularly incurred when sold on credit. For didactic reasons, the first step is to refrain from presenting the VAT transactions required in most cases.

| **Debit** | **to** | **Credit** |
|---|---|---|
| Trade receivables | | Revenues |

Simultaneously **decreases** the **stock of goods or products**. which is to be taken into account as follows:

For trading companies

| Debit | to | Credit |
|---|---|---|
| Use of goods | | Goods |

or at production companies

| Debit | to | Credit |
|---|---|---|
| Change in stock | | Products |

The posting of the decrease in inventories has already been shown in the production process area.

The trade receivables and the revenue must be booked regularly **at the time of the transfer of risk** or at the time when the service was **performed** or accepted. In order to identify the transfer of risk in the event of deliveries, knowledge of legal and contractual regulations (i.e., BGB, purchase contract) is relevant. In part, especially in international business transactions, the transfer of risk is determined based on contractually agreed **incoterms**. The incoterms are clearly defined standardized trade clauses, which mainly regulate the way in which goods are delivered. With the transfer of risk, the revenue and the use of goods are also recognized, affecting the income statement and profit realization. The time of the profit and loss recognition depends on the relevant facts and the underlying accounting standard.

**b) Transactions with VAT**

Goods are sold at the agreed sales price (**net amount**) plus the statutory value added tax (=sales tax) (**gross amount**). This is paid by the customer to the seller, who subsequently has to pay it to the tax office. If the transfer to the tax office is still pending, a **VAT liability** must be shown.

The sale of products is posted based on the outgoing invoice, which shows the net selling price of inventories and the corresponding sales tax. The sales tax account is a **liabilities account**, as it is a liability to the tax office.

When a finished product is sold with a value of 1,000 MU (net), the company has the following posting:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Trade receivables | 1,200 | | Revenues | 1,000 |
| | | | VAT | 200 |

At the end of the month, the balance of the pre-tax account, which amounts to 140 MU (here: assumption for the case), must be transferred to the VAT account in order to reduce the company's payment burden in accounting terms.

| Debit | | to | | Credit |
|---|---|---|---|---|
| VAT | 140 | | Pre-tax | 140 |

The balance of the VAT account now shows the payment load that the company pays to the tax office.

| Debit | | to | | Credit |
|---|---|---|---|---|
| VAT | 60 | | Bank | 60 |

If there is still a **payment burden to the tax office** at the end of the annual financial statements, this must be paid as a (other) liability. Similarly, a possible **pre-tax overhang must** be activated as (other) receivable. In this case, the VAT tax account must be closed via the pre-tax account.

## 3. Returns, discounts, bonuses and advance payments

### a) Returns and discounts

If the company is sent back inventories sold by customers or if it must grant customers a subsequent discount, the revenue, the value added tax payable and the corresponding receivable are reduced.

The company sells goods at a selling price of 900 MU (net). These were previously accounted for at acquisition cost of 800 MU.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Trade receivables | 1,080 | | Revenues | 900 |
| | | | VAT | 180 |

| Debit | | to | | Credit |
|---|---|---|---|---|
| Use of goods | 800 | | Goods | 800 |

If 10% of the goods are returned by the customer due to incorrectly over-shipped goods, the postings are:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Revenues | 90 | | Trade receivables | 108 |
| VAT | 18 | | | |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Goods | 80 | | Use of goods | 80 |

**b) Granted bonuses**

Bonuses granted to customers represent **subsequent revenue reductions**, which are recognized as expenses in a separate "Granted Bonuses" account. This account is reported as a decrease in revenue.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Expenses for bonuses granted | | | Trade receivables | |
| VAT | | | | |

A customer account can also "overturn" similar to the bonuses received in the procurement process area. This happens when the bonuses granted - which are posted as a liability on the current customer account (personal account) - exceed the receivables that exist against the customer at the balance sheet date. In this case, there is in fact an obligation to pay the **customer**. In order to ensure a correct statement, a reclassification of the balance of the affected customer account to the liabilities side of the balance sheet must be carried out. Consequently, this leads to an increase in receivables, as the negative customer balances (**vendor customers**) existing before the reclassification have reduced the receivables stock.

Due to bonus liabilities to a customer of 1,200 MU, which are only faced with delivery claims of 500 MU, a vendor customer account results. The balance is reclassified to the liabilities side of the balance sheet by means of the following posting:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Trade receivables | 700 | | Other liabilities | 700 |

### c) Granted cash discounts

When selling inventories, the company first posts the outgoing invoice.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Trade receivables | 1,200 | | Revenues | 1,000 |
| | | | VAT | 200 |

#### Alternative 1: Net booking

If the customer pays this invoice with a deduction of 2% cash discount, a subsequent reduction in revenue is incurred and the value added tax is corrected. The corresponding net transaction is:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 1,176 | | Trade receivables | 1,200 |
| Expenses for granted cash discounts | 20 | | | |
| VAT | 4 | | | |

#### Alternative 2: Gross booking

In the case of the alternatively possible gross posting, the tax correction is first applied to the "granted cash discounts" account booked:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 1,176 | | Trade receivables | 1,200 |
| Expenses for granted cash discounts | 24 | | | |

At the end of the month, the summary tax correction of the account "granted cash discounts"

| Debit | | to | Credit | |
|---|---|---|---|---|
| VAT | 4 | | Expenses for cash granted discounts | 4 |

The **"granted cash discounts"** account reduces the revenue generated as an **expense account**.

### d) Advance payments

Advance payments received constitute a **liability** for the company to provide a particular service in kind or service. Accordingly, the account "Received advance payments" is a **liabilities-side account**, which records disposals on the debit side and receipts on the credit side.

The company receives an advance payment of 30,000 MU (net). The booking record is:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bank | 36,000 | | Received advance payments | 30,000 |
| | | | VAT | 6,000 |

After delivery of the goods at the sales price of a total of 80,000 MU (net) and shipping of the final invoice, the company posts:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Trade receivables | 60,000 | | Revenues | 80,000 |
| Received advance payments | 30,000 | | VAT | 10,000 |

## 4. (Trade) Receivables

### a) Basics

As a rule, a delivery or service provided by the seller is not paid directly by cash payment, but an invoice is subsequently issued by the supplier's accounting office to the customer, which the seller only settles after invoice verification **(purchase or sale on credit)**. The receivables and the revenues must be booked regularly at the time of the **transfer of risk** or at the time when the service was **performed or accepted**. The timing of realization depends on the relevant facts and the underlying accounting standard. When the invoice is settled, the receivables is booked against the account "Bank" or "Cash".

The **credit note procedure** is a special case of **service billing**, which is primarily agreed with permanent business customers due to the necessary infrastructure on the customer side. It is not the supplier who sends an invoice to the customer, but the customer creates a credit note **("negative invoice")** to the seller on the basis of the services received. Since the credit notes are usually issued at certain intervals and not necessarily directly, the seller already posts a receivable at the time of the service, which he then compares with the credit note.

### b) Valuation

Receivables must be valued at their acquisition cost on their receipt or entry, as well as other assets. This is the nominal value for receivables from deliveries and services.

At the end of the financial year, one company had a receivables portfolio of 120,000 MU. Of these, receivables valued at MU 8,400, which have so far been classified as doubtful, are in fact uncollectible. Receivables against 4 customers amounting to 24,000 MU are expected to be 50% due to an analysis of the age structure of the receivables and the payment behavior of the customers. The risks of the remaining receivables portfolio are to be taken into account by a flat-rate impairment of 2%.

First, the bad debts are fully impaired, and the corresponding value added tax is corrected.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Impairment of receivables (other expenses) | 7,000 | | Doubtful receivables | 8,400 |
| VAT | 1,400 | | | |

Receivables that have become doubtful due to their specific default risk are recorded in a separate account.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Doubtful receivables | 24,000 | | Receivables | 24,000 |

These dubious receivables are accounted for at 50% of their net value.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Impairment of receivables (other expenses) | 10,000 | | Individual value adjustment | 10,000 |

In order to determine the flat-rate adjustment, the receivables already included in the individual value adjustment are deducted from the total portfolio of receivables:

| | | |
|---|---|---|
| | **Receivables** | **120,000** |
| – | Fully impaired receivables | 8,400 |
| – | Receivables included in the individual value adjustment | 24,000 |
| **=** | **Receivables subject to the flat-rate adjustment (gross)** | **87,600** |
| – | VAT included | 14,600 |
| **=** | **Receivables subject to the flat-rate adjustment (net)** | **73,000** |
| → | **Flat-rate adjustment (2%)** | **1,460** |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Impairment of receivables (other expenses) | 1,460 | | Flat-rate adjustment | 1,460 |

At the end of the financial year, the following receivables portfolios are on the balance sheet:

| Balance Sheet | | | |
|---|---|---|---|
| **Assets** | | | **Liabilities** |
| Receivables | 87.600 | | |
| Doubtful claims | 24.000 | | |
| Individual value adjustment | – 10,000 | | |
| Flat-rate adjustment | – 1,460 | | |
| Balance sheet receivables | 100.140 | | |

The two value adjustment accounts "Individual value adjustment" and "Flat-rate adjustment" represent corrective items to the receivables, which reduce the balance of the receivables shown in the balance sheet.

In the following financial year, surprisingly 240 MU of the receivables were paid, which have been written off as uncollectible. These receipts represents an income (subject to VAT).

| **Debit** | | **to** | **Credit** |
|---|---|---|---|
| Bank | 240 | Other operating income | 200 |
| | | VAT | 40 |

In addition, it turns out that half of the receivables classified as doubtful, i.e., 12,000 MU (gross), are actually uncollectible in full. The additional impairment, which is therefore required, is reported as an expense for the financial year, in addition to the value added tax attributable to the original amount of the receivables.

| | | |
|---|---|---|
| | **50% of doubtful receivables** | **12,000** |
| – | Already depreciated (net) | 5,000 |
| **=** | **Residual stock of doubtful receivables** | **7,000** |
| – | VAT included (20% per 10,000 MU) | 2,000 |
| **=** | **Impairment of receivables (other expenses)** | **5,000** |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Impairment of receivables (other expenses) | 5,000 | | Doubtful receivables | 12,000 |
| VAT | 2,000 | | | |
| Individual value adjustment | 5,000 | | | |

For this, the other half of the receivables classified as doubtful, instead of the estimated 50%, are 80% expected to pe paid, i.e., MU 9,600.

| | | |
|---|---|---|
| | **50% of doubtful receivables** | **12,000** |
| – | Actual receipt of payment (gross) | 9.600 |
| **=** | **Actual default on receivables** | **2,400** |
| – | VAT included | 400 |
| **=** | **Actual loss of receivables (net)** | **2,000** |
| – | Impairment made (net) | 5,000 |
| **=** | **Other operating income** | **3,000** |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 9,600 | | Doubtful receivables | 12,000 |
| VAT | 400 | | Other operating income | 3,000 |
| Individual value adjustment | 5,000 | | | |

It becomes clear that VAT is always corrected only when it is definitively established to what extent the doubtful receivable is taken. In addition, the corresponding value adjustment account must be dissolved at the same time.

## 5. Provisions in the sales area

The basics of provisioning and the types of provisioning have already been discussed in detail in the procurement process area. **Key types of provision** that can occur in the **sales process area** are i.e., :

— Provisions for guarantees and warranties

— Provisions for goodwill benefits

— Provisions for legal costs incurred on the sales side (such as legal proceedings following patent infringements)

— Provisions for damages (such as damage caused by defective products, i.e., Product Liability Act)

## IV. Process area sales

A company is threatened with an action for damages for a patent infringement. For the litigation costs expected in the following year, it constitutes a provision for uncertain liabilities of 100,000 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Litigation costs | 100,000 | | Provisions | 100,000 |

Since the amount to be deferred can only be estimated, there is usually an expense or income at their consumption.

If the company wins the litigation five years later and only 10,000 MU will be spent, it will book:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Provisions | 100,000 | | Liabilities | 10,000 |
| | | | Other operating income | 90,000 |

If, on the other hand, it loses the litigation and, contrary to expectations, 150,000 MU must be paid, the company books:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Provisions | 100,000 | | Liabilities | 150,000 |
| Other operating expenses | 50,000 | | | |

## 1. Basics

In return for their work, industrial workers receive **wages**, employees receive **salaries**. The nature (i.e., time or piecework pay) and the amount of remuneration depend on the employment contract, partly considering collective agreements and company agreements. Such employment relationships are, in principle, permanent obligations.

