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# Basics of Financial Management

## ANSWERS AND SOLUTIONS

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Olaf Leppink MSc.

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First Edition



Noordhoff Uitgevers



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# Preface first edition

In *Answers and solutions*, the answers to all the preparatory questions in the exercise book are provided. It is recommended to try as much as possible, to first solve these questions without any help, and to check the answers by using this answer book.

Furthermore, a large number of answers to *Exercises* are also included in this book. Generally speaking, these questions (indicated with an **E** in the exercise book), are at examination level. To ensure that the subject material is fully mastered, it is essential to make at least one exercise of each topic discussed in the theory book and then check the answer.

Finally, a limited number of solutions to the *case studies* (indicated with a **C** in the exercise book) are included, linking the topic to previously studied parts of the subject material.

With the translation of *Exercises* to *Basics of Financial Management*, *Answers and solutions* were also translated. This first edition matches the second edition of the exercise book.

*Answers and solutions* intends to facilitate the student's active approach. During lectures there is often (too) little opportunity to discuss a sufficient number of exercises. With the assistance of the answer book, the student can independently work on exercises and receive feedback on the accuracy of the calculations.

In this edition, a summary of each chapter of *Basics of Financial Management* is included.

We hope that this instruction can contribute to a positive study result for financial management.

The authors



# Series Overview

Basics of Financial Management 978-90-01-83914-7

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# **PART 1**

# Financial management in business



## Summary chapter 1 Businesses and their role in the economy

A company is a production organization which manufactures goods and provides services to consumers with the aim to make a profit. Financial management focuses on the economic conduct within these organizations. The three disciplines which can be distinguished are financing, management accounting and financial accounting.

To generate profit, a surplus of revenue above costs is required for the continuity of the company. In the striving for profit, effectiveness and efficiency of the production process play, a key role.

Organizations without the aim to generate profit are called non-profit organizations. These are from an economic point of view, not self-reliant organizations, as they depend on, for example, general resources (tax money), contributions, donations and subsidies. These organizations can be divided into governmental and private non-profit organizations. The government supplies mainly collective goods and services, such as zoning plans, fire services and education. The private non-profit sector consists of a large variety of organizations. Examples of these are associations and charitable organizations.

The activities performed by these companies can be divided into agriculture and mining, industry, trade and service industry. The nature of these activities is determined for the production factors which the company uses and which investments are required.

Typical for the agricultural and mining sector is that hardly any use is made of commodities. Nature is used as a production factor. In industrial companies, a distinction can be made between job production, mass production, series job production and batch production. This distinction is based on the question to what level the specific customer wishes need to be taken into consideration with regards to the production.

The trade industry ensures the distribution of products: goods are purchased from suppliers and sold to customers. Trading companies can be divided into wholesaler (sales to other companies) and retailing services (sales to consumers).

Service-rendering companies do not actually transfer goods, the service is the product they deliver. Companies of various nature belong to the service industry.

Companies can be divided into:

- Those without legal entity: sole proprietorship, partnership or limited partnership.
- Legal entities: the limited liability company, the public limited company and the cooperative association.

The sole proprietorship has the most important characteristic, in that control and ownership of the company remain with one person. The qualities, but also the health of this person determine the success of the company.

The partnership is a cooperation between two or more persons. In the partnership, the partners are severally liable for the liabilities.

The limited partnership is a cooperation between persons, of which at least one partner is owner but does not have control of the company. The responsibility of this partner is limited to the capital which was invested by him.

The partnership of professionals is a form of cooperation between individuals practicing the same profession. In this type of partnership, the partners are each liable for a share of the debts.

For all the companies previously mentioned applies that the owner(s) are eligible for income tax in box 1.

In the public limited company there is a distinction between the ownership and the control of the company. The ownership lies with the shareholders, who have jointly raised the equity of the company. The control of the company lies with the board of directors, assigned and paid by the company. This also applies to the limited liability company. Nowadays, the public limited company is only used for share-exchange listing. Both the public limited company and the limited liability company are subject to corporate taxes. Shareholders who hold at least 5% of the capital share, are taxed in box 2 for income tax, all other shareholders in box 3.

The cooperative association is a cooperation of persons, intended to act for the benefit of the mutual interest of its members. The equity of the cooperative association is gathered by its members. Control lies with the elected board of directors and an assigned management.