For the company, personnel costs represent an important part of the cost of performance creation. In addition to the above-mentioned wages and salaries paid to industrial workers and employees for the period, **benefits** such as severance payments, various allowances, Christmas bonuses, overtime bonuses, holiday allowances, capital benefits, voluntary social benefits of the employer, etc. are also included in these expenses. Remuneration granted in kind (i.e., company cars, etc.) are also generally included under "Wages and salaries".

The **social contributions** cover only the employer's share of the statutory social security contributions such as pension, health insurance and unemployment insurance and contributions to professional associations. Voluntary social benefits (i.e., expenses for a company canteen, Christmas party) do not belong to the social security contributions.

Direct personnel costs in the form of wages and salaries are made up of various amounts. As an employer, the company is legally obliged to withhold certain payments which reduce the employee's gross income and to pay them to the relevant institutions. After deduction of these amounts, only net remuneration is paid to employees.

The personnel costs for the enterprise or the **net remuneration for the employee** can be determined according to the following scheme, which is based on a half-division of contributions to statutory social security between employers and employees. In addition, staff costs are limited to wages, salaries and social security contributions for reasons of clarity.

| | |
|---|---|
| | **Personnel costs** |
| – | Employer's share of statutory social security (50%) |
| **=** | **Gross wages** |
| – | Percentage of employees of statutory social security (50%) |
| – | Payroll tax |
| – | Church tax if applicable |
| **=** | **Net wages** |

**The social security contributions** for pension, health, nursing and unemployment insurance are calculated from gross wages, considering a maximum annual amount (contribution ceiling).

These amounts are combined into a total amount of "social insurance" and are borne **by employers and employees in about half** of them. The employer is obliged to pay the total amount to the statutory health insurance funds.

The **payroll tax** is the form of income tax for employees and is determined based on payroll tax tables. Payroll tax depends on the amount of gross wages and the tax bracket in which the taxable person is classified based on his personal circumstances.

## 2. Wage and salary payments

In the **payroll accounting** (auxiliary accounting system) a separate payroll account with his personal data is initially kept for each employee, on which the corresponding expenses are recorded in the debit. The workshare of statutory social security is held on a separate expense account “social contributions". Net salaries are paid to the employees, the retained deductions must be paid to the tax office and the statutory health insurance funds on certain dates specified in the tax laws. Up to this point, the amounts are booked as other liabilities, i.e., in an account "still to be paid in taxes" in the credit.

In the simplest case, assuming a gross salary of 3,000 MU, an employer/employee share of social security of 20% each and a tax rate of 15%, the following bookings are made:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Salaries | 3,000 | | Bank | 1.950 |
| Social security contributions (employer share) | 600 | | Liabilities from taxes still to be paid | 1,650 |

In this case, the personnel costs for the company amount to 3,600 MU. The employee receives a net salary of 1,950 MU.

In the case of payment of the levies to the tax office and the social security institutions, the following postings shall be made:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Liabilities from taxes still to be paid | 1,650 | | Bank | 1,650 |

A possible employer grant to the **capital-related benefits** (and other benefits, i.e., pension benefits) should also be recorded in a separate account. Capital-related benefits are a particular form of savings for employees, in which the state makes some long-term savings - certain securities investments, employee shares or special-purpose savings contracts (i.e., building-saving contracts) - favored by premiums. The eligible savings forms and the corresponding amount of the savings allowance are legally regulated as well as the conditions for entitlement to premiums (i.e., the annual income of the saver may not exceed a fixed income).

The state also may grant the employee an **employee's savings allowance** equal to a fixed percentage of the savings amount. This savings allowance is paid to the employee directly by his tax office on request and is therefore not accountable by the company.

In principle, the capital-related benefits can in general

— **be paid in full by the employee** by investing part of his net wage in a capital-based asset

— **be paid by the employer alone** as part of the salary

— **partly be provided by the employee and partly by the employer**, with the gross taxable salary increasing in the amount of the employer's share.

The above example is intended to be supplemented by the payment of a holiday allowance of 500 MU and capital-related benefits of 80 MU, half of which are borne by employers and employees, are supplemented:

| | | |
|---|---|---|
| | Gross wage | 3,000 |
| + | Holiday allowance | 500 |
| + | Employer's capital-related benefits | 40 |
| = | Taxable remuneration | 3,540 |
| – | Share of employees in social security (20%) | 708 |
| – | payroll tax (15%) | 531 |
| – | Capital-related benefits | 80 |
| = | Net wage (paid out) | 2,221 |

| Debit | | to | | Credit |
|---|---|---|---|---|
| Salaries | 3,000 | | Bank (salary payment) | 2,221 |
| Voluntary social benefits | 500 | | Bank (capital-related benefits) | 80 |
| Capital-related benefits | 40 | | Liabilities from taxes still to be paid | 1.947 |
| Social contributions | 708 | | | |

In the case of payment of the levies to the tax office and the social security institutions, the following booking must be made:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Liabilities from taxes still to be paid | 1.947 | | Bank | 1.947 |

If part of the salary is paid in kind, i.e., by providing a company flat, these are offset against the salary.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Salaries | 3,000 | | Bank | 1,150 |
| Social contributions | 600 | | Rental income | 800 |
| | | | Liabilities from taxes still to be paid | 1,650 |

Although they are often offset against wages and salaries, advances granted to an employee are not included in personnel costs. Rather, it is a long-term loan recognized as “other receivables".

An employee is granted a salary advance of 200 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Other receivables | 200 | | Bank | 200 |

In the case of payment of the levies to the tax office and the social security institutions, the following booking must be made:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Salaries | 3,000 | | Bank | 1,750 |
| Social contributions | 600 | | Other receivables | 200 |
| | | | Liabilities from taxes still to be paid | 1,650 |

## 3. Personnel provisions

Personnel provisions shall be created in cases where a certain **personnel expense** (in the amount or occurrence of uncertain) is still attributable to **the current period**, but the **payment** will only be made in a **subsequent period**. This applies, for example, to pension rights of employees, since the commitment of entitlements must be regarded as additional remuneration and, in this respect, economic expenses are caused by the work performance, and not only by reaching retirement age. It should also be noted that, as already described in the procurement process area, there is in principle an external **obligation** (obligation towards the employee) in the case of personnel provisions. Other types of provision relating to personnel are:

— Provisions for **unpaid holiday or christmas allowances** for the current period

— Provisions for **overtime** not taken which have been accumulated in the current period

— Provisions for unused **vacation days** in the current period

— Provisions for **employee royalties, bonuses, etc.** which are to be calculated for the current period and which, if applicable, are measured by individual performance within the period.

— **Jubilee provisions** for premiums granted after a certain length of service and accumulated over the years
— Provisions for **severance payments** in the event of the departure of individual employees
— Provisions for continued payment of wages (i.e., in case of illness)
— Provision for part-time retirement models and (life) working time accounts.

If, for example, premiums are expected for the current financial year of 100 MU, the posting record is 20% (employer share) in the financial year when the provision is made:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Premium (Staff expenses) | 100 | | Provision for employee bonuses | 120 |
| Social security contributions | 20 | | | |

If the premiums are paid in the expected amount in the following year, the provision shall be used in full in an income-neutral manner.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Provision for employee bonuses | 120 | | Bank | 120 |

If the provision was not sufficiently endowed (i.e., because premiums are only fixed finally after the closing), additional expenses will be charged in the following financial year.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Provision for employee bonuses | 120 | | Bank | 138 |
| Premium (Staff expenses) | 15 | | | |
| Social security contributions | 3 | | | |

If the premium payment is lower than expected, the unneeded part of the provision shall be dissolved in an increase in earnings:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Provision for employee bonuses | 120 | | Bank | 100 |
| | | | Other operating income from the dissolution of provisions | 20 |

If the amount is precisely identifiable and the entry is no longer uncertain, a liability must be shown instead of a provision. **Interest effects** may have to be considered when valuing provisions with a longer maturity, depending on the accounting standard.

## 1. Basics

In the field of payment transactions, the concept of **“liquid funds”** is of central importance. This mainly includes the company's cash holdings, bank balances and assets that can be liquidated at short notice, such as cheques or bills of exchange.

Financial management encompasses all processes within a company that are used to plan and manage the procurement and use of financial resources.

The usual payments in the procurement and sales process area by bank transfer (and standing order or direct debit) have already been explained in the relevant sections. For other payment transactions, special features must be taken into account, which are presented in the following.

## 2. Cheques

In some cases, payments are made by issuing a cheque.

**Own cheques** that the company issues, to suppliers, are generally only posted when they are debited by the bank.

| Debit | to | Credit |
|---|---|---|
| Liabilities | | Bank |

There is no **difference to a bank transfer.**

Received **customer cheques** on the other hand, are recorded on receipt of a separate account "Customer cheques" and offset against the corresponding receivable:

| Debit | to | Credit |
|---|---|---|
| Customer cheques | | Receivables |

When the cheque is credited by the bank, it is posted

| Debit | to | Credit |
|---|---|---|
| Bank | | Customer cheques |

A stock of customer cheques at the balance sheet date is shown under the liquid assets in the balance sheet.

## 3. Bills of exchange

### a) Basics

The importance of bills of exchange as a payment instrument has been greatly diminished by the possibilities of cashless payment created by electronic data processing and networking. Nevertheless, the bill of exchange still has an important function as a mean for granting a loan. This enduring importance is based on the so-called "bill of exchange rigor": strict provisions of the Law on Exchange can be used to secure a **loan** by means of a bill of exchange. However, there are other recording obligations to be observed, which are not to be specified at this point.

A bill of exchange is basically a **security that contains the issuer's promise of payment**. If the exhibitor undertakes to pay the bill of exchange himself, there is a bill of exchange of own (**promissory note**). The promissory note is therefore a mere promise of payment by the debtor to its creditor.

On the other hand, one speaks of a "**drawn bill of exchange" (draft)** if the issuer instructs the bill debtor (drawee) to pay to a third party (remittent). In the case of a drawn bill of exchange, the drawee is the debtor, the issuer is only liable as recourse debtor.

A manufacturer of bicycles delivers bikes worth 20,000 MU to a bicyle's dealer plus VAT. However, the dealer cannot pay the purchase price immediately, but only after three months, when he has already sold the first bikes.

| Debit | Revenues | | Revenues | Credit |
|---|---|---|---|---|
| Receivables | 24.000 | | Revenues | 20.000 |
| | | | VAT | 4.000 |

In order to secure his payment entitlement, the manufacturer issues a bill exchange of 24,000 MU "on its own order"; he is thus both an exhibitor (issuer) and, since the amount is to be paid to himself, a changer (reissuer).

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bill of exchange | 24.000 | | Receivables | 24.000 |

If the manufacturer itself still had debts with his tyre supplier, he could register it as a changer, so that he would no longer be himself but the dealer who would be the debtor of the tyre supplier. In this case, the bicycle manufacturer would only be liable as a debtor of recourse if the dealer were to fail. In this case, the manufacturer would post:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Liability | 24.000 | | Bill of exchange | 24.000 |

The bicycle dealer is in any case a bill debtor (drawee). He accepts by his signature on the cross side of the bill of exchange ("cross-letter") that he owes the bill of exchange. He is therefore an acceptable person; the bill of exchange becomes an acceptance by his signature.

The importance of the bill of exchange lies in **its transport/financing and security function**:

The former is the **possibility to pass on a bill of exchange**. The bicycle manufacturer, as the owner of the bill of exchange, therefore, has the choice to either wait until the end of the agreed change time and then demand the bill of exchange from the dealer. However, if he needs money earlier, he can resell the bill of exchange to a third party, i.e., his bank. The bank, in turn, has the option of reselling the bill of exchange or redeeming it at the dealer when it is due.

Of course, neither the original issuer nor a potential buyer of a bill of exchange grants the credit of the bill of exchange free of charge. The price of the loan consists of the calculated interest amount (discount) and the applicable bill of exchange fees (postage, bank commission, etc.) and is to be borne by the person entitled to a bill of exchange. The amount of the exchange discount can in principle be freely negotiated.

**b) Booking of transactions of bills of exchange**

A supplier can convert a normal receivable into a bill of exchange of ownership, by making a bill of exchange on his customer or by the customer passing on a bill of exchange that he has made in payment through endorsement. In this way, the customer switches a trade payables into a bill of exchange liability.