All companies have to deal with value added tax (VAT). A company that makes a sale, is liable for value added tax on its sales revenue. This tax will be recharged to the buyer. If the buyer is a company, then it can reclaim the charged value added tax from the tax authorities. The consumer is the payer of this value added tax, as he cannot reclaim it. Value added tax has both a normal rate and a low rate.

Between many companies there exists a type of labor division: one company operates in the textile sector, the other in the building industry and a third is part of the service industry. Generally speaking, each individual company is only one chain in the total process which a product goes through until it reaches the consumer. This chain from initial manufacturer to the final supplier and the customer is called the supply chain. Companies which belong to the same level of a supply chain and therefore perform the same production process, are called a business sector or industry. This work allocation is continuously changing, as there are many forms of cooperation between companies, such as mergers, franchising or cartel agreements.

## **Summary chapter 2 Financial management disciplines and positions**

The discipline financial management is divided into three parts:

- 1 Finance focuses on the investments required by the company, and the manner in which these investments can be best financed.
- 2 Management accounting concerns the (financial) reporting to company management, for allowing responsible decision making.
- 3 Financial accounting concerns external financial reporting to shareholders, employees, creditors, financial press and other stakeholders. For this purpose the annual report is drawn up.

Between management accounting and financial accounting, there are two major differences.

Firstly, in financial accounting legislation dictates which information has to be published by the company. In management accounting, this is not the case. Secondly, in financial accounting it should be considered that company management does not give an actual representation of the financial position, but a more flattering result by the use of creative accounting. Management accounting implies that company management wishes to know the actual status of affairs, therefore there is no need to present the company in a better light.

Topics related to financial management are:

- Bookkeeping or business administration: this subject focuses on the registration of the primary data, based on these, management accounting and financial accounting can proceed.
- Company law: this is important for finance (legal entity of companies) and financial accounting (disclosure requirements).
- Tax law
- Organizational structures and behavior
- Marketing

An important financial management function in the field of finance is the treasurer, who occupies himself with the optimum development of the cash flow of the company. The controller is the focal point of management accounting. He assures among others, that there is an efficiently operating budgeting system. The accountant is active in the field of financial accounting. The internal auditor focuses internally on the auditing of financial accounts. The external accountant works at an accountancy firm and performs (for some companies legally required) the audit of the financial statements.

### **Summary chapter 3 Financial statements**

On the balance sheet, is indicated which investments have been made by a company (debit side) and in which manner these have been financed (credit side).

The investments are called assets and are divided into fixed assets (of service for more than a year) and tangible assets (of service for maximum a year).

For the method of financing, a distinction can be made between equity and liabilities.

Equity has been made available to the company by the owner(s) for an unlimited period of time. The remuneration they will receive for making this available, is the profit. Equity is risk-bearing capital, because the remuneration is not fixed and in the event of a bankruptcy the equity providers only receive their investment back after all other creditors have been paid. Liabilities are loans made available for a particular period of time by creditors. Their revenue is interest, as it is determined in advance and in the event of bankruptcy they will be repaid first. Liabilities are considered to be risk avoiding capital.

By comparison of equity at two balance sheet moments, the profit can be calculated. In principle, an increase of equity is the profit. However, if one of the owners has withdrawn or deposited money, a correction must be made. The profit can also be determined by drawing up an income statement, which is a confrontation of the sales revenue and the cost during a particular period.

Sales revenue is not necessarily equal to cash inflows. The sales revenue due to sales transactions, should be recognized at the moment that the company has delivered the performance, even if the buyer has not yet paid.

By definition, costs are not equal to cash outflows. Costs are taken when the actual use of a production factor occurs, regardless of the moment of payment.

The profit, as shown in the income statement, is not necessarily equal to the mutations in cash and cash equivalents.

Depreciation is a cost, but not cash outflow. Through depreciation, the purchase price of a production factor is divided over the years during which the production factor delivers a performance.

Possible depreciation systems:

- Straight-line depreciation: every year the same amount is depreciated.
- Accelerated depreciation: during the initial years more is depreciated than in later years. This can be achieved by applying the sum-of-the-years-digit method, or the book value method.
- Depreciation based on usage.