Posting record supplier:

| Debit | Revenues | | Revenues | Credit |
|---|---|---|---|---|
| Bills of exchange | 500 | | Trade receivables | 500 |

Booking record customer:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Trade payables | 500 | | Bill of exchange liabilities | 500 |

When it comes to passing on the bills of exchange (i.e., to the bank for discounting), the supplier must make the following booking:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bank | 485 | | Bill of exchange | 500 |
| Interest expense | 10 | | | |
| Exchange fees | 5 | | | |

## 4. Loans

As a **central form of debt financing**, the company has the possibility to borrow from one bank, from other companies, in particular within the group, or from natural persons, such as the shareholders or partners. This loan is initially treated as a normal liability in accounting terms and is entered at the settlement amount.

| Debit | to | Credit |
|---|---|---|
| Bank | | Loan liability |

Since the loan agreement usually includes an interest agreement, the **interest expense** must be included in the income report in the period to which it belongs in accordance with the cause. In the case of **advance interest payments,** a delimitation shall be made over the active accruals (deferred charges), whereas in the case of subsequent interest payment, a liability shall be posted.

In the case of lending, certain obligations of conduct of the borrower, so-called **covenants**, are sometimes laid down in the contract. These may relate to compliance with certain financial measures, such as a predetermined equity ratio, the limitation of dividend payments to shareholders or other measures designed to hedge the loan. If the covenants are broken, this can either lead to an increase in the risk-based interest rate or create an extraordinary right of termination of the lender.

A loan liability must be recognized at its settlement amount even if it is higher than its issue amount. This is the case, for example, when loans, bonds or mortgages are paid out **under** par. This means that a loan is not disbursed at its nominal value (100%), but at a discount, i.e., only 97%, for example. This discount is called **disagio** or damnum.

A **premium** is understood to be the difference in a bond issued above **par**, at which a higher amount must be paid at the time of the event (i.e., 103% of the nominal value) than one receives back after the end of the term.

Irrespective of the specific arrangement, such **difference between the issue and the repayment amount** represents an **interest component** granted for the granting of the loan.

Liabilities must be paid at their settlement amount, i.e., including the agreed interest portion. However, some accounting standards allow the right to activate the difference as an **asset-side accrual item** (disagio) and to **write it off as planned** over the life of the underlying loan transaction. In this way, the interest expense is calculated on an accrual basis to the duration of use. Other accounting standards provide for a measurement of the liability at fair value

In order to finance an investment project, a company takes up at the beginning of the financial year t1, a loan of 100,000 MU from its bank, which is 97% disbursed and must be repaid 100% after 6 years.

| Debit | Revenues | Revenues | Credit |
|---|---|---|---|
| Bank | 97,000 | Liabilities (loan) | 100,000 |
| Disagio (accruals) | 3,000 | | |

The accruals must be depreciated over 6 years as planned. The booking at the end of the financial year t1 is:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Interest expenses | 500 | | Disagio (accruals) | 500 |

It should be noted that the scheduled "depreciation" of the accruals item is recognized as an expense in interest. In addition to interest expenses in the form of depreciation of the accruals, nominal interest is also payable.

At an interest rate of 3% on the nominal amount, at the end of the financial year, t1, the following postings must be made:

| Debit | Revenues | Revenues | Credit |
|---|---|---|---|
| Interest expenses | 3,000 | Bank | 3,000 |

If, on the other hand, the interest payment for the financial year t1 is made only at the beginning of the financial year t2, then another liability must instead be recognized:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Interest expenses | 3,000 | | Interest liability | 3,000 |

If the applicable accounting standards provide for a valuation of the loan at fair value, the following posting must be made:

| Debit | Revenues | Revenues | Credit |
|---|---|---|---|
| Bank | 97.000 | Liabilities (loan) | 97.000 |

The booking of a disagio is not necessary if the loan is valued at fair value.

At the end of the financial year t1, the fair value amounted to a total of 98,500 MU. The fair value considers various factors such as the nominal interest rate, changes in the market interest rates, creditworthiness, etc.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Interest expenses | 1,500 | | Liabilities (loan) | 1,500 |

## 5. Financial assets

### a) Basics

A company has the option of investing part of its assets in financial assets. Financial assets are differentiated according to the type of claims associated with them in **investments** (dividend securities) and **loans** (interest securities).

**Securities**

**Dividend securities** are bearer securities and securitize a share of the equity of the respective company (i.e., share). The holder of the document has a stake in the company and thus acquires a right to a corresponding share of the annual profit in the form of a dividend (**distribution of profits**). He is also involved in the asset growth or the increase in the **value** of the company. However, it also bears the **risk** that the company will generate **losses** and not be able to make distributions, and that the value of the company and thus the value of its share will decrease.

The future expected cash returns of a company (i.e., in the form of dividends) as well as opportunities and risks of future development are the main factors influencing the **price value** of an investment. A distinction must be made between the **market value** (or **fair value**) of the so-called **par value** of a holding, which indicates the share of the subscribed capital of the enterprise. The **nominal value** of a holding is usually well below its price value.

**For example**, if a company acquires shares in a foreign distribution company in order to expand its market position there, its shareholding is securitized by bearer securities from which it accrues annual dividend rights. The shareholding in a company through the acquisition of shares is referred to as a **"share deal"** and must be distinguished from the **"asset deal"** in which assets and liabilities of a company are acquired directly.

**Loans**

In contrast**, interest-bearing paper** securitizes a claim against a company; the owner is a creditor. Interest-bearing securities include i.e., promissory note loans, public sector bonds, industrial bonds, mortgages, covered bonds, etc. The holder of such creditor's document shall be entitled to a fixed interest rate in return for the grant of credit. The nominal amount of a loan will be repaid after the deadline. Unlike equity investments, the exchange value of interest-rate securities is often below their par value (face value, nominal amount). The shorter the remaining life of a paper, the higher the price value rises to the amount of the nominal amount. Loans to other group companies (subsidiaries) also represent loans.

Shareholdings and loans do not have to be securitized. The advantage of a securitization is the tradability of the claims (i.e., on a stock exchange). Many investments and loans are not securitized in one security (i.e., limited liability shares, limited partnership shares, group loans).

### b) Bookings for shareholdings (investments)

The **acquisition cost of investments** consist of the acquisition price, i.e., the agreed price at the time of acquisition, and ancillary acquisition costs, i.e., commission of the broker, commission of the bank and expenses.

A Company acquires 100 shares at a price of 250 MU per share. In addition, acquisition ancillary costs are incurred by commissions of 2%. Considering the ancillary acquisition costs, the shares are capitalized at a value of 25,500 MU. The face value is 100 MU per share. However, this is not decisive for the valuation at acquisition cost.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Investments | 25.500 | | Bank | 25.500 |

Corresponding ancillary costs are also incurred in the case of the sale of shareholdings, so that the sale proceeds (bank credit) result from the exchange value less the ancillary costs.

When posting the sale of investments, it should be noted that, in addition to the acquisition price, the ancillary acquisition costs attributable to the stock sold are also booked out.

For example, if half of the original 100 shares are resold at 250 MU per share, 50% of the capitalized ancillary costs (i.e., 2% of the price value, i.e., 250 MU) must also be booked out.

| | | | |
|---|---|---|---|
| | Purchase price of the shares sold | 50 * 250 MU | = 12,500 MU |
| + | pro-rata acquisition ancillary costs | 50 * 5 MU | = 250 MU |
| = | acquisition cost of securities sold | | 12,750 MU |

The final stock, measured at acquisition cost, can be determined analogously or in retrograde form according to the following scheme:

| | | | |
|---|---|---|---|
| | Total value of securities at acquisition prices | 100 * 250 MU | = 25,000 MU |
| + | Total acquisition ancillary costs | 100 * 5 MU | = 500 MU |
| – | Sales at acquisition cost | | 12,750 MU |
| = | Final stock at acquisition cost | | 12,750 MU |

## Case 1: Price gain

If the selling price (after deduction of ancillary costs of the sale) is above the acquisition value of the investments, i.e., at 300 MU, a price gain is achieved.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 15,000 | | Investments | 12,750 |
| | | | Gains | 2,250 |

## Case 2: Price loss

If the sales price is lower, for example 200 MU (after deduction of ancillary costs of the sale), a price loss is realized.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 10,000 | | Investments | 12,750 |
| Losses | 2,750 | | | |

A distinction must be made between the possible price gains on the sale of the investments and the income in the form of dividends distributed, which are to be recognized in profit or loss with the corresponding distribution decision. It should be noted that the amount distributed may be reduced by taxes that are to be withheld by the debtor and paid directly to the tax authorities. These equity income is recorded gross if the taxes deducted are paid on the taxes of the person entitled to the dividend.

The company entitled to dividends is entitled to a distribution in 100 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Dividend claim | 100 | | Income from investments | 100 |

When the dividend is paid, the debtor informs the company that the latter has paid 25 MU to the tax authorities. The company that is entitled to dividend books:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 75 | | Dividend claim | 100 |
| Claim against tax office | 25 | | | |

### c) Bookings for securities

In the case of fixed-income loans, the interest due is usually paid retrospectively, usually every six months or annually. Unlike dividends, current interest is not considered in the price of the security but is paid to the seller as unit interest when buying interest securities in addition to the price value. This means that in addition to the ancillary acquisition costs, interest securities must also be considered for the period between the last interest payment and the date of purchase. In the following example, for reasons of simplification, the deduction of capital gains tax (interest deduction/compensation tax) is waived.

If a company purchases a 8% interest securities with a nominal value of 10,000 MU at a price value of 98%, the purchase price is as follows (assumption of an annual interest payment):

| | | |
|---|---|---|
| | Price value | 9,800 |
| + | Ancillary costs (brokers etc., 1%) | 98 |
| = | Acquisition costs | 9,898 |
| + | Pro-rata unit interest for previous owners (8% for i.e., 3 months) | 200 |
| = | Amount to be paid | 10,098 |

The corresponding posting record is:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Securities | 9,898 | | Bank | 10,098 |
| Receivable | 200 | | | |

The pro rata interest (200 MU) prepaid to the seller is posted to the buyer as a receivable (on interest payment). When the annual interest is paid, the receivable is deducted, and the rest is collected as interest income.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 800 | | Receivable | 200 |
| | | | Interest income | 600 |

The company sells the interest securities on the same terms, resulting in a price loss of 196 MU (9,898 MU – 9,702 MU).

| | | |
|---|---|---|
| | Price value | 9,800 |
| – | Ancillary costs (brokers etc., 1%) | 98 |
| = | Sales price | 9,702 |
| + | Pro-rata unit interest (8% for i.e., 3 months) | 200 |
| = | Receipt of payment | 9,902 |

The company books:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 9,902 | | Securities | 9,898 |
| Price loss | 196 | | Interest income | 200 |

Similarly, a price gain would be recorded on the credit side.

The **valuation of securities** reported in financial assets at the balance sheet date is **based on the respective accounting standard**. This also applies to the valuation of shareholdings. Depending on whether there is a temporary or permanent impairment, this may allow or even force **an unscheduled depreciation (impairment).** Other accounting standards, on the other hand, require a valuation at fair value, which is usually measured at the market value at the balance sheet date, and thus allow the realization of exchange rate gains before their realization by sale.

## VII. Process area intangible assets and property, plant and equipment

### 1. Basics

Intangible assets and property, plant and equipment (PPE) are to remain permanently in the company and are therefore reported as fixed assets (subgroup of non-current assets, which also contain the financial assets).

**Intangible assets**

Intangible assets are separable assets without physical substance, i.e., they are physically intangible. Furthermore, they are not of a financial nature and are in the company's disposal power. These are regularly assigned to fixed assets, if they remain permanently in business operations. Intangible assets can be distinguished as follows:

(1) Self-created industrial property rights and similar rights and values;

(2) Concessions acquired for remuneration, industrial property rights and similar rights and values, as well as licenses to such rights and values;

(3) Goodwill;

(4) Advance payments made.

Thus, patents, publishing, trademark, usage rights, licenses or even recipes fall under the definition of intangible assets. In accounting, a distinction is made between intangible assets acquired for consideration and intangible assets created by themselves.

**PPE assets**

Property, plant and equipment comprises property with **physical substance** under the **company's disposal power**, the use of which is limited **or unlimited**, and can be distinguished as follows:

(1) Lland, land equivalent rights and buildings, including buildings on foreign land;

(2) Technical equipment and machinery;

(3) Other equipment, equipment and business equipment;

(4) Advance payments and investments under construction.

The individual items of property, plant and equipment are combined into asset groups in accounting terms and are usually entered in these collective accounts.

### 2. Acquisition cost of assets

**a) Assets acquired for consideration**

Assets acquired for consideration are always subject to capitalization, unless the accounting principles applied stipulate otherwise. Forms of aquisition for consideration may include purchase, exchange or acquisition by provision of a service.

At the time of receipt, assets acquired for consideration must be capitalized at their cost. In addition to the actual purchase price, the acquisition cost also includes all **ancillary costs** incurred to acquire the asset and put it in a **ready-to-use condition**. Subsequent acquisition costs are also allocated to the acquisition cost.

Accordingly, all **acquisition cost reductions** such as pre-discounts, bonuses and cash discounts are deducted.

### Intangible assets

Purchase of a new license to optimize internal corporate governance for 20,000 MU plus 20% value added tax.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Licenses | 20,000 | | Bank | 24,000 |
| Pre-tax | 4,000 | | | |

Commitment of the Brazilian goalkeeper Pedro by the football club Kickers AG at the start of the season. The transfer fee to be paid to the league rivals is 100,000 MU. In addition, fees for the intermediary are 7,000 MU.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Acquired rights | 107,000 | | | |
| Pre-tax | 21,400 | | Bank | 128,400 |

### PPE assets

In the case of abusable property, plant and equipment, the **acquisition ancillary costs** are i.e., costs of transport, installation and assembly costs, etc., in the case of land, i.e., surveying costs, brokerage and court costs, certificate costs and property transfer tax. Acquisition ancillary costs may also be incurred before or after the actual acquisition of the property if, for example, a property is subsequently connected to the sewerage system.

Purchase of a machine for 100,000 MU net, whereby 5% pre-discount and 3% cash-discount upon payment within 30 days would be granted. In addition, 1,000 MU are charged for transport and 750 MU for assembly plus 20% VAT.

| | | |
|---|---|---|
| | List price: | 100,000 |
| – | Pre-Discount (5%) | 5,000 |
| = | Purchase price | 95,000 |
| + | Transport costs | 1,000 |
| + | Assembly costs | 750 |
| = | Purchase price including ancillary costs | 96,750 |
| – | Cash discount (3%) | 2,850 |
| = | Acquisition cost | 93,900 |

Acquisition of the machine (before cash discount deduction):

| Debit | | to | Credit | |
|---|---|---|---|---|
| Machine | 96,750 | | Liabilities | 116,100 |
| Pre-tax | 19,350 | | | |

Payment of the machine (considering the cash discount deduction):

| Debit | | to | Credit | |
|---|---|---|---|---|
| Liabilities | 116,100 | | Machine | 2,850 |
| | | | Pre-tax | 570 |
| | | | Bank | 112,680 |

In frequently, down payments are agreed upon when purchasing machinery or other fixed assets.

Down payment (advance payment) of 30,000 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Advance payments made | 30,000 | | Bank | 36,000 |
| Pre-tax | 6,000 | | | |

Recognition of the machine:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Machine | 96,750 | | Advance payments made | 30,000 |
| Pre-tax | 13,350 | | Liabilities | 80,100 |

**b) Self-generated assets**

**Intangible assets**

Depending on the type of accounting system, self-generated intangible assets may or must be capitalized. However, there is a regular **ban on the capitalization** of self-created trademarks, printed titles, publishing rights, client lists or comparable intangible assets. The reason for this is the undoubted determinability of the production costs as well as the high invisibility regarding their future useful life. The **prerequisite** for capitalization is the **individual usability** as well as a **high probability of the creation** of the intangible asset.

## VII. Process area intangible assets and property, plant and equipment

The cost of manufacturing self-generated intangible assets cannot necessarily be distinguished from the costs of the development of the company as a whole (self-generated **goodwill**).

In addition to the above-mentioned capitalization ban, the distribution of profit ban is a further restriction in favor of creditor protection. Self-created intangible assets, in so far as they are capitalized, must be recognized in the balance sheet with their production costs. **Production costs** are defined as costs arising from the consumption of goods and the use of services for the manufacture of an asset, its extension or for a substantial improvement beyond its original condition. Research costs are not to be capitalized. The question of the transition from **research** to **development** over time requires, in principle, a case-by-case examination. If a clear separation between research and development expenditure is not possible, the assets are not eligible for capitalization. The addition of interest on borrowing is generally only permitted if the capital raised has been used to finance the production of an asset. In such a case only the interest expense which is attributable to the period of production may be added.

**Subsequent capitalization** of production costs is not possible, therefore all costs that cannot be capitalized due to the statutory regulation are to be recorded in the period in which they are incurred in profit or loss.

The hotel chain Sonnenschein AG is redesigning its homepage (new colour concept). The new design (costing 5,000 MU) is expected to increase the occupancy of the hotel. In addition, for the first time, a computer system for online booking and payment of hotel rooms will be implemented. The cost of acquiring the Software license amounts to 10,000 MU, in addition to 5,000 MU for the adaptation to the existing environment by the employees in order to make the new software operational. Which of the costs can be capitalized?

**Costs for the new marketing concept?**

No, these are pure marketing costs (maintenance expenses) that are not eligible for capitalization. (5,000 MU)

**Royalties for the license?**

Yes, they can be capitalized. This is an intangible asset acquired for consideration. (10,000 MU)

**Adjustment expenses for the online booking system**

Yes, these are costs for establishing operational readiness (use of licenses: 5,000 MU purchase ancillary costs of the license)

| Debit | | to | Credit | |
|---|---|---|---|---|
| Licenses purchased for consideration | 10,000 | | Bank | 12,000 |
| Pre-tax | 2,000 | | | |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Licenses purchased for consideration | 5,000 | | Other capitalized own services | 5,000 |

**Fixed assets**

Capitalized self-generated assets must also be valued at their production costs at the initial recognition in the balance sheet.

The concept of production costs has already been referred to in connection with the evaluation of finished goods. In the following, only the results of the valuation of self-generated assets are to be summarized as follows:

In the case of self-generated plants, an assessment is made at production costs in order to record the manufacturing process in an income-neutral manner. These consist of individual and overhead costs.

Individual costs **directly attributable** to an individual performance unit are the manufacturing material costs and manufacturing wages as well as the special costs of production. They must be included in the assessment of the self-generated services.

On the other hand, the so-called **overheads** cannot be attributed directly, but only indirectly, to an individual performance unit by means of allocation keys. Appropriate parts of material overheads, manufacturing overheads and the consumption of the value of fixed assets in so far as they are manufacturing-related must therefore be included in the production costs. Distribution overheads do not belong to the actual production and may therefore not be capitalized.

The following example illustrates the valuation of a self-created machine at production cost:

Manufacture of a machine intended for own use. According to the material sampling certificate, manufacturing materials are generated by 10,000 MU as well as manufacturing wages of 20,000 MU. The overhead surcharge rates are 30% for material overheads, 80% for manufacturing overheads and 10% for administrative overheads.
What are the production costs?

| | |
|---|---|
| Manufacturing material | 10.000 |
| + Manufacturing wages | 20.000 |
| Individual costs of production | 30.000 |
| Material overheads | 3.000 |
| Manufacturing overheads | 16.000 |
| Administrative overheads | 4.900 |
| = Costs of production | 53.900 |

Basically, production costs are initially recognized as an expense of the period.

Expense account to inventory account

For example:

Material expenses to raw materials

or

Manufacturing wages to bank

However, this initial recognition of the production costs must be neutralized in the amount of the costs incurred for the production of a self-generated plant. Like the purchase of a plant, self-generation of a machine must be treated as a profit-neutral process by capitalizing it in the amount of the production costs. The required **neutralization of expenses** is achieved by posting the capitalization on the corresponding property, plant and equipment account and on the income account "other capitalized own services". This account records the operating services that did not result in revenue but are intended for one's own needs. Since these services are booked in an income-neutral manner, i.e., without a profit premium, they precisely compensate for the production costs incurred during production.

Fixed assets to other capitalized own services

Posting the above example affects the balance sheet and profit and loss account as follows (for valuation at maximum cost of production):

| Balance sheet | | | |
|---|---|---|---|
| Fixed assets | 53,900 | | |
| Decrease in stock accounts (inventories and financial resources) | 53,900 | | |
| Total | - | Total | - |

| Income statement (total cost method) | | | |
|---|---|---|---|
| Expenses of Manufacture | 53,900 | Other activated own services | 53,900 |
| Total | 53,900 | Total | 53,900 |

In the cost of sales method, the own performance is not shown as an additional operating income in addition to the revenue; however, the expenses incurred during the production of the corresponding plant do not appear in the income statement, so that the manufacturing process as a whole is also held to be profit-neutral. In connection with self-generated installations, it should be noted that production costs that are subject to capitalization cannot only be incurred in the event of an actual "creation" of a fixed asset. Production expenses are also those expenses which serve to extend the useful life of an existing asset, to significantly increase its use possibilities or to significantly improve its functionality. It is important that only those expenses that lead to an increase in value are eligible for activation. On the other side value-preserving repair expenses have to be booked as an expense in the period of their creation.

**c) Grants**

Instead of government support in the form of tax breaks, a company can receive direct financial subsidies when buying or self-generating an asset. The grants may be granted by private or public.

Privately, grants are often granted by companies which transfer part of their production to subcontractors and make it easier for them to finance the special machinery they need through the grants. As a general rule, grants of this kind entail an obligation to ensure the delivery of the relevant parts over a certain period of time. The subsidy is often also charged in the subsequent purchase prices. This means that the receipt of grants to beneficiaries usually entails certain follow-up obligations over a period.

It follows that the grants must be recognized in a profit-neutral manner at the time they are granted and may only be recognized in profit or loss in accordance with the fulfilment of the performance obligation associated with them. For example, if a grant of 100,000 MU is granted with the condition that the first 100,000 parts are delivered at a reduced price, the proceeds from the grants may only be collected in accordance with the parts actually sold.

The income-neutral recognition of the grant at the time of receipt is achieved by reducing the acquisition or production costs of the corresponding machine in the amount of the grant. The impact of the grant on profit then results in the time of use from the lower depreciation on the reduced book value.

The "gross statement" of the grants results in the same result if, upon receipt, they are recorded not on the liabilities side of the asset account but on a separate liability account "Received Grants".

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bank | 100,000 | | Grants received | 100,000 |

Now the machine is depreciated at the same amount, but at the same time, the account "Received Grants" is dissolved in profit or loss in accordance with the performance provided.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Depreciation | 50,000 | | Machines | 50,000 |

| Debit | | to | | Credit |
|---|---|---|---|---|
| Grants received | 10,000 | | Other operating income | 10,000 |

A successful remission of the grants at the time of their grant will only be permitted in exceptional cases where no follow-up obligations are attached to them.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Machine | 500,000 | | Liabilities | 500,000 |

| Debit | | to | | Credit |
|---|---|---|---|---|
| Bank | 100,000 | | Other operating income | 100,000 |

| Debit | | to | | Credit |
|---|---|---|---|---|
| Depreciation | 50,000 | | Machines | 50,000 |

In this way, a "net income" of 50,000 MU is already reported in the first period of commissioning, whereas the profit-neutral grant recording above results in a "net expense" of 40,000 MU.

**d) Intangible assets in mergers**

In the case of a merger of two or more companies by an **asset deal**, all self-generated intangible assets which were previously subject to a capitalization ban become subject to intangible assets acquired for consideration and thus subject to capitalization. In this way, intangible assets that were subject to a capitalization ban prior to the merger find their way into the balance sheet. In the case of a **share deal**, on the other hand, financial assets are reported in the financial statements and only at the level of the consolidated financial statements is the value of the financial investment replaced by the assets and liabilities.

**Derivative goodwill** (difference between the purchase price and the present value of net assets) arising from an asset acquisition during an asset deal is also generally included in the balance sheet as an intangible asset. On the other hand, **original goodwill** (created by yourself) is still subject to a strict prohibition of capitalization even in the case of a company acquisition.