Provisions are recognized for possible future obligations, of which the origin is in the financial year concerned. Costs are now already recognized, while (possible) expenditure will only occur in future.

## **Summary chapter 4 Business Plan**

Whoever starts a company, benefits from a well thought through business plan.

For a company, the plan acts a check list and an instrument to assess the feasibility of the enterprise. For possible money lenders, the plan is a means to be persuaded.

Venture capital companies are specialized in the financing of starting businesses.

In a business plan the following is included:

- The qualifications of the starting entrepreneur: background information, education, experience.
- Market and marketing mix, activities to be performed, marketing mix (the four Ps) and market research.
- Legal aspects (legal form, required permits).
- Organizational structure.
- Finance: investment plan, financing plan, cash flow forecast, estimated balance sheet, estimated income statement.





# 1

## Businesses and their role in the economy



## Answers to preparatory questions

- 1.1** A production organization striving for profit.
- 1.2** The striving for profit will usually be focused on the long term, and a relationship of trust with customers is required to achieve this. It is possible to generate more profit in the short term, for example by misleading advertising, but this is avoided due to the focus on the long term. Furthermore, there are other objectives, such as attention to employment and the environment.
- 1.3** Effectiveness is the extent to which the desired objective is achieved, 'doing the right thing'. Efficiency is the extent to which resources are used to achieve the objective, 'doing things right'. Accordingly, effectiveness is about whether the objective is reached, and efficiency about the costs involved.
- 1.4**
- a** Eneco is a company, and is a PLC of which the majority of shares is held by Dutch municipalities.
  - b** The municipal police are a non-profit organization and fully subsidized by the government.
  - c** The Dutch Railways is a company, and is a PLC with one single shareholder, the Dutch Government.
  - d** Technical University Inholland is a non-profit organization, mainly subsidized by the government.
  - e** The Red Cross is a non-profit organization, mainly financed by donations.
- 1.5**
- a** The fire brigade: time between alert and arrival in event of a fire.
  - b** Social rehabilitation services: percentage of ex-convicts remaining 'on the straight and narrow'.
  - c** The Kidney Foundation: increase in percentage of cured kidney diseases.
- 1.6**
- a** Hagemeyer: wholesaler.
  - b** Philips: industry.
  - c** De Bijenkorf: retail trade
- 1.7**
- a** Motor vehicle manufacturing: batch production.
  - b** Compost production: mass production.
  - c** The painting of a family portrait on commission: job production.
- 1.8**
- a** Owner of sole proprietorship: income tax box 1 over profit.
  - b** Managing director and shareholder LLC: Corporate tax on profit LLC, income tax box 1 on salary, income tax box 2 on dividend or sales revenue shares.
  - c** Private investor: income tax box 3 over flat rate dividend yield.
- 1.9** Member of a cooperative with excluded liability and shareholder LLC.
- 1.10**
- a** Free of value added tax.
  - b** Zero rate.
  - c** Standard rate, in the Netherlands 21%.
  - d** Reduced rate, in the Netherlands 6%.

<b>1.11</b>	<b>a</b>	VAT payable	21% of 100 × € 600 =	€ 12,600
		VAT reclaimable	21% of 100 × € 550 =	€ 11,550
		VAT on balance to be paid to the tax authorities		€ 1,050
<b>1.12</b>	<b>b</b>	Sales revenue bicycles	€ 60,000	
		Purchase price sold bicycles	€ 55,000	
		Profit	€ 5,000	

- 1.12**
- a** A garden center selling Christmas items: horizontal integration.
  - b** Mobile phone provider taking over a competitor: expansion in the same industry.
  - c** Mail order company making its own deliveries: vertical integration.

- 1.13**
- From a legal point of view, the franchisee is an independent entrepreneur. He/she works for his/her own account and risk. From an economic point of view, the entrepreneur is also dependent on the franchiser (the chain), who sells the store concept and often determines the purchasing and marketing. This requires teamwork and is sometimes difficult for ambitious and self-opinionated entrepreneurs. The concept fails if the franchiser does not ensure the collective store concept sufficiently or if individual entrepreneurs decide to make changes on their own. The fee, which every entrepreneur pays and the services delivered by the central organization, could also be a source of conflict.