Müller AG acquires Maier AG as a result of an asset deal. The purchase price is 1,500,000 MU. The non-current assets have a book value of 500,000 MU, the current assets of 400,000 MU, the equity is 300,000 MU and the debt capital 600,000 MU. In addition, Maier AG has hidden reserves in the area of non-current assets of 200,000 MU and in the area of current assets of 100,000 MU. How is the goodwill assessed?

| | | |
|---|---|---|
| **Purchase price:** | | **1,500,000** |
| Non-current assets (book value) | 500,000 | |
| Hidden reserves | 200,000 | |
| **Non-current assets (time value)** | **700,000** | |
| Current assets (book value) | 400,000 | |
| Hidden reserves | 100,000 | |
| **Current assets (time value)** | **500,000** | |
| **Debts** | **600,000** | |
| Net assets | | 600,000 |
| **Goodwill** | | **900,000** |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Non-current assets | 700,000 | | Bank | 1,500,000 |
| Current assets | 500,000 | | Liabilities | 600,000 |
| Goodwill | 900,000 | | | |

## 3. Depreciation of assets

Purchase or self-generation of fixed assets are profit-neutral transactions. An acquisition or manufacturing process therefore has no effect on success, and the value of the company's assets remains unchanged for the time being.

In the case of objects of the **usable fixed assets**, i.e., buildings, machinery, motor vehicles and operating and business equipment, however, the use of them begins to consume value. This **usage-related consumption of value** is distributed over the expected useful life in the form of **depreciation** of the original acquisition or production costs. This means that the amount at which an asset loses value due to its operational use, its carrying amount is reduced by the depreciation made.

## VII. Process area intangible assets and property, plant and equipment

The need for a planned depreciation that recognizes the loss of value due to use necessarily follows from the principle of accruals, according to which all expenses associated with these income are allocated to the income of a period: The originally income-neutral acquisition or production costs are recognized in the form of the scheduled **depreciation** in the period in which the economic consumption of value occurred. Net income for the period is reduced by the amount of depreciation at the rate at which the assets and machines used to achieve the result have lost value.

The accounting **depreciation** and **amortization** shown represent expenses for the accounting period. A distinction must be made between the **depreciation in financial accounting** and the **imputed depreciation in cost accounting**, which is included in the costs of the period. The requirement of different depreciation concepts results from the different objectives of year-end closing and cost accounting.

The depreciation that are relevant in financial accounting are always calculated based on the cost of acquisition or production in order to distribute the expenses incurred between the periods of use. As an expense for the period, they directly influence the annual result.

A machine is purchased for 100,000 MU. It has a useful life of 5 years and is depreciated degressively at a depreciation rate of 30%.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Machine | 100,000 | | Liabilities | 120,000 |
| Pre-tax | 20,000 | | | |

There are two alternatives to recording depreciation.

**Alternative 1: Net booking**

In the first year of use, depreciation is recognized as follows:

Depreciation of the machine of 30,000 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Depreciation | 30,000 | | Machine | 30,000 |

In the example above, depreciation is made directly on the corresponding fixed asset account, i.e., the carrying amount of the fixed asset is reduced in the amount of the depreciation.

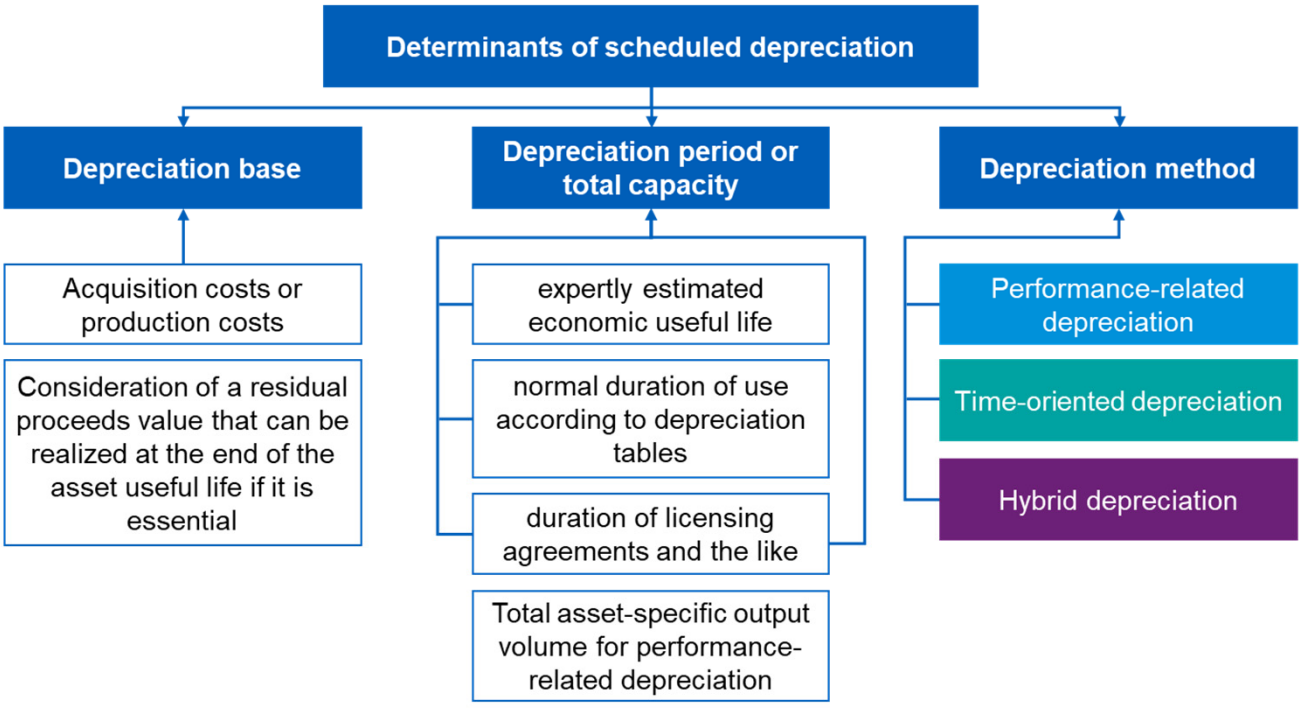
**Alternative 2: Gross booking**

Instead of this **direct depreciation**, depreciation can also be **recorded indirectly** in a value adjustment account. In this procedure, the acquisition or production costs of the investment item remain in the asset account (here account "Machine") unchanged over the entire useful life, the **accumulated depreciation** is recorded as correction entries (value adjustments account). This method is particularly important in terms of the development of the **asset schedule**.

Depreciation of the machine of 30,000 MU.

| Debit | | to | | Credit |
|---|---|---|---|---|
| Depreciation | 30,000 | | Value adjustments (balance sheet) | 30,000 |

Irrespective of the choice of alternative 1 or 2, the balance sheet shall show the net amount (continuing acquisition/production costs) (here 70,000 MU). This is indicated in alternative 2 by mapping the two accounts (here "machine" and "value adjustments") to the corresponding balance sheet item.



**Methods of scheduled depreciation**

For assets of the depreciable fixed assets, their expected potential for use must be estimated at the time of receipt in order to be able to distribute their acquisition or production costs to this use by means of a scheduled depreciation. In order to come reasonably close to the actual wear and tear of an asset, various methods of scheduled depreciation have been developed. It is necessary to choose the method which best reflects the consumption of economic value. This also applies to the determination of the useful life.

The closest relationship to actual wear and tear caused using the asset is **performance-related depreciation**. The estimated total output of a machine is first estimated; if the acquisition costs of the machine are divided by the projected total output, the depreciation amount per unit of performance is obtained. This rate multiplied by the annual output results in the depreciation per year. However, the method of performance-related depreciation can only be used sensibly in cases where overall performance can be reasonably predictable and, above all, relatively easy to measure, such as in the case of motor vehicles.

**Time-oriented depreciation methods** are much more commonly used in practice. The estimated useful life is estimated, to which the acquisition cost of the asset is then distributed.

For **straight-line depreciation**, the depreciation amount is determined as a fixed percentage of the cost of the asset. In this way, the acquisition and production costs are evenly distributed over the years of use.

In the case of **degressive depreciation**, on the other hand, the amount of depreciation decreases from year to year. In the case of degressive depreciation, the annual (decreasing) depreciation amount is determined as a fixed percentage of the remaining book value of the fixed asset. A feature of degressive depreciation is that depreciation is much higher in the first years of asset use than in the linear method. This corresponds to the relatively high devaluation of technical assets, especially in the first years of their usage and takes into account that experience shows that the falling depreciation amounts are offset by increasing maintenance and maintenance expenses over time. The disadvantage is that with the degressive depreciation, an asset can never be reduced to a book value of 0. Therefore, at some point in the course of the useful life, a change from the degressive to the linear depreciation method is made in practice. If the possibility of changing methods is not taken up, the remaining residual value must be fully depreciated at the last year of use.

When choosing the depreciation method and the parameters (especially the useful life) in Germany, it must be ensured that these are only permitted under commercial law if the actual consumption of the value of fixed assets is properly represented by the depreciation. A choice of the depreciation method and parameters (the degressive depreciation method) is not permitted under commercial law solely based on tax considerations.

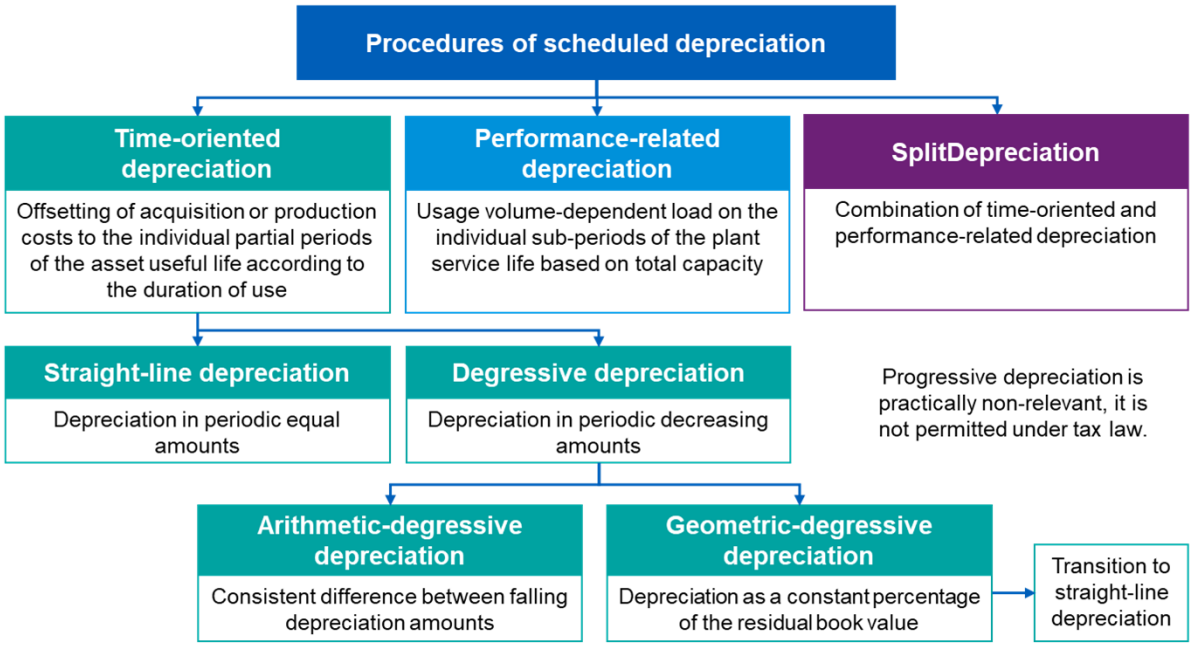
An example illustrates the various depreciation procedures:

A truck will be purchased at the beginning of the year for 80,000 MU. Its expected useful life is 5 years, with a total output of 200,000 km expected. However, in the first two years 45,000 km will be driven, the next two years 40,000 km and in the last only 30,000 km.

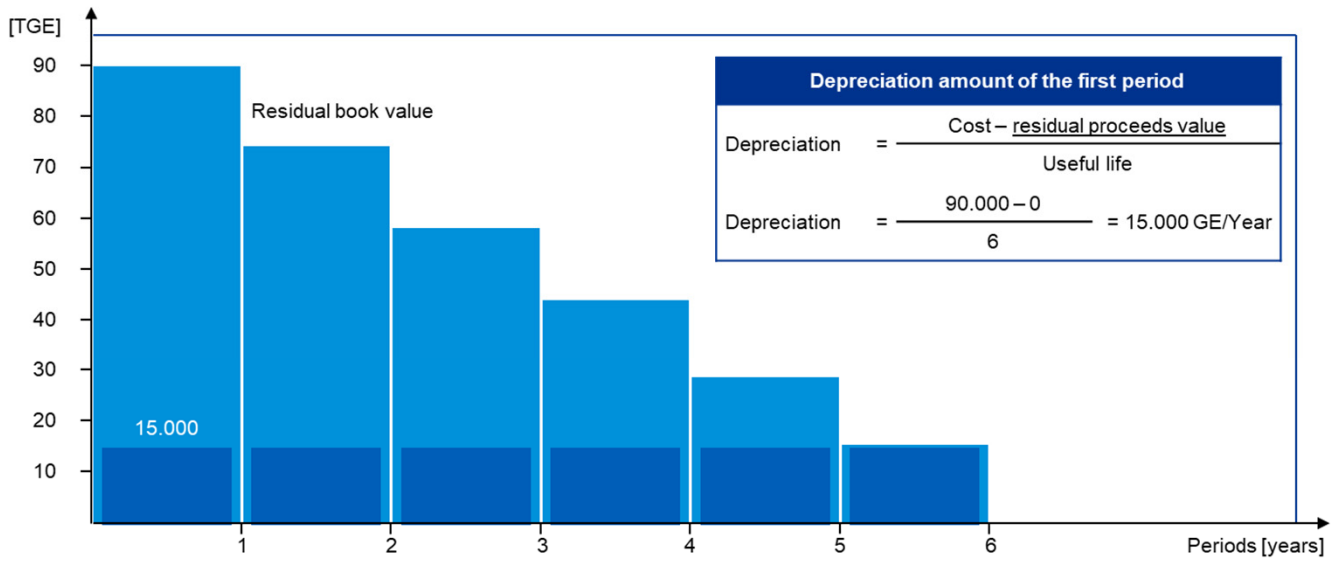
| Year | Arithmetic-degressive depreciation | Performance – related depreciation | Straight-line depreciation | geometric-degressive depreciation (30%) |
|---|---|---|---|---|
| 1 | 26.667 | 18.000 | 16.000 | 24.000 |
| 2 | 21.333 | 18.000 | 16.000 | 16.800 |
| 3 | 16.000 | 16.000 | 16.000 | 11.760 |
| 4 | 10.667 | 16.000 | 16.000 | 8.232 |
| 5 | 53.333 | 12.000 | 16.000 | 5.762 |
| **Total** | **80.000** | **80.000** | **80.000** | **66.554** |
| Residual book value | - | - | - | 13.446 |

It becomes apparent that the annual depreciation amount differs significantly depending on the depreciation method you choose.

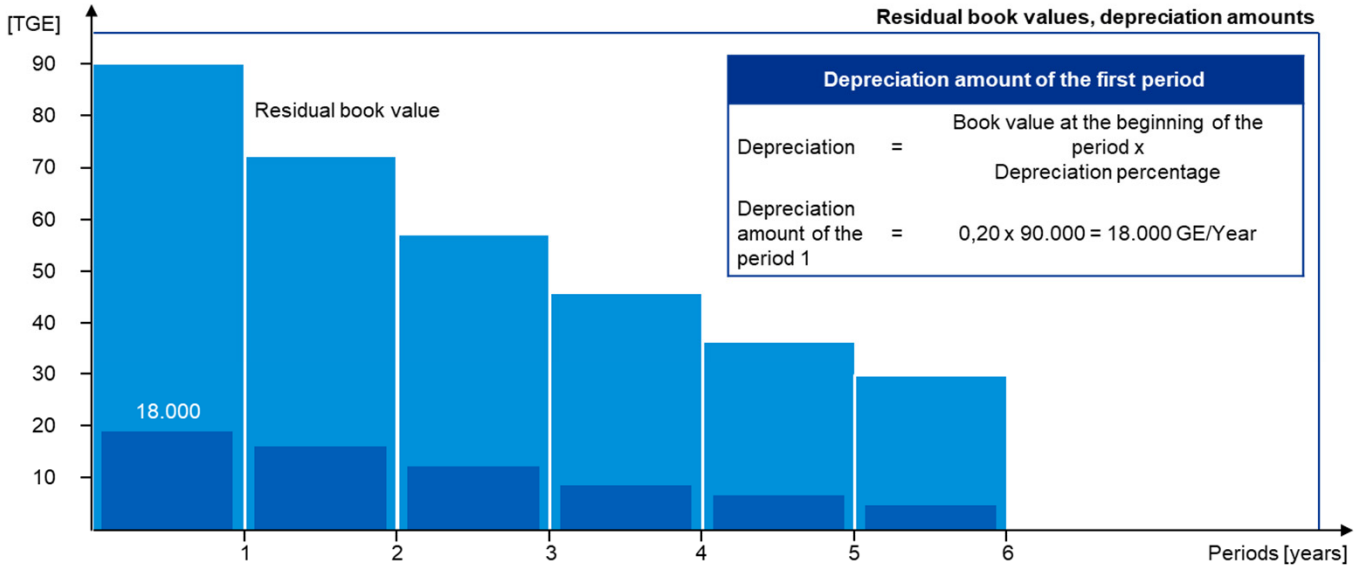
In the above example, it was simplistic to assume that the truck was purchased at the beginning of the year and used full years. If, on the other hand, fixed assets are purchased during a financial year, the procedures presented must be applied accordingly for the **pro-rata temporis** period, i.e., the depreciation amount is determined for the percentage of the use.



## VII. Process area intangible assets and property, plant and equipment

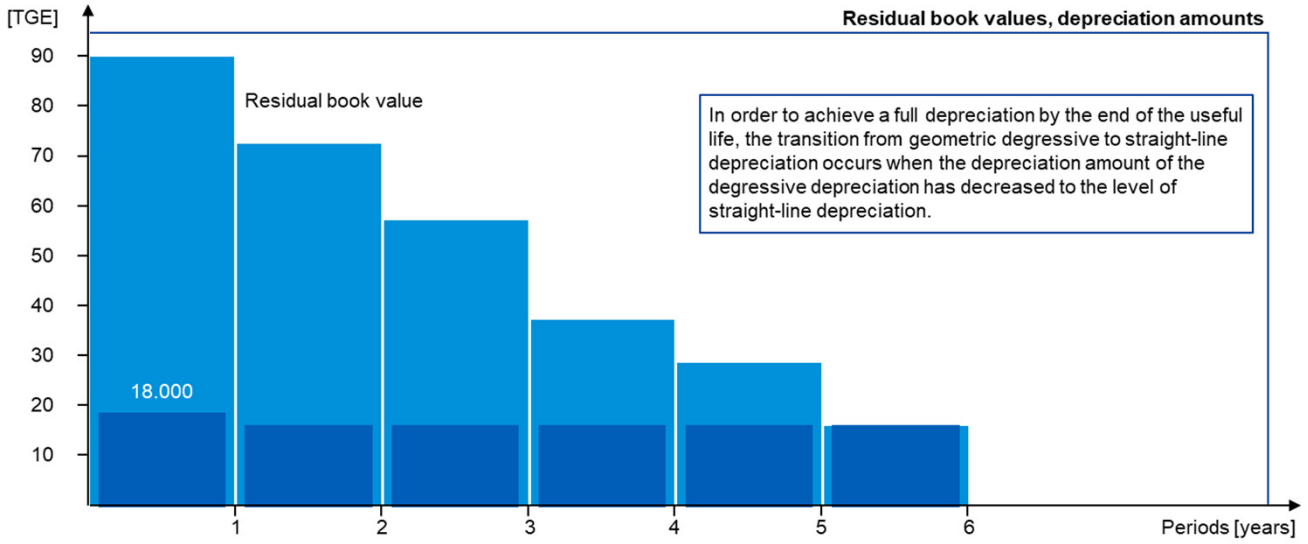



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 01 | Periods | 1 | 2 | 3 | 4 | 5 | 6 |
| 02 | Book value at the beginning of the period | 90.000 | 75.000 | 60.000 | 45.000 | 30.000 | 15.000 |
| 03 | Depreciation amounts of the periods | 15.000 | 15.000 | 15.000 | 15.000 | 15.000 | 15.000 |
| 04 | Residual book value at the end of the period | 75.000 | 60.000 | 45.000 | 30.000 | 15.000 | 0 |

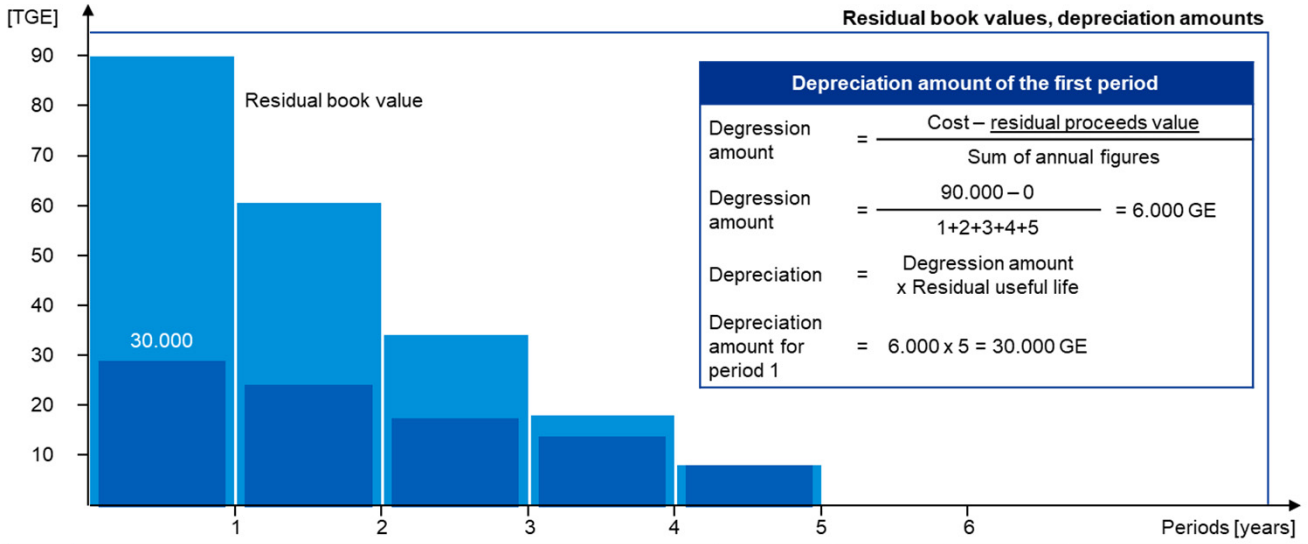



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 01 | Period | 1 | 2 | 3 | 4 | 5 | 6 |
| 02 | Book value at the beginning of the period | 90.000 | 72.000 | 57.600 | 46.080 | 36.864 | 29.491 |
| 03 | Depreciation amounts of the periods | 18.000 | 14.400 | 11.520 | 9.216 | 7.373 | 5.898 |
| 04 | Residual book value at the end of the period | 72.000 | 57.600 | 46.080 | 36.864 | 29.491 | 23.593 |