### Answers to exercises

<b>E1.4</b>	<b>a</b>	Profit		€ 120,000
		Minus: Self-employed tax deduction		€ 7,280
				€ 112,720
		Minus: Profit exemption (14%)		€ 15,781
		Taxable profit		€ 96,939
		Tax bracket 1: 36.35%	€ 7,140	
		Tax bracket 2/3: 42%	€ 15,492	
		Tax bracket 4: 52%	€ 21,012	
		Total		€ 43,644
		Minus: tax credits		
		General tax credit	€ 2,103	
		Labor tax credit	€ 367	
				€ 2,470
		Income tax payable		€ 41,174

**b** Corporate tax: 20% of €40,000 = €8,000

Income tax: Salary €80,000		
Tax bracket 1: 36.35%	€ 7,140	
Tax bracket 2/3: 42%	€ 15,492	
Tax bracket 4: 52%	€ 12,203	
	<hr/>	
Total		€ 34,835
Minus: tax credits		
General tax credit	€ 2,103	
Labor tax credit	€ 526	
	<hr/>	
		€ 2,629
		<hr/>
Income tax		€ 32,206
Total tax: €8,000 + €32,206 = €40,206		

**E1.5**

Çetin:		
Profit share 60% of €120,000 =		€ 72,000
Minus: Self-employed tax deduction		€ 7,280
		<hr/>
		€ 64,720
Minus: Profit exemption (14%)		€ 9,061
		<hr/>
Taxable profit		€ 55,659
36.35% of €19,645 =	€ 7,140	
42% of (€55,659 – €19,645) =	€ 15,125	
	<hr/>	
Total		€ 22,625
Minus: Tax credits:		
General tax credit	€ 2,103	
Labor tax credit		
€2,097 – 4% × (€72,000 – €40,721) =	€ 846	
	<hr/>	
		€ 2,949
		<hr/>
Tax payable		€ 19,316
Ünsal:		
Profit share 40% of €120,000 =		€ 48,000
Minus: Self-employed tax deduction		€ 7,280
		<hr/>
		€ 40,720
Minus: Profit exemption (14%)		€ 5,701
		<hr/>
Taxable profit		€ 35,019
36.35% van €19,645 =	€ 7,140	
42% van (€35,019 – €19,645) =	€ 6,457	
	<hr/>	
Total		€ 13,597

Minus: Tax credits:		
General tax credit	€	2,103
Labor tax credit		
$€2,097 - 4\% \times (€48,000 - €40,721) =$	€	1,806
		<hr/>
		€ 3,909
		<hr/>
Tax payable	€	9,688

The fact that part of the profit is retained, is fiscally not relevant. Tax for entrepreneurs who are liable for income tax, is based on earnings and not on paid out profit.

**E1.6***Corporate tax*

Profits LLC:	€	130,000
Salary costs	€	50,000
		<hr/>
Taxable profit	€	80,000

Corporate tax to be paid 20% of €80,000 = €16,000

*Income tax*

Box 1: Salary €50,000

36.35% van €19,645 = € 7,140

42% van (€50,000 – €19,645) = €12,749

Total	€	19,889
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Box 2: Dividend €15,000

22% of €15,000 =	€	3,300
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Total	€	23,189
-------	---	--------

Minus: Tax credits:	€	2,103
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Labor tax credit		
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$€2,097 - 4\% \times (€50,000 - €40,721) =$	€	1,726
---	---	-------

	€	3,829
--	---	-------

Income tax payable	€	19,360
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Total tax are €16,000 + €19,360 = €35,360

**E1.8**

Online provides taxable services, therefore it must pay value added tax on its sales and can recover the value added tax paid on purchases.

Value added tax on sales:

- In the Netherlands: 21% of  $200 \times €500 =$  € 21,000

- To Belgium: The 0% rate applies

	€	21,000
--	---	--------

Value added tax to recover from purchases:

- $21\% \text{ of } 280 \times \text{€}400 =$  € 23,520

To receive on balance from the tax authorities € 2,520

The computer sold to Belgium, will have value added tax charged in Belgium.

General practitioner Dr. Scussolini, is not liable for value added tax, he performs. His services are exempt but he also cannot recover the value added tax he pays to his suppliers. Dr. Scussolini will receive a bill of €24,200 from the builder (€20,000 + €4,200 value added tax). He cannot recover the €4,200 value added tax from the tax authorities.