## VII. Process area intangible assets and property, plant and equipment

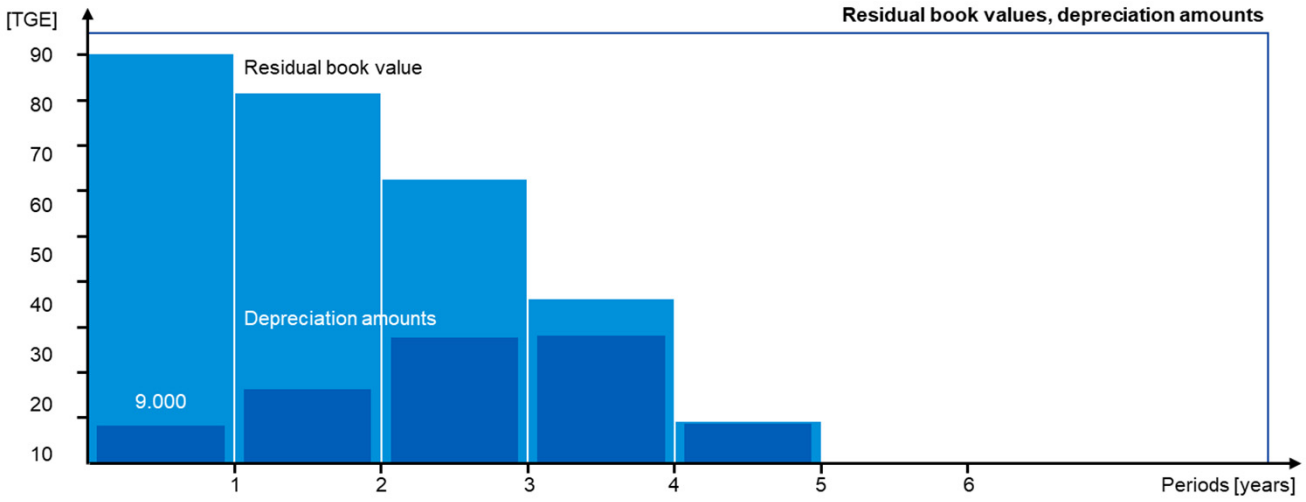



| | | | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| 01 | Period | | 1 | 2 | 3 | 4 | 5 | 6 |
| 02 | Book value at the beginning of the period | | 90.000 | 72.000 | 57.600 | 43.200 | 28.800 | 14.400 |
| 03 | Depreciation amounts of the periods | Degressive | 18.000 | 14.400 | (11.520) | (8.640) | (5.760) | (2.880) |
| | | Straigh-line | (15.000) | 14.400 | 14.400 | 14.400 | 14.400 | 14.400 |
| 04 | Residual book value at the end of the period | | 72.000 | 57.600 | 43.200 | 28.800 | 14.400 | 0 |




| | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 01 | Period | 1 | 2 | 3 | 4 | 5 |
| 02 | Book value at the beginning of the period | 90.000 | 60.000 | 36.000 | 18.000 | 6.000 |
| 03 | Depreciation amounts of the periods | 6.000 x 5 = 30.000 | 6.000 x 4 = 24.000 | 6.000 x 3 =18.000 | 6.000 x 2 = 12.000 | 6.000 x 1 = 6.000 |
| 04 | Residual book value at the end of the period | 60.000 | 36.000 | 18.000 | 6.000 | 0 |

## VII. Process area intangible assets and property, plant and equipment




| | | | | | | |
|---|---|---|---|---|---|---|
| 01 | Period | 1 | 2 | 3 | 4 | 5 |
| 02 | Book value at the beginning of the period | 90.000 | 81.000 | 63.000 | 36.000 | 9.000 |
| 03 | Operating hours/period | 1.000 | 2.000 | 3.000 | 3.000 | 1.000 |
| 04 | Depreciation/operating hour | | | 9 | | |
| 05 | Depreciation amounts for the period | 9.000 | 18.000 | 27.000 | 27.000 | 9.000 |
| 06 | Residual book value at the end of the period | 81.000 | 63.000 | 36.000 | 9.000 | 0 |

### Scheduled depreciation

**Example of scheduled depreciation:**
Cost in t=0: 1.200
Scheduled useful life: 5 Years
RBV = Residual book value A = Annual depreciation amount

| Period | straight-line depreciation | | geometric-degressive depreciation 40% | | geometric-degressive depreciation 20% | | arithmetic-degressive depreciation | |
|---|---|---|---|---|---|---|---|---|
| | RBV | A | RBV | A | RBV | A | RBV | A |
| 0 | 1.200 | 240 | 1.200 | 480 | 1.200 | 240 | 1.200 | 400 |
| 1 | 960 | 240 | 720 | 288 | 960 | 192 | 800 | 320 |
| 2 | 720 | 240 | 432 | 172 | 768 | 154 | 480 | 240 |
| 3 | 480 | 240 | 260 | 104 | 614 | 123 | 240 | 160 |
| 4 | 240 | 240 | 156 | 62 | 491 | 98 | 80 | 80 |
| 5 | 0 | | 94 | | 393 | | 0 | |

**Unscheduled depreciation (=impairment)**

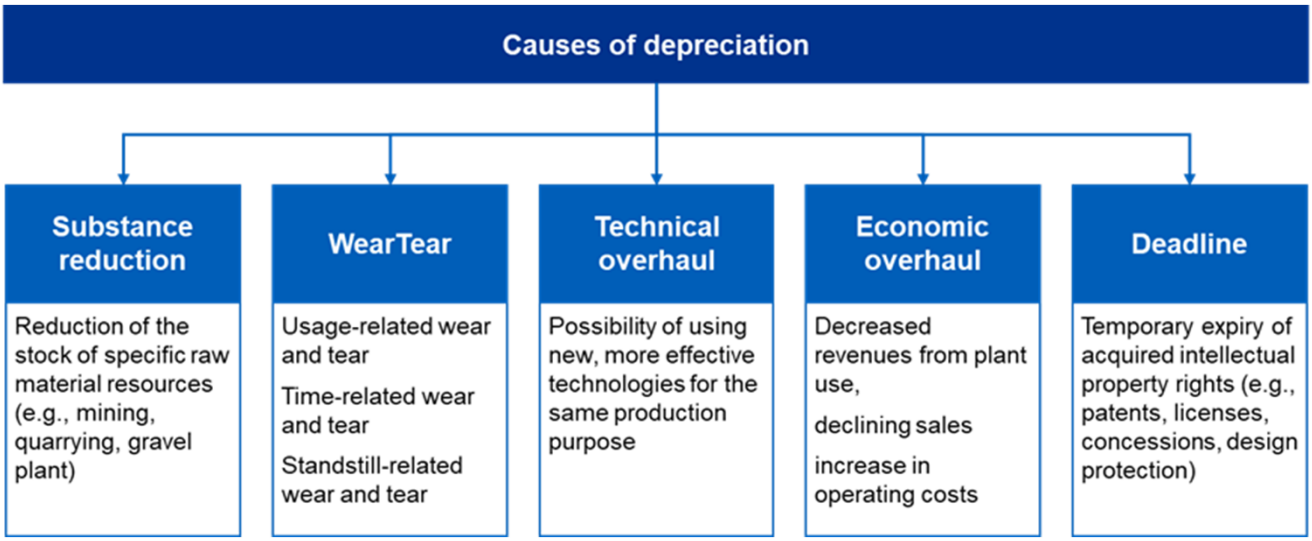
The main reason for the depreciation of property, plant and equipment is the wear and tear caused by use. This loss in value is distributed by a scheduled depreciation on the expected useful life.

In addition to wear and tear due to use, property, plant and equipment (also the non-usable) property, property, and property can also lose value for other reasons:

— **A technical devaluation** occurs when an asset loses value due to technical progress. This is always the case when a machine is replaced by a more modern system, which is more powerful or cheaper, before its full wear and tear. If foreseeable, the effect of the technical devaluation can already be considered in the scheduled depreciation by an appropriate reduction in the useful life. This is possible, for example, in the area of IT equipment, in which some assets may be depreciated for tax purposes within two years. In the event of unforeseen technical developments, a technical devaluation may lead to an unscheduled depreciation of an asset.

— Unscheduled depreciation due to economic devaluation is required when an asset loses value to the company for **economic reasons**. This is the case, for example, if a production machine is oversized due to a reduced cost (partial write-down) or a fixed asset is no longer needed at all due to the abandonment of the business (full depreciation).

— Finally, **exceptional events** such as explosions, false operation, severe weather, etc. can lead to at least partial destruction of an asset and require an unscheduled depreciation.



## VII. Process area intangible assets and property, plant and equipment

In the event of an impairment, its accounting treatment in the case of property, plant and equipment assets depends on the underlying accounting system.

The accounting record of unscheduled depreciation of property, plant and equipment is carried out in the case of depreciable property, plant and equipment, in the same way as the non-scheduled depreciation shown below due to a shortened useful life. The impairment of non-depreciable property, plant and equipment is shown in the following example:

A company finds that the soil of its property is contaminated. This is initially an impairment loss, which can only be remedied by restructuring expenses of 50,000 MU.
First, the impairment of the piece of soil is recorded (here: net method):

| Debit | | to | Credit | |
|---|---|---|---|---|
| Unscheduled depreciation (Impairment) | 100,000 | | Land | 100,000 |

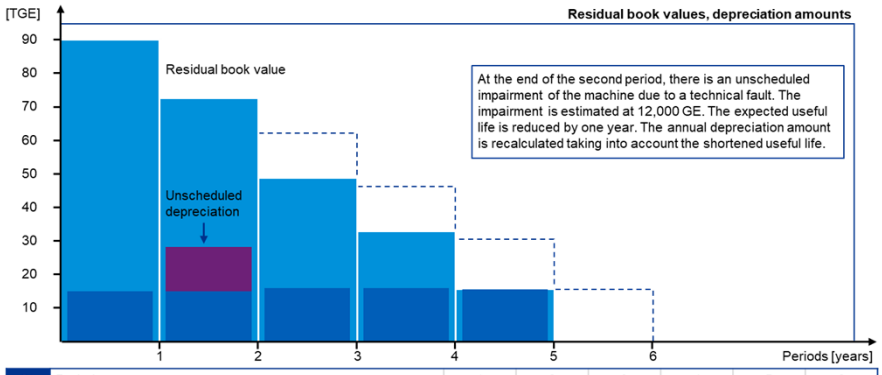
The expenses required for the refurbishment of the property will be booked as usual:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Expenses | 50,000 | | Liabilities | 50,000 |

The increase in the value of the property as a result of the refurbishment is attributed to:

| Debit | | to | Credit | |
|---|---|---|---|---|
| Land | 100,000 | | Attributions | 100,000 |

It should be noted that an attribution does not exceed the (when depreciable fixed assets continued) acquisition or production costs.




| | | | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| 01 | Period | | 1 | 2 | 3 | 4 | 5 | 6 |
| 02 | Book value at the beginning of the period | | 90.000 | 75.000 | 48.000 | 32.000 | 16.000 | 0 |
| 03 | Depreciation amounts of the periods | Scheduled | 15.000 | 15.000 | 16.000 | 16.000 | 16.000 | – |
| | | unscheduled | | 12.000 | | | | |
| 04 | Residual book value at the end of the period | | 75.000 | 48.000 | 32.000 | 16.000 | 0 | 0 |

**Misjudgments of useful life**

In the previous statements on the scheduled depreciation, it was implicitly assumed that the actual useful life of an asset corresponded to the estimated useful life at the time of acquisition. In practice, however, it is very often the case that a plant is used longer or shorter than originally planned.

If, over time, it turns out that an **asset will be in operation longer than planned**, then excessive depreciation has been charged in previous years and the asset is undervalued. Nevertheless, in these cases, according to the prevailing opinion the book value should be maintained in the sense of a prudent assessment and for reasons of valuation continuity. In principle, the excessively high depreciation and amortization cannot be corrected retrospectively. However, it is possible to distribute the residual book value of the fixed asset according to the previous depreciation plan among the longer remaining useful life of the fixed asset, i.e., to correct future depreciation. It is only on a case-by-case basis that the need for a reversal of value must be examined.

If the **expected useful life is shorter** than that used in the depreciation plan, a depreciation (special case of unscheduled depreciation see above) must be made for the purposes of the prudence principle if the lower value to be attached to the asset is permanently lower than the carrying amount of the fixed asset. The necessity of unscheduled depreciation also follows from the principle of realization, according to which the income of the previous periods must be attributed to subsequent depreciation in the amount in which they would have been attributed if the useful life had been correctly estimated from the outset.

A machine is purchased at 12,000 MU and is to be depreciated linearly. The scheduled life is 8 years. At the end of the third period, it turns out that the machine will only be in operation for three years instead of the five years assumed.

| | | |
|---|---|---|
| Cost | 12,000 | |
| Depreciation | 4,500 | (=3 x 1,500 MU) |
| Book value at the end of the 3rd period | 7,500 | |

However, if the useful life of only six years had been used, the annual depreciation would have been 2,000 MU, the carrying amount at the end of the third period would have been 6,000 MU. Therefore, a write-off in the form of an unscheduled depreciation of 1,500 MU (500 MU per period) is required, provided that the value to be added is correspondingly lower than the carrying amount after the scheduled depreciation (6,000 MU).

| | |
|---|---|
| Book value at the end of the 3rd period | 7,500 |
| Unscheduled depreciation | 1,500 |
| New book value | 6,000 |

When applying the net method, the following posting is obtained:

| Debit | | to | Credit |
|---|---|---|---|
| Unscheduled depreciation | 1,500 | Machines | 1,500 |

According to the new depreciation plan, 2,000 MU per period are depreciated from the book value of the machine in the following three periods.

## 4. Sale of assets

In the case of the sale of an asset of fixed assets, the corresponding carrying amount shall be determined precisely at the time of the divestment. This indicates that the pro rata depreciation, including the last full month, must first be calculated before the sale and deducted from the book value.

The carrying amount of an asset in the last balance sheet was 10,000 MU, the annual straight-line depreciation is 1,200 MU. The plant will be sold on 10 July.

| | | |
|---|---|---|
| Book value at the beginning of the period | 10,000 | |
| Depreciation | 600 | (January to June) |
| Remaining book value at the point of sale | 9,400 | |

| Debit | | to | Credit | |
|---|---|---|---|---|
| Depreciation | 600 | | Plant | 600 |

The residual book value of the asset is fully booked on the sale. Depending on whether the sales price of the asset is above or below the calculated residual book value, the enterprise achieves an expense (loss) or an income (gain). It should be noted that the divestments of fixed assets are also subject to VAT.

The proceeds from the sale for the above plant amount to 9,000 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 10,800 | | Plant | 9,400 |
| Other operating expenses | 400 | | VAT | 1,800 |

The proceeds of the sale for the above plant amount to 10,000 MU.

| Debit | | to | Credit | |
|---|---|---|---|---|
| Bank | 12,000 | | Plant | 9,400 |
| | | | VAT | 2,000 |
| | | | Other operating income | 600 |

## 5. Fixed assets schedule

In order to provide the addressees with a better overview of fixed assets and their development, the accounting standards generally require that they list separately the total of the original acquisition or production costs, additions, depreciation, reclassifications and write-downs in their entire amount in their balance sheet or in the notes for the individual items of fixed assets.

The fixed assets schedule does not usually result directly from the accounting but must be determined in a separate evaluation. The data shown in the fixed assets schedule for the various balance sheet items of fixed assets are derived according to the following scheme:

| | |
|---|---|
| | Initial acquisition or production costs |
| + | Additions in the past financial year |
| – | Disposals in the past financial year (gross) |
| +/– | Reclassifications in the past financial year |
| + | Attributions in the financial year |
| – | Total (cumulative) depreciation<br>(usually with separate presentation of financial year depreciation) |
| = | Book value in the final balance sheet |

This scheme is followed by the following (net) presentation form of an fixed asset schedule:

| | Historical acquisition or production costs | Additions | Disposals | Re-bookings | Attributions | Write-downs (cumulative) | Book value (end of period) | Book value (previous period) | Write-downs of the period |
|---|---|---|---|---|---|---|---|---|---|
| **Intangible assets** | | | | | | | | | |
| **Self-generated rights** | | | | | | | | | |
| **Rights acquired for consideration** | | | | | | | | | |
| **Goodwill** | | | | | | | | | |
| **.....** | | | | | | | | | |
| **Fixed assets** | | | | | | | | | |
| **Land** | | | | | | | | | |
| **Technical Equipment** | | | | | | | | | |
| **...** | | | | | | | | | |
| **Financial assets** | | | | | | | | | |
| **Shares in affiliated companies** | | | | | | | | | |
| **Investments** | | | | | | | | | |
| **...** | | | | | | | | | |

## VIII. Process area intangible assets and property, plant and equipment

The **re-bookings** listed in the fixed asset schedule are a modified presentation of an asset item, for example reclassified from "assets under construction" to "machines" or from "loans to affiliated companies" to "shares in affiliated companies".

By the fixed asset schedule, the **development** and **age structure** of a company´s fixed assets and its depreciation **policy** can be better assessed.

Also common is the following printed (gross) presentation form of a fixed asset schedule:

| | Acquisition and production costs | | | | | Depreciation | | | | | Net book values | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | As of 1.1.xx | Addi-tions | Disposals | Re-bookings | As of 31.12.xx | As of 1.1.xx | Additions | Disposals | Re-bookings | As of 31.12.xx | 31.12.xx | Previous year |
| **Intangible assets** | | | | | | | | | | | | |
| **Self-generated rights** | | | | | | | | | | | | |
| **Rights acquired for consideration** | | | | | | | | | | | | |
| **Goodwill** | | | | | | | | | | | | |
| **.....** | | | | | | | | | | | | |
| **Fixed assets** | | | | | | | | | | | | |
| **Land** | | | | | | | | | | | | |
| **Technical equipment** | | | | | | | | | | | | |
| **...** | | | | | | | | | | | | |
| **Financial assets** | | | | | | | | | | | | |
| **Shares in affiliated companies** | | | | | | | | | | | | |
| **Investments** | | | | | | | | | | | | |
| **...** | | | | | | | | | | | | |

## 1. Current taxes

As part of the preparation of the annual financial statements, some taxes to which the company or the entrepreneur is subject must also be posted.

Depending on their accounting treatment, the different types of **tax relevant** to a company can be classified as follows:

First of all, a distinction must be made as to whether the tax type **concerned the company itself** (corporate taxes) or is paid only to the tax authorities **for another** (i.e., shareholder). Company taxes are then recognized as income-neutral or as expenses for the period, depending on their nature.

Taxes, which are only a continuous item for the company, have already been presented with the value added tax and the payroll and church tax in the “basics of value added tax" or in the "Human Resources process area".

In the case of these types of tax, the company has an obligation to pay the tax, but the tax burden is borne by economic third parties such as the final consumer or the employee. The **deduction tax (capital gains tax)** withheld and paid when dividends are paid also constitutes a continuous item.

**Taxes incurred in the context of an acquisition** are acquisition ancillary costs and are therefore subject to **capitalization**. As a result, they are held income-neutral at the time of acquisition and only at a later depreciation at the expense of the corresponding period. The most important example of a tax to be capitalized is the **real estate transfer tax**, which is payable when a property is purchased and is usually borne by the buyer. It is capitalized on the land account.

| Debit | to | Credit |
|---|---|---|
| Land | | Bank |

**Expense taxes** are all tax types that are offset as expenses for the period and thus reduce the profit. These include all consumption tax (i.e., petroleum tax) and motor vehicle tax.

| Debit | to | Credit |
|---|---|---|
| Land | | Bank |

**Substance taxes** that tax property are also recognized as expenses (i.e., property tax, which is not to be confused with the real estate transfer tax to be capitalized).

**Corporations** are subject to corporation tax. **Corporation tax** is levied on the profit determined in accordance with tax law, the taxable income of the company, which differs from the profit under commercial law, inter alia, by the addition of non-deductible expenditure. In the case of partnership or personal trading companies, each shareholder with his income is subject to **income tax**, not the company as such. Therefore, income taxes paid to shareholders do not constitute an expense for the partnership/personal trading companies.

## VIII. Taxes

**The business tax** is also levied on income tax or corporation tax profits in both capital and personal trading companies, which are, however, modified by certain additions and reductions.

In the case of personal trading companies (in particular GmbH & Co. KG), income taxes paid from the company's assets are recorded through the **shareholder's private account** and must therefore be treated in an income-neutral manner:

| Debit | to | Credit |
|---|---|---|
| Private account | | Bank |

On the other hand, corporation tax of a corporation represents expenses for the period. It should be noted that this tax type is generally not determined definitively in the corresponding period, but only substantially later. For this reason, the amount to be paid for the period is to be estimated and a provision should be made for it.

| Debit | to | Credit |
|---|---|---|
| Corporation tax | | Tax provision |

The business tax is also recorded for partnerships and corporations as an expense for the period. Their amount must also be estimated and deferred as a rule.

| Debit | to | Credit |
|---|---|---|
| Business tax | | Tax provision |

In general, companies make quarterly advance payments on corporation tax and business tax. These must be considered when calculating tax provisions.

<table>
<tr><td colspan="7">Taxes</td></tr>
<tr><td colspan="5">The tax burden for the company</td><td colspan="2">Tax is not a burden for the company</td></tr>
<tr><td>Capitalization</td><td colspan="4">Income-affecting recognition in profit and loss</td><td colspan="2">Passing through final items in the balance sheet</td></tr>
<tr><td colspan="7">Examples:</td></tr>
<tr><td>Real estate transfer tax</td><td>Corpora-tion tax</td><td>Business tax</td><td>Property tax</td><td>Vehicle tax</td><td>VAT</td><td>Payroll tax</td></tr>
</table>

## 2. Deferred taxes

### a) Basics

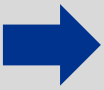
Due to **different accounting rules**, there may be **different valuations** of assets, liabilities and accruals between the **trade balance** and the **tax balance**. In future periods, this may result in a tax charge or relief due to the higher or lower tax result compared to the result under commercial law. The aim of accounting for deferred taxes is to improve the company's financial position.

### b) Deferred tax liabilities

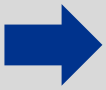
If assets are not capitalized or valued lower in the tax balance, or if liabilities are not recognized or valued lower on the trade balance, this difference will result in a tax burden when they are resolved. If the difference is temporary, the additional tax charges expected in the future shall be accounted for **deferred tax liabilities**.

Even if the timing of the balance between the trade and tax balances cannot be determined precisely, i.e., quasi-permanent differences, deferred taxes liabilities must be formed. In the income statement, this increases the tax expense and the additional tax burden arising in the event of the liquidation of the asset or debt is already accounted for in the period.

| Tax balance | | Trade Balance |
|---|---|---|
| Asset | < | Asset |
| Debt | > | Debt |



Expected additional tax burdens



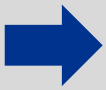
Deferred tax liabilities

| Debit | to | Credit |
|---|---|---|
| Deferred tax expense | | Deferred tax liabilities |

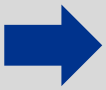
### c) Deferred tax assets

If, on the other hand, assets are not capitalized or valued lower on the trade balance, or if liabilities are not taxed or valued lower in the tax balance, this difference will result in a tax relief when they are dissolved. Provided that this difference is expected to decrease in later periods, there is an **expected tax relief** (**deferred tax assets**). In the income statement this leads to a reduction in 'taxes on income and income'.

| Tax balance | | Trade Balance |
|---|---|---|
| Asset | > | Asset |
| Debt | < | Debt |



Expected tax-relief



Deferred tax assets

| Debit | to | Credit |
|---|---|---|
| Deferred taxes | | Taxes on income and income |

The items for **deferred tax assets** are to be **dissolved** in **profit or loss** via the tax expense/income account at the time of tax relief. The same procedure must be followed when the expected tax effect is no longer to be expected.

### d) Example

For example, if a self-generated intangible asset of fixed assets, i.e., software, is capitalized in the trade balance sheet, which cannot be activated in the tax balance sheet, scheduled depreciation is made in the following periods. Since these only reduce the result in the trade balance, but not in the tax balance, there is an **expected tax burden**. This future payment obligation must already be considered as a **deferred tax liability** at the time when the difference arises in accounting. As a result, the actual lower tax expense due to the lack of capitalization in the tax balance sheet is increased by the income-related entry of the deferred tax. At the time of future depreciation (commercial) depreciation, the actual tax expense is higher than the commercial result due to the lack of depreciation of the software (in the tax balance sheet) but is reduced by the profit or loss of the **deferred tax liability**.

A company capitalizes the software developed in the financial year t0, which is to be used for the optimization of the own production process. The capitalized production costs in t0 amount to 6,000 MU. The software was completed at the end of t0 and can be used in the company for a period of 3 years. Since this software is not capitalizable in the tax balance, the amount of assets in the trade and tax balance is different. Deferred tax liabilities must be considered. At the beginning of the year t0, the taxable profit is by 6,000 MU lower than the commercial profit. In the following fiscal years t1, t2 and t3, depreciation and amortization of 2,000 MU is not made in the tax balance sheet, which are required in the trade balance. As a result, a tax rate of 30% in t0 results in a 1,800 MU lower tax expense (6,000 MU * 0.3), while the actual tax expense in t1, t2 and t3 is 600 MU (2,000 MU * 0.3) higher.

Posting record in t0:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Deferred tax expense | 1,800 | | Deferred tax liabilities | 1,800 |

Posting record in t1, t2, t3:

| Debit | | to | | Credit |
|---|---|---|---|---|
| Deferred tax liabilities | 600 | | Deferred tax income | 600 |

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